



TECHNICAL DATA SHEET

Product Name
SCG HDPE

Product Type
Natural HDPE for Solid Insulation

Product Grade
H511W

Product Description

SCG HDPE H511W is a high density polyethylene for solid insulation in cable application. It is also suitable for outer skin in “foam-skin” constructions. It provides good performance across the full range of telecommunication insulation applications, including aircore and petroleum jelly filled cable designs in both buried and aerial environments.

Typical Application

- Insulation of communication cable

Product Characteristics

- Long-term insulation stability performance
- Good mechanical properties
- High extrusion speed

International

- ASTM D 1248 Type III, Class A, Category 4, Grade E8, E9*
- ISO 1872-PE, KHKN, 45-D006*
- BS 6234 : Type H03*
- IEC 60708**
- ICEA S-85-625**

*SCG HDPE H511W meets the following raw materials specifications

**Cable insulated with SCG HDPE H511W using sound commercial extrusion practices and testing procedures, should meet the following cable specifications.

Physical Properties

Property	Test Method	Typical Value	Unit
Melt Flow Rate	ASTM D 1238 @ 190 °C, 2.16 kg	0.9	g/10 min
Density (Base resin)	ASTM D 1505	0.950	g/cm ³
Tensile Strength at Yield	ASTM D 638 @ speed 50 mm/min	23	MPa
Tensile Strength at Break	ASTM D 638 @ speed 50 mm/min	34	MPa
Elongation at Break	ASTM D 638 @ speed 50 mm/min	>600	%
Hardness	ASTM D 2240	62	Shore D
ESCR (50°C, 10% Igepal, F0)	ASTM D 1693	>500	Hrs
Oxidation Induction Time	ASTM D 3895 @ 200 °C	>100	min
Dielectric Constant, 1 MHz	ASTM D 1531	2.32	-
Dissipation Factor, 1 MHz	ASTM D 1531	0.00006	-
DC Volume Resistivity	ASTM D 257	10 ¹⁶	ohm.cm
Dielectric Strength	ASTM D149	20	kV/mm

Note: the given values are typical value measured on the product. Values herein are not to be constructed as a product specification.

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Processing Guidelines

For extrusion of SCG HDPE H511W, It is recommended to use with the screw giving good homogenization without excessive shear. Standard PE screws have proven satisfactorily which provide good result. Recommended melt temperature is 220-280 °C using conductor preheats ranging from 110-140 °C

Product Technical Assistance

For technical assistance or further information on this product or any other SCG Chemicals' products contact your SCG Chemicals technical service at the address or telephone number as specified below.

Product Available Form

- Natural pellet

Product Packaging

- 25 kg loose bag
- 25 kg bag on pallet
- 750 kg big bag

Storage

- Store in original container in tidy according to the manual of Handling and Storage from Thai Polyethylene Company Limited/ Thai Polypropylene Company Limited.
- Product(s) should be stored in dry and dust free location at temperature below 50°C and protected from direct sunlight and/or heat, well-ventilated area, away from incompatible materials and food and drink, as this may lead to quality deterioration, which results in odour generation and colour changes and can have negative effects on the physical properties of this product.
- Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination.
- The storage area should be stable and not be slopped.

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