



# REPORT

3933 US ROUTE 11 CORTLAND, NEW YORK 13045

Order No. G100766457

Revision Date: October 31, 2012  
Original Issue Date: June 30, 2012

REPORT NO. 100766457CRT-002

## TEST OF SAFETY GLASSES MODELS

SPY CITY CLEAR	SPY CITY GREY	SPY CITY GREY MIRROED
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### RENDERED TO

VICSA SAFETY SA  
PINTOR CICARELLI 683  
8950002 SAN JOAQUIN, CHILE

REVISION NOTE: Changed NEAR UV from scientific notation to standard notation and two decimal places.

### DATA REQUESTED

The client requested optical testing to Section 5 of ANSI Z87.1.

### AUTHORIZATION

This test service was authorized by signed quote number 500380131.

### REFERENCE DOCUMENTS:

The following Test Standards were used in part or in total to test each sample:

ANSI Z87.1 2010

American National Standard for Occupational and Educational  
Personal Eye and Face Protection Devices

ASTM D1003 2007

Standard Test Method for Haze and Luminous Transmittance of  
Transparent Plastics

### DEVICES SUBMITTED

The samples were received by Intertek on June 21, 2012 in undamaged condition, and were tested as received. The sample designations were 250592-03 through 250592-05.

### DATES OF TESTS

June 28, 2012 through June 29, 2012

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## EQUIPMENT LIST

Equipment Used	Model Number	Control Number	Calibration Date	Calibration Due Date
Optronics Spectroradiometer	OL750D	E288	06/28/12	06/30/12
Gardner Hazemeter	XL211	N328	06/28/12	07/28/12
Extech Hygrothermometer	445703	T1357	10/26/11	10/26/12
Extech Hygrothermometer	445703	T1355	10/29/11	10/29/12
Intertek 100ft Goniometer	NA	N060	08/12/11	08/12/12

## TESTS

### Section 5.1.1 Optical Quality:

Lenses shall be free of striae, bubbles, waves and other visible defects which would impair their optical quality.

### Section 5.1.2 Luminous Transmission:

Clear lenses shall have a luminous transmission of not less than 85%. Clear and Filter lenses shall be labeled in accordance with Table 4a of ANSI Z87.1. Plano and prescription lenses shall comply with Tables 6 – 10 of ANSI Z87.1 where applicable.

### Section 5.1.3 Haze:

Clear and plano lenses shall not exhibit more than 3% haze.

### Section 5.1.4 Refractive Power, Astigmatism, Resolving Power, Prism and Prism Imbalance:

Lenses shall meet the tolerances for Refractive Power, Astigmatism and Resolving power as specified in Table 1 of ANSI Z87.1. Lenses shall meet the tolerances for Prism and Prism Imbalance as specified in Table 2 of ANSI Z87.1.

<b>Table 1: Tolerance on Refractive Power, Astigmatism and Resolving Power</b>			
<b>Protector</b>	<b>Refractive Power</b>	<b>Astigmatism</b>	<b>Resolving Power</b>
Spectacle	$\pm 0.06$ D	$\leq 0.06$ D	Pattern 20
Goggle	$\pm 0.06$ D	$\leq 0.06$ D	Pattern 20
Faceshield Windows	No Requirement	No Requirement	Pattern 20
Welding Helmet Lenses	$\pm 0.06$ D	$\leq 0.06$ D	Pattern 20

<b>Table 2: Tolerance on Prism and Prism Imbalance</b>				
<b>Protector</b>	<b>Prism</b>	<b>Vertical Imbalance</b>	<b>Base In Imbalance</b>	<b>Base Out Imbalance</b>
Spectacle	$\leq 0.50$ $\Delta$	$\leq 0.25$ $\Delta$	$\leq 0.25$ $\Delta$	$\leq 0.50$ $\Delta$
Goggle	$\leq 0.25$ $\Delta$	$\leq 0.125$ $\Delta$	$\leq 0.125$ $\Delta$	$\leq 0.50$ $\Delta$
Faceshields	$\leq 0.37$ $\Delta$	$\leq 0.37$ $\Delta$	$\leq 0.125$ $\Delta$	$\leq 0.75$ $\Delta$
Welding Lenses	$\leq 0.50$ $\Delta$	$\leq 0.25$ $\Delta$	$\leq 0.25$ $\Delta$	$\leq 0.75$ $\Delta$



## RESULTS OF TEST

### Section 5.1.1 Optical Quality:

Control Number	Model Number	Defects	Notes	Pass/Fail
250592-03	Spy City Clear	None	---	Pass
250592-04	Spy City Grey	None	---	Pass
250592-06	Spy City Grey Mirrored	None	---	Pass

### Section 5.1.2 Luminous Transmission:

Control Number	Model Number	Percent Transmittance		Pass/Fail/NA
		Left Eye	Right Eye	
250592-03	Spy City Clear	89.3	89.4	Pass
250592-04	Spy City Grey	11.4	10.8	NA
250592-06	Spy City Grey Mirrored	10.2	9.69	NA

### Section 5.1.3 Haze:

Control Number	Model Number	Percent Haze		Pass/Fail/NA
		Left Eye	Right Eye	
250592-03	Spy City Clear	0.37	0.18	Pass
250592-04	Spy City Grey	0.84	0.75	Pass
250592-06	Spy City Grey Mirrored	0.71	0.79	Pass

### Section 5.1.4 Refractive Power, Astigmatism, Resolving Power

Control Number	Model Number	Eye	Refractive Power (diopeters)	Astigmatism (diopeters)	Resolving Power	Pass/Fail
250592-03	Spy City Clear	Left	0.03	0.04	48	Pass
		Right	0.03	0.05	48	
250592-04	Spy City Grey	Left	0.02	0.05	48	Pass
		Right	0.03	0.05	48	
250592-06	Spy City Grey Mirrored	Left	0.01	0.05	48	Pass
		Right	0.03	0.04	48	

### Section 5.1.4 Prism and Prism Imbalance

Control Number	Model Number	Eye	Prism ( $\Delta$ )	Vertical Imbalance ( $\Delta$ )	Base in Imbalance ( $\Delta$ )	Base Out Imbalance ( $\Delta$ )	Pass/Fail
250592-03	Spy City Clear	Left	0.18	0.00	---	0.25	Pass
		Right	0.18				
250592-04	Spy City Grey	Left	0.14	0.06	---	0.25	Pass
		Right	0.18				
250592-06	Spy City Grey Mirrored	Left	0.14	0.06	---	0.13	Pass
		Right	0.13				



RESULTS OF TEST (continued):

Transmittance Ratings

Control Number	Model Number	Eye	Visible Light	L-Scale	UV Transmittance (%)		U-Scale
			Transmittance (%)		Far UV	Near UV	
250592-03	Spy City Clear	Left Right	89.3 89.4	Clear	0.00	0.00	U6
250592-04	Spy City Grey	Left Right	11.4 10.8	L3	0.00	0.00	U6
250592-06	Spy City Grey Mirrored	Left Right	10.2 9.69	L3	0.00	0.00	U6

PHOTO OF SAMPLE(S):

SPY CITY CLEAR



SPY CITY GREY



SPY CITY GREY MIRRORED



In Charge Of Tests:

Denis Niggli  
Engineer  
Lighting Division

Attachment: None

Report Reviewed By:

David Ellis  
Senior Project Engineer  
Lighting Division