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Geothermal Specification for polyethylene plastic molding and extrusion material – PE 4710

Typical Raw Material Properties

	Values		ASTM
	English Units	SI Units	Method
Density (Natural)		0.949 g/cc	D 4883
Density (Black)		0.959 g/cc	
High Load Melt Index		16.0 g/10min	D 1238
Melt Index		.07g/10 min	D 1238
Tensile Strength			
@ Yield (2 in/min)	3540 psi	24.4 MPa	D 638
@ Break (2 in/min)	4970 psi	34.3 MPa	D 638
Elongation			
@ Break (2 in/min)	635%	635%	D 638
2% Secant Modulus	141,000 psi	972 MPa	D 790
DSC Induction Temperature	513° F	267° C	D3350
Hardness (Shore D)	66	66	D 2240
Heat Deflection Temperature @ 66 psi	154° F	68° C	D 746
Vicat Softening Point	259° F	126° C	D 1525
Thermal Stability	428° F min	220° C min	D2513/3350
Hydrostatic Design Basis			
@23° C	1600 psi	11.0 MPa	D 2837
@60° C	1000 psi	6.9 MPa	D 2837
PENT @ 2.4 MPa and 80° C	>500 hrs	>500 hrs	F 1473
Minimum Carbon Black Concentration	2%	2%	D 1603
Cell Classification	445574C	445576C	D 3350