



Flame Retardant fabric for FR-clothing

POSEIDON-245

80% COTTON / 19% POLYESTER / 1 % AS

245 GSM / TWILL 2/2



Fabric name	Poseidon-245
Fabric weight	245 ± 10 gsm
Composition	80% Cotton, 19% Polyester, 1% AS
Full width	152 ± 2 cm
Weave	Twill 2/2
Finishes	Flame Retardant, MR (Multi-Risk)
Application	FR jackets, trousers and coveralls
Washing instruction	

FR & SPECIAL PROPERTIES

Flame retardant	EN ISO 11612:2015 A1, A2, B1,C1,E3, F1	5×60°C ISO 6330
	EN ISO 11611:2015 Class 1	5×60°C ISO 6330
Electric arc	EN 61482-1-2 Class1 (4kA)	5×60°C ISO 6330
Arc rating	EN 61482-1-1	5×60°C ISO 6330
Antistatic	EN 1149-5 (1149-3 method 2)	5×60°C ISO 6330
Multi-Risk	EN 13034 (type 6 and PB [6] equipment)	5×60°C ISO 6330
Hi-Vis	EN 20471	5×60°C ISO 6330
Flame retardant	EN ISO 14116:2015	5×60°C ISO 6330
Industrial Wash	EN 11612 A1, A2	100×75°C ISO 15797

PHYSICAL PROPERTIES

		warp	weft
Tensile strength, N	BS EN ISO 13934-1:1999	1260	540
Tear strength, N	BS EN ISO 13937-2:2000	25	20
Dimensional Stability To Washing, max	ISO 5077	3%	
Abrasion Resistance	ISO 12947-2:1999	25, 000 rubs	
Pilling Resistance	ISO 12945-2:2001	4	

COLOUR FASTNESS

			Light	Mid	Dark	Special
			Orange, Yellow, Red	Green, Grey, Royal Box	Dark Navy, Navy, Royal Blue	Black
Wash Fastness Method E2S (95°C)	ISO 105-C06	Colour Change	4-5	4-5	4-5	4-5
		Stain on Polyester	3-4	4	2-3	2-3
		Stain on Cotton	4	4-5	4	3-4
Rub Fastness	ISO 105-X12	Wet	3-4	3-4	2-3	2-3
		Dry	4-5	4-5	3	3-4
Light Fastness	ISO 105-B02		3	3-4	3-4	4

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TEST SUMMARY

Test Summary n°

19CN0505

AITEX declares that the articles:

Given by the company:

"FABRIC POSEIDON-245"

Information according to the customer:

Fabric reference: POSEIDON-245

Composition & percentage: 80% Cotton, 19% Polyester
and 1% Antistatic

Weight: 245 g/m² // Color: Dark Navy

Others: FR-Twill 2/2

SHANGHAI XM GROUP LTD
Room 2403, 88 Guangxin Road
CN-200063
SHANGHAI

Complies with the requirements of the standard/s:

EN 1149-5:2018. PROTECTIVE CLOTHING. ELECTROSTATIC PROPERTIES. PART 5: MATERIAL PERFORMANCE AND DESIGN REQUIREMENTS.

4.2.1 Charge decay, according to EN 1149-3:2004 (x 5 washing cycles at 60°C).

Remark: washing instructions according to Standard ISO 6330:2012, method 6N and type F drying (tumble dryer).

The test results above indicated are shown in the testing report/s:

2019CN0505

Issued by AITEX on: 25/07/2019

This document is of application for the tested sample, according to the tests that have been done in the previously mentioned dates in the reports above shown. This does not imply any monitoring or control activity on this product done by AITEX.

This document is a test summary and does not imply a product certification

Signed by: Raquel Muñoz González
Manager Innovation Area

CERTIFICATE OF TEST

Certificate of test nº

20CN0700

AITEX declares that the articles:

Given by the company:

"FABRIC POSEIDON 245"

Information according to the customer:

Fabric reference: Poseidon-245

Composition and percentage: 80% Cotton/ 19% Polyester/ 1% Antistatic, Twill 2/2 FR

Colour: Royal Blue // Weight: 245 g/m² // Others: Code:

80C/19P/1AS-245FR-T2,

Part Number: FRL-183-WD-19-XMG-002 // Roll Number 189

SHANGHAI XM GROUP LTD
Room 2403,88 Guangxin Road
CN-200063
SHANGHAI

Complies with the requirements of the standard/s:

EN ISO 11612:2015 PROTECTIVE CLOTHING. CLOTHING TO PROTECT AGAINST HEAT AND FLAME.

6.2 Heat resistance (180 ± 5)°C – Pass - (x 5 washing cycles, 6N, Tumble Dryer F).

6.3.2 Limited flame spread. Method A – A1 – (as received and after 5 washing cycles, 6N, Tumble Dryer F).

6.3.3 Limited flame spread. Method B – A2 – (as received and after 5 washing cycles, 6N, Tumble Dryer F).

6.4 Dimensional change due to cleaning – Pass - (x 5 washing cycles, 6N, Tumble Dryer F).

6.5.1 Tensile strength – Pass - (x 5 washing cycles, 6N, Tumble Dryer F).

6.5.2 Tear Resistance – Pass - (x 5 washing cycles, 6N, Tumble Dryer F).

7.2 Convective heat – B1 - (x 5 washing cycles, 6N, Tumble Dryer F).

7.3 Radiant heat – C1 - (x 5 washing cycles, 6N, Tumble Dryer F).

7.5 Molten iron splash – E3 - (x 5 washing cycles, 6N, Tumble Dryer F).

7.6 Contact heat – F1 - (x 5 washing cycles, 6N, Tumble Dryer F).

EN ISO 11611:2015 PROTECTIVE CLOTHING FOR USE IN WELDING AND ALLIED PROCESSES.

6.2 Tensile strength – Pass - (x 5 washing cycles, 6N, Tumble Dryer F).

6.3 Tear Resistance – Pass - (x 5 washing cycles, 6N, Tumble Dryer F).

6.6 Dimensional change due to cleaning – Pass - (x 5 washing cycles, 6N, Tumble Dryer F).

6.7.2 Limited flame spread. Method A – A1 – (as received and after 5 washing cycles, 6N, Tumble Dryer F).

6.7.3 Limited flame spread. Method B – A2 – (as received and after 5 washing cycles, 6N, Tumble Dryer F).

6.8 Impact of spatter – Class 1 - (x 5 washing cycles, 6N, Tumble Dryer F).

6.9 Radiant heat – Class 1 - (x 5 washing cycles, 6N, Tumble Dryer F).

6.10 Electrical resistance – Pass - (x 5 washing cycles, 6N, Tumble Dryer F).

EN ISO 14116:2015. PROTECTION AGAINST HEAT AND FLAME. LIMITED FLAME SPREAD MATERIALS, MATERIALS ASSEMBLIES AND CLOTHING.

6.1 Thermal behavior. Limited flame spread. Method A - Index 3, (as received and after 5 washing cycles, 6N, Tumble Dryer F).

6.2.1 Tensile strength – Pass - (x 5 washing cycles, 6N, Tumble Dryer F).

6.2.2 Tear strength – Pass - (x 5 washing cycles, 6N, Tumble Dryer F).

6.3 Dimensional change of textile materials – PASS - (x 5 washing cycles, 6N, Tumble Dryer F).

Remark: washing instructions according to Standard ISO 6330:2012, method 6N and type F drying (tumble dryer).

Remark: The tests have been carried out in the following reports: 2019CN0265 (Date tests ending: 22/05/2019).

The test results above indicated are shown in the testing report:

2019CN0265

Issued by AITEX on: 28/05/2019

This document is of application for the tested sample, according to the tests that have been done in the previously mentioned dates in the reports above shown. This does not implies any monitoring or control activity on this product done by AITEX.

This document is a test summary and does not imply a product certification.

Signed by: Raquel Muñoz González
Manager Innovation Area

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por ISABEL LLOPIS
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CERTIFICATE OF TEST

Certificate of test n°

23EP0209

AITEX declares that the articles:

Given by the company:

"POSEIDON-245"

According information supplied by the customer:
Fabric reference: POSEIDON-245
Composition and percentage: 80% Cotton, 19% Polyester,
1% Antistatic, FR-Twill 2/2
Weight: 245 gsm
Colour: Orange
Others (if any): 440

XM TEXTILES EUROPE UAB

Dariaus ir gireno st. 42A Office 509
LT-02189
Vilnius

Complies with the requirements of the standard/s:

EN ISO 13688:2013 Protective clothing. General requirements.

	TEST	RESULTS	REQUIREMENTS	REPORT No.
Clause 4.2	Determination of pH value	pH=5,10	3.5 < pH < 9.5	2023EP0208

EN ISO 11612:2015. Protective clothing. Clothing to protect against heat and flame.

	TEST	RESULTS	REQUIREMENTS	REPORT No.
Clause 6.3	Limited flame spread as received and after 100 washing cycles (Procedure A)	A1	No specimen must ignite toward the top or toward the edges No specimen shall give hole formation of 5 mm or greater in any direction No specimen shall give flaming or molten debris The afterflame time is ≤ 2 s The afterglow time is ≤ 2 s	2023EP0208
	Limited flame spread as received and after 100 washing cycles (Procedure B)	A2	No specimen must ignite toward the top or toward the edges No specimen shall give flaming or molten debris The afterflame time is ≤ 2 s The afterglow time is ≤ 2 s	

Remark: Washing instructions according to Standard EN ISO 15797:2018, table 4, procedure 2 and A type drying (tumble drying).

The test results above indicated are shown in the testing report:

2023EP0208

Issued by AITEX on: 23/02/2023.

This document is of application for the tested sample, according to the tests that have been done in the previously mentioned dates in the reports above shown. This does not implies any monitoring or control activity on this product done by AITEX. This document is a test summary and does not imply a product certification.

Signed by: Raquel Muñoz González
Manager Innovation Area



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CERTIFICATE OF TEST

Certificate of test nº

20CN0229

AITEX declares that the articles:

Given by the company:

"FABRIC POSEIDON-245"

Information according to the customer:

Fabric reference: Poseidon-245

Composition and percentage: 80% Cotton, 19%

Polyester and 1% Antistatic, FR-Twill 2

Weight: 245 gsm // Color: Grey // Others: FRL-218

SHANGHAI XM GROUP LTD

Room 2403,88 Guangxin Road

CN-200063

SHANGHAI

Complies with the requirements of the standard/s:

EN 13034:2005+A1:2009 PROTECTION CLOTHING AGAINST LIQUID CHEMICALS PRODUCTS, ACCORDING TO POINT 4, TABLE 1:

4.4 (in EN 14325:2004) Abrasion resistance (x 5 washing cycles, 6N, Tumble Dryer F) - LEVEL 5.

4.7 (in EN 14325:2004) Tear resistance (x 5 washing cycles, 6N, Tumble Dryer F) - LEVEL 2.

4.9 (in EN 14325:2004) Tensile strength (x 5 washing cycles, 6N, Tumble Dryer F) - LEVEL 5.

4.10 (in EN 14325:2004) Puncture resistance (x 5 washing cycles, 6N, Tumble Dryer F) - LEVEL 2.

4.12 and 4.13 (in EN 14325:2004) Liquid repellency and Resistance to penetration by liquids (x 5 washing cycles, 6N, Tumble Dryer F):

Sulphuric acid 30% (I_R = 3; I_P = 3)

Sodium hydroxide 10 % (I_R = 3; I_P = 3)

Remark: washing instructions according to Standard ISO 6330:2012, method 6N and type F drying (tumble dryer).

The test results above indicated are shown in the testing report:

2020CN0229

Issued by AITEX on: 06/05/2020

This document is of application for the tested sample, according to the tests that have been done in the previously mentioned dates in the reports above shown. This does not implies any monitoring or control activity on this product done by AITEX.

This document is a test summary and does not imply a product certification.

Signed by: Raquel Muñoz González
Manager Innovation Area

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TEST SUMMARY

Test Summary nº

19CN0455

AITEX declares that the articles:

"FABRIC POSEIDON 245"

Information according to the customer:
Fabric reference: POSEIDON-245
Composition and percentage: 80% Cotton, 19% Polyester and 1% Antistatic
Weight: 245 g/m²
Color: Royal Blue

Given by the company:

SHANGHAI XM GROUP LTD
Room 2403, 88 Guangxin Road
CN-200063
SHANGHAI

Complies with the requirements of the standard/s:

EN ISO 20471:2013/A1:2016 HIGH VISIBILITY WARNING CLOTHING FOR PROFESSIONAL USE, ACCORDING FOLLOWING POINTS:

- 5.3.1 Colour fastness to rubbing
 - 5.3.2 Colour fastness to perspiration
 - 5.3.3 Colour fastness to laundry
 - 5.4 Dimensional change of background material (x 5 cycles washing, 6N, Tumble Dry F).
 - 5.5.1 Tensile strength of woven material
 - 5.6.3 Physiological performance — Water vapour resistance
 - 7.5 Ageing
 - 7.5.1. General
- Colour after wash, according ISO 6330:2012, 5 washing cycles at 60°C, 6N, and Tumble Dryer, F.

The test results above indicated are shown in the testing report/s:

2019CN0455

Issued by AITEX on: 24/07/2019

This document is of application for the tested sample, according to the tests that have been done in the previously mentioned dates in the reports above shown. This does not imply any monitoring or control activity on this product done by AITEX.

This document is a test summary and does not imply a product certification.

Signed by: Raquel Muñoz González
Manager Innovation Area



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Tests marked with * are not included within the scope of the accreditation

SIMPLIFIED TEST REPORT
No. 2019CN0512

Issued by Aitex on 06/09/2019

AITEX declares that the article/s:

Reference:

FABRIC Poseidon-245

According to customer:

Fabric reference: POSEIDON-245

Composition & percentage: 80% Cotton, 19%

Polyester, 1% Antistatic

Weight: 245 g

Color: Dark Navy

Others: FR-Twill 2/2

Given by the company:

Shanghai XM Group LTD

Room 2403, 88 Guangxin Road

CN-200063 SHANGHAI

Has/have been tested according to:

ELECTRIC ARC EXPOSURE TEST: DETERMINATION OF THE ARC RATING ELIM, (ATPV OR E_{BT50}) OF FLAME RESISTANT MATERIALS FOR CLOTHING

Standard:

IEC 61482-1-1: 2019 Material test (Procedure A)

Getting the following results:

ATPV	10 cal/cm ²
ELIM	9,4 cal/cm ²

Pre-treatment:

5 washing cycles at 60°C, according to standard UNE-EN ISO 6330:2012, method 6N and type F drying

Signature:

Raquel Muñoz González
Manager Innovation Area

Test was carried out at: High Current Laboratory located at Polígono Industrial Fuente del Jarro. C/ Ciudad de Gibraltar, 5; 46988 - Paterna (Valencia); which property is shared at 50% between research institutes AITEX and ITE.

⁽¹⁾The Essential test data and liability clauses are included at indicated test report number and are at the applicant's disposal.

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LA ENERGÍA

TEST SUMMARY

Test Summary n°

18CN0239

AITEX declares that the articles:

Given by the company:

"Fabric POSEIDON 245"

Information according to the customer:
Composition and percentage: 80% Cotton/ 19% Polyester/ 1% Antistatic, twill 2/2 FR // Weight: 245 g // Color: Dark navy // Others: Code: 80C/19P/1AS-245FR-T2 // Part Number: FRL-144 // Roll Number: 1462/2

SHANGHAI XM GROUP LTD

Room 2403, 88 Guangxin Road
CN-200063 SHANGHAI
CHINA

Complies with the requirements of the standard/s:

EN ISO 11612:2015 Protective clothing. Clothing to protect against heat and flame.

6.3.2 Limited flame spread. Method A – A1 – (as received, after 50 and 100 cycles washing and tumbler dryer).

6.3.3 Limited flame spread. Method B – A2 – (as received, after 50 and 100 cycles washing and tumbler dryer).

Remark: washing instructions according to Standard ISO 15797:2002/COR.1:2004, washing procedure 8 and A type drying (tumble dryer).

The test results above indicated are shown in the testing report/s:

2018CN0239

Issued by AITEX on: 02/07/2018

This document is of application for the tested sample, according to the tests that have been done in the previously mentioned dates in the reports above shown. This does not imply any monitoring or control activity on this product done by AITEX.

This document is a test summary and does not imply a product certification.

Signed by: Raquel Muñoz González
Manager Innovation Area



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Certificate

OEKO-TEX® STANDARD 100

SHANGHAI XM GROUP LTD.

is granted the OEKO-TEX® STANDARD 100 certification
and the right to use the trademark.

SCOPE

Woven fabrics made of 100% CO, CO/PES, CO/CF, CO/PES/CF, CO/PA/CF (CF with anti-static function), piece-dyed (vat and disperse) (partly finished with flame retardant products accepted by OEKO-TEX®) or with water, soil or oil repellent finishing; woven fabric made of 100% PES, 100% PA, PES/EL, white, piece-dyed (disperse and acid) and finished, or woven fabric made of 100% PES, transfer printed (disperse) and finished, all with PAN coating; undyed or piece-dyed (incl. fluorescent colours) knitted fabrics (incl. fleece) and UV protection fabrics made of 100% PES, PES/CO, PES/CV, MAC/CO, MAC/CV, MAC/CO/PES, 100% PP, PP/PES, with or without spandex (EL) and antistatic fibers; woven fabric in PA, PES, or mixed with EL, or with PU, TPU, PTFE membrane laminated, or bonded fabrics of above with white/piece-dyed PES or PA knitted fabrics (incl. polar fleece) & finished (incl. water/oil-repel, anti-stain) (based on material pre-certified according to OEKO-TEX® STANDARD 100)

PRODUCT CLASS

II (products with direct contact to skin) - Annex 4

Further compliance information (REACH, SVHC, POP, GB18401 etc.) can be found on [oeko-tex.com/en/faq](https://www.oeko-tex.com/en/faq)

The certificate is based on the test methods and requirements of the OEKO-TEX® STANDARD 100 that were in force at the time of evaluation.



This certificate BEWO 084394 is valid until 15.08.2024.

SUPPORTING DOCUMENTS

- ✓ Test report : BJ015 224706.1
- ✓ Declaration of conformity in accordance with EN ISO 17050-1 as required by OEKO-TEX®
- ✓ OEKO-TEX® Terms of Use (ToU)

Matz Bachmann
Managing Director

Dijana Ajdovic
Ecology Team Leader

Zurich, 2023-07-21

