

K38-20-188 Polyethylene Copolymer

K38-20-188 is a natural, UV stabilized, medium density polyethylene resin designed specifically for use with an approved INEOS yellow masterbatch to produce pipe or tubing for natural gas distribution. The resulting formulation, known as K38-20-160, is recognized by the Plastics Pipe Institute as having a PE 2708 (formerly PE 2406) and PE 80 rating. It exhibits excellent long term stress life and outstanding environmental stress crack resistance.

Typical Properties¹

	Values		ASTM Method
	English Units	SI Units	
Density (Natural)	—	0.940 g/cc	D 4883
Melt Index ²	—	0.20 g/10 min	D 1238
Tensile Strength			
@ Yield (2 in/min)	2800 psi	19.3 MPa	D 638
@ Break (2 in/min)	4500 psi	31.0 MPa	D 638
Elongation			
@ Break (2 in/min)	>800%	>800%	D 638
Flexural Modulus ³	100,000 psi	690 MPa	D 790
Notched Izod Impact Strength	10 ft-lbf/in	0.53 kJ/m	D 256
Hardness (Shore D)	64	64	D 2240
Vicat Softening Point	248 °F	120 °C	D 1525
Brittleness Temperature	<-180 °F	<-118 °C	D 746
Environmental Stress Crack Resistance ⁴	>5000 hrs.	>5000 hrs.	D 1693
Environmental Stress Crack Resistance ⁵	>5000 hrs.	>5000 hrs.	D 1693
Pipe Ring ESCR ⁶	>5000 hrs.	>5000 hrs.	F 1248
Notch Tensile (PENT)	>500 hrs	>500 hrs	F 1473
Cell Classification	234370D	234370D	D 3350

¹ Typical properties will vary within specification limits.

² 190° C/2160 g

³ 2% Secant-Method 1

⁴ Condition B, 10%

⁵ Condition C

⁶ One inch, SIDR 7

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