



# TECHNICAL DATA SHEET

Product Name

**SCG HDPE**

Product Type

**Polyethylene for Rotational Moulding**

Product Grade

**S10**

## Product Description

SCG S10 is a color compound high-density polyethylene (HDPE) for rotational moulding applications. S10 is designed for parts that require excellent stiffness and impact strength. It is fully heat and UV stabilized resulting in a wide processing latitude, good color retention, and durability.

## Typical Applications

- Underground water tanks
- Kayaks
- Pallets
- Manholes

## Product Characteristics

- Excellent stiffness
- Superior rigidity
- Good impact strength
- High thermal stability
- UV8 for outdoor use
- Excellent color fastness

## Product Properties

Property	Test Method	Typical Value	Unit
<b>Resin Properties</b>			
Melt Flow Rate	ASTM D 1238 @ 190 °C, 2.16 kg	3.5	g/10 min
Density	ASTM D 1505	0.945	g/cm <sup>3</sup>
Melting Point	ASTM D 2117	129 (264)	°C (°F)
Crystallization Point	ASTM D 2117	118 (244)	°C (°F)
Heat Deflection Temperature	ASTM D 648 @ 0.455 MPa	70 (158)	°C (°F)
Vicat Softening Temperature	ASTM D 1525	120 (248)	°C (°F)
<b>Mechanical Properties</b>			
Tensile Strength-at-Yield	ASTM D 638 @ Speed 50 mm/min	23 (3300)	MPa (psi)
Tensile Strength-at-Break	ASTM D 638 @ Speed 50 mm/min	24 (3500)	MPa (psi)
Elongation-at-Break	ASTM D 638 @ Speed 50 mm/min	1100	%
Flexural Modulus	ASTM D 790	950 (138000)	MPa (psi)
Surface Hardness	ASTM D 2240	64	Shore D
ARM Impact Strength @ -40 °C	ARM Method (5.5 mm rotomoulded sample)	29 (118)	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.





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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 S10 is about 215 °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.

