

# K38-20-188 Polyethylene Copolymer

K38-20-188 is a natural, UV-stabilized medium density polyethylene pipe and tubing resin designed for natural gas distribution. When blended with an approved INEOS yellow masterbatch, the resulting formulation, known as K38-20-160, is recognized by the Plastics Pipe Institute as a PE2708 resin which exhibits excellent long term strength and outstanding environmental stress crack resistance and is certified to the material requirements of ASTM D2513 and CSA B137.4.

## Typical Properties<sup>1</sup>

	Values		ASTM Method
	English Units	SI Units	
<b>Resin</b>			
Density	—	0.940 g/cc	D4883
Melt Index 190 °C/2.16 kg	—	0.20 g/10 min	D1238
Melt Index 190 °C/ 21.6 kg	—	20 g/10 min	
<b>Compression Molded Sample</b>			
Tensile Strength (2 in./min)			D638
@ Yield	2,800 psi	19.3 MPa	
@ Break	4,750 psi	32.7 MPa	
Elongation (2 in./min)			D638
@ Yield	11.8 %	11.8 %	
@ Break	>800%	>800%	
Flexural Modulus			D790A
2% Secant Method	90,000 psi	620 MPa	
Notched Izod Impact Strength			D256
@ 23 C	7 ft-lbf/in	37 kJ/m <sup>2</sup>	
Hardness (Shore D)	62	62	D2240
Vicat Softening Point	248 F	120 C	D1525
Brittleness Temperature	<-180 F	<-118 C	D746
Environmental Stress Crack Resistance			D1693
Condition B, 10% Igepal, F50 (hrs.)	>5,000	>5,000	
Condition C, 100% Igepal, F50 (hrs.)	>5,000	>5,000	
Hydrostatic Design Basis (HDB)			D2837
@ 23 C	1,250 psi	8.6 MPa	
@ 60 C	1,000 psi	6.9 MPa	
Notch Tensile (PENT) (hrs.)	>500	>500	F1473
Oxidation Induction Time @ 210 C, (min.)	>20	>20	D3895
Thermal Stability	>464 F	>240 C	D3350
Cell Classification	234370D	234370D	D3350
	234373E <sup>2</sup>	234375E <sup>2</sup>	

<sup>1</sup> Typical properties will vary and are not to be used for specification purposes.

<sup>2</sup> When properly blended with approved INEOS yellow masterbatch