



Confidential Report

Our Ref: E-032324/A





Unit 6, Wheel Forge Way, Trafford Park,
Manchester, M17 1EH, UK.
Telephone: +44 (0) 161 876 4211
Email: onestopshop@bttg.co.uk
Website: www.bttg.co.uk

Date: 16 April 2024

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Client: Oxford Safety Supplies
Olympic House
Collet
Southmead Park
Didcot
Oxon
OX11 7WB

Job Title: Tests on a 2-layer knitted fabric

Client's Order No: -

Date of Receipt: 19th February 2024
Date of Test Start: 18th March 2024

Description of Sample(s): One 2-layer knitted fabric, identified as follows, was received for testing:

N038N Advance Baselayer

Work Requested: We were asked to make the following test:
EN ISO 11612: 2015
After 5 wash/dry cycles according to EN ISO 6330 (40°C with line drying)

This is a summary report detailing the results as required by the EN ISO 11612: 2015 performance standard.
All test methods are UKAS accredited.





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Oxford Safety Supplies

Sample: N038N Advance Baselayer

Performance Standard: EN ISO 11612: 2015

- (a) Clause 6.2.1 Heat resistance (at 180°C)
- (b) Clause 6.3.2 Limited flame spread – Face ignition (fabric and seam)
- (c) Clause 6.4 Dimensional change due to cleaning
- (d) Clause 6.5.3 Burst strength (fabric and seam)
- (e) Clause 7.2 Convective heat
- (f) Clause 7.3 Radiant heat

Cleansing Pretreatment: Prior to all tests five wash/dry cycles according to EN ISO 6330: 2021 Procedure 4N (40°C) with line drying (Procedure A).

Tests 6.3.2 (fabric) also carried out in the “as received” condition.

Summary of Results: See pages 3 and 4.





TESTING • CERTIFICATION • AUDITING

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Sample: N038N Advance Baselayer

Summary of Results:

PROPERTY	TEST METHOD	EN ISO 11612 REQUIREMENTS	RESULTS OBTAINED	PASS/FAIL OR LEVEL									
6.2.1 Heat resistance (at 180°C)	ISO 17493: 2016 at 180°C	Shall not ignite or melt or shrink > 5%	Fabric did not ignite or melt. Shrinkage: <table border="1"> <thead> <tr> <th></th> <th>Length</th> <th>Width</th> </tr> </thead> <tbody> <tr> <td>Mean</td> <td>0.6%</td> <td>3.1%</td> </tr> <tr> <td>Worst</td> <td>1.0%</td> <td>3.2%</td> </tr> </tbody> </table>		Length	Width	Mean	0.6%	3.1%	Worst	1.0%	3.2%	PASS
	Length	Width											
Mean	0.6%	3.1%											
Worst	1.0%	3.2%											
6.3.2 Limited flame spread – Face ignition (code letter A1) - fabric	EN ISO 15025: 2016 Procedure A	No flaming to edge No flaming or molten debris No hole formation Afterglow time ≤ 2s Afterflame time ≤ 2s	<u>As received</u> No flaming to edge No flaming or molten debris No hole formation No afterglow No afterflame <u>Pre-treated</u> No flaming to edge No flaming or molten debris No hole formation No afterglow No afterflame	PASS A1									
6.3.2 Limited flame spread – Face ignition (code letter A1) - seam	EN ISO 15025: 2016 Procedure A (3 specimens)	No flaming to edge No flaming or molten debris No hole formation Afterglow time ≤ 2s Afterflame time ≤ 2s Seam to remain intact	<u>Pre-treated</u> No flaming to edge No flaming or molten debris No hole formation No afterglow No afterflame Seam intact	PASS A1									



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BTTG™ and Shirley® are trade names of Shirley Technologies Limited.
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This report related only to the items tested. Our laboratories are accredited to EN ISO/IEC 17025.
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Sample: N038N Advance Baselayer

Summary of Results:

PROPERTY	TEST METHOD	EN ISO 11612 REQUIREMENTS		RESULTS OBTAINED		PASS/FAIL OR LEVEL
6.4 Dimensional Change	ISO 5077: 2007	Knitted: $\leq \pm 5\%$		<u>MD</u> Mean -3.0% Worst -3.6%	<u>XD</u> -2.5% -3.4%	PASS
6.5.3 Burst strength – fabric	EN ISO 13938-1: 2019 7.3cm ² test area	$\geq 200\text{kPa}$		Mean 846kPa Worst 799kPa		PASS
6.5.3 Burst strength – seam	EN ISO 13938-1: 2019 7.3cm ² test area	$\geq 200\text{kPa}$		Mean 1010kPa Worst 950kPa		PASS
7.2 Convective heat (Code letter B)	EN ISO 9151: 2016	<u>Level</u> B1 B2 B3	<u>HTI₂₄</u> $\geq 4.0\text{s}$ $\geq 10.0\text{s}$ $\geq 20.0\text{s}$	<u>Specimen</u> 1 2 3 Mean	<u>HTI₂₄</u> 8.5s 8.9s <u>8.7s</u> 8.7s	LEVEL B1
7.3 Radiant heat (Code letter C)	EN ISO 6942: 2002 Method B at 20kW/m ²	<u>Level</u> C1 C2 C3 C4	<u>RHTI₂₄</u> $\geq 7.0\text{s}$ $\geq 20.0\text{s}$ $\geq 50.0\text{s}$ $\geq 95.0\text{s}$	<u>Specimen</u> 1 2 3 Mean	<u>RHTI₂₄</u> 19.5s 20.2s <u>20.2s</u> 20.0s	LEVEL C1 PASS, LEVEL C2 PROBABLE FAIL

Where required to make a judgement to any pass/fail criteria an estimation of uncertainty of measurement has been taken into account. Under our policy we have used a non-binary decision rule. See our decision rules policy (<http://www.bttg.co.uk/decision-rules-policy>) for further information.

Reported by:..... *Alc Newton* A Newton, Senior Customer Services Officer

Countersigned by:..... *M T Healey* M T Healey, Principal Technician

Enquiries concerning this report should be addressed to Customer Services.





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Appendix A

EN ISO 11612: 2015 Annex E: Uncertainty of Measurement:

EN ISO 11612 Clauses	Test Method	95% Confidence limit
5.2 Pre-treatment	Domestic washing: EN ISO 6330: 2021	Chaotic Processes Not applicable
6.2.1 Heat resistance	ISO 17493: 2016 (180°C)	± 6.8% at the pass/fail level
6.3.2 Flame spread – Face (A1)	EN ISO 15025: 2016 (A)	± 5.0%
6.4 Dimensional change	ISO 5077: 2007	± 3.2%
6.5.3 Burst Strength	EN ISO 13938-1: 2019	± 3.9%
7.2 Convective heat (B)	EN ISO 9151: 2016	± 6.1%
7.3 Radiant heat (C)	EN ISO 6942: 2002 (20kW/m ²)	± 3.0%

* These uncertainty values are based on a standard uncertainty multiplied by a coverage factor k=2, which provides for a confidence level of approximately 95%.



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