



Resin Properties - Gas (Yellow)

K38-20-160 is a medium density polyethylene copolymer, containing an organic yellow pigment system, designed specifically for the extrusion of natural gas pipe. It exhibits excellent long term stress life and slow crack growth resistance. K38-20-160 is the North American equivalent to ELTEX® TUB 172 Yellow produced by INEOS Olefins & Polymers Europe. This material is certified to CSA Standard B137.4-09 and is recognized by the Plastics Pipe Institute as having a PE 2708 and PE 80 rating.

Typical Properties

	English Units	SI Units	ASTM Method
Density (Natural)	—	0.939 g/cc	D 4883
Density (Yellow)	—	0.942 g/cc	
Melt Index	—	0.20 g/10 min	D 1238
@ 190° C/2160 g	—	0.20 g/10 min	D 1238
@ 190° C/5000 g	—	0.85 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	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
Thermal Stability	428 °F minimum	220 °C minimum	D 2513/D 3350
OIT @ 210° C	> 20 min	> 20 min	D 3895
Environmental Stress Crack Resistance	>5000 hrs.	>5000 hrs.	D 1693
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Pipe Ring ESCR	>5000 hrs.	>5000 hrs.	F 1248
Notch Tensile (PENT)	>500 hrs.	>500 hrs.	F 1473
Hydrostatic Design Basis			
@ 23 °C	1250 psi	8.6 MPa	D 2837
@ 60 °C	1000 psi	6.9 MPa	D 2837
Cell Classification	234373E	234373E	D 3350