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

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

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.

Table 1: Tolerance on Refractive Power, Astigmatism and Resolving Power			
Protector	**Refractive Power**	**Astigmatism**	**Resolving Power**
Spectacle	± 0.06 D	≤ 0.06 D	Pattern 20
Goggle	± 0.06 D	≤ 0.06 D	Pattern 20
Faceshield Windows	No Requirement	No Requirement	Pattern 20
Welding Helmet Lenses	± 0.06 D	≤ 0.06 D	Pattern 20

Table 2: Tolerance on Prism and Prism Imbalance				
Protector	**Prism**	**Vertical Imbalance**	**Base In Imbalance**	**Base Out Imbalance**
Spectacle	≤ 0.50 Δ	≤ 0.25 Δ	≤ 0.25 Δ	≤ 0.50 Δ
Goggle	≤ 0.25 Δ	≤ 0.125 Δ	≤ 0.125 Δ	≤ 0.50 Δ
Faceshields	≤ 0.37 Δ	≤ 0.37 Δ	≤ 0.125 Δ	≤ 0.75 Δ
Welding Lenses	≤ 0.50 Δ	≤ 0.25 Δ	≤ 0.25 Δ	≤ 0.75 Δ

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:

		Percent Transmittance		
Control Number	Model Number	Left Eye	Right Eye	Pass/Fail/NA
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:

		Percent Haze		
Control Number	Model Number	Left Eye	Right Eye	Pass/Fail/NA
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 Right	0.03 0.03	0.04 0.05	48 48	Pass
250592-04	Spy City Grey	Left Right	0.02 0.03	0.05 0.05	48 48	Pass
250592-06	Spy City Grey Mirrored	Left Right	0.01 0.03	0.05 0.04	48 48	Pass

Section 5.1.4 Prism and Prism Imbalance

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

RESULTS OF TEST (continued):

Transmittance Ratings

Control Number	Model Number	Eye	Visible Light Transmittance (%)	UV Transmittance (%) L-Scale	Far UV	Near UV	U-Scale
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

Report Reviewed By:

David Ellis
Senior Project Engineer
Lighting Division

Attachment: None