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**REV.
A**

AS50861™/1

FEDERAL SUPPLY CLASS
6145

RATIONALE

CURRENT REVISION IS A WORD FOR WORD CONVERSION FROM THE MILITARY STANDARD. THE DETAIL SPECIFICATION IS BEING REVISED TO CONVERT TO SAE FORMAT AND PROVIDE UPDATES AS NEEDED.

NOTICE

THE COMPLETE REQUIREMENTS FOR PROCURING THE PRODUCT DESCRIBED HEREIN SHALL CONSIST OF THIS DOCUMENT AND THE LATEST ISSUE OF AS50861.

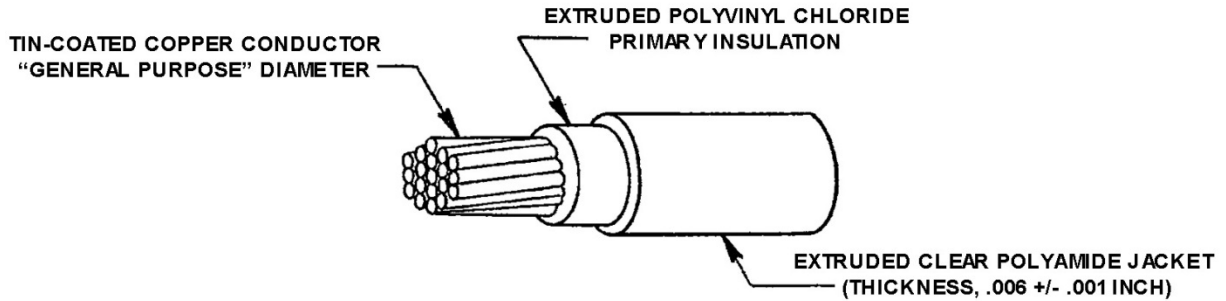
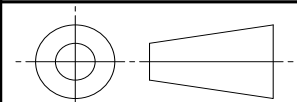


FIGURE 1 - WIRE CONSTRUCTION

SAE values your input. To provide feedback on this Technical Report, please visit
<http://standards.sae.org/AS50861/1A>

THIRD ANGLE PROJECTION



CUSTODIAN: AE-8D

PROCUREMENT SPECIFICATION: AS50861



AEROSPACE STANDARD

(R) WIRE, ELECTRICAL, POLYVINYL CHLORIDE INSULATED, POLYAMIDE JACKET, TIN-COATED COPPER CONDUCTOR, 600-VOLT, 105 °C

AS50861™/1
SHEET 1 OF 4

**REV.
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TABLE 1 - WIRE CONSTRUCTION DETAILS

PART NO. ^{1/}	WIRE SIZE	STRANDING (NUMBER OF STRANDS X AWG GAGE OF STRANDS)	DIAMETER OF STRANDED CONDUCTOR (INCHES)		FINISHED WIRE		
			(MIN)	(MAX)	RESISTANCE AT 20 °C (68 °F) (OHMS/1000 FEET) (MAX)	DIAMETER (INCHES)	WEIGHT (LB/1000 FEET) (MAX)
M5086/1-22-*	22	19 X 34	.029	.033	16.20	.068 ± .004	4.40
M5086/1-20-*	20	19 X 32	.037	.041	9.88	.078 ± .004	6.30
M5086/1-18-*	18	19 X 30	.046	.051	6.23	.088 ± .004	8.60
M5086/1-16-*	16	19 X 29	.052	.058	4.81	.098 ± .004	10.70
M5086/1-14-*	14	19 X 27	.065	.073	3.06	.117 ± .005	16.40
M5086/1-12-*	12	19 X 28	.084	.090	2.02	.137 ± .005	24.70
M5086/1-10-*	10	19 X 26	.106	.114	1.26	.159 ± .005	36.50

^{1/} PART NO.: THE ASTERISKS IN THE PART NUMBER COLUMN, TABLES 1 THROUGH 3, SHALL BE REPLACED BY COLOR CODE DESIGNATORS IN ACCORDANCE WITH MIL-STD-681. EXAMPLES: SIZE 20, WHITE – M5086/1-20-9; WHITE WITH ORANGE STRIPE – M5086/1-20-93.

TABLE 2 - BEND TEST MANDRELS AND TEST LOADS

PART NO.	MANDREL DIAMETER (INCHES) (±3%)			TEST LOAD (LB) (±3%)	
	LIFE CYCLE (OVEN AND BEND TESTS) ^{1/}	COLD BEND TEST	WRAP TEST	LIFE CYCLE (OVEN AND BEND TESTS) ^{1/}	COLD BEND TEST
M5086/1-22-*	4.5	3.0	.41	.75	2.0
M5086/1-20-*	4.5	3.0	.47	.75	2.0
M5086/1-18-*	4.5	3.0	.53	1.0	2.0
M5086/1-16-*	6.5	3.0	.59	1.0	3.0
M5086/1-14-*	6.5	6.0	.70	1.0	3.0
M5086/1-12-*	6.5	6.0	.82	3.0	3.0
M5086/1-10-*	10.0	6.0	.95	3.0	5.0

^{1/} ALSO FOR BEND TESTS AFTER IMMERSION.

REQUIREMENTS: ALL REQUIREMENTS SHALL CONSIST OF THIS DOCUMENT AND THE LATEST ISSUE OF AS50861.

1. WIRE CONSTRUCTION:

WIRE CONSTRUCTION: IN ACCORDANCE WITH FIGURE 1 AND TABLES 1 AND 2

COLOR: IN ACCORDANCE WITH MIL-STD-104, CLASS 1; WHITE PREFERRED

IDENTIFICATION: IN ACCORDANCE WITH AS50861

2. WIRE PERFORMANCE:

TEMPERATURE RATING: 105 °C (221 °F) MAX CONDUCTOR TEMPERATURE

VOLTAGE RATING: 600 V (RMS) AT SEA LEVEL (REFER TO AS50861)

3. MATERIALS AND PHYSICAL PROPERTIES:

REFER TO AS50861 FOR MATERIAL REQUIREMENT. MATERIALS USED IN THE MANUFACTURE OF THESE PRODUCTS SHALL COMPLY WITH THE RESTRICTION OF HAZARDOUS SUBSTANCES DIRECTIVE 2002/95/EC.

	AEROSPACE STANDARD	AS50861™/1 SHEET 2 OF 4	REV. A 
	(R) WIRE, ELECTRICAL, POLYVINYL CHLORIDE INSULATED, POLYAMIDE JACKET, TIN-COATED COPPER CONDUCTOR, 600-VOLT, 105 °C		



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