

# K38-20-160 Polyethylene Copolymer

K38-20-160 is a yellow, UV-stabilized medium density polyethylene copolymer, containing an organic pigment system, designed specifically for natural gas pipe and fittings. Exhibiting excellent long term strength and slow crack growth resistance, K38-20-160 is listed by the Plastics Pipe Institute (in PPI TR-4) as a PE2708 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	—	0.939 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	D1238
<b>Compression Molded Sample</b>			
<b>Tensile Properties (2 in/min)</b>			<b>D638</b>
@ Yield	2,800 psi	19.3 MPa	
@ Break	4,730 psi	32.5 MPa	
<b>Elongation (2 in/min)</b>			<b>D638</b>
@ Yield	12.1 %	12.1 %	
@ Break	> 800 %	>800 %	
<b>Flexural Modulus</b>			<b>D790A</b>
2% Secant	90,000 psi	620 MPa	
<b>Notched Izod Impact Strength</b>			<b>D256</b>
@ 23 C	6 ft-lbf/in	31.5 kJ/m <sup>2</sup>	
<b>Hardness</b>			<b>D2240</b>
Shore D	62	62	
<b>Vicat Softening Point</b>	248 F	120 C	<b>D1525</b>
<b>Brittleness Temperature</b>	<-180 F	<-118 C	<b>D746</b>
<b>Environmental Stress Crack Resistance</b>			<b>D1693</b>
Condition B, 10% Igepal, F50 (hrs.)	>5,000	>5,000	
Condition C, 100% Igepal, F50 (hrs.)	>5,000	>5,000	
<b>Hydrostatic Design Basis (HDB)</b>			<b>D2837</b>
@ 23 C	1,250 psi	8.6 MPa	
@ 60 C	1,000 psi	6.9 MPa	
<b>Notch Tensile (PENT) (hrs.)</b>	>500	>500	<b>F1473</b>
<b>Oxidation Induction Time</b>			
@ 210 C	>20 min	>20 min	<b>D3895</b>
<b>Thermal Stability</b>	>464 F	>240 C	<b>D3350</b>
<b>Cell Classification</b>	234373E	234375E	<b>D3350</b>

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