Technical Information

DOW™ Electrical & Telecommunications DGDA-1310 BK
Black High Density Polyethylene Compound for Cable Jacketing

Overview

DGDA-1310 BK is a black HDPE jacket grade for power and telecom cable applications. The material provides excellent mechanical and physical properties and environmental stress crack resistance in combination with good processability.

DGDA-1310 BK can be extruded using conventional cable jacket techniques with melt temperatures typically between 200 and 230 °C.

Specifications.

DGDA-1310 BK meets the following Raw material specifications:

- ASTM D 1248 Type III, Class C, Category 5, Grade J4, E8, E9, W8, W9
- ISO 1872-PE, KHL, 50-D003

Cables jacketed with DGDA-1310 BK, using industry standard commercial extrusion practice, should meet the following cable specifications:

- IEC 60502, ST 7
- IEC 62067, ST 7
- IEC 60840, ST 7
- ICEA S-94 649
- ICEA S-108 720
- ICEA S-97 682
- ICEA-S-87-640
- BS 6234: Type H03C, TS2
- Telcordia GR-70-CORE
- HD 620 S2, Part 1, Table 4B, type DMP2, DMP 9-10, DMP 14-15, DMP 17
- EN 50290-2-24

Physical	Nominal Value	(English)	Nominal Value	(SI)	Test Method
Density	0.965	g/cm³	0.965	g/cm³	ASTM D792 ISO 1183
Melt Mass-Flow Rate					ASTM D1238 ISO 1133
190°C/2.16 kg	0.26	g/10 min	0.26	g/10 min	
190°C/21.6 kg	28	g/10 min	28	g/10 min	
Environmental Stress-Cracking Resistance (ESCR)					IEC 60811
122°F (50°C), 10% Igepal, F0	> 1000	hr	> 1000	hr	
Carbon Black Content	2.5	%	2.5	%	ASTM D1603
Absorption Coefficient	445 K(AB/M)		445 K(AB/M)		ASTM D3349
Mechanical	**Nominal Value**	**(English)**	**Nominal Value**	**(SI)**	**Test Method**
Tensile Strength	4200	psi	29.0	MPa	IEC 60811
Tensile Elongation (Break)	820	%	820	%	IEC 60811
Flexural Modulus	171000	psi	1180	MPa	ISO 178
Taber Abrasion Resistance (100 Cycles)	21.0	mg	21.0	mg	ASTM D1242
Hardness	**Nominal Value**	**(English)**	**Nominal Value**	**(SI)**	**Test Method**
Shore Hardness					ISO 868
Shore D, 1 sec	66		66		
Shore D, 3 sec	63		63		
Thermal	**Nominal Value**	**(English)**	**Nominal Value**	**(SI)**	**Test Method**
Brittleness Temperature [1]	-105	°F	-76.0	°C	ASTM D746
Oxidation Induction Time (392°F (200°C))	170	min	170	min	ASTM D3895

Aging	Nominal Value (English)		Nominal Value (SI)		Test Method
Retention of Tensile Elongation - 14 days					IEC 60811
230°F (110°C)	93	%	93	%	
Retention of Tensile Strength - 14 days					IEC 60811
230°F (110°C)	93	%	93	%	
Electrical	**Nominal Value (English)**		**Nominal Value (SI)**		**Test Method**
Volume Resistivity (73°F (23°C))	5.6E+16	ohms·cm	5.6E+16	ohms·cm	ASTM D257

Notes

These are typical properties only and are not to be construed as specifications. Users should confirm results by their own tests.

[1] No Failure