

# Test Report

## TR2476/25458

### ANSI/ISEA 107-2004 Retroreflective Material Testing Report, Level 2



**BUREAU  
VERITAS**

Oakhurst House  
57 Ashbourne Road

Derby  
England  
DE22 3FS

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<b>Material Description</b> Vizlite 201 Heat Applied to knitted polyester	<b>Test Lab(s):</b> Bureau Veritas Consumer Products Services
	<b>Address:</b> Oakhurst House 57 Ashbourne Road Derby DE22 4FS
<b>Colour:</b> Silver	<b>Date Tested:</b> 9 <sup>th</sup> November 2006

## Photometric Performance Requirements

The coefficient of reflection R' shall be determined in accordance with the procedure defined in CIE publication No. 54:1982. The measured focal length of photometer = 1016 mm.

This material is defined as not orientation sensitive.

ANSI/ISEA 107 Requirement Section 8.1, Table 5			Test Result cd/(lx·m <sup>2</sup> )		Pass/ Fail
Observation Angle	Entrance Angle	Minimum cd/(lx·m <sup>2</sup> ) ε <sub>1</sub> / ε <sub>2</sub>	ε <sub>1</sub>	ε <sub>2</sub>	
12' (0.2°)	5°	330 / 248	468	471	Pass
	20°	290 / 218	511	521	Pass
	30°	180 / 135	540	550	Pass
	40°	65 / 47527	527	535	Pass
20' (0.33°)	5°	250 / 188	349	353	Pass
	20°	200 / 150	386	394	Pass
	30°	170 / 128	399	407	Pass
	40°	60 / 45	417	425	Pass
1.0°	5°	25 / 18.8	49.2	50.3	Pass
	20°	15 / 11.3	48.1	47.2	Pass
	30°	12 / 9	48.3	46.3	Pass
	40°	10 / 7.5	44.0	42.0	Pass
1.5°	5°	10 / 7.5	32.8	32.4	Pass
	20°	7 / 5.25	30.8	30.4	Pass
	30°	5 / 3.75	31.8	30.7	Pass
	40°	4 / 3	34.0	32.5	Pass

Authorised by

*J Moore*  
Miss J. Moore C.Text A.T.I.  
Technical Textile  
Testing Manager

*G Welden*  
Mrs. S.J.C. Welden B.Sc. (Hons)  
Deputy Technical Textile  
Testing Manager

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Accredited to the ISO/IEC Guide 17025: through UKAS system Laboratory Number 0421



**BUREAU  
VERITAS**

# Certificate of Test

*We hereby declare that the item described below has been tested by the Merchandise Testing Laboratories (U.K.) Ltd. And complies with the requirements of*

**ANSI/ISEA 107:2004 Clause 8.1 Performance requirement of retroreflective material prior to test exposure – Level 2 and Clause 8.2 Performance requirement of retroreflective after test exposure - after exposure to abrasion, flexing, folding at cold temperatures, temperature variation, washing (25 cycles) dry cleaning (5 cycles) and influence of rainfall**

*The full details of the tests and the results are given  
in our reports*

TR2476/25458

Dated: 09/11/06

***Description of item tested:***

Vizlite 201 Heat Applied to knitted polyester

*Certificate authorised by:*

J. Moore

**Title: J. Moore - Textile Technologist**

**Date: Date: 9<sup>th</sup> November 2006**

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TR2476/25458



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ANSI/ISEA 107-2004 Retroreflective Material Testing Report, Level 2 (page 2 of 2)

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## PHOTOMETRIC PERFORMANCE REQUIREMENTS

Test	Section	ANSI/ISEA 107 Requirement	Test Result	Pass/ Fail
Retroreflection, after abrasion Tested on TR2476/23356	8.2, 9.4.1	$R_A(0.2^\circ/5^\circ) > 100 \text{ cd}/(\text{lx}\cdot\text{m}^2)$ at $\epsilon_1$ $R_A(0.2^\circ/5^\circ) > 75 \text{ cd}/(\text{lx}\cdot\text{m}^2)$ at $\epsilon_2$	$\epsilon_1$ : 446 $\epsilon_2$ : 448	Pass
Retroreflection, after flexing Tested on TR2476/23356	8.2, 9.4.2	$R_A(0.2^\circ/5^\circ) > 100 \text{ cd}/(\text{lx}\cdot\text{m}^2)$ at $\epsilon_1$ $R_A(0.2^\circ/5^\circ) > 75 \text{ cd}/(\text{lx}\cdot\text{m}^2)$ at $\epsilon_2$	$\epsilon_1$ : 357 $\epsilon_2$ : 357	Pass
Retroreflection, after folding at cold Temperatures Tested on TR2476/23356	8.2, 9.4.3	$R_A(0.2^\circ/5^\circ) > 100 \text{ cd}/(\text{lx}\cdot\text{m}^2)$ at $\epsilon_1$ $R_A(0.2^\circ/5^\circ) > 75 \text{ cd}/(\text{lx}\cdot\text{m}^2)$ at $\epsilon_2$	$\epsilon_1$ : 437 $\epsilon_2$ : 440	Pass
Retroreflection, after exposure to temperature variation Tested on TR2476/23356	8.2, 9.4.4	$R_A(0.2^\circ/5^\circ) > 100 \text{ cd}/(\text{lx}\cdot\text{m}^2)$ at $\epsilon_1$ $R_A(0.2^\circ/5^\circ) > 75 \text{ cd}/(\text{lx}\cdot\text{m}^2)$ at $\epsilon_2$	$\epsilon_1$ : 448 $\epsilon_2$ : 437	Pass
Retroreflection, after washing (25 Cycles) Tested on TR2476/23356	8.2, 9.4.5, 9.4.6	$R_A(0.2^\circ/5^\circ) > 100 \text{ cd}/(\text{lx}\cdot\text{m}^2)$ at $\epsilon_1$ $R_A(0.2^\circ/5^\circ) > 75 \text{ cd}/(\text{lx}\cdot\text{m}^2)$ at $\epsilon_2$	$\epsilon_1$ : 292 $\epsilon_2$ : 296	Pass
Retroreflection, after dry Cleaning (5 cycles) Tested on TR2476/24313	8.2, 9.4.5, 9.4.7	$R_A(0.2^\circ/5^\circ) > 100 \text{ cd}/(\text{lx}\cdot\text{m}^2)$ at $\epsilon_1$ $R_A(0.2^\circ/5^\circ) > 75 \text{ cd}/(\text{lx}\cdot\text{m}^2)$ at $\epsilon_2$	$\epsilon_1$ : 313 $\epsilon_2$ : 316	Pass
Retroreflection in rainfall Tested on TR2476/23356	8.2, 9.4.8	$R_A(0.2^\circ/5^\circ) > 100 \text{ cd}/(\text{lx}\cdot\text{m}^2)$ at $\epsilon_1$ $R_A(0.2^\circ/5^\circ) > 75 \text{ cd}/(\text{lx}\cdot\text{m}^2)$ at $\epsilon_2$	$\epsilon_1$ : 150 $\epsilon_2$ : N/A	Pass

SAFETY NETWORK PTE LTD

Authorised by

*J Moore*

Miss J. Moore C.Text A.T.I.  
Technical Textile  
Testing Manager

*S J C Welden*

Mrs. S.J.C. Welden B.Sc. (Hons)  
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**C E R T I F I C A T E**  
of Conformity



**Registration No.:** AK 60015364 0001

**Report No.:** 21125937 001

**Holder:**

**Product:**

**Band**  
reflective material

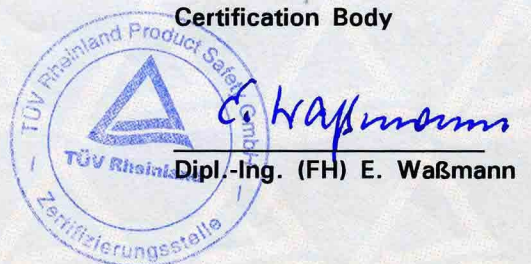
**Identification:**

1100  
material: 100% PES 250 g/m<sup>2</sup>  
with high visibility glass beads  
clause: 6.1, 6.2  
(25 washing cycles, 5 cycles dry cleaning)  
level 2

**Tested acc. to:** EN 471:2003

The certificate of conformity refers to the above mentioned product. This is to certify that the specimen is in conformity with the assessment requirement mentioned above. This certificate does not imply assessment of the production of the product and does not permit the use of a TÜV Rheinland mark of conformity.

Cologne, 13.09.2006



**TÜV Rheinland Product Safety GmbH - Am Grauen Stein - D-51105 Köln**