



# Technical Data Sheet

Product Name



Product Type

**High Density Polyethylene**

Product Grade

**S111F**

## Product Description

S111F is a high strength polyethylene produced by SMX™ technology which superior toughness and stiffness. This grade can be processed at high output blown film extrusion with excellent bubble stability. It is recommended for high quality film application such as industrial bag and products for property modification.

## Typical Application

- Poultry bag
- Industrial liner
- Ice bag
- Box liner
- Premium shopping bag
- Trash bag

## Product Characteristics

- High toughness with good stiffness
- Low gel content
- Ability to down gauge the film while maintaining mechanical strength
- Food contact applicable

## International Compliance

- U.S FDA 21 CFR 177.1520
- Regulation (EU) No.10/2011
- Packaging and Packaging waste Directive 94/62/EC
- RoHS Directive 2011/65/EU (RoHS 2)
- REACH Regulation (EC) No.1907/2006

## Physical Properties

Properties	Test Method	Typical Value	Unit
Melt Flow Rate	ASTM D 1238 @ 190 °C, 2.16 kg	0.04	g/ 10 min
Density	ASTM D 1505 (anneal @ 100 °C)	0.945	g/cm <sup>3</sup>
Melting Point	ASTM D 2117	128	°C
Vicat Softening Point	ASTM D 1525	120	°C
Brittleness Temperature	ASTM D 746	<-60	°C
ESCR	ASTM D 1693 (Method B, Compression Molded, 25% Igepal, 50 °C)	>1000	Hours, F <sub>50</sub>
<b>Film Properties</b>			
Tensile Strength at Yield	ASTM D 882	MD : -*-, TD: 250*	kg/cm <sup>2</sup>
Tensile Strength at Break	ASTM D 882	MD : 740*, TD : 530*	kg/cm <sup>2</sup>
Tensile Modulus, 2% Secant	ASTM D 882	MD : 6,000*, TD : 7,000*	kg/cm <sup>2</sup>
Elongation at Break	ASTM D 882	MD : 500*, TD : 620*	%
Elmendorf Tear Strength	ASTM D 1922	MD : 30*, TD : 150*	g
Dart Impact Strength	ASTM D 1709	325*	g

- 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<sup>2</sup> to MPa is divided by 10.20.
  - (\*) Properties obtained from experiment on a pilot line, Film thickness 25 micron, MD = Machine Direction, TD = Transverse Direction.



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## Processing Guidelines

The actual extrusion condition depends on type of using machine, size and film thickness of product required. Generally, Melt temperature should be 190-230°C with Blow up ratio (BUR)  $\geq 4.5$  times and Neck height (NH)  $\geq 13$  times of die diameter.

## 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 as specified below.

## Product Available Form

- 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 sloped.

## 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](http://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.
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