

## TEST REPORT

# Bristol Graphics, Inc. D/B/A Bristol ID Test Report

**SCOPE OF WORK**

Bristol Graphics, Inc. D/B/A Bristol ID Technologies Model Number TBD Testing per ANSI Z87.1-2015

**REPORT NUMBER**

104339761CRT-001a

**ISSUE DATE**

09-June-2020

**PAGES**

9

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GFT-OP-10i (6-July-2017)

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## TEST REPORT

### CLIENT

Bristol Graphics, Inc. D/B/A Bristol ID Technologies  
1370 Rochester Street  
Lima, NY 14485  
USA

Quote Number:	Qu-01073243-0
Client Purchase Order Number:	P1033769
Certification Type (Initial/Annual/Private):	Private
Product Type:	Faceshield
Brand Name Identified by the Client as:	Bristol Graphics, Inc. D/B/A Bristol ID Technologies
Model Name Identified by the Client as:	TBD
Size:	N/A
Sample Control Number:	CRT2005141154-001
Sample Received Date:	5/14/2020
Condition received in:	Production Samples
Type of Testing Entity:	Third Party Testing Laboratory
	ANSI/ISEA Z87.1-2015
Test Standard:	American National Standard Occupational and Educational Personal Eye and Face Protection Devices
Evaluation/Testing Location:	Intertek, 3933 US Rt. 11, Cortland NY 13045
Manufacturer's Name and Address:	Unspecified
Date(s) of Testing:	5/15/2020, 5/22/2020

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**TEST REPORT**

Dear Jim,

Intertek has completed the evaluation of Bristol Graphics, Inc. D/B/A Bristol ID Technologies, faceshield identified as TBD to the client specified clauses listed below of ANSI/ISEA Z87.1-2015. The evaluation was performed at Intertek located in Cortland, NY on the dates posted below. The results of these tests are as indicated below.

Test Completed	Test Date	ANSI/ISEA Z87.1-15 Clause	Pass/Fail
Optical Quality	5/22/2020	5.1.1	Pass
Luminous Transmittance	5/22/2020	5.1.2	Pass
Haze	5/22/2020	5.1.3	Pass
Refractive Power, Astigmatism, Resolving Power, Prism and Prism Imbalance	5/22/2020	5.1.4	Pass
Drop Ball Impact Resistance	5/15/2020	5.2.1	Pass
Ignition	5/15/2020	5.2.2	Pass
Corrosion Resistance of Metal Components	N/A	5.2.3	N/A
Minimum Coverage Area	5/15/2020	5.2.4	Pass
Markings	5/15/2020	5.3	Fail
Droplet and Splash	5/15/2020	8.1.2	Pass

This test report completes the testing covered by Proposal No. Qu-01073243-0. The observations and test results in this report are relevant only to the sample tested. Intertek makes no representations or warranties, express or implied, regarding units that were not tested including, but not limited to, units that may be part of the same lot. If there are any questions regarding the results contained in this report, or any other services offered by Intertek, please do not hesitate to contact the undersigned. Please note this Test Report does not represent authorization for the use of any Intertek certification marks.

Tested By,



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Brandon Wood  
Technician

Reviewed by,



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Zachary Bush  
Associate Engineer

TEST REPORT

REPORT REVISION		
Date	Revision Description	Reviewer
6/9/2020	Original report: 104339761CRT-001a	Zachary Bush

**Conditioning Requirements**

Clause 9 (ANSI/ISEA Z87.1-2015)

All testing shall be performed at a standard laboratory temperature of 23 ± 5°C (73 ± 9°F).

**Actual Conditions**

	Required Temperature	Actual Temperature	Required RH	Actual RH
Ambient Condition:	18 to 28°C	20.5°C - 21.0°C	N/A	45.5% - 54.5%

## TEST REPORT

### Optical Quality

Clause 5.1.1 & 9.1 (ANSI/ISEA Z87.1-2015)

When tested in accordance with Section 9.1, protector lenses shall be free of striae, bubbles, waves and other visible defects which would impair the wearer's vision.

Sample	Pass/Fail
1	Pass

Notes: Visual impairment observed

### Luminous Transmittance

Clause 5.1.2 & 9.2 (ANSI/ISEA Z87.1-2015)

When tested in accordance with Section 9.2, clear lenses shall have a luminous transmittance of not less than 85%.

Sample	Percent Transmittance Left Side	Percent Transmittance Right Side	Pass/Fail
1	88.7	88.8	Pass

### 5.1.3 Haze – Clear Lenses Only

Clause 5.1.3 & 9.3 (ANSI/ISEA Z87.1-2015)

When tested in accordance with Section 9.3, clear plano lenses shall not exhibit more than 3% haze.

Sample	Percent Haze Left Side	Percent Haze Right Side	Pass/Fail
1	0.84	0.85	Pass

**TEST REPORT**

**Refractive Power, Astigmatism, Resolving Power, Prism and Prism Imbalance for Plano Protectors**

Clause 5.1.4 & 9.4 (ANSI/ISEA Z87.1-2015)

The tolerance on refractive power, astigmatism and resolving power shall be as indicated in Table 1. The tolerance on Prism and Prism Imbalance shall be as indicated in Table 2.

**Sample Tested: 1**

Prism Imbalance*	
Vertical	Horizontal
0.00	0.00

\*For calculation only

Test	Left	Right	Pass/Fail
Refractive Power (D)	N/A	N/A	N/A
Astigmatism (D)	N/A	N/A	N/A
Resolving Power (>20)	40	40	Pass

Prism				Pass/Fail
Left		Right		
Vertical	Horizontal	Vertical	Horizontal	
0.00	0.00	0.00	0.00	Pass

Prism Imbalance		Pass/Fail
Vertical	Horizontal	
0.00	0.00	Pass

Table 1: Tolerance on Refractive Power, Astigmatism and Resolving Power			
Protector	Refractive Power	Astigmatism	Resolving Power
Spectacle, Reader	±0.06 D	≤ 0.06 D	Pattern 20
Goggle, Full-facepiece respirator	±0.06 D	≤ 0.06 D	Pattern 20
Faceshield windows Loose-fitting respirator	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, Reader	≤ 0.50 Δ	≤ 0.25 Δ	≤ 0.25 Δ	≤ 0.50 Δ
Goggle, Full-facepiece respirator	≤ 0.25 Δ	≤ 0.125 Δ	≤ 0.125 Δ	≤ 0.50 Δ
Faceshield windows Loose-fitting respirator	≤ 0.37 Δ	≤ 0.37 Δ	≤ 0.125 Δ	≤ 0.75 Δ
Welding helmet lenses	≤ 0.50 Δ	≤ 0.25 Δ	≤ 0.25 Δ	≤ 0.75 Δ

**TEST REPORT****Drop Ball Impact Resistance**

Clause 5.2.1 &amp; 9.6 (ANSI/ISEA Z87.1-2015)

When tested in accordance with Section 9.6, the protector shall fail if any of the following occur when impacted by a 25.4 mm (1 in.) diameter steel ball when dropped from a height of 127 cm (50 in.)

1. lens (lens only) fractures
2. piece fully detached from the inner surface
3. projectile penetrates the inner surface
4. lens not retained

Sample	Impact Location	Pass/Fail
2,3,4,5	Left	Pass
	Left	Pass
	Right	Pass
	Right	Pass

**Ignition**

Clause 5.2.2 &amp; 9.7 (ANSI/ISEA Z87.1-2015)

When tested in accordance with Section 9.7, protectors shall not ignite or continue to glow once the rod is removed. Each externally exposed material (exclusive of textiles or elastic bands) shall be

Sample	Ignition	Afterglow	Pass/Fail
6	No	No	Pass

**TEST REPORT**

**Corrosion Resistance of Metal Components**

Clause 5.2.3 & 9.8 (ANSI/ISEA Z87.1-2015)

When tested in accordance with Section 9.8, metal components used in protectors shall be corrosion resistant to the degree that the function of the protector shall not be impaired by the corrosion and the protector can be worn as intended. Lenses and electrical components are excluded from these requirements.

Sample	Function Impaired?	Pass/Fail
7	N/A	N/A

**Minimum Coverage Area**

Clause 5.2.4 (ANSI/ISEA Z87.1-2015)

The frames, lens housings or carriers and lens(es) shall cover in plane view an area of not less than 40 mm (1.57 in.) in width and 33 mm (1.30 in.) in height (elliptical) in front of each eye, centered on the geometrical center of the lens.

Frames, lens housing or carrier and lens(es) designed for small head sizes shall cover in plane view an area of not less than 34 mm (1.34 in.) in width and 28 mm (1.10 in.) in height (elliptical), centered on the geometrical center of the lens.

Frames, lens housing or carrier and lens(es) designed for small head sizes shall be tested on the small headform. Frames that are tested using the small headform shall be marked on the frame with the letter "H."

Sample	Minimum Coverage	Pass/Fail
8	Yes	Pass



**TEST REPORT****Markings**

Clause 5.3 (ANSI/ISEA Z87.1-2015)

All protectors shall bear permanent markings and shall be placed in relatable proximity to each other on the product in the sequence specified below:

Sample	Marking	Pass/Fail
9	Manufacturer's marks or logos	Fail
	Designation of standard	Fail
	Individual claims of compliance	Fail

**Droplet and Splash Hazard**

Clause 8.1.2 Faceshields (ANSI/ISEA Z87.1-2015)

When tested in accordance with Section 9.17.2, the laser beam shall not make direct contact with any point on the eye-region rectangle without first being intercepted by the faceshield.

Sample	Beam intercepted by faceshield?	Pass/Fail
9	Yes	Pass