Manuscript Details

Manuscript number	SCIJUS_2018_164_R1
Title	The effect of tape type, taping method and tape storage temperature on the retrieval rate of fibres from various surfaces: An example of data generation and analysis to facilitate trace evidence recovery validation and optimisation.
Article type	Research Paper

Abstract

This paper aspires to assist those tasked with data generation and analysis for the purpose of the validation and/or optimisation of trace evidence recovery. It does so via a detailed report of the authors' approach to this problem in the context of target fibre retrieval using self-adhesive tapes. Textile fibres can provide valuable evidence at both source and activity levels. This ability stems from their near ubiquity in the man-made environment, their potential for high levels of discrimination (especially when found in combination) and their reproducible transfer and persistence behaviours. To realise this value for the criminal justice system, it is vital that police forces and forensic providers are collectively able to search for, recover and analyse fibres found at crime scenes and correctly evaluate their evidential value. ISO accreditation provides quality assurance for such activities. The work reported in this paper was part of a study to validate crime scene fibre retrieval processes for the purposes of ISO17020 accreditation. However, it is hoped that it will be of assistance to those wishing to validate and/or optimise forensic fibre recovery whether at the crime scene or in the laboratory. Further, the methods described may be of value to those who need to validate and/or optimise the recovery of other types of trace evidence. This paper outlines a series of experiments that investigated the effect of four factors on the rate at which target fibres could be recovered from surfaces by tape lifting. The factors were tape type (with two levels, namely: J-LAR and Crystal Tabs), tape storage temperature (three levels: -5˚C, room temperature [19±1˚C] and 35˚C), taping method (two levels: zonal and one-to-one) and surface (12 levels: each being a surface type commonly encountered at crime scenes). This resulted in 144 unique experimental conditions. For each of these, five repeat fibre recovery rate determinations were carried out, generating 720 data points. All surfaces were clean and dry prior to target fibres being transferred and recovered. In all cases, the tapes were applied to the surfaces at 19±1˚C. These experiments showed that the surfaces can be divided into three stable clusters based on the median and interquartile range of the fibre retrieval rate achieved from each of them. Also, they showed that, in terms of the proportion of the target fibres retrieved, typically and setting aside interaction effects: • Crystal Tabs outperformed J-LAR; • rolls of tape stored at -5˚C and 35 ˚C outperformed those stored at room temperature; • one-to-one taping outperformed zonal taping. However, notably, a good degree of between-condition overlap was also apparent in the data. To understand this, a four-way factorial ANOVA model was built which revealed significant and substantive effects for all four main effects and for 10 of the 11 interactions. Importantly, the four-way interaction term was amongst those found to be significant. The interplay between the effects of the four factors was analysed by means of simple effects tests and pairwise contrasts. Tables and interactive parallel coordinate plots have been created. Using these it can easily be seen which of any given pair of levels of each of the four factors resulted in the higher fibre retrieval rate under any one of the unique conditions of the study, and the effect size and statistical significance of this observation. Qualitative evaluations of the effect of tape storage temperatures on tape pliability and its propensity to tear in use were also made.

Keywords	Fibre recovery; tapelifting; zonal taping; one-to-one taping; tape storage temperature; validation.

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Suggested reviewers	Jaap Van der Weerd

Submission Files Included in this PDF

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Full version of Table 10 Surface pairwise contrasts V2.docx [Supporting File]

To view all the submission files, including those not included in the PDF, click on the manuscript title on your EVISE Homepage, then click 'Download zip file'.

Research Data Related to this Submission

Data set	https://data.mendeley.com/datasets/bnnvn7gbf3/draft?a=a5953ae9-9b93-4ac7-8311-189c9f5d67f1

Forensic fibre retrieval validation dataset

This dataset contains data that were collected to study the effect of four factors on the rate at which self-adhesive tape is able to retrieve target fibres from surfaces commonly encountered at crime scenes. This dataset also contains the computer code that was used to analyse these data and the outputs generated from those data by that code.

Data set	https://data.mendeley.com/datasets/k7cnx2c84n/draft?a=ae69e969-200d-4d59-9737-671d2fab0338

Fibre evidence retrieval optimisation

This dataset contains interactive plots which summarise the main findings of a quantitative experiment concerned with establishing the effect of four factors on target fibre retrieval rates achieved by self-adhesive tape.

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27 July 2018

To the Editor,
Science and Justice.

Dear Editor,

We write to submit the paper entitled 'The effect of tape type, taping method and tape storage temperature on the retrieval rate of fibres from various surfaces' to be considered for publication in *Science and Justice*. The paper has been seen and approved by all three authors and by any person whose aid has been acknowledged in it. All material is original and therefore no permission for publication is required.

To increase the usefulness of the paper, the authors wish to publish two linked datasets containing the raw data, the computer code used to analyse it and the output (tables of processed data etc) created by that code. Included in this output are interactive parallel coordinate plots and it is beneficial for readers to have access to these, so they can further investigate the data. The code will also allow readers to conduct a similar approach to data analysis for their own research should they wish to. Of necessity, the data presented in the paper is also given in these datasets. The complete datasets have been uploaded to *Mendeley Data* in draft form and linked to the paper on submission. If the paper is accepted for publication, the intention is to publish the datasets after that acceptance is known to the authors. Attempts at anonymising the datasets have not been successful and currently two of us (AJ and CG) are identified on *Mendeley Data* as authors of the datasets concerned.

As part of the submission, there are five files, each with filenames that start "Full version of …". If this paper is accepted for publication, we ask that these files, which are referred to in the manuscript, be made available as the paper's Supplementary Materials.

Please also see the three notes to the editor that appear in the manuscript file (Main text V35.docx).

Please let us know if you have any questions regarding the paper and the data.

Thank you for your time.

Best wishes,

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Professor Andrew Jackson (a.r.jackson@staffs.ac.uk)
Miss Zoe Jones (zoe.jones246@hotmail.co.uk)

Response to Reviews for Research Paper | SCIJUS_2018_164

The effect of tape type, taping method and tape storage temperature on the retrieval rate of fibres from various surfaces. [Original title]

The effect of tape type, taping method and tape storage temperature on the retrieval rate of fibres from various surfaces: An example of data generation and analysis to facilitate trace evidence recovery validation and optimisation. [Revised title]

Dear editor,

Given below are the reviewers' comments on the paper that is referred to above, along with a description of the actions taken by the authors in response to these comments. In addition to this file, the following - which contain the revisions made to the paper in response to the reviewers' comments - have also been submitted:

1. "Main text V40 with tc.docx". This contains the revisions made to the manuscript, all shown with tracked changes;
2. "Title & authorsV6 with tc.docx". This contains the revisions made to the title and the authors' designations, all shown with tracked changes;
3. "Table 3 Mean and median retrieval ratesV4.docx". This is a corrected version of Table 3.

We thank the reviewers for their helpful comments and the editorial team for allowing us to make amendments to the paper in response to them. We hope that the revised paper meets with your approval for publication in *Science and Justice*. If you need any further clarification from the authors, please do not hesitate to contact the corresponding author.

Yours sincerely,

The authors

Reviewer Comment	Action/Response
REVIEWER 1	
This is an interesting text which clearly derives from the need for clarification for ISO accreditation.	No action required
My concern is that in an ideal World the use of Crystal tape or J-Lar would be ideal but in a budget driven World, many rely on the cheaper Sellotape and I feel this should have also be included in the study (if nothing more to justify the use of the more expensive tapes).	The authors accept that the value of the work would have been enhanced had a wider range of tape types been studied. However, for the reasons explained below, this was not practicable. The choice of tape types used in the study was that suggested by the police forces involved in the collaboration. The choice of the other experimental factors and their levels was strongly influenced by the work that they wished to see completed. Time constraints would have meant that if the number of tape types had been expanded beyond those requested by the police, the number of other factors, and/or their levels would have had to be reduced, making the study less useful to the forces involved.

	A short paragraph has been added towards the end of the paper's Introduction section to explain the choice of the independent variables that were explored in this work. That paragraph also cites two references from where readers interested in the performance of a wider range of tape types can gain further information.
I appreciate Crystal tape is a cheaper alternative to J-Lar but does it have the same degree of clarity and does not yellow similar to J-Lar - this would be relevant to include in the introduction (as a majorly important factor for the forensic scientist).	We thank this reviewer for bringing these matters to our attention. For the authors' University, Crystal Tabs tape is more expensive per unit area than is J-Lar. However, this cost may vary depending on when, where, by whom and in what quantities it is bought. We have searched the literature for references to corroborate (or otherwise) the points made by this reviewer about the tapes' optical clarity and propensity for discolouration. However, thus far, we have not found anything relevant. Therefore, we do not feel that we are in a position to add information on these matters to the paper's Introduction. However, prompted by this comment from this reviewer, we have re-examined these tapes after a period of storage. On this basis, we have added the following at the end of the paper's Results section: "Whilst outside the remit of this study, the authors note that they observed by eye (using white, non-polarised light) that the Crystal Tabs and J-LAR that was used: • exhibited equivalent optical clarity under the microscope; • did not incur any noticeable discolouration after two years' storage in a cardboard box in a laboratory environment out of direct sunlight.".
Within the introduction there is some confusion on what are crime scene activities and those that are forensic laboratory fibre recovery activities, the first page of the intro and abstract refer to at the crime scene but on page 2 of the intro you move onto recovery of fibres from clothing which tends to be more of a forensic laboratory activity - your choice of surfaces also appears a mixture of recovery from a crime scene and recovery from a suspects/victims clothing (more likely to be done in a laboratory). I think the two environments need acknowledging within the text.	This is a good point. The abstract now contains the following: "… it is hoped that it [the work reported in the paper] will be of assistance to those wishing to validate and/or optimise forensic fibre recovery whether at the crime scene or in the laboratory." Also, a paragraph has been added to the Introduction to explain the choice of surfaces used in the study. This explicitly addresses the fact that some of those included would normally be processed at the crime scene whilst others would commonly be processed in a laboratory. It provides a justification for the inclusion of both of these classes of surface.

I am a little uncomfortable with the mixed methods of fibre distribution onto the surfaces, using sandpaper on the jacket surface is likely to damage the fibres and therefore potentially change their transfer and persistence properties, I think this fact needs acknowledging in the text - Pounds and Smalldons (!975) work suggests three different states of the fibres on transfer which affect the persistence.	We thank the reviewer for pointing out the limitation to our study brought about by the sanding of the donor fabric. We have added a paragraph to the start of Section 4.7 of the paper to alert readers to this and to direct them to the works of Pounds and Smalldon should they be interested in the effect of fibre fragmentation on fibre transfer and persistence. We now turn our attention to our decision to use mixed methods of fibre application. Our study has benefited from the relatively large number of target fibres that were present on each of the surfaces studied for each of the repeat experiments. This benefit was there by design as we ensured that there were between 100 and 200 target fibres present on each surface for each such repeat. We could have achieved this for all surfaces by use of the scraping method (please see section 2.2 of the paper for a description of this and the other fibre deposition methods used). However, this would not have mimicked the transfer during contact that typically forms part of the scenario that is envisaged to have occurred during the commission of a crime under the prosecution's proposition. (Incidentally, it is transfer on contact that was simulated in the work of Pounds and Smalldon, 1975). For this reason, we only used the scraping method as sole means of transfer on surfaces that were so smooth that contact methods resulted in the deposition of fewer than 100 target fibres. It seems to the authors that, for these surfaces, non-contact transfer as simulated by the scraping technique, is the likely form of transfer that would account for the accumulation of fibres in the crime setting in the densities used in our study. If this is accepted, the use of the scraping technique for these surfaces represents a meaningful simulation of real-world scenarios in which substantial fibre densities would be found on these surfaces. For all other surfaces, also to mimic the real world, a contact method (touching or rubbing) was used. Towards the end of Section 4.6 of the paper, the possible impact of the mixed fibre application methods on fibre retrieval rates is explored in some detail. We have taken further action in the light of this reviewer's concerns about the impact of these mixed methods. We have added a paragraph near to the start of Section 4.7 of the paper that explains why they were used and explores the limitations that they may place on the generalisability of the findings of the study. We accept that there is room for legitimate difference in opinion as to whether our decision to use this mixed

	application methods approach was the correct one to make. However, our choice of fibre deposition method was determined by a desire to mimic the real world as far as practicable. It therefore remains our view that, on balance, the advantages of our approach outweigh its disadvantages. We note that the reviewer's level of discomfort with our decision to use this approach is described as 'little' and we hope that this will not prove to be an insurmountable obstacle to the publication of the paper.
In the method, it is not clear how you avoided background fibre fluorescence on the garment surfaces, it might be worthwhile stating that the clothing fibres did not fluoresce themselves (if this was the case).	The following sentence has now been added to Section 2.1.2 of the paper: "None of the surfaces produced fluorescence visible to the naked eye when illuminated with the LED torch referred to in Section 2.1.1."
I could not find a copy of Table 1 listing the types of tape available.	The authors have checked and Table 1 is listed as present on the Elsevier website and we have downloaded it from there successfully. This means that we don't know why it was not seen by this reviewer
The article was well written with good statistical analysis.	No action needed
REVIEWER 2	
In summary, my view is that the manuscript is overly technical and too heavily focused on the statistical analysis of the data with too little in the way of an evaluation of the significance of the findings within the context of the industry	It is valuable for us to be given this opportunity to see our work through the eyes of others. Whilst we worked with forensic practitioners to ensure that our work would enable them to validate and optimise their recovery of fibres evidence, it was not and is not our intention to tell them how to do this. Instead, we hope that we have empowered them and other forensic practitioners to do this by providing them with data that has been suitably generated, analysed and presented such that it is fit for that purpose. For example, the parallel coordinate plots that we have created offer a novel means by which the practitioner can inform their choice of tape type, taping method, surface and tape storage temperature when tape lifting fibres, thereby optimising performance. Also, by publishing our work on the collection, analysis and presentation of our data we hope that we have outlined an approach that could be adapted by others to do similar work for other types of trace evidence. The raw data and all of the code used in their analysis and presentation have been placed in draft form on Mendeley Data as have the parallel coordinate plots referred to above. As expressed elsewhere, it is our intention to make all of this public if and when the paper is published. By this means, we hope to further facilitate the use of our work by forensic practitioners.

	Separate to the work that we have reported in the paper, we have made two web applications that are currently being refined. These interactive apps give forensic practitioners ready access to the analysed data presented in the paper for the purposes of the creation and use of Standard Operating Procedures. By these means, the apps are intended to facilitate validation compliant and optimal fibre retrieval practice, whether at the crime scene or in the laboratory. In response to these comments by this reviewer, we have: 1. augmented the paper's title, abstract and introduction with the hope that we have now better expressed what the paper aspires to achieve; 2. added information about the afore-mentioned apps to the introduction and conclusions sections, with an encouragement for readers to contact the corresponding author should they be interested to find out more about the apps. Whilst we hope that we have taken this reviewer's comments on board, we are encouraged to note that in contrast, the other reviewer concludes that "The article was well written with good statistical analysis."
Many of the tables and figures are unnecessary and/or contain repetitive information.	The authors have reviewed each of the tables of results and figures in the paper and have critically assessed their value in being kept in the paper. This has been a useful task and has allowed us to provide a rationale for their presence. It is true that for a paper whose main aim is to solely state which tape, under which conditions performs more effectively, then the breadth and depth of figures and results tables may be rather a lot but this paper aims to show worked approaches to methods of presenting and handling validation data (using fibre retrieval as an example). Due to this, the amount of figures explaining results and the approaches used are more than would typically be used in a paper not aiming to provide a toolkit of methods for interpreting validation data. Below are some comments explaining why each of the results tables and figures have been included in the paper. Table 3 is important as this shows the mean and median percentage fibre retrieval rates and is required for readers who would like to see these prior to further data analysis. This table is important for those wanting to compare their own retrieval data to this study's. Figures 3 to 6 are deemed important as they show other important descriptive statistics and the presence of any significant differences in a visual manner that is regularly

	used in studies such as this. This method is useful for those conducting validation studies to present their findings without use of excessive tables of data. Figures 7 and 8 are dot plots, which although maybe not regularly seen added in a study in this case are very useful for those wanting to present validation study data as it can clearly show performance across the variables being tested. These show the performance of the tapes in order which is a useful example of showing any overall trends of the tape performance and could be used fairly simply in validation reports. There are a number of different parallel coordinate plots that have been utilised in this study – these allow very complex data with multiple factors to be interrogated in an effective manner. The generation of these plots could be very useful for validation study data investigation as it allows beyond just the assessment of whether a certain method reaches an acceptable level of performance but also allows optimisation of the methods used – something which is an important part of quality control in forensic science. Figure 9 shows screenshots of an example of the parallel coordinate plots created to help aid the description of these might be used and what the user will see when they have created such as plot for their data. The further screenshots used (figure 11-15) have been used to illustrate how these coordinate plots may be used to identify the instances where significant difference is present – without these examples, the coordinate plots may not be understood and would be difficult for those who would like to conduct a similar approach to analysing their data to implement. The aim here is to provide a detailed account of how these coordinate plots may beneficially used to interpret data such as this and therefore screen shots of these in action help to achieve this aim. The different screenshots have been included to show how these coordinate plots may be investigated in different ways to assess the effect of different variables, e.g. in this case tape type, tape storage temperature, taping method and surface type. Figure 10 is a Normal Q-Q plot with approximate 95% confidence envelope. What the authors believe it shows is described in the text and so this Figure could be moved to the paper's supplementary materials should this be necessary. However, for reasons of transparency, the authors would prefer it to remain in the paper so that readers can judge for themselves what this Figure shows.

	Table 4 provides the overall results from the ANOVA analysis in a summary form which the authors feel is useful for the reader to see these in one place rather than listing out these results in the text. The complete versions of Tables 5-9 are given in this paper's Supplementary Materials so would not take up space in the document but is available for those who would like to use this data further. These tables in the article are used to highlight the significant and discussible results only for ease of reading and to draw the readers attention to some of the key findings of the statistical approach used.
Whilst there are a number of key findings, there is no clear message. What is the recommendation? Is it that Crystal should replace JLar? Tape should not be stored at RT? The tape type should be chosen dependent upon the surface category?	The ANOVA carried out revealed a significant interaction between all four of the study's factors (tape type, taping method, surface and tape storage temperature). This means that there is a complex interplay between the effects of these factors. From this, it is our view that any generalised recommendation, such as Crystal Tabs should replace J-Lar would be an oversimplification. In our study, there are 1080 pairwise comparisons in which only one of the factors varies. What is possible from our analysis is to see for any one of these comparisons which of the pair produced the higher fibre retrieval rate as measured by its reflected log transform and whether this difference in performance is significant and its effect size. This provides experimental evidence that can be used to inform the choices that forensic practitioners need to make when deciding between different fibre retrieval options. We hope that we have presented the analysed data in formats (most notably tables and parallel coordinate plots) that make this evidence accessible. We have now amended the paper's conclusion section with the intention of better expressing the reasoning given in this paragraph. Also, the authors are of the opinion that decisions such as which tape type to use in any given situation are best addressed by the forensic practitioner. We believe that this opinion is entirely consistent with the philosophy that underpins ISO accreditation. What we have aspired to do is to provide those practitioners with experimental evidence to inform these decisions.
Many different statistical analyses have been performed, which is unusual for this type of study. As such readers may benefit from more detailed explanation/justification of the statistical pathway chosen.	A paragraph has been added to the Introduction to give the rationale for the statistical analysis that was carried out. Also, further reading has been added to the end of Section 2.3 for those readers unfamiliar with the statistical methods used.
The limitations of the study have been discussed in some detail, but these are a list of factors that were not investigated, such as humidity, sampling procedures (lack of between-roll comparisons) etc	The paper aims to empower forensic practitioners to make decisions informed by good quality data that have been thoroughly analysed. It does not presume to dictate to those practitioners what these decisions should be. This is because these decisions need to be informed by

rather than the real practical limitations of the study that the industry (CSE's/forensic providers) should bear in mind	factors/limitations (such as end user requirements) that are outside the remit of the research and/or are necessarily in the domain of the forensic practitioner. It is for these reasons that these limitations have not been covered in the paper. We hope that the additions that we have made to the paper in responding to the reviewers' comments have better clarified our intentions in writing the paper. It is by these means that we hope that we have responded to this concern raised by this reviewer.
Throughout the paper there is an acceptance that the practice of fibre retrieval by forensic providers and police forces at crime scenes are interchangeable. The recommendations from this study, however, cannot always be directly extrapolated to techniques used by forensic providers.	The work reported in the paper was primarily conceived to serve a need of Warwickshire and West Mercia Police for analysed data to inform their validation of fibre recovery. It was not our intention to provide recommendations that could be adopted by forensic providers without adaptation to their needs. However, we hope and believe that the data generated will be of value to all forensic practitioners who face a similar problem or who merely wish to optimise fibre recovery rates. We hope also that our study provides an approach that could be adapted for use by anyone tasked with the validation and/or optimisation of the retrieval of various forms of trace evidence irrespective of where they work. We have expanded the title, abstract and introduction to make our aspirations and motivations more explicit. In doing so we hope that we have addressed the matter that this reviewer has raised.
The experimental design of this study is specific to fibre retrieval from crime scenes and that should be emphasised early on. It is not until further into the manuscript that it becomes clear, for example, why a variety of temperatures are investigated (as tape is stored in the vehicle of a CSE and temperature fluctuate throughout the year).	We thank this reviewer for pointing this out. We have now added a sentence to the introduction to explain why the impact of tape storage temperature on fibre retrieval rates was included in the study. Also, as previously mentioned – the title, abstract and introduction have been augmented to make the scope and intentions of the paper more explicit.
Although not critical to the papers publication, given this exercise was a validation of fibre retrieval by means of taping, the study would have been more beneficial had a wider variety of tape types been investigated (neither of which is the preferred type chosen by major UK forensic providers).	Please see the response to the second point made by the first reviewer. As stated there, the choice of tape types was that of the police forces involved. We have now made this clear in the paper's introduction as well as pointing the reader to two papers which report on the performance of a wider range of tape types.
One major variable that has not been discussed is the effect of pressure, which is arguably the single biggest factor in how effective the fibre recovery process is. I understand why this was not standardised (as it will always vary from person to person) but it should be acknowledged, explained and discussed.	This is an important point and we thank this reviewer for bringing it to our attention. Section 4.5 of the paper is that part of the Discussion in which the effect of taping method is considered. We have added a paragraph to that section to acknowledge the impact that variation in pressure during tape application is likely to have on the fibre recovery data. We have also added a paragraph to Section 4.7 to discuss the limitations to the findings of this study that this matter

	creates and to indicate that further work on the effect of such pressure on fibre recovery rates would be useful.
Furthermore, it is stated in the limitations section (4.7, para 8) '…….was entirely outside the remit of this study, as were value-for money considerations'. Whilst the time/cost relationship is rightly not a consideration of the study, it is a key part of the decision making process in evidence recovery and as such should be included as part of a balanced argument.	We accept that this is a valid point and we thank this reviewer for bringing it to our attention. In response, we have amended the wording of the penultimate paragraph of Section 4.7 (i.e. what was para 8 of that section) to acknowledge the importance of such considerations.

Novelty statement

The paper is concerned with work undertaken as part of a validation study on the retrieval of fibres evidence from surfaces at crime scenes using self-adhesive tape. It reports the results of a quantitative experiment to establish the effect of tape type, tape storage temperature, taping method and surface on target fibre retrieval rates. It makes novel use of parallel coordinate plots in a forensic setting and is the first:

- to explore the interplay between the above listed factors;
- comprehensive study of this type to be reported;
- report of the effect of tape storage temperature and taping method.

It is hoped that it will help inform crime scene processing tactics, strategy and be of use in the creation of standard operating procedures. Further, it is intended to be of value to those who need to design similar validation experiments and those required to undertake verification studies in fibres evidence retrieval.

Highlights

- Crystal Tabs tape typically outperformed J-LAR tape for fibre retrieval
- One-to-one taping method typically had higher retrieval rates than zonal taping
- Retrieval rates were typically higher from smooth surfaces than rough ones
- Tape storage temperature effected typical fibre retrieval rates
- Interaction between tape type, temperature, method & surface seen in fibre retrieval

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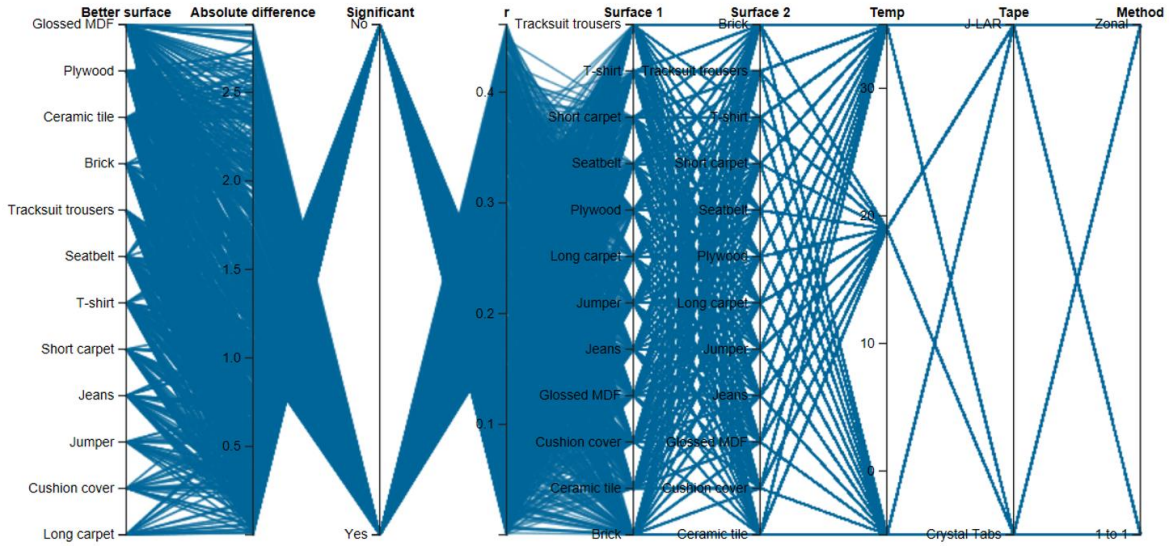

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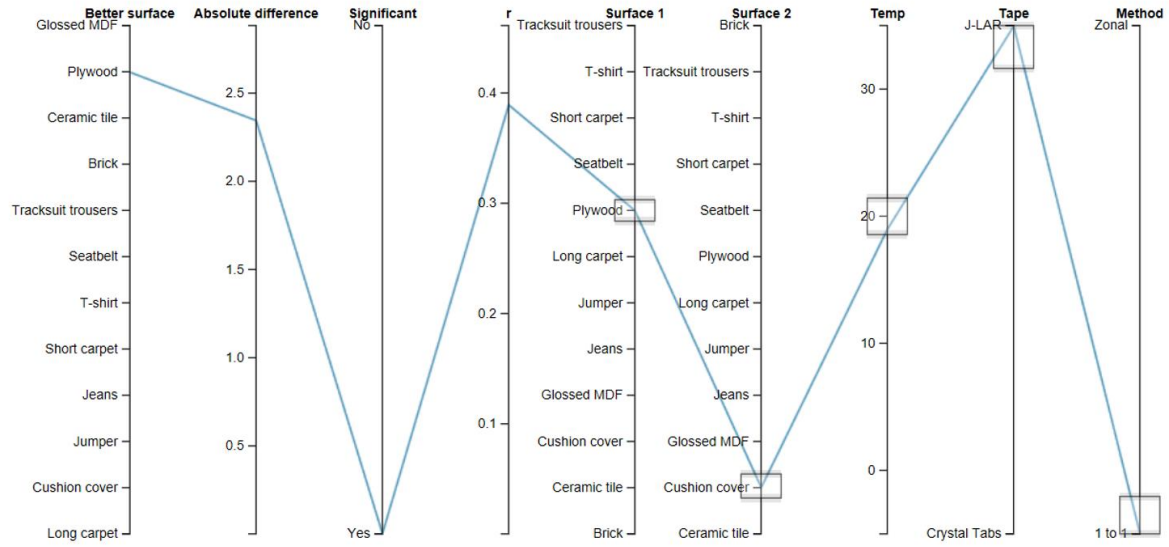

Title:

The effect of tape type, taping method and tape storage temperature on the retrieval rate of fibres from various surfaces: An example of data generation and analysis to facilitate trace evidence recovery validation and optimisation.~~.~~

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[NOTE TO EDITOR: Please see the notes addressed to you that appear in comments boxes and in Sections 2.1.3, 6 and 7 of this manuscript]

The effect of tape type, taping method and tape storage temperature on the retrieval rate of fibres from various surfaces: Aan example of data generation and analysis to facilitateallow trace evidence recovery validation and optimisation.

Abstract:

This paper aspiresaims to assist those tasked with data generation and analysis for the purpose of the validation and/or optimisation of trace evidence recovery. It does so via a detailed report of the authors' approach to this problem in the context of target fibre retrieval using self-adhesive tapes.

Textile fibres can provide valuable evidence at both source and activity levels. This ability stems from their near ubiquity in the man-made environment, their potential for high levels of discrimination (especially when found in combination) and their reproducible transfer and persistence behaviours. To realise this value for the criminal justice system, it is vital that police forces and forensic providers are collectively able to search for, recover and analyse fibres found at crime scenes and correctly evaluate their evidential value.

ISO accreditation provides quality assurance for such activities. The work reported in this paper was part of a study to validate crime scene fibre retrieval processes for the purposes of ISO17020 accreditation. However, it is hoped that it will be of assistance to those wishing to validate and/or optimise forensic fibre recovery whether at the crime scene or in the laboratory. Further, the methods described may be of value to those who needtasked with the to validateion and/or optimiseation of the recovery of other types of trace evidence.

This paper outlines a series of experiments that investigated the effect of four factors on the rate at which target fibres could be recovered from surfaces by tape lifting. The factors were tape type (with two levels, namely: J-LAR and Crystal Tabs), tape storage temperature (three levels: -5˚C, room temperature [19±1˚C] and 35˚C), taping method (two levels: zonal and one-to-one) and surface (12 levels: each being a surface type commonly encountered at crime scenes). This resulted in 144 unique experimental conditions. For each of these, five repeat fibre recovery rate determinations were carried out, generating 720 data points. All surfaces were clean and dry prior to target fibres being transferred and recovered. In all cases, the tapes were applied to the surfaces at 19±1˚C.

These experiments showed that the surfaces can be divided into three stable clusters based on the median and interquartile range of the fibre retrieval rate achieved from each of them. Also, they showed that, in terms of the proportion of the target fibres retrieved, *typically* and setting aside interaction effects:

- Crystal Tabs outperformed J-LAR;
- rolls of tape stored at -5˚C and 35 ˚C outperformed those stored at room temperature;
- one-to-one taping outperformed zonal taping.

However, notably, a good degree of between-condition overlap was also apparent in the data. To understand this, a four-way factorial ANOVA model was built which revealed significant and

substantive effects for all four main effects and for 10 of the 11 interactions. Importantly, the four-way interaction term was amongst those found to be significant. The interplay between the effects of the four factors was analysed by means of simple effects tests and pairwise contrasts. Tables and interactive parallel coordinate plots have been created. Using these it can easily be seen which of any given pair of levels of each of the four factors resulted in the higher fibre retrieval rate under any one of the unique conditions of the study, and the effect size and statistical significance of this observation.

Qualitative evaluations of the effect of tape storage temperatures on tape pliability and its propensity to tear in use were also made.

Keywords:

- Fibre recovery
- Tapelifting
- Zonal taping
- One-to-one taping
- Tape storage temperature
- Validation

1. Introduction

This paper is intended to show an example of how data may be gathered and analysed to facilitate the validation and optimisation of trace evidence recovery by forensic practitioners.

Fibres are readily transferred and are slow to degrade in the vast majority of crime scene environments. Furthermore, whilst common as a class, individual fibre types can be rare in their own right or when found in combination. As with other forms of particulate evidence, and in keeping with Locard's principle of exchange [1], they can be evaluated at both source and activity levels. For these reasons, they are of significant forensic value, especially in cases involving violent contact [2].

Keutenius et al. [3] list six attributes that an ideal method of fibre recovery would possess, namely the ability to "*recover all types of fibres from all types of substrates, selectively collect recently transferred fibres; be cost effective; be portable; be simple and quick to perform; minimise contamination potential*". Several methods are available for the retrieval of fibres evidence from surfaces found at crime scenes. These techniques include the removal of such evidence with self-adhesive tape (i.e. tape lifting), vacuuming, scraping and combing [4]. Of these, tape lifting is the most common. The preference for this is often due to its ease of use, its ability to systematically process a specific area, and, in any one instance, its ability to reduce contamination and allow the search for target fibres through the containment of the lifted material between the tape and an acetate sheet [5]. Although the collection of fibres with tapes is relatively easy, the subsequent search for target fibres can be difficult if a thick layer of background fibres and/or other debris is~~are~~ also retrieved. On objects that prove problematic to tape lift, due to shape or fragility, the use of a statically charged wand has proved to be an effective alternative [3].

When using tape to retrieve fibres, there are two main methods that can be applied: zonal and one-to-one (or 1:1) taping [6]. The former involves using a single piece of tape multiple times to cover an

identified area. In contrast, one-to-one taping involves covering the area to be processed in individual pieces of abutting or slightly overlapping tape. This method, in which each piece of tape is applied to the surface once only, is usually the one applied to bodies, but may also be applied to other objects [7]. The main perceived benefit of one-to-one taping over zonal taping is its ability to identify the exact location where a specific fibre was retrieved from, further aiding the reconstruction of events. This is called fibre mapping, where a distribution map of fibres is created. This is not solely possible with the one-to-one taping method; zonal taping has also been advocated for the creation of distribution maps [7]. The main drawback of one-to-one taping is that the analysis process can be highly time-consuming and logistically difficult due to the large number of tapes produced [6, 8]. Compared with zonal taping, it is also slower to apply during fibre recovery ~~at the crime scene~~.

A range of tape types is available for retrieving fibres from crime scenes, examples of which are shown in Table 1. Such types vary in size, adhesiveness and the presence or absence of backing. An investigator's choice of tape type might be influenced by tape availability and/or cost, the type of surface from which the fibres are to be retrieved, and personal preference.

[insert here] Table 1: Fifteen types of lifting tape available at the time of writing (May 2017).

The most common surfaces subjected to fibre retrieval are textiles, such as items of clothing from suspects and victims. Research has been carried out on garment surfaces, including that by Schotman & v~~V~~an der Weerd [9] and Wael, Gason & Baes [5]. Schotman & v~~V~~an der Weerd investigated the recovery of fibres from various garments using a variety of different tapes and found that there was very little variability in the efficiency[1] of the tapes, all producing high retrieval rates[2] (85.8%-97.5%) [9]. Wael, Gason & Baes seeded fibres into fabric chairs to investigate the retrieval rates using five different tapes and found that much lower and a larger range of retrieval rates were seen (23.5%-61.0%) [5] compared to the Schotman & v~~V~~an der Weerd study [9].

The tape types under study here are J-LAR and Crystal Tabs, both of which are available to UK police forces for use at crime scenes [10]. As a requirement of ISO accreditation, it is important to investigate the efficiency of these tapes and to understand their limitations, especially when being used in the varied environments of crime scenes [11]. It is also important to identify the efficiency of these tapes on surface types other than garments as these are not the sole surface type from which fibres evidence is retrieved.

There is only one study reported in which the fibre retrieval properties of J-LAR were investigated [9]. This concerned its use with garments, not other surface types. Furthermore, there are no reports of research into the fibre retrieval effectiveness of Crystal Tabs. In addition to this, the method in which the tape was used: either zonal or one-to-one taping, is very rarely identified in the relevant literature.

The introduction of the use of ISO 17020 accreditation for crime scene work provides the need to validate and verify all processes used at crime scenes; ensuring the most effective methods are used. Ideally, validation studies should utilise simulated casework materials in their design to mimic real-life scenarios and ultimately provide recommendations and caveats of use that are fit-for-purpose

[1] Note that in this paper, the terms efficiency and retrieval rate are used interchangeably.

for crime scene work [11]. In order to provide caveats for the use of lifting tape and to develop robust Standard Operating Procedures (SOPs), variables beyond those already published in the literature needed to be tested. Such tests would help inform practitioners about the optimum storage of tapes and most effective tape lifting method.

The research reported here was conducted as part of a validation project for Warwickshire & West Mercia Police Forces for ISO 17020 accreditation. Its principal aim was to quantitatively assess the rate of fibre recovery of J-LAR and Crystal Tabs tape whilst exploring key variables that may impact on this parameter. These variables were surface type, method of taping (zonal or one-to-one) and tape storage temperature. The last being included ~~(to simulate the effectexplore the impact of storingbecause tapes stored in crime scene examiners''s vehiclesans are exposed to at various ambient temperatures). and the method of taping (zonal or one-to-one).~~ A subsidiary aim of this work iwas to ~~provide~~ facilitate recommendations for tape lifting that take into account other practicalities that are important when processing crime scenes, such as tape pliability and whether the tapes tear when used. By these means, this study will help inform the most effective choice of tape and taping method when retrieving fibres from crime scenes.

One of the aspirations of the authors is to provide an in-depth analysis of the data obtained in the study reported here. The goal is ~~e reason for doing so is~~ to give clear indications of the value of the data in making validation and/or optimisation decisions concerning the rate of fibre retrieval using self-adhesive tape for those forensic practitioners tasked with making such decisions. In particular, the authors have striven to evaluate the statistical significance and the effect size of each of the comparisons made between the pairs of fibre retrieval rates that are given in this paper. The authors also hope that their approach to experimental design and data analysis will be of value to those who may wish to adapt it ~~wish to~~to inform the optimisatione and/or validatation ofe other trace evidence retrieval ~~of other types of trace evidence~~practices. Details of the data analyses carried out are given in Section 2.3~~2~~ of this paper and ~~details~~reference is ~~are provided~~made there to~~of~~ where all of the raw data and the computer code used to analyse it ~~s~~ can be found. Also provided in that section are indications of further reading which may be of assistance to those ~~readers~~ unfamiliar with the statistical methods used.

~~Similarly, the work that Warwickshire and West Mercia Police wished to see strongly influenced the choice of the other experimental factor variables and their levels used.~~

The police forces involved in the work reported here ~~are namdetailed in the Acknowledgements section. They~~ had a strong influence over the experimental design, ~~used~~ and the ~~The~~ choice of the tape types used was theirs~~in the work reported here was that suggested by the Police forces involved in the study(i.e. Warwickshire and West Mercia Police).~~ Readers interested in comparing the performance of a wider range of tape types are referred to the work of Schotman & v~~V~~an der Weerd [9], and Wael, Gason & Baes [5]. ~~Similarly, the work that Warwickshire and West Mercia Police wished to see strongly influenced the choice of the other experimental factor variables and their levels used.~~

The motivation for this study is grounded in the need for the validation of fibre recovery with self-adhesive tape as carried out by ~~the~~ police forces. It might be expected, therefore, that the surfaces included would be limited to examples of those that would normally be processed at the crime scene (such as ~~ceramic tile~~glossed MDFs). However, this is not the case as it also includes surfaces, such as garments~~Nonetheless, it includes the recovery of target fibres from not only surfaces that are usually fixed in place, such as ceramic tile, that would normally be processed at the crime scene but also portable onesothers, such as tracksuit trousers~~, that would commonly be processed in a laboratory setting. The reasons for the inclusion of this latter ~~both these~~ classes of surface is~~include the fact~~ that there are circumstances when these are processed within police forces. For example,~~occasions, such~~ fibres may be recovered from garments during the ~~as the~~ *in situ* taping of a dead body~~, where target fibre recovery from garments is carried out at the crime scene~~ [~~ref~~12~~xxx~~, Chapter 10] and there are police forces which have in-house ~~evidence recovery~~ laboratory facilities for evidence recovery [for example, see ~~ref~~13~~xxxref~~]. Also, in an attempt to maximise the utility of the study, the authors opted to choose surfaces with a wide range of surface roughness.

~~–~~The authors hope that the inclusion of a wide range of surfaces will mean that the findings of this study are of use to both those who work in crime scene processing and those who do so within a laboratory setting. However, it is not the intention of this work to make recommendations concerning which tape type, tape storage temperature and taping method should be used to retrieve target fibres from any given surface. Instead, it is written to empower those charged with making such choices with~~-~~ data~~information~~ to allow them to make better informed decisions. Based on the findings presented in this paper, t~~T~~he authors have ~~are~~ created and are now refining~~ingdeveloping~~ two interactive web applications (web apps), one for SOP developers and the other for SOP users [14~~ref~~]~~. These are based on informationthe findings presented in this paper [ref] and. These are intended to facilitate the development and use of Standard Operating Procedures (SOPs) for the validation compliant and optimal recovery of target fibres at the crime scene and in the laboratory [ref]~~. The SOP developer web application allows the SOP developer to set both the acceptance (i.e. validation) and recommendation (i.e. optimisation) criteria to be set for incorporation into~~used in~~ the SOP user web app. The setting of the acceptance criteria is beyond the scope of this paper save to say that, in order to~~To~~ comply with the stipulations of the UK's Forensic Science Regulator, this ~~tThe setting of the acceptance criteria~~ will have ~~done~~ to be done based on an assessment of the end-user requirements [~~ref~~11]. The SOP user web app~~lication~~ makes recommendations based on the information presented in this paper and the criteria set by the SOP developer. It empowers the forensic practitioner, whether working at the crime scene or in the laboratory, to make informed choices between fibre recovery options, thereby facilitating ~~ensuring~~ both validation compliant practice~~e~~ and optimal fibre recovery. Readers interested to know more about these web app~~lications~~s are encouraged to contact the corresponding author.~~Xxx poss refer to web apps herewas strongly influenced by the work that they wished to see completed. Readers interested in comparing the performance of a wider range of tape types are referred to the work of Schotman & Van der Weerd [9] and Wael, Gason & Baes [5].~~

Commented [1]: **[Authors' names removed to preserve anonymity during peer review]**, Effective Forensic Science via method validation for ISO17020, presented at the Chartered Society of Forensic Sciences Autumn conference, 1-2 Nov 2018.

2. Materials and Methods

This study was designed using the recommendations for validation studies as described in the Forensic Science Regulator's Codes of Practice and Conduct [11].

2.1. Samples

2.1.1 Target Fibres

The target fibres chosen for this study were cylindrical polyester fibres from a high-visibility vest, which fluoresced when illuminated with a hand-held LED torch (i.e. flashlight) that emits light at 395nm.

2.1.2 Surfaces

To simulate casework, a list of common surfaces encountered at crime scenes was provided by Warwickshire & West Mercia Police. Twelve representative surfaces were chosen from that list for this study. These twelve were then categorised by texture and, for textile fabrics, shedding ability (Figure 1). An area of 338.2 cm^2 was either cut or isolated on each surface bar one. The one exception was the brick surface, which was 219.3 cm^2. For the brick, the roughest side was used as the test surface. For all surfaces – bar the tracksuit trousers, T-shirt, jeans and jumper – a grid was drawn on each surface with a suitable pen. This was done to aid the subsequent counting of target fibres and provide reassurance that none were missed or double counted. Throughout the study, the surfaces were kept clean and dry. None of the surfaces produced fluorescence visible to the naked eye when illuminated with the LED torch referred to in Section 2.1.1.

[Inset here] Figure 1: The twelve test surfaces, categorised by surface roughness or shedding ability.

2.1.3 Tapes

The following tape types were used:

- J-LAR – purchased from Tetra Scene of Crime and/or CSI Equipment Ltd;
- Crystal Tabs – obtained from Warwickshire & West Mercia Police.

(Note that WA Products sell both J-LAR [Product No. B20610] and Crystal Tabs [Product No. B20633], which is where Warwickshire & West Mercia Police buy them from).

[Note to the editor: The information concerning the availability of J-LAR and Crystal Tabs from WA Products that is given in parentheses above is provided on advice from a Senior SOCO at Warwickshire & West Mercia Police. This advice is that this information is "important if other Police forces were to use the article to assist in their own ISO 17020 validation work".]

2.2. Experimental procedure

For each repeat determination of the fibre retrieval rate, between 100 and 200 target fibres were deposited onto the surface from which they were to be tape lifted. Prior to this deposition, the source of these fibres (the high-visibility vest) was abraded with coarse sandpaper to aid fibre transfer. Three deposition techniques were used: rubbing (multiple contacts, with the donor fabric being moved reciprocally across the surface a maximum of five times), touching (placing of the donor fabric directly onto the surface with the application of light pressure but without moving it across the surface) and scraping (the use of sandpaper to scrape the donor fabric above the surface,

allowing fibres to transfer). During the rubbing and touching techniques, care was taken to use the same hand pressure for each deposition. Rubbing was used for the jumper, carpets, cushion cover, jeans, T-shirt and tracksuit trousers. Touching was used for the brick. When rubbing or touching was employed, and fewer than 100 fibres were transferred to the test surface, scraping was then used until the desired number of fibres (i.e. 100 to 200) was transferred to the surface concerned. Scraping was used as the sole technique for the seat belt, plywood, glossed MDF and ceramic tile.

For each of the twelve surfaces, both J-LAR and Crystal Tabs were tested using both methods of taping (zonal and one-to-one). For each combination of surface type, tape type and taping method, three tape storage temperatures were tested (-5°C, room temperature [19 ± 1°C] and 35°C). This therefore resulted in 144 unique combinations of the levels of these four independent variables (12 surfaces x 2 tape types x 2 taping methods x 3 temperatures). The testing for each of these combinations was repeated five times.

In all repeats, prior to use, the tape was stored – on the roll on which it was supplied – for a minimum of 24 hours in air of its designated temperature. Immediately before use, the rolls of tape stored at either -5 or 35°C were moved from their temperature-controlled environments into one of 19±1 °C. At which time an appropriate amount of tape was removed from the roll concerned and used, and the remainder was placed back into its former temperature-controlled environment. The tape stored at room temperature (19 ± 1°C) was kept and used at this temperature throughout the experiment. A different roll of each tape type was used for each of the three storage temperatures studied.

The experimental procedure is represented in Figure 2. During the entire process, the airflow around the testing area, and particularly the surface being tested, was kept to a minimum. Except when the target fibres were being added to any given surface, that surface was kept separate from the donor fabric and only the analyst and technician had access to the testing area during the experiment.

[Insert here] Figure 2: The experimental procedure.

The pieces of tape used were each approximately 14 cm long, although slightly shorter pieces were used for the brick due to its relatively small sampling area. In all repeats, the tape was applied in the following manner. The tape was held in a U shape, adhesive side facing down, with the bottom of the U being placed on the surface and the sides being eased down until the tape was flat against the surface. One end of the tape was then pulled free of the surface and the whole tape was carefully smoothed across the surface using two fingers, without these touching the surface, before removing the tape. The surfaces being tested were cleared of fibres between repeats using a low linting paper towel, taping with J-LAR or Sellotape® and/or using tweezers. Prior to reuse, each surface was confirmed to be free of target fibres by using a violet light, in which they fluoresced.

For any given repeat of the zonal method, as many pieces of tape were used as needed to process the entire sampling area. Each of these pieces was applied multiple times up to the maximum shown in Table 2. Each such application was on a different portion of the sampling area. This maximum prevented overloading of the tape or reduction of adhesive efficacy. The maximum number of times each of J-LAR and Crystal Tabs could be used on each surface at each storage temperature before becoming overloaded was identified by qualitative observation prior to the main experiment.

[Insert here] Table 2: The maximum number of contacts for each piece of tape used in the zonal method for each of the unique combinations of the experiment's independent variables.

When using the one-to-one method, each piece of tape was contacted with the surface once only. For each repeat, the entire test surface was covered with six pieces of tape, with slight overlap between neighbouring pieces to ensure complete coverage. For all surfaces, the tapes were removed in reverse order to their placement. For consistency's sake, a specific order and pattern of tape placement was used for each repeat on any given surface.

Irrespective of the method used, after its contact with the surface for the last or only time, each piece of tape was adhered to a separate clean acetate sheet. This was then labelled with details of the tape storage temperature, repeat number, tape number, surface and taping method. For each repeat, the target fibres on each tape and those left on the test surface were then counted using light from the torch mentioned in Section 2.1.1 to aid fibre visualisation and a tally counter. Counting was systematic to avoid missing fibres or double counting, starting at the top left-hand side of the tape and working left to right and from top to bottom.

2.3 Statistical analysis

A balanced four-way factorial ANOVA model was built in which reflected log fibre recovery rate was the dependent variable and the independent variables (i.e. factors) were tape type, tape storage temperature, application method and the surface from which the target fibres were retrieved. This model included all main effects and all interaction terms. There were no missing data and the whole data set was included in the analysis. The threshold for significance (i.e. alpha) was set at 0.05 and effect size was measured using partial eta squared.

This was followed by four sets of simple effects tests, one set for each of the four independent variables. In each of these sets, one test was carried out for each of the unique combinations of the levels (i.e. values) of the factors other than the one under consideration. For example, when considering tape type, a set of 72 simple effects tests was carried out. That is one test for each unique combination of storage temperature (there were three of these temperatures), application method (two of these) and surface (12 of these). In this paper, any given unique combination of factor levels is referred to as a condition.

Each of these sets was considered to be a family. Therefore, with in each set, adjustment was applied to the p values to control the family wise error rate. Bonferroni correction was used to make these adjustments. It was also recognised that the four sets of simple effects tests were all in one family. In recognition of this, two alpha levels were set, one at 0.05 and the other at 0.0125 (i.e. 0.05/4). For any given simple effect test, the following rules were used when deciding significance: if adjusted $p > 0.05$ then *not significant*, if $0.05 \geq$ adjusted $p > 0.0125$ then *discussable* and if adjusted $p \leq 0.0125$ then *significant*. The discussible adjusted p values represent those tests that would have shown significance if only one, and not four, sets of simple effects tests had been conducted.

The simple effects tests referred to above are sufficient to establish which of the two levels of the tape types factor (J-LAR and Crystal Tabs) are more efficient at retrieving fibres for each of the

conditions under test. The same is true of the two levels of the application method factor (zonal and one-to-one). However, this is not the case for the levels of the factors temperature and surface, as these factors have more than two levels each.

Therefore, for each of the factors with more than two levels, pairwise contrasts were conducted after the simple effects tests had been completed. When doing so, only those contrasts which had corresponding simple effects that were either significant or discussible were considered. The p values for these contrasts were adjusted using the Tukey HSD correction to conserve the family wise error rate. For each of the two factors for which this method was employed, this correction was applied based on 144 means and the residuals' degrees of freedom (i.e. 576).

If, in any one of the significant differences found in the pairwise contrasts, the corresponding simple effect had been found to be in the discussable range, that pairwise difference was also labelled as discussable.

In the simple effects tests and pairwise contrasts, r was used to gauge effect size.

All of the statistical analysis was carried out with RStudio Desktop Open Source Edition version 1.0.143 [152] using R version 3.4.1 [163] and the following R packages: car version 2.1-5 [174], fpc version 2.1-10 [185], lsmeans version 2.27-2 [196], multcompView version 0.1-7 [2017], phia version 0.2-1 [1821] and sjstats version 0.11.1 [1922]. Parallel coordinate plots were created using version 0.3.0 of the parcoords package for R [230], which is founded in the work led by Chang [241], building on that of Inselberg [252]. The exact goodness of fit tests referred to in Section 4.5 were carried out using the multinormal.test() function from version 1.1 of the EMT package [263].

All the raw data and the script used in its analysis are available elsewhere [274].

Readers who are unfamiliar with the statistical methods used may find useful introductions in the books by Field, Miles and Field [ref28], and Clark-Carrater [ref29], and the vignette for the phia R package [30ref]. Similarly, those wishing to acquaint themselves with the R statistical programming language might find it helpful to read the books by Kabacoff [ref31] and Matloff [ref32], the former of which has a very useful website [ref33].

3. Results

Table 3 shows the mean and median percentage fibre retrieval rates of the five repeat determinations that were conducted for each of the 144 unique factor level combinations in this experiment. This Table also contains a star rating system which categorises the mean fibre retrieval rates seen. This allows the identification of those taping methods and tape types that were found to be effective in this study for each surface and tape storage temperature used. It also allows easy comparison of the data within this study. In this system, a four-star rating denotes excellent mean retrieval rates ($90\% \leq \bar{x} \leq 100\%$), three-star shows very good mean retrieval rates ($80\% \leq \bar{x} < 90\%$), two-star depicts good mean retrieval rates ($70\% \leq \bar{x} < 80\%$) and one-star indicates mean retrieval rates of $\bar{x} < 70\%$. The last of which is considered to be a risk area. The choice of the ranges

that correspond with these ratings was informed by previous research [5, 9, ~~25~~ 34 and ~~26~~35] and the acceptance criteria set by Warwickshire & West Mercia Police.

[Insert here] Table 3: The mean and median fibre retrieval rates seen.

Across all tape storage temperatures, surfaces and taping methods, the range of mean fibre retrieval rates for Crystal Tabs and J-LAR were 80.9%-100% and 56.9%-99.7%, respectively.

The range of mean percentage fibre retrieval for the zonal method across all tape storage temperatures, surfaces and tape types is 56.9%- 100%. That of the one-to-one method is 80.4%-100%.

The mean percentage retrieval of fibres from each surface for both J-LAR and Crystal Tabs indicate that surface type effects the efficiency of the tape. Generally, it can be stated that the smoother and less sheddable surfaces had higher mean retrieval percentages than the rougher and more sheddable ones. This observation is explored further in Section 4.6.

Figures 3 to 6 respectively show notched box plots of fibre retrieval rate (i.e. efficiency) data grouped by each of tape type, tape storage temperature, taping method and surface. It is noteworthy that the box plots in these Figures illustrate that the efficiency data for each of the levels of the four factors studied here have a pronounced negative skew. This indicates that for raw efficiency data, median would be a better measure of central tendency than mean and that interquartile range would be a more meaningful measure of spread than standard deviation.

[Insert here] Figure 3: Notched box plots of efficiency grouped by tape type.
[Insert here] Figure 4: Notched box plots of efficiency grouped by tape storage temperature.
[Insert here] Figure 5: Notched box plots of efficiency grouped by taping method.
[Insert here] Figure 6: Notched box plots of efficiency grouped by surface.

Within each of Figures 3 to 6, those notches which do not overlap between two box plots provide strong evidence of differences between medians [36~~27~~, p62]. On this basis and setting aside any interaction effects, the data suggests that:

- Crystal Tabs tends to be more efficient than J-LAR;
- tapes stored at 35 ℃, and possibly those stored at -5 ℃, tend to outperform the efficiency of those stored at 19 $\pm$ 1℃;
- one-to-one taping tends to retrieve more of the fibres from a surface than zonal taping.

However, great caution should be exercised when using these observations to inform crime scene practice as they ignore both the interactions between the factors under study (tape type, tape storage temperature, taping method and surface) and the effect of factors, such as ease of use, which do not form part of this quantitative work. Further consideration is given to interactions between tape type, tape storage temperature, taping method and surface in Section 4 and a commentary on the varying propensity for tape to tear and variation in its pliability when stored at different temperatures is provided later in this section (i.e. Section 3).

Figure 6 suggests that the effect of surface is complex but that it may be possible to categorise surfaces into different clusters based on a combination of median and interquartile range efficiency data. This is explored further in Section 4.6.

Figures 7 and 8 are dot plots showing the median and interquartile ranges of efficiency for each combination of surface, taping method and tape storage temperature for Crystal Tabs and J-LAR respectively. In each case, these are ordered from most (top) to least efficient as measured by median efficiency. These suggest that, during the experiment under consideration, Crystal Tabs tended to outperform J-LAR but that this is not true for all the combinations of surface, taping method and tape storage temperature that were studied. See Section 4 for a detailed examination of this and other trends present in the data.

[Insert here] Figure 7: A dot plot showing the median and interquartile ranges of efficiency for each combination of surface, taping method and storage temperature tested using Crystal Tabs.

[Insert here] Figure 8: A dot plot showing the median and interquartile ranges of efficiency for each combination of surface, taping method and storage temperature tested using J-LAR.

Parallel coordinate plots offer a convenient method for the display and exploration of complex multivariate data [252]. Various interactive parallel coordinate plots have been created from the data generated by the study reported here and are available on line [274, 3728]. Figure 9 shows screenshots of one such plot. It depicts how the median and interquartile range efficiency data varies with the experimental factors of this study. The left-hand panel of that Figure shows the entire data set, whilst that on the right demonstrates how the user can use the interactive version of the plot [274[3]] to apply filters to isolate parts of the dataset. In this case, such application has allowed the user to see that, when stored and used at room temperature (19 ± 1 ℃), using a zonal method of application to a jumper, Crystal Tabs outperformed J-LAR in terms of improved efficiency and decreased interquartile range. Clearly, this does not indicate whether any such difference in performance is statistically significant. This is a matter that is explored in Section 4.

Commented [2]: Note to copy editor. This should be footnote number 2. For some reason, I can't get Word to change it from 3 to 2.

[Insert here] Figure 9 Screenshots of the parallel coordinate plot that shows the median and interquartile range efficiency data for all the unique combinations of the four factors under consideration. The screenshot on the left shows the full data set whilst that on the right gives an example of the application of user-defined filters.

Although not a quantitative part of this study, it was noted that the storage temperature of the tape did have an influence on the ease of use of J-LAR. When stored at -5˚C, on removal from the roll, that tape was more susceptible to ripping than when it had been stored at either 19 ± 1˚C or 35˚C, resulting in wasted tape. When stored at -5˚C, this tape type was also much more prone to ripping when removing it from other pieces of tape during the one-to-one method. In contrast, when stored at 35˚C, J-LAR was seen to be much easier to remove from other tapes during that method than when it was stored at either 19 ± 1˚C or -5˚C.

Crystal Tabs, at any of the storage temperatures, did not rip when pulled either from other pieces of tape during the one-to-one method or from its backing. When stored at 35˚C, Crystal Tabs was seen to be more pliable than when stored at either of the other two storage temperatures and therefore easier to bend around surfaces, especially the brick.

[3] The interactive version of the plot shown in Figure 9 is available as the last of the plots given in the html file in the initial data description folder that can be accessed via [274].

Whilst outside the remit of this study, the authors note that they observed by eye (using white, non-polarised light) that the Crystal Tabs and J-LAR that was used:

- exhibited equivalent optical clarity under the microscope;
- did not incur any noticeable discolouration after two years' storage in a cardboard box in a laboratory environment out of direct sunlight.

4. Discussion

4.1 Comparison with previous studies

Overall, the mean percentage fibre retrieval rates (i.e. efficiencies) seen in this study were consistently higher than those reported in previous literature.

Lowrie and Jackson [~~29~~38] have reported a study in which three different fibre types (wool, acrylic and cotton) were donated to three different garments (wool jumper, acrylic jumper and polyester jacket) that were then worn for 8h each. After this, fibres were retrieved by zonal taping with Sellotape® (tape storage temperature was not specified). Mean fibre retrieval rates (n = 3) ranging from 30.3% to 49.5% were reported from the acrylic jumper used in that study. The mean retrieval rates observed in the study reported here from the acrylic jumper for all unique combinations of tape type, tape storage temperature and taping method range from 71.11% to 92.90%. These data are each the mean of five repeat determinations and are noticeably higher than the largest mean retrieval rate from the acrylic jumper that was reported by Lowrie and Jackson. In their report, Lowrie and Jackson state that "*It has been shown … that after 8 h wear those fibres remaining on garments are fairly few in number and tightly bound by mechanical forces to the recipient garment.*". From which may be inferred that those fibres which are more loosely bound, and which do not become tightly bound during wear, are those which are lost during that activity. In the study reported here, there was no period of wear between the addition and retrieval of the donor fibres, so any that were loosely adhered would still be present when the tape was applied. It seems likely that such fibres are readily removed by tape lifting, explaining the difference in retrieval rates seen between the Lowrie and Jackson study and the one reported here.

Wael, Gason and Baes [5] reported mean (n = 4) retrieval rates of 23.5%-61.0% of seeded fibres from textile chairs. Of the surfaces used in the study reported here, the long-pile carpet seems to be the most similar to that employed in that previous study. The mean retrieval rates produced for the long-pile carpet, for all 12 unique combinations of tape type, tape storage temperature and taping method range from 77.86% to 91.72%, all of which are much higher than those reported in that previous study. In the study reported here, the lowest retrieval rate of target fibres from the long-pile carpet for an individual repeat measurement was 71.64% which is, again, larger than the highest mean rate reported by Wael, Gason & Baes [5]. Differences between the two studies in the techniques used to transfer the target fibres to the surfaces under consideration could, in part at least, be responsible for the difference in the retrieval rates seen. The seeding transfer approach used by Wael *et al.*, in which individual target fibres were each partially inserted beneath warp threads with tweezers [5], may have led to target fibres being more tightly bound within the weave

of the recipient fabric than the transfer methods used in the study reported here (see Section 2.2 for details).

As explored further in Section 4.6, in this study, surface type has been found to influence the efficiency of fibre recovery. A categorisation of the surfaces concerned is provided in Figure 1 and Figures 6 to 8 display the efficiency with which target fibres were retrieved from them by the tapes used. From this it can be seen that, typically, the smoother and/or less sheddable surfaces produced higher fibre recovery rates than did rougher and/or more sheddable ones. A possible explanation is that the target fibres were more firmly adhered to the rougher surfaces due to their textured or textile-based nature. The sheddabilty of textile surfaces could also be a contributing factor, as the background fibres from those surfaces could interfere with the retrieval of the target fibres. Research carried out by Lowrie & Jackson [~~29~~38] observed that a smooth polyester garment gave the highest retrieval rate compared to a rough-surfaced wool garment and a smooth-surfaced acrylic garment. In essence, that previous observation is consistent with the relevant findings of the study reported here. Figure 6 summarises those findings and provides evidence that the overall median target fibre retrieval rate from the smooth polyester tracksuit trousers exceeded those for each of all the other textile surfaces except the seatbelt and the smooth cotton T-shirt. The finding of the latter of these two exceptions (a surface not studied by Lowrie & Jackson [~~29~~38]) is essentially consistent with the findings of Schotman & v~~V~~an d~~D~~er Weerd [9], as, in their study there was some overlap between the retrieval rates of polyester target fibres on cotton fabric and of such target fibres on polyester fabric. Although, in their study with polyester target fibres, cotton fabric produced, on average ($\bar{x}$ = 97.4%, n = 3), higher retrieval rates than did polyester fabric ($\bar{x}$ = 96.0%, n = 3).

It is common practice to store basic crime scene equipment, such as lifting tapes, inside crime scene investigators' vehicles [10]. During this storage, the tape's temperature will track that of its environment; thus, the tape temperature will vary with geographical location, and time of day and year. The tape storage temperatures chosen for this study (-5, 19 $\pm$ 1 and 35°C) were selected to encompass the typical range of temperatures encountered across the year in the UK. As of the time of writing (19 December 2017), there is no previous research reported in the literature on the effect of tape storage temperature on usability in the forensic context, whether for lifting fibres or other evidence (such as fingermarks).

4.2 ANOVA

The experiment reported here has a balanced four-way factorial ANOVA design, meaning that it has:

- one dependent variable, namely the percentage of target fibres retrieved (i.e. the efficiency);
- four categorical independent variables (i.e. factors), namely tape type (known as Tape), tape storage temperature (Temp), taping method (Method) and the surface from which the target fibres were retrieved (Surface);
- the same number of repeat determinations (namely five in this case) of the dependent variable at each of the unique combinations of the individual variants (i.e. levels) of the factors. (As detailed in Section 2, Tape, Temp, Method and Surface have two, three, two and 12 levels respectively – producing 144 unique level combinations and a total of 720 efficiency determinations.)

The pronounced negative skew that is present in the efficiency data precluded the use of ANOVA on those raw data. A reflected logarithmic transformation was therefore used. The resulting dependent variable (reflected log efficiency) has an inverse relationship with the efficiency data on which it is based.

Using reflected log efficiency as the dependent variable, a four-way factorial ANOVA model was built based on all main effects and interactions and using the entire data set. Post-model diagnostics revealed the following:

- The normal quantile-quantile plot shown in Figure 10. Arguably, this reveals that all bar 10 (i.e. 1.4%) of the ~~This shows few of the~~ 720 data points are in very good agreement with what would be expected from normally distributed data~~outside the approximate 95% confidence envelope given in the Figure and that none of these points are far outside that envelope~~.
- A non-significant outcome for a Kolmogorov-Smirnov test of normality of the residuals (D = 0.032261, p = 0.4419). (However, there are ties present (8.3 % of the data)).
- A significant outcome for a Shapiro-Wilk normality test applied to the residuals (W = 0.99188, p = 0.0005581).
- A significant outcome for a Levene's Test for homogeneity of variance with the centre set to mean ($F = 2.3539$, $p = 1.092 \times 10^{-12}$).
- A non-significant outcome for a Levene's Test for homogeneity of variance with the centre set to median (F = 0.9641, p = 0.5981). (This is a more robust version of the Levene's test that is referred to above).

[Insert here] Figure 10: Normal Q-Q plot with approximate 95% confidence envelope.

From the above it would seem that there is a small deviation from the normality assumption. For the sake of preserving the balanced design, outliers were not removed from the data. The above also reveals a deviation from the homogeneity of variance assumption. However, this deviation would seem to be small – especially in light of the experiment's balanced design. On this basis, the authors decided to proceed with the ANOVA model.

The findings of this model are summarised in Table 4. From which it can be seen that all four main effects and all interactions bar Tape:Temp:Method were found to be significant at a confidence level of greater than 95%. The last column of Table 4 provides a categorisation of the effect size using 0.0099, 0.0588 and 0.1379 as the cut points between small, medium and large effect sizes [~~30~~39]. This provides evidence that all the significant terms are also substantive in their effects.

[Insert here] Table 4: ANOVA summary

Full details of the code used to build the ANOVA model used and test its assumptions are available in the public domain [274].

Noting the statistical significance of the Tape:Temp:Method:Surface interaction and applying the principle of marginality [~~31~~30], it is necessary to explore that interaction effect in order to understand the interplay between the effects of the factors in this experiment. Indeed, according to that principal, the presence of the significant Tape:Temp:Method:Surface interaction means that the lower order interactions and main effects that it contains should neither be tested nor interpreted

[*Ibid*.]. In this work, a simple effects approach to the testing and interpretation of the interplays present in the Tape:Temp:Method:Surface interaction has been adopted for each of the factors in that interaction. The outcome of this is explored in Sections 4.3, 4.4, 4.5 and 4.6.

4.3 Effect of tape type

A simple effects analysis was carried out which examined the effect of tape type on the mean reflected log efficiency at each of the 72 unique combinations (i.e. conditions) of tape storage temperature, taping method and surface. During this analysis, the Bonferroni adjustment was used to control the familywise error rate. It revealed that during the experiment, in 61 of these 72 conditions (i.e. 84.7%), Crystal Tabs out-performed J-LAR and in the remaining 11 conditions, the reverse was true.

The advantage of the simple effects analysis is that it allows differentiation between those conditions that showed either statistically significant or discussable differences in performance and those which did not. Table 5 summarises the other key findings of that analysis. The column labelled 'Difference …' in that Table shows the value of the mean reflected log efficiency of the Crystal Tabs tape minus that of the J-LAR tape. To save space, only those 17 conditions (23.6% of the total) for which this difference is either significant or discussable at a confidence level of > 95% are shown (the full version of Table 5 is given in this paper's Supplementary Materials and the R script used to create it is available elsewhere [274]). For each of these 17 statistically significant or discussable results, the entry in the 'Difference …' column is < 0. This shows that for all these 17, Crystal Tabs tape outperformed J-LAR and that none of the 11 instances in which J-LAR outperformed Crystal Tabs are statistically significant or discussable. This is consistent with the box plots shown in Figure 3, which indicate that, typically, overall, Crystal Tabs was more efficient at fibre retrieval than was J-LAR under the conditions of the study. As shown in Table 5, the effect sizes for the significant and discussible differences, as measured by r, all fall into the small to medium range (this is based on the following benchmark values for r: small = 0.10, medium = 0.30 and large = 0.50 [~~32~~40, pp 79-81]). Interestingly, all three storage temperatures, both taping methods and all surfaces bar two (long carpet and jumper) are represented amongst the data presented in that Table.

[Insert here] Table 5: Significant and discussable simple effects that explore the impact of tape type.

An interactive parallel coordinate plot showing the full results of the simple effects analysis of the effect of tape type is available [~~28~~37]. Screen shots from that plot are given in Figure 11. Figure 11 (a) shows the entire dataset whilst Figures 11 (b) and (c) are screen shots after user-defined filters have been applied. In Figure 11 (b) these filters have isolated those surfaces that produced significant differences between the tape types when these tapes were stored at room temperature (19°C) and applied using the zonal method. It also shows the range of the absolute difference between the reflected log efficiencies seen under these conditions and the range of values of effect size as measured by r that are associated with these differences. Part (c) illustrates how the plot could be used to inform crime scene practice. Faced with a plywood surface, a forensic strategy that expects the use of zonal taping and tapes that have been stored at room temperature, the user can apply the filters to isolate these conditions on the plot and check whether there is a significant difference in the performance of the tape types. In the case in question, the plot shows that Crystal Tabs outperforms J-LAR, that this difference is statistically significant, that the absolute difference in reflected log efficiencies seen was slightly greater than 1.5 and that effect size, as

measured by r, is between 0.25 and 0.30. This information, together with factors such as ease of tape use, can be used to inform the choice of tape type for this application.

[Insert here] Figure 11: Screen shots of an interactive parallel coordinate plot (available from [~~28~~37]) that summarises the key findings of a simple effects analysis of the effects of tape type at fixed levels of tape storage temperature (Temp, in °C), taping method (Method) and Surface, using the Bonferroni adjustment to control the familywise error rate. Part (a) shows the full data set, and parts (b) and (c) illustrate the application of user-defined filters.

4.4 The effect of tape storage temperature.

To explore the effect of tape storage temperature on the reflected log efficiency measure of fibre retrieval efficacy, a set of simple effects tests was carried out. This set consisted of one such test for each of the 48 unique combinations (i.e. conditions) of tape type, taping method and surface. In these tests, Bonferroni adjustment was employed to control the inflation in the familywise error rate.

As shown in Table 6, this process revealed that 12 of the tests (25% of the total) identified a significant simple effect and one test identified a discussible one. That Table also shows the effect size of these as measured by r. Further, it provides a categorisation of the magnitudes of these measurements based on the convention that values of r that are 0.10, 0.30 and 0.50 are small, medium and large, respectively [~~32~~40, pp 79-81]. On this basis, each of the significant and discussable simple effects have effect sizes in the small to medium range. Interestingly, both tape types, both taping methods and all surfaces bar two (ceramic tile and long carpet) are amongst the conditions shown in Table 6. A table of the data presented in Table 6 but for all 48 simple effects tests can be found in this paper's Supplementary Materials and the R script written to create it is available elsewhere [274].

[Insert here] Table 6: Key output and effect size information from simple effects tests that were conducted to explore the effect of tape storage temperature on reflected log efficiency. Only those data from those tests that revealed significant or discussible simple effects are shown.

For the significant and discussible simple effects, pairwise contrasts were carried out to determine the identity of significant differences in mean reflected log efficiencies between the tape storage temperatures used in this study. In these contrasts, to control the familywise error rate, Tukey HSD adjustment was applied to each p value. This adjustment was based on the total number of means involved in the experiment as a whole (i.e. 144) and the residuals' degrees of freedom (i.e. 576). Table 7 shows synoptic data for those of the above-described contrasts that are statistically significant. None of the three contrasts for which the corresponding simple effect was discussable proved to be significant. A table showing the synoptic data given in Table 7 but for all the pairwise contrasts is available in this paper's Supplementary Materials and the R script written to create it is available online [274].

[Insert here] Table 7 Pairwise contrasts that show statistically significant differences in mean reflected log efficiencies between tapes stored at different temperatures.

Of the contrasts shown in Table 7, all concern those between 19°C and either -5 or 35°C. This is in keeping with the relative similarities of the box plots for the temperature extremes (Figure 4) and

the apparent dissimilarity of those plots with the box plot for 19°C. Interestingly a comparison of the median values shown in Figure 4 shows that, overall, the efficiency of fibre retrieval is typically greater for both -5 and 35°C than it is for 19°C. Perhaps unsurprisingly, this typical behaviour is also echoed in Table 7. This shows that of the 14 significant pairwise contrasts, all of which involve 19°C, there are only 2 for which this tape storage temperature resulted in the better fibre recovery rate (i.e. the lower of the two reflected log efficiencies under consideration). These observations need to be viewed in the wider context, however. In this study as a whole, there is a total of 144 possible pairwise comparisons (48 conditions x 3 temperature-based pairwise comparisons), so those 14 that are significant are 9.7% of the total, making them relatively rare. This too is in keeping with the box plots of Figure 4, which show a good degree of overlap in the efficiency data between the three storage temperatures of the study.

To avoid the unnecessary exposure of the tapes to different temperatures, a different roll of each of J-LAR and Crystal Tabs was used for each of the three storage temperatures studied. Therefore, one hypothetical explanation of the effects described in the previous paragraph is that they are due to differences in the performance of different rolls of the same tape type. Given the automated nature of tape manufacture, this seems to be an unlikely explanation but remains one of interest for future work.

An interactive parallel coordinate plot has been created and made available online to show the pairwise between-temperature differences in reflected log efficiency for each of the unique combinations of tape type, taping method and surface [~~28~~37]. Screen shots of this plot in use have been reproduced in Figure 12. The three parts of that figure compare the performance of tape stored at -5 and 19°C [part (a)], -5 and 35°C [part (b)] and 19 and 35°C [part (c)]. In each of these parts of that Figure, the user has applied filters to the data. In each case, these show which of the two storage temperatures under consideration were found to produce the better (i.e. lower) mean reflected log efficiency figure when Crystal Tabs tape was used with the zonal taping method on jeans. Figure 12 (a) shows that, under these conditions, tape stored at -5°C outperformed that stored at 19°C with an absolute difference between the mean reflected log efficiencies of between 0.50 and 0.75 and an effect size as measured by r of between 0.100 and 0.125 but that this difference was not statistically significant. From Figure 12 (b), it can be seen that, under the same conditions, tape stored at 35°C outperformed that stored at -5°C, with an absolute difference in mean reflected log efficiency of between 0.4 and 0.6 and an effect size (r) of less than 0.1 but that this too is not a statistically significant difference. In contrast, Figure 12 (c) shows that, under the same conditions, there is a significant difference in performance (as measured by mean reflected log efficiency) between tape stored at 19°C with that stored at 35°C, with the latter outperforming the former with an absolute difference of > 1.0 and an effect size (r) of between 0.175 and 0.2. By use of this plot, the user can explore any given combination of tape type, taping method and surface that was employed in this study to establish which of the tape storage temperatures used resulted in the best fibre retrieval efficiency. It also shows the user whether the pairwise differences seen are significant and their effect sizes.

[Insert here] Figure 12 Screen shots of an interactive parallel coordinate plot (available from [~~28~~37]) showing pairwise between-temperature differences in reflected log efficiency for each of the unique combinations of tape type (Tape), taping method (Method) and Surface. Note that °C are the units of temperature used here. Parts (a), (b) and (c) illustrate the application of user-defined filters – see the main text for details.

Qualitative observations were also made during this study on the effect of tape storage temperature on each tape type's ease of use. It was noted that J-LAR was more prone to rip during use when it was stored at -5˚C than when stored at either of the other temperatures of the study. This problem could be avoided in the field by allowing the tape to warm prior to use. No such effect of temperature on the propensity to tear was seen for Crystal Tabs. However, it was observed that this tape became more pliant with increasing storage temperature. The implication of this is that it is easier to apply this tape to convoluted surfaces when it is stored under warm conditions.

4.5 The effect of taping method.

A simple effects analysis was completed to explore the effect of taping method (one-to-one or zonal) on mean reflected log efficiency. During this, one simple effect test was carried out for each of the 72 unique combinations (i.e. conditions) of tape storage temperature, tape type and surface. The familywise error rate was controlled by using the Bonferroni adjustment. This showed that, during the experiment, in 53 of the 72 conditions tested (i.e. 73.6%), one-to-one taping captured a larger proportion of the target fibres than did the zonal taping method (as expressed by the mean reflected log efficiency measure); whereas for 19 conditions (26.4% of the total), the reverse was true. This echoes the effect seen in Figure 5 which shows that, overall, one-to-one taping typically outperformed zonal taping but with a substantial degree of overlap in performance.

Table 8 summarises the outcomes of that analysis of taping method for those conditions for which statistically significant or discussable effects were found at a confidence level of > 95%. In each case, the figure in the column labelled 'Difference …' was calculated by subtracting the mean reflected log efficiency figure for one-to-one taping from that of zonal taping for the condition shown in columns 3, 4 and 5. Therefore, the fact that all the figures in the 'Difference …' column are negative shows that none of the 19 conditions for which zonal taping outperformed one-to-one taping are statistically significant and that, for the conditions for which the reverse is true, 10 (i.e. those listed in the table, 13.9% of the total) produced statistically significant or discussable results. As can be seen from Table 8, the effect size for each of these significant or discussable differences has been measured using r. Adopting the convention that r values of 0.10, 0.30 and 0.50 represent small, medium and large effect sizes, respectively [~~32~~40, pp79-81], means that all the effects shown in Table 8 are in the small to medium range. The complete version of Table 8 is provided in this paper's Supplementary Materials and the R script written to generate it is available elsewhere [2~~7~~4].

[Insert here] Table 8 Significant and discussable simple effects that explore the impact of taping method.

The initial impression given by Table 8 is that the distribution of surface types present is much as might be expected by chance. However, it is perhaps interesting to note that although all three storage temperatures and both tape types are present in the conditions shown in Table 8, both room temperature (19°C) and J-LAR are over represented. These levels of the factors Temp and Tape appear seven times each. If they were present in *pro-rata* numbers, they would be expected to occur in 3.3 and five times, respectively. To explore this further, three exact goodness of fit tests were carried out, one for each of the three factors (Tape, Temp and Surface) that make up the conditions shown in Table 8. This was done to determine whether the pattern of distribution of the levels of these factors seen in that table is significantly different from that expected if they had been present on a *pro rata* basis. The unadjusted p values from these tests were found to be 0.3438, 0.0931 and 0.6964 for Tape, Temp and Surface, respectively – none of which exhibit statistical

significance at a 95% level of confidence. This suggests that, despite initial impressions to the contrary, a distribution pattern that could result in the over-representation of 19°C and J-LAR amongst the conditions seen in Table 8 is within what might be expected based on chance alone.

Figure 13 provides screenshots from a parallel coordinate plot that summarises the result of the simple effects analysis of the effect of taping method for all 76 conditions. The plot itself is available online [~~28~~37]. Part (a) of that Figure shows the full data, whereas part (b) provides an example of the plot in use. In the latter, the user has applied filters to identify those surfaces for which there is a significant difference in the efficiency of the two taping methods when employing Crystal Tabs tape that has been stored at room temperature (19°C). It also allows the user to see the range of absolute difference in performance between these taping methods (as expressed by reflected log efficiency) and the range of effect size (as measured by r) of these differences. Such information could be used to inform forensic strategy.

[Insert here] Figure 13: Screen shots of an interactive parallel coordinate plot (available from [~~28~~37]) that summarises the key findings of a simple effects analysis of the effect of taping method at fixed levels of tape storage temperature (Temp, in °C), tape type (Tape) and Surface, using the Bonferroni adjustment to control the familywise error rate. Part (a) shows the full data set and part (b) illustrates the application of user-defined filters.

Unlike the one-to-one method, its zonal counterpart gives the potential for fibres collected from one area of the surface to be redistributed to another when the piece of tape used is re-applied, leaving the possibility that such redistributed fibres may not be recovered. As implied elsewhere [6], the one-to-one method also provides a more systematic approach to the recovery of fibres than does the zonal alternative. During one-to-one taping, the entire area to be sampled is covered with tapes before their removal, thereby ensuring the entire target area is contacted with tape. In contrast, during zonal taping, the same piece of tape is repeatedly applied to and removed from the targeted area. This leaves the possibility that some of that area may be missed as there is no visible indication of where has and where has not been previously in contact with the tape. Further, the fibres and other debris collected during one application of the tape in the zonal method may place a physical barrier between the tape's adhesive and any given target fibre on the surface during a subsequent application of the tape, thus impeding the recovery of that fibre. Taken together, these observations may explain why, as outlined above, whilst not universally the case, the one-to-one method typically recovered a greater proportion of the target fibres present than did the zonal taping method.

During this study, as described in Section 2.2, care was taken to use the same procedure each time a piece of tape was applied to a surface. However, inevitably, the pressure used when doing this will have varied between such applications. Whilst the impact of this variation is not known, it seems likely that it will account for some of the unexplained variance present in the fibre retrieval rate data.

Whilst not within the remit of this study, it was noted that, when processing highly sheddable surfaces, the zonal method produced tape lifts which contained more background material than did the one-to-one method. The presence of such material could have a negative effect on the ease of subsequent analysis [5, 9]. Therefore, from this perspective, when approaching a highly sheddable surface, the one-to-one method may be deemed preferable to the zonal one. However, the size of the area that requires tape lifting would also need to be considered as the one-to-one method

produces more tape lifts per unit area than does zonal taping, which may mean that the former is not time- or cost-effective [6, ~~26~~35]. From these observations, it is clear that the efficiency of target fibre retrieval is not the only matter that should be considered when deciding which taping method to use in any given case.

4.6 The Effect of Surface Type

As shown in Table 4, the main effect of Surface is both significant and substantive. Figures 6 to 8 allow some of the details of that effect to be seen. In Section 4.1, there is a reflection on the effect of Surface, as seen in this study, in the light of relevant previously reported work.

Importantly, as seen in Table 4, the Tape:Temp:Method:Surface interaction is also significant. The interplay between the effect of Surface and each of the other factors in this term has been analysed by a two-stage process.

Firstly, simple effects tests, one for each unique combination (i.e. condition) of Tape, Temp and Method, were carried out with Bonferroni adjustment to both p and alpha as described in Section 2.3. As shown in Table 9, all 12 of these tests showed significant differences between mean reflected log efficiencies amongst the surfaces included in this study.

[Insert here] Table 9 Simple effects that explore the impact of surface.

Secondly, to find where the significant differences were located amongst these surfaces, pairwise contrasts were carried out. As all the simple effects had proved to be significant, all 792 possible pairwise comparisons were tested in this way. In this process, Tukey HSD adjustments were made to the p values to control the family wise error rate based on 144 means and 576 degrees of freedom. A table showing the outcome of all 792 tests, in order of decreasing effect size as measured by r, is provided in this paper's Supplementary Materials and the R script written to generate that table is available elsewhere [2~~7~~4]. The top and bottom 10 rows of that table are reproduced in Table 10. As shown in the full version of Table 10 (in the Supplementary Materials), 367 (i.e. 46.3%) of the between Surface pairwise differences between mean reflected log efficiencies are significant at a confidence level of > 95%. Using the benchmark figures for r of 0.10 = small, 0.30 = medium and 0.50 = large as cut points [~~32~~40, pp79-81], those significant differences are seen to have effect sizes either in the small-to-medium or medium-to-large size ranges.

[Insert here] Table 10 Surface pairwise contrasts (ordered by effect size as measured by r).

Hierarchical cluster analysis based on efficiency median and interquartile range data for the 12 surfaces has revealed the presence of three highly stable clusters[4] [274], the membership of which is shown in Figure 14. The high stability of these clusters suggests that they represent true structures in the data [3341, p184]. These structures are echoed in the behaviour revealed in Table 10 and its complete counterpart (the latter is in this paper's Supplementary Materials).

Commented [3]: Note to copy editor. This should be footnote number 3

[Insert here] Figure 14 Surface clusters based on the median and interquartile range of fibre retrieval rate data.

That table shows the number of the cluster to which each of the surfaces belong. It also contains a column containing Cluster Number Difference (CND) data. Noting that the better surface is that which has a lower mean reflected log efficiency value, the data in that column were calculated by subtracting, for each pairwise contrast, the cluster number of the worse surface from that of the better surface. Thus, the data in that column provides the following information:

- if CND < 0 then the better surface is from a cluster that has a lower median fibre retrieval rate and higher interquartile range of such rates;
- if CND = 0 then the better surface is from the same cluster as the worse surface;
- if CND > 0 then the better surface is from a cluster that has a higher median fibre retrieval rate and lower interquartile range of such rates;
- if the absolute value of the CND is 1, the two surfaces are from neighbouring clusters in Figure 14;
- if the absolute value of the CND is 2, the two surfaces are from clusters 1 and 3 (i.e. those with the maximum differences in median and interquartile range).

As would be expected, there is a strong correlation (0.800) between r and CND in the data to be found in the complete version of Table 10 (provided in this paper's Supplementary Materials). To explore this further, the tertiles of r were use as cut points to separate the values of r in that table into three categories, namely bottom, middle and top. The resulting categorical data was then cross tabulated with the complete CND data, creating the contingency table shown in Table 11. This shows a clear association between r category and CND, which Pearson's Chi-squared test of association proved to be highly significant (χ^2 = 619.35, df = 6 and p < 2.2e-16).

[Insert here] Table 11 A cross tabulation of classified r values and Cluster Number Difference data. In this, r values are classified according to whether they appear in the top, middle or bottom third of the complete version of Table 10.

As can be seen from Table 11, the modal value of the CND for the bottom-, middle- and top-thirds of the r values is 0, 1 and 2, respectively. This shows that, as exemplified in Table 10, those comparisons that appear near to the top of the complete version of that table are typically between

[4] The stability of the clusters was evaluated by means of the clusterboot() function in the fpc package [185] for R. This revealed stability values of 0.991, 1.000 and 0.980 for clusters 1, 2 and 3, respectively [274]. Zumel and Mount provide a rule of thumb for the interpretation of such values, according to which, values > Ca. 0.85 indicate high stability [3341, p184].

surfaces taken pairwise from between clusters 1 and 3 where as those near the bottom are typically taken from within any one of the three clusters. Further, the central third of the rows of the complete version of that table are dominated by comparisons between surfaces found in clusters that are nearest neighbours in Figure 14.

It seems probable that the observations made concerning Table 11 are simply reflections of the previously noted stability of the three clusters shown in Figure 14.

An interactive parallel coordinate plot has been created to summarise and display the results of the between surface pairwise comparison analysis of the reflected log efficiency data. This is available online [~~28~~37] and allows the user to filter the data to find points of interest. A screen shot showing this plot in use is given in Figure 15. In this instance, the user has applied filters to isolate the comparison between the mean reflected log efficiencies with which fibres were retrieved from short carpet and glossed MDF surfaces using Crystal Tabs stored at room temperature (19°C), employing the zonal method. It shows that under these conditions, the absolute difference between the mean reflected log efficiencies for these two surfaces was Ca. 2.5, that this difference is significant at a confidence level of > 95% and has an effect size as measured by r of Ca. 4.1.

[Insert here] Figure 15 Screen shot of an interactive parallel coordinate plot (available from [~~28~~37]) showing pairwise between-surface differences in reflected log efficiency for each of the unique combinations of tape storage temperature (Temp, in °C), tape type (Tape) and taping method (Method). This illustrates the application of user-defined filters to the plot– see the main text for details.

The information that is presented in Tables 10 and 11, and Figures 14 and 15, and their online counterparts, is important as it may act as a springboard to the study of the fundamental mechanisms that underpin target fibre transfer and persistence. However, it has limited direct applicability at the crime scene. This is because the choice of surfaces from which to collect fibres evidence is not under the control of the crime scene investigator as it is dictated by those surfaces which are present at the scene. Furthermore, which of those surfaces are to be sampled for fibres evidence will depend on an assessment of the impact of such sampling on other trace evidence (such as fingermarks) which may also be present. Also, the number of target fibres that may be retrieved from any given surface is not only dependent on the efficiency of the retrieval process. It also depends on how many of these fibres are present on that surface. This is controlled by the nature and degree of contact between the surface and the target fibre donor, and the subsequent loss of target fibres from that surface before crime scene processing has occurred (indeed, in a recent paper, the flying of drones above surfaces on which yarn had been placed was shown to result in the displacement of that yarn [~~34~~42]). As shown in Figure 14, in this study, fibre retrieval efficiencies were greater from smooth non-textile surfaces than from textile ones. However, it is possible that the latter are better at capturing fibres from garments worn by those involved in the crime than are the former; this is not something that was studied in the work reported here.

Notwithstanding the caveats of the previous paragraph, there are circumstances in which the data from this study can usefully inform crime scene decision making. If a choice is to be made between two surfaces, one smooth and the other a rough textile material, and if that choice is to be based solely on the efficiency of fibre recovery, the data from this study suggest that the smooth non-textile one would be the better choice. Furthermore, the full version of Table 10 (given in this paper's Supplementary Materials) and the online counterpart of Figure 15 [~~28~~37] offer tools that have value in this regard. For any given combination of the tape types, tape storage temperatures and taping methods used in this study, they allow the user to find which of any two surfaces in this study yielded the higher rate of fibre recovery as determined by the mean reflected log efficiency statistic. These tools also allow the user to readily see the effect size associated with any such comparison and whether the observed difference in performance is statistically significant.

As described in Section 2.2, three techniques were used to apply the target fibres to the surfaces used in this study. For the jumper, carpets, cushion cover, jeans, T-shirt and tracksuit trousers (Surface Group A), the rubbing technique was used. If in any one instance, this deposited too few fibres, it was followed by the scraping technique until a total of 100 to 200 target fibres transferred to the surface in question. For the brick surface (Surface Group B), the touching technique was employed. If needs be, this too was augmented by scraping as required to achieve the deposition of 100 to 200 target fibres per repeat determination. For the remaining surfaces (Surface Group C) – namely: seat belt, plywood, glossed MDF and ceramic tile – only the scraping technique was used.

The rubbing technique was applied to members of Surface Group A to mimic the dynamic contact that can occur during a crime between items such as garments worn by those present or those garments and other objects. Amongst bricks, the brick used in this study (Surface Group B) had a relatively smooth surface. Preliminary experiments revealed that the movement between the donor fabric and the surface that is integral to the rubbing technique displaced fibres from this surface. This meant that the desired number of target fibres in the test area (100 to 200) was not reached. To mitigate this problem, the touching technique was used on the brick surface. In the case of members of Surface Group C, neither the rubbing nor the touching technique could be used. This is because preliminary experiments revealed that for each of these surfaces, any contact with the donor garment resulted in the displacement of target fibres from the surface such that the desired number could not be attained. Therefore, for these surfaces, the scraping technique alone was employed.

It seems reasonable to assert that the differences in fibre retrieval rates observed between surfaces within each Surface Group should not be attributed to the effect of the fibre application technique. However, the same cannot be said of such differences between surfaces from different Surface Groups. In these cases, it is clear that some, if not all, of the effect of surface on the fibre retrieval rates seen in this study may in fact be due to differences in the target fibre application technique used.

If fibre application technique were wholly responsible for the differences in fibre retrieval rates between Surface Groups A, B and C, it would be expected that these groups would exactly

correspond to the clusters seen in Figure 14. As this is not the case and as those clusters were found to be stable, this strongly suggests that for some if not all surfaces, the effect of surface has a greater impact on fibre retrieval than does the method of target fibre application as used in this study. If true, this suggestion would be fortunate as, at the time of the processing of a crime scene, it is not normally known how the fibres present came to be there. Consider a circumstance in which there is a choice of two surfaces from which to recover fibres evidence and that this choice is to be based solely on which surface is likely to yield the highest fibre retrieval rate. If the aforementioned suggestion is correct for the surfaces in question, it would be possible to make an evidence-based decision about which surface to recover fibres from even when the means by which the fibres came to be present is not known.

In Section 4.1, the contrast between the relatively high fibre-retrieval rates reported here and those observed in previous studies is highlighted. As discussed in that section, this contrast may be attributable to between-study differences in target fibre application techniques and the use to which the surface was put between target fibre application and recovery. These observations, coupled with the matter discussed in the previous paragraph serve to identify that further work is needed. This is required to better understand the links between the mechanisms of target fibre transfer to and persistence on different surfaces and the rates at which these fibres may be subsequently recovered by tape lifting. This work would include testing the veracity of the strong suggestion identified in the preceding paragraph.

4.7 Limitations of the study

As described in Section 2.2, sandpaper was used to abrade the surface of the donor fabric from which the target fibres were obtained. This was done to facilitate the transfer of these fibres to the surfaces under study. This abrasion will have damaged those fibres. In particular, it is likely to have shortened them via fibre breakage. This may have influenced the likelihood of their subsequent recovery during tape lifting as well as altering their transfer behaviour. In a series of papers, Pounds and Smalldon explored in some detail the transfer and persistence of fibres consequent on simulated contact experiments [43, 44, ~~and,~~ 45 ~~and 46~~ref, ref, ref]. Readers interested in the effect of fibre fragmentation on such behaviour are referred to those papers.

The findings ~~of this paper~~reported here are based on the retrieval ~~rates~~ of target fibres that were present on the surfaces under study ~~surfaces~~ in the density range 0.30~~xxx~~ to 0.91~~xxx~~ fibres cm^{-2}. The target fibre application methods used (Section 2.2) are designed to achieve such densities via methods that the authors believe simulate circumstances in which such densities could be achieved in a crime scene setting. It is possible, therefore, that the retrieval rates seen in this study may not pertain in circumstances in which this simulation is inaccurate or when the fibre densities are outside the range mentioned above. Notwithstanding this caveat, as discussed in Section 4.6, there is reason to believe that for some if not all surfaces, the effect of surface on ~~f~~fibre retrieval is greater than that of the method of target fibre application as employed in this study.

The procedure used to apply tape to surface during this study is detailed in Section 2.2. Care was taken to use this procedure in as reproducible manner as possible. However, the pressure used during this aspect of the experimental work is unknown and almost certainly varied, at least to some extent, between such applications. The impact of this pressure on the fibre recovery rates seen is unknown save to say that its variation may have been responsible for some of the unexplained variance seen in those rates. It is entirely possible that the pressure used when applying tape to surface is a variable that has an important impact on target fibre recovery rate. However, so far as the authors are aware, there is no published work in this area. Therefore, ~~I~~it is their opinion ~~of the authors~~ that further work on this would be merited.

The primary concern of the study reported here was a quantitative assessment of the impact of four factors (tape type, tape storage temperature, taping method and surface type) on the recovery of target fibres. Of necessity, the range and number of levels of these factors was limited to those detailed in Section 2.1. Also, there are issues that are outside the remit of this work that nonetheless could or would have a bearing on crime scene strategy and tactics concerning trace evidence recovery using lifting tape.

In this study, scrupulous care was taken to ensure that the tapes were not contaminated with target fibres prior to use. This study did not include a systematic assessment of levels of contaminants that may be present on either of the tape types under study.

A qualitative assessment was carried out on the loss of the adhesive properties of the tape with the repeated touches required during the zonal taping method. It is this assessment that informed the maximum number of contacts between each tape type and each surface as detailed in Table 2. However, this assessment was not quantitative in nature. Wael *et al.* [5] report a method that they used to quantify this loss of adhesive qualities for five commercially available tapes (which did not include J-LAR or Crystal Tabs).

The work reported here is not concerned with the effectiveness with which different surfaces capture target fibres from donor objects (garments etc.), nor was it concerned with the effect of changes in humidity on the efficacy of fibre recovery.

Although this study examined the impact of multiple tape storage temperatures on fibre retrieval rates, only one temperature was used for the environment in which the tapes were used. This was room temperature (19 ± 1°C).

This study did not contain a between-roll comparison of the abilities of tape to recover fibre evidence. Also, to avoid the exposure of tape to unnecessary fluctuations in storage temperature, this study used one roll of each tape type at each of the tape storage temperatures. It remains a possibility, therefore, that the effect of tape storage temperature observed in this study is, in part at least, explained by between-roll differences in fibre recovery efficiency.

Assessment of ease of use of the tapes under study was limited to a qualitative evaluation of the effect of storage temperature on the tapes' pliability and propensity to tear.

Arguably, value-for-money and the ease of laboratory processing of the tapes are important considerations when setting forensic strategy and tactics. However, they are beyond the scope of this study.~~The ease of laboratory processing of the tapes was entirely outside the remit of this study, as were value-for-money considerations.~~ Similarly, this work was not concerned with the efficacy of the tapes at retrieving evidence types other than fibres (DNA, fingermarks etc.). In the paper by Wael *et al.* that is referred to above [5], they reported their evaluation of five attributes that relate to the ease of tape dissection, fibre removal and fibre slide making for each of the tape types included in their study.

The work reported here has identified the effects of the factors under study on the retrieval of target fibres applied to specific surfaces using specified techniques. However, it did not seek to expand our knowledge of the mechanisms that underpin these effects beyond that which is in the public domain and this remains an area in which further work is needed.

5. Conclusion

This study formed part of the validation of fibre tape lifting for Warwickshire & West Mercia Police. Its principal aim was to evaluate the effect of tape type (J-LAR or Crystal Tabs) and three other factors on fibre retrieval rates (i.e. efficiencies) using this lifting technique. The three other factors were:

- the temperature at which the tape was stored immediately prior to use at room temperature (19 $\pm$ 1 ˚C). There were three levels of storage temperature, namely -5˚C, 19 $\pm$ 1 ˚C and 35 ˚C;
- taping method (with two levels, namely zonal and one-to-one);
- surface type (with 12 levels, each being a surface, such as tracksuit trousers or glossed MDF, that is commonly encountered at crime scenes).

Five repeat efficiency determinations were carried out at each of the 144 unique combinations of the levels of these factors.

This is the first reported study to evaluate the target fibre retrieval efficiency of Crystal Tabs and the first to make such evaluations for J-LAR for surfaces other than those of garments. It provides a systematic evaluation of the effect of key factors that influence the fibre recovery performance of these tape types. However, as discussed in Section 4.7, there are considerations outside the remit of this study, such as value for money, that may also influence crime scene fibre recovery practice.

This study found that, as shown in Figures 3 to 9, *typically*:

- Crystal Tabs retrieved a higher proportion of the target fibres than did J-LAR. Although, as indicated in Section 3 and discussed in Section 4.1, both Crystal Tabs and J-LAR performed well under all conditions of this study;

- target fibre retrieval rates for tapes stored at -5˚C and 35 ˚C were greater than for those stored at room temperature (19 ± 1 ˚C) [note, for reasons detailed in Section 4.7, it is possible that the effect of tape storage temperature observed in this study is to some degree attributable to between-roll differences in fibre recovery rates];
- one-to-one taping retrieved a higher proportion of the target fibres than did zonal taping;
- ceramic tile, glossed MDF and plywood yielded higher fibre recovery rates than did brick or textiles. Moreover, hierarchical cluster analysis (Section 4.6 and Figure 14) detected that the surfaces under study could be divided into three stable clusters. This clustering was based on the median and interquartile range of the fibre retrieval rate achieved from each surface. This suggests that the behaviour of target fibres on surfaces within each of these clusters has more in common than does the behaviour of these fibres between them.

However, as also shown in Figures 3 to 9, there is noticeable spread and overlap within the data, which means that knowledge of typical performance is not sufficient to fully understand the patterns seen. Also, matters such as tape pliability and the propensity of tape to tear may be of importance when formulating forensic tactics. During this study it was noted that J-LAR (but not Crystal Tabs) was more prone to rip when stored at -5˚C than when stored at either room temperature or 35 ˚C. Also, over the temperature range studied, the pliability of Crystal Tabs increased with storage temperature, suggesting that its efficacy when used on convoluted surfaces would be greater when stored under warm conditions.

A balanced four-way factorial ANOVA model has been built (see Table 4) with the reflected log fibre recovery rate as the dependent variable and all four of the factors listed above as the independent variables. This showed that all the main effects (tape, temperature, method and surface) to be both substantive and statistically significant. Crucially, it also ~~found~~ revealed a significant interaction between all four of the study's factors ~~(tape type, taping method, surface and tape storage temperature),. This~~ meanings that there is a complex interplay between their effects. ~~of these factorsthe same for all of the interaction terms except tape:temperature:method (which was neither significant nor substantive).~~ From this the authors' conclude that~~, in the author's opinion,~~ any generalised recommendation, such as Crystal Tabs should be used instead of~~replace~~ J-Lar, would be an oversimplification. Furthermore, it~~This~~ means that the typical picture described above must be evaluated in terms of that interplay between ~~all four of the~~ factors. This evaluation was achieved via simple effects analyses for the effect of tape type and taping method, and by simple effects analyses followed by pairwise contrasts for the effect of each of tape storage temperature and surface. By these means all pairwise differences in reflected log fibre recovery rates seen between conditions in which once factor has been varied have been considered~~Each of these analyses were conducted covering all unique combinations of factors~~. This has allowed tables and parallel coordinate plots to be drawn by which the user can readily establish which of any given pair of levels of each of the factors resulted in the higher fibre retrieval rate (as measured by reflected log efficiency). Furthermore, in each such instance, these tables and plots allow the user to see the effect size of the difference in performance and whether this difference is statistically significant. Extracts from these tables and plots can be seen in Tables 5, 7, 8 and 10 and Figures 11 to 13 and 15. Full versions of these tables are provided in this paper's Supplementary Materials and interactive versions of the plots are available online [~~28~~37]. As far as is known by the authors, this is the first use of interactive parallel coordinate plots to display the outcome of the evaluation of significant interaction effects in a forensic science setting.

This paper includes a comparison of the findings of this study with those reported previously (Section 4.1). In Section 4.6 it also contains an exploration of the possible impact on fibre retrieval rates of the techniques used to apply the target fibres to the surfaces used in this study. Based on this comparison and exploration, the need for further work to better understand the interplay between the mechanisms of fibre transfer, persistence and recovery has been identified (Section 4.6).

Understanding the efficacy of commonly used tapes under different conditions, particularly different taping methods and storage temperatures, is important. It allows the optimisation of the recovery of trace evidence at crime scenes and in the laboratory, and can thereby inform standard operating procedures (SOPs) and quality assurance systems. The study reported here provides such an understanding concerning the rate at which fibres evidence is recovered by two commonly used tape types from 12 surfaces that are frequently encountered at crime scenes. It also provides a qualitative assessment of the impact of tape storage temperature on the pliability of these tape types and their propensity to tear during use. In the study reported here, there are 1080 pairwise comparisons in which only one of the factors varies. It is possible from the analysis presented in this paper to see for any one of these comparisons which of the pair produced the higher fibre retrieval rate as measured by its reflected log transform~~ation~~, and whether this difference in performance is significant and its effect size. This provides experimental evidence that can be used to inform the choices that forensic practitioners need to make when deciding between different fibre recovery options. The authors hope that they have presented the analysed data in formats (most notably tables and parallel coordinate plots) that make this evidence accessible. Based on this data and a~~A~~s mentioned in the Introduction, the authors have created and are now refining~~are creating~~ two web apps, one for SOP developers and one for SOP users [14~~ref~~]. The purpose of these apps is to assist the forensic practitioner in~~to~~ making informed choices which optimise performance and~~that~~ are validation compliant ~~and which optimise performance~~ when retrieving fibres evidence. Those readers interested in these apps are encouraged to contact the corresponding author.

6. Acknowledgements

[NOTE TO EDITOR: This section is provided separately as it contains the names of individuals.]

7. References

[NOTE TO EDITOR The weblink given in references 2~~8~~74 and ~~28~~ 37 are to the papers' linked datasets. They are not yet active as those data sets are in draft form. To access these datasets in that form, please following these links:

https://data.mendeley.com/datasets/bnnvn7gbf3/draft?a=a5953ae9-9b93-4ac7-8311-189c9f5d67f1 (for reference 274) and

https://data.mendeley.com/datasets/k7cnx2c84n/draft?a=ae69e969-200d-4d59-9737-671d2fab0338 (for reference ~~28~~37)

Note that those datasets contain the names of two of the authors.

The intention is to publish these datasets if and when the paper is accepted for publication.

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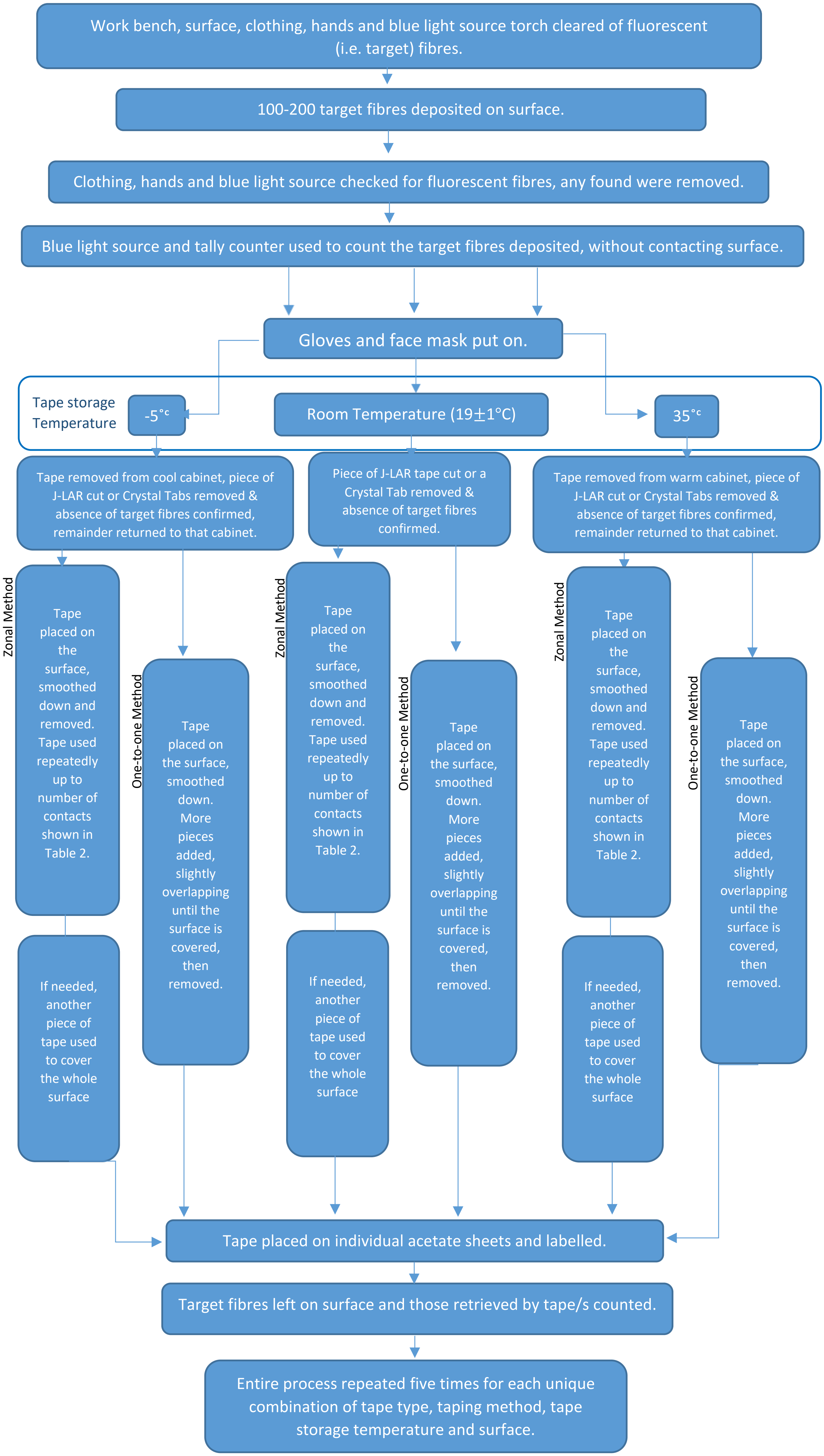
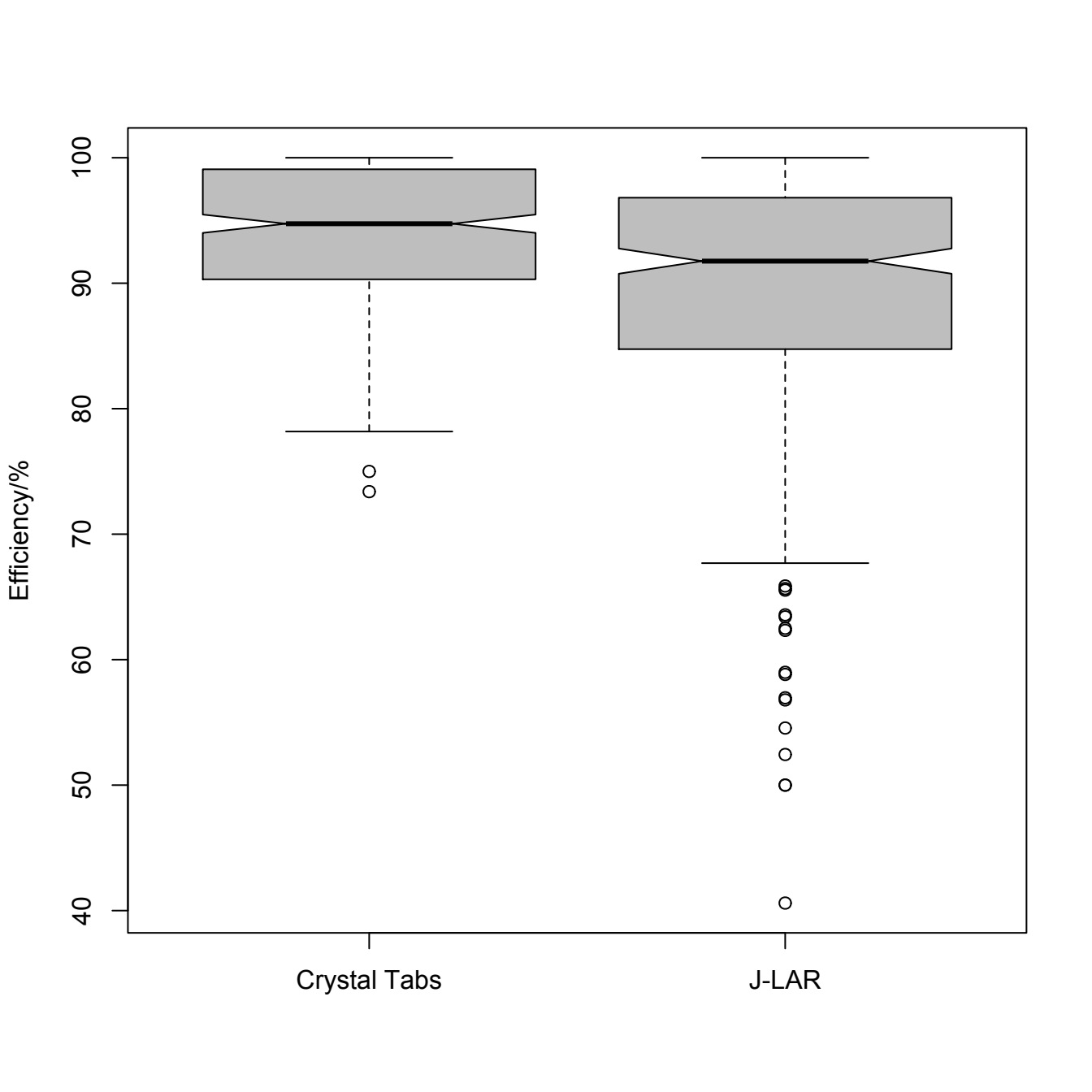
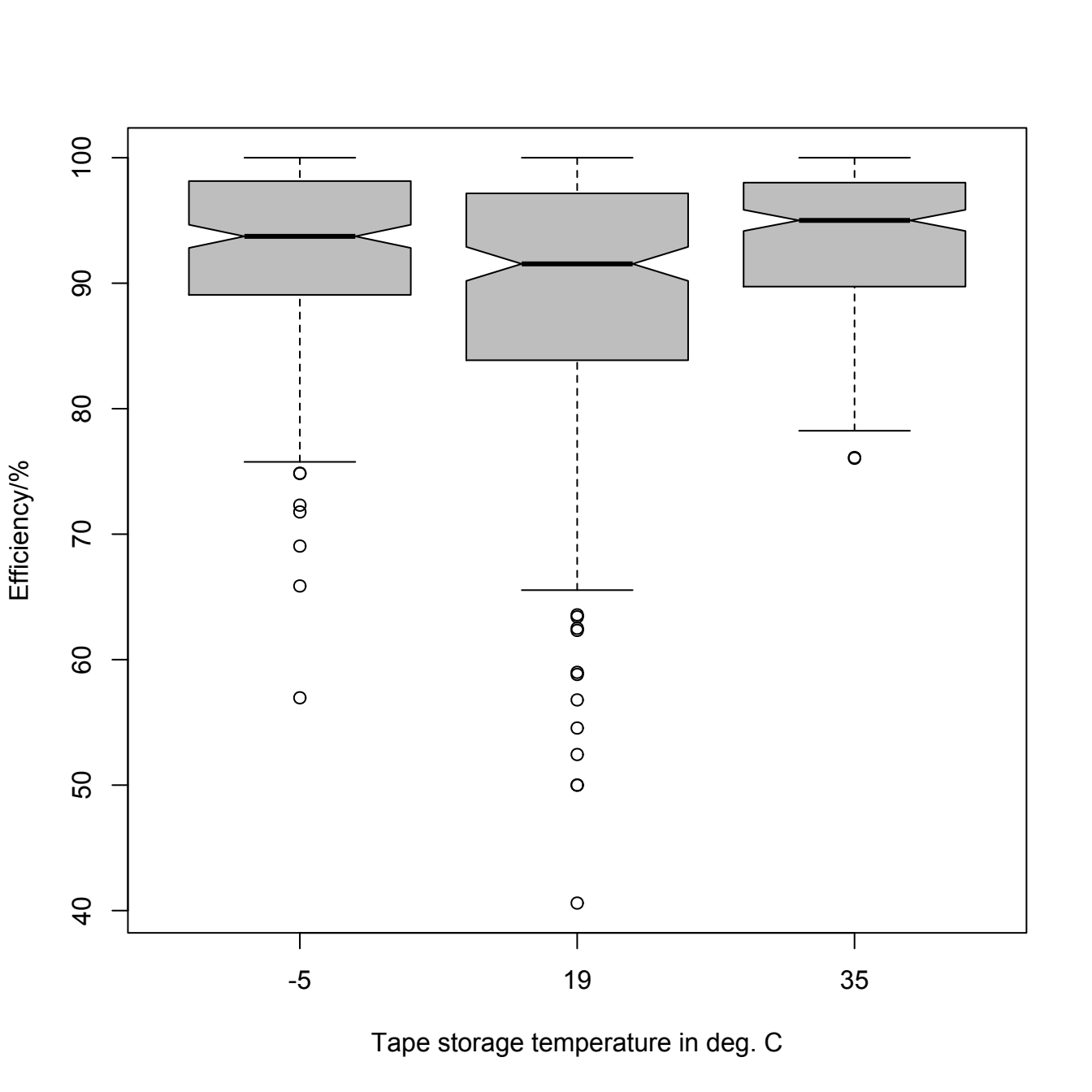
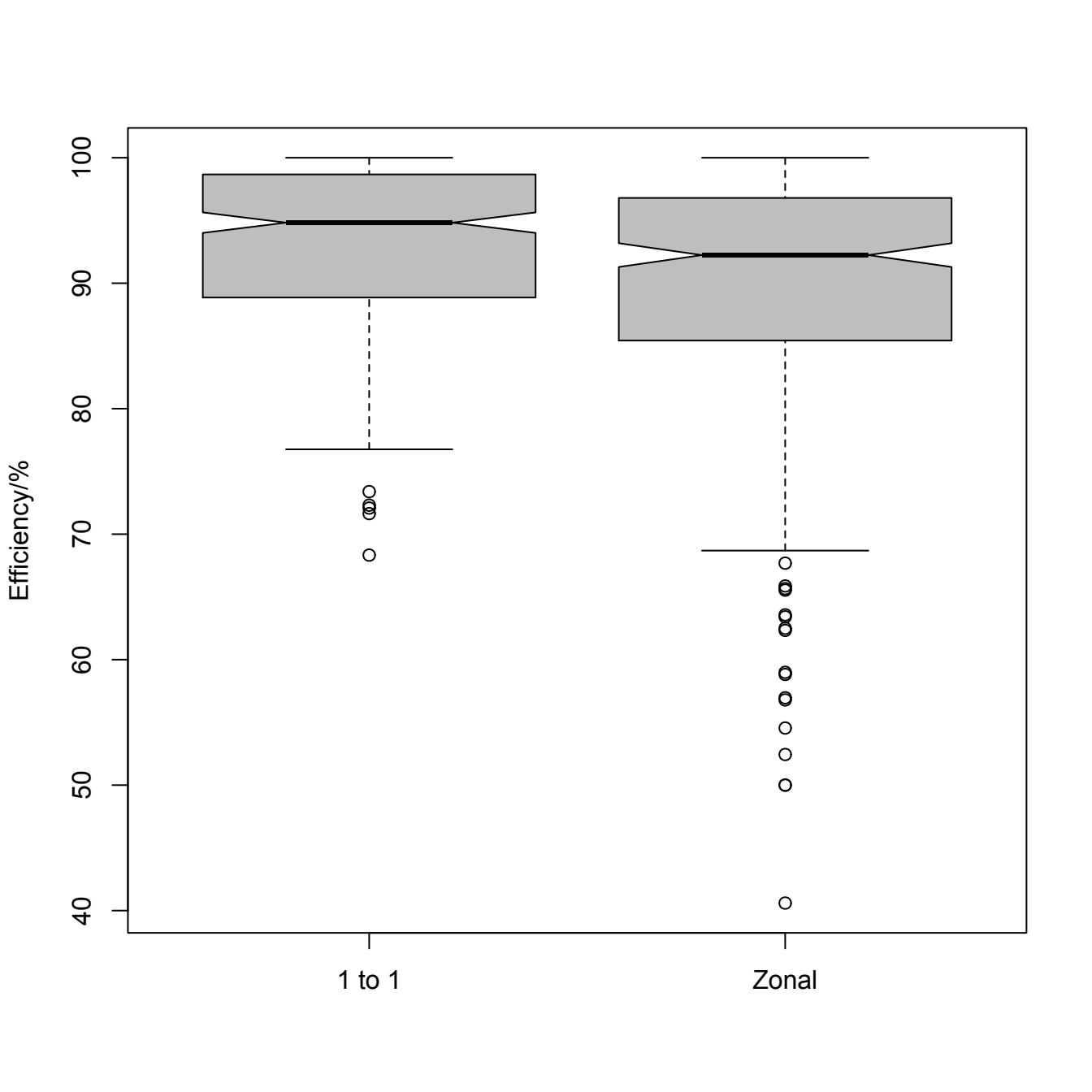
SMOOTH SURFACES	ROUGH SURFACES
• Glazed dimpled ceramic tile • Glossed medium-density fibreboard (MDF)	• House brick • Plywood

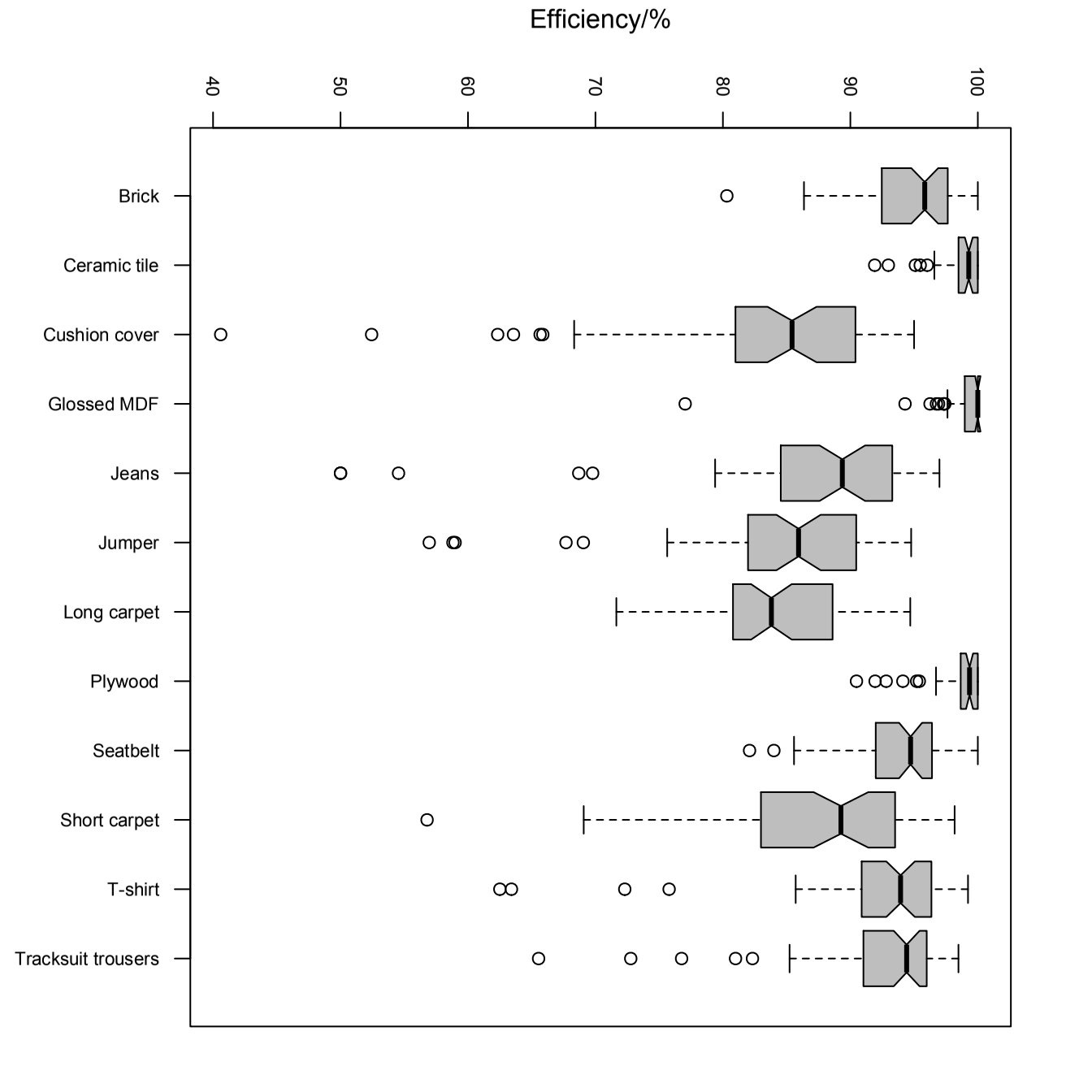
TEXTILES OF LOW SHEDDING ABILITY	TEXTILES OF MEDIUM SHEDDING ABILITY	TEXTILES OF HIGH SHEDDING ABILITY
• Tracksuit trousers (100% polyester) • Seatbelt (100% nylon) • Short pile carpet (100% polypropylene, loop pile constructuon)	• T-shirt (100% cotton) • Denim Jeans (98% cotton, 2% elastane)	• Jumper [i.e. a sweater] (100% acrylic) • Cushion cover (100% Polyester) • Long pile carpet (100% polypropylene, loop pile construction)

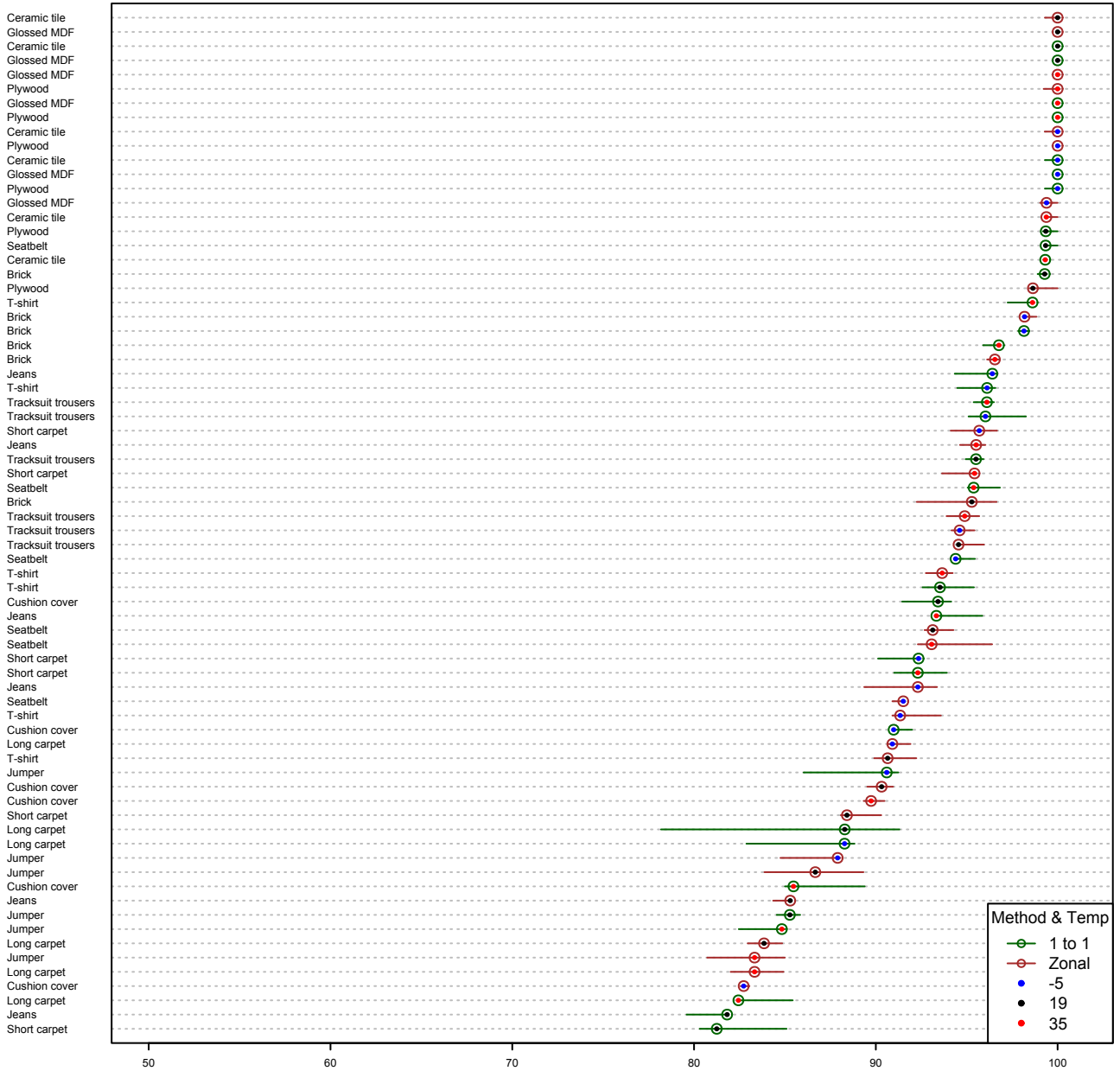

Work bench, surface, clothing, hands and blue light source torch cleared of fluorescent (i.e. target) fibres.
100-200 target fibres deposited on surface.
Clothing, hands and blue light source checked for fluorescent fibres, any found were removed.
Blue light source and tally counter used to count the target fibres deposited, without contacting surface.
Gloves and face mask put on.
Tape storage Temperature
-5°c
Room Temperature (19±1°C)
35°c
Tape removed from cool cabinet, piece of J-LAR cut or Crystal Tabs removed & absence of target fibres confirmed, remainder returned to that cabinet.
Piece of J-LAR tape cut or a Crystal Tab removed & absence of target fibres confirmed.
Tape removed from warm cabinet, piece of J-LAR cut or Crystal Tabs removed & absence of target fibres confirmed, remainder returned to that cabinet.
Zonal Method
Tape placed on the surface, smoothed down and removed. Tape used repeatedly up to number of contacts shown in Table 2.
If needed, another piece of tape used to cover the whole surface
One-to-one Method
Tape placed on the surface, smoothed down. More pieces added, slightly overlapping until the surface is covered, then removed.
Tape placed on individual acetate sheets and labelled.
Target fibres left on surface and those retrieved by tape/s counted.
Entire process repeated five times for each unique combination of tape type, taping method, tape storage temperature and surface.


Efficiency/%
100
90
80
70
60
50
40
Crystal Tabs
J-LAR

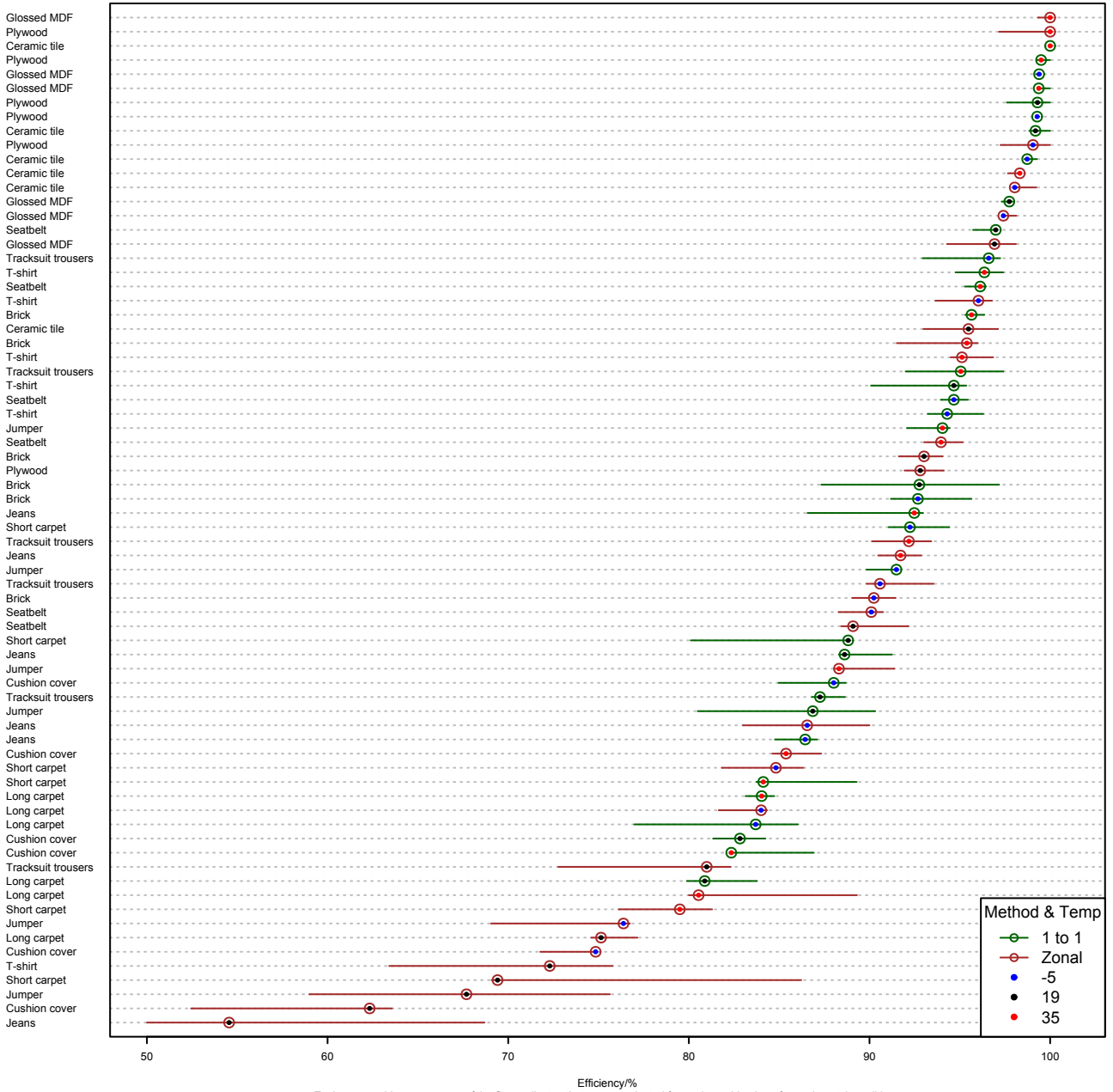

Efficiency/%
100
90
80
70
60
50
40
-5
19
35
Tape storage temperature in deg. C


Efficiency/%
100
90
80
70
60
50
40
1 to 1
Zonal

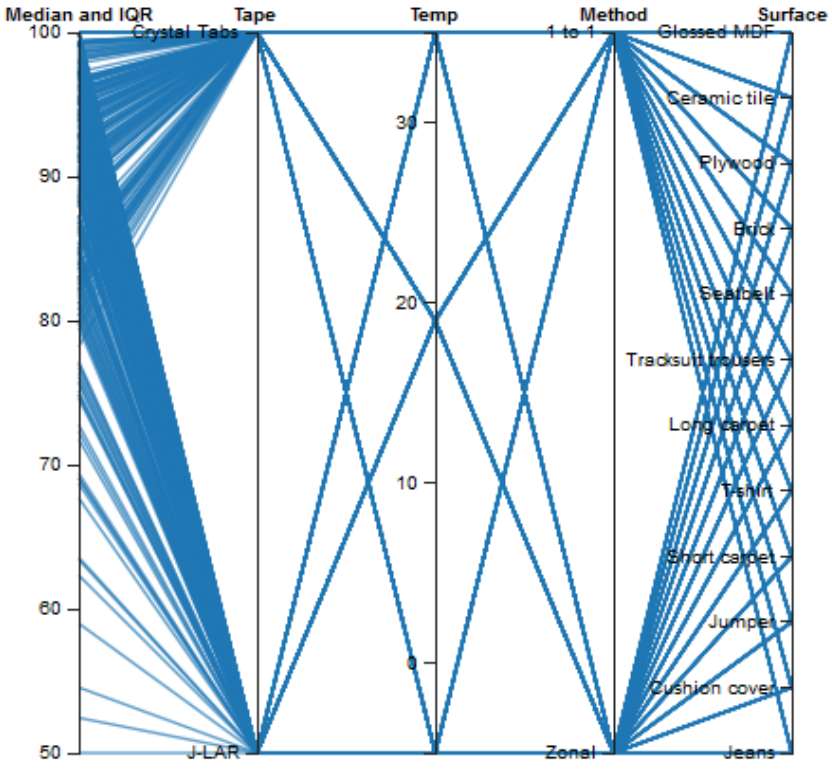

Efficiency/%
40
50
60
70
80
90
100
Brick
Ceramic tile
Cushion cover
Glossed MDF
Jeans
Jumper
Long carpet
Plywood
Seatbelt
Short carpet
T-shirt
Tracksuit trousers

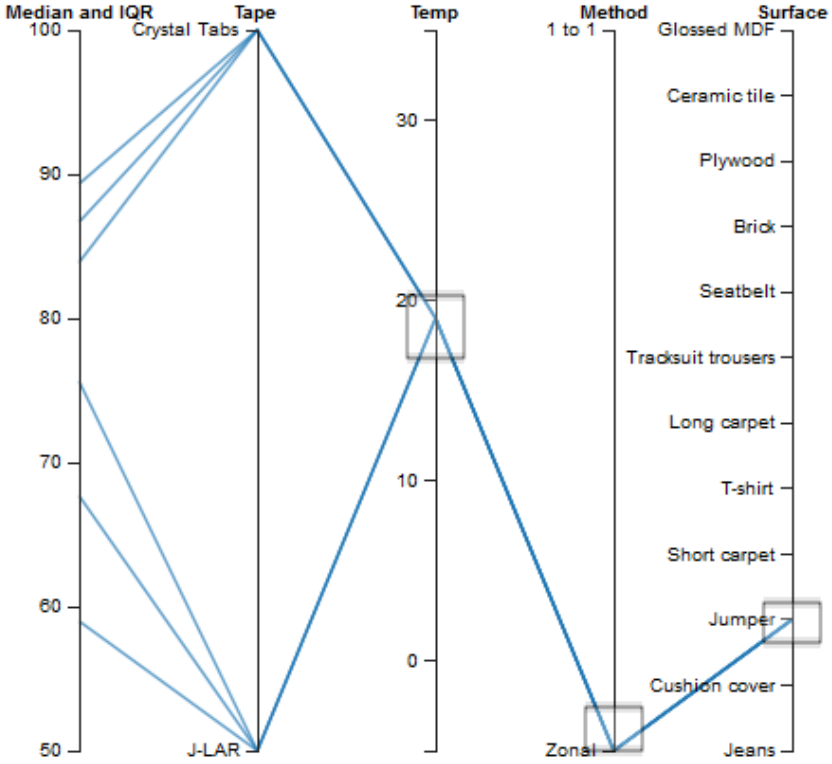


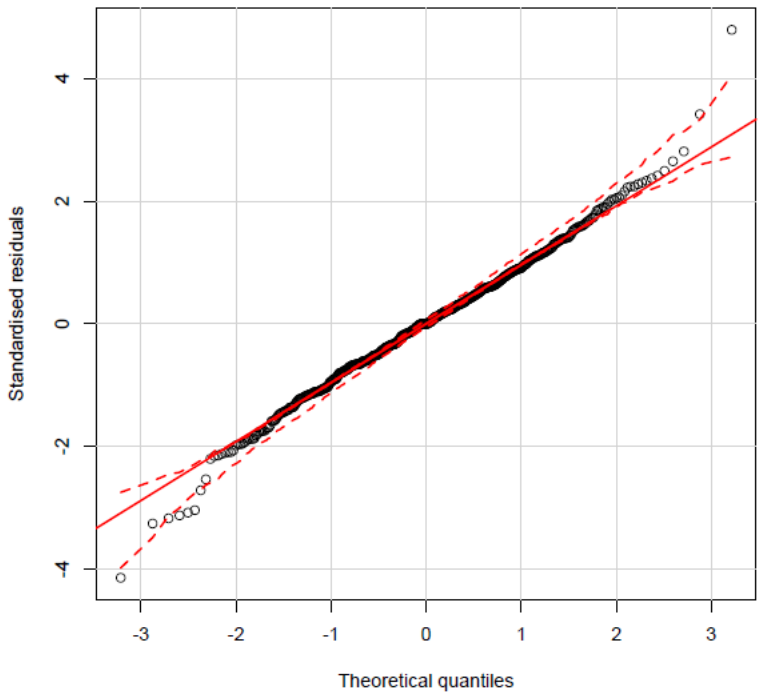
Each row provides a summary of the five replicates that were conducted for each combination of experimental conditions.

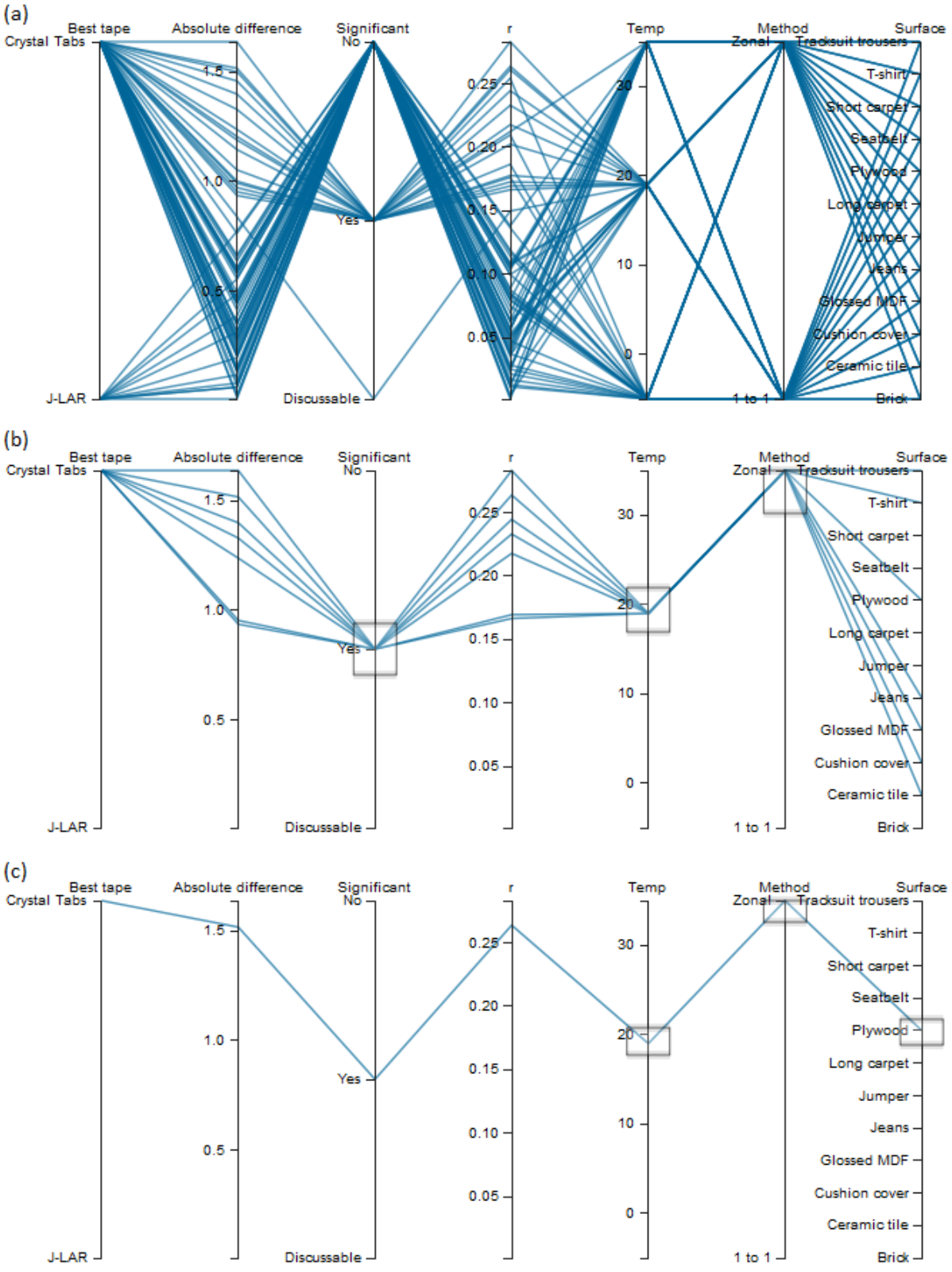


Each row provides a summary of the five replicates that were conducted for each combination of experimental conditions.

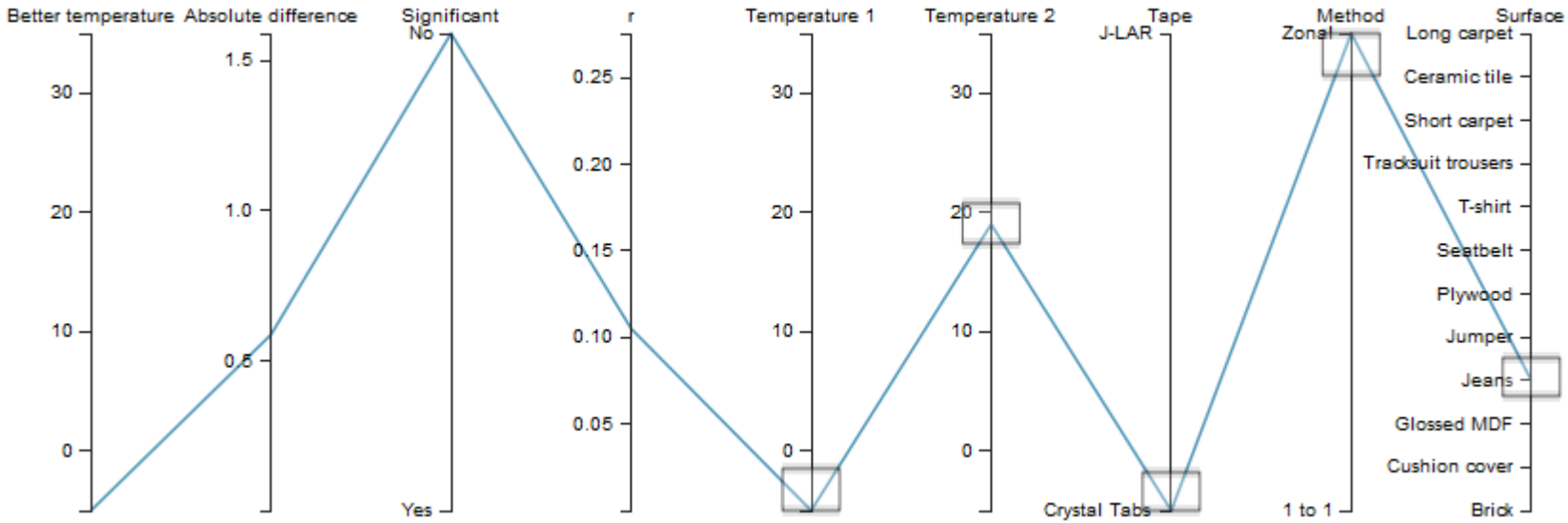

Median and IQR
Tape
Temp
Method
Surface
100
90
80
70
60
50
Crystal Tabs
J-LAR
30
20
10
0
1 to 1
Zonal
Glossed MDF
Ceramic tile
Plywood
Brick
Seatbelt
Tracksuit trousers
Long carpet
T-shirt
Short carpet
Jumper
Cushion cover
Jeans


Median and IQR
Tape
Temp
Method
Surface
100
90
80
70
60
50
Crystal Tabs
J-LAR
30
20
10
0
1 to 1
Zonal
Glossed MDF
Ceramic tile
Plywood
Brick
Seatbelt
Tracksuit trousers
Long carpet
T-shirt
Short carpet
Jumper
Cushion cover
Jeans

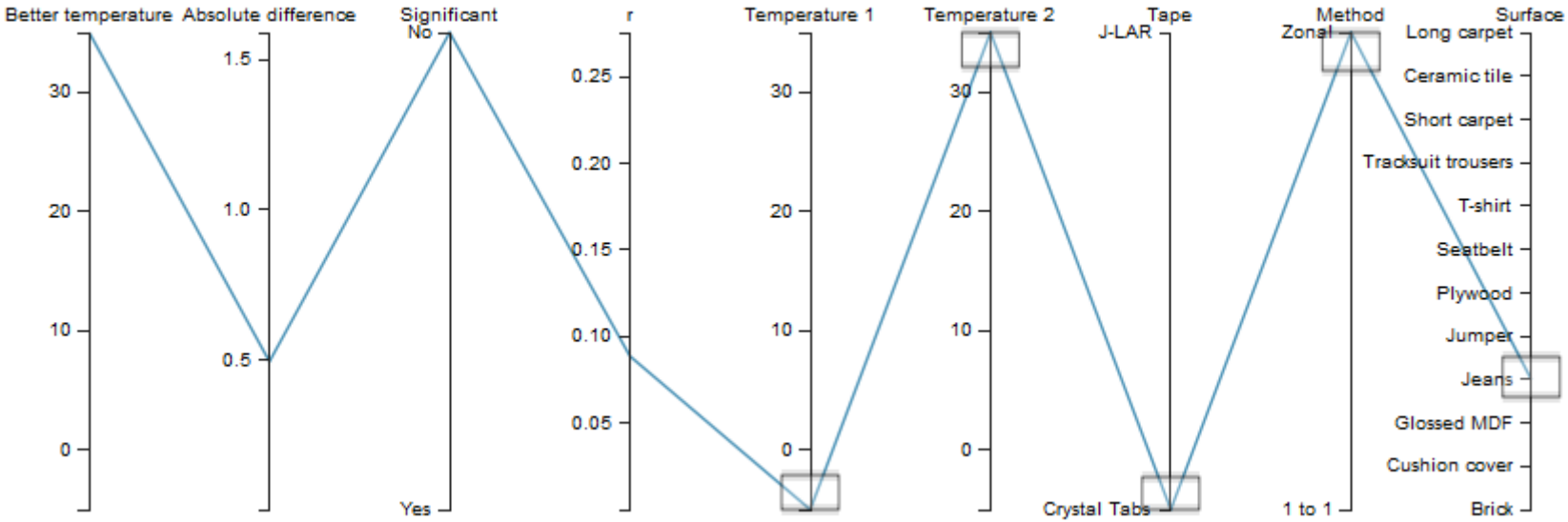

Standardised residuals
Theoretical quantiles
4
2
0
-2
-4
-3
-2
-1
0
1
2
3


(a)
Best tape
Absolute difference
Significant
r
Temp
Method
Surface
Crystal Tabs
J-LAR
1.5
1.0
0.5
No
Yes
Discussable
0.25
0.20
0.15
0.10
0.05
30
20
10
0
Zonal
1 to 1
Tracksuit trousers
T-shirt
Short carpet
Seatbelt
Plywood
Long carpet
Jumper
Jeans
Glossed MDF
Cushion cover
Ceramic tile
Brick
(b)
Best tape
Absolute difference
Significant
r
Temp
Method
Surface
Crystal Tabs
J-LAR
1.5
1.0
0.5
No
Yes
Discussable
0.25
0.20
0.15
0.10
0.05
30
20
10
0
Zonal
1 to 1
Tracksuit trousers
T-shirt
Short carpet
Seatbelt
Plywood
Long carpet
Jumper
Jeans
Glossed MDF
Cushion cover
Ceramic tile
Brick
(c)
Best tape
Absolute difference
Significant
r
Temp
Method
Surface
Crystal Tabs
J-LAR
1.5
1.0
0.5
No
Yes
Discussable
0.25
0.20
0.15
0.10
0.05
30
20
10
0
Zonal
1 to 1
Tracksuit trousers
T-shirt
Short carpet
Seatbelt
Plywood
Long carpet
Jumper
Jeans
Glossed MDF
Cushion cover
Ceramic tile
Brick

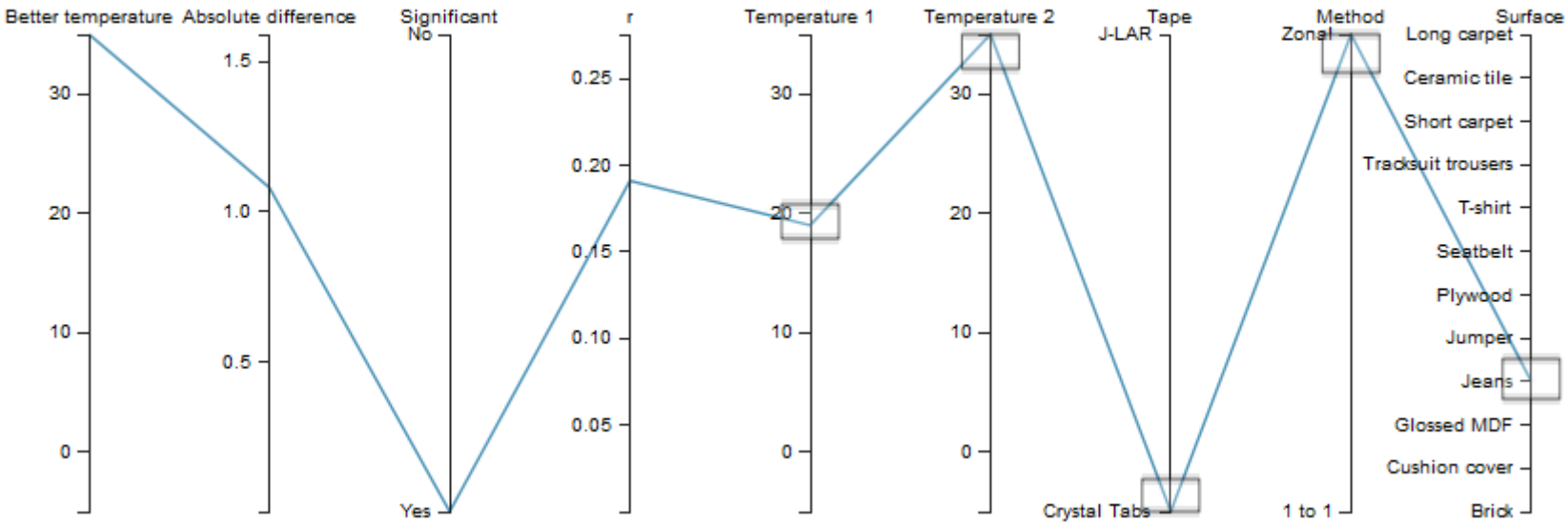
(a)


Better temperature
Absolute difference
Significant
r
Temperature 1
Temperature 2
Tape
Method
Surface
30
20
10
0
1.5
1.0
0.5
No
Yes
0.25
0.20
0.15
0.10
0.05
J-LAR
Crystal Tabs
Zonal
1 to 1
Long carpet
Ceramic tile
Short carpet
Tracksuit trousers
T-shirt
Seatbelt
Plywood
Jumper
Jeans
Glossed MDF
Cushion cover
Brick

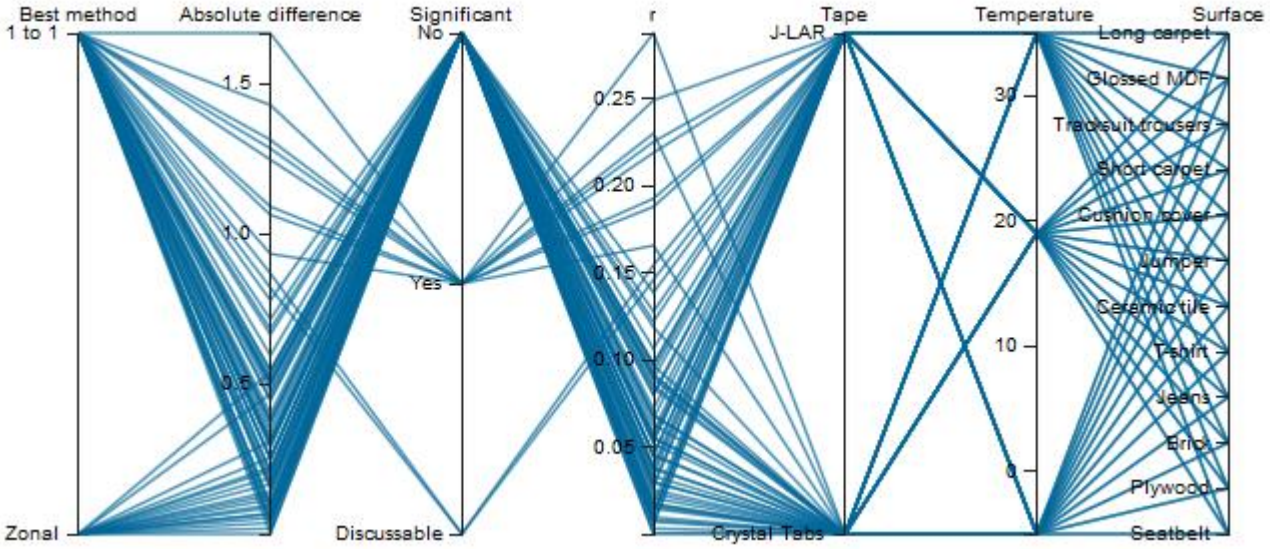
(b)


Better temperature
30
20
10
0
Absolute difference
1.5
1.0
0.5
Significant
No
Yes
r
0.25
0.20
0.15
0.10
0.05
Temperature 1
30
20
10
0
Temperature 2
30
20
10
0
Tape
J-LAR
Crystal Tabs
Method
Zonal
1 to 1
Surface
Long carpet
Ceramic tile
Short carpet
Tracksuit trousers
T-shirt
Seatbelt
Plywood
Jumper
Jeans
Glossed MDF
Cushion cover
Brick

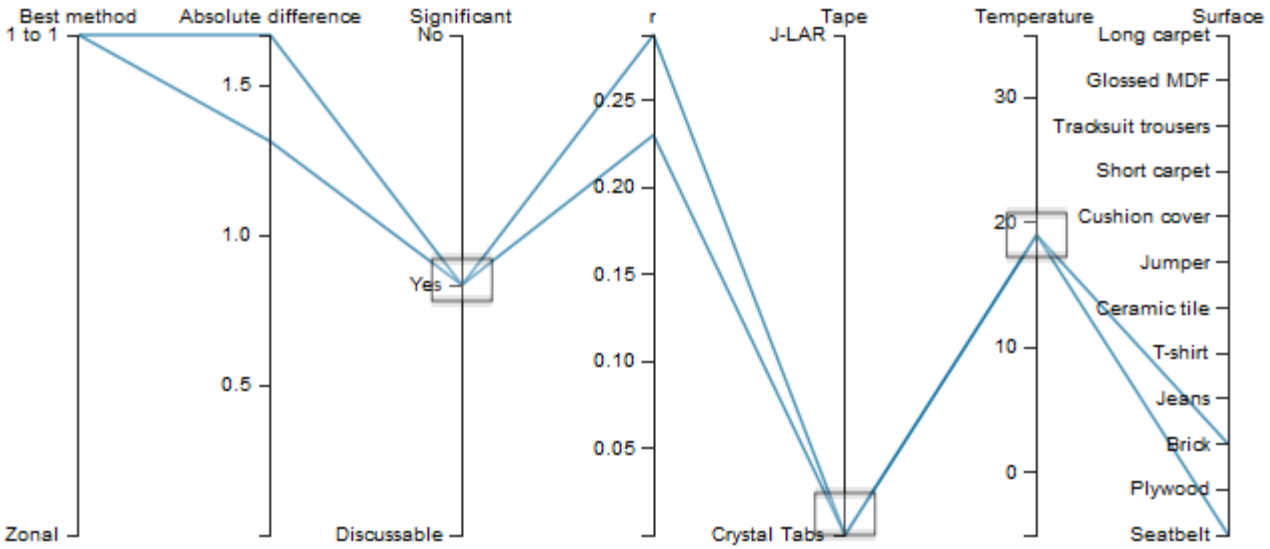
(c)

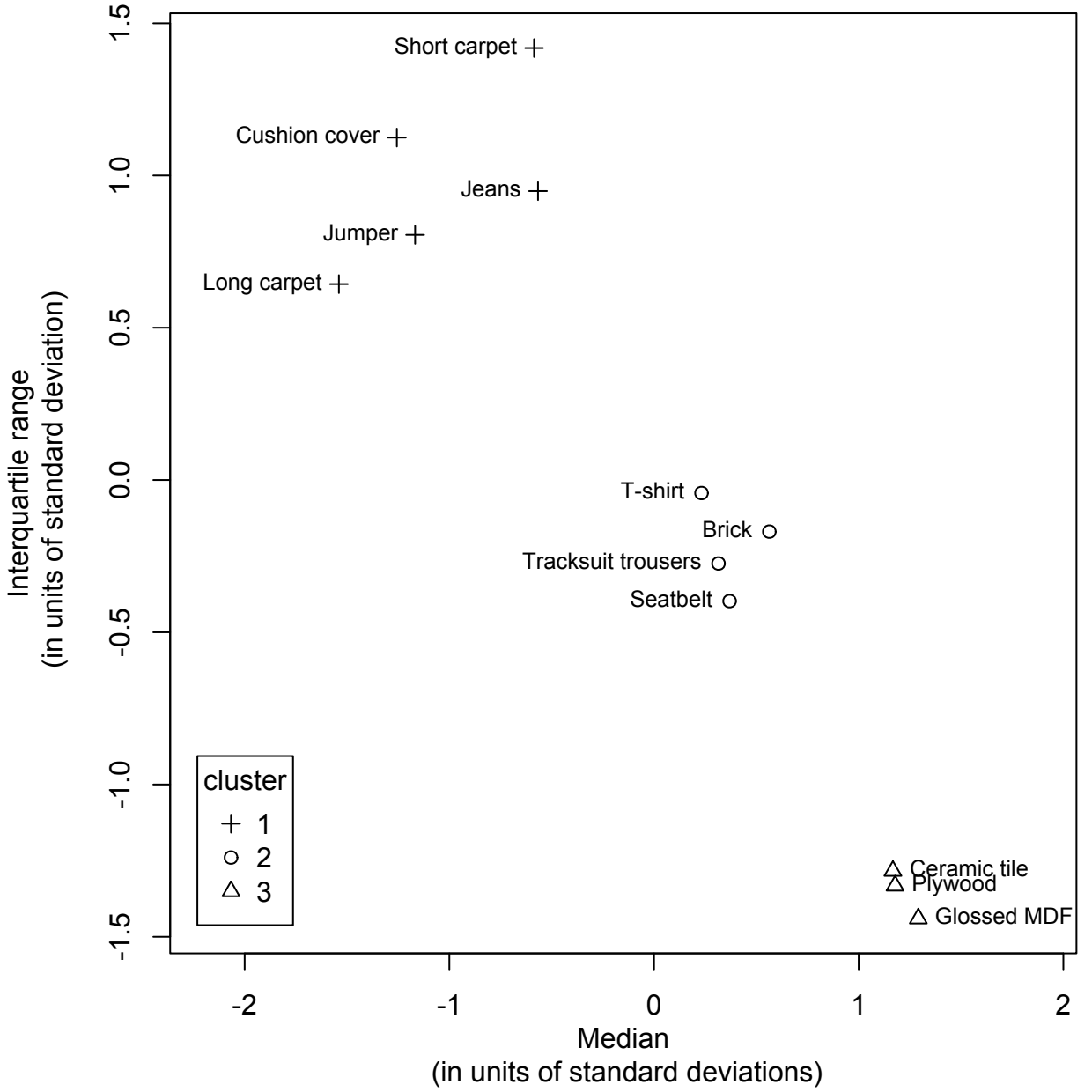

Better temperature
Absolute difference
Significant
No
Yes
r
Temperature 1
Temperature 2
Tape
J-LAR
Crystal Tabs
Method
Zonal
1 to 1
Surface
Long carpet
Ceramic tile
Short carpet
Tracksuit trousers
T-shirt
Seatbelt
Plywood
Jumper
Jeans
Glossed MDF
Cushion cover
Brick

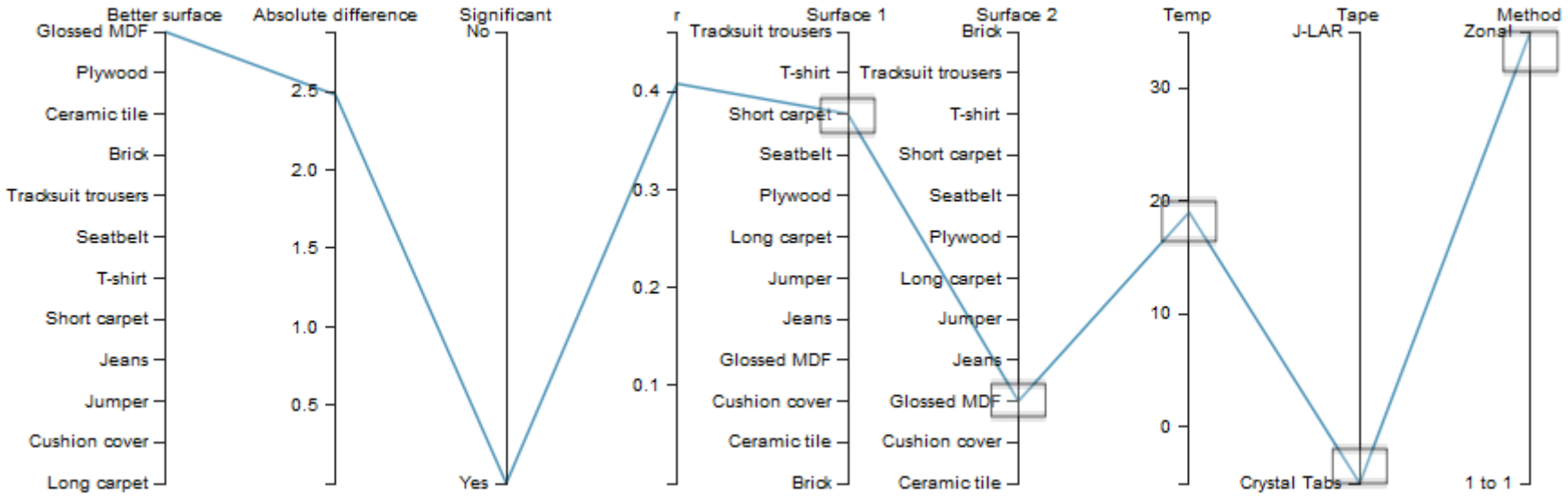
(a)


Best method
Absolute difference
Significant
r
Tape
Temperature
Surface
1 to 1
Zonal
1.5
1.0
0.5
No
Yes
Discussable
0.25
0.20
0.15
0.10
0.05
J-LAR
Crystal Tabs
30
20
10
0
Long carpet
Glossed MDF
Tracksuit trousers
Short carpet
Cushion cover
Jumper
Ceramic tile
T-shirt
Jeans
Brick
Plywood
Seatbelt

(b)


Best method
1 to 1
Zonal
Absolute difference
1.5
1.0
0.5
Significant
No
Yes
Discussable
r
0.25
0.20
0.15
0.10
0.05
Tape
J-LAR
Crystal Tabs
Temperature
30
20
10
0
Surface
Long carpet
Glossed MDF
Tracksuit trousers
Short carpet
Cushion cover
Jumper
Ceramic tile
T-shirt
Jeans
Brick
Plywood
Seatbelt


Short carpet
Cushion cover
Jeans
Jumper
Long carpet
T-shirt
Brick
Tracksuit trousers
Seatbelt
Ceramic tile
Plywood
Glossed MDF
cluster
1
2
3
Interquartile range
(in units of standard deviation)
Median
(in units of standard deviations)
1.5
1.0
0.5
0.0
-0.5
-1.0
-1.5
-2
-1
0
1
2


Better surface
Glossed MDF
Plywood
Ceramic tile
Brick
Tracksuit trousers
Seatbelt
T-shirt
Short carpet
Jeans
Jumper
Cushion cover
Long carpet
Absolute difference
2.5
2.0
1.5
1.0
0.5
Significant
No
Yes
r
0.4
0.3
0.2
0.1
Surface 1
Tracksuit trousers
T-shirt
Short carpet
Seatbelt
Plywood
Long carpet
Jumper
Jeans
Glossed MDF
Cushion cover
Ceramic tile
Brick
Surface 2
Brick
Tracksuit trousers
T-shirt
Short carpet
Seatbelt
Plywood
Long carpet
Jumper
Jeans
Glossed MDF
Cushion cover
Ceramic tile
Temp
30
20
10
0
Tape
J-LAR
Crystal Tabs
Method
Zonal
1 to 1

Tape	Uses	Manufacturer
ISA Lifting Tape	Lifting fingerprints and fibres	WA Products
J-LAR Tape	Lifting fingerprints and fibres	WA Products
1:1 Tape	Lifting fibres using the 1:1 method	WA Products
Crystal Tabs Tape	Lifting fingerprints and fibres	WA Products
Warrender Tape	Lifting fingerprints and fibres	WA Products
Poly-Tape	Collecting fibres on curved surfaces	Polizei
Lifting Tape Polizei crystal clear	Gathering fibres and microtraces	Polizei
Filmolux S23	Gathering fibres and gunshot residue	Neschen
Filmolux S50	Gathering fibres and gunshot residue	Neschen
Filmolux 609	Gathering fibres and gunshot residue	Neschen
Lifting tape 609 with pull tab	Collecting fibres and gunshot residue	Neschen
Hawe 9000	Collecting fibres	Hawe Hugentobler
Low Tack	Collecting fibres	Etilux
High Tack	Collecting fibres	Etilux
Scotchmark Tape	Collecting fibres	3M

Surface Type	Maximum Number of Times the Tape was used on a Designated Surface at each Storage Temperature					
	-5˚C		19 ± 1℃		35˚C	
	J-LAR	Crystal Tabs	J-LAR	Crystal Tabs	J-LAR	Crystal Tabs
Plywood	5	5	5	5	5	5
Glossed MDF	5	5	5	5	5	5
Ceramic tile	5	5	5	5	5	5
Short carpet	5	5	4	4	5	5
Long carpet	3	3	2	2	3	3
Cushion cover	3	3	3	3	2	2
Brick	4	4	3	3	4	4
Tracksuit trousers	5	5	5	5	5	5
T-shirt	5	5	5	5	5	5
Jumper	4	4	4	4	4	4
Jeans	5	5	5	5	5	5
Seatbelt	5	5	5	5	5	5

J-LAR (% Retrieval. For each mean and median, n = 5)

	ZONAL TAPING									ONE-TO-ONE TAPING								
	-5˚C			19˚C			35˚C			-5˚C			19˚C			35˚C		
SURFACE	Mean ($\bar{x}$)	Rating	Median	Mean ($\bar{x}$)	Rating	Median	Mean ($\bar{x}$)	Rating	Median	Mean ($\bar{x}$)	Rating	Median	Mean ($\bar{x}$)	Rating	Median	Mean ($\bar{x}$)	Rating	Median
Plywood	98.6	****	99.1	92.9	****	92.8	98.5	****	100.0	99.3	****	99.3	98.7	****	99.3	99.5	****	99.5
Glossed MDF	97.9	****	97.4	93.1	****	96.9	99.7	****	100.0	99.3	****	99.4	97.7	****	97.7	99.3	****	99.4
Ceramic tile	98.1	****	98.0	95.2	****	95.5	97.9	****	98.3	98.9	****	98.7	98.9	****	99.2	99.7	****	100.0
Short carpet	83.3	***	84.8	75.0	**	69.4	80.2	***	79.5	92.2	****	92.2	84.0	***	88.8	85.9	***	84.1
Long carpet	83.2	***	84.0	77.9	**	75.1	83.6	***	80.5	82.5	***	83.7	81.0	***	80.9	84.6	***	84.0
Cushion cover	73.2	**	74.8	56.9	*	62.3	85.7	***	85.4	86.7	***	88.0	80.4	***	82.8	84.3	***	82.4
Brick	88.6	***	90.2	92.4	****	93.0	93.9	****	95.4	93.0	****	92.7	92.2	****	92.8	95.9	****	95.7
Tracksuit trousers	91.5	****	90.6	77.4	**	81.0	92.8	****	92.2	95.3	****	96.6	86.0	***	87.3	94.8	****	95.1
T-shirt	95.0	****	96.0	72.3	**	72.3	94.3	****	95.1	94.0	****	94.3	92.4	****	94.7	95.4	****	96.4
Jumper	71.3	**	76.4	71.1	**	67.7	89.2	***	88.3	90.9	****	91.5	85.5	***	86.9	92.9	****	94.0
Jeans	86.7	***	86.6	58.6	*	54.6	90.8	****	91.7	86.2	***	86.4	89.3	***	88.6	90.1	****	92.5
Seatbelt	89.7	***	90.1	89.4	***	89.1	92.8	****	94.0	94.4	****	94.7	96.4	****	97.0	95.9	****	96.1

Key,

Range of $\bar{x}$	Rating
$\bar{x} < 70$	*
$70 \leq \bar{x} < 80$	**
$80 \leq \bar{x} < 90$	***
$90 \leq \bar{x} \leq 100$	****

CRYSTAL TABS (% Retrieval. For each mean and median, n = 5)

	ZONAL TAPING									ONE-TO-ONE TAPING								
	-5˚C			19˚C			35˚C			-5˚C			19˚C			35˚C		
SURFACE	Mean ($\bar{x}$)	Rating	Median	Mean ($\bar{x}$)	Rating	Median	Mean ($\bar{x}$)	Rating	Median	Mean ($\bar{x}$)	Rating	Median	Mean ($\bar{x}$)	Rating	Median	Mean ($\bar{x}$)	Rating	Median
Plywood	99.8	****	100.0	99.1	****	98.6	99.6	****	100.0	99.7	****	100.0	99.5	****	99.4	99.9	****	100.0
Glossed MDF	99.5	****	99.4	100.0	****	100.0	100.0	****	100.0	100.0	****	100.0	99.8	****	100.0	100.0	****	100.0
Ceramic tile	99.7	****	100.0	99.6	****	100.0	99.4	****	99.4	99.7	****	100.0	99.6	****	100.0	99.3	****	99.3
Short carpet	95.4	****	95.7	88.7	***	88.4	94.9	****	95.4	91.8	****	92.4	84.3	***	81.3	92.6	****	92.3
Long carpet	91.7	****	90.9	83.9	***	83.9	84.4	***	83.3	86.1	***	88.3	84.8	***	88.3	83.7	***	82.4
Cushion cover	83.4	***	82.7	87.4	***	90.3	89.9	***	89.7	91.9	****	91.0	92.0	****	93.4	87.3	***	85.5
Brick	97.9	****	98.2	94.3	****	95.3	96.2	****	96.6	98.3	****	98.2	99.3	****	99.3	96.6	****	96.8
Tracksuit trousers	95.0	****	94.6	94.9	****	94.6	94.5	****	94.9	96.2	****	96.0	95.4	****	95.5	96.3	****	96.1
T-shirt	92.0	****	91.3	90.5	****	90.7	93.4	****	93.7	95.4	****	96.1	94.3	****	93.5	97.8	****	98.6
Jumper	85.7	***	87.9	86.9	***	86.7	83.9	***	83.3	89.2	***	90.6	85.1	***	85.3	83.9	***	84.8
Jeans	91.7	****	92.3	84.6	***	85.3	95.4	****	95.5	95.4	****	96.4	80.9	***	81.8	94.5	****	93.3
Seatbelt	91.2	****	91.5	93.3	****	93.1	94.1	****	93.1	94.9	****	94.4	99.5	****	99.3	95.9	****	95.4

Term	Degrees of freedom	F	p	Partial eta squared	Significant at > 95% confidence	Effect size magnitude
Tape	1	285.580	0.000	0.331	Yes	> large
Temp	2	61.408	0.000	0.176	Yes	> large
Method	1	136.764	0.000	0.192	Yes	> large
Surface	11	345.759	0.000	0.868	Yes	> large
Tape:Temp	2	28.099	0.000	0.089	Yes	medium-large
Tape:Method	1	23.153	0.000	0.039	Yes	small-medium
Temp:Method	2	15.485	0.000	0.051	Yes	small-medium
Tape:Surface	11	6.320	0.000	0.108	Yes	medium-large
Temp:Surface	22	6.128	0.000	0.190	Yes	> large
Method:Surface	11	4.206	0.000	0.074	Yes	medium-large
Tape:Temp:Method	2	2.589	0.076	0.009	No	< small
Tape:Temp:Surface	22	4.025	0.000	0.133	Yes	medium-large
Tape:Method:Surface	11	3.712	0.000	0.066	Yes	medium-large
Temp:Method:Surface	22	2.504	0.000	0.087	Yes	medium-large
Tape:Temp:Method:Surface	22	3.158	0.000	0.108	Yes	medium-large
Residuals	576					

Tapes		Condition			Difference between mean reflected log efficiencies	Best tape	Degrees of freedom	F	Adjusted p	r	Significant at > 95% confidence	Effect size magnitude
Tape 1	Tape 2	Temp/ ℃	Method	Surface								
Crystal Tabs	J-LAR	19	Zonal	Glossed MDF	-1.637	Crystal Tabs	1	50.141	3.013E-10	0.283	Yes	small-medium
Crystal Tabs	J-LAR	19	Zonal	Plywood	-1.516	Crystal Tabs	1	43.022	8.684E-09	0.264	Yes	small-medium
Crystal Tabs	J-LAR	19	1 to 1	Brick	-1.500	Crystal Tabs	1	42.124	1.331E-08	0.261	Yes	small-medium
Crystal Tabs	J-LAR	-5	Zonal	Brick	-1.458	Crystal Tabs	1	39.793	4.054E-08	0.254	Yes	small-medium
Crystal Tabs	J-LAR	19	Zonal	Ceramic tile	-1.399	Crystal Tabs	1	36.605	1.876E-07	0.244	Yes	small-medium
Crystal Tabs	J-LAR	19	Zonal	Tracksuit trousers	-1.329	Crystal Tabs	1	33.051	1.049E-06	0.233	Yes	small-medium
Crystal Tabs	J-LAR	19	Zonal	Cushion cover	-1.237	Crystal Tabs	1	28.654	9.012E-06	0.218	Yes	small-medium
Crystal Tabs	J-LAR	35	Zonal	Short carpet	-1.205	Crystal Tabs	1	27.181	1.862E-05	0.212	Yes	small-medium
Crystal Tabs	J-LAR	-5	Zonal	Short carpet	-1.189	Crystal Tabs	1	26.474	2.641E-05	0.210	Yes	small-medium
Crystal Tabs	J-LAR	19	1 to 1	Seatbelt	-1.146	Crystal Tabs	1	24.579	6.763E-05	0.202	Yes	small-medium
Crystal Tabs	J-LAR	-5	1 to 1	Brick	-1.053	Crystal Tabs	1	20.762	4.574E-04	0.187	Yes	small-medium
Crystal Tabs	J-LAR	19	1 to 1	Glossed MDF	-1.002	Crystal Tabs	1	18.778	1.248E-03	0.178	Yes	small-medium
Crystal Tabs	J-LAR	-5	1 to 1	Jeans	-0.993	Crystal Tabs	1	18.457	1.469E-03	0.176	Yes	small-medium
Crystal Tabs	J-LAR	19	1 to 1	Tracksuit trousers	-0.972	Crystal Tabs	1	17.700	2.160E-03	0.173	Yes	small-medium
Crystal Tabs	J-LAR	19	Zonal	T-shirt	-0.954	Crystal Tabs	1	17.030	3.040E-03	0.169	Yes	small-medium
Crystal Tabs	J-LAR	19	Zonal	Jeans	-0.937	Crystal Tabs	1	16.420	4.156E-03	0.166	Yes	small-medium
Crystal Tabs	J-LAR	19	1 to 1	Cushion cover	-0.840	Crystal Tabs	1	13.206	2.189E-02	0.150	Discussable	small-medium
Residuals	NA	NA	NA	NA	NA	NA	576	NA	NA	NA	NA	NA

Condition			Degrees of freedom	F	Adjusted p	r	Significant at > 95% confidence	Effect size magnitude
Tape	**Method**	**Surface**						
J-LAR	Zonal	T-shirt	2	29.664	2.628E-11	0.221	Yes	small-medium
J-LAR	Zonal	Plywood	2	25.255	1.471E-09	0.205	Yes	small-medium
Crystal Tabs	1 to 1	Seatbelt	2	22.825	1.386E-08	0.195	Yes	small-medium
J-LAR	Zonal	Jeans	2	21.052	7.199E-08	0.188	Yes	small-medium
Crystal Tabs	1 to 1	Jeans	2	19.183	4.129E-07	0.180	Yes	small-medium
J-LAR	Zonal	Glossed MDF	2	18.750	6.200E-07	0.178	Yes	small-medium
J-LAR	Zonal	Tracksuit trousers	2	13.250	1.136E-04	0.150	Yes	small-medium
J-LAR	1 to 1	Tracksuit trousers	2	12.151	3.255E-04	0.144	Yes	small-medium
Crystal Tabs	Zonal	Jeans	2	10.935	1.048E-03	0.136	Yes	small-medium
J-LAR	Zonal	Cushion cover	2	10.207	2.115E-03	0.132	Yes	small-medium
J-LAR	Zonal	Jumper	2	9.425	4.505E-03	0.127	Yes	small-medium
Crystal Tabs	1 to 1	Brick	2	8.497	1.107E-02	0.121	Yes	small-medium
Crystal Tabs	Zonal	Short carpet	2	7.222	3.831E-02	0.111	Discussable	small-medium
Residuals	NA	NA	576	NA	NA	NA	NA	NA

Temperatures/ ◦C		Condition											
Temp. 1	Temp. 2	Tape	Method	Surface	Simple effect significant at > 95% confidence	Difference between mean reflected log efficiencies	Better temperature / ◦C	Degrees of freedom	F	Adjusted p	Pairwise contrast significant at > 95% confidence	r	Effect size magnitude
19	35	J-LAR	Zonal	Cushion cover	Yes	1.041	35	1	20.297	4.700E-02	Yes	0.184	small-medium
19	35	J-LAR	Zonal	Glossed MDF	Yes	1.412	35	1	37.323	1.802E-05	Yes	0.247	small-medium
-5	19	Crystal Tabs	1 to 1	Jeans	Yes	-1.306	-5	1	31.908	2.345E-04	Yes	0.229	small-medium
19	35	Crystal Tabs	1 to 1	Jeans	Yes	1.162	35	1	25.252	5.248E-03	Yes	0.205	small-medium
19	35	Crystal Tabs	Zonal	Jeans	Yes	1.080	35	1	21.816	2.449E-02	Yes	0.191	small-medium
-5	19	J-LAR	Zonal	Jeans	Yes	-1.107	-5	1	22.933	1.496E-02	Yes	0.196	small-medium
19	35	J-LAR	Zonal	Jeans	Yes	1.430	35	1	38.270	1.150E-05	Yes	0.250	small-medium
-5	19	J-LAR	Zonal	Plywood	Yes	-1.386	-5	1	35.968	3.427E-05	Yes	0.242	small-medium
19	35	J-LAR	Zonal	Plywood	Yes	1.457	35	1	39.706	5.822E-06	Yes	0.254	small-medium
-5	19	Crystal Tabs	1 to 1	Seatbelt	Yes	1.430	19	1	38.266	1.152E-05	Yes	0.250	small-medium
19	35	Crystal Tabs	1 to 1	Seatbelt	Yes	-1.259	19	1	29.661	6.765E-04	Yes	0.221	small-medium
-5	19	J-LAR	Zonal	T-shirt	Yes	-1.590	-5	1	47.336	1.594E-07	Yes	0.276	small-medium
19	35	J-LAR	Zonal	T-shirt	Yes	1.488	35	1	41.460	2.538E-06	Yes	0.259	small-medium
19	35	J-LAR	Zonal	Tracksuit trousers	Yes	1.129	35	1	23.854	9.903E-03	Yes	0.199	small-medium
Residuals	NA	NA	NA	NA	NA	NA	NA	576	NA	NA	NA	NA	NA

Methods		Condition			Difference between mean reflected log efficiencies	Best method	Degrees of freedom	F	Adjusted p	r	Significant at > 95% confidence	Effect size magnitude
Method 1	Method 2	Tape	Temp/ ℃	Surface								
1 to 1	Zonal	Crystal Tabs	19	Seatbelt	-1.667	1 to 1	1	51.989	1.269E-10	0.288	Yes	small-medium
1 to 1	Zonal	J-LAR	19	Plywood	-1.428	1 to 1	1	38.146	8.936E-08	0.249	Yes	small-medium
1 to 1	Zonal	Crystal Tabs	19	Brick	-1.312	1 to 1	1	32.206	1.583E-06	0.230	Yes	small-medium
1 to 1	Zonal	J-LAR	19	Jeans	-1.283	1 to 1	1	30.789	3.162E-06	0.225	Yes	small-medium
1 to 1	Zonal	J-LAR	19	T-shirt	-1.246	1 to 1	1	29.036	7.466E-06	0.219	Yes	small-medium
1 to 1	Zonal	J-LAR	19	Ceramic tile	-1.089	1 to 1	1	22.204	2.216E-04	0.193	Yes	small-medium
1 to 1	Zonal	J-LAR	-5	Jumper	-1.062	1 to 1	1	21.103	3.853E-04	0.188	Yes	small-medium
1 to 1	Zonal	Crystal Tabs	35	T-shirt	-0.932	1 to 1	1	16.259	4.514E-03	0.166	Yes	small-medium
1 to 1	Zonal	J-LAR	19	Seatbelt	-0.867	1 to 1	1	14.069	1.397E-02	0.154	Discussable	small-medium
1 to 1	Zonal	J-LAR	35	Ceramic tile	-0.819	1 to 1	1	12.560	3.068E-02	0.146	Discussable	small-medium
Residuals	NA	NA	NA	NA	NA	NA	576	NA	NA	NA	NA	NA

Condition			Degrees of freedom	F	Adjusted p	r	Significant at > 95% confidence	Effect size magnitude
Temp/°C	Tape	Method						
19	Crystal Tabs	1 to 1	11	49.180	1.59E-74	0.280	Yes	small-medium
19	Crystal Tabs	Zonal	11	38.102	2.40E-60	0.249	Yes	small-medium
35	Crystal Tabs	1 to 1	11	36.178	1.02E-57	0.243	Yes	small-medium
-5	Crystal Tabs	Zonal	11	34.907	5.98E-56	0.239	Yes	small-medium
35	Crystal Tabs	Zonal	11	32.790	5.95E-53	0.232	Yes	small-medium
35	J-LAR	1 to 1	11	32.669	8.87E-53	0.232	Yes	small-medium
-5	J-LAR	Zonal	11	31.212	1.13E-50	0.227	Yes	small-medium
-5	Crystal Tabs	1 to 1	11	31.148	1.40E-50	0.227	Yes	small-medium
35	J-LAR	Zonal	11	28.889	3.05E-47	0.219	Yes	small-medium
19	J-LAR	1 to 1	11	28.825	3.81E-47	0.218	Yes	small-medium
-5	J-LAR	1 to 1	11	26.255	3.06E-43	0.209	Yes	small-medium
19	J-LAR	Zonal	11	21.473	1.17E-35	0.190	Yes	small-medium
Residuals	NA	NA	576	NA	NA	NA	NA	NA

	Surfaces				Condition												
	Surface 1		Surface 2														
Position in full table	Surface	Cluster No.	Surface	Cluster No.	Temp/ ℃	Tape	Method	Simple effect significant at > 95% confidence	Difference between mean reflected log efficiencies	Better surface	Cluster Number Difference (CND)	Degrees of freedom	F	Adjusted p	Pairwise contrast significant at > 95% confidence	r	Effect size magnitude
Top 10 rows	Glossed MDF	3	Jeans	1	19	Crystal Tabs	1 to 1	Yes	-2.883	Glossed MDF	2	1	155.550	5.040E-10	Yes	0.461	medium-large
	Glossed MDF	3	Long carpet	1	35	Crystal Tabs	1 to 1	Yes	-2.844	Glossed MDF	2	1	151.350	5.040E-10	Yes	0.456	medium-large
	Glossed MDF	3	Jumper	1	35	Crystal Tabs	1 to 1	Yes	-2.836	Glossed MDF	2	1	150.506	5.040E-10	Yes	0.455	medium-large
	Glossed MDF	3	Long carpet	1	19	Crystal Tabs	Zonal	Yes	-2.832	Glossed MDF	2	1	150.126	5.040E-10	Yes	0.455	medium-large
	Glossed MDF	3	Jumper	1	35	Crystal Tabs	Zonal	Yes	-2.818	Glossed MDF	2	1	148.629	5.040E-10	Yes	0.453	medium-large
	Glossed MDF	3	Long carpet	1	35	Crystal Tabs	Zonal	Yes	-2.791	Glossed MDF	2	1	145.744	5.040E-10	Yes	0.449	medium-large
	Glossed MDF	3	Jeans	1	19	Crystal Tabs	Zonal	Yes	-2.787	Glossed MDF	2	1	145.377	5.040E-10	Yes	0.449	medium-large
	Ceramic tile	3	Jeans	1	19	Crystal Tabs	1 to 1	Yes	-2.781	Ceramic tile	2	1	144.792	5.040E-10	Yes	0.448	medium-large
	Glossed MDF	3	Short carpet	1	35	J-LAR	Zonal	Yes	-2.780	Glossed MDF	2	1	144.672	5.040E-10	Yes	0.448	medium-large
	Long carpet	1	Plywood	3	35	Crystal Tabs	1 to 1	Yes	2.733	Plywood	2	1	139.788	5.041E-10	Yes	0.442	medium-large
Bottom 10 rows	Long carpet	1	Tracksuit trousers	2	19	J-LAR	Zonal	Yes	-0.013	Long carpet	-1	1	0.003	1.000E+00	No	0.002	< small
	Jeans	1	T-shirt	2	-5	Crystal Tabs	Zonal	Yes	0.013	T-shirt	1	1	0.003	1.000E+00	No	0.002	< small
	Jeans	1	T-shirt	2	-5	Crystal Tabs	1 to 1	Yes	0.011	T-shirt	1	1	0.002	1.000E+00	No	0.002	< small
	Jeans	1	Long carpet	1	-5	Crystal Tabs	Zonal	Yes	-0.010	Jeans	0	1	0.002	1.000E+00	No	0.002	< small
	Cushion cover	1	Long carpet	1	35	J-LAR	1 to 1	Yes	0.010	Long carpet	0	1	0.002	1.000E+00	No	0.002	< small
	Brick	2	Seatbelt	2	35	J-LAR	1 to 1	Yes	-0.009	Brick	0	1	0.001	1.000E+00	No	0.002	< small
	Jumper	1	Long carpet	1	35	Crystal Tabs	1 to 1	Yes	-0.008	Jumper	0	1	0.001	1.000E+00	No	0.001	< small
	Glossed MDF	3	Plywood	3	-5	J-LAR	1 to 1	Yes	-0.008	Glossed MDF	0	1	0.001	1.000E+00	No	0.001	< small
	Cushion cover	1	Short carpet	1	-5	Crystal Tabs	1 to 1	Yes	-0.006	Cushion cover	0	1	0.001	1.000E+00	No	0.001	< small
	Ceramic tile	3	Plywood	3	-5	Crystal Tabs	1 to 1	Yes	0.001	Plywood	0	1	0.000	1.000E+00	No	0.000	< small
Residuals	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	576	NA	NA	NA	NA	NA

	Cluster Number difference				
r in which third?	-1	0	1	2	Sum
Bottom	17	173	74	0	264
Middle	1	54	200	9	264
Top	0	1	92	171	264
Sum	18	228	366	180	792

Complete version of Table 5: Simple effects that explore the impact of tape type

Tapes		Condition			Difference between mean reflected log efficiencies	Best tape	Degrees of freedom	F	Adjusted p	r	Significant at > 95% confidence	Effect size magnitude
Tape 1	Tape 2	Temp/◦C	Method	Surface								
Crystal Tabs	J-LAR	19	Zonal	Glossed MDF	-1.636783009	Crystal Tabs	1	50.14075	3.01E-10	0.282982	Yes	small-medium
Crystal Tabs	J-LAR	19	Zonal	Plywood	-1.516141371	Crystal Tabs	1	43.02175	8.68E-09	0.263628	Yes	small-medium
Crystal Tabs	J-LAR	19	1 to 1	Brick	-1.500240616	Crystal Tabs	1	42.12409	1.33E-08	0.261052	Yes	small-medium
Crystal Tabs	J-LAR	-5	Zonal	Brick	-1.458141405	Crystal Tabs	1	39.79311	4.05E-08	0.254206	Yes	small-medium
Crystal Tabs	J-LAR	19	Zonal	Ceramic tile	-1.398519426	Crystal Tabs	1	36.60544	1.88E-07	0.244446	Yes	small-medium
Crystal Tabs	J-LAR	19	Zonal	Tracksuit trousers	-1.328890684	Crystal Tabs	1	33.05119	1.05E-06	0.232952	Yes	small-medium
Crystal Tabs	J-LAR	19	Zonal	Cushion cover	-1.23732866	Crystal Tabs	1	28.65357	9.01E-06	0.217689	Yes	small-medium
Crystal Tabs	J-LAR	35	Zonal	Short carpet	-1.205113557	Crystal Tabs	1	27.18095	1.86E-05	0.21228	Yes	small-medium
Crystal Tabs	J-LAR	-5	Zonal	Short carpet	-1.189345774	Crystal Tabs	1	26.47433	2.64E-05	0.209625	Yes	small-medium
Crystal Tabs	J-LAR	19	1 to 1	Seatbelt	-1.145990371	Crystal Tabs	1	24.57936	6.76E-05	0.202302	Yes	small-medium
Crystal Tabs	J-LAR	-5	1 to 1	Brick	-1.053247312	Crystal Tabs	1	20.76201	0.000457	0.186524	Yes	small-medium
Crystal Tabs	J-LAR	19	1 to 1	Glossed MDF	-1.001661187	Crystal Tabs	1	18.77804	0.001248	0.177684	Yes	small-medium
Crystal Tabs	J-LAR	-5	1 to 1	Jeans	-0.993052538	Crystal Tabs	1	18.45666	0.001469	0.176204	Yes	small-medium
Crystal Tabs	J-LAR	19	1 to 1	Tracksuit trousers	-0.972474631	Crystal Tabs	1	17.69967	0.00216	0.172663	Yes	small-medium
Crystal Tabs	J-LAR	19	Zonal	T-shirt	-0.953913183	Crystal Tabs	1	17.03046	0.00304	0.169463	Yes	small-medium
Crystal Tabs	J-LAR	19	Zonal	Jeans	-0.936649942	Crystal Tabs	1	16.41963	0.004156	0.166482	Yes	small-medium
Crystal Tabs	J-LAR	19	1 to 1	Cushion cover	-0.840002733	Crystal Tabs	1	13.20596	0.021889	0.14971	Discussable	small-medium
Crystal Tabs	J-LAR	35	1 to 1	Jumper	0.773994766	J-LAR	1	11.21204	0.062334	0.13818	No	small-medium
Crystal Tabs	J-LAR	-5	Zonal	Ceramic tile	-0.764343073	Crystal Tabs	1	10.93416	0.072206	0.136489	No	small-medium
Crystal Tabs	J-LAR	-5	Zonal	Long carpet	-0.66450201	Crystal Tabs	1	8.264208	0.301882	0.118931	No	small-medium
Crystal Tabs	J-LAR	-5	Zonal	Jumper	-0.655259658	Crystal Tabs	1	8.035918	0.34177	0.1173	No	small-medium
Crystal Tabs	J-LAR	-5	Zonal	Glossed MDF	-0.637553533	Crystal Tabs	1	7.6075	0.431797	0.114172	No	small-medium
Crystal Tabs	J-LAR	19	Zonal	Short carpet	-0.606143346	Crystal Tabs	1	6.876371	0.645502	0.108615	No	small-medium
Crystal Tabs	J-LAR	35	Zonal	Ceramic tile	-0.601710056	Crystal Tabs	1	6.776153	0.6823	0.10783	No	small-medium
Crystal Tabs	J-LAR	19	Zonal	Jumper	-0.598497486	Crystal Tabs	1	6.703989	0.710127	0.107261	No	small-medium
Crystal Tabs	J-LAR	35	Zonal	Jeans	-0.58633087	Crystal Tabs	1	6.434194	0.824924	0.105105	No	small-medium
Crystal Tabs	J-LAR	35	1 to 1	Short carpet	-0.584543393	Crystal Tabs	1	6.395024	0.843113	0.104788	No	small-medium
Crystal Tabs	J-LAR	35	1 to 1	T-shirt	-0.576554592	Crystal Tabs	1	6.22142	0.92884	0.103371	No	small-medium

Crystal Tabs	J-LAR	-5	Zonal	Plywood	-0.556765702	Crystal Tabs	1	5.801678	1	0.099859	No	< small
Crystal Tabs	J-LAR	19	1 to 1	Jeans	0.556012997	J-LAR	1	5.786001	1	0.099726	No	< small
Crystal Tabs	J-LAR	35	1 to 1	Jeans	-0.494725796	Crystal Tabs	1	4.580762	1	0.088825	No	< small
Crystal Tabs	J-LAR	-5	Zonal	T-shirt	0.488336723	J-LAR	1	4.463211	1	0.087687	No	< small
Crystal Tabs	J-LAR	-5	1 to 1	Ceramic tile	-0.472701245	Crystal Tabs	1	4.181982	1	0.0849	No	< small
Crystal Tabs	J-LAR	-5	1 to 1	Glossed MDF	-0.469271852	Crystal Tabs	1	4.121522	1	0.084289	No	< small
Crystal Tabs	J-LAR	-5	Zonal	Cushion cover	-0.460333303	Crystal Tabs	1	3.966007	1	0.082694	No	< small
Crystal Tabs	J-LAR	-5	Zonal	Tracksuit trousers	-0.446964018	Crystal Tabs	1	3.738985	1	0.080308	No	< small
Crystal Tabs	J-LAR	35	1 to 1	Glossed MDF	-0.445049904	Crystal Tabs	1	3.70703	1	0.079967	No	< small
Crystal Tabs	J-LAR	-5	1 to 1	Cushion cover	-0.441932821	Crystal Tabs	1	3.655284	1	0.07941	No	< small
Crystal Tabs	J-LAR	-5	Zonal	Jeans	-0.416002104	Crystal Tabs	1	3.238916	1	0.074778	No	< small
Crystal Tabs	J-LAR	35	Zonal	Jumper	0.388044719	J-LAR	1	2.818203	1	0.069777	No	< small
Crystal Tabs	J-LAR	35	Zonal	Brick	-0.355455796	Crystal Tabs	1	2.364721	1	0.063942	No	< small
Crystal Tabs	J-LAR	19	1 to 1	Ceramic tile	-0.353780035	Crystal Tabs	1	2.342477	1	0.063642	No	< small
Crystal Tabs	J-LAR	19	Zonal	Seatbelt	-0.346323056	Crystal Tabs	1	2.244768	1	0.062306	No	< small
Crystal Tabs	J-LAR	35	Zonal	Plywood	-0.317729279	Crystal Tabs	1	1.889397	1	0.057179	No	< small
Crystal Tabs	J-LAR	35	Zonal	Cushion cover	-0.313812158	Crystal Tabs	1	1.843097	1	0.056477	No	< small
Crystal Tabs	J-LAR	35	1 to 1	Ceramic tile	0.313808902	J-LAR	1	1.843059	1	0.056476	No	< small
Crystal Tabs	J-LAR	19	1 to 1	Plywood	-0.296596556	Crystal Tabs	1	1.646421	1	0.053387	No	< small
Crystal Tabs	J-LAR	19	1 to 1	Long carpet	-0.286017894	Crystal Tabs	1	1.53107	1	0.051488	No	< small
Crystal Tabs	J-LAR	19	Zonal	Brick	-0.28311149	Crystal Tabs	1	1.500112	1	0.050967	No	< small
Crystal Tabs	J-LAR	19	Zonal	Long carpet	-0.273360297	Crystal Tabs	1	1.398555	1	0.049216	No	< small
Crystal Tabs	J-LAR	-5	1 to 1	Plywood	-0.263664086	Crystal Tabs	1	1.3011	1	0.047474	No	< small
Crystal Tabs	J-LAR	35	1 to 1	Plywood	-0.250266675	Crystal Tabs	1	1.172235	1	0.045067	No	< small
Crystal Tabs	J-LAR	35	1 to 1	Tracksuit trousers	-0.238204175	Crystal Tabs	1	1.061958	1	0.042899	No	< small
Crystal Tabs	J-LAR	35	Zonal	Glossed MDF	-0.224621952	Crystal Tabs	1	0.944307	1	0.040457	No	< small
Crystal Tabs	J-LAR	35	1 to 1	Cushion cover	-0.214231467	Crystal Tabs	1	0.858964	1	0.038588	No	< small
Crystal Tabs	J-LAR	-5	1 to 1	T-shirt	-0.206587714	Crystal Tabs	1	0.798762	1	0.037213	No	< small
Crystal Tabs	J-LAR	19	1 to 1	T-shirt	-0.203682563	Crystal Tabs	1	0.776455	1	0.036691	No	< small
Crystal Tabs	J-LAR	35	Zonal	T-shirt	0.196934507	J-LAR	1	0.725859	1	0.035477	No	< small
Crystal Tabs	J-LAR	-5	1 to 1	Tracksuit trousers	-0.157970496	Crystal Tabs	1	0.467047	1	0.028464	No	< small
Crystal Tabs	J-LAR	35	Zonal	Tracksuit trousers	-0.141561728	Crystal Tabs	1	0.37506	1	0.025509	No	< small
Crystal Tabs	J-LAR	35	Zonal	Seatbelt	-0.140699119	Crystal Tabs	1	0.370503	1	0.025354	No	< small
Crystal Tabs	J-LAR	-5	1 to 1	Long carpet	-0.140028796	Crystal Tabs	1	0.366981	1	0.025233	No	< small

Crystal Tabs	J-LAR	35	1 to 1	Brick	-0.135621581	Crystal Tabs	1	0.344244	1	0.024439	No	< small
Crystal Tabs	J-LAR	-5	1 to 1	Jumper	0.119271081	J-LAR	1	0.266243	1	0.021495	No	< small
Crystal Tabs	J-LAR	-5	Zonal	Seatbelt	-0.093773807	Crystal Tabs	1	0.164578	1	0.016901	No	< small
Crystal Tabs	J-LAR	19	1 to 1	Jumper	0.081861161	J-LAR	1	0.125419	1	0.014754	No	< small
Crystal Tabs	J-LAR	-5	1 to 1	Seatbelt	-0.071985944	Crystal Tabs	1	0.096985	1	0.012975	No	< small
Crystal Tabs	J-LAR	35	1 to 1	Long carpet	0.063422164	J-LAR	1	0.075282	1	0.011432	No	< small
Crystal Tabs	J-LAR	-5	1 to 1	Short carpet	0.063379092	J-LAR	1	0.07518	1	0.011424	No	< small
Crystal Tabs	J-LAR	19	1 to 1	Short carpet	-0.025301231	Crystal Tabs	1	0.011981	1	0.004561	No	< small
Crystal Tabs	J-LAR	35	Zonal	Long carpet	-0.019276813	Crystal Tabs	1	0.006955	1	0.003475	No	< small
Crystal Tabs	J-LAR	35	1 to 1	Seatbelt	0.009712639	J-LAR	1	0.001766	1	0.001751	No	< small
Residuals	NA	NA	NA	NA	NA	NA	576	NA	NA	NA	NA	NA

Complete version of Table 6: Simple effects that explore the impact of tape storage temperature.

Condition			Degrees of freedom	F	Adjusted p	r	Significant at > 95% confidence	Effect size magnitude
Tape	Method	Surface						
J-LAR	Zonal	T-shirt	2	29.66352	2.63E-11	0.221307	Yes	small-medium
J-LAR	Zonal	Plywood	2	25.25532	1.47E-09	0.20495	Yes	small-medium
Crystal Tabs	1 to 1	Seatbelt	2	22.82477	1.39E-08	0.195233	Yes	small-medium
J-LAR	Zonal	Jeans	2	21.05186	7.20E-08	0.187776	Yes	small-medium
Crystal Tabs	1 to 1	Jeans	2	19.18302	4.13E-07	0.179528	Yes	small-medium
J-LAR	Zonal	Glossed MDF	2	18.74981	6.20E-07	0.177554	Yes	small-medium
J-LAR	Zonal	Tracksuit trousers	2	13.24972	0.000114	0.149953	Yes	small-medium
J-LAR	1 to 1	Tracksuit trousers	2	12.15083	0.000325	0.143734	Yes	small-medium
Crystal Tabs	Zonal	Jeans	2	10.93473	0.001048	0.136493	Yes	small-medium
J-LAR	Zonal	Cushion cover	2	10.20651	0.002115	0.131951	Yes	small-medium
J-LAR	Zonal	Jumper	2	9.424777	0.004505	0.126882	Yes	small-medium
Crystal Tabs	1 to 1	Brick	2	8.497422	0.011073	0.120574	Yes	small-medium
Crystal Tabs	Zonal	Short carpet	2	7.222279	0.038311	0.111281	Discussable	small-medium
Crystal Tabs	Zonal	Brick	2	6.358398	0.089098	0.104491	No	small-medium
Crystal Tabs	1 to 1	T-shirt	2	6.248412	0.099222	0.103593	No	small-medium
J-LAR	Zonal	Ceramic tile	2	5.663385	0.176009	0.098674	No	< small
J-LAR	1 to 1	Glossed MDF	2	5.41911	0.223676	0.096543	No	< small
Crystal Tabs	Zonal	Long carpet	2	4.515763	0.543609	0.088198	No	< small
J-LAR	1 to 1	Short carpet	2	4.421191	0.596666	0.087277	No	< small
Crystal Tabs	1 to 1	Short carpet	2	4.276493	0.688079	0.085847	No	< small
J-LAR	1 to 1	Jumper	2	3.651956	1	0.079374	No	< small
J-LAR	Zonal	Brick	2	3.117801	1	0.073374	No	< small
J-LAR	1 to 1	Ceramic tile	2	2.770829	1	0.069191	No	< small
J-LAR	1 to 1	Brick	2	2.195126	1	0.061616	No	< small
Crystal Tabs	1 to 1	Cushion cover	2	2.083895	1	0.06004	No	< small
Crystal Tabs	Zonal	Cushion cover	2	1.965073	1	0.058309	No	< small
Crystal Tabs	1 to 1	Jumper	2	1.863449	1	0.056787	No	< small
Crystal Tabs	Zonal	Glossed MDF	2	1.7759	1	0.055441	No	< small
Crystal Tabs	Zonal	Plywood	2	1.730411	1	0.054728	No	< small
J-LAR	Zonal	Seatbelt	2	1.59395	1	0.052532	No	< small
J-LAR	1 to 1	T-shirt	2	1.53027	1	0.051475	No	< small
Crystal Tabs	Zonal	Seatbelt	2	1.496878	1	0.050912	No	< small
J-LAR	1 to 1	Seatbelt	2	1.254972	1	0.046627	No	< small
J-LAR	1 to 1	Jeans	2	1.228669	1	0.046136	No	< small
J-LAR	1 to 1	Cushion cover	2	1.198147	1	0.045561	No	< small
Crystal Tabs	Zonal	T-shirt	2	1.071376	1	0.043088	No	< small
J-LAR	Zonal	Long carpet	2	0.902987	1	0.039563	No	< small
Crystal Tabs	1 to 1	Ceramic tile	2	0.889406	1	0.039265	No	< small
J-LAR	1 to 1	Plywood	2	0.744302	1	0.035924	No	< small
J-LAR	Zonal	Short carpet	2	0.552897	1	0.030967	No	< small
Crystal Tabs	1 to 1	Tracksuit trousers	2	0.546777	1	0.030796	No	< small
Crystal Tabs	1 to 1	Plywood	2	0.51633	1	0.029927	No	< small
Crystal Tabs	1 to 1	Long carpet	2	0.366444	1	0.025215	No	< small
Crystal Tabs	Zonal	Jumper	2	0.361763	1	0.025053	No	< small
J-LAR	1 to 1	Long carpet	2	0.316107	1	0.02342	No	< small
Crystal Tabs	Zonal	Ceramic tile	2	0.285019	1	0.022239	No	< small

Crystal Tabs	1 to 1	Glossed MDF	2	0.162712	1	0.016805	No	< small
Crystal Tabs	Zonal	Tracksuit trousers	2	0.049257	1	0.009247	No	< small
Residuals	NA	NA	576	NA	NA	NA	NA	NA

Complete version of Table 7: Pairwise contrasts that explore the impact of tape storage temperature.

Temperatures/°C		Condition			Simple effect significant at > 95% confidence	Difference between mean reflected log efficiencies	Better temperature/°C	Degrees of freedom	F	Adjusted p	Pairwise contrast significant at > 95% confidence	r	Effect size magnitude
Temp. 1	Temp. 2	Tape	Method	Surface									
-5	19	Crystal Tabs	1 to 1	Brick	Yes	0.461778443	19	1	3.990947	1	No	0.082952	< small
-5	35	Crystal Tabs	1 to 1	Brick	Yes	-0.490987528	-5	1	4.511797	1	No	0.08816	< small
19	35	Crystal Tabs	1 to 1	Brick	Yes	-0.952765971	19	1	16.98952	0.174485	No	0.169265	small-medium
-5	19	J-LAR	Zonal	Cushion cover	Yes	-0.452423423	-5	1	3.830882	1	No	0.081283	< small
-5	35	J-LAR	Zonal	Cushion cover	Yes	0.588955007	35	1	6.491916	0.999805	No	0.10557	small-medium
19	35	J-LAR	Zonal	Cushion cover	Yes	1.04137843	35	1	20.29672	0.046997	Yes	0.184494	small-medium
-5	19	J-LAR	Zonal	Glossed MDF	Yes	-0.621960932	-5	1	7.239938	0.998651	No	0.111415	small-medium
-5	35	J-LAR	Zonal	Glossed MDF	Yes	0.790200125	35	1	11.68646	0.759568	No	0.141016	small-medium
19	35	J-LAR	Zonal	Glossed MDF	Yes	1.412161057	35	1	37.32305	1.80E-05	Yes	0.246686	small-medium
-5	19	Crystal Tabs	1 to 1	Jeans	Yes	-1.305711103	-5	1	31.90824	0.000235	Yes	0.229104	small-medium
-5	35	Crystal Tabs	1 to 1	Jeans	Yes	-0.144147795	-5	1	0.388888	1	No	0.025975	< small
19	35	Crystal Tabs	1 to 1	Jeans	Yes	1.161563308	35	1	25.25192	0.005248	Yes	0.204936	small-medium
-5	19	Crystal Tabs	Zonal	Jeans	Yes	-0.586299879	-5	1	6.433514	0.999836	No	0.1051	small-medium
-5	35	Crystal Tabs	Zonal	Jeans	Yes	0.493339457	35	1	4.555126	1	No	0.088579	< small
19	35	Crystal Tabs	Zonal	Jeans	Yes	1.079639335	35	1	21.81554	0.024488	Yes	0.191029	small-medium
-5	19	J-LAR	Zonal	Jeans	Yes	-1.106947716	-5	1	22.93311	0.014961	Yes	0.195678	small-medium
-5	35	J-LAR	Zonal	Jeans	Yes	0.323010691	35	1	1.952731	1	No	0.058127	< small
19	35	J-LAR	Zonal	Jeans	Yes	1.429958407	35	1	38.26974	1.15E-05	Yes	0.249602	small-medium
-5	19	J-LAR	Zonal	Jumper	Yes	0.13991832	19	1	0.366402	1	No	0.025213	< small
-5	35	J-LAR	Zonal	Jumper	Yes	0.930584895	35	1	16.20767	0.230521	No	0.165433	small-medium
19	35	J-LAR	Zonal	Jumper	Yes	0.790666576	35	1	11.70026	0.757886	No	0.141098	small-medium
-5	19	J-LAR	Zonal	Plywood	Yes	-1.386287502	-5	1	35.96792	3.43E-05	Yes	0.242434	small-medium
-5	35	J-LAR	Zonal	Plywood	Yes	0.070251239	35	1	0.092367	1	No	0.012662	< small

19	35	J-LAR	Zonal	Plywood	Yes	1.456538741	35	1	39.70569	5.82E-06	Yes	0.253945	small-medium
-5	19	Crystal Tabs	1 to 1	Seatbelt	Yes	1.429892454	19	1	38.26621	1.15E-05	Yes	0.249591	small-medium
-5	35	Crystal Tabs	1 to 1	Seatbelt	Yes	0.171004576	35	1	0.547298	1	No	0.03081	< small
19	35	Crystal Tabs	1 to 1	Seatbelt	Yes	-1.258887878	19	1	29.66079	0.000676	Yes	0.221298	small-medium
-5	19	J-LAR	Zonal	T-shirt	Yes	-1.590344833	-5	1	47.33597	1.59E-07	Yes	0.275572	small-medium
-5	35	J-LAR	Zonal	T-shirt	Yes	-0.101977568	-5	1	0.194634	1	No	0.018379	< small
19	35	J-LAR	Zonal	T-shirt	Yes	1.488367265	35	1	41.45996	2.54E-06	Yes	0.259125	small-medium
-5	19	J-LAR	1 to 1	Tracksuit trousers	Yes	-1.034209117	-5	1	20.01822	0.052822	No	0.183266	small-medium
-5	35	J-LAR	1 to 1	Tracksuit trousers	Yes	-0.102797183	-5	1	0.197775	1	No	0.018527	< small
19	35	J-LAR	1 to 1	Tracksuit trousers	Yes	0.931411933	35	1	16.23649	0.228231	No	0.165576	small-medium
-5	19	J-LAR	Zonal	Tracksuit trousers	Yes	-0.890058981	-5	1	14.82676	0.361374	No	0.158414	small-medium
-5	35	J-LAR	Zonal	Tracksuit trousers	Yes	0.238900671	35	1	1.068177	1	No	0.043024	< small
19	35	J-LAR	Zonal	Tracksuit trousers	Yes	1.128959652	35	1	23.85423	0.009903	Yes	0.199416	small-medium
-5	19	Crystal Tabs	Zonal	Short carpet	Discussable	-0.822057773	-5	1	12.64775	0.635559	No	0.146581	small-medium
-5	35	Crystal Tabs	Zonal	Short carpet	Discussable	-0.142694131	-5	1	0.381084	1	No	0.025713	< small
19	35	Crystal Tabs	Zonal	Short carpet	Discussable	0.679363642	35	1	8.638001	0.983469	No	0.121552	small-medium
-5	19	J-LAR	1 to 1	Brick	No	0.014785138	19	1	0.004091	1	Not applicable	0.002665	< small
-5	35	J-LAR	1 to 1	Brick	No	0.426638202	35	1	3.406655	1	Not applicable	0.076678	< small
19	35	J-LAR	1 to 1	Brick	No	0.411853064	35	1	3.174631	1	Not applicable	0.074036	< small
-5	19	Crystal Tabs	Zonal	Brick	No	-0.811116328	-5	1	12.31331	0.679881	Not applicable	0.144672	small-medium
-5	35	Crystal Tabs	Zonal	Brick	No	-0.532714748	-5	1	5.311266	0.999998	Not applicable	0.095586	< small
19	35	Crystal Tabs	Zonal	Brick	No	0.27840158	35	1	1.450615	1	Not applicable	0.050121	< small
-5	19	J-LAR	Zonal	Brick	No	0.363913587	19	1	2.478593	1	Not applicable	0.065457	< small
-5	35	J-LAR	Zonal	Brick	No	0.569970861	35	1	6.080145	0.999947	Not applicable	0.102203	small-medium
19	35	J-LAR	Zonal	Brick	No	0.206057274	35	1	0.794666	1	Not applicable	0.037118	< small
-5	19	Crystal Tabs	1 to 1	Ceramic tile	No	-0.001091408	-5	1	2.23E-05	1	Not applicable	0.000197	< small
-5	35	Crystal Tabs	1 to 1	Ceramic tile	No	-0.267531831	-5	1	1.339552	1	Not applicable	0.048169	< small
19	35	Crystal Tabs	1 to 1	Ceramic tile	No	-0.266440423	19	1	1.328645	1	Not applicable	0.047973	< small
-5	19	J-LAR	1 to 1	Ceramic tile	No	0.117829802	19	1	0.259848	1	Not applicable	0.021235	< small
-5	35	J-LAR	1 to 1	Ceramic tile	No	0.518978316	35	1	5.040888	0.999999	Not applicable	0.093143	< small

19	35	J-LAR	1 to 1	Ceramic tile	No	0.401148514	35	1	3.011751	1	Not applicable	0.072122	< small
-5	19	Crystal Tabs	Zonal	Ceramic tile	No	-0.042071598	-5	1	0.033127	1	Not applicable	0.007583	< small
-5	35	Crystal Tabs	Zonal	Ceramic tile	No	-0.167718021	-5	1	0.526463	1	Not applicable	0.030219	< small
19	35	Crystal Tabs	Zonal	Ceramic tile	No	-0.125646424	19	1	0.295467	1	Not applicable	0.022643	< small
-5	19	J-LAR	Zonal	Ceramic tile	No	-0.676247951	-5	1	8.558952	0.985223	Not applicable	0.121003	small-medium
-5	35	J-LAR	Zonal	Ceramic tile	No	-0.005085004	-5	1	0.000484	1	Not applicable	0.000917	< small
19	35	J-LAR	Zonal	Ceramic tile	No	0.671162947	35	1	8.430719	0.98776	Not applicable	0.120106	small-medium
-5	19	Crystal Tabs	1 to 1	Cushion cover	No	0.040965726	19	1	0.031409	1	Not applicable	0.007384	< small
-5	35	Crystal Tabs	1 to 1	Cushion cover	No	-0.386650379	-5	1	2.797986	1	Not applicable	0.069528	< small
19	35	Crystal Tabs	1 to 1	Cushion cover	No	-0.427616105	19	1	3.42229	1	Not applicable	0.076853	< small
-5	19	J-LAR	1 to 1	Cushion cover	No	-0.357104186	-5	1	2.386704	1	Not applicable	0.064238	< small
-5	35	J-LAR	1 to 1	Cushion cover	No	-0.158949025	-5	1	0.472851	1	Not applicable	0.02864	< small
19	35	J-LAR	1 to 1	Cushion cover	No	0.198155161	35	1	0.734885	1	Not applicable	0.035696	< small
-5	19	Crystal Tabs	Zonal	Cushion cover	No	0.324571934	19	1	1.971653	1	Not applicable	0.058407	< small
-5	35	Crystal Tabs	Zonal	Cushion cover	No	0.442433862	35	1	3.663577	1	Not applicable	0.0795	< small
19	35	Crystal Tabs	Zonal	Cushion cover	No	0.117861928	35	1	0.259989	1	Not applicable	0.021241	< small
-5	19	Crystal Tabs	1 to 1	Glossed MDF	No	-0.114195909	-5	1	0.244067	1	Not applicable	0.02058	< small
-5	35	Crystal Tabs	1 to 1	Glossed MDF	No	-2.27E-14	-5	1	9.65E-27	1	Not applicable	4.09E-15	< small
19	35	Crystal Tabs	1 to 1	Glossed MDF	No	0.114195909	35	1	0.244067	1	Not applicable	0.02058	< small
-5	19	J-LAR	1 to 1	Glossed MDF	No	-0.646585245	-5	1	7.824565	0.995543	Not applicable	0.115768	small-medium
-5	35	J-LAR	1 to 1	Glossed MDF	No	0.024221948	35	1	0.010981	1	Not applicable	0.004366	< small
19	35	J-LAR	1 to 1	Glossed MDF	No	0.670807193	35	1	8.421783	0.987923	Not applicable	0.120044	small-medium
-5	19	Crystal Tabs	Zonal	Glossed MDF	No	0.377268544	19	1	2.66385	1	Not applicable	0.067849	< small
-5	35	Crystal Tabs	Zonal	Glossed MDF	No	0.377268544	35	1	2.66385	1	Not applicable	0.067849	< small
19	35	Crystal Tabs	Zonal	Glossed MDF	No	1.07E-14	35	1	2.13E-27	1	Not applicable	1.92E-15	< small
-5	19	J-LAR	1 to 1	Jeans	No	0.243354433	19	1	1.108376	1	Not applicable	0.043824	< small
-5	35	J-LAR	1 to 1	Jeans	No	0.354178947	35	1	2.347762	1	Not applicable	0.063714	< small
19	35	J-LAR	1 to 1	Jeans	No	0.110824515	35	1	0.229869	1	Not applicable	0.019973	< small
-5	19	Crystal Tabs	1 to 1	Jumper	No	-0.344699511	-5	1	2.223771	1	Not applicable	0.062015	< small
-5	35	Crystal Tabs	1 to 1	Jumper	No	-0.417777823	-5	1	3.266626	1	Not applicable	0.075095	< small

19	35	Crystal Tabs	1 to 1	Jumper	No	-0.073078311	19	1	0.099951	1	Not applicable	0.013172	< small
-5	19	J-LAR	1 to 1	Jumper	No	-0.382109431	-5	1	2.732651	1	Not applicable	0.068715	< small
-5	35	J-LAR	1 to 1	Jumper	No	0.236945862	35	1	1.050768	1	Not applicable	0.042672	< small
19	35	J-LAR	1 to 1	Jumper	No	0.619055293	35	1	7.17245	0.998844	Not applicable	0.110901	small-medium
-5	19	Crystal Tabs	Zonal	Jumper	No	0.083156147	19	1	0.129419	1	Not applicable	0.014988	< small
-5	35	Crystal Tabs	Zonal	Jumper	No	-0.112719481	-5	1	0.237797	1	Not applicable	0.020314	< small
19	35	Crystal Tabs	Zonal	Jumper	No	-0.195875628	19	1	0.718074	1	Not applicable	0.035286	< small
-5	19	Crystal Tabs	1 to 1	Long carpet	No	0.008077546	19	1	0.001221	1	Not applicable	0.001456	< small
-5	35	Crystal Tabs	1 to 1	Long carpet	No	-0.167192383	-5	1	0.523169	1	Not applicable	0.030124	< small
19	35	Crystal Tabs	1 to 1	Long carpet	No	-0.175269929	19	1	0.574941	1	Not applicable	0.031578	< small
-5	19	J-LAR	1 to 1	Long carpet	No	-0.137911552	-5	1	0.355967	1	Not applicable	0.024852	< small
-5	35	J-LAR	1 to 1	Long carpet	No	0.036258577	35	1	0.024605	1	Not applicable	0.006536	< small
19	35	J-LAR	1 to 1	Long carpet	No	0.174170129	35	1	0.567748	1	Not applicable	0.03138	< small
-5	19	Crystal Tabs	Zonal	Long carpet	No	-0.621339838	-5	1	7.225486	0.998694	Not applicable	0.111305	small-medium
-5	35	Crystal Tabs	Zonal	Long carpet	No	-0.579693338	-5	1	6.289343	0.999895	Not applicable	0.103928	small-medium
19	35	Crystal Tabs	Zonal	Long carpet	No	0.0416465	35	1	0.032461	1	Not applicable	0.007507	< small
-5	19	J-LAR	Zonal	Long carpet	No	-0.230198125	-5	1	0.991773	1	Not applicable	0.041459	< small
-5	35	J-LAR	Zonal	Long carpet	No	0.06553186	35	1	0.080374	1	Not applicable	0.011812	< small
19	35	J-LAR	Zonal	Long carpet	No	0.295729985	35	1	1.636814	1	Not applicable	0.053232	< small
-5	19	Crystal Tabs	1 to 1	Plywood	No	-0.131650458	-5	1	0.324379	1	Not applicable	0.023724	< small
-5	35	Crystal Tabs	1 to 1	Plywood	No	0.102647302	35	1	0.197199	1	Not applicable	0.0185	< small
19	35	Crystal Tabs	1 to 1	Plywood	No	0.234297759	35	1	1.027413	1	Not applicable	0.042196	< small
-5	19	J-LAR	1 to 1	Plywood	No	-0.164582928	-5	1	0.506965	1	Not applicable	0.029654	< small
-5	35	J-LAR	1 to 1	Plywood	No	0.116044713	35	1	0.252034	1	Not applicable	0.020913	< small
19	35	J-LAR	1 to 1	Plywood	No	0.280627641	35	1	1.473905	1	Not applicable	0.050521	< small
-5	19	Crystal Tabs	Zonal	Plywood	No	-0.426911833	-5	1	3.411026	1	Not applicable	0.076727	< small
-5	35	Crystal Tabs	Zonal	Plywood	No	-0.168785184	-5	1	0.533184	1	Not applicable	0.030411	< small
19	35	Crystal Tabs	Zonal	Plywood	No	0.258126649	35	1	1.247023	1	Not applicable	0.046479	< small
-5	19	J-LAR	1 to 1	Seatbelt	No	0.355888027	19	1	2.370475	1	Not applicable	0.06402	< small
-5	35	J-LAR	1 to 1	Seatbelt	No	0.252703159	35	1	1.195171	1	Not applicable	0.045504	< small

19	35	J-LAR	1 to 1	Seatbelt	No	-0.103184868	19	1	0.199269	1	Not applicable	0.018597	< small
-5	19	Crystal Tabs	Zonal	Seatbelt	No	0.238765262	19	1	1.066967	1	Not applicable	0.042999	< small
-5	35	Crystal Tabs	Zonal	Seatbelt	No	0.39725371	35	1	2.953552	1	Not applicable	0.071425	< small
19	35	Crystal Tabs	Zonal	Seatbelt	No	0.158488448	35	1	0.470115	1	Not applicable	0.028557	< small
-5	19	J-LAR	Zonal	Seatbelt	No	-0.013783986	-5	1	0.003556	1	Not applicable	0.002485	< small
-5	35	J-LAR	Zonal	Seatbelt	No	0.350328399	35	1	2.296991	1	Not applicable	0.063024	< small
19	35	J-LAR	Zonal	Seatbelt	No	0.364112385	35	1	2.481302	1	Not applicable	0.065493	< small
-5	19	Crystal Tabs	1 to 1	Short carpet	No	-0.536499905	-5	1	5.387012	0.999997	Not applicable	0.096259	< small
-5	35	Crystal Tabs	1 to 1	Short carpet	No	0.087938589	35	1	0.144733	1	Not applicable	0.01585	< small
19	35	Crystal Tabs	1 to 1	Short carpet	No	0.624438495	35	1	7.297733	0.998465	Not applicable	0.111853	small-medium
-5	19	J-LAR	1 to 1	Short carpet	No	-0.625180229	-5	1	7.315081	0.998405	Not applicable	0.111985	small-medium
-5	35	J-LAR	1 to 1	Short carpet	No	-0.559983896	-5	1	5.868941	0.999975	Not applicable	0.100431	small-medium
19	35	J-LAR	1 to 1	Short carpet	No	0.065196333	35	1	0.079553	1	Not applicable	0.011751	< small
-5	19	J-LAR	Zonal	Short carpet	No	-0.238855345	-5	1	1.067772	1	Not applicable	0.043016	< small
-5	35	J-LAR	Zonal	Short carpet	No	-0.158461915	-5	1	0.469957	1	Not applicable	0.028552	< small
19	35	J-LAR	Zonal	Short carpet	No	0.08039343	35	1	0.120962	1	Not applicable	0.01449	< small
-5	19	Crystal Tabs	1 to 1	T-shirt	No	-0.160812748	-5	1	0.484005	1	Not applicable	0.028976	< small
-5	35	Crystal Tabs	1 to 1	T-shirt	No	0.613416771	35	1	7.042388	0.99915	Not applicable	0.109903	small-medium
19	35	Crystal Tabs	1 to 1	T-shirt	No	0.77422952	35	1	11.21884	0.813936	Not applicable	0.138221	small-medium
-5	19	J-LAR	1 to 1	T-shirt	No	-0.157907597	-5	1	0.466675	1	Not applicable	0.028452	< small
-5	35	J-LAR	1 to 1	T-shirt	No	0.243449894	35	1	1.109246	1	Not applicable	0.043841	< small
19	35	J-LAR	1 to 1	T-shirt	No	0.401357491	35	1	3.014889	1	Not applicable	0.072159	< small
-5	19	Crystal Tabs	Zonal	T-shirt	No	-0.148094927	-5	1	0.410477	1	Not applicable	0.026686	< small
-5	35	Crystal Tabs	Zonal	T-shirt	No	0.189424649	35	1	0.671555	1	Not applicable	0.034125	< small
19	35	Crystal Tabs	Zonal	T-shirt	No	0.337519575	35	1	2.132095	1	Not applicable	0.060728	< small
-5	19	Crystal Tabs	1 to 1	Tracksuit trousers	No	-0.219704982	-5	1	0.903417	1	Not applicable	0.039572	< small
-5	35	Crystal Tabs	1 to 1	Tracksuit trousers	No	-0.022563504	-5	1	0.009528	1	Not applicable	0.004067	< small
19	35	Crystal Tabs	1 to 1	Tracksuit trousers	No	0.197141477	35	1	0.727386	1	Not applicable	0.035514	< small
-5	19	Crystal Tabs	Zonal	Tracksuit trousers	No	-0.008132315	-5	1	0.001238	1	Not applicable	0.001466	< small
-5	35	Crystal Tabs	Zonal	Tracksuit trousers	No	-0.066501619	-5	1	0.08277	1	Not applicable	0.011987	< small

19	35	Crystal Tabs	Zonal	Tracksuit trousers	No	-0.058369304	19	1	0.063764	1	Not applicable	0.010521	< small
Residuals	NA	NA	NA	NA	NA	NA	NA	576	NA	NA	NA	NA	NA

Complete version of Table 8: Simple effects that explore the impact of taping method.

Methods		Condition			Difference between mean reflected log efficiencies	Best method	Degrees of freedom	F	Adjusted p	r	Significant at > 95% confidence	Effect size magnitude
Method 1	Method 2	Tape	Temp /°C	Surface								
1 to 1	Zonal	Crystal Tabs	19	Seatbelt	-1.666679736	1 to 1	1	51.98918	1.27E-10	0.287727	Yes	small-medium
1 to 1	Zonal	J-LAR	19	Plywood	-1.42763622	1 to 1	1	38.14554	8.94E-08	0.249222	Yes	small-medium
1 to 1	Zonal	Crystal Tabs	19	Brick	-1.311781673	1 to 1	1	32.20563	1.58E-06	0.230113	Yes	small-medium
1 to 1	Zonal	J-LAR	19	Jeans	-1.282599067	1 to 1	1	30.78864	3.16E-06	0.225256	Yes	small-medium
1 to 1	Zonal	J-LAR	19	T-shirt	-1.245564684	1 to 1	1	29.0363	7.47E-06	0.219068	Yes	small-medium
1 to 1	Zonal	J-LAR	19	Ceramic tile	-1.089204769	1 to 1	1	22.20382	0.000222	0.192659	Yes	small-medium
1 to 1	Zonal	J-LAR	-5	Jumper	-1.061853297	1 to 1	1	21.10268	0.000385	0.187994	Yes	small-medium
1 to 1	Zonal	Crystal Tabs	35	T-shirt	-0.932044008	1 to 1	1	16.25854	0.004514	0.165686	Yes	small-medium
1 to 1	Zonal	J-LAR	19	Seatbelt	-0.867012422	1 to 1	1	14.06887	0.013972	0.154411	Discussable	small-medium
1 to 1	Zonal	J-LAR	35	Ceramic tile	-0.819190337	1 to 1	1	12.55967	0.030682	0.146081	Discussable	small-medium
1 to 1	Zonal	J-LAR	19	Cushion cover	-0.777265157	1 to 1	1	11.30699	0.059284	0.138753	No	small-medium
1 to 1	Zonal	J-LAR	-5	Short carpet	-0.714355451	1 to 1	1	9.550748	0.150853	0.127713	No	small-medium
1 to 1	Zonal	J-LAR	-5	Cushion cover	-0.68194592	1 to 1	1	8.703792	0.237927	0.122007	No	small-medium
1 to 1	Zonal	Crystal Tabs	-5	Cushion cover	-0.663545438	1 to 1	1	8.240432	0.305804	0.118762	No	small-medium
1 to 1	Zonal	J-LAR	-5	Tracksuit trousers	-0.594091584	1 to 1	1	6.605648	0.749937	0.106481	No	small-medium
1 to 1	Zonal	J-LAR	-5	Glossed MDF	-0.545550225	1 to 1	1	5.570294	1	0.097867	No	< small
1 to 1	Zonal	J-LAR	19	Jumper	-0.539825546	1 to 1	1	5.454005	1	0.09685	No	< small
1 to 1	Zonal	Crystal Tabs	-5	Short carpet	0.538369415	Zonal	1	5.424621	1	0.096591	No	< small
1 to 1	Zonal	J-LAR	19	Glossed MDF	-0.520925912	1 to 1	1	5.078794	1	0.093489	No	< small
1 to 1	Zonal	Crystal Tabs	-5	Jeans	-0.509347351	1 to 1	1	4.855531	1	0.091429	No	< small
1 to 1	Zonal	Crystal Tabs	-5	T-shirt	-0.508051886	1 to 1	1	4.830864	1	0.091198	No	< small
1 to 1	Zonal	J-LAR	-5	Seatbelt	-0.497340408	1 to 1	1	4.629309	1	0.089291	No	< small
1 to 1	Zonal	Crystal Tabs	19	T-shirt	-0.495334064	1 to 1	1	4.592033	1	0.088934	No	< small
1 to 1	Zonal	Crystal Tabs	-5	Seatbelt	-0.475552545	1 to 1	1	4.232585	1	0.085409	No	< small
1 to 1	Zonal	Crystal Tabs	-5	Long carpet	0.465668847	Zonal	1	4.058476	1	0.083646	No	< small
1 to 1	Zonal	J-LAR	19	Tracksuit trousers	-0.449941448	1 to 1	1	3.788966	1	0.08084	No	< small
1 to 1	Zonal	J-LAR	-5	Brick	-0.443780995	1 to 1	1	3.685921	1	0.07974	No	< small
1 to 1	Zonal	J-LAR	35	Seatbelt	-0.399715168	1 to 1	1	2.990267	1	0.071865	No	< small
1 to 1	Zonal	Crystal Tabs	19	Cushion cover	-0.37993923	1 to 1	1	2.701699	1	0.068327	No	< small

1 to 1	Zonal	Crystal Tabs	-5	Glossed MDF	-0.377268544	1 to 1	1	2.66385	1	0.067849	No	< small
1 to 1	Zonal	J-LAR	35	Jumper	-0.368214263	1 to 1	1	2.537522	1	0.066228	No	< small
1 to 1	Zonal	Crystal Tabs	35	Tracksuit trousers	-0.349036177	1 to 1	1	2.280077	1	0.062792	No	< small
1 to 1	Zonal	J-LAR	19	Short carpet	-0.328030567	1 to 1	1	2.013897	1	0.059027	No	< small
1 to 1	Zonal	J-LAR	35	Short carpet	-0.31283347	1 to 1	1	1.831619	1	0.056301	No	< small
1 to 1	Zonal	Crystal Tabs	35	Short carpet	0.307736694	Zonal	1	1.772422	1	0.055387	No	< small
1 to 1	Zonal	Crystal Tabs	-5	Tracksuit trousers	-0.305098062	1 to 1	1	1.742158	1	0.054913	No	< small
1 to 1	Zonal	J-LAR	35	Brick	-0.300448337	1 to 1	1	1.689461	1	0.054079	No	< small
1 to 1	Zonal	J-LAR	-5	Ceramic tile	-0.295127017	1 to 1	1	1.630146	1	0.053124	No	< small
1 to 1	Zonal	Crystal Tabs	-5	Jumper	-0.287322558	1 to 1	1	1.54507	1	0.051723	No	< small
1 to 1	Zonal	Crystal Tabs	19	Short carpet	0.252811547	Zonal	1	1.196196	1	0.045524	No	< small
1 to 1	Zonal	J-LAR	35	Tracksuit trousers	-0.25239373	1 to 1	1	1.192246	1	0.045449	No	< small
1 to 1	Zonal	J-LAR	35	Plywood	-0.25172512	1 to 1	1	1.185937	1	0.045329	No	< small
1 to 1	Zonal	Crystal Tabs	35	Seatbelt	-0.249303411	1 to 1	1	1.163229	1	0.044893	No	< small
1 to 1	Zonal	J-LAR	35	Glossed MDF	0.220427951	Zonal	1	0.909373	1	0.039702	No	< small
1 to 1	Zonal	Crystal Tabs	19	Jeans	0.210063873	Zonal	1	0.825869	1	0.037838	No	< small
1 to 1	Zonal	Crystal Tabs	19	Plywood	-0.208091406	1 to 1	1	0.810433	1	0.037484	No	< small
1 to 1	Zonal	J-LAR	-5	Plywood	-0.205931647	1 to 1	1	0.793697	1	0.037095	No	< small
1 to 1	Zonal	J-LAR	-5	T-shirt	0.186872552	Zonal	1	0.653581	1	0.033666	No	< small
1 to 1	Zonal	Crystal Tabs	35	Plywood	-0.184262517	1 to 1	1	0.635452	1	0.033196	No	< small
1 to 1	Zonal	Crystal Tabs	35	Cushion cover	0.165538803	Zonal	1	0.512871	1	0.029826	No	< small
1 to 1	Zonal	Crystal Tabs	19	Long carpet	-0.163748537	1 to 1	1	0.501838	1	0.029504	No	< small
1 to 1	Zonal	J-LAR	35	T-shirt	-0.15855491	1 to 1	1	0.470509	1	0.028569	No	< small
1 to 1	Zonal	J-LAR	19	Long carpet	-0.15109094	1 to 1	1	0.427253	1	0.027225	No	< small
1 to 1	Zonal	Crystal Tabs	19	Jumper	0.140533101	Zonal	1	0.369629	1	0.025324	No	< small
1 to 1	Zonal	Crystal Tabs	35	Jeans	0.1281399	Zonal	1	0.307311	1	0.023092	No	< small
1 to 1	Zonal	Crystal Tabs	19	Glossed MDF	0.114195909	Zonal	1	0.244067	1	0.02058	No	< small
1 to 1	Zonal	Crystal Tabs	35	Ceramic tile	0.096328621	Zonal	1	0.173668	1	0.017361	No	< small
1 to 1	Zonal	J-LAR	19	Brick	-0.094652546	1 to 1	1	0.167677	1	0.017059	No	< small
1 to 1	Zonal	Crystal Tabs	19	Tracksuit trousers	-0.093525396	1 to 1	1	0.163707	1	0.016856	No	< small
1 to 1	Zonal	Crystal Tabs	-5	Plywood	0.087169969	Zonal	1	0.142214	1	0.015711	No	< small
1 to 1	Zonal	Crystal Tabs	35	Brick	-0.080614122	1 to 1	1	0.121627	1	0.01453	No	< small
1 to 1	Zonal	J-LAR	-5	Jeans	0.067703082	Zonal	1	0.085788	1	0.012203	No	< small
1 to 1	Zonal	J-LAR	35	Cushion cover	0.065958112	Zonal	1	0.081423	1	0.011889	No	< small

1 to 1	Zonal	J-LAR	-5	Long carpet	-0.058804367	1 to 1	1	0.064718	1	0.010599	No	< small
1 to 1	Zonal	Crystal Tabs	35	Long carpet	0.053167892	Zonal	1	0.052906	1	0.009583	No	< small
1 to 1	Zonal	Crystal Tabs	19	Ceramic tile	-0.044465378	1 to 1	1	0.037004	1	0.008015	No	< small
1 to 1	Zonal	Crystal Tabs	-5	Brick	-0.038886902	1 to 1	1	0.028302	1	0.007009	No	< small
1 to 1	Zonal	J-LAR	35	Jeans	0.036534826	Zonal	1	0.024982	1	0.006586	No	< small
1 to 1	Zonal	J-LAR	35	Long carpet	-0.029531084	1 to 1	1	0.016322	1	0.005323	No	< small
1 to 1	Zonal	Crystal Tabs	35	Jumper	0.017735784	Zonal	1	0.005887	1	0.003197	No	< small
1 to 1	Zonal	Crystal Tabs	-5	Ceramic tile	-0.003485188	1 to 1	1	0.000227	1	0.000628	No	< small
1 to 1	Zonal	Crystal Tabs	35	Glossed MDF	8.88E-16	Zonal	1	1.48E-29	1	1.60E-16	No	< small
Residuals	NA	NA	NA	NA	NA	NA	576	NA	NA	NA	NA	NA

Complete version of Table 10: Pairwise contrasts that explore the impact of surface type.

Surfaces				Condition			Simple effect significant at > 95% confidence	Difference between mean reflected log efficiencies	Better surface	Cluster Number Difference (CND)	Degrees of freedom	F	Adjusted p	Pairwise contrast significant at > 95% confidence	r	Effect size magnitude
Surface 1		Surface 2														
Surface	Cluster No.	Surface	Cluster No.	Temp/°C	Tape	Method										
Glossed MDF	3	Jeans	1	19	Crystal Tabs	1 to 1	Yes	-2.882910707	Glossed MDF	2	1	155.5504	5.04E-10	Yes	0.461119	medium-large
Glossed MDF	3	Long carpet	1	35	Crystal Tabs	1 to 1	Yes	-2.843723681	Glossed MDF	2	1	151.3504	5.04E-10	Yes	0.456163	medium-large
Glossed MDF	3	Jumper	1	35	Crystal Tabs	1 to 1	Yes	-2.835776653	Glossed MDF	2	1	150.5056	5.04E-10	Yes	0.455152	medium-large
Glossed MDF	3	Long carpet	1	19	Crystal Tabs	Zonal	Yes	-2.83220229	Glossed MDF	2	1	150.1264	5.04E-10	Yes	0.454697	medium-large
Glossed MDF	3	Jumper	1	35	Crystal Tabs	Zonal	Yes	-2.818040869	Glossed MDF	2	1	148.6289	5.04E-10	Yes	0.452891	medium-large
Glossed MDF	3	Long carpet	1	35	Crystal Tabs	Zonal	Yes	-2.79055579	Glossed MDF	2	1	145.7438	5.04E-10	Yes	0.449369	medium-large
Glossed MDF	3	Jeans	1	19	Crystal Tabs	Zonal	Yes	-2.787042743	Glossed MDF	2	1	145.3771	5.04E-10	Yes	0.448918	medium-large
Ceramic tile	3	Jeans	1	19	Crystal Tabs	1 to 1	Yes	-2.7814247	Ceramic tile	2	1	144.7916	5.04E-10	Yes	0.448195	medium-large
Glossed MDF	3	Short carpet	1	35	J-LAR	Zonal	Yes	-2.780274129	Glossed MDF	2	1	144.6718	5.04E-10	Yes	0.448047	medium-large
Long carpet	1	Plywood	3	35	Crystal Tabs	1 to 1	Yes	2.732946659	Plywood	2	1	139.7883	5.04E-10	Yes	0.44192	medium-large
Cushion cover	1	Plywood	3	-5	Crystal Tabs	Zonal	Yes	2.726257188	Plywood	2	1	139.1049	5.04E-10	Yes	0.441048	medium-large
Jumper	1	Plywood	3	35	Crystal Tabs	1 to 1	Yes	2.72499963	Plywood	2	1	138.9766	5.04E-10	Yes	0.440885	medium-large
Jumper	1	Plywood	3	-5	J-LAR	Zonal	Yes	2.677560988	Plywood	2	1	134.1799	5.04E-10	Yes	0.43467	medium-large
Glossed MDF	3	Long carpet	1	-5	Crystal Tabs	1 to 1	Yes	-2.676531299	Glossed MDF	2	1	134.0767	5.04E-10	Yes	0.434534	medium-large
Jeans	1	Plywood	3	19	Crystal Tabs	1 to 1	Yes	2.652031834	Plywood	2	1	131.6334	5.04E-10	Yes	0.431299	medium-large
Glossed MDF	3	Jumper	1	19	Crystal Tabs	1 to 1	Yes	-2.648502432	Glossed MDF	2	1	131.2833	5.04E-10	Yes	0.430832	medium-large
Jeans	1	Seatbelt	2	19	Crystal Tabs	1 to 1	Yes	2.635432469	Seatbelt	1	1	129.9907	5.04E-10	Yes	0.429098	medium-large
Ceramic tile	3	Cushion cover	1	-5	Crystal Tabs	Zonal	Yes	-2.634435847	Ceramic tile	2	1	129.8924	5.04E-10	Yes	0.428966	medium-large
Cushion cover	1	Plywood	3	-5	J-LAR	Zonal	Yes	2.629824789	Plywood	2	1	129.4381	5.04E-10	Yes	0.428353	medium-large
Glossed MDF	3	Jumper	1	19	Crystal Tabs	Zonal	Yes	-2.622165241	Glossed MDF	2	1	128.6852	5.04E-10	Yes	0.427333	medium-large
Ceramic tile	3	Cushion cover	1	35	J-LAR	1 to 1	Yes	-2.621534514	Ceramic tile	2	1	128.6233	5.04E-10	Yes	0.427249	medium-large
Glossed MDF	3	Short carpet	1	19	Crystal Tabs	1 to 1	Yes	-2.617761804	Glossed MDF	2	1	128.2534	5.04E-10	Yes	0.426747	medium-large

Ceramic tile	3	Long carpet	1	35	J-LAR	1 to 1	Yes	-2.611988081	Ceramic tile	2	1	127.6883	5.04E-10	Yes	0.425976	medium-large
Glossed MDF	3	Long carpet	1	35	J-LAR	Zonal	Yes	-2.58521065	Glossed MDF	2	1	125.0836	5.05E-10	Yes	0.422392	medium-large
Jumper	1	Plywood	3	-5	Crystal Tabs	Zonal	Yes	2.579067033	Plywood	2	1	124.4898	5.05E-10	Yes	0.421566	medium-large
Cushion cover	1	Glossed MDF	3	35	Crystal Tabs	1 to 1	Yes	2.575616484	Glossed MDF	2	1	124.157	5.05E-10	Yes	0.421102	medium-large
Ceramic tile	3	Long carpet	1	19	Crystal Tabs	Zonal	Yes	-2.572054995	Ceramic tile	2	1	123.8138	5.05E-10	Yes	0.420623	medium-large
Glossed MDF	3	Long carpet	1	19	Crystal Tabs	1 to 1	Yes	-2.554257843	Glossed MDF	2	1	122.1063	5.05E-10	Yes	0.418223	medium-large
Ceramic tile	3	Jumper	1	19	Crystal Tabs	1 to 1	Yes	-2.547016425	Ceramic tile	2	1	121.4149	5.05E-10	Yes	0.417244	medium-large
Cushion cover	1	Glossed MDF	3	19	Crystal Tabs	Zonal	Yes	2.527939609	Glossed MDF	2	1	119.603	5.05E-10	Yes	0.414658	medium-large
Ceramic tile	3	Jeans	1	19	Crystal Tabs	Zonal	Yes	-2.526895449	Ceramic tile	2	1	119.5042	5.05E-10	Yes	0.414516	medium-large
Ceramic tile	3	Short carpet	1	35	J-LAR	1 to 1	Yes	-2.523749174	Ceramic tile	2	1	119.2068	5.05E-10	Yes	0.414089	medium-large
Jumper	1	Plywood	3	35	Crystal Tabs	Zonal	Yes	2.52300133	Plywood	2	1	119.1362	5.05E-10	Yes	0.413987	medium-large
Ceramic tile	3	Short carpet	1	19	Crystal Tabs	1 to 1	Yes	-2.516275797	Ceramic tile	2	1	118.5018	5.05E-10	Yes	0.413072	medium-large
Cushion cover	1	Glossed MDF	3	35	J-LAR	Zonal	Yes	2.499267887	Glossed MDF	2	1	116.9053	5.05E-10	Yes	0.410752	medium-large
Long carpet	1	Plywood	3	35	Crystal Tabs	Zonal	Yes	2.49551625	Plywood	2	1	116.5546	5.05E-10	Yes	0.41024	medium-large
Ceramic tile	3	Jumper	1	-5	Crystal Tabs	Zonal	Yes	-2.487245691	Ceramic tile	2	1	115.7833	5.05E-10	Yes	0.409108	medium-large
Brick	2	Jeans	1	19	Crystal Tabs	1 to 1	Yes	-2.483353679	Brick	1	1	115.4213	5.05E-10	Yes	0.408575	medium-large
Glossed MDF	3	Short carpet	1	19	Crystal Tabs	Zonal	Yes	-2.479146166	Glossed MDF	2	1	115.0305	5.05E-10	Yes	0.407998	medium-large
Cushion cover	1	Glossed MDF	3	-5	Crystal Tabs	Zonal	Yes	2.475243	Glossed MDF	2	1	114.6686	5.05E-10	Yes	0.407462	medium-large
Cushion cover	1	Plywood	3	35	Crystal Tabs	1 to 1	Yes	2.464839461	Plywood	2	1	113.7067	5.05E-10	Yes	0.406032	medium-large
Long carpet	1	Plywood	3	-5	Crystal Tabs	1 to 1	Yes	2.463106974	Plywood	2	1	113.5469	5.05E-10	Yes	0.405794	medium-large
Ceramic tile	3	Long carpet	1	-5	Crystal Tabs	1 to 1	Yes	-2.46194079	Ceramic tile	2	1	113.4394	5.05E-10	Yes	0.405634	medium-large
Ceramic tile	3	Long carpet	1	19	Crystal Tabs	1 to 1	Yes	-2.452771836	Ceramic tile	2	1	112.596	5.05E-10	Yes	0.40437	medium-large
Ceramic tile	3	Jumper	1	35	Crystal Tabs	Zonal	Yes	-2.432247151	Ceramic tile	2	1	110.7195	5.05E-10	Yes	0.401534	medium-large
Cushion cover	1	Plywood	3	35	J-LAR	1 to 1	Yes	2.428804253	Plywood	2	1	110.4063	5.05E-10	Yes	0.401057	medium-large
Long carpet	1	Plywood	3	35	J-LAR	1 to 1	Yes	2.41925782	Plywood	2	1	109.5401	5.05E-10	Yes	0.399733	medium-large
Ceramic tile	3	Cushion cover	1	19	J-LAR	1 to 1	Yes	-2.418541161	Ceramic tile	2	1	109.4752	5.05E-10	Yes	0.399634	medium-large
Glossed MDF	3	Jumper	1	-5	Crystal Tabs	1 to 1	Yes	-2.41799883	Glossed MDF	2	1	109.4261	5.05E-10	Yes	0.399558	medium-large
Jumper	1	Plywood	3	19	Crystal Tabs	1 to 1	Yes	2.417623559	Plywood	2	1	109.3921	5.05E-10	Yes	0.399506	medium-large
Cushion cover	1	Glossed MDF	3	35	Crystal Tabs	Zonal	Yes	2.410077681	Glossed MDF	2	1	108.7103	5.05E-10	Yes	0.398457	medium-large
Ceramic tile	3	Long carpet	1	35	Crystal Tabs	Zonal	Yes	-2.404762071	Ceramic tile	2	1	108.2313	5.05E-10	Yes	0.397718	medium-large

Jumper	1	Seatbelt	2	19	Crystal Tabs	1 to 1	Yes	2.401024194	Seatbelt	1	1	107.8951	5.05E-10	Yes	0.397197	medium-large
Plywood	3	Short carpet	1	35	J-LAR	Zonal	Yes	-2.392127263	Plywood	2	1	107.097	5.05E-10	Yes	0.395956	medium-large
Plywood	3	Short carpet	1	19	Crystal Tabs	1 to 1	Yes	-2.386882931	Plywood	2	1	106.6279	5.05E-10	Yes	0.395224	medium-large
Ceramic tile	3	Long carpet	1	19	J-LAR	1 to 1	Yes	-2.385009695	Ceramic tile	2	1	106.4606	5.05E-10	Yes	0.394962	medium-large
Ceramic tile	3	Jumper	1	-5	J-LAR	Zonal	Yes	-2.378162276	Ceramic tile	2	1	105.8502	5.05E-10	Yes	0.394005	medium-large
Seatbelt	2	Short carpet	1	19	Crystal Tabs	1 to 1	Yes	-2.370283566	Seatbelt	1	1	105.15	5.05E-10	Yes	0.392901	medium-large
Ceramic tile	3	Jumper	1	19	Crystal Tabs	Zonal	Yes	-2.362017946	Ceramic tile	2	1	104.4179	5.05E-10	Yes	0.391742	medium-large
Ceramic tile	3	Long carpet	1	35	Crystal Tabs	1 to 1	Yes	-2.361601342	Ceramic tile	2	1	104.3811	5.05E-10	Yes	0.391683	medium-large
Ceramic tile	3	Jumper	1	35	Crystal Tabs	1 to 1	Yes	-2.353654314	Ceramic tile	2	1	103.6798	5.05E-10	Yes	0.390566	medium-large
Glossed MDF	3	Long carpet	1	-5	J-LAR	1 to 1	Yes	-2.347288243	Glossed MDF	2	1	103.1197	5.05E-10	Yes	0.389671	medium-large
Cushion cover	1	Plywood	3	19	J-LAR	1 to 1	Yes	2.346331774	Plywood	2	1	103.0356	5.05E-10	Yes	0.389536	medium-large
Glossed MDF	3	Jumper	1	-5	J-LAR	Zonal	Yes	-2.345758969	Glossed MDF	2	1	102.9853	5.05E-10	Yes	0.389455	medium-large
Cushion cover	1	Glossed MDF	3	35	J-LAR	1 to 1	Yes	2.344798047	Glossed MDF	2	1	102.901	5.05E-10	Yes	0.38932	medium-large
Long carpet	1	Plywood	3	-5	J-LAR	1 to 1	Yes	2.339471684	Plywood	2	1	102.434	5.05E-10	Yes	0.388569	medium-large
Glossed MDF	3	T-shirt	2	19	Crystal Tabs	Zonal	Yes	-2.336326301	Glossed MDF	1	1	102.1588	5.05E-10	Yes	0.388125	medium-large
Glossed MDF	3	Long carpet	1	35	J-LAR	1 to 1	Yes	-2.335251614	Glossed MDF	2	1	102.0648	5.05E-10	Yes	0.387974	medium-large
Plywood	3	Short carpet	1	35	J-LAR	1 to 1	Yes	-2.331018914	Plywood	2	1	101.6952	5.05E-10	Yes	0.387376	medium-large
Ceramic tile	3	Cushion cover	1	-5	J-LAR	Zonal	Yes	-2.330426076	Ceramic tile	2	1	101.6434	5.05E-10	Yes	0.387292	medium-large
Glossed MDF	3	Jumper	1	-5	Crystal Tabs	Zonal	Yes	-2.328052844	Glossed MDF	2	1	101.4365	5.05E-10	Yes	0.386957	medium-large
Long carpet	1	Plywood	3	19	Crystal Tabs	1 to 1	Yes	2.323378971	Plywood	2	1	101.0296	5.05E-10	Yes	0.386296	medium-large
Long carpet	1	Plywood	3	19	J-LAR	1 to 1	Yes	2.312800308	Plywood	2	1	100.1117	5.05E-10	Yes	0.384798	medium-large
Long carpet	1	Seatbelt	2	19	Crystal Tabs	1 to 1	Yes	2.306779606	Seatbelt	1	1	99.59117	5.05E-10	Yes	0.383944	medium-large
Cushion cover	1	Glossed MDF	3	-5	J-LAR	Zonal	Yes	2.29802277	Glossed MDF	2	1	98.83649	5.05E-10	Yes	0.382701	medium-large
Long carpet	1	Plywood	3	19	Crystal Tabs	Zonal	Yes	2.279036102	Plywood	2	1	97.21003	5.05E-10	Yes	0.379997	medium-large
Ceramic tile	3	Cushion cover	1	19	Crystal Tabs	Zonal	Yes	-2.267792315	Ceramic tile	2	1	96.25321	5.05E-10	Yes	0.378391	medium-large
Brick	2	Jumper	1	19	Crystal Tabs	1 to 1	Yes	-2.248945404	Brick	1	1	94.65999	5.05E-10	Yes	0.375692	medium-large
Glossed MDF	3	Short carpet	1	35	J-LAR	1 to 1	Yes	-2.247012708	Glossed MDF	2	1	94.49737	5.05E-10	Yes	0.375415	medium-large
Jeans	1	Plywood	3	19	Crystal Tabs	Zonal	Yes	2.233876555	Plywood	2	1	93.39572	5.05E-10	Yes	0.373527	medium-large
Ceramic tile	3	Short carpet	1	19	Crystal Tabs	Zonal	Yes	-2.218998872	Ceramic tile	2	1	92.15583	5.05E-10	Yes	0.371383	medium-large
Brick	2	Short carpet	1	19	Crystal Tabs	1 to 1	Yes	-2.218204776	Brick	1	1	92.08988	5.05E-10	Yes	0.371269	medium-large

Glossed MDF	3	Jeans	1	-5	J-LAR	1 to 1	Yes	-2.215176199	Glossed MDF	2	1	91.83859	5.05E-10	Yes	0.370832	medium-large
Jeans	1	Plywood	3	-5	J-LAR	1 to 1	Yes	2.207359641	Plywood	2	1	91.1916	5.05E-10	Yes	0.369702	medium-large
Glossed MDF	3	Jumper	1	35	J-LAR	Zonal	Yes	-2.205374198	Glossed MDF	2	1	91.02763	5.05E-10	Yes	0.369415	medium-large
Jumper	1	Plywood	3	-5	Crystal Tabs	1 to 1	Yes	2.204574506	Plywood	2	1	90.96162	5.05E-10	Yes	0.369299	medium-large
Ceramic tile	3	Jumper	1	-5	Crystal Tabs	1 to 1	Yes	-2.203408322	Ceramic tile	2	1	90.86542	5.05E-10	Yes	0.369131	medium-large
Long carpet	1	Plywood	3	35	J-LAR	Zonal	Yes	2.197063784	Plywood	2	1	90.34289	5.05E-10	Yes	0.368212	medium-large
Glossed MDF	3	Short carpet	1	-5	Crystal Tabs	1 to 1	Yes	-2.195457808	Glossed MDF	2	1	90.21086	5.05E-10	Yes	0.367979	medium-large
Long carpet	1	Plywood	3	-5	J-LAR	Zonal	Yes	2.192344405	Plywood	2	1	89.95519	5.05E-10	Yes	0.367528	medium-large
Cushion cover	1	Glossed MDF	3	-5	Crystal Tabs	1 to 1	Yes	2.188966105	Glossed MDF	2	1	89.67817	5.05E-10	Yes	0.367038	medium-large
Ceramic tile	3	Short carpet	1	19	J-LAR	1 to 1	Yes	-2.187796993	Ceramic tile	2	1	89.5824	5.05E-10	Yes	0.366869	medium-large
Plywood	3	Short carpet	1	-5	J-LAR	Zonal	Yes	-2.163414109	Plywood	2	1	87.59674	5.05E-10	Yes	0.363322	medium-large
Ceramic tile	3	Jeans	1	35	J-LAR	1 to 1	Yes	-2.161955667	Ceramic tile	2	1	87.47868	5.05E-10	Yes	0.36311	medium-large
Cushion cover	1	Glossed MDF	3	-5	J-LAR	1 to 1	Yes	2.161627074	Glossed MDF	2	1	87.45209	5.05E-10	Yes	0.363062	medium-large
Brick	2	Long carpet	1	19	Crystal Tabs	1 to 1	Yes	-2.154700816	Brick	1	1	86.89256	5.05E-10	Yes	0.362051	medium-large
Cushion cover	1	Plywood	3	-5	J-LAR	1 to 1	Yes	2.153810515	Plywood	2	1	86.82077	5.05E-10	Yes	0.361921	medium-large
Plywood	3	Seatbelt	2	-5	Crystal Tabs	Zonal	Yes	-2.14086479	Plywood	1	1	85.78021	5.05E-10	Yes	0.360028	medium-large
Ceramic tile	3	Long carpet	1	-5	J-LAR	1 to 1	Yes	-2.129268342	Ceramic tile	2	1	84.85344	5.05E-10	Yes	0.358329	medium-large
Cushion cover	1	Glossed MDF	3	19	J-LAR	Zonal	Yes	2.12848526	Glossed MDF	2	1	84.79104	5.05E-10	Yes	0.358214	medium-large
Plywood	3	Short carpet	1	19	J-LAR	1 to 1	Yes	-2.115587606	Plywood	2	1	83.76656	5.05E-10	Yes	0.35632	medium-large
Cushion cover	1	Plywood	3	35	Crystal Tabs	Zonal	Yes	2.115038142	Plywood	2	1	83.72305	5.05E-10	Yes	0.356239	medium-large
Ceramic tile	3	Jumper	1	19	J-LAR	1 to 1	Yes	-2.111375229	Ceramic tile	2	1	83.43331	5.05E-10	Yes	0.3557	medium-large
Cushion cover	1	Plywood	3	35	J-LAR	Zonal	Yes	2.111121021	Plywood	2	1	83.41322	5.05E-10	Yes	0.355663	medium-large
Glossed MDF	3	Short carpet	1	35	Crystal Tabs	1 to 1	Yes	-2.107519218	Glossed MDF	2	1	83.12884	5.05E-10	Yes	0.355133	medium-large
Ceramic tile	3	Cushion cover	1	19	J-LAR	Zonal	Yes	-2.106601549	Ceramic tile	2	1	83.05647	5.05E-10	Yes	0.354998	medium-large
Ceramic tile	3	Tracksuit trousers	2	19	J-LAR	1 to 1	Yes	-2.098713705	Ceramic tile	1	1	82.43565	5.05E-10	Yes	0.353835	medium-large
Ceramic tile	3	Cushion cover	1	35	Crystal Tabs	1 to 1	Yes	-2.093494144	Ceramic tile	2	1	82.02612	5.05E-10	Yes	0.353065	medium-large
Glossed MDF	3	Jeans	1	19	J-LAR	Zonal	Yes	-2.086909676	Glossed MDF	2	1	81.51095	5.05E-10	Yes	0.352092	medium-large
Long carpet	1	Plywood	3	-5	Crystal Tabs	Zonal	Yes	2.084608096	Plywood	2	1	81.33126	5.05E-10	Yes	0.351752	medium-large
Ceramic tile	3	T-shirt	2	19	Crystal Tabs	Zonal	Yes	-2.076179006	Ceramic tile	1	1	80.67486	5.05E-10	Yes	0.350505	medium-large
Jeans	1	Plywood	3	-5	Crystal Tabs	Zonal	Yes	2.074488509	Plywood	2	1	80.54354	5.05E-10	Yes	0.350254	medium-large

Glossed MDF	3	Jeans	1	35	J-LAR	Zonal	Yes	-2.069112326	Glossed MDF	2	1	80.12661	5.05E-10	Yes	0.349458	medium-large
Jumper	1	Plywood	3	19	Crystal Tabs	Zonal	Yes	2.068999053	Plywood	2	1	80.11784	5.05E-10	Yes	0.349441	medium-large
Ceramic tile	3	Jeans	1	19	J-LAR	Zonal	Yes	-2.065025965	Ceramic tile	2	1	79.81044	5.05E-10	Yes	0.348852	medium-large
Plywood	3	T-shirt	2	-5	Crystal Tabs	Zonal	Yes	-2.061977018	Plywood	1	1	79.57493	5.05E-10	Yes	0.348399	medium-large
Ceramic tile	3	Seatbelt	2	-5	Crystal Tabs	Zonal	Yes	-2.049043449	Ceramic tile	1	1	78.57981	5.05E-10	Yes	0.346477	medium-large
Jumper	1	Plywood	3	19	J-LAR	1 to 1	Yes	2.039165842	Plywood	2	1	77.82403	5.05E-10	Yes	0.345006	medium-large
Cushion cover	1	Glossed MDF	3	19	Crystal Tabs	1 to 1	Yes	2.03380447	Glossed MDF	2	1	77.41534	5.06E-10	Yes	0.344206	medium-large
Glossed MDF	3	Seatbelt	2	19	Crystal Tabs	Zonal	Yes	-2.028353883	Glossed MDF	1	1	77.00095	5.05E-10	Yes	0.343393	medium-large
Plywood	3	Tracksuit trousers	2	19	J-LAR	1 to 1	Yes	-2.026504318	Plywood	1	1	76.86059	5.05E-10	Yes	0.343117	medium-large
Ceramic tile	3	Cushion cover	1	35	Crystal Tabs	Zonal	Yes	-2.024283963	Ceramic tile	2	1	76.69226	5.05E-10	Yes	0.342785	medium-large
Ceramic tile	3	Short carpet	1	35	J-LAR	Zonal	Yes	-2.017392308	Ceramic tile	2	1	76.17095	5.06E-10	Yes	0.341754	medium-large
Glossed MDF	3	T-shirt	2	35	Crystal Tabs	Zonal	Yes	-1.998806725	Glossed MDF	1	1	74.77394	5.06E-10	Yes	0.338969	medium-large
Ceramic tile	3	Jeans	1	-5	J-LAR	1 to 1	Yes	-1.997156298	Ceramic tile	2	1	74.65051	5.06E-10	Yes	0.338721	medium-large
Plywood	3	Short carpet	1	35	Crystal Tabs	1 to 1	Yes	-1.996742196	Plywood	2	1	74.61955	5.06E-10	Yes	0.338659	medium-large
Ceramic tile	3	Long carpet	1	-5	Crystal Tabs	Zonal	Yes	-1.992786755	Ceramic tile	2	1	74.32421	5.06E-10	Yes	0.338065	medium-large
Ceramic tile	3	Jeans	1	-5	Crystal Tabs	Zonal	Yes	-1.982667168	Ceramic tile	2	1	73.57127	5.06E-10	Yes	0.336543	medium-large
Plywood	3	Short carpet	1	-5	Crystal Tabs	1 to 1	Yes	-1.982033483	Plywood	2	1	73.52425	5.06E-10	Yes	0.336448	medium-large
Ceramic tile	3	Short carpet	1	-5	Crystal Tabs	1 to 1	Yes	-1.980867299	Ceramic tile	2	1	73.43776	5.06E-10	Yes	0.336272	medium-large
Cushion cover	1	Plywood	3	-5	Crystal Tabs	1 to 1	Yes	1.975541781	Plywood	2	1	73.04342	5.07E-10	Yes	0.33547	medium-large
Cushion cover	1	Plywood	3	19	Crystal Tabs	Zonal	Yes	1.974773421	Plywood	2	1	72.98661	5.07E-10	Yes	0.335354	medium-large
Ceramic tile	3	Cushion cover	1	-5	Crystal Tabs	1 to 1	Yes	-1.974375597	Ceramic tile	2	1	72.95721	5.07E-10	Yes	0.335294	medium-large
Ceramic tile	3	T-shirt	2	-5	Crystal Tabs	Zonal	Yes	-1.970155677	Ceramic tile	1	1	72.64567	5.07E-10	Yes	0.334658	medium-large
Jeans	1	Plywood	3	35	J-LAR	1 to 1	Yes	1.969225406	Plywood	2	1	72.57708	5.07E-10	Yes	0.334518	medium-large
Ceramic tile	3	Cushion cover	1	-5	J-LAR	1 to 1	Yes	-1.943607173	Ceramic tile	2	1	70.70101	5.09E-10	Yes	0.330644	medium-large
Jeans	1	Plywood	3	-5	J-LAR	Zonal	Yes	1.933724911	Plywood	2	1	69.98388	5.10E-10	Yes	0.329146	medium-large
Ceramic tile	3	Cushion cover	1	19	Crystal Tabs	1 to 1	Yes	-1.932318463	Ceramic tile	2	1	69.88212	5.10E-10	Yes	0.328932	medium-large
Plywood	3	Short carpet	1	19	Crystal Tabs	Zonal	Yes	-1.925979978	Plywood	2	1	69.42441	5.12E-10	Yes	0.327969	medium-large
Ceramic tile	3	Jumper	1	35	J-LAR	1 to 1	Yes	-1.89346845	Ceramic tile	2	1	67.10035	5.23E-10	Yes	0.323015	medium-large
Ceramic tile	3	Long carpet	1	-5	J-LAR	Zonal	Yes	-1.892945692	Ceramic tile	2	1	67.06331	5.23E-10	Yes	0.322935	medium-large
Glossed MDF	3	Seatbelt	2	-5	Crystal Tabs	Zonal	Yes	-1.889850602	Glossed MDF	1	1	66.84418	5.25E-10	Yes	0.322462	medium-large

Glossed MDF	3	Jeans	1	35	J-LAR	1 to 1	Yes	-1.8852192	Glossed MDF	2	1	66.51695	5.28E-10	Yes	0.321754	medium-large
Cushion cover	1	Glossed MDF	3	19	J-LAR	1 to 1	Yes	1.872146015	Glossed MDF	2	1	65.59762	5.40E-10	Yes	0.319752	medium-large
Ceramic tile	3	Jeans	1	19	J-LAR	1 to 1	Yes	-1.871631667	Ceramic tile	2	1	65.56158	5.40E-10	Yes	0.319673	medium-large
Glossed MDF	3	Seatbelt	2	35	Crystal Tabs	Zonal	Yes	-1.869865435	Glossed MDF	1	1	65.4379	5.42E-10	Yes	0.319402	medium-large
Ceramic tile	3	Short carpet	1	-5	J-LAR	Zonal	Yes	-1.864015397	Ceramic tile	2	1	65.02908	5.50E-10	Yes	0.318504	medium-large
Glossed MDF	3	Long carpet	1	-5	J-LAR	Zonal	Yes	-1.860542385	Glossed MDF	2	1	64.78699	5.55E-10	Yes	0.317971	medium-large
Glossed MDF	3	Tracksuit trousers	2	35	Crystal Tabs	Zonal	Yes	-1.847595725	Glossed MDF	1	1	63.88848	5.80E-10	Yes	0.31598	medium-large
Glossed MDF	3	Long carpet	1	19	J-LAR	1 to 1	Yes	-1.83861455	Glossed MDF	2	1	63.26886	6.04E-10	Yes	0.314596	medium-large
Brick	2	Cushion cover	1	-5	Crystal Tabs	Zonal	Yes	-1.838093262	Brick	1	1	63.23299	6.06E-10	Yes	0.314516	medium-large
Glossed MDF	3	Jeans	1	35	Crystal Tabs	1 to 1	Yes	-1.835543308	Glossed MDF	2	1	63.05767	6.14E-10	Yes	0.314122	medium-large
Glossed MDF	3	Long carpet	1	-5	Crystal Tabs	Zonal	Yes	-1.833593908	Glossed MDF	2	1	62.9238	6.21E-10	Yes	0.313822	medium-large
Glossed MDF	3	Short carpet	1	-5	J-LAR	Zonal	Yes	-1.83161209	Glossed MDF	2	1	62.78786	6.28E-10	Yes	0.313516	medium-large
Glossed MDF	3	Jumper	1	-5	J-LAR	1 to 1	Yes	-1.829455897	Glossed MDF	2	1	62.64011	6.37E-10	Yes	0.313183	medium-large
Brick	2	Glossed MDF	3	19	Crystal Tabs	Zonal	Yes	1.82553461	Glossed MDF	1	1	62.37187	6.54E-10	Yes	0.312577	medium-large
Glossed MDF	3	Jeans	1	-5	Crystal Tabs	Zonal	Yes	-1.823474321	Glossed MDF	2	1	62.23117	6.64E-10	Yes	0.312259	medium-large
Ceramic tile	3	Long carpet	1	35	J-LAR	Zonal	Yes	-1.822328828	Ceramic tile	2	1	62.15301	6.70E-10	Yes	0.312082	medium-large
Jumper	1	Plywood	3	-5	J-LAR	1 to 1	Yes	1.821639338	Plywood	2	1	62.10598	6.73E-10	Yes	0.311975	medium-large
Jumper	1	Plywood	3	35	J-LAR	Zonal	Yes	1.817227332	Plywood	2	1	61.80551	6.98E-10	Yes	0.311293	medium-large
Glossed MDF	3	T-shirt	2	-5	Crystal Tabs	Zonal	Yes	-1.81096283	Glossed MDF	1	1	61.38012	7.39E-10	Yes	0.310323	medium-large
Cushion cover	1	Plywood	3	19	Crystal Tabs	1 to 1	Yes	1.802925597	Plywood	2	1	60.83651	8.06E-10	Yes	0.309078	medium-large
Glossed MDF	3	Short carpet	1	35	Crystal Tabs	Zonal	Yes	-1.799782524	Glossed MDF	2	1	60.62458	8.37E-10	Yes	0.308591	medium-large
Jeans	1	Plywood	3	19	J-LAR	1 to 1	Yes	1.79942228	Plywood	2	1	60.60031	8.40E-10	Yes	0.308535	medium-large
Glossed MDF	3	Seatbelt	2	-5	Crystal Tabs	1 to 1	Yes	-1.791566601	Glossed MDF	1	1	60.07234	9.32E-10	Yes	0.307315	medium-large
Brick	2	Plywood	3	-5	J-LAR	Zonal	Yes	1.789539629	Plywood	1	1	59.93649	9.60E-10	Yes	0.307	medium-large
Glossed MDF	3	Tracksuit trousers	2	19	Crystal Tabs	Zonal	Yes	-1.789226421	Glossed MDF	1	1	59.91551	9.64E-10	Yes	0.306952	medium-large
Cushion cover	1	Seatbelt	2	19	Crystal Tabs	1 to 1	Yes	1.786326232	Seatbelt	1	1	59.72143	1.01E-09	Yes	0.306501	medium-large
Glossed MDF	3	Seatbelt	2	35	J-LAR	Zonal	Yes	-1.785942602	Glossed MDF	1	1	59.69578	1.01E-09	Yes	0.306441	medium-large
Plywood	3	T-shirt	2	19	Crystal Tabs	Zonal	Yes	-1.783160113	Plywood	1	1	59.50991	1.06E-09	Yes	0.306009	medium-large
Long carpet	1	T-shirt	2	35	Crystal Tabs	1 to 1	Yes	1.776960965	T-shirt	1	1	59.09686	1.17E-09	Yes	0.305044	medium-large
Jumper	1	T-shirt	2	35	Crystal Tabs	1 to 1	Yes	1.769013936	T-shirt	1	1	58.56945	1.36E-09	Yes	0.303806	medium-large

Ceramic tile	3	Seatbelt	2	19	Crystal Tabs	Zonal	Yes	-1.768206589	Ceramic tile	1	1	58.516	1.38E-09	Yes	0.30368	medium-large
Glossed MDF	3	Tracksuit trousers	2	35	J-LAR	Zonal	Yes	-1.764535501	Glossed MDF	1	1	58.27328	1.48E-09	Yes	0.303107	medium-large
Ceramic tile	3	Cushion cover	1	35	J-LAR	Zonal	Yes	-1.736386065	Ceramic tile	2	1	56.42885	2.80E-09	Yes	0.298707	small-medium
Glossed MDF	3	T-shirt	2	19	Crystal Tabs	1 to 1	Yes	-1.726796327	Glossed MDF	1	1	55.80728	3.56E-09	Yes	0.297203	small-medium
Jeans	1	Plywood	3	35	Crystal Tabs	1 to 1	Yes	1.724766285	Plywood	2	1	55.67614	3.75E-09	Yes	0.296884	small-medium
Glossed MDF	3	Jeans	1	35	Crystal Tabs	Zonal	Yes	-1.707403408	Glossed MDF	2	1	54.56083	5.95E-09	Yes	0.294156	small-medium
Plywood	3	T-shirt	2	35	Crystal Tabs	Zonal	Yes	-1.703767186	Plywood	1	1	54.32868	6.57E-09	Yes	0.293583	small-medium
Brick	2	Long carpet	1	-5	Crystal Tabs	1 to 1	Yes	-1.700999919	Brick	1	1	54.15234	7.09E-09	Yes	0.293147	small-medium
Jumper	1	Plywood	3	35	J-LAR	1 to 1	Yes	1.700738189	Plywood	2	1	54.13568	7.14E-09	Yes	0.293106	small-medium
Cushion cover	1	Plywood	3	19	J-LAR	Zonal	Yes	1.69596071	Plywood	2	1	53.83196	8.15E-09	Yes	0.292353	small-medium
Glossed MDF	3	Jeans	1	-5	Crystal Tabs	1 to 1	Yes	-1.691395513	Glossed MDF	2	1	53.54254	9.25E-09	Yes	0.291633	small-medium
Brick	2	Jumper	1	-5	Crystal Tabs	Zonal	Yes	-1.690903106	Brick	1	1	53.51137	9.37E-09	Yes	0.291556	small-medium
Jeans	1	Plywood	3	35	J-LAR	Zonal	Yes	1.68096546	Plywood	2	1	52.88424	1.24E-08	Yes	0.289986	small-medium
Glossed MDF	3	T-shirt	2	-5	Crystal Tabs	1 to 1	Yes	-1.680179488	Glossed MDF	1	1	52.83479	1.27E-08	Yes	0.289862	small-medium
Brick	2	Glossed MDF	3	35	J-LAR	Zonal	Yes	1.677966874	Glossed MDF	1	1	52.69573	1.35E-08	Yes	0.289513	small-medium
Plywood	3	Seatbelt	2	-5	J-LAR	Zonal	Yes	-1.677872896	Plywood	1	1	52.68983	1.35E-08	Yes	0.289498	small-medium
Glossed MDF	3	Short carpet	1	-5	J-LAR	1 to 1	Yes	-1.662806864	Glossed MDF	2	1	51.74784	2.07E-08	Yes	0.287113	small-medium
Jumper	1	T-shirt	2	-5	J-LAR	Zonal	Yes	1.660686395	T-shirt	1	1	51.61595	2.19E-08	Yes	0.286777	small-medium
Brick	2	Cushion cover	1	19	J-LAR	Zonal	Yes	-1.65662217	Brick	1	1	51.36362	2.46E-08	Yes	0.286133	small-medium
Plywood	3	Short carpet	1	-5	J-LAR	1 to 1	Yes	-1.654990305	Plywood	2	1	51.26247	2.58E-08	Yes	0.285874	small-medium
Plywood	3	Tracksuit trousers	2	-5	Crystal Tabs	Zonal	Yes	-1.654839751	Plywood	1	1	51.25315	2.59E-08	Yes	0.28585	small-medium
Jeans	1	Plywood	3	19	J-LAR	Zonal	Yes	1.654385126	Plywood	2	1	51.22499	2.62E-08	Yes	0.285778	small-medium
Glossed MDF	3	T-shirt	2	19	J-LAR	Zonal	Yes	-1.653456475	Glossed MDF	1	1	51.1675	2.69E-08	Yes	0.285631	small-medium
Glossed MDF	3	Short carpet	1	19	J-LAR	1 to 1	Yes	-1.641401848	Glossed MDF	2	1	50.42414	3.79E-08	Yes	0.283717	small-medium
Ceramic tile	3	Jeans	1	-5	J-LAR	Zonal	Yes	-1.634326199	Ceramic tile	2	1	49.99034	4.63E-08	Yes	0.282592	small-medium
Brick	2	Cushion cover	1	19	Crystal Tabs	1 to 1	Yes	-1.634247442	Brick	1	1	49.98553	4.64E-08	Yes	0.282579	small-medium
Ceramic tile	3	T-shirt	2	19	J-LAR	Zonal	Yes	-1.631572763	Ceramic tile	1	1	49.82204	5.01E-08	Yes	0.282153	small-medium
Ceramic tile	3	Short carpet	1	35	Crystal Tabs	1 to 1	Yes	-1.625396879	Ceramic tile	2	1	49.44558	5.96E-08	Yes	0.28117	small-medium
Ceramic tile	3	T-shirt	2	19	Crystal Tabs	1 to 1	Yes	-1.62531032	Ceramic tile	1	1	49.44032	5.98E-08	Yes	0.281156	small-medium
Glossed MDF	3	Seatbelt	2	35	Crystal Tabs	1 to 1	Yes	-1.620562025	Glossed MDF	1	1	49.15186	6.83E-08	Yes	0.280399	small-medium

Glossed MDF	3	Jumper	1	35	J-LAR	1 to 1	Yes	-1.616731983	Glossed MDF	2	1	48.9198	7.61E-08	Yes	0.279789	small-medium
Brick	2	Jeans	1	19	J-LAR	Zonal	Yes	-1.615046586	Brick	1	1	48.81786	7.98E-08	Yes	0.27952	small-medium
Ceramic tile	3	T-shirt	2	35	Crystal Tabs	Zonal	Yes	-1.613013007	Ceramic tile	1	1	48.695	8.45E-08	Yes	0.279195	small-medium
Cushion cover	1	T-shirt	2	-5	J-LAR	Zonal	Yes	1.612950196	T-shirt	1	1	48.69121	8.47E-08	Yes	0.279185	small-medium
Ceramic tile	3	Jumper	1	-5	J-LAR	1 to 1	Yes	-1.611435996	Ceramic tile	2	1	48.59983	8.83E-08	Yes	0.278944	small-medium
Glossed MDF	3	Jeans	1	-5	J-LAR	Zonal	Yes	-1.601922892	Glossed MDF	2	1	48.02771	1.15E-07	Yes	0.277424	small-medium
Glossed MDF	3	Jumper	1	19	J-LAR	Zonal	Yes	-1.583879718	Glossed MDF	2	1	46.95189	1.91E-07	Yes	0.274536	small-medium
Glossed MDF	3	Tracksuit trousers	2	19	Crystal Tabs	1 to 1	Yes	-1.581505116	Glossed MDF	1	1	46.81121	2.04E-07	Yes	0.274155	small-medium
Plywood	3	Seatbelt	2	-5	Crystal Tabs	1 to 1	Yes	-1.578142277	Plywood	1	1	46.61235	2.24E-07	Yes	0.273616	small-medium
Glossed MDF	3	T-shirt	2	35	J-LAR	Zonal	Yes	-1.577250266	Glossed MDF	1	1	46.55967	2.29E-07	Yes	0.273473	small-medium
Ceramic tile	3	Seatbelt	2	-5	Crystal Tabs	1 to 1	Yes	-1.576976093	Ceramic tile	1	1	46.54348	2.31E-07	Yes	0.273429	small-medium
Plywood	3	Seatbelt	2	35	Crystal Tabs	Zonal	Yes	-1.574825896	Plywood	1	1	46.41664	2.45E-07	Yes	0.273084	small-medium
Ceramic tile	3	Tracksuit trousers	2	35	J-LAR	1 to 1	Yes	-1.568450286	Ceramic tile	1	1	46.04157	2.93E-07	Yes	0.27206	small-medium
Brick	2	Ceramic tile	3	19	Crystal Tabs	Zonal	Yes	1.565387315	Ceramic tile	1	1	45.86192	3.18E-07	Yes	0.271568	small-medium
Glossed MDF	3	Jumper	1	19	J-LAR	1 to 1	Yes	-1.564980083	Glossed MDF	2	1	45.83807	3.22E-07	Yes	0.271503	small-medium
Ceramic tile	3	Tracksuit trousers	2	-5	Crystal Tabs	Zonal	Yes	-1.563018409	Ceramic tile	1	1	45.72322	3.40E-07	Yes	0.271188	small-medium
Ceramic tile	3	Jumper	1	19	J-LAR	Zonal	Yes	-1.561996006	Ceramic tile	2	1	45.66343	3.49E-07	Yes	0.271023	small-medium
Brick	2	Glossed MDF	3	-5	J-LAR	1 to 1	Yes	1.55950684	Glossed MDF	1	1	45.518	3.74E-07	Yes	0.270623	small-medium
Plywood	3	Tracksuit trousers	2	35	Crystal Tabs	Zonal	Yes	-1.552556186	Plywood	1	1	45.11317	4.53E-07	Yes	0.269505	small-medium
Glossed MDF	3	Tracksuit trousers	2	19	J-LAR	1 to 1	Yes	-1.55231856	Glossed MDF	1	1	45.09936	4.56E-07	Yes	0.269466	small-medium
Brick	2	Plywood	3	-5	J-LAR	1 to 1	Yes	1.551690281	Plywood	1	1	45.06286	4.63E-07	Yes	0.269365	small-medium
Brick	2	Glossed MDF	3	35	Crystal Tabs	Zonal	Yes	1.54713303	Glossed MDF	1	1	44.79855	5.25E-07	Yes	0.268631	small-medium
Plywood	3	Tracksuit trousers	2	-5	J-LAR	Zonal	Yes	-1.545038066	Plywood	1	1	44.67731	5.56E-07	Yes	0.268294	small-medium
Plywood	3	Short carpet	1	-5	Crystal Tabs	Zonal	Yes	-1.530834037	Plywood	2	1	43.85962	8.17E-07	Yes	0.266003	small-medium
Ceramic tile	3	Tracksuit trousers	2	19	Crystal Tabs	Zonal	Yes	-1.529079127	Ceramic tile	1	1	43.75912	8.57E-07	Yes	0.265719	small-medium
Plywood	3	Seatbelt	2	35	Crystal Tabs	1 to 1	Yes	-1.509785002	Plywood	1	1	42.66177	1.44E-06	Yes	0.262599	small-medium
Cushion cover	1	T-shirt	2	35	Crystal Tabs	1 to 1	Yes	1.508853767	T-shirt	1	1	42.60916	1.47E-06	Yes	0.262448	small-medium
Plywood	3	Short carpet	1	35	Crystal Tabs	Zonal	Yes	-1.504742985	Plywood	2	1	42.3773	1.64E-06	Yes	0.261782	small-medium
Glossed MDF	3	Tracksuit trousers	2	35	Crystal Tabs	1 to 1	Yes	-1.498559548	Glossed MDF	1	1	42.02974	1.94E-06	Yes	0.26078	small-medium
Plywood	3	T-shirt	2	19	Crystal Tabs	1 to 1	Yes	-1.495917454	Plywood	1	1	41.88166	2.08E-06	Yes	0.260351	small-medium

Brick	2	Ceramic tile	3	-5	J-LAR	Zonal	Yes	1.490140917	Ceramic tile	1	1	41.55883	2.42E-06	Yes	0.259413	small-medium
Ceramic tile	3	Seatbelt	2	35	Crystal Tabs	Zonal	Yes	-1.484071717	Ceramic tile	1	1	41.22099	2.84E-06	Yes	0.258428	small-medium
Glossed MDF	3	Tracksuit trousers	2	19	J-LAR	Zonal	Yes	-1.481334096	Glossed MDF	1	1	41.06905	3.05E-06	Yes	0.257983	small-medium
Cushion cover	1	Seatbelt	2	19	J-LAR	1 to 1	Yes	1.480338595	Seatbelt	1	1	41.01387	3.13E-06	Yes	0.257821	small-medium
Ceramic tile	3	Tracksuit trousers	2	19	Crystal Tabs	1 to 1	Yes	-1.480019109	Ceramic tile	1	1	40.99617	3.16E-06	Yes	0.257769	small-medium
Seatbelt	2	T-shirt	2	19	Crystal Tabs	1 to 1	Yes	-1.479318089	Seatbelt	0	1	40.95734	3.22E-06	Yes	0.257655	small-medium
Jeans	1	Plywood	3	-5	Crystal Tabs	1 to 1	Yes	1.477971189	Plywood	2	1	40.8828	3.33E-06	Yes	0.257436	small-medium
Ceramic tile	3	Jeans	1	-5	Crystal Tabs	1 to 1	Yes	-1.476805005	Ceramic tile	2	1	40.8183	3.44E-06	Yes	0.257246	small-medium
Glossed MDF	3	Tracksuit trousers	2	-5	Crystal Tabs	1 to 1	Yes	-1.475996044	Glossed MDF	1	1	40.7736	3.51E-06	Yes	0.257115	small-medium
Ceramic tile	3	T-shirt	2	19	J-LAR	1 to 1	Yes	-1.475212848	Ceramic tile	1	1	40.73034	3.58E-06	Yes	0.256987	small-medium
Plywood	3	Seatbelt	2	19	Crystal Tabs	Zonal	Yes	-1.475187695	Plywood	1	1	40.72895	3.59E-06	Yes	0.256983	small-medium
Ceramic tile	3	T-shirt	2	35	J-LAR	1 to 1	Yes	-1.475003871	Ceramic tile	1	1	40.7188	3.60E-06	Yes	0.256953	small-medium
Glossed MDF	3	Long carpet	1	19	J-LAR	Zonal	Yes	-1.468779578	Glossed MDF	2	1	40.37587	4.24E-06	Yes	0.25594	small-medium
Plywood	3	T-shirt	2	-5	Crystal Tabs	1 to 1	Yes	-1.466755164	Plywood	1	1	40.26465	4.47E-06	Yes	0.25561	small-medium
Brick	2	Glossed MDF	3	35	Crystal Tabs	1 to 1	Yes	1.466518908	Glossed MDF	1	1	40.25168	4.50E-06	Yes	0.255572	small-medium
Ceramic tile	3	T-shirt	2	-5	Crystal Tabs	1 to 1	Yes	-1.46558898	Ceramic tile	1	1	40.20065	4.61E-06	Yes	0.25542	small-medium
Ceramic tile	3	Tracksuit trousers	2	35	Crystal Tabs	Zonal	Yes	-1.461802007	Ceramic tile	1	1	39.99316	5.08E-06	Yes	0.254803	small-medium
Ceramic tile	3	Tracksuit trousers	2	19	J-LAR	Zonal	Yes	-1.459450385	Ceramic tile	1	1	39.86459	5.40E-06	Yes	0.25442	small-medium
Brick	2	Glossed MDF	3	-5	J-LAR	Zonal	Yes	1.45773761	Glossed MDF	1	1	39.77108	5.64E-06	Yes	0.254141	small-medium
Glossed MDF	3	Short carpet	1	19	J-LAR	Zonal	Yes	-1.448506503	Glossed MDF	2	1	39.26897	7.16E-06	Yes	0.252634	small-medium
Ceramic tile	3	Long carpet	1	19	J-LAR	Zonal	Yes	-1.446895867	Ceramic tile	2	1	39.18169	7.46E-06	Yes	0.252371	small-medium
Long carpet	1	Seatbelt	2	19	J-LAR	1 to 1	Yes	1.446807129	Seatbelt	1	1	39.17689	7.48E-06	Yes	0.252357	small-medium
Ceramic tile	3	Short carpet	1	-5	J-LAR	1 to 1	Yes	-1.444786963	Ceramic tile	2	1	39.06756	7.88E-06	Yes	0.252027	small-medium
Brick	2	Ceramic tile	3	19	J-LAR	1 to 1	Yes	1.444531602	Ceramic tile	1	1	39.05375	7.93E-06	Yes	0.251985	small-medium
Ceramic tile	3	Seatbelt	2	35	J-LAR	1 to 1	Yes	-1.442535949	Ceramic tile	1	1	38.94592	8.35E-06	Yes	0.251659	small-medium
Ceramic tile	3	Jumper	1	35	J-LAR	Zonal	Yes	-1.442492376	Ceramic tile	2	1	38.94356	8.36E-06	Yes	0.251652	small-medium
Brick	2	Jumper	1	-5	Crystal Tabs	1 to 1	Yes	-1.442467451	Brick	1	1	38.94222	8.36E-06	Yes	0.251648	small-medium
Ceramic tile	3	Short carpet	1	-5	Crystal Tabs	Zonal	Yes	-1.439012696	Ceramic tile	2	1	38.75591	9.13E-06	Yes	0.251083	small-medium
Brick	2	Ceramic tile	3	35	J-LAR	1 to 1	Yes	1.433827052	Ceramic tile	1	1	38.47709	1.04E-05	Yes	0.250235	small-medium
Ceramic tile	3	Short carpet	1	19	J-LAR	Zonal	Yes	-1.426622791	Ceramic tile	2	1	38.0914	1.25E-05	Yes	0.249056	small-medium

Glossed MDF	3	T-shirt	2	-5	J-LAR	1 to 1	Yes	-1.417495351	Glossed MDF	1	1	37.60555	1.58E-05	Yes	0.24756	small-medium
Ceramic tile	3	Short carpet	1	35	Crystal Tabs	Zonal	Yes	-1.413988806	Ceramic tile	2	1	37.41972	1.72E-05	Yes	0.246985	small-medium
Jeans	1	Plywood	3	35	Crystal Tabs	Zonal	Yes	1.412363868	Plywood	2	1	37.33377	1.79E-05	Yes	0.246719	small-medium
Plywood	3	T-shirt	2	-5	J-LAR	1 to 1	Yes	-1.409678792	Plywood	1	1	37.19195	1.92E-05	Yes	0.246278	small-medium
Glossed MDF	3	Tracksuit trousers	2	-5	Crystal Tabs	Zonal	Yes	-1.403825562	Glossed MDF	1	1	36.88374	2.22E-05	Yes	0.245317	small-medium
Plywood	3	T-shirt	2	19	J-LAR	1 to 1	Yes	-1.403003461	Plywood	1	1	36.84055	2.27E-05	Yes	0.245182	small-medium
Plywood	3	Seatbelt	2	35	J-LAR	Zonal	Yes	-1.397795736	Plywood	1	1	36.56757	2.58E-05	Yes	0.244327	small-medium
Glossed MDF	3	Seatbelt	2	-5	J-LAR	1 to 1	Yes	-1.394280693	Glossed MDF	1	1	36.38389	2.81E-05	Yes	0.243749	small-medium
Cushion cover	1	Seatbelt	2	19	J-LAR	Zonal	Yes	1.39059133	Seatbelt	1	1	36.19159	3.08E-05	Yes	0.243142	small-medium
Plywood	3	Tracksuit trousers	2	35	Crystal Tabs	1 to 1	Yes	-1.387782525	Plywood	1	1	36.04554	3.30E-05	Yes	0.24268	small-medium
Plywood	3	Seatbelt	2	-5	J-LAR	1 to 1	Yes	-1.386464134	Plywood	1	1	35.97708	3.41E-05	Yes	0.242463	small-medium
Ceramic tile	3	Seatbelt	2	-5	J-LAR	Zonal	Yes	-1.378474183	Ceramic tile	1	1	35.56362	4.15E-05	Yes	0.241147	small-medium
Brick	2	Long carpet	1	35	Crystal Tabs	1 to 1	Yes	-1.377204774	Brick	1	1	35.49815	4.28E-05	Yes	0.240938	small-medium
Plywood	3	Tracksuit trousers	2	35	J-LAR	Zonal	Yes	-1.376388635	Plywood	1	1	35.45609	4.37E-05	Yes	0.240803	small-medium
Plywood	3	Tracksuit trousers	2	35	J-LAR	1 to 1	Yes	-1.375720026	Plywood	1	1	35.42165	4.44E-05	Yes	0.240693	small-medium
Brick	2	Plywood	3	19	J-LAR	1 to 1	Yes	1.372322215	Plywood	1	1	35.24689	4.82E-05	Yes	0.240133	small-medium
Brick	2	Jumper	1	35	Crystal Tabs	1 to 1	Yes	-1.369257745	Brick	1	1	35.08965	5.20E-05	Yes	0.239628	small-medium
Brick	2	Plywood	3	35	Crystal Tabs	1 to 1	Yes	1.355741885	Plywood	1	1	34.40034	7.21E-05	Yes	0.237396	small-medium
Ceramic tile	3	Jeans	1	35	Crystal Tabs	1 to 1	Yes	-1.353420968	Ceramic tile	2	1	34.28266	7.62E-05	Yes	0.237013	small-medium
Plywood	3	Tracksuit trousers	2	19	Crystal Tabs	1 to 1	Yes	-1.350626243	Plywood	1	1	34.14122	8.15E-05	Yes	0.236551	small-medium
Jeans	1	Seatbelt	2	19	J-LAR	Zonal	Yes	1.349015746	Seatbelt	1	1	34.05985	8.47E-05	Yes	0.236284	small-medium
Glossed MDF	3	Seatbelt	2	-5	J-LAR	Zonal	Yes	-1.346070877	Glossed MDF	1	1	33.91131	9.09E-05	Yes	0.235797	small-medium
Long carpet	1	Tracksuit trousers	2	35	Crystal Tabs	1 to 1	Yes	1.345164133	Tracksuit trousers	1	1	33.86563	9.29E-05	Yes	0.235647	small-medium
Brick	2	Ceramic tile	3	-5	J-LAR	1 to 1	Yes	1.341486938	Ceramic tile	1	1	33.68073	0.000101	Yes	0.235039	small-medium
Jumper	1	Tracksuit trousers	2	35	Crystal Tabs	1 to 1	Yes	1.337217105	Tracksuit trousers	1	1	33.46667	0.000112	Yes	0.234332	small-medium
Seatbelt	2	Tracksuit trousers	2	19	Crystal Tabs	1 to 1	Yes	-1.334026878	Seatbelt	0	1	33.30718	0.000121	Yes	0.233803	small-medium
Brick	2	T-shirt	2	19	Crystal Tabs	1 to 1	Yes	-1.327239299	Brick	0	1	32.9691	0.000142	Yes	0.232678	small-medium
Glossed MDF	3	Jeans	1	19	J-LAR	1 to 1	Yes	-1.325236522	Glossed MDF	2	1	32.86968	0.000149	Yes	0.232346	small-medium
Ceramic tile	3	Jeans	1	35	Crystal Tabs	Zonal	Yes	-1.32160969	Ceramic tile	2	1	32.69001	0.000162	Yes	0.231745	small-medium
Ceramic tile	3	Jeans	1	35	J-LAR	Zonal	Yes	-1.306230504	Ceramic tile	2	1	31.93363	0.000232	Yes	0.22919	small-medium

Jeans	1	Tracksuit trousers	2	19	Crystal Tabs	1 to 1	Yes	1.30140559	Tracksuit trousers	1	1	31.69815	0.000259	Yes	0.228388	small-medium
Glossed MDF	3	Tracksuit trousers	2	35	J-LAR	1 to 1	Yes	-1.29171382	Glossed MDF	1	1	31.22779	0.000323	Yes	0.226775	small-medium
Brick	2	Plywood	3	35	J-LAR	Zonal	Yes	1.289820008	Plywood	1	1	31.13629	0.000338	Yes	0.226459	small-medium
Plywood	3	T-shirt	2	35	J-LAR	1 to 1	Yes	-1.282273611	Plywood	1	1	30.77302	0.000401	Yes	0.225202	small-medium
Glossed MDF	3	Short carpet	1	-5	Crystal Tabs	Zonal	Yes	-1.279819849	Glossed MDF	2	1	30.65535	0.000424	Yes	0.224793	small-medium
Brick	2	Plywood	3	19	Crystal Tabs	Zonal	Yes	1.272368422	Plywood	1	1	30.29943	0.000501	Yes	0.223549	small-medium
Brick	2	Jumper	1	35	Crystal Tabs	Zonal	Yes	-1.270907839	Brick	1	1	30.2299	0.000518	Yes	0.223306	small-medium
Plywood	3	Tracksuit trousers	2	-5	Crystal Tabs	1 to 1	Yes	-1.262571719	Plywood	1	1	29.83464	0.000623	Yes	0.221913	small-medium
Ceramic tile	3	Tracksuit trousers	2	-5	Crystal Tabs	1 to 1	Yes	-1.261405535	Ceramic tile	1	1	29.77955	0.00064	Yes	0.221718	small-medium
Brick	2	Seatbelt	2	-5	Crystal Tabs	Zonal	Yes	-1.252700864	Brick	0	1	29.36996	0.000775	Yes	0.220263	small-medium
Brick	2	Plywood	3	35	Crystal Tabs	Zonal	Yes	1.25209349	Plywood	1	1	29.34149	0.000786	Yes	0.220161	small-medium
Plywood	3	Seatbelt	2	35	J-LAR	1 to 1	Yes	-1.249805688	Plywood	1	1	29.23436	0.000826	Yes	0.219778	small-medium
Seatbelt	2	Short carpet	1	19	J-LAR	1 to 1	Yes	-1.249594427	Seatbelt	1	1	29.22448	0.00083	Yes	0.219743	small-medium
Ceramic tile	3	Tracksuit trousers	2	-5	J-LAR	Zonal	Yes	-1.245639354	Ceramic tile	1	1	29.03978	0.000905	Yes	0.219081	small-medium
Brick	2	Long carpet	1	35	Crystal Tabs	Zonal	Yes	-1.24342276	Brick	1	1	28.93652	0.00095	Yes	0.21871	small-medium
Brick	2	Plywood	3	35	J-LAR	1 to 1	Yes	1.241096791	Plywood	1	1	28.82836	0.001	Yes	0.21832	small-medium
Plywood	3	Tracksuit trousers	2	19	Crystal Tabs	Zonal	Yes	-1.236060234	Plywood	1	1	28.59486	0.001115	Yes	0.217476	small-medium
Long carpet	1	Seatbelt	2	35	Crystal Tabs	1 to 1	Yes	1.223161657	Seatbelt	1	1	28.00118	0.001472	Yes	0.215313	small-medium
Plywood	3	T-shirt	2	19	J-LAR	Zonal	Yes	-1.220931925	Plywood	1	1	27.89919	0.001543	Yes	0.214938	small-medium
Brick	2	Short carpet	1	-5	Crystal Tabs	1 to 1	Yes	-1.219926428	Brick	1	1	27.85325	0.001577	Yes	0.214769	small-medium
Jumper	1	Seatbelt	2	35	Crystal Tabs	1 to 1	Yes	1.215214628	Seatbelt	1	1	27.63851	0.001743	Yes	0.213978	small-medium
Brick	2	Cushion cover	1	-5	Crystal Tabs	1 to 1	Yes	-1.213434725	Brick	1	1	27.55761	0.001809	Yes	0.213679	small-medium
Glossed MDF	3	Tracksuit trousers	2	-5	J-LAR	Zonal	Yes	-1.213236047	Glossed MDF	1	1	27.54858	0.001817	Yes	0.213645	small-medium
Short carpet	1	T-shirt	2	35	J-LAR	Zonal	Yes	1.203023863	T-shirt	1	1	27.08676	0.002252	Yes	0.211928	small-medium
Long carpet	1	Tracksuit trousers	2	-5	Crystal Tabs	1 to 1	Yes	1.200535255	Tracksuit trousers	1	1	26.97482	0.002372	Yes	0.211509	small-medium
Ceramic tile	3	T-shirt	2	-5	J-LAR	1 to 1	Yes	-1.199475449	Ceramic tile	1	1	26.92721	0.002425	Yes	0.211331	small-medium
Glossed MDF	3	T-shirt	2	35	J-LAR	1 to 1	Yes	-1.198267405	Glossed MDF	1	1	26.873	0.002487	Yes	0.211128	small-medium
Brick	2	Long carpet	1	-5	Crystal Tabs	Zonal	Yes	-1.19644417	Brick	1	1	26.79128	0.002583	Yes	0.210821	small-medium
Cushion cover	1	Short carpet	1	-5	Crystal Tabs	Zonal	Yes	1.195423151	Short carpet	0	1	26.74558	0.002638	Yes	0.210649	small-medium
Plywood	3	T-shirt	2	35	J-LAR	Zonal	Yes	-1.1891034	Plywood	1	1	26.46354	0.003006	Yes	0.209584	small-medium

Brick	2	Cushion cover	1	35	J-LAR	1 to 1	Yes	-1.187707462	Brick	1	1	26.40144	0.003093	Yes	0.209349	small-medium
Brick	2	Jeans	1	-5	Crystal Tabs	Zonal	Yes	-1.186324583	Brick	1	1	26.34	0.003182	Yes	0.209116	small-medium
Long carpet	1	Tracksuit trousers	2	-5	J-LAR	1 to 1	Yes	1.182593555	Tracksuit trousers	1	1	26.17458	0.003435	Yes	0.208487	small-medium
Brick	2	Tracksuit trousers	2	19	Crystal Tabs	1 to 1	Yes	-1.181948088	Brick	0	1	26.14601	0.00348	Yes	0.208378	small-medium
Brick	2	T-shirt	2	19	J-LAR	Zonal	Yes	-1.181593384	Brick	0	1	26.13032	0.003505	Yes	0.208318	small-medium
Cushion cover	1	Seatbelt	2	35	J-LAR	1 to 1	Yes	1.178998565	Seatbelt	1	1	26.01568	0.003696	Yes	0.20788	small-medium
Brick	2	Long carpet	1	35	J-LAR	1 to 1	Yes	-1.178161029	Brick	1	1	25.97873	0.003759	Yes	0.207739	small-medium
Ceramic tile	3	Seatbelt	2	-5	J-LAR	1 to 1	Yes	-1.176260792	Ceramic tile	1	1	25.895	0.003907	Yes	0.207419	small-medium
Long carpet	1	T-shirt	2	-5	J-LAR	Zonal	Yes	1.175469812	T-shirt	1	1	25.86018	0.00397	Yes	0.207285	small-medium
Brick	2	T-shirt	2	-5	Crystal Tabs	Zonal	Yes	-1.173813092	Brick	0	1	25.78734	0.004105	Yes	0.207005	small-medium
Jumper	1	Seatbelt	2	19	J-LAR	1 to 1	Yes	1.173172662	Seatbelt	1	1	25.75921	0.004159	Yes	0.206897	small-medium
Long carpet	1	Seatbelt	2	35	J-LAR	1 to 1	Yes	1.169452132	Seatbelt	1	1	25.59609	0.004482	Yes	0.206269	small-medium
Glossed MDF	3	Seatbelt	2	35	J-LAR	1 to 1	Yes	-1.165799482	Glossed MDF	1	1	25.43644	0.004823	Yes	0.205652	small-medium
Glossed MDF	3	Tracksuit trousers	2	-5	J-LAR	1 to 1	Yes	-1.164694688	Glossed MDF	1	1	25.38825	0.00493	Yes	0.205466	small-medium
Brick	2	Ceramic tile	3	35	Crystal Tabs	Zonal	Yes	1.161339311	Ceramic tile	1	1	25.24218	0.005271	Yes	0.204898	small-medium
Seatbelt	2	Tracksuit trousers	2	19	J-LAR	1 to 1	Yes	-1.160511139	Seatbelt	0	1	25.20619	0.005359	Yes	0.204758	small-medium
Brick	2	Glossed MDF	3	35	J-LAR	1 to 1	Yes	1.157090585	Glossed MDF	1	1	25.05782	0.005735	Yes	0.20418	small-medium
Plywood	3	Tracksuit trousers	2	-5	J-LAR	1 to 1	Yes	-1.15687813	Plywood	1	1	25.04862	0.005759	Yes	0.204144	small-medium
Jeans	1	T-shirt	2	19	Crystal Tabs	1 to 1	Yes	1.15611438	T-shirt	1	1	25.01556	0.005847	Yes	0.204015	small-medium
Jumper	1	Plywood	3	19	J-LAR	Zonal	Yes	1.151355167	Plywood	2	1	24.81003	0.006421	Yes	0.20321	small-medium
Short carpet	1	T-shirt	2	-5	J-LAR	Zonal	Yes	1.146539516	T-shirt	1	1	24.60292	0.007056	Yes	0.202395	small-medium
Cushion cover	1	T-shirt	2	35	J-LAR	1 to 1	Yes	1.146530643	T-shirt	1	1	24.60254	0.007057	Yes	0.202393	small-medium
Ceramic tile	3	Seatbelt	2	35	Crystal Tabs	1 to 1	Yes	-1.138439685	Ceramic tile	1	1	24.25653	0.008257	Yes	0.201023	small-medium
Long carpet	1	T-shirt	2	35	J-LAR	1 to 1	Yes	1.13698421	T-shirt	1	1	24.19455	0.008492	Yes	0.200776	small-medium
Jumper	1	Tracksuit trousers	2	-5	J-LAR	Zonal	Yes	1.132522922	Tracksuit trousers	1	1	24.00505	0.009252	Yes	0.20002	small-medium
Brick	2	Jumper	1	19	J-LAR	Zonal	Yes	-1.112016627	Brick	1	1	23.14362	0.013621	Yes	0.19654	small-medium
Jeans	1	Jumper	1	35	Crystal Tabs	Zonal	Yes	-1.110637461	Jeans	0	1	23.08624	0.013975	Yes	0.196305	small-medium
Brick	2	Cushion cover	1	35	Crystal Tabs	1 to 1	Yes	-1.109097576	Brick	1	1	23.02227	0.014379	Yes	0.196044	small-medium
Brick	2	Short carpet	1	35	J-LAR	Zonal	Yes	-1.102307256	Brick	1	1	22.74123	0.016293	Yes	0.194889	small-medium
Brick	2	Short carpet	1	35	J-LAR	1 to 1	Yes	-1.089922123	Brick	1	1	22.23308	0.020394	Yes	0.192781	small-medium

Cushion cover	1	Tracksuit trousers	2	-5	J-LAR	Zonal	Yes	1.084786723	Tracksuit trousers	1	1	22.02406	0.022354	Yes	0.191906	small-medium
Jeans	1	Long carpet	1	35	Crystal Tabs	Zonal	Yes	-1.083152382	Jeans	0	1	21.95775	0.023012	Yes	0.191628	small-medium
Seatbelt	2	Short carpet	1	35	J-LAR	1 to 1	Yes	-1.081213226	Seatbelt	1	1	21.8792	0.023817	Yes	0.191297	small-medium
Cushion cover	1	Tracksuit trousers	2	35	Crystal Tabs	1 to 1	Yes	1.077056936	Tracksuit trousers	1	1	21.71131	0.025626	Yes	0.190589	small-medium
Cushion cover	1	Tracksuit trousers	2	-5	Crystal Tabs	Zonal	Yes	1.071417437	Tracksuit trousers	1	1	21.48454	0.02828	Yes	0.189627	small-medium
Jumper	1	Tracksuit trousers	2	19	Crystal Tabs	1 to 1	Yes	1.066997316	Tracksuit trousers	1	1	21.30764	0.03053	Yes	0.188872	small-medium
Glossed MDF	3	T-shirt	2	35	Crystal Tabs	1 to 1	Yes	-1.066762717	Glossed MDF	1	1	21.29827	0.030654	Yes	0.188832	small-medium
Cushion cover	1	Tracksuit trousers	2	35	J-LAR	1 to 1	Yes	1.053084228	Tracksuit trousers	1	1	20.75558	0.038692	Yes	0.186496	small-medium
Jeans	1	Tracksuit trousers	2	-5	J-LAR	1 to 1	Yes	1.050481511	Tracksuit trousers	1	1	20.65311	0.040417	Yes	0.186051	small-medium
Plywood	3	Tracksuit trousers	2	19	J-LAR	Zonal	Yes	-1.048809546	Plywood	1	1	20.58742	0.041561	Yes	0.185765	small-medium
Short carpet	1	T-shirt	2	35	J-LAR	1 to 1	Yes	1.048745303	T-shirt	1	1	20.5849	0.041605	Yes	0.185754	small-medium
Jumper	1	Short carpet	1	-5	Crystal Tabs	Zonal	Yes	1.048232995	Short carpet	0	1	20.56479	0.041962	Yes	0.185666	small-medium
Long carpet	1	Tracksuit trousers	2	35	J-LAR	1 to 1	Yes	1.043537795	Tracksuit trousers	1	1	20.38098	0.045357	Yes	0.184863	small-medium
Long carpet	1	Tracksuit trousers	2	19	Crystal Tabs	Zonal	Yes	1.042975868	Tracksuit trousers	1	1	20.35903	0.045779	Yes	0.184767	small-medium
Short carpet	1	T-shirt	2	35	Crystal Tabs	1 to 1	Yes	1.040756502	T-shirt	1	1	20.27248	0.047479	Yes	0.184387	small-medium
Short carpet	1	Tracksuit trousers	2	19	Crystal Tabs	1 to 1	Yes	1.036256687	Tracksuit trousers	1	1	20.09756	0.051098	No	0.183617	small-medium
Long carpet	1	Plywood	3	19	J-LAR	Zonal	Yes	1.036255028	Plywood	2	1	20.0975	0.051099	No	0.183617	small-medium
Ceramic tile	3	Seatbelt	2	35	J-LAR	Zonal	Yes	-1.02306078	Ceramic tile	1	1	19.58897	0.063126	No	0.181356	small-medium
Jumper	1	Short carpet	1	35	Crystal Tabs	Zonal	Yes	1.018258345	Short carpet	0	1	19.40549	0.068071	No	0.180533	small-medium
Plywood	3	T-shirt	2	-5	J-LAR	Zonal	Yes	-1.016874593	Plywood	1	1	19.35278	0.069556	No	0.180295	small-medium
Ceramic tile	3	Tracksuit trousers	2	35	Crystal Tabs	1 to 1	Yes	-1.016437209	Ceramic tile	1	1	19.33614	0.070031	No	0.18022	small-medium
Plywood	3	Short carpet	1	19	J-LAR	Zonal	Yes	-1.015981953	Plywood	2	1	19.31882	0.070528	No	0.180142	small-medium
Short carpet	1	Tracksuit trousers	2	35	J-LAR	Zonal	Yes	1.015738629	Tracksuit trousers	1	1	19.30957	0.070795	No	0.1801	small-medium
Brick	2	Tracksuit trousers	2	19	J-LAR	Zonal	Yes	-1.009471006	Brick	0	1	19.072	0.077977	No	0.179025	small-medium
Jeans	1	Long carpet	1	35	Crystal Tabs	1 to 1	Yes	-1.008180374	Jeans	0	1	19.02327	0.07953	No	0.178803	small-medium
Long carpet	1	T-shirt	2	35	J-LAR	Zonal	Yes	1.007960384	T-shirt	1	1	19.01497	0.079797	No	0.178766	small-medium
Brick	2	Long carpet	1	19	Crystal Tabs	Zonal	Yes	-1.00666768	Brick	1	1	18.96623	0.081383	No	0.178544	small-medium
Ceramic tile	3	Tracksuit trousers	2	35	J-LAR	Zonal	Yes	-1.001653679	Ceramic tile	1	1	18.77776	0.087786	No	0.177682	small-medium
Jeans	1	Jumper	1	35	Crystal Tabs	1 to 1	Yes	-1.000233345	Jeans	0	1	18.72455	0.089674	No	0.177438	small-medium
Jumper	1	Seatbelt	2	-5	J-LAR	Zonal	Yes	0.999688093	Seatbelt	1	1	18.70414	0.090408	No	0.177345	small-medium

Jeans	1	Tracksuit trousers	2	19	Crystal Tabs	Zonal	Yes	0.997816322	Tracksuit trousers	1	1	18.63416	0.092965	No	0.177023	small-medium
Cushion cover	1	Tracksuit trousers	2	-5	J-LAR	1 to 1	Yes	0.996932386	Tracksuit trousers	1	1	18.60116	0.094194	No	0.176871	small-medium
Brick	2	Long carpet	1	19	J-LAR	Zonal	Yes	-0.996916488	Brick	1	1	18.60057	0.094216	No	0.176868	small-medium
Long carpet	1	T-shirt	2	-5	Crystal Tabs	1 to 1	Yes	0.996351811	T-shirt	1	1	18.5795	0.095008	No	0.176771	small-medium
Seatbelt	2	Short carpet	1	35	J-LAR	Zonal	Yes	-0.994331527	Seatbelt	1	1	18.50423	0.097886	No	0.176424	small-medium
Long carpet	1	Short carpet	1	35	Crystal Tabs	Zonal	Yes	0.990773266	Short carpet	0	1	18.37203	0.10313	No	0.175812	small-medium
Jeans	1	Long carpet	1	-5	Crystal Tabs	1 to 1	Yes	-0.985135786	Jeans	0	1	18.16355	0.111907	No	0.174843	small-medium
Brick	2	Ceramic tile	3	35	Crystal Tabs	1 to 1	Yes	0.984396568	Ceramic tile	1	1	18.13631	0.113102	No	0.174715	small-medium
Brick	2	Short carpet	1	19	J-LAR	Zonal	Yes	-0.976643412	Brick	1	1	17.85175	0.12626	No	0.173381	small-medium
Brick	2	Glossed MDF	3	-5	Crystal Tabs	1 to 1	Yes	0.97553138	Glossed MDF	1	1	17.81112	0.128244	No	0.173189	small-medium
Brick	2	Cushion cover	1	19	J-LAR	1 to 1	Yes	-0.974009559	Brick	1	1	17.75559	0.130998	No	0.172927	small-medium
Long carpet	1	Tracksuit trousers	2	19	Crystal Tabs	1 to 1	Yes	0.972752727	Tracksuit trousers	1	1	17.7098	0.133308	No	0.172711	small-medium
Jumper	1	Tracksuit trousers	2	35	Crystal Tabs	Zonal	Yes	0.970445144	Tracksuit trousers	1	1	17.62587	0.137633	No	0.172313	small-medium
Brick	2	Jeans	1	19	Crystal Tabs	Zonal	Yes	-0.961508133	Brick	1	1	17.30273	0.155425	No	0.170773	small-medium
Plywood	3	T-shirt	2	35	Crystal Tabs	1 to 1	Yes	-0.955985694	Plywood	1	1	17.10454	0.167271	No	0.16982	small-medium
Short carpet	1	Tracksuit trousers	2	35	J-LAR	1 to 1	Yes	0.955298888	Tracksuit trousers	1	1	17.07997	0.168791	No	0.169702	small-medium
Cushion cover	1	Seatbelt	2	35	Crystal Tabs	1 to 1	Yes	0.955054459	Seatbelt	1	1	17.07123	0.169334	No	0.16966	small-medium
Long carpet	1	Seatbelt	2	-5	J-LAR	1 to 1	Yes	0.95300755	Seatbelt	1	1	16.99814	0.173936	No	0.169307	small-medium
Cushion cover	1	Seatbelt	2	-5	J-LAR	Zonal	Yes	0.951951893	Seatbelt	1	1	16.9605	0.176345	No	0.169124	small-medium
Jumper	1	Seatbelt	2	35	Crystal Tabs	Zonal	Yes	0.948175434	Seatbelt	1	1	16.8262	0.185168	No	0.168473	small-medium
Ceramic tile	3	Tracksuit trousers	2	-5	J-LAR	1 to 1	Yes	-0.946674787	Ceramic tile	1	1	16.77298	0.188763	No	0.168214	small-medium
Cushion cover	1	T-shirt	2	19	J-LAR	1 to 1	Yes	0.943328313	T-shirt	1	1	16.65461	0.196962	No	0.167636	small-medium
Long carpet	1	Tracksuit trousers	2	35	Crystal Tabs	Zonal	Yes	0.942960065	Tracksuit trousers	1	1	16.64161	0.19788	No	0.167572	small-medium
Jumper	1	Tracksuit trousers	2	-5	Crystal Tabs	1 to 1	Yes	0.942002787	Tracksuit trousers	1	1	16.60784	0.20028	No	0.167407	small-medium
Brick	2	Long carpet	1	19	J-LAR	1 to 1	Yes	-0.940478094	Brick	1	1	16.55412	0.204146	No	0.167143	small-medium
Ceramic tile	3	Seatbelt	2	19	J-LAR	1 to 1	Yes	-0.938202566	Ceramic tile	1	1	16.47411	0.210014	No	0.16675	small-medium
Jeans	1	Seatbelt	2	19	J-LAR	1 to 1	Yes	0.933429101	Seatbelt	1	1	16.3069	0.222709	No	0.165925	small-medium
Long carpet	1	T-shirt	2	-5	J-LAR	1 to 1	Yes	0.929792892	T-shirt	1	1	16.1801	0.23273	No	0.165296	small-medium
Glossed MDF	3	T-shirt	2	19	J-LAR	1 to 1	Yes	-0.928817703	Glossed MDF	1	1	16.14617	0.235469	No	0.165128	small-medium
Jumper	1	Tracksuit trousers	2	-5	Crystal Tabs	Zonal	Yes	0.924227282	Tracksuit trousers	1	1	15.98697	0.248655	No	0.164334	small-medium

Cushion cover	1	T-shirt	2	35	J-LAR	Zonal	Yes	0.922017621	T-shirt	1	1	15.91062	0.255173	No	0.163952	small-medium
Jumper	1	T-shirt	2	19	Crystal Tabs	1 to 1	Yes	0.921706105	T-shirt	1	1	15.89987	0.256101	No	0.163898	small-medium
Long carpet	1	Seatbelt	2	35	Crystal Tabs	Zonal	Yes	0.920690354	Seatbelt	1	1	15.86485	0.259142	No	0.163722	small-medium
Jeans	1	T-shirt	2	-5	J-LAR	Zonal	Yes	0.916850318	T-shirt	1	1	15.73278	0.270849	No	0.163057	small-medium
Seatbelt	2	T-shirt	2	19	J-LAR	Zonal	Yes	-0.915562544	Seatbelt	0	1	15.68862	0.274849	No	0.162834	small-medium
Brick	2	Ceramic tile	3	35	J-LAR	Zonal	Yes	0.915085052	Ceramic tile	1	1	15.67226	0.276341	No	0.162752	small-medium
Long carpet	1	T-shirt	2	19	J-LAR	1 to 1	Yes	0.909796847	T-shirt	1	1	15.49164	0.293208	No	0.161836	small-medium
Brick	2	Long carpet	1	35	J-LAR	Zonal	Yes	-0.907243776	Brick	1	1	15.40482	0.30157	No	0.161393	small-medium
Brick	2	Glossed MDF	3	19	J-LAR	1 to 1	Yes	0.898136456	Glossed MDF	1	1	15.09709	0.332523	No	0.159815	small-medium
Short carpet	1	T-shirt	2	19	Crystal Tabs	1 to 1	Yes	0.890965477	T-shirt	1	1	14.85698	0.358074	No	0.158571	small-medium
Brick	2	Plywood	3	-5	Crystal Tabs	Zonal	Yes	0.888163926	Plywood	1	1	14.76369	0.368321	No	0.158085	small-medium
Brick	2	Jumper	1	-5	J-LAR	Zonal	Yes	-0.888021359	Brick	1	1	14.75895	0.368846	No	0.15806	small-medium
Long carpet	1	Seatbelt	2	-5	Crystal Tabs	1 to 1	Yes	0.884964698	Seatbelt	1	1	14.65752	0.380196	No	0.15753	small-medium
Plywood	3	Seatbelt	2	19	J-LAR	1 to 1	Yes	-0.865993179	Plywood	1	1	14.03581	0.45394	No	0.154234	small-medium
Brick	2	Cushion cover	1	35	Crystal Tabs	Zonal	Yes	-0.862944651	Brick	1	1	13.93717	0.466233	No	0.153704	small-medium
Cushion cover	1	Jeans	1	19	Crystal Tabs	1 to 1	Yes	-0.849106237	Cushion cover	0	1	13.49375	0.523073	No	0.151296	small-medium
Jumper	1	Seatbelt	2	19	J-LAR	Zonal	Yes	0.845985787	Seatbelt	1	1	13.39476	0.536052	No	0.150752	small-medium
Brick	2	Cushion cover	1	-5	J-LAR	Zonal	Yes	-0.84028516	Brick	1	1	13.21484	0.559834	No	0.149759	small-medium
Jumper	1	Tracksuit trousers	2	19	Crystal Tabs	Zonal	Yes	0.832938819	Tracksuit trousers	1	1	12.98479	0.590495	No	0.148479	small-medium
Long carpet	1	T-shirt	2	19	Crystal Tabs	1 to 1	Yes	0.827461516	T-shirt	1	1	12.81458	0.613262	No	0.147524	small-medium
Brick	2	Cushion cover	1	35	J-LAR	Zonal	Yes	-0.821301013	Brick	1	1	12.62448	0.638664	No	0.146449	small-medium
Jeans	1	Seatbelt	2	-5	J-LAR	1 to 1	Yes	0.820895506	Seatbelt	1	1	12.61201	0.640325	No	0.146379	small-medium
Long carpet	1	Tracksuit trousers	2	35	J-LAR	Zonal	Yes	0.820675149	Tracksuit trousers	1	1	12.60524	0.641228	No	0.14634	small-medium
Jumper	1	T-shirt	2	35	Crystal Tabs	Zonal	Yes	0.819234144	T-shirt	1	1	12.56102	0.647118	No	0.146089	small-medium
Brick	2	Seatbelt	2	-5	Crystal Tabs	1 to 1	Yes	-0.816035221	Brick	0	1	12.46311	0.66012	No	0.14553	small-medium
Ceramic tile	3	T-shirt	2	35	J-LAR	Zonal	Yes	-0.814368444	Ceramic tile	1	1	12.41225	0.666849	No	0.145239	small-medium
Long carpet	1	Seatbelt	2	19	Crystal Tabs	Zonal	Yes	0.803848407	Seatbelt	1	1	12.09364	0.708461	No	0.143402	small-medium
Long carpet	1	Seatbelt	2	35	J-LAR	Zonal	Yes	0.799268048	Seatbelt	1	1	11.95621	0.726021	No	0.142602	small-medium
Jeans	1	T-shirt	2	-5	J-LAR	1 to 1	Yes	0.797680849	T-shirt	1	1	11.90877	0.732015	No	0.142324	small-medium
Brick	2	Jumper	1	19	Crystal Tabs	Zonal	Yes	-0.796630631	Brick	1	1	11.87743	0.735954	No	0.142141	small-medium

Brick	2	Ceramic tile	3	-5	Crystal Tabs	Zonal	Yes	0.796342585	Ceramic tile	1	1	11.86885	0.737031	No	0.14209	small-medium
Long carpet	1	T-shirt	2	35	Crystal Tabs	Zonal	Yes	0.791749065	T-shirt	1	1	11.73232	0.753962	No	0.141287	small-medium
Brick	2	Long carpet	1	-5	J-LAR	1 to 1	Yes	-0.787781404	Brick	1	1	11.61502	0.768212	No	0.140593	small-medium
Brick	2	T-shirt	2	-5	J-LAR	Zonal	Yes	0.772665036	T-shirt	0	1	11.17355	0.818896	No	0.137947	small-medium
Jeans	1	T-shirt	2	35	Crystal Tabs	1 to 1	Yes	0.768780591	T-shirt	1	1	11.06149	0.83091	No	0.137267	small-medium
Cushion cover	1	Seatbelt	2	-5	J-LAR	1 to 1	Yes	0.767346381	Seatbelt	1	1	11.02025	0.835235	No	0.137015	small-medium
Brick	2	Tracksuit trousers	2	-5	Crystal Tabs	Zonal	Yes	-0.766675824	Brick	0	1	11.001	0.837236	No	0.136898	small-medium
Ceramic tile	3	Glossed MDF	3	35	J-LAR	Zonal	Yes	0.762881822	Glossed MDF	0	1	10.89239	0.848303	No	0.136233	small-medium
Brick	2	Plywood	3	-5	Crystal Tabs	1 to 1	Yes	0.762107055	Plywood	1	1	10.87028	0.85051	No	0.136097	small-medium
Brick	2	Ceramic tile	3	-5	Crystal Tabs	1 to 1	Yes	0.760940871	Ceramic tile	1	1	10.83703	0.853796	No	0.135893	small-medium
Jeans	1	Seatbelt	2	19	Crystal Tabs	Zonal	Yes	0.75868886	Seatbelt	1	1	10.77299	0.860024	No	0.135498	small-medium
Cushion cover	1	T-shirt	2	-5	J-LAR	1 to 1	Yes	0.744131723	T-shirt	1	1	10.36354	0.896437	No	0.132945	small-medium
Jeans	1	Jumper	1	-5	J-LAR	Zonal	Yes	-0.743836077	Jeans	0	1	10.35531	0.897107	No	0.132893	small-medium
Seatbelt	2	Tracksuit trousers	2	19	J-LAR	Zonal	Yes	-0.743440166	Seatbelt	0	1	10.34429	0.898	No	0.132823	small-medium
Brick	2	Short carpet	1	19	J-LAR	1 to 1	Yes	-0.743265391	Brick	1	1	10.33943	0.898392	No	0.132793	small-medium
Cushion cover	1	Jeans	1	35	Crystal Tabs	1 to 1	Yes	0.740073176	Jeans	0	1	10.25081	0.90539	No	0.132232	small-medium
Cushion cover	1	Tracksuit trousers	2	19	Crystal Tabs	Zonal	Yes	0.738713188	Tracksuit trousers	1	1	10.21317	0.908273	No	0.131993	small-medium
Glossed MDF	3	Seatbelt	2	19	J-LAR	Zonal	Yes	-0.73789393	Glossed MDF	1	1	10.19052	0.909982	No	0.13185	small-medium
Jumper	1	T-shirt	2	-5	Crystal Tabs	1 to 1	Yes	0.737819342	T-shirt	1	1	10.18846	0.910137	No	0.131837	small-medium
Long carpet	1	Short carpet	1	35	Crystal Tabs	1 to 1	Yes	0.736204463	Short carpet	0	1	10.14391	0.913439	No	0.131553	small-medium
Cushion cover	1	Tracksuit trousers	2	35	J-LAR	Zonal	Yes	0.734732386	Tracksuit trousers	1	1	10.10339	0.916378	No	0.131294	small-medium
Long carpet	1	Seatbelt	2	19	J-LAR	Zonal	Yes	0.730885648	Seatbelt	1	1	9.997871	0.92374	No	0.130619	small-medium
Jumper	1	Short carpet	1	35	Crystal Tabs	1 to 1	Yes	0.728257435	Short carpet	0	1	9.926097	0.928507	No	0.130157	small-medium
Brick	2	Jeans	1	35	J-LAR	1 to 1	Yes	-0.728128615	Brick	1	1	9.922585	0.928735	No	0.130134	small-medium
Cushion cover	1	Jumper	1	35	J-LAR	1 to 1	Yes	0.728066064	Jumper	0	1	9.920881	0.928846	No	0.130123	small-medium
Jeans	1	Jumper	1	-5	Crystal Tabs	1 to 1	Yes	-0.726603317	Jeans	0	1	9.881057	0.9314	No	0.129866	small-medium
Short carpet	1	Tracksuit trousers	2	-5	Crystal Tabs	1 to 1	Yes	0.719461764	Tracksuit trousers	1	1	9.687776	0.942954	No	0.128611	small-medium
Jeans	1	Seatbelt	2	35	J-LAR	1 to 1	Yes	0.719419718	Seatbelt	1	1	9.686644	0.943018	No	0.128604	small-medium
Jumper	1	Long carpet	1	35	J-LAR	1 to 1	Yes	-0.718519631	Jumper	0	1	9.66242	0.944367	No	0.128446	small-medium
Ceramic tile	3	T-shirt	2	-5	J-LAR	Zonal	Yes	-0.71747588	Ceramic tile	1	1	9.634369	0.945904	No	0.128262	small-medium

Ceramic tile	3	Seatbelt	2	19	J-LAR	Zonal	Yes	-0.716010219	Ceramic tile	1	1	9.595047	0.948009	No	0.128004	small-medium
Brick	2	Jeans	1	-5	Crystal Tabs	1 to 1	Yes	-0.715864133	Brick	1	1	9.591132	0.948216	No	0.127979	small-medium
Cushion cover	1	Seatbelt	2	35	J-LAR	Zonal	Yes	0.713325285	Seatbelt	1	1	9.523221	0.951711	No	0.127532	small-medium
Cushion cover	1	Tracksuit trousers	2	-5	Crystal Tabs	1 to 1	Yes	0.712970061	Tracksuit trousers	1	1	9.513739	0.952186	No	0.12747	small-medium
Short carpet	1	T-shirt	2	19	J-LAR	1 to 1	Yes	0.712584145	T-shirt	1	1	9.503443	0.952698	No	0.127402	small-medium
Jeans	1	Short carpet	1	35	J-LAR	Zonal	Yes	-0.711161803	Jeans	0	1	9.465542	0.954551	No	0.127152	small-medium
Seatbelt	2	Short carpet	1	19	J-LAR	Zonal	Yes	-0.710612572	Seatbelt	1	1	9.450927	0.955252	No	0.127055	small-medium
Brick	2	T-shirt	2	-5	Crystal Tabs	1 to 1	Yes	-0.704648108	Brick	0	1	9.292942	0.962359	No	0.126006	small-medium
Cushion cover	1	Jeans	1	35	Crystal Tabs	Zonal	Yes	0.702674273	Jeans	0	1	9.240953	0.964513	No	0.125658	small-medium
Brick	2	Cushion cover	1	19	Crystal Tabs	Zonal	Yes	-0.702404999	Brick	1	1	9.233872	0.964799	No	0.125611	small-medium
Cushion cover	1	Jeans	1	-5	J-LAR	Zonal	Yes	0.696099878	Jeans	0	1	9.06884	0.97102	No	0.124501	small-medium
Short carpet	1	Tracksuit trousers	2	19	Crystal Tabs	Zonal	Yes	0.689919745	Tracksuit trousers	1	1	8.908525	0.976261	No	0.123412	small-medium
Jeans	1	T-shirt	2	35	J-LAR	1 to 1	Yes	0.686951795	T-shirt	1	1	8.832043	0.978499	No	0.12289	small-medium
Glossed MDF	3	T-shirt	2	-5	J-LAR	Zonal	Yes	-0.685072574	Glossed MDF	1	1	8.783787	0.979827	No	0.122558	small-medium
Long carpet	1	Short carpet	1	-5	J-LAR	1 to 1	Yes	0.684481379	Short carpet	0	1	8.768634	0.980232	No	0.122454	small-medium
Cushion cover	1	Short carpet	1	19	J-LAR	Zonal	Yes	0.679978758	Short carpet	0	1	8.65365	0.983104	No	0.121661	small-medium
Brick	2	Jumper	1	19	J-LAR	1 to 1	Yes	-0.666843627	Brick	1	1	8.322555	0.989625	No	0.119344	small-medium
Jumper	1	Tracksuit trousers	2	-5	J-LAR	1 to 1	Yes	0.664761209	Tracksuit trousers	1	1	8.270657	0.990437	No	0.118977	small-medium
Cushion cover	1	T-shirt	2	-5	Crystal Tabs	Zonal	Yes	0.66428017	T-shirt	1	1	8.258691	0.990617	No	0.118892	small-medium
Seatbelt	2	T-shirt	2	-5	J-LAR	Zonal	Yes	0.660998303	T-shirt	0	1	8.177289	0.991772	No	0.118313	small-medium
Cushion cover	1	Long carpet	1	19	J-LAR	Zonal	Yes	0.659705682	Long carpet	0	1	8.145338	0.992193	No	0.118085	small-medium
Brick	2	Jeans	1	-5	J-LAR	1 to 1	Yes	-0.65566936	Brick	1	1	8.04597	0.993395	No	0.117372	small-medium
Brick	2	Tracksuit trousers	2	19	J-LAR	1 to 1	Yes	-0.654182104	Brick	0	1	8.00951	0.993796	No	0.11711	small-medium
Brick	2	Short carpet	1	19	Crystal Tabs	Zonal	Yes	-0.653611556	Brick	1	1	7.995545	0.993945	No	0.117009	small-medium
Cushion cover	1	Jeans	1	-5	Crystal Tabs	Zonal	Yes	0.651768679	Jeans	0	1	7.950522	0.994405	No	0.116684	small-medium
Long carpet	1	Tracksuit trousers	2	-5	J-LAR	Zonal	Yes	0.647306338	Tracksuit trousers	1	1	7.842028	0.995397	No	0.115895	small-medium
Cushion cover	1	Tracksuit trousers	2	19	J-LAR	Zonal	Yes	0.647151164	Tracksuit trousers	1	1	7.838268	0.995429	No	0.115868	small-medium
Brick	2	Short carpet	1	-5	Crystal Tabs	Zonal	Yes	-0.642670111	Brick	1	1	7.730095	0.996266	No	0.115076	small-medium
Cushion cover	1	Long carpet	1	-5	Crystal Tabs	Zonal	Yes	0.641649092	Long carpet	0	1	7.705553	0.996438	No	0.114896	small-medium
Brick	2	Short carpet	1	35	Crystal Tabs	1 to 1	Yes	-0.641000311	Brick	1	1	7.689979	0.996543	No	0.114781	small-medium

Jeans	1	Short carpet	1	19	J-LAR	Zonal	Yes	0.638403174	Short carpet	0	1	7.62779	0.996938	No	0.114322	small-medium
Brick	2	Glossed MDF	3	-5	Crystal Tabs	Zonal	Yes	0.637149738	Glossed MDF	1	1	7.597867	0.997115	No	0.114101	small-medium
Jumper	1	T-shirt	2	19	J-LAR	1 to 1	Yes	0.636162381	T-shirt	1	1	7.574337	0.997248	No	0.113926	small-medium
Jumper	1	Short carpet	1	35	J-LAR	1 to 1	Yes	-0.630280725	Jumper	0	1	7.434927	0.997935	No	0.112887	small-medium
Jumper	1	T-shirt	2	35	J-LAR	Zonal	Yes	0.628123932	T-shirt	1	1	7.38413	0.998147	No	0.112505	small-medium
Jumper	1	Seatbelt	2	-5	Crystal Tabs	1 to 1	Yes	0.626432229	Seatbelt	1	1	7.344409	0.998299	No	0.112206	small-medium
T-shirt	2	Tracksuit trousers	2	19	J-LAR	1 to 1	Yes	-0.623500857	T-shirt	0	1	7.275834	0.998538	No	0.111687	small-medium
Short carpet	1	Tracksuit trousers	2	-5	J-LAR	Zonal	Yes	0.618376043	Tracksuit trousers	1	1	7.156719	0.998885	No	0.110781	small-medium
Jeans	1	Long carpet	1	19	J-LAR	Zonal	Yes	0.618130098	Long carpet	0	1	7.151027	0.9989	No	0.110737	small-medium
Cushion cover	1	Jumper	1	19	Crystal Tabs	1 to 1	Yes	-0.614697962	Cushion cover	0	1	7.071836	0.999088	No	0.11013	small-medium
Cushion cover	1	Short carpet	1	35	Crystal Tabs	Zonal	Yes	0.610295157	Short carpet	0	1	6.970894	0.999287	No	0.109351	small-medium
Seatbelt	2	Short carpet	1	-5	Crystal Tabs	Zonal	Yes	0.610030753	Short carpet	-1	1	6.964855	0.999297	No	0.109304	small-medium
Short carpet	1	Tracksuit trousers	2	35	Crystal Tabs	1 to 1	Yes	0.60895967	Tracksuit trousers	1	1	6.940419	0.999339	No	0.109114	small-medium
Jeans	1	Tracksuit trousers	2	19	J-LAR	Zonal	Yes	0.60557558	Tracksuit trousers	1	1	6.863496	0.999456	No	0.108515	small-medium
Brick	2	Cushion cover	1	-5	J-LAR	1 to 1	Yes	-0.602120235	Brick	1	1	6.785394	0.999557	No	0.107903	small-medium
Jumper	1	Seatbelt	2	19	Crystal Tabs	Zonal	Yes	0.593811357	Seatbelt	1	1	6.599418	0.999734	No	0.106431	small-medium
Jeans	1	Tracksuit trousers	2	35	J-LAR	1 to 1	Yes	0.59350538	Tracksuit trousers	1	1	6.592619	0.999739	No	0.106377	small-medium
Cushion cover	1	Seatbelt	2	-5	Crystal Tabs	Zonal	Yes	0.585392398	Seatbelt	1	1	6.413614	0.999846	No	0.104939	small-medium
Ceramic tile	3	T-shirt	2	35	Crystal Tabs	1 to 1	Yes	-0.584640377	Ceramic tile	1	1	6.397146	0.999853	No	0.104805	small-medium
Cushion cover	1	Short carpet	1	19	Crystal Tabs	1 to 1	Yes	-0.583957334	Cushion cover	0	1	6.382207	0.99986	No	0.104684	small-medium
Jumper	1	Short carpet	1	35	J-LAR	Zonal	Yes	-0.574899931	Jumper	0	1	6.185761	0.999925	No	0.103078	small-medium
Cushion cover	1	Tracksuit trousers	2	35	Crystal Tabs	Zonal	Yes	0.562481956	Tracksuit trousers	1	1	5.92142	0.99997	No	0.100874	small-medium
Seatbelt	2	T-shirt	2	35	Crystal Tabs	1 to 1	Yes	0.553799308	T-shirt	0	1	5.740021	0.999985	No	0.099333	< small
Long carpet	1	Short carpet	1	-5	Crystal Tabs	Zonal	Yes	0.553774059	Short carpet	0	1	5.739497	0.999985	No	0.099328	< small
Glossed MDF	3	Plywood	3	19	Crystal Tabs	Zonal	Yes	-0.553166188	Glossed MDF	0	1	5.726904	0.999986	No	0.09922	< small
Jeans	1	Short carpet	1	-5	J-LAR	1 to 1	Yes	0.552369335	Short carpet	0	1	5.710416	0.999986	No	0.099079	< small
T-shirt	2	Tracksuit trousers	2	19	Crystal Tabs	Zonal	Yes	0.547099879	Tracksuit trousers	0	1	5.601984	0.999991	No	0.098143	< small
Cushion cover	1	Jeans	1	19	J-LAR	1 to 1	Yes	0.546909494	Jeans	0	1	5.598086	0.999991	No	0.098109	< small
Ceramic tile	3	Glossed MDF	3	19	J-LAR	1 to 1	Yes	-0.546395145	Ceramic tile	0	1	5.587561	0.999992	No	0.098017	< small
Cushion cover	1	Jumper	1	19	J-LAR	Zonal	Yes	0.544605543	Jumper	0	1	5.55102	0.999993	No	0.0977	< small

Jeans	1	Short carpet	1	-5	Crystal Tabs	Zonal	Yes	0.543654472	Short carpet	0	1	5.531649	0.999993	No	0.097531	< small
Cushion cover	1	Seatbelt	2	35	Crystal Tabs	Zonal	Yes	0.540212246	Seatbelt	1	1	5.461821	0.999995	No	0.096919	< small
Seatbelt	2	T-shirt	2	19	J-LAR	1 to 1	Yes	-0.537010282	Seatbelt	0	1	5.397266	0.999996	No	0.09635	< small
Short carpet	1	T-shirt	2	-5	Crystal Tabs	Zonal	Yes	-0.531142981	Short carpet	-1	1	5.279971	0.999998	No	0.095307	< small
T-shirt	2	Tracksuit trousers	2	-5	J-LAR	Zonal	Yes	-0.528163473	T-shirt	0	1	5.2209	0.999998	No	0.094777	< small
Brick	2	Jumper	1	35	J-LAR	Zonal	Yes	-0.527407325	Brick	1	1	5.205962	0.999998	No	0.094642	< small
Cushion cover	1	Long carpet	1	19	Crystal Tabs	1 to 1	Yes	-0.520453374	Cushion cover	0	1	5.069584	0.999999	No	0.093405	< small
Jumper	1	Long carpet	1	-5	J-LAR	1 to 1	Yes	-0.517832346	Jumper	0	1	5.018651	0.999999	No	0.092939	< small
Jumper	1	T-shirt	2	-5	Crystal Tabs	Zonal	Yes	0.517090014	T-shirt	1	1	5.004272	0.999999	No	0.092807	< small
Jeans	1	Long carpet	1	35	J-LAR	Zonal	Yes	-0.516098324	Jeans	0	1	4.985096	0.999999	No	0.092631	< small
Short carpet	1	T-shirt	2	-5	Crystal Tabs	1 to 1	Yes	0.51527832	T-shirt	1	1	4.969268	1	No	0.092485	< small
Long carpet	1	Seatbelt	2	-5	J-LAR	Zonal	Yes	0.514471509	Seatbelt	1	1	4.953718	1	No	0.092341	< small
Jumper	1	Short carpet	1	-5	J-LAR	Zonal	Yes	0.514146879	Short carpet	0	1	4.947469	1	No	0.092283	< small
Jeans	1	Long carpet	1	19	J-LAR	1 to 1	Yes	-0.513378028	Jeans	0	1	4.932683	1	No	0.092146	< small
Brick	2	T-shirt	2	19	Crystal Tabs	Zonal	Yes	-0.510791691	Brick	0	1	4.883108	1	No	0.091686	< small
Cushion cover	1	T-shirt	2	-5	Crystal Tabs	1 to 1	Yes	0.508786617	T-shirt	1	1	4.844846	1	No	0.091329	< small
Brick	2	Seatbelt	2	19	J-LAR	1 to 1	Yes	0.506329036	Seatbelt	0	1	4.798155	1	No	0.090892	< small
Jeans	1	Jumper	1	-5	Crystal Tabs	Zonal	Yes	-0.504578523	Jeans	0	1	4.765036	1	No	0.09058	< small
Jeans	1	Short carpet	1	-5	Crystal Tabs	1 to 1	Yes	-0.504062295	Jeans	0	1	4.755291	1	No	0.090488	< small
Jeans	1	Jumper	1	19	J-LAR	Zonal	Yes	0.503029959	Jumper	0	1	4.735833	1	No	0.090304	< small
Brick	2	Tracksuit trousers	2	-5	Crystal Tabs	1 to 1	Yes	-0.500464664	Brick	0	1	4.687653	1	No	0.089848	< small
Cushion cover	1	Seatbelt	2	19	Crystal Tabs	Zonal	Yes	0.499585726	Seatbelt	1	1	4.671202	1	No	0.089691	< small
Cushion cover	1	Short carpet	1	-5	J-LAR	1 to 1	Yes	0.49882021	Short carpet	0	1	4.656898	1	No	0.089555	< small
Short carpet	1	Tracksuit trousers	2	-5	J-LAR	1 to 1	Yes	0.498112176	Tracksuit trousers	1	1	4.643687	1	No	0.089429	< small
Cushion cover	1	Jeans	1	-5	Crystal Tabs	1 to 1	Yes	0.497570592	Jeans	0	1	4.633595	1	No	0.089332	< small
Long carpet	1	T-shirt	2	19	Crystal Tabs	Zonal	Yes	0.495875989	T-shirt	1	1	4.602087	1	No	0.08903	< small
Jumper	1	Long carpet	1	-5	Crystal Tabs	Zonal	Yes	0.494458936	Long carpet	0	1	4.575822	1	No	0.088778	< small
Jeans	1	T-shirt	2	35	J-LAR	Zonal	Yes	0.49186206	T-shirt	1	1	4.527884	1	No	0.088315	< small
Cushion cover	1	Long carpet	1	-5	Crystal Tabs	1 to 1	Yes	-0.487565194	Cushion cover	0	1	4.449119	1	No	0.08755	< small
Seatbelt	2	Short carpet	1	35	Crystal Tabs	1 to 1	Yes	-0.486957194	Seatbelt	1	1	4.43803	1	No	0.087441	< small

Seatbelt	2	Tracksuit trousers	2	-5	Crystal Tabs	Zonal	Yes	0.48602504	Tracksuit trousers	0	1	4.421055	1	No	0.087275	< small
Seatbelt	2	Short carpet	1	-5	J-LAR	Zonal	Yes	-0.485541214	Seatbelt	1	1	4.412257	1	No	0.087189	< small
Jumper	1	Long carpet	1	-5	J-LAR	Zonal	Yes	0.485216584	Long carpet	0	1	4.406359	1	No	0.087131	< small
Ceramic tile	3	Glossed MDF	3	35	Crystal Tabs	1 to 1	Yes	0.482122339	Glossed MDF	0	1	4.35034	1	No	0.08658	< small
Long carpet	1	Short carpet	1	-5	Crystal Tabs	1 to 1	Yes	0.481073491	Short carpet	0	1	4.331432	1	No	0.086393	< small
Cushion cover	1	T-shirt	2	19	J-LAR	Zonal	Yes	0.475028786	T-shirt	1	1	4.223267	1	No	0.085315	< small
Glossed MDF	3	Plywood	3	19	J-LAR	1 to 1	Yes	0.474185758	Plywood	0	1	4.20829	1	No	0.085165	< small
Brick	2	Glossed MDF	3	19	J-LAR	Zonal	Yes	0.47186309	Glossed MDF	1	1	4.167165	1	No	0.084751	< small
Cushion cover	1	Short carpet	1	35	Crystal Tabs	1 to 1	Yes	0.468097265	Short carpet	0	1	4.100916	1	No	0.084079	< small
Cushion cover	1	Short carpet	1	-5	J-LAR	Zonal	Yes	0.46641068	Short carpet	0	1	4.071417	1	No	0.083778	< small
Brick	2	Jumper	1	35	J-LAR	1 to 1	Yes	-0.459641398	Brick	1	1	3.954093	1	No	0.082571	< small
Cushion cover	1	Jeans	1	35	J-LAR	1 to 1	Yes	0.459578847	Jeans	0	1	3.953017	1	No	0.08256	< small
Cushion cover	1	Tracksuit trousers	2	19	Crystal Tabs	1 to 1	Yes	0.452299353	Tracksuit trousers	1	1	3.828781	1	No	0.081261	< small
Brick	2	T-shirt	2	35	Crystal Tabs	Zonal	Yes	-0.451673695	Brick	0	1	3.818196	1	No	0.081149	< small
Jumper	1	Seatbelt	2	35	J-LAR	1 to 1	Yes	0.450932501	Seatbelt	1	1	3.805675	1	No	0.081017	< small
Seatbelt	2	Short carpet	1	19	Crystal Tabs	Zonal	Yes	-0.450792283	Seatbelt	1	1	3.803309	1	No	0.080992	< small
Jeans	1	T-shirt	2	19	Crystal Tabs	Zonal	Yes	0.450716443	T-shirt	1	1	3.802029	1	No	0.080978	< small
Jeans	1	Long carpet	1	35	J-LAR	1 to 1	Yes	-0.450032414	Jeans	0	1	3.790498	1	No	0.080856	< small
Brick	2	Ceramic tile	3	19	J-LAR	Zonal	Yes	0.449979379	Ceramic tile	1	1	3.789604	1	No	0.080847	< small
Jumper	1	Tracksuit trousers	2	35	J-LAR	Zonal	Yes	0.440838697	Tracksuit trousers	1	1	3.637207	1	No	0.079215	< small
Jumper	1	Seatbelt	2	-5	Crystal Tabs	Zonal	Yes	0.438202242	Seatbelt	1	1	3.593833	1	No	0.078744	< small
Cushion cover	1	Long carpet	1	-5	J-LAR	Zonal	Yes	0.437480384	Long carpet	0	1	3.582002	1	No	0.078615	< small
Jumper	1	Seatbelt	2	-5	J-LAR	1 to 1	Yes	0.435175204	Seatbelt	1	1	3.544353	1	No	0.078203	< small
Jeans	1	T-shirt	2	19	J-LAR	Zonal	Yes	0.433453202	T-shirt	1	1	3.516358	1	No	0.077896	< small
Glossed MDF	3	Plywood	3	19	J-LAR	Zonal	Yes	-0.43252455	Glossed MDF	0	1	3.501307	1	No	0.07773	< small
T-shirt	2	Tracksuit trousers	2	35	Crystal Tabs	1 to 1	Yes	-0.431796831	T-shirt	0	1	3.489535	1	No	0.0776	< small
Cushion cover	1	Jeans	1	35	J-LAR	Zonal	Yes	0.430155561	Jeans	0	1	3.463058	1	No	0.077307	< small
Long carpet	1	Tracksuit trousers	2	-5	Crystal Tabs	Zonal	Yes	0.429768346	Tracksuit trousers	1	1	3.456826	1	No	0.077237	< small
Brick	2	Jeans	1	19	J-LAR	1 to 1	Yes	-0.427100065	Brick	1	1	3.414035	1	No	0.076761	< small
Jeans	1	Tracksuit trousers	2	-5	Crystal Tabs	Zonal	Yes	0.419648758	Tracksuit trousers	1	1	3.295949	1	No	0.075429	< small

Jumper	1	Seatbelt	2	35	J-LAR	Zonal	Yes	0.419431596	Seatbelt	1	1	3.292539	1	No	0.07539	< small
Jumper	1	T-shirt	2	35	J-LAR	1 to 1	Yes	0.418464579	T-shirt	1	1	3.277374	1	No	0.075218	< small
Jumper	1	T-shirt	2	-5	J-LAR	1 to 1	Yes	0.411960546	T-shirt	1	1	3.176288	1	No	0.074055	< small
Cushion cover	1	T-shirt	2	35	Crystal Tabs	Zonal	Yes	0.411270956	T-shirt	1	1	3.165663	1	No	0.073932	< small
Ceramic tile	3	Plywood	3	19	J-LAR	Zonal	Yes	-0.410640838	Ceramic tile	0	1	3.15597	1	No	0.073819	< small
Cushion cover	1	Jumper	1	35	Crystal Tabs	Zonal	Yes	-0.407963188	Cushion cover	0	1	3.114947	1	No	0.07334	< small
T-shirt	2	Tracksuit trousers	2	-5	Crystal Tabs	Zonal	Yes	0.407137268	Tracksuit trousers	0	1	3.102347	1	No	0.073193	< small
Seatbelt	2	Short carpet	1	-5	Crystal Tabs	1 to 1	Yes	-0.403891207	Seatbelt	1	1	3.053075	1	No	0.072612	< small
Brick	2	Long carpet	1	-5	J-LAR	Zonal	Yes	-0.402804775	Brick	1	1	3.036672	1	No	0.072418	< small
Brick	2	T-shirt	2	35	Crystal Tabs	1 to 1	Yes	0.399756191	T-shirt	0	1	2.99088	1	No	0.071873	< small
Brick	2	Glossed MDF	3	19	Crystal Tabs	1 to 1	Yes	0.399557028	Glossed MDF	1	1	2.987901	1	No	0.071837	< small
Cushion cover	1	Seatbelt	2	-5	Crystal Tabs	1 to 1	Yes	0.397399504	Seatbelt	1	1	2.95572	1	No	0.071451	< small
Jeans	1	T-shirt	2	19	J-LAR	1 to 1	Yes	0.396418819	T-shirt	1	1	2.94115	1	No	0.071276	< small
Brick	2	Tracksuit trousers	2	-5	J-LAR	1 to 1	Yes	0.394812151	Tracksuit trousers	0	1	2.917358	1	No	0.070988	< small
Glossed MDF	3	Seatbelt	2	19	J-LAR	1 to 1	Yes	-0.391807421	Glossed MDF	1	1	2.873121	1	No	0.070451	< small
Brick	2	Jeans	1	35	J-LAR	Zonal	Yes	-0.391145452	Brick	1	1	2.863421	1	No	0.070332	< small
Jeans	1	Tracksuit trousers	2	-5	J-LAR	Zonal	Yes	0.388686845	Tracksuit trousers	1	1	2.827537	1	No	0.069892	< small
Glossed MDF	3	Plywood	3	35	J-LAR	Zonal	Yes	-0.388146866	Glossed MDF	0	1	2.819686	1	No	0.069796	< small
Ceramic tile	3	Glossed MDF	3	35	Crystal Tabs	Zonal	Yes	0.385793718	Glossed MDF	0	1	2.785601	1	No	0.069375	< small
Jeans	1	Jumper	1	-5	J-LAR	1 to 1	Yes	0.385720302	Jumper	0	1	2.784541	1	No	0.069361	< small
Cushion cover	1	Long carpet	1	35	Crystal Tabs	Zonal	Yes	-0.380478109	Cushion cover	0	1	2.709368	1	No	0.068423	< small
Jumper	1	Long carpet	1	35	J-LAR	Zonal	Yes	-0.379836452	Jumper	0	1	2.700237	1	No	0.068308	< small
Ceramic tile	3	Plywood	3	35	J-LAR	Zonal	Yes	0.374734956	Plywood	0	1	2.628192	1	No	0.067395	< small
Brick	2	Short carpet	1	-5	J-LAR	Zonal	Yes	-0.37387448	Brick	1	1	2.616136	1	No	0.067241	< small
Ceramic tile	3	Plywood	3	35	Crystal Tabs	1 to 1	Yes	0.371345317	Plywood	0	1	2.580861	1	No	0.066788	< small
Brick	2	Jeans	1	35	Crystal Tabs	1 to 1	Yes	-0.3690244	Brick	1	1	2.548701	1	No	0.066373	< small
Jeans	1	Short carpet	1	35	J-LAR	1 to 1	Yes	-0.361793508	Jeans	0	1	2.449797	1	No	0.065078	< small
Long carpet	1	Short carpet	1	19	Crystal Tabs	Zonal	Yes	0.353056124	Short carpet	0	1	2.3329	1	No	0.063512	< small
Jeans	1	Tracksuit trousers	2	35	Crystal Tabs	1 to 1	Yes	0.33698376	Tracksuit trousers	1	1	2.125331	1	No	0.060632	< small
Cushion cover	1	Jumper	1	-5	J-LAR	1 to 1	Yes	0.332171177	Jumper	0	1	2.065059	1	No	0.059769	< small

Glossed MDF	3	Plywood	3	-5	J-LAR	Zonal	Yes	0.331802019	Plywood	0	1	2.060472	1	No	0.059703	< small
Jeans	1	Long carpet	1	19	Crystal Tabs	1 to 1	Yes	0.328652863	Long carpet	0	1	2.021545	1	No	0.059138	< small
Jumper	1	Tracksuit trousers	2	35	J-LAR	1 to 1	Yes	0.325018164	Tracksuit trousers	1	1	1.977078	1	No	0.058487	< small
Brick	2	Seatbelt	2	35	Crystal Tabs	Zonal	Yes	-0.322732406	Brick	0	1	1.949368	1	No	0.058077	< small
Cushion cover	1	Tracksuit trousers	2	19	J-LAR	1 to 1	Yes	0.319827455	Tracksuit trousers	1	1	1.914433	1	No	0.057556	< small
Jeans	1	Short carpet	1	19	J-LAR	1 to 1	Yes	-0.316165326	Jeans	0	1	1.870842	1	No	0.056899	< small
Seatbelt	2	Tracksuit trousers	2	-5	Crystal Tabs	1 to 1	Yes	0.315570557	Tracksuit trousers	0	1	1.86381	1	No	0.056792	< small
Seatbelt	2	T-shirt	2	19	Crystal Tabs	Zonal	Yes	-0.307972417	Seatbelt	0	1	1.775139	1	No	0.055429	< small
Jeans	1	Short carpet	1	19	Crystal Tabs	Zonal	Yes	0.307896577	Short carpet	0	1	1.774265	1	No	0.055415	< small
Cushion cover	1	Jumper	1	19	J-LAR	1 to 1	Yes	0.307165932	Jumper	0	1	1.765854	1	No	0.055284	< small
Cushion cover	1	T-shirt	2	19	Crystal Tabs	1 to 1	Yes	0.307008143	T-shirt	1	1	1.76404	1	No	0.055256	< small
Plywood	3	Seatbelt	2	19	J-LAR	Zonal	Yes	-0.30536938	Plywood	1	1	1.745258	1	No	0.054962	< small
Jeans	1	Tracksuit trousers	2	35	J-LAR	Zonal	Yes	0.304576825	Tracksuit trousers	1	1	1.73621	1	No	0.05482	< small
Cushion cover	1	Long carpet	1	19	Crystal Tabs	Zonal	Yes	-0.304262681	Cushion cover	0	1	1.732631	1	No	0.054763	< small
Brick	2	Tracksuit trousers	2	35	Crystal Tabs	Zonal	Yes	-0.300462695	Brick	0	1	1.689623	1	No	0.054081	< small
Ceramic tile	3	Plywood	3	-5	J-LAR	Zonal	Yes	0.299398713	Plywood	0	1	1.677678	1	No	0.05389	< small
Brick	2	Ceramic tile	3	19	Crystal Tabs	1 to 1	Yes	0.298071021	Ceramic tile	1	1	1.662831	1	No	0.053652	< small
Glossed MDF	3	Plywood	3	35	Crystal Tabs	Zonal	Yes	-0.295039539	Glossed MDF	0	1	1.62918	1	No	0.053108	< small
Cushion cover	1	Jumper	1	35	J-LAR	Zonal	Yes	0.293893689	Jumper	0	1	1.61655	1	No	0.052902	< small
Ceramic tile	3	Plywood	3	19	Crystal Tabs	Zonal	Yes	-0.293018893	Ceramic tile	0	1	1.606941	1	No	0.052745	< small
Jeans	1	T-shirt	2	35	Crystal Tabs	Zonal	Yes	-0.291403317	Jeans	-1	1	1.58927	1	No	0.052455	< small
Long carpet	1	Tracksuit trousers	2	19	J-LAR	1 to 1	Yes	0.28629599	Tracksuit trousers	1	1	1.534049	1	No	0.051538	< small
Jumper	1	T-shirt	2	19	Crystal Tabs	Zonal	Yes	0.28583894	T-shirt	1	1	1.529155	1	No	0.051456	< small
Jeans	1	Seatbelt	2	35	J-LAR	Zonal	Yes	0.283169724	Seatbelt	1	1	1.500729	1	No	0.050977	< small
Cushion cover	1	Short carpet	1	35	J-LAR	Zonal	Yes	-0.281006242	Cushion cover	0	1	1.477885	1	No	0.050589	< small
Ceramic tile	3	Glossed MDF	3	35	J-LAR	1 to 1	Yes	-0.276736466	Ceramic tile	0	1	1.433314	1	No	0.049822	< small
Jumper	1	Long carpet	1	19	J-LAR	1 to 1	Yes	-0.273634467	Jumper	0	1	1.401362	1	No	0.049265	< small
Jeans	1	Short carpet	1	35	Crystal Tabs	1 to 1	Yes	-0.271975911	Jeans	0	1	1.384425	1	No	0.048967	< small
Brick	2	Jumper	1	-5	J-LAR	1 to 1	Yes	-0.269949058	Brick	1	1	1.363868	1	No	0.048603	< small
Seatbelt	2	Short carpet	1	-5	J-LAR	1 to 1	Yes	-0.268526171	Seatbelt	1	1	1.349528	1	No	0.048347	< small

Jeans	1	Jumper	1	35	J-LAR	1 to 1	Yes	0.268487217	Jumper	0	1	1.349136	1	No	0.04834	< small
Cushion cover	1	Long carpet	1	35	Crystal Tabs	1 to 1	Yes	-0.268107198	Cushion cover	0	1	1.34532	1	No	0.048272	< small
Brick	2	Seatbelt	2	19	J-LAR	Zonal	Yes	-0.26603084	Brick	0	1	1.324563	1	No	0.047899	< small
Jeans	1	Short carpet	1	19	Crystal Tabs	1 to 1	Yes	0.265148903	Short carpet	0	1	1.315795	1	No	0.047741	< small
Cushion cover	1	Jumper	1	35	Crystal Tabs	1 to 1	Yes	-0.260160169	Cushion cover	0	1	1.266748	1	No	0.046844	< small
Ceramic tile	3	Glossed MDF	3	19	Crystal Tabs	Zonal	Yes	0.260147295	Glossed MDF	0	1	1.266623	1	No	0.046842	< small
Cushion cover	1	Jeans	1	19	Crystal Tabs	Zonal	Yes	-0.259103134	Cushion cover	0	1	1.256475	1	No	0.046654	< small
Jeans	1	Long carpet	1	-5	J-LAR	Zonal	Yes	-0.258619493	Jeans	0	1	1.251789	1	No	0.046568	< small
Jumper	1	Long carpet	1	-5	Crystal Tabs	1 to 1	Yes	-0.258532468	Jumper	0	1	1.250947	1	No	0.046552	< small
Jeans	1	Seatbelt	2	-5	J-LAR	Zonal	Yes	0.255852016	Seatbelt	1	1	1.225142	1	No	0.04607	< small
T-shirt	2	Tracksuit trousers	2	-5	J-LAR	1 to 1	Yes	0.252800662	Tracksuit trousers	0	1	1.196093	1	No	0.045522	< small
Brick	2	Short carpet	1	35	Crystal Tabs	Zonal	Yes	-0.252649494	Brick	1	1	1.194663	1	No	0.045495	< small
Glossed MDF	3	Plywood	3	-5	Crystal Tabs	Zonal	Yes	0.251014188	Plywood	0	1	1.179248	1	No	0.045201	< small
Glossed MDF	3	Seatbelt	2	19	Crystal Tabs	1 to 1	Yes	-0.247478238	Glossed MDF	1	1	1.146259	1	No	0.044565	< small
Short carpet	1	T-shirt	2	-5	J-LAR	1 to 1	Yes	0.245311513	T-shirt	1	1	1.126275	1	No	0.044176	< small
Brick	2	Tracksuit trousers	2	-5	J-LAR	Zonal	Yes	0.244501563	Tracksuit trousers	0	1	1.11885	1	No	0.04403	< small
Jeans	1	Jumper	1	19	J-LAR	1 to 1	Yes	-0.239743561	Jeans	0	1	1.075728	1	No	0.043175	< small
Seatbelt	2	Tracksuit trousers	2	19	Crystal Tabs	Zonal	Yes	0.239127462	Tracksuit trousers	0	1	1.070206	1	No	0.043065	< small
Jeans	1	Jumper	1	19	Crystal Tabs	1 to 1	Yes	0.234408275	Jumper	0	1	1.028382	1	No	0.042216	< small
Glossed MDF	3	Plywood	3	19	Crystal Tabs	1 to 1	Yes	-0.230878873	Glossed MDF	0	1	0.997647	1	No	0.041582	< small
Cushion cover	1	Short carpet	1	19	J-LAR	1 to 1	Yes	0.230744168	Short carpet	0	1	0.996484	1	No	0.041557	< small
Jeans	1	Short carpet	1	-5	J-LAR	Zonal	Yes	-0.229689198	Jeans	0	1	0.987392	1	No	0.041368	< small
Seatbelt	2	Tracksuit trousers	2	-5	J-LAR	1 to 1	Yes	0.229586005	Tracksuit trousers	0	1	0.986505	1	No	0.041349	< small
Cushion cover	1	Jumper	1	-5	Crystal Tabs	1 to 1	Yes	-0.229032725	Cushion cover	0	1	0.981756	1	No	0.04125	< small
Jeans	1	Tracksuit trousers	2	19	J-LAR	1 to 1	Yes	-0.227082038	Jeans	-1	1	0.965104	1	No	0.040899	< small
Jumper	1	Short carpet	1	-5	Crystal Tabs	1 to 1	Yes	0.222541023	Short carpet	0	1	0.926891	1	No	0.040082	< small
Ceramic tile	3	Glossed MDF	3	-5	J-LAR	1 to 1	Yes	0.218019901	Glossed MDF	0	1	0.889613	1	No	0.039269	< small
Jeans	1	Tracksuit trousers	2	-5	Crystal Tabs	1 to 1	Yes	0.215399469	Tracksuit trousers	1	1	0.868356	1	No	0.038798	< small
Jeans	1	Seatbelt	2	35	Crystal Tabs	1 to 1	Yes	0.214981283	Seatbelt	1	1	0.864988	1	No	0.038723	< small
Ceramic tile	3	Glossed MDF	3	-5	Crystal Tabs	1 to 1	Yes	0.214590508	Glossed MDF	0	1	0.861846	1	No	0.038653	< small

Glossed MDF	3	Plywood	3	-5	Crystal Tabs	1 to 1	Yes	-0.213424324	Glossed MDF	0	1	0.852504	1	No	0.038443	< small
Ceramic tile	3	Plywood	3	-5	J-LAR	1 to 1	Yes	0.210203343	Plywood	0	1	0.826966	1	No	0.037864	< small
Jumper	1	Long carpet	1	19	Crystal Tabs	Zonal	Yes	-0.210037049	Jumper	0	1	0.825659	1	No	0.037834	< small
Seatbelt	2	T-shirt	2	35	J-LAR	Zonal	Yes	0.208692336	T-shirt	0	1	0.81512	1	No	0.037592	< small
Short carpet	1	T-shirt	2	19	J-LAR	Zonal	Yes	-0.204949972	Short carpet	-1	1	0.786148	1	No	0.036919	< small
T-shirt	2	Tracksuit trousers	2	-5	Crystal Tabs	1 to 1	Yes	0.204183444	Tracksuit trousers	0	1	0.780279	1	No	0.036781	< small
Brick	2	Seatbelt	2	19	Crystal Tabs	Zonal	Yes	-0.202819274	Brick	0	1	0.769887	1	No	0.036535	< small
Short carpet	1	T-shirt	2	35	Crystal Tabs	Zonal	Yes	-0.199024201	Short carpet	-1	1	0.741345	1	No	0.035853	< small
Long carpet	1	Short carpet	1	19	J-LAR	1 to 1	Yes	0.197212702	Short carpet	0	1	0.727911	1	No	0.035527	< small
Long carpet	1	Short carpet	1	35	J-LAR	Zonal	Yes	-0.195063479	Long carpet	0	1	0.712132	1	No	0.03514	< small
Ceramic tile	3	Plywood	3	35	J-LAR	1 to 1	Yes	-0.192730261	Ceramic tile	0	1	0.695198	1	No	0.03472	< small
Cushion cover	1	T-shirt	2	19	Crystal Tabs	Zonal	Yes	0.191613309	T-shirt	1	1	0.687163	1	No	0.034519	< small
T-shirt	2	Tracksuit trousers	2	35	J-LAR	Zonal	Yes	-0.187285235	T-shirt	0	1	0.656471	1	No	0.03374	< small
Cushion cover	1	Long carpet	1	-5	J-LAR	1 to 1	Yes	-0.185661169	Cushion cover	0	1	0.645135	1	No	0.033448	< small
Long carpet	1	T-shirt	2	19	J-LAR	Zonal	Yes	-0.184676896	Long carpet	-1	1	0.638313	1	No	0.033271	< small
T-shirt	2	Tracksuit trousers	2	19	J-LAR	Zonal	Yes	0.172122378	Tracksuit trousers	0	1	0.554477	1	No	0.031011	< small
Brick	2	Plywood	3	19	Crystal Tabs	1 to 1	Yes	0.168678155	Plywood	1	1	0.532508	1	No	0.030391	< small
Jumper	1	Short carpet	1	-5	J-LAR	1 to 1	Yes	0.166649033	Short carpet	0	1	0.519774	1	No	0.030026	< small
Brick	2	Seatbelt	2	-5	J-LAR	1 to 1	Yes	0.165226147	Seatbelt	0	1	0.510936	1	No	0.02977	< small
Jeans	1	Jumper	1	19	Crystal Tabs	Zonal	Yes	0.164877502	Jumper	0	1	0.508782	1	No	0.029707	< small
Jeans	1	Seatbelt	2	35	Crystal Tabs	Zonal	Yes	-0.162462028	Jeans	-1	1	0.493983	1	No	0.029272	< small
Brick	2	Jeans	1	35	Crystal Tabs	Zonal	Yes	-0.160270378	Brick	1	1	0.480745	1	No	0.028878	< small
Ceramic tile	3	Glossed MDF	3	-5	Crystal Tabs	Zonal	Yes	-0.159192847	Ceramic tile	0	1	0.474303	1	No	0.028684	< small
Brick	2	Seatbelt	2	35	Crystal Tabs	1 to 1	Yes	-0.154043117	Brick	0	1	0.444113	1	No	0.027757	< small
Brick	2	Seatbelt	2	19	Crystal Tabs	1 to 1	Yes	0.15207879	Seatbelt	0	1	0.432858	1	No	0.027403	< small
T-shirt	2	Tracksuit trousers	2	35	Crystal Tabs	Zonal	Yes	0.151211	Tracksuit trousers	0	1	0.427933	1	No	0.027247	< small
Cushion cover	1	Jumper	1	-5	Crystal Tabs	Zonal	Yes	0.147190155	Jumper	0	1	0.405477	1	No	0.026523	< small
Ceramic tile	3	Seatbelt	2	19	Crystal Tabs	1 to 1	Yes	-0.145992231	Ceramic tile	1	1	0.398904	1	No	0.026307	< small
T-shirt	2	Tracksuit trousers	2	19	Crystal Tabs	1 to 1	Yes	0.145291211	Tracksuit trousers	0	1	0.395082	1	No	0.026181	< small
Brick	2	Jeans	1	-5	J-LAR	Zonal	Yes	-0.144185282	Brick	1	1	0.38909	1	No	0.025982	< small

Jumper	1	Short carpet	1	19	Crystal Tabs	Zonal	Yes	0.143019075	Short carpet	0	1	0.382822	1	No	0.025772	< small
Short carpet	1	T-shirt	2	19	Crystal Tabs	Zonal	Yes	0.142819866	T-shirt	1	1	0.381756	1	No	0.025736	< small
Brick	2	T-shirt	2	-5	J-LAR	1 to 1	Yes	0.142011489	T-shirt	0	1	0.377447	1	No	0.02559	< small
Jeans	1	Tracksuit trousers	2	35	Crystal Tabs	Zonal	Yes	-0.140192317	Jeans	-1	1	0.367838	1	No	0.025263	< small
Jeans	1	Jumper	1	35	J-LAR	Zonal	Yes	-0.136261872	Jeans	0	1	0.347502	1	No	0.024555	< small
Jumper	1	Short carpet	1	19	J-LAR	Zonal	Yes	0.135373215	Short carpet	0	1	0.342984	1	No	0.024395	< small
Brick	2	Tracksuit trousers	2	35	J-LAR	1 to 1	Yes	-0.134623234	Brick	0	1	0.339194	1	No	0.02426	< small
Seatbelt	2	Tracksuit trousers	2	-5	J-LAR	Zonal	Yes	0.13283483	Tracksuit trousers	0	1	0.330242	1	No	0.023938	< small
Jeans	1	Long carpet	1	-5	J-LAR	1 to 1	Yes	-0.132112044	Jeans	0	1	0.326658	1	No	0.023807	< small
Ceramic tile	3	Plywood	3	19	Crystal Tabs	1 to 1	Yes	-0.129392866	Ceramic tile	0	1	0.31335	1	No	0.023318	< small
Seatbelt	2	T-shirt	2	35	Crystal Tabs	Zonal	Yes	-0.12894129	Seatbelt	0	1	0.311166	1	No	0.023236	< small
Seatbelt	2	Tracksuit trousers	2	35	J-LAR	1 to 1	Yes	-0.125914337	Seatbelt	0	1	0.296728	1	No	0.022691	< small
Short carpet	1	Tracksuit trousers	2	-5	Crystal Tabs	Zonal	Yes	-0.124005713	Short carpet	-1	1	0.287801	1	No	0.022347	< small
Seatbelt	2	Tracksuit trousers	2	35	Crystal Tabs	1 to 1	Yes	0.122002477	Tracksuit trousers	0	1	0.278577	1	No	0.021987	< small
Jumper	1	Long carpet	1	19	J-LAR	Zonal	Yes	0.115100139	Long carpet	0	1	0.247948	1	No	0.020743	< small
Brick	2	Seatbelt	2	-5	J-LAR	Zonal	Yes	0.111666734	Seatbelt	0	1	0.233376	1	No	0.020125	< small
Seatbelt	2	T-shirt	2	-5	Crystal Tabs	1 to 1	Yes	0.111387113	T-shirt	0	1	0.232209	1	No	0.020074	< small
Glossed MDF	3	Plywood	3	35	Crystal Tabs	1 to 1	Yes	-0.110777023	Glossed MDF	0	1	0.229672	1	No	0.019964	< small
Brick	2	Seatbelt	2	35	J-LAR	Zonal	Yes	-0.107975728	Brick	0	1	0.218203	1	No	0.01946	< small
Brick	2	Short carpet	1	-5	J-LAR	1 to 1	Yes	-0.103300024	Brick	1	1	0.199714	1	No	0.018617	< small
Jumper	1	Tracksuit trousers	2	19	J-LAR	Zonal	Yes	0.102545621	Tracksuit trousers	1	1	0.196808	1	No	0.018481	< small
Ceramic tile	3	Glossed MDF	3	19	Crystal Tabs	1 to 1	Yes	0.101486007	Glossed MDF	0	1	0.192762	1	No	0.018291	< small
Brick	2	T-shirt	2	35	J-LAR	Zonal	Yes	0.100716607	T-shirt	0	1	0.18985	1	No	0.018152	< small
Jeans	1	Seatbelt	2	-5	Crystal Tabs	1 to 1	Yes	-0.100171088	Jeans	-1	1	0.187799	1	No	0.018054	< small
Cushion cover	1	Short carpet	1	35	J-LAR	1 to 1	Yes	0.097785339	Short carpet	0	1	0.17896	1	No	0.017624	< small
Jumper	1	Long carpet	1	19	Crystal Tabs	1 to 1	Yes	0.094244589	Long carpet	0	1	0.166235	1	No	0.016986	< small
Cushion cover	1	Jumper	1	19	Crystal Tabs	Zonal	Yes	-0.094225632	Cushion cover	0	1	0.166168	1	No	0.016982	< small
T-shirt	2	Tracksuit trousers	2	35	J-LAR	1 to 1	Yes	-0.093446415	T-shirt	0	1	0.163431	1	No	0.016842	< small
Jeans	1	Short carpet	1	35	Crystal Tabs	Zonal	Yes	-0.092379116	Jeans	0	1	0.159719	1	No	0.01665	< small
Ceramic tile	3	Plywood	3	-5	Crystal Tabs	Zonal	Yes	0.091821341	Plywood	0	1	0.157796	1	No	0.016549	< small

Ceramic tile	3	Plywood	3	35	Crystal Tabs	Zonal	Yes	0.090754179	Plywood	0	1	0.154149	1	No	0.016357	< small
Short carpet	1	Tracksuit trousers	2	19	J-LAR	1 to 1	Yes	0.089083288	Tracksuit trousers	1	1	0.148526	1	No	0.016056	< small
Long carpet	1	Short carpet	1	35	J-LAR	1 to 1	Yes	0.088238906	Short carpet	0	1	0.145723	1	No	0.015904	< small
Brick	2	Tracksuit trousers	2	35	J-LAR	Zonal	Yes	-0.086568627	Brick	0	1	0.140259	1	No	0.015603	< small
Cushion cover	1	Long carpet	1	35	J-LAR	Zonal	Yes	-0.085942763	Cushion cover	0	1	0.138238	1	No	0.01549	< small
Glossed MDF	3	Plywood	3	35	J-LAR	1 to 1	Yes	0.084006206	Plywood	0	1	0.132078	1	No	0.015141	< small
Seatbelt	2	T-shirt	2	-5	Crystal Tabs	Zonal	Yes	0.078887772	T-shirt	0	1	0.116474	1	No	0.014219	< small
Jumper	1	Short carpet	1	19	J-LAR	1 to 1	Yes	-0.076421764	Jumper	0	1	0.109306	1	No	0.013774	< small
Ceramic tile	3	Plywood	3	19	J-LAR	1 to 1	Yes	-0.072209387	Ceramic tile	0	1	0.097588	1	No	0.013015	< small
Seatbelt	2	Short carpet	1	35	Crystal Tabs	Zonal	Yes	0.070082911	Short carpet	-1	1	0.091925	1	No	0.012632	< small
Jumper	1	T-shirt	2	19	J-LAR	Zonal	Yes	-0.069576757	Jumper	-1	1	0.090602	1	No	0.012541	< small
Jeans	1	Seatbelt	2	-5	Crystal Tabs	Zonal	Yes	-0.066376281	Jeans	-1	1	0.082458	1	No	0.011964	< small
Long carpet	1	Short carpet	1	19	Crystal Tabs	1 to 1	Yes	-0.06350396	Long carpet	0	1	0.075476	1	No	0.011446	< small
Long carpet	1	Seatbelt	2	-5	Crystal Tabs	Zonal	Yes	-0.056256694	Long carpet	-1	1	0.059232	1	No	0.01014	< small
Cushion cover	1	Jeans	1	-5	J-LAR	1 to 1	Yes	-0.053549125	Cushion cover	0	1	0.053668	1	No	0.009652	< small
Cushion cover	1	Short carpet	1	19	Crystal Tabs	Zonal	Yes	0.048793443	Short carpet	0	1	0.044559	1	No	0.008795	< small
Short carpet	1	Tracksuit trousers	2	35	Crystal Tabs	Zonal	Yes	-0.047813201	Short carpet	-1	1	0.042786	1	No	0.008618	< small
Cushion cover	1	Jumper	1	-5	J-LAR	Zonal	Yes	-0.047736199	Cushion cover	0	1	0.042649	1	No	0.008604	< small
Jeans	1	Long carpet	1	19	Crystal Tabs	Zonal	Yes	-0.045159547	Jeans	0	1	0.038169	1	No	0.00814	< small
Cushion cover	1	Jeans	1	19	J-LAR	Zonal	Yes	0.041575584	Jeans	0	1	0.032351	1	No	0.007494	< small
Brick	2	T-shirt	2	35	J-LAR	1 to 1	Yes	-0.041176819	Brick	0	1	0.031733	1	No	0.007422	< small
Brick	2	Plywood	3	19	J-LAR	Zonal	Yes	0.03933854	Plywood	1	1	0.028963	1	No	0.007091	< small
Brick	2	Tracksuit trousers	2	19	Crystal Tabs	Zonal	Yes	0.036308188	Tracksuit trousers	0	1	0.024673	1	No	0.006545	< small
Cushion cover	1	Long carpet	1	19	J-LAR	1 to 1	Yes	0.033531465	Long carpet	0	1	0.021043	1	No	0.006044	< small
Short carpet	1	Tracksuit trousers	2	19	J-LAR	Zonal	Yes	-0.032827593	Short carpet	-1	1	0.020169	1	No	0.005917	< small
Seatbelt	2	T-shirt	2	35	J-LAR	1 to 1	Yes	-0.032467922	Seatbelt	0	1	0.01973	1	No	0.005852	< small
Ceramic tile	3	Glossed MDF	3	-5	J-LAR	Zonal	Yes	-0.032403307	Ceramic tile	0	1	0.019651	1	No	0.005841	< small
Brick	2	Tracksuit trousers	2	35	Crystal Tabs	1 to 1	Yes	-0.03204064	Brick	0	1	0.019214	1	No	0.005775	< small
Jumper	1	Short carpet	1	19	Crystal Tabs	1 to 1	Yes	0.030740629	Short carpet	0	1	0.017686	1	No	0.005541	< small
Brick	2	T-shirt	2	19	J-LAR	1 to 1	Yes	-0.030681246	Brick	0	1	0.017618	1	No	0.00553	< small

Long carpet	1	Short carpet	1	-5	J-LAR	Zonal	Yes	0.028930295	Short carpet	0	1	0.015664	1	No	0.005215	< small
Jumper	1	Long carpet	1	35	Crystal Tabs	Zonal	Yes	0.027485079	Long carpet	0	1	0.014138	1	No	0.004954	< small
Seatbelt	2	T-shirt	2	-5	J-LAR	1 to 1	Yes	-0.023214658	Seatbelt	0	1	0.010086	1	No	0.004185	< small
Long carpet	1	T-shirt	2	-5	Crystal Tabs	Zonal	Yes	0.022631078	T-shirt	1	1	0.009586	1	No	0.004079	< small
Seatbelt	2	Tracksuit trousers	2	35	Crystal Tabs	Zonal	Yes	0.02226971	Tracksuit trousers	0	1	0.009282	1	No	0.004014	< small
Ceramic tile	3	Glossed MDF	3	19	J-LAR	Zonal	Yes	0.021883712	Glossed MDF	0	1	0.008963	1	No	0.003945	< small
Seatbelt	2	Tracksuit trousers	2	35	J-LAR	Zonal	Yes	0.021407101	Tracksuit trousers	0	1	0.008577	1	No	0.003859	< small
Long carpet	1	Short carpet	1	19	J-LAR	Zonal	Yes	0.020273076	Short carpet	0	1	0.007692	1	No	0.003654	< small
Plywood	3	Seatbelt	2	19	Crystal Tabs	1 to 1	Yes	-0.016599365	Plywood	1	1	0.005157	1	No	0.002992	< small
Jumper	1	Tracksuit trousers	2	19	J-LAR	1 to 1	Yes	0.012661523	Tracksuit trousers	1	1	0.003	1	No	0.002282	< small
Long carpet	1	Tracksuit trousers	2	19	J-LAR	Zonal	Yes	-0.012554518	Long carpet	-1	1	0.00295	1	No	0.002263	< small
Jeans	1	T-shirt	2	-5	Crystal Tabs	Zonal	Yes	0.012511491	T-shirt	1	1	0.00293	1	No	0.002255	< small
Jeans	1	T-shirt	2	-5	Crystal Tabs	1 to 1	Yes	0.011216025	T-shirt	1	1	0.002354	1	No	0.002022	< small
Jeans	1	Long carpet	1	-5	Crystal Tabs	Zonal	Yes	-0.010119587	Jeans	0	1	0.001917	1	No	0.001824	< small
Cushion cover	1	Long carpet	1	35	J-LAR	1 to 1	Yes	0.009546433	Long carpet	0	1	0.001706	1	No	0.001721	< small
Brick	2	Seatbelt	2	35	J-LAR	1 to 1	Yes	-0.008708897	Brick	0	1	0.001419	1	No	0.00157	< small
Jumper	1	Long carpet	1	35	Crystal Tabs	1 to 1	Yes	-0.007947028	Jumper	0	1	0.001182	1	No	0.001433	< small
Glossed MDF	3	Plywood	3	-5	J-LAR	1 to 1	Yes	-0.007816559	Glossed MDF	0	1	0.001144	1	No	0.001409	< small
Cushion cover	1	Short carpet	1	-5	Crystal Tabs	1 to 1	Yes	-0.006491703	Cushion cover	0	1	0.000789	1	No	0.00117	< small
Ceramic tile	3	Plywood	3	-5	Crystal Tabs	1 to 1	Yes	0.001166184	Plywood	0	1	2.55E-05	1	No	0.00021	< small
Residuals	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	576	NA	NA	NA	NA	NA