

# Certificate of Test



**For** Unitika Limited  
4-1-3 Kyutaro-Machi  
Chuo-ku  
Osaka  
Japan  
541-8566

**Our reference** SPC0216971/1331  
**Date** 22nd August 2013

**Product** Retro-reflective material referenced Unitika Sparklite Flame Retardant Film MR-3591S

<b>Test Data</b>	<b>EN ISO 20471:2013 requirements clauses:-</b>	
<b>6.1</b>	<b>Table 4</b>	
	<b>Retro-reflective performance of new material</b>	<b>PASS</b>
<b>6.2</b>	<b>Table 6 – retro-reflective performance after test exposure</b>	
	<b>Abrasion</b>	<b>PASS</b>
	<b>Flexing</b>	<b>PASS</b>
	<b>Folding at cold temperature</b>	<b>PASS</b>
	<b>Temperature variation</b>	<b>PASS</b>
	<b>Domestic washing @ 60°C &amp; 70°C tumble dry(ISO 6330 - 50 cycles)</b>	<b>PASS</b>
	<b>Industrial wash @ 75°C &amp; 90°C tumble dry(ISO 15797 - 50 cycles)</b>	<b>PASS</b>
	<b>Industrial wash @ 75°C &amp; cabinet drying at 160°C (ISO 15797 - 50 cycles)</b>	<b>PASS</b>
	<b>Dry cleaning, normal (ISO 3175 - 25 normal cycles)</b>	<b>PASS</b>
	<b>Influence of rainfall</b>	<b>PASS</b>
	<b>Flammability performance</b>	
	<b>EN469:2005, Clause 6.1, Annex B.3.2 (as received)</b>	<b>PASS</b>
	<b>EN469:2005, Clause 6.1, Annex B.3.2 (wash 75°C 12 cycles)</b>	<b>PASS</b>
	<b>EN469:2005, Clause 6.5, Annex B.3.1</b>	<b>PASS</b>
	<b>BS EN ISO 14116:2008 Limited Flame Spread - Index 3</b>	<b>PASS</b>

**Description** Retro-reflective separate performance material

**Recommendations** The following test report provides full details of test data:  
SPC0216971/1331, SPC0209130/1245/4, SPC0205769/1228

<b>Report date</b>	Tests marked † fall outside the UKAS Accreditation Schedule for SATRA. All interpretations are outside the scope of UKAS Accreditation and are based on SATRA experience. This report is designed to indicate the performance of the sample tested by SATRA. SATRA have not approved the on-going quality control. It is the responsibility of purchasers to satisfy themselves that other production batches perform similarly.	<b>SIGNATURE</b>  M Gamble PPE Technologist Safety Products Centre
22nd August 2013		