



# TEST REPORT

**Report No.:** VTC-2019030168S1  
**Product:** SAFETY BELT  
**Model No.:** YG849,YG846  
**Applicant:** ZHEJIANG YINGUANG REFLECTING MATERIAL MANUFACTURING.,CO.,LTD  
**Address:** LVTAN TOWN GANGTOU INDUSTRIAL WUYI CITY 321208 ZHEJIANG PROVINCE CHINA  
**Issued by:** Shenzhen VTC Testing Technology Co., Ltd.  
A area, 6th Floor, Huaxia Building, Jingxiu Road,Shajing District, Bao'An, Shenzhen, Guangdong, China  
**Lab Location:**

**Date of Receipt:**

Mar. 21, 2019

**Date of Test:**

Mar. 21,- Apr. 08, 2019

**Date of Issue:**

Apr. 08, 2019

**Test Result:** Pass

**Testing Engineer :**

*Nike.Huang*

(Nike.Huang )

**Technical Manager :**

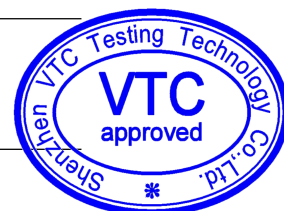
*Levi Li*

(Levi Li)

**Authorize Signatory :**

*Can Liu*

(Can Liu)



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<b>TEST REPORT</b> <b>EN13356:2001</b> <b>Visibility accessories for non-professional use - Test methods and requirements</b>	
Report Number.....	VTC-2019030168S1
Date of issue.....	Apr. 08, 2019
Total number of pages.....	11 pages
Applicant's Name .....	ZHEJIANG YINGUANG REFLECTING MATERIAL MANUFACTURING.,CO.,LTD
Address .....	LVTAN TOWN GANGTOU INDUSTRIAL WUYI CITY 321208 ZHEJIANG PROVINCE CHINA
Manufacturer .....	ZHEJIANG YINGUANG REFLECTING MATERIAL MANUFACTURING.,CO.,LTD
Address .....	LVTAN TOWN GANGTOU INDUSTRIAL WUYI CITY 321208 ZHEJIANG PROVINCE CHINA
Test specification	
Standard.....	EN13356:2001
Test procedure .....	CE-PPE
Procedure deviation .....	N/A
Non-standard test method .....	N/A
Test item description .....	SAFETY BELT
Trademark .....	N/A
Model and/or type reference .....	YG849, YG846
Test case verdicts	
Test case does not apply to the test object ... :	N/A
Test item does meet the requirement .....	P(ass)
Test item does not meet the requirement .....	F(ail)
General remarks	
<p>This report shall not be reproduced except in full without the written approval of the testing laboratory.</p> <p>The test results presented in this report relate only to the item(s) tested.</p> <p>"(see remark #)" refers to a remark appended to the report.</p> <p>"(see Annex #)" refers to an annex appended to the report.</p> <p>Clause numbers between brackets refer to clauses in EN13356.</p> <p>Throughout this report a comma is used as the decimal separator.</p> <p><u>Brief description of the test sample:</u></p> <p>The equipment is a SAFETY BELT for general use.</p> <p>The test data is based on the model: YG849.</p> <p>Except the model number is different. The additional models: Please refer to the first page are same in the constructions,</p>	

Artwork of marking plate:

SAFETY BELT

Model: YG849

Type: Type 3



Importer:XXX

Address:XXX

ZHEJIANG YINGUANG REFLECTING MATERIAL  
MANUFACTURING.,CO.,LTD

Made In China

EN 13356			
Clause	Requirement – Test	Result - Remark	Verdict
<b>4.0</b>	<b>Requirements for accessories</b>		<b>P</b>
4.1	General requirements		P
	The accessories shall meet requirements of area as well as retroreflection.		P
4.1.1	- Type 1 accessory shall be between 15 cm <sup>2</sup> and 50 cm <sup>2</sup> per side		P
4.1.2	- Type 2 and type 3 shall exceed the area of 15cm <sup>2</sup>	> 15cm <sup>2</sup>	P
4.2	Specific requirements for different types of accessories		P
4.2.1	General	See below	P
	Depending on the type of accessories, the requirements below supplement the general requirements in 4.1	See clause 4.1	P
4.2.2	Photometric requirements		P
	The accessories shall achieve the minimum retroreflective values given either in Table 1 or Table 2.	See appended table 1	P
4.2.3	Abrasion resistance (brushing resistance)		P
	After testing in accordance with 5.3, the photometric requirements given in Table 1 or Table 2 shall be met.	Compliance with requirement	P
4.2.4	Washing and dry cleaning requirements		P
	After testing in accordance with 5.4.2 or 5.4.3, the photometric requirements given in Table 1 or Table 2 shall be met.	Meet the table 1 requirements	P
4.2.5	Durability against Heat		P
	After testing in accordance with 5.6, the photometric requirements given in Table 1 or Table 2 shall be met.	See below clause 5.6	P
4.2.6	Low temperature requirements (folding)		P
	After testing in accordance with 5.5.1, the photometric requirements given in Table 1 or Table 2 shall be met.	See after clause 5.5.1	P
4.2.7	Exposure to water		P
	After testing in accordance with 5.7.1, the photometric requirements given in Table 1 or Table 2 shall be met and no visible water penetration is allowed.	Compliance with requirement	P
4.2.8	Influence of rainfall	Considered	P

EN 13356			
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	During the test in accordance with 5.7.2, the photometric requirements given in in Table 1 or Table 2 shall be met at the entrance angle $\beta_1 = +5^\circ$ and $\beta_2 = 0^\circ$ and the observation angle is $0,2^\circ$ .	Compliance with requirement	P
5	Testing		P
5.1	General		P
	The sample tested in accordance with 5.2 shall be exposed as specified in Table 3 and Table 4 depending on the types of accessories.		P
5.2	Photometric testing		P
5.2.1	Principle		P
	The performance of the accessories shall be determined by the procedures given in CIE 54:1982.	Considered	P
5.2.2	Mounting of sample		---
	The sample shall be mounted to a goniometer table in the position which is intended to be worn by the user.		P
5.2.3	Conditioning		---
	The sample shall be conditioned for at least 24 h at a temperature of $(23 \pm 2)$ and a relative humidity of $(50 \pm 5)\%$ .	Ta: 24°C RH: 54%	P
5.3	Abrasion test (brushing)		P
	The test shall be carried out with a polyamide brush with size according to annex A. The brush is of a PA 6.6 quality with diameter $(0,25 \pm 0,025)$ mm, arranged in 56 sections with each $(165 \pm 5)$ stems. The length of the stems shall be $(14 \pm 1)$ mm. The total brush shall weigh $(450 \pm 5)$ g.		P
	The brush shall be mounted in a machine which provides a back and forth going movement in one dimension.		P
	Shall be move back and forth $(30 \pm 3)$ times/min for 10mins	300 times	P
5.4	Washing and dry cleaning test		---
5.4.1	General		P
	The accessory shall be mounted as intended on a sample of background fabric 400 mm x 400 mm, per instructions from the manufacturer.		P
5.4.2	Washing		P

EN 13356			
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	The samples shall be washed in accordance with Method 5A of EN ISO 6330: 2000, and dried in accordance with the manufacturers instructions.	Accordance with the manufacturer instructions	P
5.4.3	Dry cleaning		N
	The test samples shall be dry cleaned in accordance with Method 9.1 of EN ISO 3175 : 1995.	Can not dry cleaning	N
5.5	Low temperature test		P
5.5.1	Folding	See below	P
	Sample shall be exposed and folded at $-20\pm 5^{\circ}\text{C}$	Tested at $-25^{\circ}\text{C}$	P
5.5.2	Free fall test (according to IEC 68-2-32)		P
	The sample shall be conditioned at the temperature of $(-30 \pm 2)^{\circ}\text{C}$ for 4 hours. Immediately after the sample is dropped down onto a steel plate from the height of 0,5 m. The test shall be repeated ten times.	After no damaged	P
5.6	High temperature test		P
5.6.1	Preconditioning of rigid accessories		P
	The sample shall be placed in an oven at temperature $(65 \pm 2)^{\circ}\text{C}$ for 24 h.	$66^{\circ}\text{C}$	P
5.6.2	Exposure to temperature variation for flexible accessories		N
	The test shall be carried out in accordance with 7.4.4 of EN 471 : 1994.		N
5.7	Exposure to water		P
5.7.1	Influence of water (water immersion)		P
	The sample pretested according to 5.5.2 shall be immersed with the retroreflective side up into water with temperature $(50 \pm 5)^{\circ}\text{C}$ . The top point of the sample shall be minimum 20 mm under the surface of the water. After 10 min the sample is turned around so that the retroreflective side is turned down wards.		P
	-Allow it to stay for another 10 min. The sample is immediately hereafter transferred to another basin with temperature $(25 \pm 5)^{\circ}\text{C}$ , and the procedure is repeated.		P
	Photometric measuring before and after the test gives basis for determination of any occurred changes. The measuring is done 15 min after having removed sample from water and hung it vertically. Sample shall also be checked for possible water penetration.		P
5.7.2	Influence of rainfall		P

EN 13356			
Clause	Requirement – Test	Result - Remark	Verdict
	The sample shall be tested in accordance with 7.5 of EN 471:1994.		P
<b>6.0</b>	<b>Marking</b>		<b>P</b>
	The accessories shall be marked with the following:	See below	--
	- name of the manufacturer or code	ZHEJIANG YINGUANG REFLECTING MATERIAL MANUFACTURING.,CO.,LTD	P
	- type number	Type 3	P
	The marking shall be:		P
	- on the product itself or labels attached to the product or to the smallest packaging unit;		P
	- affixed so as to be legible;		N
	- durable for the appropriate number of cleaning processes, where appropriate.	On the side	P
	The marking shall be large enough to convey immediate understanding and to allow the use of readily legible characters.	Readily and legible identification	P
<b>7.0</b>	<b>Manufacture information for use</b>		--
	The instruction for use shall include the following information:		P
	a) Name, trade mark or other means of identification of the manufacturer or his authorized representative;	Manufacturer	P
	b) Designation of the product type, commercial name or code;	Type 3 marked	P
	c) Number of this specific standard (EN 13356);	EN 13356 marked	P
	Accessories shall be supplied to the customer with information written at least in the official language(s) of the state of destination.	In English	P
	All information shall be unambiguous.		P
	The following minimum information shall be given:		P
	d) Fixing; how to attach;		N
	e) Necessary warnings of misuse;		P
	g) Storage; how to store correctly.		P
ANNEX A	TEST METHOD FOR BRUSHING ACCORDING TO 5.3		N
A1	Apparatus		N

EN 13356			
Clause	Requirement – Test	Result - Remark	Verdict
	A polyamide brush shown in figure A1 be used		N
AZ	CLAUSE OF THIS EUROPEAN STANDARD ADDRESSING ESSENTIAL REQUIREMENTS OF OTHER PROVISIONS OF EU DIRECTIVES		N



<b>TABLE 1</b>	<b>Coefficient of luminous intensity for mounted retroreflector of front, in cd/lx m<sup>2</sup></b>		<b>P</b>
Observation angle $\alpha$	Entrance angle $\beta$ (Measurement only + entrance angle $\beta_1$ )		
	$\beta_1 = +5^\circ$ $\beta_2 = 0^\circ$	$\beta_1 = +20^\circ$ $\beta_2 = 0^\circ$	
0,2 (12')	468(110)	346(80)	
0,33 (20')	302(80)	186(60)	
1,5(1°30')	90(4)	32(3)	
Note: Requirement within parenthesis.			

<b>TABLE 2</b>	<b>After abrasion, coefficient of luminous intensity , in cd/lx m<sup>2</sup></b>		<b>P</b>
Observation angle $\alpha$	Entrance angle $\beta$ (Measurement only + entrance angle $\beta_1$ )		
	$\beta_1 = +5^\circ$ $\beta_2 = 0^\circ$	$\beta_1 = +20^\circ$ $\beta_2 = 0^\circ$	
0,2 (12')	423(110)	292(80)	
Note: Requirement within parenthesis.			

<b>TABLE 3</b>	<b>After washing, coefficient of luminous intensity , in cd/lx m<sup>2</sup></b>		<b>P</b>
Observation angle $\alpha$	Entrance angle $\beta$ (Measurement only + entrance angle $\beta_1$ )		
	$\beta_1 = +5^\circ$ $\beta_2 = 0^\circ$	$\beta_1 = +20^\circ$ $\beta_2 = 0^\circ$	
0,2 (12')	468(110)	342(80)	
Note: Requirement within parenthesis.			

<b>TABLE 4</b>	<b>After Folding, coefficient of luminous intensity , in cd/lx m<sup>2</sup></b>		<b>P</b>
Observation angle $\alpha$	Entrance angle $\beta$ (Measurement only + entrance angle $\beta_1$ )		
	$\beta_1 = +5^\circ$ $\beta_2 = 0^\circ$	$\beta_1 = +20^\circ$ $\beta_2 = 0^\circ$	
0,2 (12')	466(110)	322(80)	
Note: Requirement within parenthesis.			

<b>TABLE 5</b>	<b>After high temperature exposure, coefficient of luminous intensity, in cd/lx m<sup>2</sup></b>		<b>P</b>
Observation angle $\alpha$	Entrance angle $\beta$ (Measurement only + entrance angle $\beta_1$ )		
	$\beta_1 = +5^\circ$ $\beta_2 = 0^\circ$	$\beta_1 = +20^\circ$ $\beta_2 = 0^\circ$	
0,2 (12')	461(110)	303(80)	
Note: Requirement within parenthesis.			

<b>TABLE 6</b>	<b>After exposure to water, coefficient of luminous intensity , in cd/lx m<sup>2</sup></b>		<b>P</b>
Observation angle $\alpha$	Entrance angle $\beta$ (Measurement only + entrance angle $\beta_1$ )		
	$\beta_1 = +5^\circ$ $\beta_2 = 0^\circ$	$\beta_1 = +20^\circ$ $\beta_2 = 0^\circ$	
0,2 (12')	451(110)	302(80)	
Note: Requirement within parenthesis.			

**Photo-documentation**

**EUT Photo 1**



**EUT Photo 2**



**\*\*\*\*\* END OF REPORT \*\*\*\*\***