



Raw Material Data Sheet

Centennial Plastics MDPE Gas Pipe for Gas Distribution applications

ASTM Standards that Centennial Gas Pipe MDPE Meets or Exceeds:

D 2513...Standard Specification for Thermoplastic Gas Pressure Pipe, Tubing and Fittings

Centennial Plastics MDPE Gas Pipe Raw Material Properties

Property	ASTM Test Method	Typical Values	
		English Units	SI Units
Density (Natural)	D 4883	-	0.940 g/cc
Density (Yellow)		-	0.943 g/cc
Melt Index ¹	D 1238	-	0.20 g/10 min
Tensile Strength			
@ Yield (2 in/min)	D 638	2800 psi	19.3 MPa
@ Break (2 in/min)	D 638	4500 psi	31.0 MPa
Elongation			
@ Break (2 in/min)	D 638	>800%	>800%
Flexural Modulus ²	D 790	100,000 psi	690 MPa
Notched Izod Impact Strength	D 256	10.0 ft-lbf/in	0.53 kJ/m
Hardness (Shore D)	D 2240	64	64
Vicat Softening Point	D 1525	248° F	120° C
Brittleness Temperature	D 746	<-180° F	<-118° C
Hydrostatic Design Basis			
@ 23° C	D 2837	1250 psi	8.6 MPa
@ 60° C	D 2837	1000 psi	6.9 MPa
Environmental Stress Crack Resistance ³	D 1693	>5000 hrs.	>5000 hrs.
Environmental Stress Crack Resistance ⁴	D 1693	>5000 hrs.	>5000 hrs.
Notch Tensile (Pent)	F 1473	>100 hrs.	>100 hrs.
Thermal Stability	D 2513/D3350	428° F Min.	220° C Min.
Pipe Ring ESCR ⁵	F 1248	>5000 hrs.	>5000 hrs.
Cell Classification	D 3350	234363E	234363E

¹ 190°C/21600 g

² 2% Secant-Method 1

³ Condition B, 10%

⁴ Condition C

⁵ One inch, SIDR 7