

Test Report

Report No.: A 893562-17



DANISH
TECHNOLOGICAL
INSTITUTE

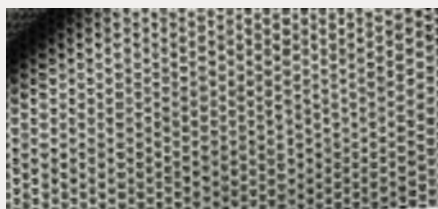
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Chf/Ieln
Order no.: 893562
No. of appendices: 1

Assignor: Gabriel A/S
Hjulmagervej 55
9000 Aalborg

Subject: Upholstery flat woven fabric designated: Swing 51404, light grey. (as per info from the assigner).



Sampling: The test material was sampled by the client and received at the Danish Technological Institute 27.11.2019

Method: See Appendix 1.

Period: The testing was completed 10.01.2020

Result: Individual results appear from Appendix 1.

Storage: The test material will be destroyed after 6 months, unless otherwise agreed.

Terms: The accredited test was carried out according to DANAK's general conditions see www.danak.dk and according to the General Terms and Conditions regarding Commissioned Work Accepted by the Danish Technological Institute, which apply at the time of signing the agreement. The test is only valid for the tested specimen. The test report may only be extracted, if the laboratory has approved the extract.

Date/place: 21.01.2020, Danish Technological Institute, Wood and Biomaterials, Textile, Taastrup

Signature: Test responsible

Co-signatory



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Test Methods	Results																										
Colour fastness to rubbing ISO 105-X12:2016 1-5 scale, 5 best rating Rubbing finger: Cylinder 16 mm Force: 9 N Test conditions: 21°C, 65%RH	Staining: <table border="0" style="width: 100%;"> <tr> <td></td> <td style="text-align: center;"><u>Warp direction</u></td> <td style="text-align: center;"><u>Weft direction</u></td> </tr> <tr> <td>Dry rubbing:</td> <td style="text-align: center;">4-5</td> <td style="text-align: center;">4-5</td> </tr> <tr> <td>Wet rubbing:</td> <td style="text-align: center;">4-5</td> <td style="text-align: center;">4-5</td> </tr> </table> Colour Change: <table border="0" style="width: 100%;"> <tr> <td></td> <td style="text-align: center;"><u>Warp direction</u></td> <td style="text-align: center;"><u>Weft direction</u></td> </tr> <tr> <td>Dry rubbing:</td> <td style="text-align: center;">5</td> <td style="text-align: center;">5</td> </tr> <tr> <td>Wet rubbing:</td> <td style="text-align: center;">5</td> <td style="text-align: center;">5</td> </tr> </table>		<u>Warp direction</u>	<u>Weft direction</u>	Dry rubbing:	4-5	4-5	Wet rubbing:	4-5	4-5		<u>Warp direction</u>	<u>Weft direction</u>	Dry rubbing:	5	5	Wet rubbing:	5	5								
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Colour fastness to rubbing: Or- organic solvents ISO 105-D02:2016 1-5 scale, 5 best rating Rubbing finger: Cylinder 16 mm Force: 9 N Test conditions: 21°C, 65%RH	Tetrachloroethylene <table border="0" style="width: 100%;"> <tr> <td></td> <td style="text-align: center;"><u>Warp direction</u></td> <td style="text-align: center;"><u>Weft direction</u></td> </tr> <tr> <td>Staining:</td> <td style="text-align: center;">4-5</td> <td style="text-align: center;">4-5</td> </tr> <tr> <td>Change in colour</td> <td style="text-align: center;">5</td> <td style="text-align: center;">5</td> </tr> </table> White Spirit <table border="0" style="width: 100%;"> <tr> <td></td> <td style="text-align: center;"><u>Warp direction</u></td> <td style="text-align: center;"><u>Weft direction</u></td> </tr> <tr> <td>Staining:</td> <td style="text-align: center;">4-5</td> <td style="text-align: center;">4-5</td> </tr> <tr> <td>Change in colour</td> <td style="text-align: center;">5</td> <td style="text-align: center;">5</td> </tr> </table>		<u>Warp direction</u>	<u>Weft direction</u>	Staining:	4-5	4-5	Change in colour	5	5		<u>Warp direction</u>	<u>Weft direction</u>	Staining:	4-5	4-5	Change in colour	5	5								
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Colour fastness to perspiration DS/EN ISO 105-E04:2013 1-5 scale, 5 best rating Test pieces: 4 x 10 cm Adjacent fabric: Multifibre DW, ISO 105-F10:1989 Test conditions: 21°C, 65%RH	Staining of: <table border="0" style="width: 100%;"> <tr> <td></td> <td style="text-align: center;"><u>Acid solution</u></td> <td style="text-align: center;"><u>Alkaline solution</u></td> </tr> <tr> <td>Acetate</td> <td style="text-align: center;">4-5</td> <td style="text-align: center;">4-5</td> </tr> <tr> <td>Cotton</td> <td style="text-align: center;">4-5</td> <td style="text-align: center;">4-5</td> </tr> <tr> <td>Polyamide</td> <td style="text-align: center;">4-5</td> <td style="text-align: center;">4-5</td> </tr> <tr> <td>Polyester</td> <td style="text-align: center;">4-5</td> <td style="text-align: center;">4-5</td> </tr> <tr> <td>Acrylic</td> <td style="text-align: center;">4-5</td> <td style="text-align: center;">4-5</td> </tr> <tr> <td>Wool</td> <td style="text-align: center;">4-5</td> <td style="text-align: center;">4-5</td> </tr> <tr> <td>Change in colour:</td> <td style="text-align: center;">4-5</td> <td style="text-align: center;">4-5</td> </tr> </table>		<u>Acid solution</u>	<u>Alkaline solution</u>	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	Change in colour:	4-5	4-5		
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Modified abrasion resistance – Martindale Part 2: Determination of specimen breakdown DS/EN ISO 12947-2:2016 Mass: 795 g Nominal pressure: 12 kPa Foam: Yes Microscope, Magnifying about 10 times. End-point: Three broken threads, According to EN 14465:2003 Colour change (1-5 scale, 5 best rat- ing) ISO 105-A02:1993 Test conditions: 21°C, 65%RH	<p>*Individual re- >100000 ->100000 ->100000->100000 rubs sults:</p> <p>Colour change: Note 4-5 after 3000 rubs Colour change: Note 4-5 after 6000 rubs</p> <p>*Stopped at 100000 rubs without endpoint reached Performance level A, according to EN14465:2003</p> <p>Performance levels of abrasion resistance for a flat woven fabric:</p> <table border="1" style="width: 100%; text-align: center;"> <thead> <tr> <th>According to EN 14465:2004</th> <th>A</th> <th>B</th> <th>C</th> </tr> </thead> <tbody> <tr> <td>Rubs (x 1000)</td> <td>≥ 35</td> <td>12-30</td> <td>4-10</td> </tr> </tbody> </table>			According to EN 14465:2004	A	B	C	Rubs (x 1000)	≥ 35	12-30	4-10																
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Colour fastness to water spotting EN ISO 105-E16:2007 Test conditions: 21°C, 65%RH	<table border="0" style="width: 100%;"> <tr> <td style="text-align: center;"><u>Colour</u></td> <td style="text-align: center;"><u>Change</u></td> <td style="text-align: center;"><u>Staining</u></td> </tr> <tr> <td></td> <td style="text-align: center;">5</td> <td style="text-align: center;">5</td> </tr> </table>	<u>Colour</u>	<u>Change</u>	<u>Staining</u>		5	5																				
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Colour fastness to artificial light DS/EN ISO 105:B02:2014 Method 2 1-8 scale, 8 best rating Normal conditions Apparatus: Atlas Ci4000 Xenon Weather-Ometer	Colour fastness: <table border="0" style="width: 100%;"> <tr> <td style="width: 60%;"></td> <td style="text-align: center;">6</td> </tr> </table>		6																								
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Test Methods	Results
Colour fastness to dry cleaning EN ISO 105-D01:2010 1-5 scale, 5 best rating Solvent: Perchlorethylene Adjacent fabric: Multifibre DW, ISO 105-F10:1989 Test conditions: 21°C, 65%RH	Staining of: Acetate 4-5 Cotton 4-5 Polyamide 4-5 Polyester 4-5 Acrylic 4-5 Wool 4-5 Change in colour: 4-5