

Typical Properties



TEMPERATURE	75°F	250°F	
PROPERTY	VALUE	VALUE	METHOD
AXIAL TENSILE STRENGTH	14,200 psi	10,650 psi	ASTM D2105
AXIAL TENSILE DESIGN STRENGTH	3,550 psi	2,660 psi	ASTM D2105
AXIAL MODULUS OF ELASTICITY	1.75 x 10 ⁶ psi	1.30 x 10 ⁶ psi	ASTM D2105
COMPRESSIVE STRENGTH	22,750 psi	17,000 psi	ASTM D695
COMPRESSIVE DESIGN STRENGTH	5,685 psi	4,250 psi	ASTM D695
COMPRESSION MODULUS	2.80 x 10 ⁶ psi	2.10 x 10 ⁶ psi	ASTM D695
POISSON'S RATIO $V_{a/h}$ ($V_{h/a}$)	0.33 (0.23)		*CONLEY METHOD #20
BEAM BENDING, ULTIMATE STRESS	30,000 psi	22,500 psi	CONLEY METHOD 8
BEAM BENDING, DESIGN STRESS ⁽¹⁾	3,750 psi	2,810 psi	CONLEY METHOD 8
SHEAR MODULUS	1.30 x 10 ⁶ psi	1.00 x 10 ⁶ psi	*CONLEY METHOD #9
HYDROSTATIC DESIGN BASIS	16,000 psi	8,000 psi	ASTM D2992 PROCEDURE B
HYDROSTATIC BURST (WALL STRESS @ 72°F)	32,000 psi	24,000 psi	ASTM D1599
CIRCUMFERENTIAL MODULUS OF ELASTICITY	2.50 x 10 ⁶ psi	1.87 x 10 ⁶ psi	ASTM D1599
FLEXURAL MODULUS OF ELASTICITY	1.75 x 10 ⁶ psi	1.30 x 10 ⁶ psi	ASTM 2790
COEFFICIENT OF LINEAR THERMAL EXPANSION	9.5 x 10 ⁻⁶ IN/IN-°F		CONLEY METHOD 3
COEFFICIENT OF THERMAL CONDUCTIVITY	2.9 BTU/HR-IN/FT ² -°F		CONLEY METHOD 16
SPECIFIC GRAVITY	1.85		
DENSITY	0.067 LB/CU IN		
DIELECTRIC STRENGTH	535 VOLTS/MIL		ASTM D149
DEGREE OF CURE	175°C (347°F) Tg		DMA
HEAT DEFLECTION TEMPERATURE	150°C (302°F)		ISO 75-3
FLOW FACTOR (HAZEN-WILLIAMS)	150		
SURFACE ROUGHNESS	1.7 X 10 ⁻⁵ FEET		
MANNING'S "n"	0.009 INCH		

⁽¹⁾Beam bending design stress is 1/8 of ultimate to allow for combined stress (bending and pressure)

Pipe Section Properties

⁽¹⁾Use these values to calculate permissible spans.

⁽²⁾Use these values for calculating longitudinal thrust.

NOMINAL PIPE SIZE (IN)	REINFORCEMENT ONLY (STRUCTURAL CAGE)			TOTAL WALL END AREA (IN ²) ⁽²⁾
	END AREA (IN ²)	MOMENT OF INERTIA (IN ⁴) ⁽¹⁾	SECTION MODULUS (IN ³)	
2	0.49	0.26	0.25	0.92
3	0.91	1.17	0.71	1.69
4	1.19	2.64	1.25	2.23
6	2.15	10.45	3.29	3.70
8	2.84	24.09	5.77	4.89
10	5.33	70.53	13.47	7.89
12	6.50	127.67	20.07	9.62
14	7.53	199.05	27.03	12.08
16	8.57	293.03	35.02	13.75
18	12.85	555.26	58.92	17.48
20	14.23	754.42	72.36	19.37
24	21.29	1617.13	129.52	27.44
30	32.09	3843.41	245.24	39.81



ISO 9001:2008
 CERTIFIED
 Conley
 Composites
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