

REV.  
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AS81914™/6

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.

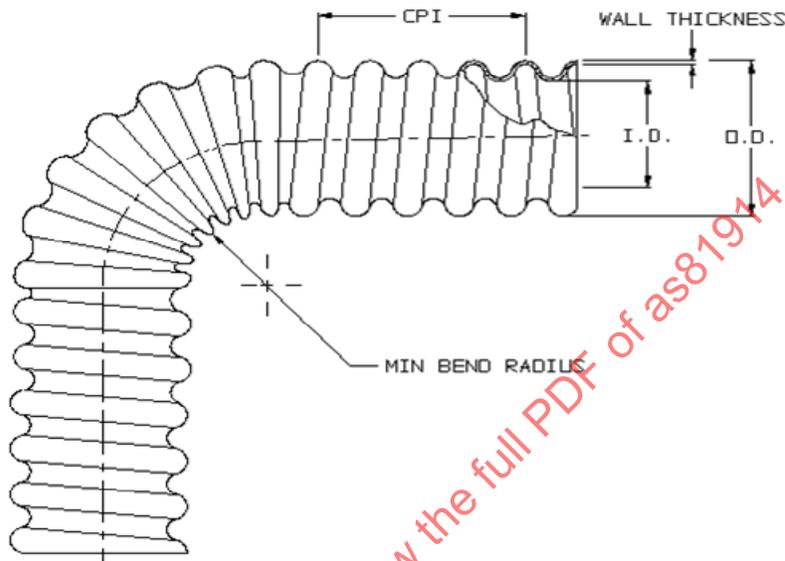
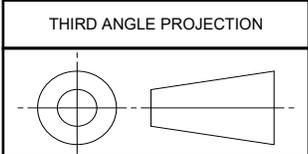


FIGURE 1 - DIMENSIONS AND CONFIGURATION

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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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**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:

- DIMENSIONS ARE IN INCHES.
- UNLESS OTHERWISE SPECIFIED, TOLERANCES SHALL BE: .XX = ±.010 (0.25 MM), .XXX = ±.005 (0.13 MM).
- METRIC EQUIVALENTS ARE GIVEN FOR GENERAL INFORMATION ONLY AND ARE BASED ON 25.4 MM = 1 INCH.
- METRIC DIMENSIONS IN PARENTHESES ARE SHOWN IN MILLIMETERS.

REQUIREMENTS:

- DIMENSIONS AND CONFIGURATION: SEE FIGURE 1 AND TABLE 1.
- CONVOLUTION TYPE: HELICAL, STANDARD CONVOLUTION (CLASS 1).
- 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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|   |  |                                   |                         |
|---|--|-----------------------------------|-------------------------|
|  | <b>AEROSPACE STANDARD</b>  | <b>AS81914™/6</b><br>SHEET 2 OF 4 | <b>REV.</b><br><b>C</b> |
|   | TUBING, PLASTIC, FLEXIBLE, CONVOLUTED, HELICAL<br>ETHYLENE TETRAFLUOROETHYLENE (ETFE),<br>STANDARD CONVOLUTION |                                   |                         |

**TABLE 2 - ORDER LENGTH TOLERANCE**

| <b>ORDER LENGTH RANGE</b>  |                               |
|----------------------------|-------------------------------|
| 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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