Red Thread® IIA Product Data

Applications

- Service Station
- Vent/Vapor Recovery
- Bulk Plant Terminals
- Fueling Terminals
- Central Fuel Oil Systems
- Marinas
- Marina Terminals
- Biodiesel Fuel
- Diesel Exhaust Fluid
- UL/ULC Systems that require MV, HB, CT, A&M Fuels

Materials and Construction

All pipe is manufactured by filament winding process using amine-cured epoxy thermosetting resin to impregnate strands of continuous glass filaments with a resin-rich interior surface. The operating pressure of the pipe is 250 psig (13.8 bar) with continuous operating pressure to 150°F (66°C).

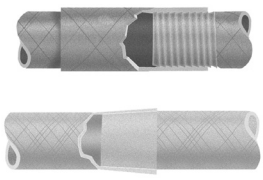
Red Thread IIA is Listed with Underwriters Laboratories Standard 971-2004 for non-metallic underground piping for motor vehicle (MV), high blend (HB), concentrated (CT) and aviation and marine (A&M) fuels. The pipe and fittings are also Listed with Underwriters Laboratories of Canada with both Listings under File MH8432.

Fittings

Fittings are manufactured with the same **chemical/temperature** capabilities as the pipe. Depending on the particular part and size, fittings will be compression molded, contact molded, hand fabricated or filament wound and are described in FH1250.

Joining Systems

T.A.B.™ (Threaded and Bonded) is the primary joining method for pipe joints promoting fast, positive make-up and prevents "backout" during curing. The matched taper bell x spigot joint is the primary joining method for fitting joints. These joints assist the installer and assures an fast trouble-free installation. Adhesives for this system are Series 7000 and 8000. T.A.B. spigots can be bonded into tapered bells and tapered spigots can be Bonded into T.A.B. bells using standard bonding procedures for tapered joints.



NOMINAL DIMENSIONAL DATA

Pipe Size (In./mm)	I.D. (In./mm)	O.D. (In./mm)	Wall Thickness (In./mm)	Weight (lbs./ft./kg-m)	Pressure/ Temperature Max. Rating	Mill Test Pressure (psig/MPa)	External Pressure Max. Rating (psig/MPa)	
							75°F/24°C	150°F/66°C
2	2.235	2.375	.070	0.5	250 psig @ 150°F	375	85	80
50	57	61	1.78	0.74	1.72 MPa @ 66°C	2.59	.57	.55
3	3.360	3.500	.070	0.7	175 psig @ 150°F	300	36	34
80	85	90	2.54	1.04	1.21 MPa @ 66°C	2.07	.25	.23
4	4.360	4.560	.085	1.2	125 psig @ 150°F	265	34	30
100	111	116	2.16	1.79	0.86 MPa @ 66°C	1.83	.23	.21
6	6.408	6.678	.135	2.4	20 psig @ 150°F	265	22	20
150	163	170	3.43	3.51	0.14 MPa @ 66°C	1.83	.15	.14

PROPERTY	RED THREAD IIA PIPE			
	psi @ 75°F	MPa @ 24°C	psi @ 150°F	MPa @ 66
Axial Tensile (ASTM D2105) Ultimate Stress Modulus of Elasticity	 10,300 1.82 x 10^6	 71.0 12,548	 8,200 1.76 x 10^6	 56.5 12,135
Axial Compression (ASTM D695) Ultimate Stress Modulus of Elasticity	 33,300 1.26 x 10^6	 230.0 8,687	 25,600 0.89 x 10^6	 176.4 6,159
Beam Bending (SFPTM) Ultimate Stress Long Term per ASTM D2925	 23,000 2.18 x 10^6	 159.0 15,031	 19,111 1.19 x 10^6	 131.8 8,181
Hydrostatic Burst (ASTM D1599) Ultimate Hoop Tensile Stress	 34,000	 234	 39,200	 271
Hydrostatic Design (ASTM D2992) Procedure A Cyclic 150 x 10^6 Cycles	2”-3” 9,410 4”-6” 13,073*	2” -3” 64.9(4”-6” 90.1	2”-3” 7,400 4”-6” 10,500	2”-3” 51 4”-6” 72.4
Coefficient of Linear Thermal Expansion (SFPTM) Specific Gravity Flow Factor Hazen-Williams Coefficient	0.88 x 10^{-5} in/in/°F 1.58 x 10^{-5} mm/mm/°C 1.8 150			

*For Red Thread IIA pipe, the hydrostatic cyclic design stress was determined at 150° and 200°F per ASTM D2992, Procedure A. Based on this data, the extrapolated value at 75°F is 13,073.

Bending Radius, Minimum				
Nominal Pipe SIze	2”	3”	4”	6”
Feet	51	76	97	142
Meters	15.5	23.2	29.6	43.3

ASTM D2996 Designation Codes	
2”-3”	RTRP-11AF1-2111
4”	RTRP-11AH1-2111
6”	RTRP-11AH1-2112

Pipe Lengths Available		
Size (in)	Feet/Meters	
	Standard	Random
2-6	15/4.57	22-25/6.7-7.62

Testing:

Installed pipe systems should be tested prior to use to assure soundness of all joints and connections. Locate pressure gauge in close proximity to the pressurizing equipment, not directly on the piping system. A pressure gauge with the test pressure at mid-scale is recommended.

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