

Test Report No.: 0154064675a 001

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Client: **SHANGHAI XM GROUP LTD**
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Sample Description As Declared :

No. Of Sample : One(1)
Sample Description : XNB-58 Protec-245 TC 65/35 14RS*14RS 245GSM TWILL 2/1 58/59" Navy

**Applicant's Provided
Care Instruction/Label:**



Sample Receiving date: 2014-09-09
Delivery condition: *Apparent good, Samples tested as received*
Test Period: 2014-09-09 to 2014-09-17

**For and on behalf of
TÜV Rheinland (Shanghai) Co., Ltd.**

2014-09-17

Tina Wu / Department Manager

Date

Name/Position

*Test result is drawn according to the kind and extent of tests performed.
This test report relates to the a. m. test sample. Without permission of the test center this test report is not permitted to be duplicated in extracts. This test report does not entitle to carry any safety mark on this or similar products.*

Conclusion

	<u>M001</u>
Tensile Strength	#
Tearing Strength	#
Dimensional Stability To Washing	#
Abrasion Resistance	#
Pilling Resistance	#
Colour Fastness To Washing	#
Colour Fastness To Perspiration	#
Colour Fastness To Rubbing	#
Colour Fastness To Light	#

Note : P = Pass
= No Comment
N/A = Not Applicable

F = Fail
- = Did Not Perform
* = See Remark

Material list

Material No.	Material	Color	Location
M001	Textile	Navy	Woven fabric

1. Tensile Strength – Strip Test

Test method : ISO 13934-1:2013

M001

Breaking force

Warp : 1800N

Weft : 1000N

2. Tearing Strength – Wing Rip Tear

Test method : ISO 13937-3:2000

M001

Warp : 35N

Weft : 25N

3. Dimensional Stability To Washing

Test method : ISO 3759:2011

ISO 5077:2007

ISO 6330:2000+A1:2008

Type of machine : Front-loading horizontal rotating drum type

Test programme : 2A

Washing temperature : 60°C

Detergent : 0.077% ECE Reference Detergent Without Phosphates, 0.02% Sodium Perborate and 0.003% Bleach Activator (TAED) Solution

Loading : 2kg loading

Drying procedure : Tumble dry – delicate

Ironing : ---

Others : ---

M001

After one wash

Warp : -2.7%

Weft : -1.4%

Remark: (+) means extension and (-) means shrinkage

4. Abrasion Resistance – Determination Of Specimen Breakdown

Test method : ISO 12947-2:1998+Cor.1:2002

M001

No. of rubs to breakdown >20000Rubs

Remark: Up to 20000Rubs

5. Pilling Resistance – Modified Martindale Method

Test method : ISO 12945-2:2000

No. of rubs : 2000

M001

Rating : 4

6. Colour Fastness To Washing

Test method : ISO 105-C06:2010
 Test condition : C2S, 30 min mechanical wash at 60°C in 0.4% ECE reference detergent with phosphates and 0.1% sodium perborate with 25 steel balls

	<u>M001</u>
Colour change	4-5
Colour staining	
- Cotton	4-5
- Polyester	4

7. Colour Fastness To Perspiration

Test method : ISO 105-E04:2013

	<u>M001</u>	
	<u>Acid</u>	<u>Alkaline</u>
Colour change	4-5	4-5
Colour staining		
- 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

8. Colour Fastness To Rubbing

Test method : ISO 105-X12:2001

	<u>M001</u>
<u>Dry</u>	
- Length	4-5
- Width	4-5
<u>Wet</u>	
- Length	4
- Width	4

9. Colour Fastness To Light

Test method : ISO 105-B02:2013, Method 2
 Apparatus : Xenon-arc lamp

<u>Up to Grade 4</u>	<u>M001</u>
Grade	4

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Sample Photo:



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