



## 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/cm3    |
| 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 <sup>16</sup> | 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.



## TECHNICAL DATA SHEET

Product Type

**Natural HDPE for Solid Insulation**

Product Name

**SCG HDPE**

Product Grade

**H511W**

### 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.

### Safety

- The product is not classified as a hazardous material.
- Please see our Material Safety Data Sheet for details on various aspects of safety, recovery, and disposal of the products; for more information, contact your SCG Plastics/SCG Performance Chemicals technical service.



## TECHNICAL DATA SHEET

Product Type

**Natural HDPE for Solid Insulation**

Product Name

**SCG HDPE**

Product Grade

**H511W**

### Recycling

- The product is suitable for recycling using modern methods of shredding and cleaning. In-house production waste should be kept clean to facilitate direct recycling.
- Please see our Material Safety Datasheet for details on various aspects of safety, recovery and disposal of the products; for more information, contact your SCG Plastics/SCG Performance Chemicals technical service.

### Related Documents

- The latest version of this document will be available at our website, [www.scgchemicals.com](http://www.scgchemicals.com), or can be obtained from the SCG Plastics/SCG Performance Chemicals technical service.
- The following related documents are available on request, and represent various aspects on the usability, safety, recovery and disposal of the product.
  - Material Safety Datasheet
  - Statement on compliance to food contact regulations

### Disclaimer

- The Applications specified herein is for reference only.
- It is customer's responsibilities to inspect and test the product for suitability of the customer's own use and purpose. The customer is responsible for appropriate, safe, legal use, processing and handling of the product.
- To the best of our knowledge, the information contained herein is accurate and reliable as of the date of publication. We however do not assume any liability whatsoever for the accuracy and completeness of the information contained herein.
- We make no warranties which extend beyond the description herein. Nothing herein shall constitute any implied warranty of merchantability or fitness for a particular purpose.
- No liability can be accepted in respect of the use of the product in conjunction with other materials. The information contained herein relates exclusively to the product when it is not used in conjunction with any third party's materials.