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REV.
C

AS81914™/4

FEDERAL SUPPLY CLASS
9330

RATIONALE

REVISION IS REQUIRED TO MODIFY THE REQUIREMENTS AND PART NUMBER TO ALLOW FOR THE OPTION OF AN ADDITIONAL MATERIAL COLOR.

NOTICE

THE COMPLETE REQUIREMENTS FOR PROCURING THE PRODUCT DESCRIBED HEREIN SHALL CONSIST OF THIS DOCUMENT AND THE LATEST ISSUE OF AS81914.

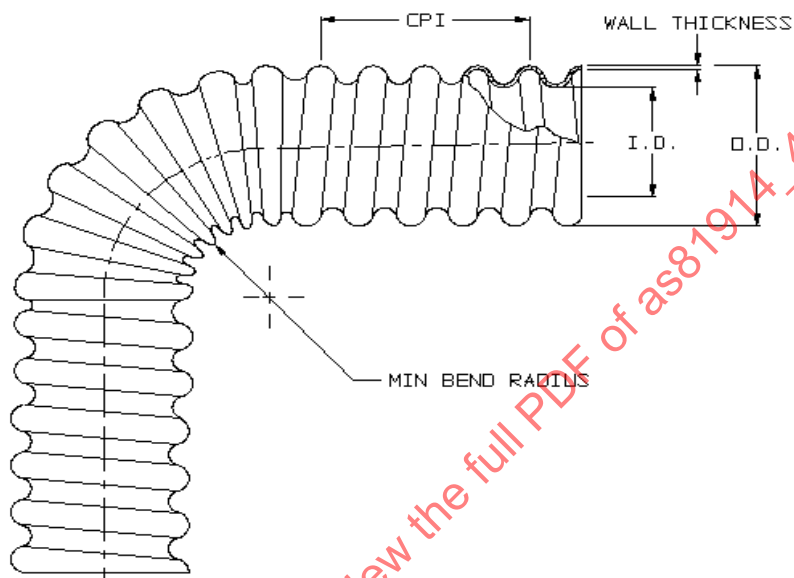
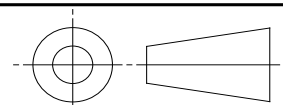


FIGURE 1 - DIMENSIONS AND CONSTRUCTION

For more information on this standard, visit

<https://www.sae.org/standards/content/AS81914/4C/>

THIRD ANGLE PROJECTION



CUSTODIAN: AE-8C1

PROCUREMENT SPECIFICATION: AS81914



AEROSPACE STANDARD

TUBING, PLASTIC, EXTRA FLEXIBLE, CONVOLUTED,
HELICAL, FLUORINATED ETHYLENE PROPYLENE
(FEP), CLOSE CONVOLUTION

AS81914™/4
SHEET 1 OF 4

REV.
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TABLE 1 - FIGURE 1 DIMENSIONS

DASH NUMBER	MAX INSIDE DIA. (I.D.)	MIN INSIDE DIA. (I.D.)	MAX OUTER DIA. (O.D.)	MAX WALL THICKNESS	CONVOLUTIONS PER INCH (CPI) ± 1	APPROX. WEIGHT LB (KG) PER 100 FEET (30.5 M) REF.	MIN BEND RADIUS
01	.188 (4.78)	.181 (4.60)	.320 (8.13)	.018 (0.46)	10	1.7 (0.77)	.31 (7.9)
02	.281 (7.14)	.273 (6.93)	.414 (10.52)	.018 (0.46)	10	2.0 (0.91)	.41 (10.4)
03	.312 (7.92)	.306 (7.77)	.450 (11.43)	.018 (0.46)	10	2.1 (0.95)	.41 (10.4)
04	.375 (9.53)	.359 (9.12)	.510 (12.95)	.018 (0.46)	10	2.5 (1.13)	.50 (12.7)
05	.437 (11.10)	.427 (10.85)	.571 (14.50)	.018 (0.46)	10	3.9 (1.77)	.50 (12.7)
06	.500 (12.70)	.480 (12.19)	.650 (16.51)	.023 (0.58)	9	4.6 (2.09)	.75 (19.1)
07	.625 (15.88)	.603 (15.32)	.770 (19.56)	.023 (0.58)	9	5.5 (2.49)	.75 (19.1)
08	.750 (19.05)	.725 (18.42)	.930 (23.62)	.023 (0.58)	8	6.9 (3.13)	.93 (23.6)
09	.875 (22.23)	.860 (21.84)	1.073 (27.25)	.023 (0.58)	7	8.9 (4.04)	1.25 (31.8)
10	1.000 (25.40)	.970 (24.64)	1.226 (31.14)	.023 (0.58)	7	9.5 (4.31)	1.25 (31.8)
11	1.125 (28.58)	1.105 (28.07)	1.390 (35.31)	.023 (0.58)	7	10.5 (4.76)	1.43 (36.3)
12	1.250 (31.75)	1.205 (30.61)	1.539 (39.09)	.023 (0.58)	6.5	11.2 (5.08)	1.43 (36.3)
13	1.500 (38.10)	1.437 (36.50)	1.832 (46.53)	.023 (0.58)	5.5	12.0 (5.44)	1.75 (44.5)
14	1.750 (44.45)	1.688 (42.88)	2.082 (52.88)	.023 (0.58)	5.5	13.5 (6.12)	2.00 (50.8)
15	2.000 (50.80)	1.937 (49.20)	2.332 (59.23)	.023 (0.58)	5.5	15.5 (7.03)	2.25 (57.2)

NOTES:

1. DIMENSIONS ARE IN INCHES.
2. UNLESS OTHERWISE SPECIFIED TOLERANCES SHALL BE: .XX = ± 0.10 (0.25 MM), .XXX = ± 0.005 (0.13 MM).
3. METRIC EQUIVALENTS ARE GIVEN FOR GENERAL INFORMATION ONLY AND ARE BASED ON 25.4 MM = 1 INCH.
4. METRIC DIMENSIONS IN PARENTHESES ARE SHOWN IN MILLIMETERS.

REQUIREMENTS:

1. DIMENSIONS AND CONFIGURATION: SEE FIGURE 1 AND TABLE 1.
2. CONVOLUTION TYPE: HELICAL, CLOSE CONVOLUTION (CLASS 0).
3. LENGTHS SHALL BE SPECIFIED IN FEET BY THE PROCURING ACTIVITY AND DOES NOT FORM A PART OF THE IDENTIFYING PART NUMBER. MINIMUM ORDER LENGTH SHALL BE 3 FEET (0.914 M) AND THE TUBING ORDER LENGTH TOLERANCES SHALL BE AS SPECIFIED BELOW. TUBING SHALL BE PROCURED AS COILS.
4. CONTINUOUS OPERATING TEMPERATURE: -67 °C (-88 °F) TO +200 °C (392 °F)
5. COLOR: COLOR SHALL BE CLEAR/NATURAL OR BLACK (SEE PART NUMBER EXAMPLE FOR APPROPRIATE DESIGNATOR).


	AEROSPACE STANDARD		AS81914™/4 SHEET 2 OF 4	REV. C
	TUBING, PLASTIC, EXTRA FLEXIBLE, CONVOLUTED, HELICAL, FLUORINATED ETHYLENE PROPYLENE (FEP), CLOSE CONVOLUTION			

TABLE 2 - ORDER LENGTH TOLERANCE

ORDER LENGTH RANGE	
LENGTH IN FEET (METERS)	TOLERANCE IN INCHES (MILLIMETERS)
3 - 12 (0.914 - 3.66)	+2.0/-0.0 (+50.8/-0.0)
13 - 50 (3.96 - 15.24)	+4.0/-0.0 (+101.6/-0.0)
51 AND UP (15.55 AND UP)	+6.0/-0.0 (+152.4/-0.0)

6. PHYSICAL PROPERTIES: GENERAL PHYSICAL REQUIREMENT VALUES ALONG WITH ASSOCIATED TEST CONDITIONS ARE LOCATED IN TABLE 3.
7. SHELF LIFE: THE STORAGE/SHELF LIFE SHALL BE 20 YEARS. SEE AS81914

TABLE 3 - PHYSICAL REQUIREMENTS

PROPERTY	REQUIREMENT
CONSTRUCTION DETAILS	IN ACCORDANCE WITH TABLE 1
STRESS IN PSI @ 10% STRAIN	250 TO 700
SPECIFIC GRAVITY	2.18 MAX.
CRUSH RESISTANCE, HORIZONTAL	10 POUNDS (4.54 KG) MIN.
LOW TEMPERATURE FLEXIBILITY	10000 CYCLES, NO CRACKING
HEAT SHOCK	176/174 °C (349/345 °F) FOR 4 HOURS. 15% MAX LONGITUDINAL CHANGE. NO DRIPPING, FLOWING, OR CRACKING.
HEAT AGING	STRESS IN PSI @ 10% STRAIN, 80% OF INITIAL VALUE. 176/174 °C (351/343 °F) FOR 96 HOURS.
FLUID RESISTANCE	STRESS IN PSI @ 10% STRAIN 80% OF INITIAL VALUE
FLAMMABILITY	NON-FLAMMABLE ^{1/}
FUNGUS RESISTANCE	NON-NUTRIENT ^{1/}
DIELECTRIC BREAKDOWN	12 000 VOLTS, NO BREAKDOWN

^{1/} PROPERTIES NOT TESTED.



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SHEET 3 OF 4

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