



**FIRE  
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SERVICES**

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## CONFIDENTIAL REPORT

**Date:** 20 July 2011

**Job title:** Testing of one woven fabric

**Client's order or ref no:** Letter 13 June 2011

**Date of receipt:** 15 June 2011

**Description of sample(s):** Cotton flame retardant woven fabric, referenced:  
Quality No. 93666

**Work requested:** Testing according to EN ISO 11612: 2008  
(a) Clause 6.2.1 Heat resistance (at 180°C)  
(b) Clause 6.3.2 Limited flame spread - Face ignition (c)  
Clause 6.3.3 Limited flame spread - Edge ignition (d)  
Clause 6.4 Dimensional change due to cleaning (e)  
Clause 6.5.1 Tensile strength  
(f) Clause 6.5.2 Tear strength  
(g) Clause 6.9.2 pH value  
(h) Clause 7.2 Convective heat  
(i) Clause 7.3 Radiant heat  
After 5 wash/dry cycles according to ISO 6330 (60°C with tumble drying)

This is a summary report detailing the results as required by the EN ISO 11612: 2008 performance standard.  
Test methods marked \* in results tables are not UKAS accredited.

**Uncertainty:** An estimation of uncertainty of measurement has not been taken into account when making a judgement to any pass/fail criteria.

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**Sample:** Cotton flame retardant woven fabric, referenced:  
Quality No. 93666

**Performance Standard:** EN ISO 11612: 2008  
 (a) Clause 6.2.1 Heat resistance (at 180°C)  
 (b) Clause 6.3.2 Limited flame spread - Face ignition (c)  
 Clause 6.3.3 Limited flame spread - Edge ignition (d)  
 Clause 6.4 Dimensional change due to cleaning (e)  
 Clause 6.5.1 Tensile strength  
 (f) Clause 6.5.2 Tear strength  
 (g) Clause 6.9.2 pH value  
 (h) Clause 7.2 Convective heat  
 (i) Clause 7.3 Radiant heat

**Cleansing Pretreatment:** Prior to all tests (except 6.9.2) five wash/dry cycles according to ISO 6330: 2000 Procedure 2A (60°C) with tumble drying (Procedure E) (max. 70°C outlet temperature).

Tests 6.3.2 and 6.3.3 also carried out in the “as received” condition.

Test 6.9.2 tested in the “as received” condition.

**Summary of Results:**

PROPERTY	TEST METHOD	EN ISO 11612 REQUIREMENTS	RESULTS OBTAINED	PASS/FAIL
6.2.1 Heat resistance (at 180°C)	ISO 17493: 2000* at 180°C	Shall not ignite or melt or shrink > 5%	Fabric did not ignite or melt. Max shrinkage = 0.5%	PASS
6.3.2 Limited flame spread - Face ignition (A1) (tested “as received”)	ISO 15025: 2000 Procedure A	No flaming to edge No holing No melting or flaming or molten debris Mean afterflame ≤ 2s Mean afterglow ≤ 2s	No flaming to edge No holing No melting or flaming or molten debris No afterflame No afterglow	PASS A1
6.3.2 Limited flame spread - Face ignition (A1) (tested after pre-treatment)	ISO 15025: 2000 Procedure A	No flaming to edge No holing No melting or flaming or molten debris Mean afterflame ≤ 2s Mean afterglow ≤ 2s	No flaming to edge No holing No melting or flaming or molten debris No afterflame No afterglow	



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**Sample:** Cotton flame retardant woven fabric, referenced:  
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**Summary of Results (continued):**

PROPERTY	TEST METHOD	EN ISO 11612 REQUIREMENTS	RESULTS OBTAINED		PASS/FAIL or LEVEL
6.3.3 Limited flame spread - Edge ignition (A2) (tested "as received")	ISO 15025: 2000 Procedure B (folded edge)	No flaming to edge No melting or flaming or molten debris Mean afterflame ≤ 2s Mean afterglow ≤ 2s	No flaming to edge No melting or flaming or molten debris No afterflame No afterglow		PASS A2
6.3.3 Limited flame spread - Edge ignition (A2) (tested after pre-treatment)	ISO 15025: 2000 Procedure B (folded edge)	No flaming to edge No melting or flaming or molten debris Mean afterflame ≤ 2s Mean afterglow ≤ 2s	No flaming to edge No melting or flaming or molten debris No afterflame No afterglow		
6.4 Dimensional change	ISO 5077: 2007	Woven: ≤ ± 3% Knitted: ≤ ± 5%	Warp -3.0%	Weft -0.6%	PASS
6.5.1 Tensile strength	ISO 13934-1: 1999	≥ 300N	Warp 754N	Weft 418N	PASS
6.5.2 Tear strength	ISO 13937-2: 2000	≥ 15N	Warp 30.4N	Weft 44.3N	PASS
6.9.2 pH value	ISO 3071: 2005	Greater than 3.5 and less than 9.5	pH = 8.2		PASS
7.2 Convective heat (Code letter B)	ISO 9151: 1995	Level HTI <sub>24</sub> B1 ≥ 4.0s B2 ≥ 10.0s B3 ≥ 20.0s (based on lowest result)	Specimen 1 2 3	HTI <sub>24</sub> 5.9s 6.0s 6.1s	LEVEL B1
7.3 Radiant heat (Code letter C)	ISO 6942: 2002 Method B at 20kW/m <sup>2</sup>	Level RHTI <sub>24</sub> C1 ≥ 7.0s C2 ≥ 20.0s C3 ≥ 50.0s C4 ≥ 95.0s (based on lowest result)	Specimen 1 2 3	RHTI <sub>24</sub> 15.7s 14.6s 15.6s	LEVEL C1

----- END OF REPORT -----

**Reported by:** ..... *K Du-Rose* ..... K Du-Rose (Laboratory Technician)

**Countersigned by:** ..... *M T Healey* ..... M T Healey (Principal Technician)

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