



**BUREAU
VERITAS**

TEST REPORT

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TEST PROPERTY	PASS	FAIL	DATA	COMMENTS
TENSILE PROPERTIES OF FABRICS: GRAB METHOD	X			
TEAR PROPERTIES OF FABRICS: BALLISTIC PENDULUM METHOD (ELMENDORF)	X			
SEAM SLIPPAGE			X	SEE RESULT
FABRIC PROPENSITY TO SURFACE FUZZING AND TO PILLING: MODIFIED MARTINDALE METHOD	X			
DETERMINATION OF FABRIC WEIGHT			X	SEE RESULT
ABRASION RESISTANCE OF FABRICS BY MARTINDALE METHOD: SPECIMEN BREAKDOWN			X	SEE RESULT
COLOURFASTNESS TO SEA WATER	X			
COLOURFASTNESS TO RUBBING	X			
COLOURFASTNESS TO DOMESTIC AND COMMERCIAL LAUNDERING	X			
COLOURFASTNESS TO CHLORINATED WATER	X			
COLOURFASTNESS TO BLEACHING: PEROXIDE				RECOMMENDED
COLOURFASTNESS TO BLEACHING: HYPOCHLORITE				NOT RECOMMENDED
COLORFASTNESS TO LIGHT	X			

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<u>TEST PROPERTY</u>	<u>TEST RESULTS</u>	<u>REQUIREMENTS</u>
<u>TENSILE PROPERTIES OF FABRICS: GRAB METHOD</u> (BS EN ISO 13934-2:2014)		
WARP (N)	1055.7	MIN. 250.0 N
WEFT (N)	1201.8	MIN. 250.0 N
<u>TEAR PROPERTIES OF FABRICS: BALLISTIC PENDULUM METHOD (ELMENDORF)</u> (ISO 13937-1:2000)		
ACROSS WARP (N)	108.8	MIN. 20.0 N
ACROSS WEFT (N)	> 106.0	MIN. 20.0 N
<u>SEAM SLIPPAGE</u> (BS EN ISO 13936-1, AT 4 MM SEAM OPENING)		
WARP WAY SEAM - SEAM SLIPPAGE (N)	329.0	MIN. /
WEFT WAY SEAM - SEAM SLIPPAGE (N)	91.7	MIN. /
<u>FABRIC PROPENSITY TO SURFACE FUZZING AND TO PILLING: MODIFIED MARTINDALE METHOD</u> (BS EN ISO 12945-2)		
500 CYCLES AFTER REVOLUTIONS (GRADE)	4-5	/
2000 CYCLES AFTER REVOLUTIONS (GRADE)	4-5	/
5000 CYCLES AFTER REVOLUTIONS (GRADE)	4-5	/
7000 CYCLES AFTER REVOLUTIONS (GRADE)	4-5	/
10000 CYCLES AFTER REVOLUTIONS (GRADE)	4-5	/
15000 CYCLES AFTER REVOLUTIONS (GRADE)	4-5	MIN. GRADE 4-5
<u>PILLING RATING</u>		
GRADE 5	NO CHANGE	
GRADE 4	SLIGHT SURFACE FUZZING AND / OR PARTIALLY FORMED PILLS	
GRADE 3	MODERATE SURFACE FUZZING AND / OR MODERATE PILLING. PILLS OF VARYING SIZE AND DENSITY PARTIALLY COVERING THE SPECIMEN SURFACE.	
GRADE 2	DISTINCT SURFACE FUZZING AND / OR DISTINCT PILLING. PILLS OF VARYING SIZE AND DENSITY COVERING A LARGE PROPORTION OF THE SPECIMEN SURFACE.	
GRADE 1	DENSE SURFACE FUZZING AND / OR SEVERE PILLING. PILLS OF VARYING SIZE AND DENSITY COVERING THE WHOLE OF THE SPECIMEN SURFACE.	

C/N

TEST RESULTS

TEST PROPERTY

REQUIREMENTS

DETERMINATION OF FABRIC WEIGHT (BS EN 12127: 1998 / ISO 3801: 1977)

G. / SQ. M	237	-5 TO +10 %
OZ / SQ. YD	6.99	-5 TO +10 % As Claim (N/A)

ABRASION RESISTANCE OF FABRICS BY MARTINDALE METHOD: SPECIMEN BREAKDOWN (ISO 12947-2:2016)

COLOUR CHANGE @10000 CYCLES	4-5	
COLOUR CHANGE @20000 CYCLES	4-5	
COLOUR CHANGE @30000 CYCLES	4-5	
COLOUR CHANGE @40000 CYCLES	4	
COLOUR CHANGE @50000 CYCLES	4	
SPECIMEN WEIGHT (MG) BEFORE ABRASION	275.7	
NO. OF ABRASION CYCLES	50000	
SPECIMEN WEIGHT (MG) AFTER ABRASION	233.6	
WEIGHT LOSS (MG)	42.1	/
WEAR INDEX (I) %	0.08	/

COLOURFASTNESS TO SEA WATER (ISO 105-E02: 2013)

COLOUR CHANGE	4-5	MIN. GRADE 4-5
<u>COLOUR STAIN ON</u>		
ACETATE	4-5	MIN. GRADE 4-5
COTTON	4-5	MIN. GRADE 4-5
NYLON	4-5	MIN. GRADE 4-5
POLYESTER	4-5	MIN. GRADE 4-5
ACRYLIC	4-5	MIN. GRADE 4-5
WOOL	4-5	MIN. GRADE 4-5

COLOURFASTNESS TO RUBBING (ISO 105-X12:2016)

LENGTH		
DRY	4-5	MIN. GRADE 4-5
WET	4-5	MIN. GRADE 3-4
WIDTH		
DRY	4-5	MIN. GRADE 4-5
WET	4-5	MIN. GRADE 3-4

<u>TEST PROPERTY</u>	<u>TEST RESULTS</u>	<u>REQUIREMENTS</u>
<u>COLOURFASTNESS TO DOMESTIC AND COMMERCIAL LAUNDERING</u> (ISO 105-C06:2010, TEST NO: A2S)		
COLOUR CHANGE	4-5	MIN. GRADE 4-5
<u>COLOUR STAIN ON</u>		
ACETATE	4-5	MIN. GRADE 4-5
COTTON	4-5	MIN. GRADE 4-5
POLYAMIDE	4-5	MIN. GRADE 4-5
POLYESTER	4-5	MIN. GRADE 4-5
ACRYLIC	4-5	MIN. GRADE 4-5
WOOL	4-5	MIN. GRADE 4-5
<u>COLOURFASTNESS TO CHLORINATED WATER</u> (ISO 105-E03: 2010, 50 mg/l ACTIVE CHLORINE SOLUTION)		
COLOUR CHANGE	4-5	MIN. GRADE 4-5
<u>COLOURFASTNESS TO BLEACHING: PEROXIDE</u> (ISO 105-N02:1993, BLEACHING BATH 1)		
COLOUR CHANGE	4-5	MIN. GRADE 4-5
<u>COLOUR STAIN ON</u>		
ACETATE	4-5	MIN. GRADE 4-5
COTTON	4-5	MIN. GRADE 4-5
NYLON	4-5	MIN. GRADE 4-5
POLYESTER	4-5	MIN. GRADE 4-5
ACRYLIC	4-5	MIN. GRADE 4-5
WOOL	4-5	MIN. GRADE 4-5
<u>COLOURFASTNESS TO BLEACHING: HYPOCHLORITE</u> (ISO 105-N01:1993)		
COLOUR CHANGE	4	MIN. GRADE 4-5
<u>COLOREFASTNESS TO LIGHT</u> (AATCC 16.3-14, OPTION 3, WATER COOLED XENON-ARC LAMP, 80 AFU)		
COLOR CHANGE (80 AFU)	4.0	MIN. GRADE 3.0
COLOURFASTNESS RATING		
GRADE 5	NEGLIGIBLE OR NO CHANGE OR STAINING	
GRADE 4	SLIGHTLY CHANGED OR STAINED	
GRADE 3	NOTICEABLY CHANGED OR STAINED	
GRADE 2	CONSIDERABLY CHANGED OR STAINED	
GRADE 1	MUCH CHANGED OR STAINED	

C/N