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

Sample Description	:	Athlon / Athlon Plus Col: 60140 Light Grey
Customer	:	Gabriel
Colour	:	60140 Light Grey
Product type	:	Upholstery fabric
Fiber content	:	56% PES 44% Trevira

Test Performed * : Selected test(s) as requested by applicant
 Sample Receiving Date : 14th April 2021
 Testing Period : 14th April 2021 – 28th April 2021
 Test Result(s) : For further details, please refer to the following page(s).

Conclusion:

Test Property	Results	Test Property	Results
Dimensional Stability to Washing	-	Abrasion	-
Colour fastness to Washing	-	Pilling	-
Colour fastness to Perspiration	-	Tensile	-
Colour fastness to Water Spotting	Sub-con to third party, results to follow on completion	Elasticity of Fabrics	-
Colour Fastness to Rubbing (Foam Detergent)	-	Tear	-
Colour Fastness Water	-	Snagging	-
Colour Fastness to Dry Clean	-	Colour Fastness to Rubbing (Organic Solvents)	Sub-con within group results to follow on completion
Seam Slippage	-		

Signed for and on behalf of
TÜV Rheinland UK LTD

George Mehmet
Senior Laboratory Technician



*Test result is drawn according to the kind and extent of tests performed.
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Results:

Stability To Washing (BS EN ISO 3759: 2011 / BS EN ISO 5077: 2008 / BS EN ISO 6330: 2012) Washing program No. 6M; Using horizontal axis, front-loading type machine: Machine wash at 60°C with 2kg total dry mass (type II (ballast+ specimen) and 'ECE(A)' detergent+ Sodium Perborate+ TAED, flat Dry.)	
Direction	%Change
Warp	-3.0
Weft	-4.5
Appearance After Dry Cleaning	No changes observed

Colour Fastness To Washing (BS EN ISO 105-C06: 2010) Washing Condition: C2S, 60°C With ECE(B) + Sodium Perborate, 25 Steel Balls.	
Sample	Result
Colour Change	5
Self-Staining	5
Colour Staining	Result
Acetate	5
Cotton	4-5
Polyamide	4-5
Polyester	5
Acrylic	5
Wool	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 (BS EN ISO 105-E04: 2013)		
Sample	Result	
	Acid	Alkaline
Colour Change	5	5
Self-Staining	5	5
Colour Staining	Result	Result
Acetate	5	5
Cotton	5	5
Polyamide	5	5
Polyester	5	5
Acrylic	5	5
Wool	5	5
Remark: Grey Scale rating is based on the 5-step scale of 1 to 5, where 1 is bad and 5 is good		



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Colour Fastness To Water spotting (BS EN ISO 105-E16:2007)	
	Result
Shade change centre	5
Shade change periphery	5

Colour Fastness To Water (BS EN ISO 105-E01: 2013) test specimen in vertical position	
Sample: 60140	Result
Colour Change	5
Self-Staining	5
Colour Staining	Result
Acetate	5
Cotton	5
Polyamide	5
Polyester	5
Acrylic	5
Wool	5

Colour Fastness To Dry cleaning (BS EN ISO 105-D01: 2010)	
Sample	Result
Colour Change	5
Self-Staining	5
Colour Staining	Result
Acetate	5
Cotton	5
Polyamide	5
Polyester	5
Acrylic	5
Wool	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- Foam Detergent (BS EN ISO105-X12:2016); Size of rubbing finger: 16mm diameter			
Sample	Result		
	Warp		Weft
	Dry: 5		Dry: 5
Wet: 5	100% Soak:	Wet: 5	100% Soak:
Atmospheric Conditions: 20.5°C 65.5%			

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Seam Slippage (BS EN ISO 13936-2:2004)	
Sample	Result
Warp	1.0mm
Weft	1.0mm

Abrasion Resistance (BS EN ISO 12947-2:2016/AC:2006 according to BS EN 14465); Martindale Wear & Abrasion Tester; 12 kPa Pressure)			
Result			
	Specimen 1	Specimen 2	Specimen 3
End point reached, No 5mm ² hole	100,000	100,000	100,000
Overall result	No 5mm ² Hole at 100,000		
Colour Change 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 Observation Technique:40 fold magnification			

Pilling Resistance (BS EN ISO 12945-2:2000; Martindale Abrasion & Pilling Tester; Total Load Applied 415g, tested against wool abradent fabric) No cleansing required	
Sample	Average Result
After 2000 Rubs Rating	5
After 5000 Rubs Rating	5
Remarks: Pilling Rating 5 - No change 4 - Slight surface fuzzing and/or partially formed pills 3 - Moderate surface fuzzing and/or moderate pilling. Pills of varying size and density partially covering the specimen 2 - Distinct fuzzing and/or distinct pilling. Pills of varying size and density covering a large proportion of the specimen surface 1 - Dense surface and/or severe pilling. Pills of varying size and density covering the whole of the specimen surface	



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Tensile Strength (BS EN ISO 13934-1:2013)	
Sample	Result
Warp	1725.4 N
Weft	365.9 N

Elasticity of fabrics (Withdrawn) (BS EN ISO 14704-1:2005) Strip sample			
	Elongation @ 27.50N (%)	Un- Recovered Elongation at 1 Min	Un- Recovered Elongation at 30 Min
Warp	14.0	0.0	0.0
Weft	15.6	0.0	0.0

Tearing Strength (BS EN ISO 13937-1:2000; Elmendorf Tear)	
Sample	Result
Warp	>64 N
Weft	>64 N

Snagging Resistance (Rotating Chamber Method) (BS 8479:2008) 2000 Revolutions		
Measuring position	Grade	Defect type
Length	4-5	A
Width	4-5	
Total number of snags		

Remark :

Grading
5 = No snags or other surface defects
4 = Snags or other surface defects in isolated areas
3 = Snags or other surface defects partially covering the surface
2 = Snags or other surface defects covering a large proportion of the surface
1 = Snags or other surface defects covering the entire surface

Classification system for surface defects
A = Snagging
B = Protrusions
C = Indentations
D = Shiners, pulled threads or other distortions of the fabric structure, occurring in close proximity to snag loops and/or not associated with any snag loop



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E = Visible defects due to colour contrasts F = Filamentation G = Any other defects specific to the fabric type and which detract from the original surface appearance X = No visible surface defects

-End of Test Report-