Technical Data Sheet

Product Name
SCGC™ HDPE

Product Type
PE80 Black HDPE Compound

Product Grade
H5211PC

Product Description

SCGC HDPE H5211PC is a black, bimodal technology, high density polyethylene compound classified as MRS 8.0 material (PE80) providing superior mechanical properties and processability. SCGC HDPE H5211PC also shows excellent slow crack growth. In addition, it includes a good dispersion of carbon black pigment and anti-oxidant to ensure excellent long term UV resistance and thermal stability.

Typical Application

- Portable water pipes
- Drainage pipes
- Sewerage pipes
- Industrial pipes

Product Characteristics

- Good processability
- Excellent thermal stability
- High resistance to slow crack growth

Physical Properties

Properties	Test Method	Typical Value	Unit
Melt Flow Rate	ISO 1133 @ 190 °C, 5.0 kg	0.40	g/ 10 min
Density (Compound)	ISO 1183	0.960	g/cm^3
Tensile Strength at Yield	ISO 527 @ Crosshead speed 100 mm/ min	24	MPa
Tensile Strength at Break	ISO 527 @ Crosshead speed 100 mm/ min	> 30	MPa
Elongation at Break	ISO 527 @ Crosshead speed 100 mm/ min	> 600	%
Carbon Black Content	ISO 6964	2.25	% by mass
Carbon Black Dispersion	ISO 18553	< 3	-
Oxidative Induction Time	ISO 11357-6 @ 210 °C	≥ 40	Min
Flexural Modulus	ASTM D790	1000	MPa
Hardness	ASTM D 2240	66	Shore D
MRS Classification	ISO 12162/ISO 9080	10.0	MPa
Resistance to Slow Crack Growth	ISO 13479 @ 80 °C	> 500	Hrs
Resistance to Gas Constituents	ISO 1167	> 20	Hrs

Note: - The given values are typical value measured on the product. Values herein are not to be constructed as a product specification.
- Conversion factor for changing unit from kg/cm^2 to MPa is divided by 10.20.

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Manufacturer website: https://www.scgchemicals.com/en

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Processing Guidelines

For extrusion of SCGC HDPE H5211PC, it is recommended to use a screw giving good melting and mixing without excessive shear. A single or double flight PE screws have proven satisfactory and will be used with good result. For normal extrusion equipment, we suggest a melt temperature of 200 - 220 °C, and drying 80 - 90 °C for 1 - 2 hours before use.

Product Technical Assistance

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

Product Available Form

- Black Pellet

Product Packaging

- 25 kg loose bag
- 25 kg stretch wrap palletized
- 750 kg big bag
- Sea bulk container

Storage

- Store in original container in tidy according to the manual of Handling and Storage from Thai Polyethylene 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 Chemicals technical services.

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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 Chemicals technical services.

Related Documents

- The latest version of this document will be available at our website, www.scgchemicals.com, or can be obtained from the SCG Chemicals technical services.
- The following related documents are available on request, and represent various aspects on the usability, safety, recovery and disposal of the product.
    - Safety Data Sheet.
    - Declaration of Compliance.

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

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