

TEST RESULTS and REPORT

for

Wendy's Pancake Welding Shields

Z Model

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-WND041719-01

- 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.

COLTS Laboratories

702 Stevens Avenue
Oldsmar, FL 34677
TEL: 727-725-2323
FAX: 727-725-8890
Email: info@colts-laboratories.com
URL: www.colts-laboratories.com



**PRODUCT
RESULTS
SUMMARY**

A2LA Accredited Certificate # 1612.01

**Wendy's Pancake Welding Shields
Z-WND041719-01-01**

COLTS Project ID	Test/Models(s)	Results Pass / Fail	Reason	Page
Z-WND041719-01-01	ANSI Z87.1-2015 Welding Helmet Shell Test Z Model Black Front and Side Piece, 5/8" Lens Holder Wooden Lens Holder/Face Piece	Pass		1

COLTS Laboratories

702 Stevens Avenue
Oldsmar, FL 34677
TEL: 727-725-2323
FAX: 727-725-8890
Email: info@colts-laboratories.com
URL: www.colts-laboratories.com



**Report
Summary**

A2LA Accredited Certificate # 1612.01

Report To:

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

Attn: David Keup

Date: April 25, 2019

Project

of Model(s): Z Model
Report of: ANSI Z87.1-2015
Project ID(s): Z-WND041719-01-01



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

On April 17, 2019, COLTS Laboratories received Welding Helmets: Z Model from Wendy's Pancake Welding Shields . From April 18, 2019 through April 25, 2019 COLTS Laboratories tested these Welding Helmets in accordance with ANSI Z87.1-2015 to the following test protocol: ANSI Z87.1-2015 Welding Helmet Shell Test.

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 Z87.1-2015 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: Wendy's Pancake Welding Shields
 Project No: Z-WND041719-01-01



Sample ID:
 Z Model
 Black Front and Side Piece, 5/8" Lens Holder Wooden Lens
 Holder/Face Piece

A2LA Accredited Certificate # 1612.01

Report Date: 4/25/2019

Lab Temp (C): 23
 Lab Rh: 45

Report of: ANSI Z87.1-2015

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 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
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	The frames, lens housings or carriers and lens(es) shall cover an area of not less than 40 mm (34 mm for small head sizes) in width and 33 mm (28 mm for small head sizes) in height (elliptical) in front of each eye, centered on the geometrical center of the lens. Minimum Coverage Area	Acceptable	Pass
Required Protector Markings (Welding Protectors)	5.3	All protectors shall bear the permanent and legible markings in specified locations. Protector markings shall be placed in relatable proximity to each other on the product.		
		Manufacturer's marks or logos are exempt from the proximity requirement if they are clearly present elsewhere on the product.		
		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
		Replaceable Lens Markings	N/A	N/A
		Safety Plate (Manufacturer's mark, Z87, impact rating if necessary)	N/A	N/A

"The pages of this report (including attachments) shall not be reproduced, except in full, without written approval of COLTS Laboratories"

Report To: Wendy's Pancake Welding Shields
 Project No: Z-WND041719-01-01



Sample ID:
 Z Model
 Black Front and Side Piece, 5/8" Lens Holder Wooden Lens
 Holder/Face Piece

A2LA Accredited Certificate # 1612.01

Report Date: 4/25/2019

Lab Temp (C): 23
 Lab Rh: 45

Report of: ANSI Z87.1-2015

Test/Property	Paragraph	Requirement	Test Results	Acceptance
Required Protector Markings (Welding Protectors)	5.3	All protectors shall bear the permanent and legible markings in specified locations. Protector markings shall be placed in relatable proximity to each other on the product.		
		Manufacturer's marks or logos are exempt from the proximity requirement if they are clearly present elsewhere on the product.		
		Shell	Acceptable	Pass
		In relatable proximity	Acceptable	Pass
		Manufacturer's Mark or Logo	Acceptable	Pass
		Z87 Mark	Acceptable	Pass
		+ Mark	Acceptable	Pass
		Lens housing or carrier	Acceptable	Pass
		In relatable proximity	Acceptable	Pass
		Manufacturer's Mark or Logo	Acceptable	Pass
		Z87 Mark	Acceptable	Pass
		+ Mark	Acceptable	Pass
Transmittance of Non-Lens Areas for Welding Helmets	5.4.3.1	The non-lens area of welding helmets with removable lenses shall transmit no more optical radiation than that permitted by Table 6 for shade number 14.		
		Non-lens areas of welding helmets with non-removable lenses shall transmit no more optical radiation than that of the lens.		
		Luminous Transmittance	0.000026%	Pass
		U.V. Far	0.000012%	Pass
		U.V. Near	0.000013%	Pass
		Infrared	0.000787%	Pass
		Blue light	0.000025%	Pass
				See charts
Light Tightness	5.4.3.2	When tested in accordance with Section 9.9, 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.		
		No direct light visible	Acceptable	Pass
Cover lenses	5.4.3.3	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	Acceptable	Pass

"The pages of this report (including attachments) shall not be reproduced, except in full, without written approval of COLTS Laboratories"

Report To: Wendy's Pancake Welding Shields
 Project No: Z-WND041719-01-01



Sample ID:
 Z Model
 Black Front and Side Piece, 5/8" Lens Holder Wooden Lens
 Holder/Face Piece

A2LA Accredited Certificate # 1612.01

Report Date: 4/25/2019

Lab Temp (C): 23
 Lab Rh: 45

Report of: ANSI Z87.1-2015

Test/Property	Paragraph	Requirement	Test Results	Acceptance
Information Provided with Welding Protectors	5.4.3.4	A welding protector shall, as sold, be accompanied by lens and retention information. The information shall include, at a minimum:		
		A list of all lens and retention components, plus the shell model.	Acceptable	Pass
		Information sufficient to allow the user to install the lenses in the correct order.	Acceptable	Pass
		A clear statement that the protection marked in accordance with this standard is only provided when all lens and retention components are installed according to the list or other manufacturer's instructions.	Acceptable	Pass
		The nominal thickness and material type of unmarked cover lenses.	Acceptable	Pass
Aftermarket Components and Accessories	5.6	All original equipment manufacturers (OEM) and non-OEM aftermarket components not sold with the original device shall be tested. Aftermarket Components and Accessories	Manufacturer requirement	Not testable
Protectors Marked for Impact Protection	6.1.1	Protectors and replaceable components marked for impact protection in accordance with Table 3 shall meet applicable requirements of Section 6.		
		Impact requirements	Acceptable	Pass
		Marking requirements	Acceptable	Pass
Frames and Shells	6.1.2	Frames and shells shall meet the requirements for high mass impact and high velocity impact in order to be impact-rated. These components shall be tested as a complete device. For frames and shells to be used with prescription lenses, they shall be fitted with representative test lenses having a nominal plano power and the minimum lens thickness to be used by the manufacturer, in no case less than 2.0 mm (0.079 in.). Frames and shells are exempt from the penetration requirement Frames and Shells	Acceptable	Pass
Lateral (Side) Coverage	6.1.3	Impact rated protectors shall provide continuous lateral coverage (i.e. no openings greater than 1.5mm in diameter) from the vertical plane of the lenses tangential to a point not less than 10 mm posterior to the corneal plane and not less than 10 mm in height (or 8 mm for the smaller headform) above and not less than 10 mm in height (or 8 mm for the smaller headform) below the horizontal plane centered on the eyes of the headform. Lateral (Side) Coverage	Acceptable	Pass
High Mass Impact	6.2.2	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.). Left Eye Sample 1	Acceptable	Pass

"The pages of this report (including attachments) shall not be reproduced, except in full, without written approval of COLTS Laboratories"

Report To: Wendy's Pancake Welding Shields
 Project No: Z-WND041719-01-01



Sample ID:
 Z Model
 Black Front and Side Piece, 5/8" Lens Holder Wooden Lens
 Holder/Face Piece

A2LA Accredited Certificate # 1612.01

Report Date: 4/25/2019

Lab Temp (C): 23
 Lab Rh: 45

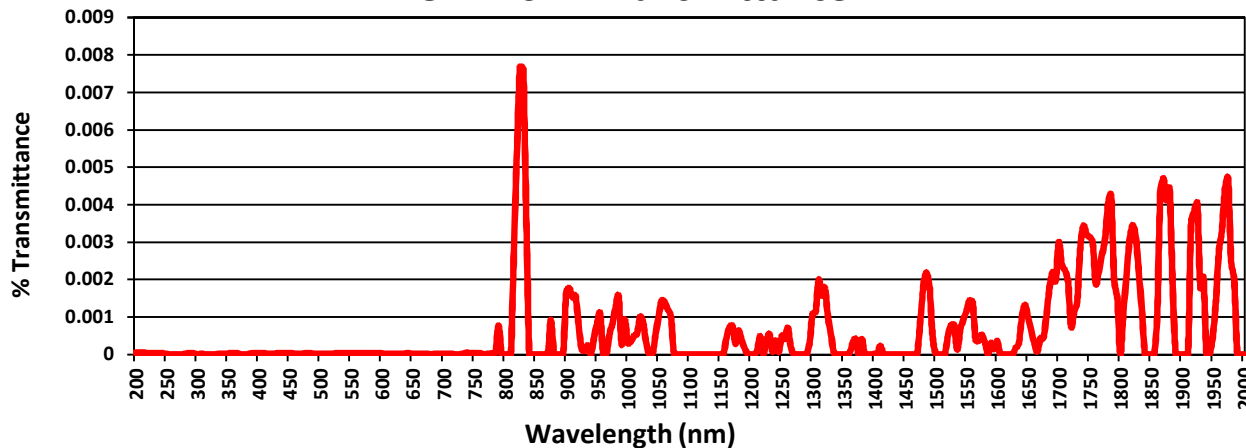
Report of: ANSI Z87.1-2015

Test/Property	Paragraph	Requirement	Test Results	Acceptance
High Mass Impact	6.2.2	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.).		
		Left Eye Sample 2	Acceptable	Pass
		Right Eye Sample 3	Acceptable	Pass
		Right Eye Sample 4	Acceptable	Pass
High Velocity Impact (Welding Helmet)	6.2.3	When tested in accordance with Section 9.12, 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.		
		Left Eye Center	154 fps	Pass
		Left Eye 30°	150 fps	Pass
		Right Eye Center	154 fps	Pass
		Right Eye 30°	154 fps	Pass
		One Side 90° at 10mm Above (H - 8mm)	155 fps	Pass
		Opposite Side 90° at 10mm Below (H - 8mm)	150 fps	Pass
Penetration Test (lenses only)	6.2.4	Lenses for all complete devices shall meet the protector acceptance criteria when penetrated by a weighted needle with a minimum total weight of 44.2 g (1.56 oz) dropped from a height of at least 127 cm (50.0 in.).		
		Left Eye Sample 1	Acceptable	Pass
		Left Eye Sample 2	Acceptable	Pass
		Right Eye Sample 3	Acceptable	Pass
		Right Eye Sample 4	Acceptable	Pass
Devices with Lift Fronts	6.2.7	Complete devices with lift fronts shall meet the applicable requirements of Section 6 with the lift front in the "up" position. Lift front in "up" position	N/A	N/A

"The pages of this report (including attachments) shall not be reproduced, except in full, without written approval of COLTS Laboratories"

nm	%T	nm	%T	nm	%T	nm	%T	nm	%T	nm	%T	nm	%T	nm	%T	nm	%T	nm	%T	nm	%T		
200	0.00005	355	0.00004	510	0.00002	665	0.00002	820	0.00547	975	0.00082	1130	0.00000	1285	0.00000	1440	0.00000	1595	0.00014	1750	0.00314	1905	0.00000
205	0.00004	360	0.00004	515	0.00002	670	0.00002	825	0.00768	980	0.00124	1135	0.00000	1290	0.00000	1445	0.00000	1600	0.00035	1755	0.00300	1910	0.00000
210	0.00005	365	0.00004	520	0.00002	675	0.00001	830	0.00763	985	0.00155	1140	0.00000	1295	0.00027	1450	0.00000	1605	0.00000	1760	0.00189	1915	0.00352
215	0.00004	370	0.00000	525	0.00003	680	0.00001	835	0.00371	990	0.00026	1145	0.00000	1300	0.00108	1455	0.00000	1610	0.00000	1765	0.00222	1920	0.00382
220	0.00004	375	0.00000	530	0.00003	685	0.00001	840	0.00000	995	0.00093	1150	0.00000	1305	0.00113	1460	0.00000	1615	0.00000	1770	0.00264	1925	0.00404
225	0.00004	380	0.00000	535	0.00003	690	0.00001	845	0.00000	1000	0.00030	1155	0.00000	1310	0.00199	1465	0.00000	1620	0.00000	1775	0.00307	1930	0.00179
230	0.00003	385	0.00002	540	0.00003	695	0.00001	850	0.00000	1005	0.00034	1160	0.00042	1315	0.00157	1470	0.00000	1625	0.00000	1780	0.00400	1935	0.00206
235	0.00003	390	0.00003	545	0.00003	700	0.00001	855	0.00000	1010	0.00050	1165	0.00072	1320	0.00178	1475	0.00086	1630	0.00017	1785	0.00425	1940	0.00000
240	0.00003	395	0.00004	550	0.00003	705	0.00001	860	0.00000	1015	0.00056	1170	0.00076	1325	0.00101	1480	0.00181	1635	0.00027	1790	0.00201	1945	0.00000
245	0.00003	400	0.00004	555	0.00003	710	0.00001	865	0.00000	1020	0.00101	1175	0.00029	1330	0.00053	1485	0.00218	1640	0.00097	1795	0.00151	1950	0.00046
250	0.00002	405	0.00003	560	0.00003	715	0.00001	870	0.00000	1025	0.00083	1180	0.00064	1335	0.00002	1490	0.00182	1645	0.00132	1800	0.00000	1955	0.00135
255	0.00001	410	0.00003	565	0.00003	720	0.00000	875	0.00092	1030	0.00029	1185	0.00037	1340	0.00000	1495	0.00049	1650	0.00099	1805	0.00112	1960	0.00273
260	0.00000	415	0.00002	570	0.00003	725	0.00000	880	0.00000	1035	0.00000	1190	0.00016	1345	0.00000	1500	0.00003	1655	0.00065	1810	0.00213	1965	0.00330
265	0.00000	420	0.00001	575	0.00003	730	0.00001	885	0.00000	1040	0.00000	1195	0.00000	1350	0.00000	1505	0.00000	1660	0.00032	1815	0.00305	1970	0.00442
270	0.00000	425	0.00002	580	0.00003	735	0.00003	890	0.00000	1045	0.00052	1200	0.00000	1355	0.00000	1510	0.00000	1665	0.00007	1820	0.00345	1975	0.00470
275	0.00000	430	0.00003	585	0.00003	740	0.00004	895	0.00000	1050	0.00100	1205	0.00000	1360	0.00003	1515	0.00000	1670	0.00043	1825	0.00316	1980	0.00248
280	0.00001	435	0.00003	590	0.00003	745	0.00003	900	0.00168	1055	0.00144	1210	0.00007	1365	0.00029	1520	0.00050	1675	0.00043	1830	0.00220	1985	0.00200
285	0.00003	440	0.00003	595	0.00003	750	0.00003	905	0.00177	1060	0.00140	1215	0.00048	1370	0.00041	1525	0.00078	1680	0.00105	1835	0.00119	1990	0.00000
290	0.00003	445	0.00003	600	0.00003	755	0.00003	910	0.00152	1065	0.00120	1220	0.00000	1375	0.00000	1530	0.00079	1685	0.00179	1840	0.00000	1995	0.00000
295	0.00003	450	0.00003	605	0.00002	760	0.00004	915	0.00157	1070	0.00102	1225	0.00034	1380	0.00041	1535	0.00013	1690	0.00219	1845	0.00000	2000	0.00000
300	0.00000	455	0.00003	610	0.00002	765	0.00001	920	0.00079	1075	0.00000	1230	0.00054	1385	0.00000	1540	0.00066	1695	0.00196	1850	0.00000		
305	0.00001	460	0.00002	615	0.00002	770	0.00001	925	0.00014	1080	0.00000	1235	0.00006	1390	0.00000	1545	0.00093	1700	0.00299	1855	0.00000		
310	0.00001	465	0.00002	620	0.00002	775	0.00002	930	0.00009	1085	0.00000	1240	0.00037	1395	0.00000	1550	0.00115	1705	0.00238	1860	0.00109		
315	0.00000	470	0.00002	625	0.00002	780	0.00003	935	0.00024	1090	0.00000	1245	0.00006	1400	0.00001	1555	0.00144	1710	0.00226	1865	0.00430		
320	0.00000	475	0.00003	630	0.00002	785	0.00004	940	0.00000	1095	0.00000	1250	0.00049	1405	0.00000	1560	0.00140	1715	0.00196	1870	0.00470		
325	0.00000	480	0.00003	635	0.00002	790	0.00077	945	0.00045	1100	0.00000	1255	0.00041	1410	0.00022	1565	0.00038	1720	0.00074	1875	0.00411		
330	0.00001	485	0.00003	640	0.00003	795	0.00000	950	0.00081	1105	0.00000	1260	0.00071	1415	0.00000	1570	0.00036	1725	0.00114	1880	0.00443		
335	0.00002	490	0.00002	645	0.00003	800	0.00000	955	0.00109	1110	0.00000	1265	0.00017	1420	0.00000	1575	0.00052	1730	0.00141	1885	0.00185		
340	0.00001	495	0.00002	650	0.00002	805	0.00000	960	0.00000	1115	0.00000	1270	0.00000	1425	0.00000	1580	0.00032	1735	0.00288	1890	0.00000		
345	0.00002	500	0.00002	655	0.00002	810	0.00000	965	0.00000	1120	0.00000	1275	0.00000	1430	0.00000	1585	0.00001	1740	0.00344	1895	0.00000		
350	0.00002	505	0.00002	660	0.00002	815	0.00278	970	0.00052	1125	0.00000	1280	0.00000	1435	0.00000	1590	0.00031	1745	0.00320	1900	0.00000		

UV-VIS-IR Transmittance



GENERAL

Test Type: Non-lens Area

Darkest Shade 14 @ 23C

Spectrophotometer: Hitachi U-4100

RESULTS

	Results
Near UV [T(NUV)] = 0.000013	Pass
Far UV [T(EUV)] = 0.000012	Pass
Luminous Y(A) = 0.000026	Pass
Infrared [T(IR)] = 0.000787	Pass
Blue Light TB = 0.000025	Pass

Z-WND041719-01-01 Non-Lens Area 23C



APPENDIX 1

ANSI Z87.1 - 2015 Measurement Uncertainty Values

Section	Requirement	Uncertainty
5.1.2	Luminous Transmittance	0.41%
5.1.3	Haze	0.41%
5.1.4	Refractive Power & Astigmatism	0.007D
5.1.4	Prism	0.01Δ
5.4.3.1	Welding Protectors – Transmittance of Non-Lens Area	0.000017%
5.1.5	Refractive Power & Astigmatism and Prism for Rx Protectors and Mganifiers	See 5.1.4
5.4.5	Minimum Lens Thickness	0.1 mm
5.5.1	Replaceable Lenses – Goggles	0.1 mm
5.5.2	Replaceable Lenses – Welding Helmets and Handshields	0.1 mm
7.2.1.1	Transmission Requirements	Table 6 (Welding Filters) See 7.3 Table 7 EFUV 0.0000551% NUV 0.0000576% Table 8 (IR) 0.010395% Table 9 (VIS) See 7.1.3 W1.3 – W10 Table 10 Tinted 0.41% Extra Dark 0.0001944%
7.2.1.2	Visible Light Filters	Visible Light 0.41% UVA 0.0000576% UVB 0.0000551%
7.2.2	Transmittance of Non-lens Components	0.000017%
7.3	Automatic Darkening Welding Filter Lenses	W1.3 – W3.0 0.41% W4 0.0018287% W5 0.0003283% W6 0.0003605% W7 0.0000961% W8 0.0001944% W9 0.0000459% W10 0.0000706% W11 0.0000068% W12 0.0000055% W13 0.0000028% W14 0.0000017% EFUV 0.0000551% NUV 0.0000576% IR 0.010395%
7.3.3	Switching Index	0.0192 mSec