

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-WND041316-01

- Results in this report only relate to the samples analyzed.
- 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

**Wendy's Pancake Welding Shields
Z-WND041316-01-01**

Project ID	Test/Models(s)	Results Pass / Fail	Reason	Page
Z-WND041316-01-01	ANSI Z87.1-2010 Welding Helmet Shell Tests Annual (Major A and B) Z Model Black Front and Side Piece, 5/8" Lenseholder Wooden Lens Holder/Face Piece	Pass		1

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**Report
Summary**

A2LA Accredited Certificate # 1612.01

Report To:

Wendy's Pancake Welding Shields
7865 Terry Road
Terry, MS 39170

Project

of Model(s): Z Model
Report of: ANSI Z87.1-2010 Welding Helmet Shell Tests
Annual (Major A and B)
Project ID(s): Z-WND041316-01-01



Attn: David Keup

Date: April 26, 2016

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

On April 13, 2016, COLTS Laboratories received Welding Helmets: Z Model from Wendy's Pancake Welding Shields. From April 20, 2016 through April 26, 2016 COLTS Laboratories tested these Welding Helmets in accordance with ANSI Z87.1-2010.

Final Conclusion:

The Welding Helmets: Z Model (Black Front and Side Piece, 5/8" Lenseholder Wooden Lens Holder/Face Piece) do comply with ANSI Z87.1-2010 for the test(s) performed for ANSI Z87.1-2010 Welding Helmet Shell Tests Annual (Major A and B).

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-WND041316-01-01



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

A2LA Accredited Certificate # 1612.01

Report Date: 4/26/2016

Lab Temp (C): 23

Lab Rh: 53

Report of: ANSI Z87.1-2010 Welding Helmet Shell Tests Annual (Major A and B)

Test/Property	Paragraph	Requirement	Test Results	Acceptance
Welding Protectors - Transmittance of Non-Lens Areas	5.5.3.1	When tested in accordance with Section 9.2, the thinnest non-lens area of welding protectors with removable lenses that exposes itself forward shall transmit no more optical radiation than that permitted by Table 6 for shade number 14. Non-lens areas of welding protectors with non-removable lenses shall transmit no more optical radiation than that of the lens.		
		Luminous	0.000005%	Pass
		U.V. Far	0.000033%	Pass
		U.V.- Near	0.000010%	Pass
		I.R.	0.000135%	Pass
		Blue Light	0.000006%	Pass
				See chart
Welding Protectors - Light Tightness	5.5.3.2	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
Frames and Shells	6.1.2	Frames and shells shall meet the requirements for high mass impact and high velocity impact if they are impact-rated. These components shall be tested as a complete device and for frames and shells to be used with prescription lenses, shall be fitted with representative test lenses. Frames and shells are exempt from the penetration requirement.		
		Frames and Shells	Acceptable	Pass
Lateral (Side) Coverage	6.1.3	When tested in accordance with Section 9.10, impact rated protectors shall provide continuous lateral coverage (i.e. no openings greater than 1.5mm (0.06 in.) in diameter) from the vertical plane of the lenses tangential to a point not less than 10 mm (0.394 in.) posterior to the corneal plane and not less than 10 mm (0.394 in.) in height (or 8 mm (0.315 in.) for the smaller headform) above and not less than 10 mm (0.394 in.) in height (or 8 mm (0.315 in.) for the smaller headform) below the horizontal plane centered on the eyes of the headform. The probe shall not contact the headform within the defined coverage area.		
		Lateral (Side) Coverage	Acceptable	Pass
High Mass Impact	6.2.2	When tested in accordance with Section 9.11, the complete device shall be capable of resisting an impact from a pointed projectile weighing 500 g (17.6 oz.) dropped from a height of 127 cm (50.0 in.).		
		Left Eye Sample 1	Acceptable	Pass

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Report To: Wendy's Pancake Welding Shields
Project No: Z-WND041316-01-01



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

A2LA Accredited Certificate # 1612.01

Report Date: 4/26/2016

Lab Temp (C): 23

Lab Rh: 53

Report of: ANSI Z87.1-2010 Welding Helmet Shell Tests Annual (Major A and B)

Test/Property	Paragraph	Requirement	Test Results	Acceptance
High Mass Impact	6.2.2	When tested in accordance with Section 9.11, the complete device shall be capable of resisting an impact from a pointed projectile weighing 500 g (17.6 oz.) dropped from a height of 127 cm (50.0 in.). Left Eye Sample 2 Right Eye Sample 3 Right Eye Sample 4	Acceptable Acceptable Acceptable	Pass Pass Pass
High Velocity Impact (Welding Helmets)	6.2.3	When tested in accordance with Section 9.12, the complete device shall be capable of resisting impact from a 6.35 mm (0.25 in) diameter steel ball traveling at 150 feet per second. No contact with the eye of the headform is permitted as a result of impact. Left Eye Center Left Eye 30° Right Eye Center Right Eye 30° One Side 90° at 10mm Above (H - 8mm) Opposite Side 90° at 10mm Below (H - 8mm)	151 fps 152 fps 150 fps 153 fps 152 fps 151 fps	Pass Pass Pass Pass Pass Pass
Devices with Lift Fronts	6.3.1	Complete devices with lift fronts shall be impact tested with the lift front in the "up" position. Lift front in "up" position.	N/A	N/A

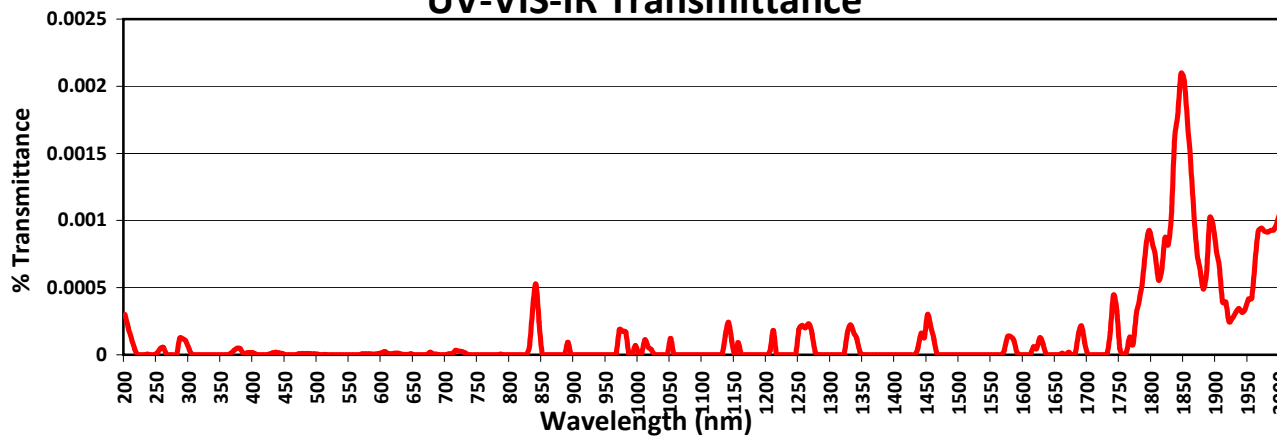
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Spectral Analysis ANSI Z87.1 - CSA Z94.3

nm	%T	nm	%T	nm	%T	nm	%T	nm	%T	nm	%T	nm	%T	nm	%T	nm	%T	nm	%T	nm	%T
200	0.00030	355	0.00000	510	0.00000	665	0.00000	820	0.00000	975	0.00017	1130	0.00000	1285	0.00000	1440	0.00016	1595	0.00000	1750	0.00004
205	0.00020	360	0.00000	515	0.00000	670	0.00000	825	0.00000	980	0.00017	1135	0.00014	1290	0.00000	1445	0.00013	1600	0.00000	1755	0.00000
210	0.00012	365	0.00001	520	0.00000	675	0.00002	830	0.00006	985	0.00000	1140	0.00024	1295	0.00000	1450	0.00030	1605	0.00000	1760	0.00003
215	0.00005	370	0.00003	525	0.00000	680	0.00001	835	0.00034	990	0.00000	1145	0.00010	1300	0.00000	1455	0.00021	1610	0.00000	1765	0.00013
220	0.00000	375	0.00005	530	0.00000	685	0.00001	840	0.00053	995	0.00007	1150	0.00000	1305	0.00000	1460	0.00011	1615	0.00006	1770	0.00008
225	0.00000	380	0.00004	535	0.00000	690	0.00000	845	0.00024	1000	0.00001	1155	0.00009	1310	0.00000	1465	0.00000	1620	0.00005	1775	0.00030
230	0.00000	385	0.00001	540	0.00000	695	0.00000	850	0.00000	1005	0.00002	1160	0.00000	1315	0.00000	1470	0.00000	1625	0.00013	1780	0.00041
235	0.00000	390	0.00001	545	0.00000	700	0.00000	855	0.00000	1010	0.00011	1165	0.00000	1320	0.00000	1475	0.00000	1630	0.00008	1785	0.00056
240	0.00000	395	0.00002	550	0.00000	705	0.00001	860	0.00000	1015	0.00006	1170	0.00000	1325	0.00016	1480	0.00000	1635	0.00000	1790	0.00080
245	0.00000	400	0.00001	555	0.00000	710	0.00001	865	0.00000	1020	0.00004	1175	0.00000	1330	0.00022	1485	0.00000	1640	0.00000	1795	0.00093
250	0.00001	405	0.00000	560	0.00000	715	0.00003	870	0.00000	1025	0.00000	1180	0.00000	1335	0.00017	1490	0.00000	1645	0.00000	1800	0.00084
255	0.00005	410	0.00000	565	0.00000	720	0.00003	875	0.00000	1030	0.00000	1185	0.00000	1340	0.00012	1495	0.00000	1650	0.00000	1805	0.00074
260	0.00006	415	0.00000	570	0.00001	725	0.00002	880	0.00000	1035	0.00000	1190	0.00000	1345	0.00002	1500	0.00000	1655	0.00000	1810	0.00056
265	0.00000	420	0.00000	575	0.00001	730	0.00002	885	0.00000	1040	0.00000	1195	0.00000	1350	0.00000	1505	0.00000	1660	0.00001	1815	0.00063
270	0.00000	425	0.00000	580	0.00001	735	0.00000	890	0.00009	1045	0.00000	1200	0.00000	1355	0.00000	1510	0.00000	1665	0.00000	1820	0.00087
275	0.00000	430	0.00002	585	0.00000	740	0.00000	895	0.00000	1050	0.00012	1205	0.00003	1360	0.00000	1515	0.00000	1670	0.00002	1825	0.00082
280	0.00000	435	0.00002	590	0.00000	745	0.00000	900	0.00000	1055	0.00000	1210	0.00018	1365	0.00000	1520	0.00000	1675	0.00000	1830	0.00104
285	0.00013	440	0.00001	595	0.00001	750	0.00000	905	0.00000	1060	0.00000	1215	0.00000	1370	0.00000	1525	0.00000	1680	0.00000	1835	0.00161
290	0.00012	445	0.00001	600	0.00002	755	0.00000	910	0.00000	1065	0.00000	1220	0.00000	1375	0.00000	1530	0.00000	1685	0.00015	1840	0.00179
295	0.00010	450	0.00000	605	0.00002	760	0.00000	915	0.00000	1070	0.00000	1225	0.00000	1380	0.00000	1535	0.00000	1690	0.00022	1845	0.00210
300	0.00004	455	0.00000	610	0.00001	765	0.00000	920	0.00000	1075	0.00000	1230	0.00000	1385	0.00000	1540	0.00000	1695	0.00009	1850	0.00204
305	0.00000	460	0.00000	615	0.00001	770	0.00000	925	0.00000	1080	0.00000	1235	0.00000	1390	0.00000	1545	0.00000	1700	0.00000	1855	0.00174
310	0.00000	465	0.00000	620	0.00001	775	0.00000	930	0.00000	1085	0.00000	1240	0.00000	1395	0.00000	1550	0.00000	1705	0.00000	1860	0.00144
315	0.00000	470	0.00001	625	0.00001	780	0.00000	935	0.00000	1090	0.00000	1245	0.00000	1400	0.00000	1555	0.00000	1710	0.00000	1865	0.00106
320	0.00000	475	0.00001	630	0.00001	785	0.00000	940	0.00000	1095	0.00000	1250	0.00019	1405	0.00000	1560	0.00000	1715	0.00000	1870	0.00076
325	0.00000	480	0.00001	635	0.00000	790	0.00000	945	0.00000	1100	0.00000	1255	0.00022	1410	0.00000	1565	0.00000	1720	0.00000	1875	0.00063
330	0.00000	485	0.00001	640	0.00000	795	0.00000	950	0.00000	1105	0.00000	1260	0.00020	1415	0.00000	1570	0.00004	1725	0.00000	1880	0.00049
335	0.00000	490	0.00001	645	0.00001	800	0.00000	955	0.00000	1110	0.00000	1265	0.00023	1420	0.00000	1575	0.00014	1730	0.00000	1885	0.00061
340	0.00000	495	0.00001	650	0.00000	805	0.00000	960	0.00000	1115	0.00000	1270	0.00016	1425	0.00000	1580	0.00014	1735	0.00017	1890	0.00102
345	0.00000	500	0.00001	655	0.00000	810	0.00000	965	0.00001	1120	0.00000	1275	0.00002	1430	0.00000	1585	0.00010	1740	0.00044	1895	0.00097
350	0.00000	505	0.00000	660	0.00000	815	0.00000	970	0.00019	1125	0.00000	1280	0.00000	1435	0.00005	1590	0.00002	1745	0.00034	1900	0.00079

UV-VIS-IR Transmittance



GENERAL

Test Type: Non-lens Area

Darkest Shade 14 @ 23C

Spectrophotometer: Hitachi U-4100

RESULTS

Near UV [T(NUV)] = 0.000010

Results

Pass

Far UV [T(EUV)] = 0.000033

Pass

Luminous Y(A) = 0.000005

Pass

Infrared [T(IR)] = 0.000135

Pass

Blue Light TB = 0.000006

Pass

Z-WND041316-01-01 Non-Lens Area (Front Shield) 23C

APPENDIX 1

ANSI Z87.1 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
5.3	Minimum Lens Thickness	0.1 mm
5.5.3.1	Welding Protectors – Transmittance of Non-Lens Area	0.0000017%
5.6.1	Replaceable Lenses – Goggles	0.1 mm
5.6.2	Replaceable Lenses – Welding Helmets and Handshields	0.1 mm
7.1.2	Clear and Filter Lenses	
	Table 6 (Welding Filters)	See 7.1.3
	Table 7 EFUV	0.0000551%
	NUV	0.0000576%
	Table 8 (IR)	0.010395%
	Table 9 (VIS)	See 7.1.3
	W1.3 – W10	0.41%
	Table 10 Tinted	0.0001944%
	Extra Dark	
7.1.3	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%
7.1.3.1	Switching Index	0.0192 mSec
7.1.4	Visible Light Filters	
	Visible Light	0.41%
	UVA	0.0000576%
	UVB	0.0000551%
7.2.1	Transmittance of Housings – Goggles	0.0000017%
7.2.2	Transmittance of Housings – Faceshields	0.0000017%