

Producer: Ineos Olefins Polymers USA / Europe

TUB121N

Description:

TUB121N is a natural high density bimodal polyethylene copolymer designed for extrusion of potable water, natural gas, industrial, and mining pipe. When blended with an approved black concentrate, the resulting **TUB121** formulation has NSF Standart 14 certification and complies with ANSI/NSF Standart 61 health effects requirements. **TUB121** is recognized by the Plastic Pipe Institute as having a pipe material designation code of PE 4710 and PE 100.

PROPERTIES	VALUES		ASTM METHOD
	English Units	SI Units	
Density (Natural)	-	0.9485 g/cc	D 4883
Melt Index ²	-	8.0 g/10 min	D 1238
Tensile Strength			
@ Yield (2 in/min)	3625 psi	25.0 MPa	D 638
@ Break (2 in/min)	5500 psi	38.0 MPa	D 638
Elongation			
@ Break (2 in/min)	>600%	>600%	D 638
Flexural Modulus ³	150,000 psi	1,035 MPa	D 790
Notched Izod Impact Strength	9 ft-lbf/in	0.49 kJ/m	D 256
Hardness (Shore D)	66	66	D 2240
Brittleness Temperature	<-180 °F	<-118 °C	D 746
Vicat Softening Point	259 °F	126 °C	D 1525
Thermal Stability	428 °F min	220 °C min	D2513 / D3350
Hydrostatic Design Basis ⁵			
@ 23°C	1600 psi	11.0 Mpa	D 2837
@ 60°C	1000 psi	6.9 Mpa	D 2837
Minimum Required Strength ⁵	-	10.0 Mpa	ISO 9080
Environmental Stress Crack Resistance ⁴	>5000 hrs	>5000 hrs	D 1693
Notch Tensile (PENT)	>10,000 hrs	>10,000 hrs	F 1473
Cell Classification	445574A	445574A	D 3350

¹ Typical properties will vary within specification limits.

² 190°C / 21,600 g

³ 2 % Secant - Method 1

⁴ Condition C

⁵ Based upon black compound TUB