



GP 6059 BK NF EXP1 Black Linear Low Density Polyethylene Compound for Cable Jacketing

Description

GP 6059 BK NF EXP1 is a high-quality, black linear low density polyethylene jacket compound with enhanced processability, temperature performance, excellent environmental stress-cracking resistance (ESCR), toughness, and outdoor durability. GP 6059 BK NF EXP1 is designed for jacketing of power and communication cables.

Specifications

GP 6059 BK NF EXP1 meets the following raw material specifications:

- ASTM D 1248 IC-4, Grades E5, J1, J3
- Federal LP-390C III-L, Grades 2, 3, 4 and Category 4
- REA PE-22, 38, 39, 86, 89, 90 (Raw Materials Sections)
- ISO 1872-PE, CKH, 18-D006
- GB/T 15065

Cable jacketed with GP 6059 BK NF EXP1, using sound commercial extrusion practices, should meet the following specifications:

- ICEA: S-83-640
- ASTM D 2308
- Telcordia GR-421-CORE
- EN 50290-2-24
- IEC 60708
- YD/T 901
- IEC 60502 ST3, ST7
- IEC 60840 ST3, ST7
- HD 620 S2, Part 1, Table 4B, DMP 10, DMP 14, DMP 17
- ICEA S-94-649
- ICEA S-97-682
- ICEA S-108-720
- ICEA S-84-608
- YD/T 1092
- IEC 62067, ST3, ST7
- IEC 60794



Properties¹

Physical	Unit	Nominal Value (English)	Nominal Value (SI)	Test Method ²
Density	g/cm ³	0.932	0.932	ASTM D792
Melt Mass-Flow Rate (MFR) (190°C/2.16 kg)	g/min	0.60/10	0.60/10	ASTM D1238
Environmental Stress-Cracking Resistance (ESCR) ³				ASTM D1693
10% Igepal, F0	hr	> 1000	> 1000	
Carbon Black Content	%	2.6	2.6	ASTM D1603
Absorption Coefficient	kAB/m	> 400	> 400	ASTM D3349
Mechanical				
Tensile Strength				
--- ^{4,5}	psi (MPa)	2509	17.3	ASTM D638
---	psi (MPa)	3050	21.0	IEC 60811-501
Tensile Elongation				
Break ^{4,5}	%	700	700	ASTM D638
Break	%	900	900	IEC 60811-501
Thermal				
Brittleness Temperature				ASTM D746
--- ⁶	°F(°C)	< -148	< -100	
--- ⁷	°F(°C)	< -105	< -76	
Oxidation Induction Time (392°F (200°C))	min	120	120	ASTM D3895
Electrical				
Dielectric Constant (1 MHz)		2.48	2.48	ASTM D1531
Dissipation Factor (1 MHz)		3.0E-4	3.0E-4	ASTM D1531
Extrusion				
Melt Temperature	°F(°C)	425 to 475	218 to 246	
Extrusion Notes				
GP 6059 BK NF EXP1 provides an excellent surface finish and outstanding output rates over a broad range of conditions. For optimum results, use melt extrusion temperatures in the suggested range of 425 to 475°F (218 to 246°C).				
Hopper drying at 150–160°F (67–71°C) is recommended to remove moisture.				

1. Typical properties: these are not to be construed as specifications. Users should confirm results by their own tests.
2. ASTM: American Society for Testing and Materials
IEC: International Electrotechnical Commission
3. Typical value per IEC 60811-406 > 1000 hrs.
4. Type IV
5. Speed in/min (500 mm/min)
6. F50
7. Notched, F50

