TECHNICAL REPORT

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Our Ref: **TFTXF59219**
Date: 28 July 2015
Delivery Date: 10 April 2015
Test Dates: 10 June – 28 July 2015

For the attention of Ms Malgorzata Kawka

SAMPLE(S) FOR TEST:

One, Artificial leather – Ref: LIONELLA

Note: The above descriptions are as supplied by the client and have not been verified by FIRA who can take no responsibility for the accuracy of the description.

TEST REQUIREMENTS:	RESULT:
Tensile strength - BS EN ISO 13934-1: 2013	Severe Contract
Tear strength - BS EN ISO 13937-3: 2000	Light Domestic
Abrasion - BS EN ISO 12947-2: 1998	Severe Contract
Bursting strength - BS EN ISO 13938-2:1999*	Informative
Adhesion of finish – BS EN ISO 2411:2000*	Informative

** The standard has been subcontracted to another UKAS accredited laboratory*

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DESCRIPTION

Item: One, Artificial leather – Ref: LIONELLA

Initial Inspection: Condition as new

Conditioning: In accordance with BS EN ISO 139: 2005+A1:2011; >24 hours at 20±2°C & 65±4% relative humidity; preconditioning: 4 hours at 50°C

Testing: In accordance with BS EN ISO 139: 2005+ A1:2011 20±2°C & 65±4% relative humidity

TEST RESULTS

DETERMINATION OF MAXIMUM FORCE & ELONGATION AT MAXIMUM FORCE USING THE STRIP METHOD BS EN ISO 13934-1: 2013

Sample	Breaking Strength (N)		Elongation (%)	
	Parallel to warp	Parallel to weft	Parallel to warp	Parallel to weft
1	542	378	12	19
2	589	493	12	21
3	565	386	12	20
4	551	430	12	20
5	590	377	12	20
Mean	567	413	12	20

Gauge length used: 200mm *Rate of elongation: 100mm/min* *Slack set procedure used*
State of specimen: conditioned

*According to BS 2543: 2004 a minimum breaking strength of **350N** warp and weft is required for light domestic and general domestic use, and **400N** for heavy domestic, general contract or severe contract use applications. Elongation results supplied for information only; performance for upholstery fabrics is dependant on breaking strength. An uncertainty of measurement budget of +/- 1.67% is applicable for all tensile strength borderline passes/ failures.*

DETERMINATION OF TEAR FORCE OF WING-SHAPED TEST SPECIMENS (SINGLE TEAR METHOD) BS EN ISO 13937-3: 2000

Sample	Parallel to warp (N)	Parallel to weft (N)
1	17	23
2	16	24
3	19	24
4	18	25
5	20	26
Mean	18	24

*According to BS 2543: 2004 a minimum tear strength of **15N** is required for fabrics intended for light domestic use, **20N** is required for fabrics intended for general domestic use, and **25N** is required for heavy domestic, general contract and severe contract applications. Mean values calculated electronically.*

MARTINDALE ABRASION TEST – BS EN 14465: 2003 Annex A
(Method BS EN ISO 12947-2: 1998)

Specimen breakdown, defined in BS EN 14465: 2003 as a hole was observed did not occur, therefore the test was stopped as the required number of cycles was completed:

Specimen A	100,000 cycles
Specimen B	100,000 cycles
Specimen C	100,000 cycles
Overall result	100,000 cycles

At 3,000 cycles the colour change assessed as in BS EN 20105-A02 was grade **4-5**.

The abrasion resistance is evaluated by the end point method with an 8-fold magnification aid. The specimens are mounted in specimen holders with foam backing and the specimen pressure used for upholstery use applications is 12kPa.

BURSTING STRENGHT – BS EN ISO 13938-2:1999

Number of samples tested: 5
Equipment used: TruBurst^2
Test area: 50cm^2

Mean Burst (kPA)	244.9
Mean height at burst (mm)	23.3

ADHESION OF FINISH – EN ISO 2411/BS3424/-7

Mid Pint N/50mm Longitudinal	Mid Point N/50mm Transverse
53.48 N/50mm	50.29 N/50mm

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CONCLUSION

The material properties for BS EN 14465: 2003 indicates that this fabric reaches a performance level of:

Test performed	Performance level
BS EN ISO 13934-1:2013	B
BS EN ISO 13937-3: 2000	E
BS EN 14465: 2003 Annex A (BS EN ISO 12947-2:1998)	A

According to BS 2543: 2004, this fabric is suitable in respect of tensile strength and abrasion resistance properties for severe contract (SC) and in respect of tear strength properties for light domestic (LD) upholstery use applications.

Tested and reported by: Agnieszka Haines

Approved by: Stephen Cotton
Technical Specialist

A Grading Assessment Tolerance of +/-0.5 of grade is applicable for all Colour Fastness assessments due to their subjective nature. This uncertainty was not applied to the reported results and therefore it needs to be considered when determining compliance with a specification.

********** End of Report **********