



# TECHNICAL DATA SHEET

Product Name

**SCG LLDPE**

Product Type

**Polyethylene for Rotational Moulding**

Product Grade

**S11**

## Product Description

SCG S11 is a color compound linear low density polyethylene specifically developed for rotational moulding applications. With a balance of stiffness and toughness, a large processing window and a wide variety of color selection, S11 is suitable for kayaks, water tanks, playground equipment, and other general rotomoulded articles.

## Typical Applications

- Kayaks
- Water storage tanks (<5000 L)
- Lawn and garden articles
- Material handling containers
- Pallets and bins
- Automotive articles

## Product Characteristics

- Fast cooking
- High stiffness
- Good impact strength
- Excellent color fastness and UV protection (UV8) for outdoor use
- Wide variety of colors

## Product Properties

Property	Test Method	Typical Value	Unit
<b>Resin Properties</b>			
Melt Flow Rate	ASTM D 1238 @ 190 °C, 2.16 kg	4.0	g/10 min
Density	ASTM D 1505	0.938	g/cm <sup>3</sup>
Melting Point	ASTM D 2117	125 (257)	°C (°F)
Crystallization Point	ASTM D 2117	113 (236)	°C (°F)
Heat Deflection Temperature	ASTM D 648 @ 0.455 MPa	65 (149)	°C (°F)
Vicat Softening Temperature	ASTM D 1525	116 (241)	°C (°F)
<b>Mechanical Properties</b>			
Tensile Strength-at-Yield	ASTM D 638 @ Speed 50 mm/min	20 (2900)	MPa (psi)
Tensile Strength-at-Break	ASTM D 638 @ Speed 50 mm/min	18 (2600)	MPa (psi)
Elongation-at-Break	ASTM D 638 @ Speed 50 mm/min	800	%
Flexural Modulus	ASTM D 790	700 (102000)	MPa (psi)
Surface Hardness	ASTM D 2240	60	Shore D
ARM Impact Strength @ -40 °C	ARM Method (5.5 mm rotomoulded sample)	27 (110)	J/mm (lb-ft)

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

SCG Chemicals Co., Ltd.





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### Processing Guidelines

Moulding cycles depend on mould materials and its wall thickness, oven temperature, and shot size. Typical oven temperatures should be set between 250 and 300 °C. The recommended PIAT for S11 is about 190 °C which may vary with a color shade.

#### Points of Concerns

- Finishing rotational parts by flaming, using scrap/filler in compound formulation, or dry blending pigment > 0.3% can decrease mechanical properties of rotational parts, which is not recommended.
- For black compound, use up the powder as quickly as possible after the package is opened due to a high moisture pick-up that will result to pinholing and poor impact strength.

#### Product Technical Assistance

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

### Product Available Forms

- Color compound powder
- Black compound powder

### Product Packaging

- 25 kg loose bag
- 25 kg stretch wrap palletized

### 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 horizontal.

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