Technical Information

AXELERON™ CS 7540 NT CPD
Linear Low Density Polyethylene Insulation Compound

Overview

AXELERON™ CS 7540 NT CPD is a linear low-density polyethylene (LLDPE) extrusion compound ("CPD") produced by the UNIPOL™ PE Process. It is a general purpose insulation that can be used as a high speed telephone singles insulation (air-core cable only; not recommended for jelly-filled cable) and high frequency coaxial inner skin. It combines excellent electrical properties with outstanding stress crack resistance.

Specifications:
AXELERON™ CS 7540 NT CPD meets the following raw material specifications:

- ASTM D-1248 Type I Category 4, Grade E4, E5
- Federal LP-390 C, II-L, Grade 3, Category 4
- REA Specification PE-200, Appendix A
- ISO 1872-PE
- KHKN,18-D006

Cables insulated with AXELERON™ CS 7540 NT CPD using sound commercial extrusion practice, should meet the following industry cable specification:

- ASTM: D 1351-02
- EN-50290-2-23
- IEC 60708

Physical	Nominal Value	(English)	Nominal Value	(SI)	Test Method
Density	0.921	g/cm³	0.921	g/cm³	ASTM D1505
Melt Mass-Flow Rate (190°C/2.16 kg)	0.70	g/10 min	0.70	g/10 min	ASTM D1238
Environmental Stress-Cracking Resistance (ESCR)					ASTM D1693
10% Igepal, F0	> 504	hr	> 504	hr	
Mechanical	**Nominal Value**	**(English)**	**Nominal Value**	**(SI)**	**Test Method**
Tensile Strength	2300	psi	15.9	MPa	ASTM D638
Tensile Elongation (Break)	700	%	700	%	ASTM D638
Thermal	**Nominal Value**	**(English)**	**Nominal Value**	**(SI)**	**Test Method**
Brittleness Temperature	< -148	°F	< -100	°C	ASTM D746
Electrical	**Nominal Value**	**(English)**	**Nominal Value**	**(SI)**	**Test Method**
Volume Resistivity (23°F (-5°C))	> 1.0E+16	ohms·cm	> 1.0E+16	ohms·cm	ASTM D257
Dielectric Strength					ASTM D149
0.125 in (3.18 mm), Method A (Short-Time)	500	V/mil	20	kV/mm	
Dielectric Constant (1 Hz)	2.29		2.29		ASTM D1531
Dissipation Factor (1 Hz)	7.0E-5		7.0E-5		ASTM D1531

Extrusion	Nominal Value	(English)	Nominal Value	(SI)
Melt Temperature	400 to 425	°F	204 to 218	°C

Extrusion Notes

AXELERON™ CS 7540 NT CPD provides excellent surface finish at high coating speeds. For optimum results, use melt extrusion temperatures in the suggested range of 400 to 425°F (204 to 220°C). However, specific recommendations for processing conditions can be determined only when the application and type of processing equipment are known.

Notes

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

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Manufacturer website: https://www.dow.com/en-us/market/mkt-polyethylene.html

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