TEST RESULTS and REPORT for

Wendy's Pancake Welding Shields

Z Model

by



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-WND050420-01

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COLTS Laboratories

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A2LA Accredited Certificate # 1612.01

Wendy's Pancake Welding Shields WND050420-01

COLTS Project ID		Results	Basson	Dogo
	Test/Models(s)	Fa55 / Fall	Reason	Faye
Z-WND050420-01-01	ANSI Z87.1-2020 Welding Helmet Shell General Requirements	Pass		1
	Z Model Black Front and Side Piece, 5/8" Lens Holder Wooden Lens Holder/Face Piece			
Z-WND050420-01-02	ANSI Z87.1-2020 Welding Helmet Optional Claim (+)	Pass		6
	Z Model Black Front and Side Piece, 5/8" Lens Holder Wooden Lens Holder/Face Piece			

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Wendy's Pancake Welding Shields 500 Countryside Place Madison, MS 39110

Attn: David Keup Date: May 20, 2020

Report To:



Report Summary

A2LA Accredited Certificate # 1612.01

Projectof Model(s):Z ModelReport of:ANSI Z87.1-2020Project ID(s):Z-WND050420-01-01



Product Description: Black Front and Side Piece, 5/8" Lens Holder Wooden Lens Holder/Face Piece

On May 04, 2020, COLTS Laboratories received Welding Helmets: Z Model from Wendy's Pancake Welding Shields . From May 04, 2020 through May 20, 2020 COLTS Laboratories tested these Welding Helmets in accordance with ANSI Z87.1-2020 to the following test protocol: ANSI Z87.1-2020 Welding Helmet Shell General Requirements.

Detailed test results are included.

Final Conclusion:

The Welding Helmets: Z Model (Black Front and Side Piece, 5/8" Lens Holder Wooden Lens Holder/Face Piece) 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



Sample ID:

Z Model

Black Front and Side Piece, 5/8" Lens Holder Wooden Lens Holder/Face Piece

Report Date: 5/20/2020

Lab Temp (C): 23

Lab Rh: 49

Report of: ANSI Z87.1-2020

A2LA Accredited Certificate # 1612.01

Test/Property	Paragraph	Requirement	Test Results	Acceptance
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
Ignition (Welding Helmet)	5.2.2	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.		
		Shell	Acceptable	Pass
		Lens (Safety Plate)	Acceptable	Pass
		Headgear/Adaptar	N/A	N/A
		Lens Housing	Acceptable	Pass
		Other	N/A	N/A
		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	Acceptable	Pass
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.		
		Protectors designed for small head sizes shall cover an area of not less than 34 mm in width and 28 mm in height (elliptical), centered on the pupil centers of the test headform.		
		Minimum Coverage Area	Acceptable	Pass
Placement of Markings (Welding Helmet)	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	Acceptable	Pass
		Markings representative of other standards shall not interfere with or be intermixed with the markings required by this standard.	Acceptable	Pass



Sample ID:

Z Model

Black Front and Side Piece, 5/8" Lens Holder Wooden Lens Holder/Face Piece

Report Date: 5/20/2020

Report of: ANSI Z87.1-2020

A2LA Accredited Certificate # 1612.01

Test/Property	Paragraph	Requirement	Test Results	Acceptance
Placement of Markings (Welding Helmet)	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: Safety Plate (required if glass filter)	N/A	N/A
		Manufacturer's Mark or Logo	N/A	N/A
		Z87 Mark	N/A	N/A
		Shell	Acceptable	Pass
		Manufacturer's Mark or Logo	Acceptable	Pass
		Z87 Mark	Acceptable	Pass
		H Mark (Coverage - small head sizes)	N/A	N/A
		+ Mark	Acceptable	Pass
		Use (multiple claim sequence D3,D4,D5)	N/A	N/A
		Lens Housing or Carrier	Acceptable	Pass
		Manufacturer's Mark or Logo	Acceptable	Pass
		Z87 Mark	Acceptable	Pass
		H Mark (Coverage - small head sizes)	N/A	N/A
		+ Mark	Acceptable	Pass
		Use (multiple claim sequence D3,D4,D5)	N/A	N/A
Cover lenses	5.4.3.1	Cover lenses are exempt from all requirements of this standard. Cover lenses do not provide protection from optical radiation or impact. Cover lenses shall not be marked "Z87."		
		Not marked Z87	N/A	N/A

Lab Temp (C): 23

Lab Rh: 49

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Sample ID:

Z Model

Black Front and Side Piece, 5/8" Lens Holder Wooden Lens Holder/Face Piece

A2LA Accredited Certificate # 1612.01 Report Dat

Report Date: 5/20/2020

Report of: ANSI Z87.1-2020

Test/Property	Paragraph	Requirement	Test Results	Acceptance	
Transmittance of Non-Lens Components (Welding Helmets)	7.2.2.2	Non-lens components shall comply with the requirements of Table 7.			
		The non-lens area of welding helmets with replaceable lenses shall transmit no more optical radiation than that permitted by Table 7 for shade number 14. Non-lens areas of welding helmets with non- replaceable lenses shall transmit no more optical radiation than that of the lens.			
		There shall be no penetration of direct visible light in all non-lens areas including the space between the lens and lens housing or carrier.			
		Light penetration	Acceptable	Pass	
		Non-lens area	Acceptable	Pass	
				See chart	



Spectral Analysis ANSI Z87.1 - CSA Z94.3

nm	%Т	nm	%Т	nm	%Т	nm	%Т	nm	%Т	nm	%Т	nm	%Т	nm	%Т								
200	0.00003	355	0.00001	510	0.00002	665	0.00002	820	0.00000	975	0.00000	1130	0.00033	1285	0.00173	1440	0.00181	1595	0.00770	1750	0.00899	1905	0.00573
205	0.00002	360	0.00000	515	0.00002	670	0.00002	825	0.00000	980	0.00000	1135	0.00028	1290	0.00170	1445	0.00239	1600	0.00723	1755	0.00879	1910	0.00450
210	0.00000	365	0.00000	520	0.00002	675	0.00002	830	0.00000	985	0.00000	1140	0.00027	1295	0.00162	1450	0.00237	1605	0.00695	1760	0.00882	1915	0.00657
215	0.00000	370	0.00000	525	0.00002	680	0.00002	835	0.00000	990	0.00000	1145	0.00051	1300	0.00185	1455	0.00249	1610	0.00722	1765	0.00929	1920	0.00688
220	0.00000	375	0.00000	530	0.00002	685	0.00001	840	0.00000	995	0.00000	1150	0.00058	1305	0.00239	1460	0.00228	1615	0.00701	1770	0.00967	1925	0.00575
225	0.00000	380	0.00000	535	0.00002	690	0.00002	845	0.00000	1000	0.00000	1155	0.00094	1310	0.00256	1465	0.00290	1620	0.00770	1775	0.01177	1930	0.00617
230	0.00000	385	0.00003	540	0.00002	695	0.00002	850	0.00000	1005	0.00000	1160	0.00105	1315	0.00287	1470	0.00278	1625	0.00908	1780	0.01270	1935	0.00627
235	0.00002	390	0.00003	545	0.00002	700	0.00002	855	0.00000	1010	0.00001	1165	0.00110	1320	0.00249	1475	0.00222	1630	0.01132	1785	0.01261	1940	0.00703
240	0.00002	395	0.00003	550	0.00002	705	0.00002	860	0.00300	1015	0.00013	1170	0.00074	1325	0.00267	1480	0.00201	1635	0.01165	1790	0.01169	1945	0.00561
245	0.00001	400	0.00003	555	0.00002	710	0.00003	865	0.00569	1020	0.00009	1175	0.00056	1330	0.00298	1485	0.00246	1640	0.01153	1795	0.01244	1950	0.00307
250	0.00000	405	0.00003	560	0.00002	715	0.00003	870	0.00397	1025	0.00000	1180	0.00039	1335	0.00348	1490	0.00340	1645	0.01129	1800	0.01370	1955	0.00472
255	0.00000	410	0.00003	565	0.00002	720	0.00003	875	0.00419	1030	0.00000	1185	0.00000	1340	0.00371	1495	0.00416	1650	0.01179	1805	0.01553	1960	0.00621
260	0.00000	415	0.00003	570	0.00002	725	0.00002	880	0.00088	1035	0.00000	1190	0.00000	1345	0.00390	1500	0.00468	1655	0.01173	1810	0.01685	1965	0.00911
265	0.00001	420	0.00002	575	0.00002	730	0.00002	885	0.00045	1040	0.00011	1195	0.00021	1350	0.00400	1505	0.00586	1660	0.01205	1815	0.01722	1970	0.01170
270	0.00000	425	0.00003	580	0.00002	735	0.00002	890	0.00155	1045	0.00019	1200	0.00026	1355	0.00373	1510	0.00574	1665	0.01060	1820	0.01857	1975	0.01381
275	0.00001	430	0.00002	585	0.00002	740	0.00002	895	0.00000	1050	0.00133	1205	0.00015	1360	0.00361	1515	0.00635	1670	0.01006	1825	0.01915	1980	0.01307
280	0.00001	435	0.00002	590	0.00002	745	0.00002	900	0.00000	1055	0.00139	1210	0.00000	1365	0.00368	1520	0.00636	1675	0.00933	1830	0.01886	1985	0.01204
285	0.00002	440	0.00002	595	0.00002	750	0.00002	905	0.00000	1060	0.00158	1215	0.00034	1370	0.00391	1525	0.00560	1680	0.00873	1835	0.01807	1990	0.00992
290	0.00002	445	0.00002	600	0.00002	755	0.00003	910	0.00000	1065	0.00087	1220	0.00079	1375	0.00402	1530	0.00511	1685	0.00792	1840	0.01700	1995	0.00560
295	0.00002	450	0.00002	605	0.00002	760	0.00003	915	0.00000	1070	0.00036	1225	0.00108	1380	0.00435	1535	0.00532	1690	0.00726	1845	0.01695	2000	0.00098
300	0.00002	455	0.00002	610	0.00002	765	0.00002	920	0.00000	1075	0.00023	1230	0.00138	1385	0.00533	1540	0.00553	1695	0.00716	1850	0.01481		
305	0.00002	460	0.00003	615	0.00002	770	0.00002	925	0.00000	1080	0.00024	1235	0.00173	1390	0.00557	1545	0.00564	1700	0.00817	1855	0.01265		
310	0.00001	465	0.00003	620	0.00003	775	0.00002	930	0.00108	1085	0.00048	1240	0.00148	1395	0.00587	1550	0.00583	1705	0.00973	1860	0.01218		
315	0.00000	470	0.00003	625	0.00003	780	0.00002	935	0.00275	1090	0.00063	1245	0.00165	1400	0.00524	1555	0.00620	1710	0.01081	1865	0.01200		
320	0.00000	475	0.00003	630	0.00002	785	0.00000	940	0.00258	1095	0.00063	1250	0.00177	1405	0.00396	1560	0.00693	1715	0.01086	1870	0.01273		
325	0.00000	480	0.00003	635	0.00002	790	0.00007	945	0.00237	1100	0.00056	1255	0.00199	1410	0.00268	1565	0.00658	1720	0.01079	1875	0.01388		
330	0.00000	485	0.00002	640	0.00002	795	0.00151	950	0.00014	1105	0.00068	1260	0.00228	1415	0.00227	1570	0.00576	1725	0.01120	1880	0.01505		
335	0.00000	490	0.00002	645	0.00002	800	0.00050	955	0.00000	1110	0.00073	1265	0.00259	1420	0.00177	1575	0.00646	1730	0.01170	1885	0.01542		
340	0.00000	495	0.00002	650	0.00002	805	0.00057	960	0.00000	1115	0.00000	1270	0.00288	1425	0.00148	1580	0.00711	1735	0.01079	1890	0.01368		
345	0.00000	500	0.00002	655	0.00002	810	0.00000	965	0.00000	1120	0.00033	1275	0.00262	1430	0.00121	1585	0.00757	1740	0.01014	1895	0.01106		
350	0.00000	505	0.00002	660	0.00002	815	0.00000	970	0.00000	1125	0.00017	1280	0.00220	1435	0.00161	1590	0.00814	1745	0.00923	1900	0.00765		



Z-WND050420-01 Non-Lens Area 23C

GENERAL

Test Type: Non-lens Area

Darkest Shade 14 @ 23C

Spectrophotometer: Hitachi U-4100

<u>RESULTS</u>	<u>Results</u>	
	_	

[Near OV [1(NOV] - 0.000001]]	Pass
Far UV [T(EUV)] = 0.000007	Pass
Luminous Y(A) = 0.000022	Pass
Infrared [T(IR)] = 0.003767	Pass
Blue Light TB = 0 000024	Pass

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Wendy's Pancake Welding Shields 500 Countryside Place Madison, MS 39110

Attn: David Keup Date: May 20, 2020

Report To:



Report Summary

A2LA Accredited Certificate # 1612.01

Projectof Model(s):Z ModelReport of:ANSI Z87.1-2020Project ID(s):Z-WND050420-01-02



Product Description: Black Front and Side Piece, 5/8" Lens Holder Wooden Lens Holder/Face Piece

On May 04, 2020, COLTS Laboratories received Welding Helmets: Z Model from Wendy's Pancake Welding Shields . From May 04, 2020 through May 20, 2020 COLTS Laboratories tested these Welding Helmets in accordance with ANSI Z87.1-2020 to the following test protocol: ANSI Z87.1-2020 Welding Helmet Optional Claim (+).

Detailed test results are included.

Final Conclusion:

The Welding Helmets: Z Model (Black Front and Side Piece, 5/8" Lens Holder Wooden Lens Holder/Face Piece) 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



Sample ID:

Z Model

Black Front and Side Piece, 5/8" Lens Holder Wooden Lens Holder/Face Piece

Report Date: 5/20/2020

Lab Temp (C): 23

Lab Rh: 49

Report of: ANSI Z87.1-2020

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Test/Property	Paragraph	Requirement	Test Results	Acceptance
Lateral (Side) Coverage	7.1.3	Impact-rated protectors shall provide continuous lateral coverage. The probe shall not contact the headform within the defined coverage area.		
		Lateral (Side) Coverage	Acceptable	Pass
High Mass Impact	7.1.4.2	The complete device shall meet the protector acceptance criteria when impacted by a pointed projectile weighing a minimum of 500 g (17.6 oz) dropped from a height of at least 127 cm (50.0 in.).		
		 The lens shall fail if any of the following occurs: any part, fragment or material visible to the unaided eye becomes detached from the inner surface of any complete device, as determined by inspection of the device or of the contact paste; fracture; penetration of the inner surface either by the projectile passing completely through the lens, frame or housing component, or by rupture of the inner lens surface; lens not retained 		
		Left Eye Sample 1	Acceptable	Pass
		Left Eye Sample 2	Acceptable	Pass
		Right Eye Sample 3	Acceptable	Pass
		Right Eye Sample 4	Acceptable	Pass
High Velocity Impact (Welding Helmet)	7.1.4.3	The complete device shall meet the protector acceptance criteria when impacted by a 6.35 mm (0.25 in) diameter steel ball traveling at 150 feet per second.		
		 When tested in accordance with this section, the lens shall fail if any of the following occurs: any part, fragment or material visible to the unaided eye becomes detached from the inner surface of any complete device, as determined by inspection of the device or of the contact paste; fracture; penetration of the inner surface either by the projectile passing completely through the lens, frame or housing component, or by rupture of the inner lens surface; lens not retained; the unaided eye observes any piece adhering to the contact paste, or observes contact paste on the projectile or complete device. 		
		Left Eye Center	153 fps	Pass
		Left Eye 30°	156 fps	Pass
		Right Eye Center	155 fps	Pass



Sample ID:

Z Model

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Test/Property	Paragraph	Requirement	Test Results	Acceptance
High Velocity Impact (Welding Helmet)	7.1.4.3	The complete device shall meet the protector acceptance criteria when impacted by a 6.35 mm (0.25 in) diameter steel ball traveling at 150 feet per second.		
		 When tested in accordance with this section, the lens shall fail if any of the following occurs: any part, fragment or material visible to the unaided eye becomes detached from the inner surface of any complete device, as determined by inspection of the device or of the contact paste; fracture; penetration of the inner surface either by the projectile passing completely through the lens, frame or housing component, or by rupture of the inner lens surface; lens not retained; the unaided eye observes any piece adhering to the contact paste, or observes contact paste on the projectile or complete device. Right Eye 30° 	155 fps	Pass
		One Side 90° at 10mm Above (H - 8mm)	156 fps	Pass
		Opposite Side 90° at 10mm Below (H - 8mm)	154 fps	Pass
Devices with Lift Fronts	7.1.4.7	Complete devices with lift fronts shall meet the applicable requirements of Section 7.1 with the lift front in the "up" position.		
		Lift front in "up" position	N/A	N/A



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%
	Refractive Power	0.018D
5.1.4	Astigmatism	0.018D
	Prism	0.048∆
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