

Test Report No.: 0154097794a 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 : Mechanic-300 100% cotton 300gsm twill 3/1, Navy

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



Sample Receiving date: 2015-04-30
Delivery condition: Apparent good, Samples tested as received
Test Period: 2015-04-30 to 2015-05-07

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



2015-05-07 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

	M001
Dimensional Change To Washing	#
Tearing Strength - Single Tear Method	#
Colour Fastness To Washing	#
Colour Fastness To Rubbing	#
Colour Fastness To Light	#
Colour Fastness To Perspiration	#
Pilling Resistance – Modified Martindale Method	#
Abrasion Resistance – Determination Of Specimen Breakdown	#
Tensile Strength – Strip Test	#

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. Dimensional Change To Washing

Test method : ISO 3759:2011 / ISO 6330:2012 / ISO 5077:2007
 Apparatus : Front-loading horizontal rotating drum type
 Test condition : Washing programme 6N, at 60 °C, with 20g Non-phosphate detergent 3, 2kg loading (Type I), tumble dry - delicate

	<u>M001</u>
<u>After five washes</u>	
Warp	-3.0%
Weft	-1.3%

Remark: (+) = Extension
 (-) = Shrinkage

2. Tearing Strength - Single Tear Method

Test method : ISO 13937-3:2000

	<u>M001</u>
Warp	34N
Weft	37N

3. 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	
- Triacetate	4
- Cotton	4-5
- Polyamide	3
- Polyester	4
- Acrylic	4-5
- Viscose	4-5

4. 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	2-3
- Width	2-3

5. Colour Fastness To Light

Test method : ISO 105-B02:2014, Method 2
Apparatus : Xenon arc lamp

Up to Grade 4 M001
Grade >4

6. 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	4
- Cotton	4-5	4-5
- Polyamide	4	4
- Polyester	4-5	4-5
- Acrylic	4-5	4-5
- Wool	4-5	4-5

7. Pilling Resistance – Modified Martindale Method

Test method : ISO 12945-2:2000
No. of rubs : 2000

M001
Rating 3-4

8. Abrasion Resistance – Determination Of Specimen Breakdown

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

M001
No. of rubs to breakdown >30000rubs

9. Tensile Strength – Strip Test

Test method : ISO 13934-1:2013

<u>Breaking force</u>	<u>M001</u>
Warp	2000N
Weft	1100N

Sample Photo:



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