Technical Information

AXELERON™ CS K-3364 NT CPD
High Density Polyethylene Solid Insulation Compound

Overview

AXELERON™ CS K-3364 NT CPD is a high-molecular weight, high-density polyethylene insulation compound ("CPD") specifically formulated to provide excellent oxidative stability, toughness, and abrasion resistance. It provides superior long term aging performance, while providing excellent environmental and thermal stress-cracking resistance. In addition, AXELERON™ CS K-3364 NT CPD provides excellent processability for high-speed wire insulating extrusion processes.

AXELERON™ CS K-3364 NT CPD provides good performance for telephone insulation applications, primarily cable designs for aerial environments. AXELERON™ CS K-3364 NT CPD is optimized to meet major international age testing standards and specifications for both solid and foam/skin insulation use.

Specifications

AXELERON™ CS K-3364 NT CPD meets the following raw material specifications:

- ASTM D 1248 Type III Category A-4, Grade E8 and E9
- Federal LP-390 C, II-H, Grades 1 and 2, Category 4
- ISO 1872-PE, KHKN,45-D006

Telephone wire insulated with AXELERON™ CS K-3364 NT CPD, using sound commercial extrusion practices, should meet the following cable specifications:

- ICEA S-84-608
- EN-50290-2-23
- IEC 60708
- DIN VDE 0819-103
- BS 6234 type H03
- NF C 32-060

Physical	Nominal Value	(English)	Nominal Value	(SI)	Test Method
Density	0.947	g/cm³	0.947	g/cm³	ASTM D792
Melt Mass-Flow Rate (190°C/2.16 kg)	0.75	g/10 min	0.75	g/10 min	ASTM D1238
Environmental Stress-Cracking Resistance					ASTM D1693
212°F (100°C), 100% Igepal, F0	> 48.0	hr	> 48.0	hr	
Mechanical	**Nominal Value**	**(English)**	**Nominal Value**	**(SI)**	**Test Method**
Tensile Strength	3400	psi	23.4	MPa	ASTM D638
Tensile Elongation (Break)	500	%	500	%	ASTM D638
Thermal	**Nominal Value**	**(English)**	**Nominal Value**	**(SI)**	**Test Method**
Brittleness Temperature [1]	-105	°F	-76.0	°C	ASTM D746
Thermal Stress Crack Resistance - F0	> 96	hr	> 96	hr	ASTM D2951
Aging	**Nominal Value**	**(English)**	**Nominal Value**	**(SI)**	**Test Method**
Retention of Tensile Elongation - 48 hrs					ASTM D638
212°F (100°C)	90	%	90	%	
Retention of Tensile Strength - 48 hrs					ASTM D638
212°F (100°C)	90	%	90	%	
Electrical	**Nominal Value**	**(English)**	**Nominal Value**	**(SI)**	**Test Method**
Volume Resistivity (73°F (23°C))	> 1.0E+15	ohms·cm	> 1.0E+15	ohms·cm	ASTM D257
Dielectric Constant (1 MHz)	2.32		2.32		ASTM D1531
Dissipation Factor [2] (1 MHz)	6.0E-5		6.0E-5		ASTM D1531

Extrusion	Nominal Value	(English)	Nominal Value	(SI)
Melt Temperature	425 to 500	°F	218 to 260	°C

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Extrusion Notes
AXELERON™ CS K-3364 NT CPD provides excellent surface finish and good output rates over a broad range of extrusion conditions. AXELERON™ CS K-3364 NT CPD is typically extruded at melt discharge temperatures ranging from 218-260°C (425-500°F) using conductor preheats ranging from 110-140°C (230-290°F). Specific extrusion conditions can be recommended only when the application, processing speed and processing equipment details are known.

Notes

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

[1] F0

[2] After 14 days Water Immersion at 23°C (73°F)

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