M Chapman & Sons Textiles Ltd
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Dunnockshaw
Burnley
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BB11 5PW

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| Technical Document | Article- | Montecarlo | Release Date- | 01 February 2025 |
|---|---|---|---|---|
| Description- | Linen | | Composition- | 100% Linen |
| Applications- | Apparel | | | |

| | | | |
|---|---|---|---|
| Weight (g/m2) | 265 | | UNI 5114 |
| Weight Linear (g/m) | 398 | | |
| Warp Yarn per Inch | 35 | | UNI EN 1049/2 |
| Weft Yarn per Inch | 34 | | |
| Warp Yarn Count | 1/12s | | ISO 7211/5 |
| Weft Yarn Count | 1/12s | | |
| Minimum Usable Width | 146cm | | UNI EN 1773 |
| Customs Tariff Code (HS) | 53091900 | | |
| County of Origin | Lithuania | | |
| Yarn Origin | France | | |
| Weaving Origin | Lithuania | | |
| Dyeing/Finishing Origin | Lithuania | | |
| Sample/Bulk Leadtime (Weeks) | Stock Supported | | |
| Manufacturing Features- | | | |
| Piece Dye | Jig Dyeing Method | Reactive Dyestuffs | |
| Care Instructions- |  | | UNI EN ISO 3758 |
| Dimensional Stability- | | | |
| Domestic Washing | Warp | +/- 5.5% | ISO 6330:2021 |
| | Weft | +/- 5.5% | |
| Steam Ironing | Warp | +/- 3% | DIN 53894-2 |
| | Weft | +/- 3% | |
| Dry Cleaning | Warp | +/- 3% | UNI EN ISO 3175-2 |
| | Weft | +/- 3% | |
| Physical Features- | | | |
| Tensile Strength | Warp | 80kg | UNI EN ISO 13934-1 |
| | Weft | 80kg | |
| Tear Strength | Warp | 6000g | UNI EN ISO 13927-2 |
| | Weft | 7400g | |
| Seam Slippage (6mm) | Warp | > 20kg | UNI EN ISO 13935-1 |
| | Weft | > 20kg | |
| Abrasion Resistance (9kPa) | Face | Grade 4/5 @ 20,000 Rubs | UNI EN ISO 12947-2 |
| Pilling (2000 Revolutions) | Face | Grade 3/4 @ 20,000 Rubs | UNI EN ISO 12945-2 |
| Martindale | Face | Grade 4 | 20,000rpm |
| Maximum Weft Skew | | 3% | |
| Stretch and Recovery at 30N Load | Extension | N/A | UNI EN ISO 14704-1 |
| | Residual | N/A | |

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Colour Fastness-

| | | Grade | Change in Colour | Dark Colours | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | Cross Staining | | | | | |
| | | | | Acetate | Cotton | Polyamide | Polyester | Acrylic | Wool |
| Dry Cleaning | UNI EN ISO 105-D01 | | 3 | 3 | 3 | 3 | 3 | 3 | 3 |
| Dry Ironing | UNI EN ISO 105-X11 | | 3 | 3 | 3 | 3 | 3 | 3 | 3 |
| Wet Ironing | UNI EN ISO 105-X11 | | 3 | 3 | 3 | 3 | 3 | 3 | 3 |
| Acid Pers | UNI EN ISO 105-E04 | | 3 | 3 | 3 | 3 | 3 | 3 | 3 |
| Alkaline Pers | UNI EN ISO 105-E04 | | 3 | 3 | 3 | 3 | 3 | 3 | 3 |
| Water | UNI EN ISO 105-E01 | | 3 | 3 | 3 | 3 | 3 | 3 | 3 |
| Washing | UNI EN ISO 105-C06 | | 3 | 3 | 3 | 3 | 3 | 3 | 3 |
| Dry Rubbing | UNI EN ISO 105-X12 | | | | 3/4 | | | | |
| Wet Rubbing | UNI EN ISO 105-X12 | | | | 2/3 | | | | |
| Light | UNI EN ISO 105-B02 | 4 | | | | | | | |

| | | Grade | Change in Colour | Light Colours | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | Cross Staining | | | | | |
| | | | | Acetate | Cotton | Polyamide | Polyester | Acrylic | Wool |
| Dry Cleaning | UNI EN ISO 105-D01 | | 4 | 4 | 4 | 4 | 4 | 4 | 4 |
| Dry Ironing | UNI EN ISO 105-X11 | | 4 | 4 | 4 | 4 | 4 | 4 | 4 |
| Wet Ironing | UNI EN ISO 105-X11 | | 4 | 4 | 4 | 4 | 4 | 4 | 4 |
| Acid Pers | UNI EN ISO 105-E04 | | 4 | 4 | 4 | 4 | 4 | 4 | 4 |
| Alkaline Pers | UNI EN ISO 105-E04 | | 4 | 4 | 4 | 4 | 4 | 4 | 4 |
| Water | UNI EN ISO 105-E01 | | 4 | 4 | 4 | 4 | 4 | 4 | 4 |
| Washing | UNI EN ISO 105-C06 | | 4 | 4 | 4 | 4 | 4 | 4 | 4 |
| Dry Rubbing | UNI EN ISO 105-X12 | | | | 4 | | | | |
| Wet Rubbing | UNI EN ISO 105-X12 | | | | 3 | | | | |
| Light | UNI EN ISO 105-B02 | 4 | | | | | | | |

Chemical and Ecotoxicological-

| | | |
|---|---|---|
| pH-value Water Extract | 4.0 - 7.5 | UNI EN ISO 3071 |
| Flammability | Class 1 | 16 CFR 1610 |
| Formaldehyde | < 16 mg/kg | UNI EN ISO 14184/1 |
| Cancer-causing Aromatic Amines | < 20 ppm | DIN EN ISO 14362/1 |
| REACH Compliant | Yes | Reg.(UE) 1907/2006 |

Standard(s)-

| | |
|---|---|
| Compliant with the National Standard of the People's Republic of China | GB18401-2010 |

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| Test Report | No. 28515563 | Date: 11th February 2025 | Page 1 of 9 |
|---|---|---|---|

**Sample Description** : Lightweight Linen
**Customer** : **Brisbane Moss; Bridgeroyd Works, Todmorden, OL14 6DF**
**Product type** : Apparel Montecarlo 100% Linen 185 g/m²
**PO Number** : 13290-1AD
**Colour** : Cocoa / 2730
**Contact person** : Stephen Newham, Joshua Barker-Lockwood

Test Performed : Selected test(s) as requested by applicant
* * * * *
Sample Receiving Date : 22nd January 2025
Testing Period : 22nd January 2025 – 11th February 2025
Test Result(s) : For further details, please refer to the following page(s).

**Conclusion:**

| Test Property | | | |
|---|---|---|---|
| Colour Fastness to Washing | Data | Tear Strength - Trouser | Data |
| Colour Fastness to Dry Cleaning | Data | Seam Slippage | Data |
| Colour Fastness to Perspiration | Data | Pilling Resistance | Data |
| Colour Fastness to Water | Data | Abrasion Resistance | Data |
| Colour Fastness to Light* | Data | Yarn Count* | Data |
| Colour Fastness to Hot Pressing* | Data | Formaldehyde* | Pass |
| Colour Fastness to Rubbing | Data | pH Value | Data |
| Dimensional Stability to Washing | Data | Bow & Skew** | Data |
| Dimensional Stability to Dry Cleaning** | Data | Azo Dyes* | Pass |
| Dimensional Stability to Free Steam (wira)* | Data | Tear Strength - Elmandorf | Data |
| Tensile Strength | Data | | |

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**Signed for and on behalf of**
**TÜV Rheinland UK LTD**

Christopher Clarke

Digitally signed by Christopher Clarke
Date: 2025.02.11 10:04:54 Z

**Chris Clarke**
**Laboratory Supervisor**

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United Kingdom Tel: +44 1773 300 362, Email: joanne.brown@uk.tuv.com,Internet: http://www.tuv.com

**Results:**

**Colour Fastness to Washing**
Washing Condition: A2S, 30°C (Deviation) With ECE(B) + Sodium Perborate, 10 Steel Balls.

| Sample | Result |
|---|---|
| **Colour Change** | 4-5 |
| **Self-Staining** | - |
| **Colour Staining** | **Result** |
| **Acetate** | 4-5 |
| **Cotton** | 4-5 |
| **Polyamide** | 4-5 |
| **Polyester** | 4-5 |
| **Acrylic** | 4-5 |
| **Wool** | 4-5 |

Remark: Grey Scale rating is based on the 5-step scale of 1 to 5, where 1 is bad and 5 is good

**Colour Fastness to Water**
BS EN ISO 105 E01: 2013

| Sample | Result |
|---|---|
| **Colour Change** | 4-5 |
| **Self-Staining** | - |
| **Colour Staining** | **Result** |
| **Acetate** | 4-5 |
| **Cotton** | 4-5 |
| **Polyamide** | 4-5 |
| **Polyester** | 4-5 |
| **Acrylic** | 4-5 |
| **Wool** | 4-5 |

Remark: Grey Scale rating is based on the 5-step scale of 1 to 5, where 1 is bad and 5 is good

**Colour Fastness to Rubbing**
BS EN ISO 105 X12: 2016

| Sample | Result | | | |
|---|---|---|---|---|
| | **Warp** | | **Weft** | |
| | **Dry:** 4-5 | | **Dry:** 4-5 | |
| | **Wet:** 4 | **% Soak:** 100 | **Wet:** 4 | **% Soak:** 100 |
| **Atmospheric Conditions:** 65% RH, 20°C | | | | |
| **Conditioning time of sample and rubbing cloth:** 4 Hours | | | | |

| Colour Fastness to Light<br>BS EN ISO 105 B02 Method 3: 2013 | |
|---|---|
| **Sample** | |
| | 4 |

| Colour Fastness to Hot Pressing<br>BS EN ISO 105 X11 @ 150°C: 1994 | |
|---|---|
| **Sample** | |
| Sample | Immediately After Testing colour Change<br>Dry: 4-5<br>Damp: 4-5<br>Wet: 4-5<br>After Conditioning Colour Change<br>Dry: 4-5<br>Damp: 4-5<br>Wet: 4-5<br>Colour Staining<br>Damp: 4-5<br>Wet: 3-4 |

| Colour Fastness to Dry Cleaning<br>BS EN ISO 105-D01: 2010 | |
|---|---|
| | **Result** |
| **Colour Change** | 4-5 |
| **Self-Staining** | - |
| **Colour Staining** | **Result** |
| **Acetate** | 4-5 |
| **Cotton** | 4-5 |
| **Polyamide** | 4-5 |
| **Polyester** | 4-5 |
| **Acrylic** | 4-5 |
| **Wool** | 4-5 |
| Remark: Grey Scale rating is based on the 5-step scale of 1 to 5, where 1 is bad and 5 is good | |

| Colour Fastness To Perspiration<br>BS EN ISO 105-E04: 2013 | | |
|---|---|---|
| **Sample** | **Result** | |
| | **Acid** | **Alkaline** |
| **Colour Change** | 4-5 | 4-5 |
| **Self-Staining** | | |
| **Colour Staining** | **Result** | **Result** |
| **Acetate** | 4-5 | 4-5 |
| **Cotton** | 4-5 | 4-5 |
| **Polyamide** | 4-5 | 4-5 |
| **Polyester** | 4-5 | 4-5 |
| **Acrylic** | 4-5 | 4-5 |
| **Wool** | 4-5 | 4-5 |
| Remark: Grey Scale rating is based on the 5-step scale of 1 to 5, where 1 is bad and 5 is good | | |

| **Abrasion Resistance**<br>(BS EN ISO 12947-2:2016/AC:2006); Martindale Wear & Abrasion Tester; 9 kPa Pressure)<br>The criterion for judging end point was Two Threads Broken | | | |
|---|---|---|---|
| | **Result** | | |
| | **Specimen 1** | **Specimen 2** | **Specimen 3** |
| Two Thread Breakdown | 20,000 | 22,000 | 22,000 |
| Colour Change<br>At 3000 (rubs) | 4-5 | 4-5 | 4-5 |
| Remarks: Grey Scale Rating is based on the step scale of 1 to 5, where 1 is bad and 5 is good<br>Observation Technique:40 fold magnification | | | |

| **Pilling Resistance**<br>(BS EN ISO 12945-2:2020; Martindale Abrasion & Pilling Tester; Tested against self<br>No cleansing required | |
|---|---|
| | **Average Result** |
| After 2000 Rubs<br>Rating | P: 3-4<br>F: 3-4<br>M: 4-5 |
| P=Pilling<br>F-Fuzzing<br>M=Matting | |

| **Tensile Strength** (BS EN ISO 13934-1:2013) | |
|---|---|
| **Direction** | **Result** |
| Warp | 80.9 kg |
| Weft | 83.0 kg |

| **Dimensional Change After Washing** BS EN ISO 6330: 2012 3N @ 30°C Flat Dry | |
|---|---|
| **Direction** | **%Change** |
| Warp | -5.3 % |
| Weft | -5.2 % |

| **Dimensional Change After Commercial Dry Cleaning** (Commercial dry clean cycle) | |
|---|---|
| **Direction** | **%Change** |
| Warp | -1.4 % |
| Weft | 0.0 % |

| **Dimensional Change to Free Steam (wira)** BS 4323: 1979 | |
|---|---|
| **Direction** | **%Change** |
| Warp | -0.5 % |
| Weft | -0.5 % |

| **Bow & Skewness**<br>ISO 13015: 2013 | |
|---|---|
| **Direction** | |
| Bow | 0.3 % |
| Skew | 1.1 % |

| **Yarn Count**<br>ISO 7211-5 Method A | |
|---|---|
| **Sample** | **Result** |
| | Warp: Nm: 16.0, Ne: 9.4<br>Weft: Nm: 11.5, Ne: 6.8<br><br>Nm: Metric Count<br>Ne: Cotton Count |

| **Formaldehyde Content**<br>ISO 14184-1: 2011 | |
|---|---|
| **Sample** | **Result** |
| | Not Detected<br><16 mg/kg |

| **pH Value**<br>ISO 3071: 2005 (withdrawn) | |
|---|---|
| **Sample** | **Result** |
| | pH 7.18 |
| pH value of Grade 3 water: 7.1 | |
| Temperature of the Grade 3 water: 17.3 | |

| **Seam Slippage**<br>BS EN ISO 13936-1: 2004 6mm SO | |
|---|---|
| **Sample** | **Result** |
| Warp | A 6mm seam opening was not found before a seam breakdown of >20 kg |
| Weft | A 6mm seam opening was not found before a seam breakdown of >20 kg |
| Remarks: | |

| **Tearing Strength**<br>BS EN ISO 13937-2: 2000 | |
|---|---|
| **Sample** | **Result** |
| Warp | 6030 g |
| Weft | 7542 g |

| **Tearing Strength**<br>(BS EN ISO 13937-1:2000; Elmendorf Tear) | |
|---|---|
| **Sample** | **Result** |
| Warp | 6356 g |
| Weft | A tear did not occur >6526 g |

## 4. Banned azo dyes

Test Method: Method 1 - EN ISO 14362-1:2017 (Textiles) (Buffer extraction)
Method 2 - EN ISO 14362-1:2017 (Textiles) (Xylene extraction)
Method 3 - ISO 17234-1:2020 (Leather)
Method 4 - EN ISO 14362-3:2017 (Textile, 4-aminoazobenzene confirmation)
Method 5 - ISO 17234-2:2011 (Leather, 4-aminoazobenzene confirmation)

**Test Results:**

| | | | | | Material No. | M001 |
|---|---|---|---|---|---|---|
| | | | | | Test No. | T001-1 |
| | | | | | Method No. | Method 1 |
| | | | | | A22 Confirmation Method No. | -- |
| ID | Test Parameter | CAS NO | Unit | RL | Regulatory Requirement | Result |
| A1 | 4-Aminobiphenyl | 92-67-1 | mg/kg | 5 | 30 | n.d. |
| A2 | Benzidine | 92-87-5 | mg/kg | 5 | 30 | n.d. |
| A3 | 4-Chloro-o-toluidine | 95-69-2 | mg/kg | 5 | 30 | n.d. |
| A4 | 2-Naphthylamine | 91-59-8 | mg/kg | 5 | 30 | n.d. |
| A5* | o-Aminoazotoluene | 97-56-3 | mg/kg | 5 | 30 | n.d. |
| A6* | 5-nitro-o-toluidine / 2-Amino-4-nitrotoluene | 99-55-8 | mg/kg | 5 | 30 | n.d. |
| A7 | 4-Chloroaniline | 106-47-8 | mg/kg | 5 | 30 | n.d. |
| A8 | 4-methoxy-m-phenylenediamine / 2,4-Diaminoanisole | 615-05-4 | mg/kg | 5 | 30 | n.d. |
| A9 | 4,4'-Diaminodiphenylmethane | 101-77-9 | mg/kg | 5 | 30 | n.d. |
| A10 | 3,3'-Dichlorobenzidine | 91-94-1 | mg/kg | 5 | 30 | n.d. |
| A11 | 3,3'-Dimethoxybenzidine | 119-90-4 | mg/kg | 5 | 30 | n.d. |
| A12 | 3,3'-Dimethylbenzidine | 119-93-7 | mg/kg | 5 | 30 | n.d. |
| A13 | 4,4'-methylenedi-o-toluidine / 3,3'-Dimethyl-4,4'-diaminodiphenylmethane | 838-88-0 | mg/kg | 5 | 30 | n.d. |
| A14 | p-Cresidine | 120-71-8 | mg/kg | 5 | 30 | n.d. |
| A15 | 4,4'-Methylene-bis-(2-chloroaniline) | 101-14-4 | mg/kg | 5 | 30 | n.d. |
| A16 | 4,4'-Oxydianiline | 101-80-4 | mg/kg | 5 | 30 | n.d. |
| A17 | 4,4'-Thiodianiline | 139-65-1 | mg/kg | 5 | 30 | n.d. |
| A18 | o-Toluidine | 95-53-4 | mg/kg | 5 | 30 | n.d. |
| A19 | 4-methyl-m-phenylenediamine / 2,4-Toluylendiamine | 95-80-7 | mg/kg | 5 | 30 | n.d. |
| A20 | 2,4,5-Trimethylaniline | 137-17-7 | mg/kg | 5 | 30 | n.d. |
| A21 | O-Anisidine | 90-04-0 | mg/kg | 5 | 30 | n.d. |
| A22** | 4-Aminoazobenzene | 60-09-3 | mg/kg | 5 | 30 | n.d. |
| A23^ | 2,4-xylidine | 95-68-1 | mg/kg | 5 | 30 | n.d. |
| A24^ | 2,6-xylidine | 87-62-7 | mg/kg | 5 | 30 | n.d. |
| *2 | 2-Naphthyl-ammoniumacetate | 553-00-4 | mg/kg | 5 | 30 | n.d. |
| A26 | 4-chloro-o-toluidinium chloride | 3165-93-3 | mg/kg | 5 | 30 | n.d. |
| A25 | 4-chloro-o-toluidinium chloride | 3165-93-3 | mg/kg | 5 | 30 | n.d. |
| A27 | 4-Methoxy-m-phenylene diammonium sulphate | 39156-41-7 | mg/kg | 5 | 30 | n.d. |
| A28 | 2,4,5-trimethylaniline hydrochloride | 21436-97-5 | mg/kg | 5 | 30 | n.d. |

**Remark:**

* The CAS-number 97-56-3 (A5) and 99-55-8 (A6) are further reduced to CAS-number 95-53-4 (A18) and 95-80-7 (A19).

** Azo colorants that are able to form 4-aminoazobenzene (A22) CAS-number 60-09-3, generate under the condition of this method Aniline (CAS-number 62-53-3) and 1,4-phenylenediamine (CAS-number 106-50-3.)

*** Azo colorants that are able to form 4-aminoazobenzene (A22), is confirmed by EN ISO 14362-3:2017 / ISO 17234-2:2011.

**** Azo colorants are detected & quantified by GC/MS and confirmed by HPLC/DAD or HPLC/MSMS.

-End of Test Report-

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| Test Report | No. 28515561 | Date: 11th February 2025 | Page 1 of 4 |
|---|---|---|---|

**The following sample(s) was/were submitted and identified on behalf of the client as:**

| | | |
|---|---|---|
| **Sample Description** | : | Lightweight Linen |
| **Customer** | : | **Brisbane Moss; Bridgeroyd Works, Todmorden, OL14 6DF** |
| **Product type** | : | Apparel Monte Carlo 100% Linen 265 gsm² |
| **PO Number** | : | 13250-13AL |
| **Colour** | : | Buff / 2728 |
| **Contact person** | : | Stephen Newham, Joshua Barker-Lockwood |

| | | |
|---|---|---|
| Test Performed | : | Selected test(s) as requested by applicant |
| * * * * * | | |
| Sample Receiving Date | : | 22nd January 2025 |
| Testing Period | : | 22nd January 2025 – 11th February 2025 |
| Test Result(s) | : | For further details, please refer to the following page(s). |

**Conclusion:**

| Test Property | |
|---|---|
| Colour Fastness to Washing | Data |
| Colour Fastness to Dry Cleaning | Data |
| Colour Fastness to Perspiration | Data |
| Colour Fastness to Water | Data |
| Colour Fastness to Light* | Data |
| Colour Fastness to Hot Pressing* | Data |
| Colour Fastness to Rubbing | Data |

*Sub Contracted tests withing TUV Group Laboratories (Turkey)
**Not UKAS Accredited

**Signed for and on behalf of**
**TÜV Rheinland UK LTD**

Christopher Clarke
Digitally signed by Christopher Clarke
Date: 2025.02.11 11:42:29 Z

**Chris Clarke**
**Laboratory Supervisor**

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*Test result is drawn according to the kind and extent of tests performed.*
*Without permission of the test centre this test report is not permitted to be duplicated in extracts. This test report does not entitle to carry any safety mark on this or similar products. This test report represents the test parameters as requested by the customer based on submitted samples only.*

**Results:**

| **Colour Fastness to Washing**<br>Washing Condition: A2S, 30°C (Deviation) With ECE(B) + Sodium Perborate, 10 Steel Balls. | |
|---|---|
| **Sample** | **Result** |
| **Colour Change** | 4-5 |
| **Self-Staining** | - |
| **Colour Staining** | |
| **Acetate** | 4-5 |
| **Cotton** | 4-5 |
| **Polyamide** | 4-5 |
| **Polyester** | 4-5 |
| **Acrylic** | 4-5 |
| **Wool** | 4-5 |
| Remark: Grey Scale rating is based on the 5-step scale of 1 to 5, where 1 is bad and 5 is good | |

| **Colour Fastness to Water**<br>BS EN ISO 105 E01: 2013 | |
|---|---|
| **Sample** | **Result** |
| **Colour Change** | 4-5 |
| **Self-Staining** | - |
| **Colour Staining** | |
| **Acetate** | 4-5 |
| **Cotton** | 4-5 |
| **Polyamide** | 4-5 |
| **Polyester** | 4-5 |
| **Acrylic** | 4-5 |
| **Wool** | 4-5 |
| Remark: Grey Scale rating is based on the 5-step scale of 1 to 5, where 1 is bad and 5 is good | |

| **Colour Fastness to Rubbing**<br>BS EN ISO 105 X12: 2016 | | | | |
|---|---|---|---|---|
| **Sample** | **Result** | | | |
| | **Warp** | | **Weft** | |
| | **Dry:** 4-5 | **Wet:** 4-5 | **Dry:** 4-5 | **Wet:** 4-5 |
| **Atmospheric Conditions:** 65% RH, 20°C | | | | |
| **Conditioning time of sample and rubbing cloth:** 4 Hours | | | | |

| Colour Fastness to Light<br>BS EN ISO 105 B02 Method 3: 2013 | |
|---|---|
| **Sample** | |
| | 4 |

| Colour Fastness to Hot Pressing<br>BS EN ISO 105 X11 @ 150°C: 1994 | |
|---|---|
| **Sample** | |
| Sample | Immediately After Testing Colour Change<br>Dry: 4-5<br>Damp: 4-5<br>Wet: 4-5<br>After Conditioning Colour Change<br>Dry: 4-5<br>Damp: 4-5<br>Wet: 4-5<br>Colour Change<br>Damp: 4-5<br>Wet: 4-5 |

| Colour Fastness to Dry Cleaning<br>BS EN ISO 105-D01: 2010 | |
|---|---|
| | **Result** |
| **Colour Change** | 4-5 |
| **Self-Staining** | - |
| **Colour Staining** | |
| **Acetate** | 4-5 |
| **Cotton** | 4-5 |
| **Polyamide** | 4-5 |
| **Polyester** | 4-5 |
| **Acrylic** | 4-5 |
| **Wool** | 4-5 |
| Remark: Grey Scale rating is based on the 5-step scale of 1 to 5, where 1 is bad and 5 is good | |

| Colour Fastness To Perspiration<br>BS EN ISO 105-E04: 2013 | | |
|---|---|---|
| **Sample** | **Result** | |
| | **Acid** | **Alkaline** |
| **Colour Change** | 4-5 | 4-5 |
| **Self-Staining** | - | - |
| **Colour Staining** | **Result** | **Result** |
| **Acetate** | 4-5 | 4-5 |
| **Cotton** | 4-5 | 4-5 |
| **Polyamide** | 4-5 | 4-5 |
| **Polyester** | 4-5 | 4-5 |
| **Acrylic** | 4-5 | 4-5 |
| **Wool** | 4-5 | 4-5 |
| Remark: Grey Scale rating is based on the 5-step scale of 1 to 5, where 1 is bad and 5 is good | | |

-End of Test Report-

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| Test Report | No. 28515604 | Date: 14th February 2025 | Page 1 of 8 |
|---|---|---|---|

**The following sample(s) was/were submitted and identified on behalf of the client as:**

| | | |
|---|---|---|
| **Sample Description** | : | Linen |
| **Customer** | : | **Brisbane Moss; Bridgeroyd Works, Todmorden, OL14 6DF** |
| **Product type** | : | Apparel Monte Carlo 100% Linen 265 g/m² |
| **PO Number** | : | 11332-5 |
| **Colour** | : | Purple / 2738 |
| **Contact person** | : | Stephen Newham, Joshua Barker-Lockwood |

| | | |
|---|---|---|
| Test Performed | : | Selected test(s) as requested by applicant |
| Sample Receiving Date | : | 3rd February 2025 |
| Testing Period | : | 3rd February 2025 – 14th February 2025 |
| Test Result(s) | : | For further details, please refer to the following page(s). |

**Conclusion:**

| Test Property – REACH Annex XVII | |
|---|---|
| Aromatic Amine Salts* | Pass |
| Dimethyl Fumarate* | Pass |
| Migration of Heavy Metals* | Pass |
| Flame Retardants* | Pass |
| AP + APEO (Alkylphenols, Alkylphenol Ethoxylates)* | Pass |
| Quinoline* | Pass |
| Polycyclic Aromatic Hydrocarbons (PAHs)* | Pass |
| Pentachlorophenol (PCP) Content* | Pass |
| Per – and Polyfluoroalkyl Substances (PFAS)* | Pass |
| Organotin Compounds Content* | Pass |

*Sub Contracted tests withing TUV Group Laboratories (Turkey)
**Not UKAS Accredited

**Signed for and on behalf of**
**TÜV Rheinland UK LTD**

Christopher Clarke

Digitally signed by Christopher Clarke
Date: 2025.02.14 09:12:30 Z

**Chris Clarke**
**Laboratory Supervisor**



**TÜV Rheinland (UK). Ltd, Unit 3, Key Point Office Village, Alfreton, DE55 7FQ,**
**United Kingdom Tel: +44 1773 300 362, Email: joanne.brown@uk.tuv.com,Internet: http://www.tuv.com**

| Material No. | Material | Color | Location |
|---|---|---|---|
| M001 | Textile | Purple | Woven base |

## Results:

### 1. Aromatic Amine Salts

**Test Method:** DIN EN ISO 14362-1:2017
DIN EN ISO 14362-3:2017
Analyzed by GC-MSD

**Test Result:**

| | | | | Test No. | T001 |
|---|---|---|---|---|---|
| | | | | Material No. | M001 |
| Test Parameter | CAS NO | Unit | RL | Regulatory Requirement | Result |
| 4-chloro-o-toluidinium chloride | 3165-93-3 | mg/kg | 5 | 30 | n.d. |
| 4-methoxy-m-phenylene diammonium sulphate; 2,4-diaminoanisole sulphate | 39156-41-7 | mg/kg | 5 | 30 | n.d. |
| 2,4,5-trimethylaniline hydrochloride | 21436-97-5 | mg/kg | 5 | 30 | n.d. |
| 2-Naphthyl-ammoniumacetate | 553-00-4 | mg/kg | 5 | 30 | n.d. |
| Conclusion | | | | - | |

**Abbreviation:** n.d. = Not Detected (< Reporting Limit)
RL = Reporting Limit
mg/kg = milligram per kilogram

### 2.Dimethyl fumarate (CAS No.624-49-7)

Test Method: Organic solvent extraction, GCMS analysis

**Test Result:**

| Test No. | Material No. | Test Parameter | Unit | RL | Regulatory Requirement | Test Result |
|---|---|---|---|---|---|---|
| T001 | M001 | Dimethyl fumarate | mg/kg | 0.025 | 0.1 | n.d. |

**Abbreviation:** < = less than
RL = Reporting Limit
mg/kg = milligram per kilogram

**3. Migration of Heavy Metals**

Test Method: All materials expect leather: DIN EN 16711-2:2016
Leather: DIN EN ISO 17072-1:2019

**Test Result:**

| | | | Test No. | T001 |
|---|---|---|---|---|
| | | | Material No. | M001 |
| Test Parameter | Unit | RL | Customer Requirement | Result |
| Arsenic (As) | mg/kg | 0.1 | < 1 mg/kg each | n.d. |
| Cadmium (Cd) | mg/kg | 0.05 | < 1 mg/kg each | n.d. |
| Chromium (Cr) | mg/kg | 0.5 | < 1 mg/kg each | n.d. |
| Lead (Pb) | mg/kg | 0.2 | < 1 mg/kg each | n.d. |
| Conclusion | | | | Pass |

**Abbreviation:** < = less than
RL = Reporting Limit
mg/kg = milligram per kilogram

**4.Flame Retardants**

Test Method: 1. Organic solvent extraction, GCMS/LCMSMS
2. Acid digestion, analyzed by ICP-MS

| | | | | Test No. | T001 |
|---|---|---|---|---|---|
| | | | | Material No. | M001 |
| Test Parameter | CAS No. | Unit | RL | Formulation Limit | Test Result |
| Octabromodiphenyl ether (OctaBDE) | 32536-52-0 | mg/kg | 100 | < 1000 mg/kg | n.d. |
| Tris(2-chloroethyl)phosphate (TCEP) | 115-96-8 | mg/kg | 100 | < 1000 mg/kg | n.d. |
| Tris(2,3,-dibromopropyl)-phosphate (TRIS) | 126-72-7 | mg/kg | 100 | not used | n.d. |
| Decabromodiphenyl ether (DecaBDE) | 1163-19-5 | mg/kg | 100 | < 1000 mg/kg | n.d. |
| Pentabromodiphenyl ether (PentaBDE) | 32534-81-9 | mg/kg | 100 | < 500 mg/kg | n.d. |
| Tris(1-aziridinyl)phosphineoxide) (TEPA) | 545-55-1 | mg/kg | 100 | not used | n.d. |
| Polybromobiphenyls (PBB) | 59536-65-1 | mg/kg | 100 | not used | n.d. |
| Hexabromocyclododecane(HBCDD) | 3194-55-6 | mg/kg | 100 | < 100 mg/kg | n.d. |
| Heptabromodiphenyl ether (HeptaBDE) | 68928-80-3 | mg/kg | 100 | < 500 mg/kg | n.d. |
| Hexabromodiphenyl ether (HexaBDE) | 36483-60-0 | mg/kg | 100 | < 500 mg/kg | n.d. |
| Tetrabromodiphenyl ether (TetraBDE) | 40088-47-9 | mg/kg | 100 | < 500 mg/kg | n.d. |

**Abbreviation:** < = less than
RL = Reporting Limit
ppm = part per million

**5.AP + APEO (Alkylphenols, Alkylphenol Ethoxylates)**

Test Method: ISO 18254-1:2016
NP and OP: Organic solvent extraction, GCMS
NPEO and OPEO: Organic solvent extraction, LC-MS

**Test Result:**

| Test No. | Material No. | Test Parameter | Unit | RL | Regulatory Requirement | Test Result |
|---|---|---|---|---|---|---|
| T001 | M001 | Nonylphenols (NP) | mg/kg | 5 | - | n.d. |
| | | Octylphenols (OP) | mg/kg | 5 | - | n.d. |
| | | Nonylphenolethoxylates (NPEO) | mg/kg | 20 | < 100 mg/kg | n.d. |
| | | Octylphenolethoxylates (OPEO) | mg/kg | 20 | < 100 mg/kg | n.d. |

**Abbreviation:** n.d. = not detected (< Reporting Limit)
RL = Reporting Limit
mg/kg = milligram per kilogram
NA = Not Applicable

**6.Quinoline**

Test Method: Ref. to DIN 54231:2022

**Test Result:**

| Test No. | Material No. | Test Parameter | CAS No. | Unit | RL | Regulatory Requirement | Test Result | Conclusion |
|---|---|---|---|---|---|---|---|---|
| T001 | M001 | Quinoline | 91-22-5 | mg/kg | 10 | 50 | n.d. | Pass |

**Abbreviation:** < = less than
RL = Reporting Limit
mg/kg = milligram per kilograms

**7. Polycyclic aromatic hydrocarbons (PAHs)**

Test Method: AfPS GS 2019:01

**Test Result:**

| | | | | | |
|---|---|---|---|---|---|
| | | | | Test No. | T001 |
| | | | | Material No. | M001 |
| Test Parameter | CAS NO | Unit | RL | Regulatory Requirement | Result |
| Benzo[a]anthracene | 56-55-3 | mg/kg | 0.2 | < 1 mg/kg | n.d. |
| Benzo[a]pyrene(BaP) | 50-32-8 | mg/kg | 0.2 | < 1 mg/kg | n.d. |
| Benzo[b]fluoranthene | 205-99-2 | mg/kg | 0.2 | < 1 mg/kg | n.d. |
| Benzo[k]fluoranthene | 207-08-9 | mg/kg | 0.2 | < 1 mg/kg | n.d. |
| Benzo[j]fluoranthene | 205-82-3 | mg/kg | 0.2 | < 1 mg/kg | n.d. |
| Benzo[e]pyrene | 192-97-2 | mg/kg | 0.2 | < 1 mg/kg | n.d. |
| Chrysene | 218-01-9 | mg/kg | 0.2 | < 1 mg/kg | n.d. |
| Dibenzo[a,h]anthracene | 53-70-3 | mg/kg | 0.2 | < 1 mg/kg | n.d. |
| Naphthalene | 91-20-3 | mg/kg | 0.2 | < 1 mg/kg | n.d. |
| Anthracene | 120-12-7 | mg/kg | 0.2 | Sum 10 | n.d. |
| Benzo[g,h,i]perylene | 191-24-2 | mg/kg | 0.2 | | n.d. |
| Fluoranthene | 206-44-0 | mg/kg | 0.2 | | n.d. |
| Indeno[1,2,3-cd]pyrene | 193-39-5 | mg/kg | 0.2 | | n.d. |
| Phenanthrene | 85-01-8 | mg/kg | 0.2 | | n.d. |
| Pyrene | 129-00-0 | mg/kg | 0.2 | | n.d. |

**Abbreviation:** < = less than
RL = Reporting Limit
NA = Not Applicable
mg/kg = milligram per kilogram

**8.Pentachlorophenol (PCP) Content**

Test Method: Ref. to 64 LFGB B82.02-8:2001

**Test result**

| Test No. | Material No. | Test Parameter | Unit | RL | Regulatory Requirement | Test Result |
|---|---|---|---|---|---|---|
| T001 | M001 | Pentachlorophenol (PCP) | mg/kg | 0.1 | ≤ 5 mg/kg | n.d. |

**Abbreviation:** < = less than
RL = Reporting Limit
mg/kg = milligram per kilogram

**9.Per-and polyfluoroalkyl substances(PFAS)**

Test Method: Reference EN 17681-1:2022/EN 17681-2:2022, determination by CI-GCMS, GC-MSMS and LC-MSMS.

**Test Result:**

| | | | | Test No. | T001 |
|---|---|---|---|---|---|
| | | | | Material No. | M001 |
| Test Parameter | CAS NO | Unit | RL | Customer's requirement | Result |
| Perfluorooctanesulfonic acid (PFOS) | 1763-23-1 | µg/m² | 1 | < 1 µg/m² | n.d. |
| Perfluorooctane sulfonamide (PFOSA) | 754-91-6 | µg/m² | 1 | < 1 µg/m² | n.d. |
| Perfluorooctanoic acid (PFOA) | 335-67-1 | µg/m² | 1 | < 1 µg/m² | n.d. |
| Sodium perfluorooctanoate (PFOA-Na) | 335-95-5 | mg/kg | 1 | < 1 µg/m² | n.d. |
| Potassium perfluorooctanoate (PFOA-K) | 2395-00-8 | mg/kg | 1 | < 1 µg/m² | n.d. |
| Silver perfluorooctanoate (PFOA-Ag) | 335-93-3 | mg/kg | 1 | < 1 µg/m² | n.d. |
| Perfluorooctanoyl fluoride (PFOA-F) | 335-66-0 | mg/kg | 1 | < 1 µg/m² | n.d. |
| Ammonium pentadecafluorooctanoate (APFO) | 3825-26-1 | mg/kg | 1 | < 1 µg/m² | n.d. |
| Perfluorohexane sulfonic acid (PFHxS) | 355-46-4 | mg/kg | 1 | < 1 µg/m² | n.d. |
| 1H,1H,2H,2H-Perfluorododecanol (10:2 FTOH) | 865-86-1 | mg/kg | 1 | < 1 µg/m² | n.d. |
| Perfluorocylethanol 8:2 (8:2 FTOH) | 678-39-7 | mg/kg | 1 | < 1 µg/m² | n.d. |
| Conclusion | | | | | Pass |

**Abbreviation:** < = Less than
RL = Reporting Limit
mg/kg = milligram per kilogram
µg/m² = microgram per square metre

**10.Organotin compounds content**

Test Method: Organic solvent extraction, GCMS
Ref. to ISO/TS 16179:2012

| | | | Test No. | T001 |
|---|---|---|---|---|
| | | | Material No. | M001 |
| Test Parameter | Unit | RL | Regulatory Requirement | Result |
| TBT(Tributyltin) by weight of tin | % | 0.01 | < 0.1 % | n.d. |
| TPT(Triphenyltin) by weight of tin | % | 0.01 | < 0.1 % | n.d. |
| TOT(Trioctyltin) by weight of tin | % | 0.01 | < 0.1 % | n.d. |
| TCyT(Tricyclohexyltin) by weight of tin | % | 0.01 | < 0.1 % | n.d. |
| TPrT(Tripropyltin) by weight of tin | % | 0.01 | < 0.1 % | n.d. |
| Sum of Tin of tri-substituted organotins | % | NA | < 0.1 % | n.d. |
| DBT(Dibutyltin) by weight of tin | % | 0.01 | < 0.1 % | n.d. |
| DOT(Dioctyltin) by weight of tin | % | 0.01 | < 0.1 % | n.d. |

**Abbreviation:** < = less than
RL = Reporting Limit
% = percentage
NA = Not Applicable

-End of Test Report-

**BV CPS TEST LABORATUVARLARI LTD. STI.**
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Test
TS EN ISO/IEC 17025
AB-0505-T

AB-0505-T

72252870328

10-25

# TEST REPORT

**LAB LOCATION: TURKEY**
**SERVICE TYPE: Regular**
**LAB NUMBER: (7225)287-0328**
**THE DATE OF RECEIPT OF TEST ITEM: October 14, 2025**
**START DATE FOR TESTING: October 14, 2025**
**DATE END OF TEST: October 16, 2025**
**NUMBER OF WORKING DAYS: 3.0**

| | | |
|---|---|---|
| **CUSTOMER NAME / ADDRESS CONTACT NAME** | : | M CHAPMAN&SONS LTD<br>(Address: Chapman Works, Manchester Road,Dunnockshaw,Bumley BB121 5PW)<br>(Attn: Paige Newham-Foulds) |
| **BUYER** | : | / |
| **SUPPLIER REFERENCE** | : | Style Number: /<br>PO Number: 13604<br>Unique Product Code: 2741 |
| **SAMPLE DESCRIPTION** | : | Woven Fabric Sample (Montecarlo)<br>(Claimed Fiber Content: 100% Linen)<br>(Claimed Fabric Weight: /) |
| **COLOUR** | : | Stone |
| **SUBMITTED CARE INSTRUCTION:** | : |  |
| **REASON FOR REVISION** | : | / |

***Date Out***
(16/10/2025)

**Ali Payalan**
**Senior Client Team Lead**

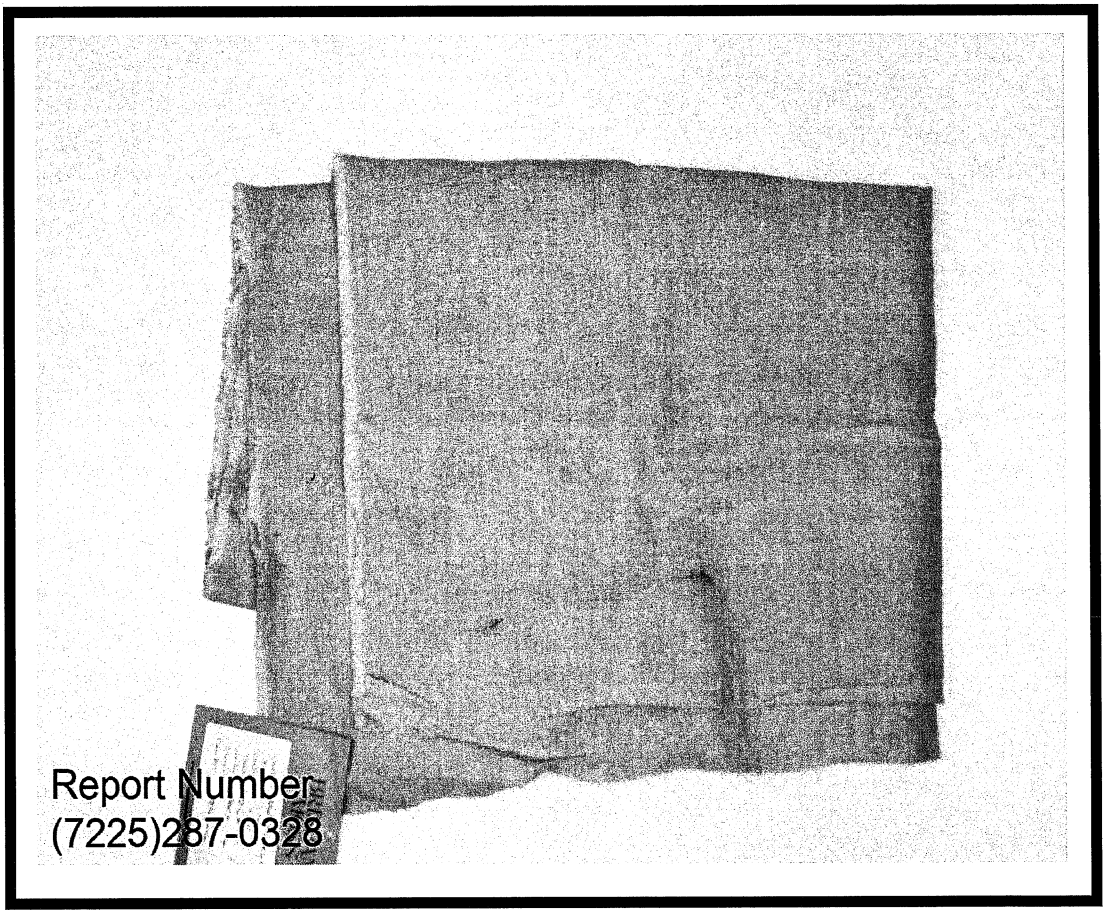
**Hasan Altıngul**
**Deputy General Manager Operations**
(16/10/2025)

## SUMMARY OF TEST RESULTS

| TEST PERFORMED | PASS | FAIL | DATA |
|---|---|---|---|
| Flammability Of Clothing Textiles* | X | | |
| *** TURKAK Accredited- See Appendix A** | | | |

| REMARKS | | |
|---|---|---|
| 1 | : | P: Pass, F: Fail, DATA: No Evaluation, N/A: Not Applicable |
| 2 | : | *The reported expanded uncertainty is based on the standard uncertainty multiplied by a coverage factor of k=2, providing a level of confidence of approximately 95%. Unless otherwise is specified, the uncertainty of measurement has not been taken into account when assessing pass/fail of the sample against the requirements of the standard. In case consideration of measurement uncertainties when assessing pass/ fail limits, some results may be in borderline. Information on uncertainty is contained in appendix A on this report. |
| 3 | : | The test and/or measurement results, the uncertainties (if applicable) with confidence probability and test methods are given on the following pages which are part of this report. |

**ORIGINAL**
(SAMPLE IMAGE)



| TEST RESULTS | | REQUIREMENTS |
|---|---|---|

**FLAMMABILITY OF CLOTHING TEXTILES**(16 CFR 1610)

| | | |
|---|---|---|
| CLASSIFICATION | IF SAMPLE FALLS UNDER SPECIFIC EXEMPTIONS AS LISTED BELOW, THE REPORT SHOULD BE RATED AS A PASS AND THE SPECIFIC EXEMPTION SHOULD BE NOTED IN THE REPORT.<br>EXEMPT DUE TO FABRIC WEIGHT: 7.4 OZ/YD² THE SUBMITTED SAMPLE(S) IS(ARE) EXEMPT FROM FLAMMABILITY TESTING IN ACCORDANCE WITH 16 CFR 1610.1(D) WHICH STATES:<br>SPECIFIC EXEMPTIONS<br>EXPERIENCE GAINED FROM YEARS OF TESTING IN ACCORDANCE WITH THE STANDARD DEMONSTRATES THAT CERTAIN FABRICS CONSISTENTLY YIELD ACCEPTABLE RESULTS WHEN TESTED IN ACCORDANCE WITH THE STANDARD. THEREFORE, PERSONS AND FIRMS ISSUING AN INITIAL GUARANTY OF ANY OF THE FOLLOWING TYPES OF FABRICS, OR OF PRODUCTS MADE ENTIRELY FROM ONE OR MORE OF THESE FABRICS ARE EXEMPT FROM ANY REQUIREMENT FOR TESTING TO SUPPORT GUARANTIES OF THOSE FABRICS.<br>1. PLAIN SURFACE FABRICS, REGARDLESS OF FIBER CONTENT, WEIGHING 2.6 OUNCES PER SQUARE YARD OR MORE; AND<br>2. ALL FABRICS, BOTH PLAIN SURFACE AND RAISED-FIBER SURFACE, REGARDLESS OF WEIGHT, MADE ENTIRELY FROM ANY OF THE FOLLOWING FIBERS OR ENTIRELY FROM COMBINATION OF THE FOLLOWING FIBERS: ACRYLIC, MODACRYLIC, NYLON, OLEFIN, POLYESTER, WOOL. | CLASS 1 |

**Indicates does not meet the requirements

| APPENDIX A –LIST OF MEASUREMENT UNCERTAINTIES | | |
|---|---|---|
| TEST NAME | STANDARD NAME | MEASUREMENT UNCERTAINTY |
| Flammability of Clothing Textiles | 16 CFR 1610 | ±7,9 % |

**-END OF REPORT-**