



REPORT

3933 US ROUTE 11 CORTLAND, NEW YORK 13045

Order No. G100766457

Date: August 13 2012

REPORT NO. 100766457CRT-006

TEST OF SAFETY GLASSES MODELS

| | |
|------------------|-----------------|
| NITRO BLUE CLEAR | NITRO BLUE GREY |
|------------------|-----------------|

RENDERED TO

VICSA SAFETY SA
PINTOR CICARELLI 683
8950002 SAN JOAQUIN, CHILE

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 250592-14 through 250592-15.

DATES OF TESTS

August 7 through August 13, 2012



EQUIPMENT LIST

| Equipment Used | Model Number | Control Number | Calibration Date | Calibration Due Date |
|-----------------------------|--------------|----------------|------------------|----------------------|
| Optronics Spectroradiometer | OL750D | E288 | 08/10/12 | 08/11/12 |
| Gardner Hazemeter | XL211 | N328 | 07/18/12 | 08/18/12 |
| 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 |
|----------------|------------------|---------|-------|-----------|
| 250592-14 | Nitro Blue Clear | None | --- | Pass |
| 250592-15 | Nitro Blue Grey | None | --- | Pass |

Section 5.1.2 Luminous Transmission:

| Control Number | Model Number | Percent Transmittance | | Pass/Fail/NA |
|----------------|------------------|-----------------------|-----------|--------------|
| | | Left Eye | Right Eye | |
| 250592-14 | Nitro Blue Clear | 91.3 | 91.2 | Pass |
| 250592-15 | Nitro Blue Grey | 10.3 | 10.7 | NA |

Section 5.1.3 Haze:

| Control Number | Model Number | Percent Haze | | Pass/Fail/NA |
|----------------|------------------|--------------|-----------|--------------|
| | | Left Eye | Right Eye | |
| 250592-14 | Nitro Blue Clear | 0.76 | 0.41 | Pass |
| 250592-15 | Nitro Blue Grey | 0.57 | 0.54 | Pass |

Section 5.1.4 Refractive Power, Astigmatism, Resolving Power

| Control Number | Model Number | Eye | Refractive Power (diopters) | Astigmatism (diopters) | Resolving Power | Pass/Fail |
|----------------|------------------|-------|-----------------------------|------------------------|-----------------|-----------|
| 250592-14 | Nitro Blue Clear | Left | 0.00 | 0.05 | 48 | Pass |
| | | Right | 0.00 | 0.05 | 48 | |
| 250592-15 | Nitro Blue Grey | Left | -0.01 | 0.05 | 48 | Pass |
| | | Right | 0.00 | 0.05 | 48 | |

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 |
|----------------|------------------|-------|--------------------|---------------------------------|--------------------------------|---------------------------------|-----------|
| 250592-14 | Nitro Blue Clear | Left | 0.07 | 0.03 | -0.06 | --- | Pass |
| | | Right | 0.03 | | | | |
| 250592-15 | Nitro Blue Grey | Left | 0.04 | 0.00 | -0.06 | --- | Pass |
| | | Right | 0.04 | | | | |

Transmittance Ratings

| Control Number | Model Number | Eye | Visible Light Transmittance | L-Scale | UV Transmittance (%) | | |
|----------------|------------------|-------|-----------------------------|---------|----------------------|---------|---------|
| | | | (%) | | Far UV | Near UV | U-Scale |
| 250592-14 | Nitro Blue Clear | Left | 91.3 | Clear | 0.00 | 0.01 | U6 |
| | | Right | 91.2 | | | | |
| 250592-15 | Nitro Blue Grey | Left | 10.3 | L3 | 0.00 | 0.00 | U6 |
| | | Right | 10.7 | | | | |

PHOTO OF SAMPLE(S):

NITRO BLUE CLEAR



NITRO BLUE GREY



In Charge Of Tests:

A handwritten signature in black ink, reading "Denis Niggli".

Denis Niggli
Engineer
Lighting Division

Report Reviewed By:

A handwritten signature in black ink, reading "David Ellis".

David Ellis
Senior Project Engineer
Lighting Division