

Petrothene®

GA808093

Linear Low Density Polyethylene

Wire and Cable Grade

Melt Index 0.70 Density 0.920

Applications

PETROTHENE GA808093 is a broad molecular weight, linear low density polyethylene resin designed for use as wire and cable insulation. An antioxidant package has been added to ensure thermal stability during processing. The resin also contains a metal deactivator to prevent degradation from copper while the cable is in service.

Processing Techniques

GA808093, like other thermoplastic polyolefin resins, can be extruded as wire and cable insulation using a conventional extruder. Below are suggested extrusion conditions for GA808093. These conditions are intended as general guidelines only and are not optimum values, since manufacturing conditions, such as extruder type and size have an effect on the processing of thermoplastic resins.

Suggested General Extrusion Conditions

Extruder Zone	Temperature Range	Extruder Zone	Temperature Range
Feed	310°-325°F (154°-163°C)	Zone 4-X	420°-430°F (216°-221°C)
Zone 2	350°-380°F (177°-193°C)	Adapter	420°-430°F (216°-221°C)
Zone 3	380°-410°F (193°-210°C)	Die	420°-430°F (216°-221°C)

Industry Specifications

PETROTHENE GA808093 meets the requirements of the following: ASTM D 1248, Type I, Category 4, Class A, Grades E5. Federal LP390C, Type II, Class L, Category 4, Grade 4.

Typical Properties

Property	Nominal Value	Units	ASTM Test Method
Melt Index	0.70	g/10 min	D 1238
Density	0.920	g/cc	D 1505
Tensile Strength @ Break	2,200 (15.2)	psi (MPa)	D 638
Tensile Stress @ Yield	1,700 (12.0)	psi (MPa)	D 638
Elongation @ Break	650	%	D 638
Flexural Modulus, 1% Secant	50,000 (345)	psi (MPa)	D 790
Hardness, Shore D	57		D 2240
Dielectric Constant @ 1 MHz	2.29		D 1531
Dissipation Factor @ 1 MHz	0.00010		D 1531
ESCR, 10% Igepal®	>1,000	hours	D 1693
Low Temperature Brittleness, F ₅₀	<-76	°C	D 746

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