

TEST REPORT

Report Ref.	LEI22052071A Interim		
Date Received	20/05/2022	Date Issued	26/05/2022

Company Name & Address	Warwick Fabrics Unit 3, Gateway 12 Hardwicke, GL2 2BY GBR
Contact Name	Francesca

Order Number	BRUNSWICK
Sample Description	BRUNSWICK FR
Ref / Style Number	BRUNSWICK
Quality	BRUNSWICK
Supplier	Warwick Fabrics UK Ltd
End Use	Upholstery
No Of Samples	1
Quoted Fibre Composition	100% Polyester
Retailer	General

Test	Method	Sample	Result
Colour Fastness to Water	BS EN ISO 105 E01: 2013		See Results
Colour Fastness to Rubbing - Dry	BS EN ISO 105 X12: 2016		See Results
Colour Fastness to Rubbing - Wet	BS EN ISO 105 X12: 2016		See Results
Colour Fastness to Light - STD 5	BS EN ISO 105 B02: 2014		See Results
Tear Properties of Fabrics - Wing-shaped Tear	BS EN ISO 13937-3: 2000		See Results
Tensile Properties of Fabrics - Strip method	BS EN ISO 13934-1: 2013		See Results
Upholstery Seam Slippage Resistance - Fixed Load	BS EN ISO 13936-2: 2004		See Results
Upholstery Pilling - Martindale Method	BS EN ISO 12945-2: 2000		No Requirement
Martindale Abrasion Resistance - 12 kPa	BS EN 14465: 2003 Annex A		See Results

Tests marked (^) in this report have been performed by an approved 3rd party laboratory.
Tests marked (*) in this report are not included in our UKAS scope of accreditation.

Please Note: The Flammability will follow on report number LEI22052073A once completed



Sam Davey
(Jobsheet Technician)

Colour Fastness to Water BS EN ISO 105 E01: 2013

	Result	Change Performance Level	Stain Performance Level
Colour Change	4-5		A = 4 Change/3-4 Stain
			B = 3-4 Change/3 Stain
Colour Staining			
Acetate	4 - 5		
Cotton	5		
Nylon	4 - 5		
Polyester	4 - 5		
Acrylic	5		
Wool	4 - 5		
Performance level Change	A		
Performance level Stain	A		
Overall performance level	A		
BS 2543: 2004 Classification (Minimum levels for customer reference)			
	Change	Stain	
Light Domestic	A = 4	A = 3-4	
General Domestic	A = 4	A = 3-4	
Heavy Domestic	A = 4	A = 3-4	
General Contract	A = 4	A = 3-4	
Severe Contract	A = 4	A = 3-4	

Overall Test Result: See Results

Uncertainty: 1/2 grade

Colour Fastness to Rubbing - Dry BS EN ISO 105 X12: 2016

Conditioning Parameters: 20°C±2°C & 65% rH±4% rH

	Warp staining	Weft staining	Performance Level
	4-5	4-5	A - 4-5
			B - 4
			C - 3-4
Performance level	A	A	
Overall performance level	A		
BS 2543: 2004 Classification (Minimum levels for customer reference)			
Light Domestic	B = 4		
General Domestic	B = 4		
Heavy Domestic	B = 4		
General Contract	B = 4		
Severe Contract	B = 4		
Force	9N +/- 0.2N		
Rubbing Finger	Rectangular		
Conditioning Time	4 Hours		

Overall Test Result: See Results

Uncertainty: 1/2 grade

Colour Fastness to Rubbing - Wet BS EN ISO 105 X12: 2016

Conditioning Parameters: 20°C±2°C & 65% rH±4% rH

	Warp staining	Weft staining	Performance Level
	4-5	4-5	A = 3-4
			B = 3
			C = 2-3
Performance level	A	A	
Overall performance level	A		
BS 2543: 2004 Classification (Minimum levels for customer reference)			
Light Domestic	B = 3		
General Domestic	B = 3		
Heavy Domestic	B = 3		
General Contract	B = 3		
Severe Contract	B = 3		
Force	9N +/- 0.2N		
Rubbing Finger	Rectangular		
Conditioning Time	4 Hours		
Percentage Soak	95% - 100%		

Overall Test Result: See Results

Uncertainty: 1/2 grade

Colour Fastness to Light - STD 5 BS EN ISO 105 B02: 2014

Conditioning Parameters: 20°C±2°C & 65% rH±4% rH

	Change in Shade Result	Performance Level
		B = 5
Overall performance level		
BS 2543: 2004 Classification (Minimum levels for customer reference)		
Light Domestic	B = 5	
General Domestic	B = 5	
Heavy Domestic	B = 5	
General Contract	B = 5	
Severe Contract	N/A	

Overall Test Result: See Results

Uncertainty: 1/2 grade

Tear Properties of Fabrics - Wing-shaped Tear BS EN ISO 13937-3: 2000

	Across Warp	Across Weft	Performance Level
1	73.8 N	45.5 N	A = 40N
2	71 N	45.5 N	B = 30N
3	69.9 N	44.8 N	C = 25N
4	71.1 N	46.9 N	D = 20N
5	72.4 N	47.2 N	E = 15N
Average	72 N	46 N	
Performance level	A	A	
Overall performance level	A		
BS 2543: 2004 Classification (Minimum levels for customer reference)			
Light Domestic	E = 15 N		
General Domestic	D = 20N		
Heavy Domestic	C = 25 N		
General Contract	C = 25 N		
Severe Contract	C = 25 N		

Overall Test Result: See Results

Uncertainty: $\pm 2.5\%$

Tensile Properties of Fabrics - Strip method BS EN ISO 13934-1: 2013

Conditioning Parameters: 20°C \pm 2°C & 65% rH \pm 4% rH

	Warp Force	Warp Elongation	Weft Force	Weft Elongation	Performance Level
1	1792 N	37.20 %	898 N	17.12 %	A = 600 N
2	1716 N	35.47 %	969 N	17.86 %	B = 400 N
3	1892 N	41.05 %	915 N	17.10 %	C = 350 N
4	1872 N	40.35 %	1001 N	18.48 %	D = 250 N
5	1764 N	36.38 %	1019 N	18.64 %	E = N/A
Average	1807 N	38.18 %	960 N	17.84 %	
Performance level	A	N/A	A	N/A	
Overall performance level	A				
BS 2543: 2004 Classification (Minimum levels for customer reference)					
Light Domestic	C - 350 N				
General Domestic	C - 350 N				
Heavy Domestic	B = 400 N				
General Contract	B = 400 N				
Severe Contract	B = 400 N				

Overall Test Result: See Results

Uncertainty: $\pm 1.6\%$

Upholstery Seam Slippage Resistance - Fixed Load BS EN ISO 13936-2: 2004

Conditioning Parameters: 20°C \pm 2°C & 65% rH \pm 4% rH

	Warp way seam opening @ 180 N	Weft way seam opening @ 180 N	Performance Level
180N Test load			
1	1 mm	2 mm	A = 4mm
2	2 mm	2 mm	B = 6mm
3	2 mm	2 mm	C = 8mm
4	2 mm	2 mm	D + E = N/A
5	2 mm	2 mm	
Average	2 mm	2 mm	
Performance level	A	A	
Overall performance level	A		
BS 2543: 2004 Classification (Minimum levels for customer reference)			
Light Domestic	C - ≤ 8mm		
General Domestic	B - ≤ 6mm		
Heavy Domestic	A = ≤ 4mm		
General Contract	A = ≤ 4mm		
Severe Contract	A = ≤ 4mm		

Overall Test Result: See Results

Uncertainty: ±2.6%

Upholstery Pilling - Martindale Method BS EN ISO 12945-2: 2000

Conditioning Parameters: 20°C±2°C & 65% rH±4% rH

	Assessment @ 2000 Revs	Assessment @ 5000 Revs*	Performance Level
1	4-5	4-5	No Requirements
2	4-5	4-5	
3	4-5	4-5	
Attributes	Fuzzing	Fuzzing	
Performance level	N/A		
Overall performance level	N/A		
BS 2543: 2004 Classification (Minimum levels for customer reference)			
Light Domestic	C - 3-4		
General Domestic	C - 3-4		
Heavy Domestic	B = 4		
General Contract	B = 4		
Severe Contract	B = 4		
*Results at 5000 revs are informative			
Test Load:	415g		
Tested Against:	Wool Abradent		

Overall Test Result: No Requirement

Uncertainty: 1/2 grade

Martindale Abrasion Resistance - 12 kPa BS EN 14465: 2003 Annex A

Conditioning Parameters: 20°C±2°C & 65% rH±4% rH

	Results	Requirements		
Shade Change @ 3000 revs	4			
	Abrasion resistance*	Performance level		
Specimen 1	35,000 Revs	A = 35,000		
Specimen 2	35,000 Revs	B = 12,000 - 30,000		
Specimen 3	35,000 Revs	C = 4,000 - 10,000		
Overall result**	35,000 Revs			
Overall performance level	A			
Test information				
Test load: 12 kPa				
Fabric Type	Chenille			
Breakdown criteria	Chenille pile is fully worn off			
Inspection interval	Every 5000			
Foam used	Yes			
*The abrasion resistance result is the last inspection point at which no breakdown was observed,				
**The overall result is the lowest individual test result of all the test specimens tested.				
BS 2543: 2004 Classification (Minimum levels for customer reference)				
	Flat woven	Figured weave	Woven/Flocked/Non-Woven Pile Fabrics	Knitted
Light Domestic	15,000	12,000	15,000	15,000
General Domestic	20,000	15,000	20,000	20,000
Heavy Domestic	25,000	20,000	25,000	25,000
General Contract	30,000	30,000	25,000	25,000
Severe Contract	40,000	40,000	30,000	30,000

Overall Test Result: See Results

Uncertainty: $\pm 17.1\%$

Report Type	Issue Date	Revision Reason	Revision Description
Interim	26-May-22	Interim Issue	N/A

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FLAMMABILITY TEST REPORT

Report No.: LEI22052073A

Date Received: 20/05/22

Date Tested: 27/05/22

Date Issued: 27/05/22

Company Name & Address: WARWICK FABRICS UK LTD
UNIT 3
GATEWAY 12 BUSINESS PARK
HARDWICKE
GLOUCESTER
GL2 2BY

Contact Name: FRANCESCA / KATHERINE

Sample Details

Order No.: BRUNSWICK
Description: BRUNSWICK FR
Ref. / Style No.: BRUNSWICK
Colour: -
Quality: BRUNSWICK
Supplier: Warwick Fabrics UK Ltd
Batch No.: Not stated
End Use: Upholstery
Number of Samples: 1
Quoted Fibre Content: 100% POLYESTER
Retailer: General
Specification No.: Not stated
Sample Description: Grey coloured woven fabric with pile

Test Method	Pre Treatment	Requirement	Result
BS 5852: Part 1: 1979, Ignition source 0 (Cigarette)	Water soaked as clause 4.2 to 4.5 of BS 5651:1978 as modified by The Furniture and Furnishings (fire) (safety) Regulations 1988 (as amended) then line dried.	Compliance with Schedule 4 Part 1 (The cigarette test) of The Furniture and Furnishings (fire) (safety) Regulations 1988 (as amended).	Complies
Note: The final upholstery composite was not known to the customer so the customer requested that the cigarette test be carried out over combustion modified foam with a density of 24-26 kg/m ³			
BS 5852: Part 1: 1979, Ignition source 1 (Match)	Water soaked as clause 4.2 to 4.5 of BS 5651:1978 as modified by The Furniture and Furnishings (fire) (safety) Regulations 1988 (as amended) then line dried.	Compliance with Schedule 5 Part 1 (The match test) of The Furniture and Furnishings (fire) (safety) Regulations 1988 (as amended).	Complies

STEVEN OWEN
(Technical & Operational
Excellence Manager)

ANDREW HALLETT
(Flammability Team Leader)

CAROLE SPOWART
(Flammability
Administrator)

GREGORY JAMES
(Flammability Technician)

FLAMMABILITY TEST REPORT

Test Specification

Test Method: BS 5852: Part 1: 1979 as modified by Schedule 4 Part 1 & Schedule 5 Part 1 of The Furniture and Furnishings (fire) (safety) Regulations 1988 (as amended).

Ignition Source: Ignition source 0: Filterless cigarette
Ignition source 1: Butane Gas flowing at 45ml/min @ 25°C.

Flame Application Time: 20±1 seconds

Side Tested: Face

Uncertainty of Measurement

The uncertainty of measurement for Schedule 4 Part 1 source 0 has been estimated to be 0.03%

The uncertainty of measurement for Schedule 5 Part 1 source 1 has been estimated to be 5.43%

Filling Specification

Filling Type: Polyurethane foam

Supplier / Grade: Source 0: Carpenter / RX25140 Combustion Modified
Source 1: Carpenter / RP21130 unmodified

Size: 450 X 300 X 75mm (back) & 450 X 150 X 75mm (seat)

Density / Hardness: Source 0: 24-26 kg/m³ / 120-160N
Source 1: 20-22 kg/m³ / Type B, 130

Pre-treatment / Durability Procedure

Water soaked as clause 4.2 to 4.5 of BS 5651:1978 as modified by The Furniture and Furnishings (fire) (safety) Regulations 1988 (as amended) then line dried.

Conditioning

Prior to Testing: At least 72 hours in ambient indoor conditions, then at least 16 hours in an atmosphere having a temperature of 20±5°C and a relative humidity of 50±20%

At Time of Testing: Temperature between 15°C & 30°C. Relative humidity between 20% & 70%

Test Results

"The following test results relate only to the ignitability of the combinations of materials under the particular conditions of test; they are not intended as a means of assessing the full potential fire hazard of the materials in use."

Ignition source 0 (Test 1):	The cigarette burnt out within 26 minutes, there was no flaming or progressive smouldering. (Pass)
Ignition source 0 (Test 2):	The cigarette burnt out within 27 minutes, there was no flaming or progressive smouldering. (Pass)
Ignition source 1 (Test 1):	Flaming ceased with the removal of the burner, there was no progressive smouldering. (Pass)
Ignition source 1 (Test 2):	Flaming ceased 9 seconds after the removal of the burner, there was no progressive smouldering. (Pass)

Conclusions

The composite tested meets the requirements of Schedule 4 Part 1 (The cigarette test) of The Furniture and Furnishings (fire) (safety) Regulations 1988 (as amended). **PASS.**

The fabric tested meets the requirements of Schedule 5 Part 1 (The match test) of The Furniture and Furnishings (fire) (safety) Regulations 1988 (as amended). **PASS.**

FLAMMABILITY TEST REPORT

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D'DECOR HOME FABRICS PVT LTD

Plot no F6 & 6/1, MIDC, Tarapur Indl Area, Boisar, Dist-Palghar
401506, Maharashtra, India

Email-dipankar.mukherjee@ddecor.com

TC6430

QUALITY TEST REPORT

Test Report no: **A1229450**

Sample Description : **5000887**

Design/Colour : **BRUNSWICK**

Customer : **FABRICULTURE**

Batch No : **DDHF107946 / 134877**

Width : **-**

(Sample Received In Good Condition)

Issue Date:

21.04.22

Sample received Date :

16.04.22

Testing Period :

16.04.22 - 21.04.22

Place analysis :

Laboratory D'Decor

End use :

Upholstery

Sample Type :

Fabric

Atmosphere for conditioning and testing: ASTM-21±2°C,RH 65±5%

Specification

Results

II. Chemical Testing

1. Textile

1) Colour fastness to Rubbing

ISO 105-X12 :2016

5 : Excellent - No Staining

4 : Good - Slight Staining

3 : Fair - Noticeable Staining

2 : Poor - Considerable Staining

1 : Very Poor - Severe Staining

Atmosphere for conditioning and testing: ISO-20±2°C,RH 65±4%

Dry

Grade on grey scale **4-5**

Wet

Grade on grey scale **4-5**

2) Colour fastness to domestic Washing

ISO 105 - C06 : 2010

Staining to Acetate **4**

Staining to Cotton **4-5**

Staining to Nylon **4-5**

Staining to Polyester **4-5**

Staining to Acrylic **4**

Staining to Wool **4-5**

3) Colour fastness to Light

ISO 105 B02:2014

Air cooled Xenon-Arc Lamp fading Test

BWS=BLUE WOOL STD


Test result

BSW@5

Grade

4-5

APPROVED BY


Dipankar Mukherjee- GM QA & QC Laboratory

AUTHORISED SIGNATORY
Mr. Dipankar Mukherjee
(Quality Manager)


Mr. Hari Burute
(Technical Manager)

Tested sample not drawn by the Laboratory

The test report to the characteristics of the sample received for testing

The test report shall not be reproduced except in full, without written approval of the laboratory

The above test results are statement of confirming is not applicable as the specification not provided by the customer

END OF TEST REPORT



D'DECOR HOME FABRICS PVT LTD

Plot no F6 & 6/1, MIDC, Tarapur Indl Area, Boisar, Dist-Palghar
401506, Maharashtra, India

Email-dipankar.mukherjee@ddecor.com

TC6430

QUALITY TEST REPORT

Test Report no: **A1229450**

Sample Description : **5000887**

Design/Colour : **BRUNSWICK**

Customer : **FABRICULTURE**

Batch No : **DDHF107946 / 134887**

Width : **-**

(Sample Received In Good Condition)

Issue Date: 21.04.22

Sample received Date : 16.04.22

Testing Period : 16.04.22 - 21.04.22

Place analysis : **Laboratory D'Decor**

End use : **Upholstery**

Sample Type : **Fabric**

Atmosphere for conditioning and testing: ASTM-21±2°C,RH 65±5%

Specification

Results

I. Mechanical Testing

1.Textile Materials

1) Martindale Abrasion resistance

ISO 12947- 2 : 2016

Nominal pressure of 12 kPa used in the test.

End Point - pile worn off

Atmosphere for conditioning and testing: ISO-20±2°C,RH 65±4%

Final evaluation :

25,000 cycles

2. Fabric weight

ASTM D3776/D3776M : 09A (RA2013)
Option-C

fabric weight does not includes selvedge

Atmosphere for conditioning and testing: ASTM-21±2°C,RH 65±5%

417.000 g/m2

3.Seam Slippage

ISO 13936-2 : 2004

Load applied 180N

Warp

4.0 mm

Weft

4.0 mm

4) Wyzenbeek Wear Test

ASTM D 4157 : 13 , (RA - 2017)

used abradant: cotton duck #10

End Point - pile worn off

Number of Avg double rubs

Warp

Under Testing Rubs

Weft

Under Testing Rubs

5. Brush Pilling

ASTMD 3511

4 minutes with brush

2 minutes face-to-face

Final evaluation :

results of the individual sample

grade on pilling scale	4	Left sample
grade on pilling scale	4	Centred sample
grade on pilling scale	4	Right sample
grade on pilling scale	4	Average

6. Tensile Strength

ISO 13934 - 1: 2013

Warp

304.5 lb

Weft

172.0 lb

7. Martindale Pilling

ISO 12945-2 :2000

Abradant fabric : Wool

Visual Assessment Viewer as per Photographic standard

5 : Excellent - No Pilling

4 : Good - Slight Pilling

3 : Fair - Noticeable Pilling


2 : Poor - Considerable Pilling

1 : Very Poor - Severe Pilling

Grade on Photographic standard 4 after 5000 rubs

II. Chemical Testing 1.Textile	
8) Colour fastness to Rubbing ISO 105-X12 :2016 5 : Excellent - No Staining 4 : Good - Slight Staining 3 : Fair - Noticeable Staining 2 : Poor - Considerable Staining 1 : Very Poor - Severe Staining <small>Atmosphere for conditioning and testing: ISO-20±2°C,RH 65±4%</small>	Dry Grade on grey scale <u>4-5</u> Wet Grade on grey scale <u>4</u>
9) Colour fastness to domestic Washing ISO 105 - C06 : 2010	Staining to Acetate <u>4</u> Staining to Cotton <u>4-5</u> Staining to Nylon <u>4</u> Staining to Polyester <u>4-5</u> Staining to Acrylic <u>4</u> Staining to Wool <u>4-5</u>
10) Colour fastness to Light ISO 105 B02:2014 Air cooled Xenon-Arc Lamp fading Test BWS=BLUE WOOL STD	Test result <div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;"> <u>BSW@5</u> </div> <div style="text-align: center;"> Grade </div> <div style="text-align: center;"> <u>4-5</u> </div> </div>
Remark	
End use of the Fabric :	<u>Use in Upholstery</u>
Wash Care	<u>Spot clg by water based mild detergent or by mild solvent</u>

APPROVED BY


Dipankar Mukherjee- GM QA & QC Laboratory

AUTHORISED SIGNATORY
Mr. Dipankar Mukherjee
(Quality Manager)


Mr. Hari Burute
(Technical Manager)

Tested sample not drawn by the Laboratory
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END OF TEST REPORT