



Confidential Report

Our Ref: E-014628/B



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Notified Body
for PPE Directive,
Construction Products Regulation
& Marine Equipment Directive
I.D. No. 0338



TESTING • CERTIFICATION • AUDITING

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Manchester, M17 1EH, UK.
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Email: info@bttg.co.uk
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Date: 26th August 2020

Our Ref: E-014628/B
Your Ref: SHA-20200521

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Client: Jinjiang Dalian New Material Co., Ltd.
Jingkou Industrial Concentration Area
Datian
Sanming City
Fujian
China

Job Title: Tests on laminated material

Client's Order No: --

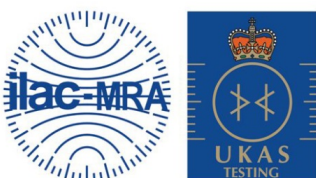
Date of Receipt: 1st June 2020
Date of Test Start: 25th June 2020

Description of Sample(s): A high-visibility orange-coloured laminated fabric, identified as follows, was received for testing:

SHA Job No.: SHA-20200521
Composition: 60% polyester, 40% PU
Colour: Fluorescent orange
Weight: 240-250 g/m²

Work Requested: We were asked to make the following tests as specified in ISO 20471: 2013 + A1: 2016, "High-visibility clothing. Test methods and requirements":

Chromaticity and luminance on new background material
Chromaticity and luminance after xenon test



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Samples was/ were identified as follows:

SHA Job No.: SHA-20200521
Composition: 60% polyester, 40% PU
Colour: Fluorescent orange
Weight: 240-250 g/m²

Laboratory Work

Where appropriate, the tests were made in Standard Atmosphere (65 ± 4% relative humidity at 20 ± 2°C) the sample having been freely and continuously exposed to that atmosphere for at least 24 hours prior to testing. Specimens have been taken from the sample as described in the specified standards.

Colour performance requirements of new materials

Chromaticity and luminance of new material
Chromaticity and luminance after xenon

Xenon fading was carried out according to ISO 105 - B02: 1994 Method 3. For red and orange – red materials, exposure was continued until the blue scale control standard number 5 changed to step 3 of the grey scale.

The colour measurements obtained according to 7.2 (as new, after exposure), were plotted according to the co-ordinates specified in ISO 20471 Table 2.

The results for all tests are given in the table on the following page.

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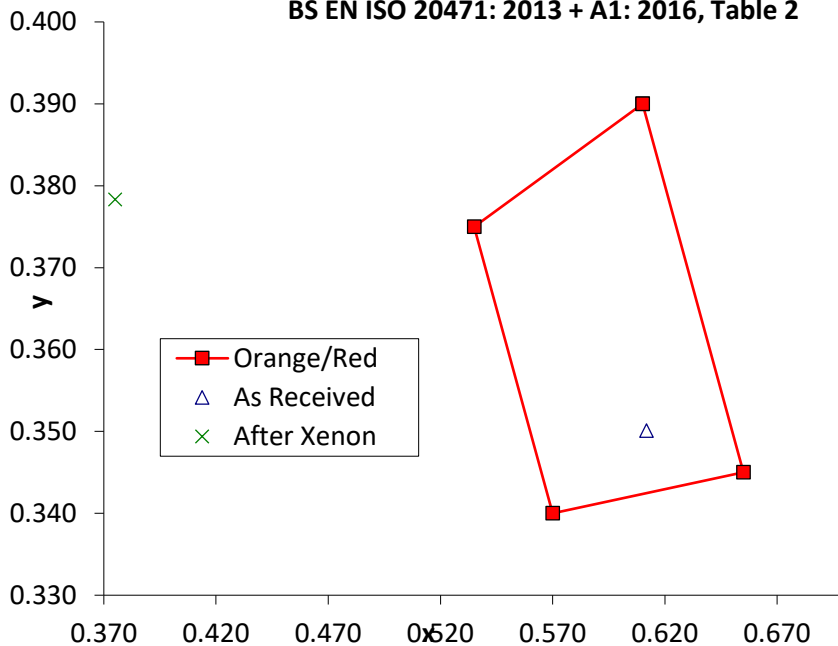
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Jinjiang Dalian New Material Co., Ltd.
RESULTS

Chromaticity and Luminance Factor

Specification	Minimum Luminance Factor β_{min}	Within coordinates		Pass/Fail	
		x	y		
Fluorescent orange-red	0.40	0.610	0.390		
		0.535	0.375		
		0.570	0.340		
		0.655	0.345		
Ref:	Result			Pass/Fail	
SHA Job No.: SHA-20200521, Composition: 60% polyester, 40% PU, Colour: Fluorescent orange, Weight: 240-250 g/m ²	Luminance Factor β	Chromaticity coordinates		Luminance	Coordinates
		x	y		
As received	0.47	0.612	0.350	Pass	Pass
After fading	0.73	0.375	0.378	Pass	Fail

**Chromaticity coordinates x y in accordance with
BS EN ISO 20471: 2013 + A1: 2016, Table 2**



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CONCLUSIONS

The sample submitted for testing, identified as “SHA Job No.: SHA-20200521, Composition: 60% polyester, 40% PU, Colour: Fluorescent orange, Weight: 240-250 g/m²” fails to meet the requirements of ISO 20471: 2013 + A1: 2016 for a background material made of a high-visibility orange-coloured laminated fabric, when tested as specified in this report.

Uncertainty of measurement has not been taken into account when presenting the test result. The relevant uncertainty value is included as an annex which forms an integral part of the report.

Reported by: *Mr A Newton* Mr A Newton, Senior Customer Service Officer
Countersigned by: *Mr P Hutchings* Mr P Hutchings, Client Support Specialist

Note: This report relates only to the samples submitted and as described in the report.
Enquiries concerning this report should be addressed to Customer Services.

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Annex

Summary of Uncertainty Budgets

Luminance	Orange $\pm 0.68\%$
Chromaticity x coordinate	Orange $\pm 0.15\%$
Chromaticity y coordinate	Orange $\pm 0.09\%$
Colourfastness all tests	$\pm \frac{1}{2}$ a grey scale unit



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