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REV.
C

AS81914™/6

FEDERAL SUPPLY CLASS
5975

RATIONALE

LIMITED SCOPE REVISION IS REQUIRED TO CHANGE THE SPECIFIC GRAVITY REQUIREMENT IN TABLE 3 FROM 1.70 MAX TO 1.88 MAX AND TO CORRECT MULTIPLE SPELLING ERRORS IN REQUIREMENT PARAGRAPH 3.

NOTICE

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

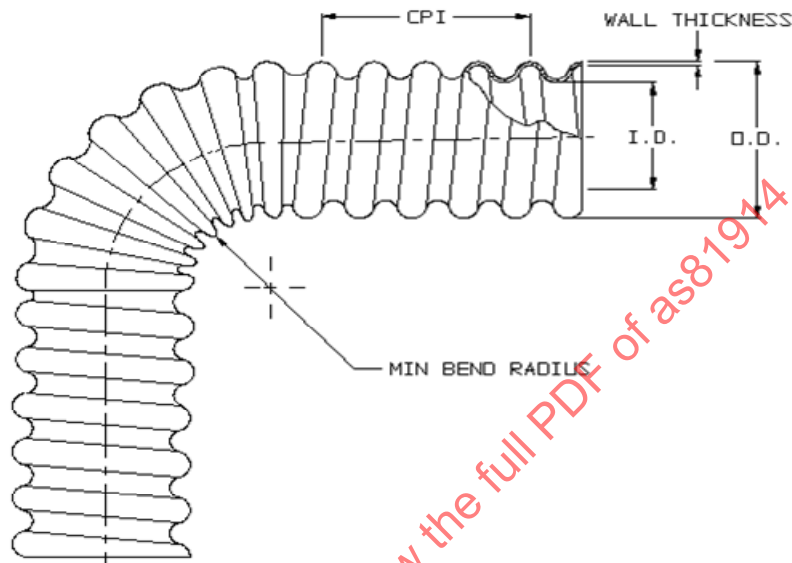
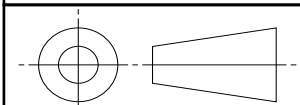


FIGURE 1 - DIMENSIONS AND CONFIGURATION

For more information on this standard, visit

<https://www.sae.org/standards/content/AS81914/6C/>

THIRD ANGLE PROJECTION



CUSTODIAN: AE-8C2

PROCUREMENT SPECIFICATION: AS81914



AEROSPACE STANDARD

TUBING, PLASTIC, FLEXIBLE, CONVOLUTED, HELICAL
ETHYLENE TETRAFLUOROETHYLENE (ETFE),
STANDARD CONVOLUTION

AS81914™/6
SHEET 1 OF 4

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ISSUED 2011-01 REVISED 2021-04

TABLE 1 - FIGURE 1 DIMENSIONS

DASH NUMBER	MAX INSIDE DIA (ID)	MIN INSIDE DIA (ID)	MAX OUTER DIA (OD)	MAX WALL THICKNES S	CONVO- LUTIONS 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)	8	1.2 (0.54)	.50 (12.7)
02	.281 (7.14)	.273 (6.93)	.414 (10.52)	.018 (0.46)	8	1.4 (0.64)	.75 (19.1)
03	.312 (7.92)	.306 (7.77)	.450 (11.43)	.018 (0.46)	8	1.5 (0.68)	.75 (19.1)
04	.375 (9.53)	.364 (9.25)	.510 (12.95)	.018 (0.46)	8	1.8 (0.82)	.88 (22.4)
05	.437 (11.10)	.427 (10.85)	.571 (14.50)	.018 (0.46)	8	2.5 (1.13)	.88 (22.4)
06	.500 (12.70)	.485 (12.32)	.650 (16.51)	.023 (0.58)	7	3.2 (1.45)	1.25 (31.8)
07	.625 (15.88)	.608 (15.44)	.770 (19.56)	.023 (0.58)	7	3.9 (1.77)	1.50 (38.1)
08	.750 (19.05)	.730 (18.54)	.930 (23.62)	.023 (0.58)	6	4.9 (2.22)	1.75 (44.5)
09	.875 (22.23)	.860 (21.84)	1.073 (27.25)	.023 (0.58)	5	5.6 (2.54)	2.00 (50.8)
10	1.000 (25.40)	.975 (24.77)	1.226 (31.14)	.023 (0.58)	5	6.8 (3.08)	2.37 (60.2)
11	1.125 (28.58)	1.105 (28.07)	1.390 (35.31)	.023 (0.58)	5	7.5 (3.40)	2.37 (60.2)
12	1.250 (31.75)	1.210 (30.73)	1.539 (39.09)	.023 (0.58)	4	8.8 (3.99)	2.75 (69.9)
13	1.500 (38.10)	1.437 (36.50)	1.832 (46.53)	.023 (0.58)	4	10.2 (4.63)	3.38 (85.9)
14	1.750 (44.45)	1.688 (42.88)	2.082 (52.88)	.023 (0.58)	4	11.9 (5.40)	3.88 (98.6)
15	2.000 (50.80)	1.937 (49.20)	2.332 (59.23)	.023 (0.58)	4	13.5 (6.12)	4.25 (108.0)

NOTES:

1. DIMENSIONS ARE IN INCHES.
2. UNLESS OTHERWISE SPECIFIED, TOLERANCES SHALL BE: .XX = ±.010 (0.25 MM), .XXX = ±.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, STANDARD CONVOLUTION (CLASS 1).
3. LENGTHS SHALL BE SPECIFIED IN FEET BY THE PROCURING ACTIVITY AND DO 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 IN TABLE 2. TUBING SHALL BE PROCURED AS COILS.

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TABLE 2 - ORDER LENGTH TOLERANCE

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

4. CONTINUOUS OPERATING TEMPERATURE: -67 °C (-88 °F) TO 150 °C (302 °F).
5. COLOR: COLOR SHALL BE CLEAR/NATURAL OR BLACK (SEE PART NUMBER EXAMPLE FOR APPROPRIATE DESIGNATOR).
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. REFER TO AS81914.

TABLE 3 - PHYSICAL PROPERTIES

PROPERTY	REQUIREMENT
CONSTRUCTION DETAILS	IN ACCORDANCE WITH TABLE 1
STRESS IN PSI @ 10% STRAIN	150 TO 750
SPECIFIC GRAVITY	1.88 MAX.
CRUSH RESISTANCE, HORIZONTAL	12 POUNDS (5.44 KG) MIN.
LOW TEMPERATURE FLEXIBILITY	10 000 CYCLES, NO CRACKING
HEAT SHOCK	177/173 °C (351/343 °F) FOR 4 HOURS. 15% MAX LONGITUDINAL CHANGE. NO DRIPPING, FLOWING, OR CRACKING.
HEAT AGING	STRESS IN PSI @ 10% STRAIN, 80% OF INITIAL VALUE. 177/173 °C (351/343 °F) FOR 96 HOURS.
FLUID RESISTANCE	STRESS IN PSI @ 10% STRAIN 80% OF INITIAL VALUE
FLAMMABILITY	NON-FLAMMABLE <u>1/</u>
FUNGUS RESISTANCE	NON-NUTRIENT <u>1/</u>
DIELECTRIC BREAKDOWN	12000 VOLTS, NO BREAKDOWN

1/ PROPERTIES NOT TESTED.


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