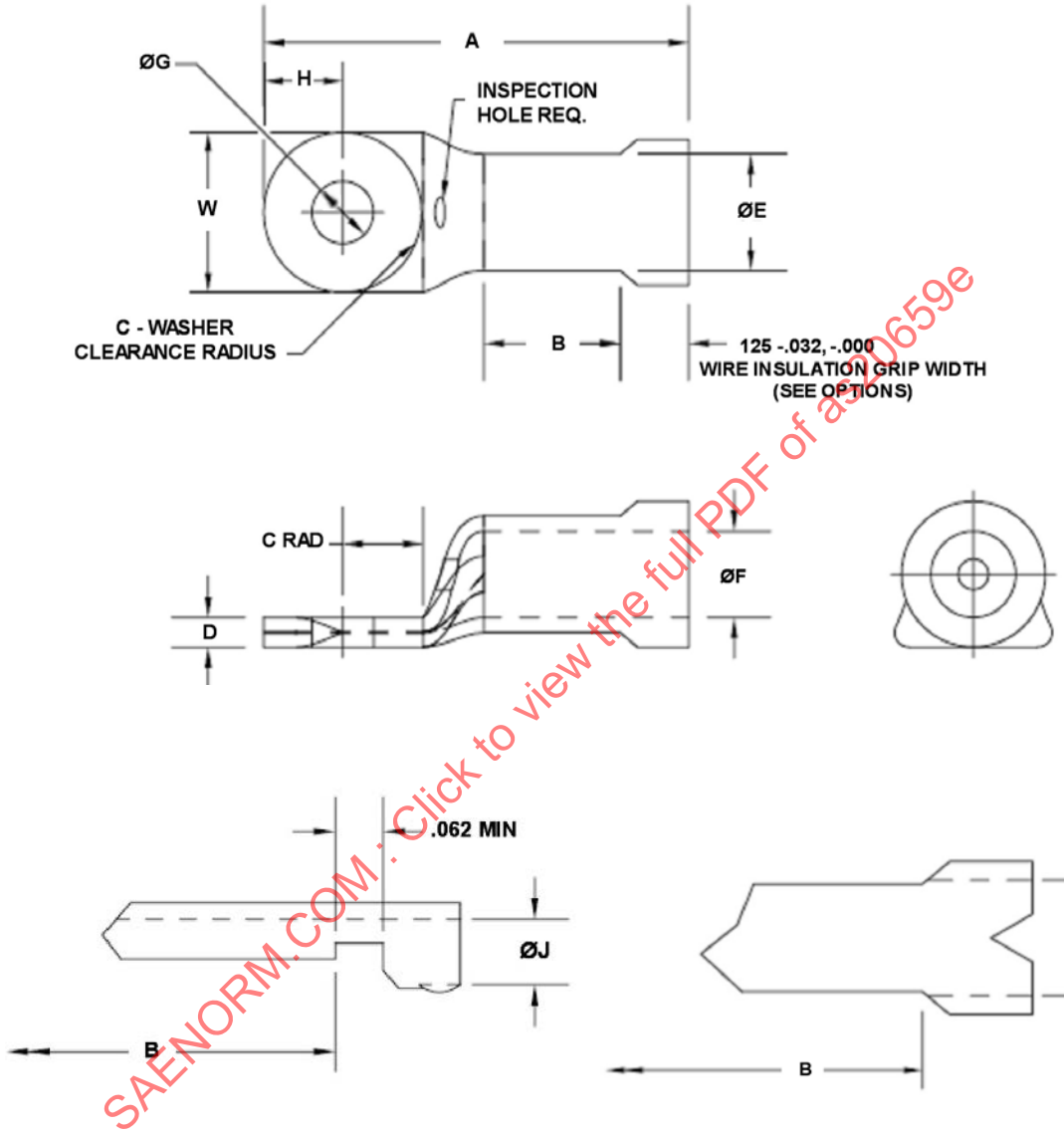
FEDERAL SUPPLY CLASS
5940

RATIONALE

REVISION INCLUDES NEW CRIMP TOOLS. MINOR EDITORIAL CHANGES WERE MADE AS NEEDED.

NOTICE

THE COMPLETE REQUIREMENTS FOR PROCURING THE PRODUCT DESCRIBED HEREIN SHALL CONSIST OF THIS DOCUMENT AND THE LATEST ISSUE OF AS7928.

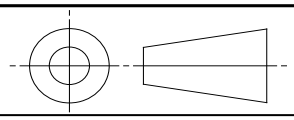


WIRE INSULATION GRIP OPTIONS

FIGURE 1 - TERMINAL AND WIRE INSULATION GRIPS FOR WIRE SIZE 22 THRU 14

SAE values your input. To provide feedback on this Technical Report, please visit
http://www.sae.org/technical/standards/AS20659E

THIRD ANGLE PROJECTION



ISSUED 1998-07 REVISED 2015-12

CUSTODIAN: AE-8/AE-8C2

PROCUREMENT SPECIFICATION: AS7928

SAE INTERNATIONAL

AEROSPACE STANDARD

(R) TERMINAL, LUG, CRIMP STYLE, COPPER, UNINSULATED, RING TONGUE, TYPE I, CLASS 1, FOR 175 °C TOTAL CONDUCTOR TEMPERATURE

AS20659™
SHEET 1 OF 7

REV. E

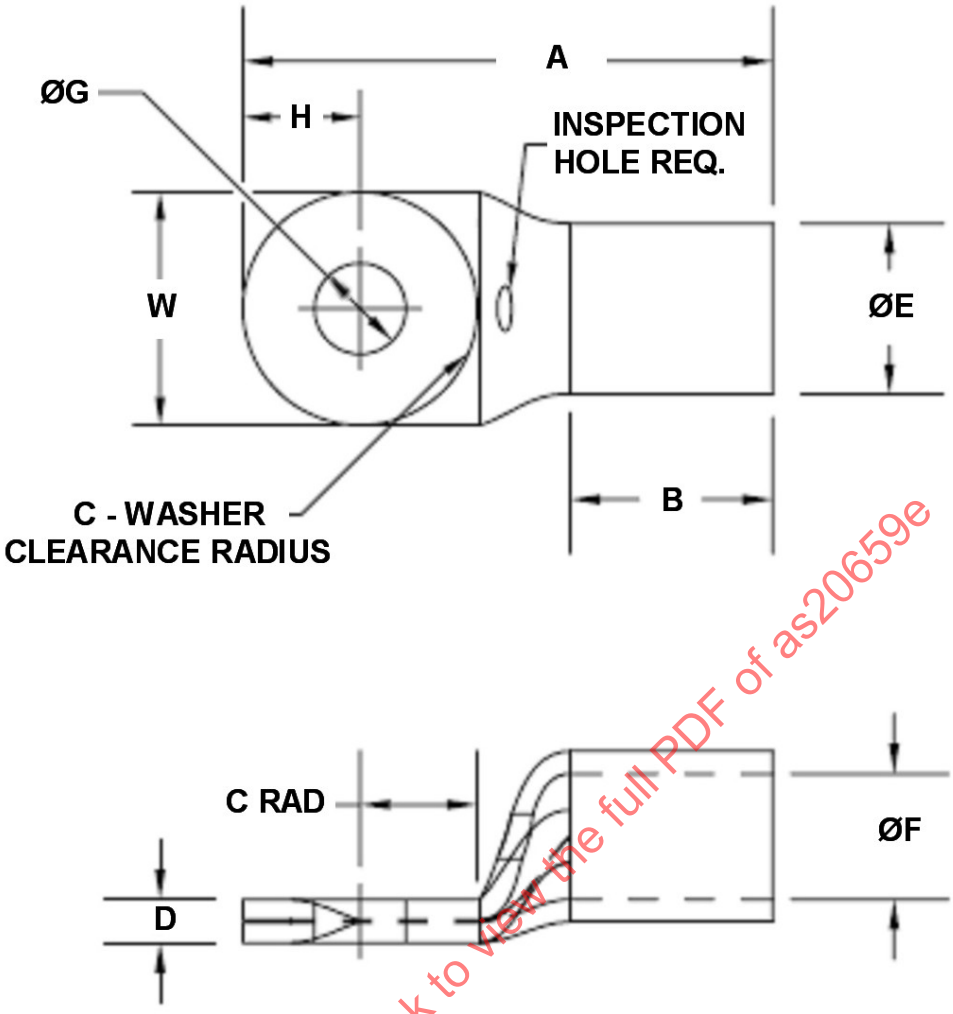


FIGURE 2 - TERMINALS FOR WIRE SIZE 12 THRU 0000 (NO WIRE INSULATION GRIP)

TABLE 1 - DIMENSIONS

DASH NO.	WIRE SIZE	STUD SIZE	A MAX	B MIN	C MIN RADIUS	D MAX	D MIN	E DIA 2/	F DIA 3/	G DIA MAX	G DIA MIN	J DIA MIN 4/	W & H 1/ MAX	W & H 1/ MIN
167	22-18	2 (0.086)	.890	.250	.115	.045	.023	.140 .115	.073 .052	.098	.090	.120	.260	.178
138		4 (0.112)	.890		.125					.122	.114		.260	.178
101		6 (0.138)	.890		.125					.152	.142		.260	.210
102		10 (0.190)	.968		.172					.203	.193		.320	.305
161		5/16 (0.312)	1.187		.284					.338	.323		.540	.450
125		3/8 (0.375)	1.308		.328					.400	.385		.540	.520
162		1/2 (0.500)	1.530		.378					.525	.510		.733	.703
139	16-14	4 (0.112)	.947	.250	.125	.053	.029	.162 .145	.095 .081	.122	.114	.153	.266	.234
103		6 (0.138)	.955		.172					.152	.142		.327	.297
126		6 (0.138)	.947		.125					.152	.142		.266	.234
104		10 (0.190)	.955		.172					.203	.193		.327	.234
163		5/16 (0.312)	1.249		.284					.338	.323		.540	.450
127		3/8 (0.375)	1.290		.328					.400	.385		.540	.520
164		1/2 (0.500)	1.593		.378					.525	.510		.733	.703
165	12-10	6 (0.138)	.955	.250	.202	.080	.037	.230 .210	.139 .129	.152	.142		.317	.290
105		10 (0.190)	.969		.172					.203	.193		.391	.365
106		5/16 (0.312)	1.156		.296					.338	.323		.547	.485
128		3/8 (0.375)	1.172		.328					.400	.385		.598	.536
166		1/2 (0.500)	1.718		.378					.525	.510		.733	.703
140	8	8 (0.164)	1.150	.315	.234	.084	.038	.272 .260	.186 .176	.178	.168		.429	.386
107		10 (0.190)	1.150		.234					.203	.193		.429	.386
141		1/4 (0.250)	1.219		.265					.275	.260		.478	.435
108		5/16 (0.312)	1.297		.296					.338	.323		.590	.547
129		3/8 (0.375)	1.297		.328					.400	.385		.590	.547
142		1/2 (0.500)	1.545		.440					.525	.510		.833	.680
130	6	10 (0.190)	1.312	.375	.238	.084	.043	.316 .295	.232 .222	.203	.193		.503	.460
109		1/4 (0.250)	1.312		.265					.275	.260		.503	.460
131		5/16 (0.312)	1.437		.305					.338	.323		.623	.580
110		3/8 (0.375)	1.437		.328					.400	.385		.623	.580
143		1/2 (0.500)	1.676		.440					.525	.510		.833	.700

TABLE 1 - DIMENSIONS (CONTINUED)

DASH NO.	WIRE SIZE	STUD SIZE	A MAX	B MIN	C MIN RADIUS	D MAX	D MIN	E DIA 2/	F DIA 3/	G DIA MAX	G DIA MIN	J DIA MIN 4/	W & H 1/ MAX	W & H 1/ MIN
144	4	10 (0.190)	1.400	.437	.276	.096	.047	.380 .365	.290 .280	.203	.193		.628	.480
111		1/4 (0.250)	1.400		.276					.275	.260			
132		5/16 (0.312)	1.489		.308					.338	.323		.648	.605
112		3/8 (0.375)	1.489		.328					.400	.385			
145		1/2 (0.500)	1.721		.440					.525	.510		.833	.710
146	2	10 (0.190)	1.732	.505	.343	.109	.054	.473 .450	.365 .355	.203	.193		.711	.668
113		1/4 (0.250)								.275	.260		.711	.668
147		5/16 (0.312)								.338	.323		.711	.668
114		3/8 (0.375)								.400	.385		.711	.668
148		7/16 (0.437)	1.895		.453					.463	.448		.804	.740
133		1/2 (0.500)	1.895		.453					.525	.510		.804	.740
115	1	1/4 (0.250)	1.845	.565	.383	.125	.070	.527 .505	.398 .388	.275	.260		.783	.740
149		5/16 (0.312)			.383					.338	.323		.783	.740
116		3/8 (0.375)			.383					.400	.385		.783	.740
150		7/16 (0.437)	1.980		.453					.463	.448		.887	.740
134		1/2 (0.500)	1.980		.453					.525	.510		.887	.740
117	0	1/4 (0.250)	2.045	.63	.418	.125	.070	.578 .558	.458 .438	.275	.260		.853	.810
151		5/16 (0.312)			.418					.338	.323		.853	.810
118		3/8 (0.375)			.418					.400	.385		.853	.810
152		7/16 (0.437)	2.092		.453					.463	.448		.903	.860
135		1/2 (0.500)	2.092		.453					.525	.510		.903	.860
153	00	1/4 (0.250)	2.320	.70	.473	.129	.075	.640 .620	.520 .500	.275	.260		.956	.913
119		5/16 (0.312)								.338	.323			
120		3/8 (0.375)								.400	.385			
154		7/16 (0.437)								.463	.448			
136		1/2 (0.500)								.525	.510			

TABLE 1 - DIMENSIONS (CONTINUED)

DASH NO.	WIRE SIZE	STUD SIZE	A MAX	B MIN	C MIN RADIUS	D MAX	D MIN	E DIA 2/	F DIA 3/	G DIA MAX	G DIA MIN	J DIA MIN 2/	W & H 1/ MAX	W & H 1/ MIN
155	000	5/16 (0.312)	2.455	.718	.513	.140	.085	.714 .690	.577 .557	.338	.323		1.053	1.010
121		3/8 (0.375)								.400	.385			
156		7/16 (0.437)								.463	.448			
122		1/2 (0.500)								.525	.510			
157	0000	5/16 (0.312)	2.755	.734	.560	.150	.095	.784 .760	.645 .622	.338	.323		1.148	1.095
123		3/8 (0.375)								.400	.385			
158		7/16 (0.437)								.463	.448			
124		1/2 (0.500)								.525	.510			
159		5/8 (0.625)								.666	.651			
160		3/4 (0.750)	2.955		.765					.785	.770		1.268	1.200
137		7/8 (0.875)	2.971		.765					.910	.895		1.268	1.200

1/ H MAX AND MIN DIMENSIONS SHALL BE ONE-HALF OF THE W MAX AND MIN DIMENSIONS, RESPECTIVELY.
2/ ØE IS THE OUTSIDE INSULATED DIAMETER OF THE CRIMP ZONE DEFINED BY LENGTH DIMENSION B.
3/ ØF IS THE INSIDE COPPER BARREL DIAMETER OF THE CRIMP ZONE DEFINED BY LENGTH DIMENSION B.
4/ ØJ IS THE MINIMUM INSIDE DIAMETER OF THE WIRE INSULATION METAL GRIP FOR THE .125 INCH LENGTH DIMENSION. ØJ MINIMUM IS SLIGHTLY LARGER ØE MINIMUM.

REQUIREMENTS: ALL REQUIREMENTS SHALL CONSIST OF THIS DOCUMENT AND THE LATEST ISSUE OF AS7928.

1. CONFIGURATION (SEE FIGURE 1 AND 2 AND TABLE 1): DIMENSIONS ARE IN INCHES. CONTOUR OF THE TERMINAL MAY VARY FROM THAT SHOWN TO SUIT INDIVIDUAL MANUFACTURER'S DESIGNS PROVIDED DIMENSIONS ARE MAINTAINED. AVERAGE DIAMETER OF E AND F SHALL BE WITHIN REQUIRED DIMENSIONS AND THE MAX AND MIN DIMENSION VALUES DUE TO OVALIZATION SHALL BE WITHIN 3% OF THE DIMENSION REQUIREMENT. A SPLIT BARREL CONSTRUCTION SHALL BE PERMANENTLY SEALED AND SHALL NOT OPEN AFTER CRIMPING.

2. BASE MATERIAL: COPPER (SEE AS7928 FOR MATERIAL DETAILS) OR COPPER ALLOY. MATERIAL SHALL HAVE ADEQUATE ELECTRICAL CONDUCTIVITY AND SHALL BE SUFFICIENTLY STRONG TO RESIST CRACKING AFTER FORMING AND CRIMPING. COPPER MAY BE GILDING METAL, 95% COPPER AND 5% ZINC.

3. FINISH: TIN PLATED (SEE AS7928 FOR MATERIAL DETAILS).