TEST RESULTS and REPORT

for

Sinclair and Rush

Model 3 (SILICONE)

by

COLTS | Laboratories™

Precision Testing. Definitive Results.

COLTS Laboratories maintains A2LA accreditation to ISO/IEC 17025 for the tests listed on Certificate # 1612.01.
Any tests not included on this certificate have been identified on the appropriate test result page.

Also Certified for testing by the Safety Equipment Institute

Z-SAR051220-03

- Unless otherwise stated, results in this report apply only to the samples tested and not to lots from which they were taken.
- This report shall not be reproduced, except in full, without written approval from COLTS Laboratories.
- Unless otherwise requested, test samples will be discarded 21 days from the report date.

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PRODUCT RESULTS SUMMARY

A2LA Accredited Certificate # 1612.01

Sinclair and Rush
SAR051220-03

COLTS Project ID	Test/Models(s)	Results Pass / Fail	Reason	Page
Z-SAR051220-03-01	ANSI Z87.1-2020 Faceshield Base Model General Requirements Model 3 (SILICONE) Clear Lens and Clear Headband	Pass		1
Z-SAR051220-03-02	ANSI Z87.1-2020 Faceshield Optional Claim (D3) Model 3 (SILICONE) Clear Lens and Clear Headband	Pass		5

Report Date: 05/21/2020

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Report Summary

A2LA Accredited Certificate # 1612.01

Report To:
Sinclair and Rush
123 Manufacturers Drive
Arnold, MO 63010

Attn: Mike Georgevitch
Date: May 21, 2020
Product Description: Clear Lens and Clear Headband

Project

of Model(s): Model 3 (SILICONE)
Report of: ANSI Z87.1-2020
Project ID(s): Z-SAR051220-03-01

On May 12, 2020, COLTS Laboratories received Faceshields: Model 3 (SILICONE) from Sinclair and Rush . From May 13, 2020 through May 20, 2020 COLTS Laboratories tested these Faceshields in accordance with ANSI Z87.1-2020 to the following test protocol: ANSI Z87.1-2020 Faceshield Base Model General Requirements.

Detailed test results are included.

Final Conclusion:
The Faceshields: Model 3 (SILICONE) (Clear Lens and Clear Headband) do comply with ANSI Z87.1-2020 for the test(s) included in this report.

COLTS makes all statements of conformity (Pass/Fail) based on actual values reported, unless otherwise stated.
Please contact us should you have any questions concerning this report.

Respectfully submitted,
COLTS Laboratories

Daryl Neely
Vice-President & COO

Dale Payne
Technical Services Manager

Report To: Sinclair and Rush
Project No: Z-SAR051220-03-01

COLTS™ Laboratories

A2LA Accredited Certificate # 1612.01

Sample ID:
Model 3 (SILICONE)
Clear Lens and Clear Headband

Report Date: 5/21/2020

Lab Temp (C): 23
Lab Rh: 50

Report of: ANSI Z87.1-2020

Test/Property	Paragraph	Requirement	Test Results	Acceptance
Optical Quality	5.1.1	Protector lenses shall be free of:		
		striae, bubbles, waves and other visible defects which would impair the wearer's vision.	Acceptable	Pass
Luminous Transmittance	5.1.2	Clear lenses shall have a luminous transmittance of not less than 85%.		
		Luminous Transmittance	Acceptable	Pass
		Left Eye	86.7%	Pass
		Right Eye	87.0%	Pass
Haze – Clear Lenses Only	5.1.3	Clear plano lenses shall not exhibit more than 3% haze.		
		Haze	Acceptable	Pass
		Left Eye	0.39%	Pass
		Right Eye	0.98%	Pass
Faceshield - Resolving Power, Prism and Prism Imbalance for Plano Protectors	5.1.4	The tolerance on resolving power, prism and prism imbalance shall be as indicated below. Filter lenses of shade 9 or higher are exempt from this section.		
		Resolving Power (Pattern 20)	Acceptable	Pass
		Left Eye	Acceptable	Pass
		Right Eye	Acceptable	Pass
		Complete Prism (0.37 Max)	Acceptable	Pass
		Left Eye	0.158	Pass
		Right Eye	0.071	Pass
		Prismatic Imbalance	Acceptable	Pass
		Vertical (0.37 Max)	0.00	Pass
		Horizontal Base In/Out (In 0.125 Max; Out 0.75 Max)	0.20 out	Pass
Physical Requirements	5.2	Protectors shall be free from:		
		projections, sharp edges or other defects which are likely to cause discomfort or injury during use.	Acceptable	Pass

Report To: Sinclair and Rush
Project No: Z-SAR051220-03-01

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A2LA Accredited Certificate # 1612.01

Sample ID:
Model 3 (SILICONE)
Clear Lens and Clear Headband

Report Date: 5/21/2020

Lab Temp (C): 23
Lab Rh: 50

Report of: ANSI Z87.1-2020

Test/Property	Paragraph	Requirement	Test Results	Acceptance
Drop Ball Impact Resistance	5.2.1	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.): • lens (lens only) fractures • piece fully detached from the inner surface • projectile penetrates the inner surface • lens not retained Glass welding filter lenses shall be tested and used in conjunction with a safety plate in order to comply with the drop ball impact performance criteria. Protectors first tested to and meeting the requirements of Section 7.1.4 are exempt from drop ball impact testing.		
		Sample 1 - Left Eye	Acceptable	Pass
		Sample 2 - Left Eye	Acceptable	Pass
		Sample 3 - Right Eye	Acceptable	Pass
		Sample 4 - Right Eye	Acceptable	Pass
Ignition (Faceshield)	5.2.2	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 metals, textiles or elastic bands) shall be tested.		
		Lens/Window	Acceptable	Pass
		Crown	N/A	N/A
		Headgear/Adapter	Acceptable	Pass
		Other	N/A	N/A
Corrosion Resistance of Metal Components	5.2.3	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.		
		Corrosion Resistant	N/A	N/A
Minimum Coverage Area	5.2.4	Protectors shall cover an area of not less than 40 mm in width and 33 mm in height (elliptical) in front of each eye, centered on the pupil centers of the test headform.		
		Minimum Coverage Area	Acceptable	Pass

Report of: ANSI Z87.1-2020

Test/Property	Paragraph	Requirement	Test Results	Acceptance
Placement of Markings (Faceshield)	5.3.2	All protectors shall bear the permanent and legible markings in specified locations. Markings for lens type and use applications shall be required only when claims for protection against the hazard or indicated use are made by the manufacturer. Protector markings shall be placed in relatable proximity to each other on the product in the sequence specified below:		
		Markings permanent, legible and in relatable proximity	N/A	N/A
		Markings representative of other standards shall not interfere with or be intermixed with the markings required by this standard.	N/A	N/A
		Complete Device Markings	N/A	N/A
		Manufacturer's Mark or Logo	N/A	N/A
		Z87 Mark	N/A	N/A
		+ Mark	N/A	N/A
		Lens Type (multiple claim sequence W,U,L,R,V,S)	N/A	N/A
		Use (multiple claim sequence D3,D4,D5)	N/A	N/A
			Markings for this device not assessed	

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Report Summary

A2LA Accredited Certificate # 1612.01

Report To:
Sinclair and Rush
123 Manufacturers Drive
Arnold, MO 63010

Attn: Mike Georgevitch
Date: May 21, 2020
Product Description: Clear Lens and Clear Headband

Project
of Model(s): Model 3 (SILICONE)
Report of: ANSI Z87.1-2020
Project ID(s): Z-SAR051220-03-02

On May 12, 2020, COLTS Laboratories received Faceshields: Model 3 (SILICONE) from Sinclair and Rush . From May 13, 2020 through May 20, 2020 COLTS Laboratories tested these Faceshields in accordance with ANSI Z87.1-2020 to the following test protocol: ANSI Z87.1-2020 Faceshield Optional Claim (D3).

Detailed test results are included.

Final Conclusion:
The Faceshields: Model 3 (SILICONE) (Clear Lens and Clear Headband) do comply with ANSI Z87.1-2020 for the test(s) included in this report.

COLTS makes all statements of conformity (Pass/Fail) based on actual values reported, unless otherwise stated.
Please contact us should you have any questions concerning this report.

Respectfully submitted,
COLTS Laboratories

Daryl Neely
Vice-President & COO

Dale Payne
Technical Services Manager

Report To: Sinclair and Rush
Project No: Z-SAR051220-03-02

COLTS™ Laboratories

A2LA Accredited Certificate # 1612.01

Sample ID:
Model 3 (SILICONE)
Clear Lens and Clear Headband

Report Date: 5/21/2020

Lab Temp (C): 23
Lab Rh: 47

Report of: ANSI Z87.1-2020

Test/Property	Paragraph	Requirement	Test Results	Acceptance
Faceshields - Droplet and Splash	7.3.2	The laser beam shall not make direct contact with any point on the eye-region rectangle without first being intercepted by the faceshield.		
		Faceshield Droplet and Splash Hazard	Acceptable	Pass

APPENDIX 1

ANSI Z87.1 - 2020 Measurement Uncertainty Values

Section	Requirement	Uncertainty
5.1.2	Luminous Transmittance	0.19%
5.1.3	Haze	0.08%
5.1.4	Refractive Power	0.018D
	Astigmatism	0.018D
	Prism	0.048Δ
5.4.5	Minimum Lens Thickness	0.012 mm
5.5.1	Replaceable Lenses – Goggles	0.17 mm
5.5.2	Replaceable Lenses – Welding Helmets and Handshields	0.17 mm
6.1	Relaxed Optics Level	See 5.1.4
6.2	Anti-Fog Properties	1.79%
7.2.1	Optical Radiation - Clear Lenses	See 5.1.2
7.2.2.1.1	Transmission Requirements	
	Table 7 (Welding Filters)	
	W1.3 – W3.0	See 5.1.2
	W4	0.0018287%
	W5	0.0003283%
	W6	0.0003605%
	W7	0.0000961%
	W8	0.0001944%
	W9	0.0000459%
	W10	0.0000707%
	W11	0.0000163%
	W12	0.0000055%
	W13	0.0000029%
	W14	0.0000017%
	EFUV	0.0000551%
	NUV	0.0000576%
	IR	0.010395%
	Table 8 (UV Filters)	
	EFUV	0.0000551%
	NUV	0.0000576%
	Table 9 (IR Filters)	0.010395%
	Table 10 (VIS Filters)	See 7.2.2.1.1 W1.3 – W10
	Table 11 Tinted	See 5.1.2
	Extra Dark	See 5.1.2
7.2.2.1.2	Visible Light Filters	
	Visible Light (L1.3 - L3)	See 5.1.2
	UVA	See Table 7 NUV
	UVB	See Table 7 EFUV
7.2.2.2	Transmittance of Non-lens Components	See 7.2.2.1.1 Table 7, 8 & 9
7.2.3.1	Automatic Darkening Welding Filter Lenses - Luminous Transmittance	See 7.2.2.1.1 Table 7
7.2.3.2	Automatic Darkening Welding Filter Lenses - UV/IR Transmittance	See 7.2.2.1.1 Table 7
7.2.3.3	Switching Index	0.0192 mSec
7.2.3.5	Angular dependence of luminous transmittance	See 7.2.2.1.1 Table 7