



# Technical Data Sheet

Product Name  
**SCGC™ HDPE**

Product Type  
**Polyethylene for Rotational Moulding**

Product Grade  
**S16**

## Product Description

SCGC S16 is a color compound high-density polyethylene (HDPE) for rotational moulding applications. S16 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 Application

- 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

## Physical Properties

Properties	Test Method	Typical Value	Unit
Melt Flow Rate @ 190°C, 2.16 kg	ASTM D 1238	3.5	g/10 min
Density	ASTM D 1505	0.945	g/cm <sup>3</sup>
Melting Point	ASTM D 2117	130 (266)	°C (°F)
Crystallization Point	ASTM D 2117	117 (242)	°C (°F)
Heat Deflection Temperature @ 0.455 MPa	ASTM D 648	68 (154)	°C (°F)
Vicat Softening Temperature	ASTM D 1525	116 (240)	°C (°F)
<b>Mechanical Properties</b>			
Tensile Strength at Yield @ Speed 50 mm/min	ASTM D 638	23 (3300)	MPa (psi)
Tensile Strength at Break @ Speed 50 mm/min	ASTM D 638	24 (3500)	MPa (psi)
Elongation at Break @ Speed 50 mm/min	ASTM D 638	1100	%
Flexural Modulus	ASTM D 790	950 (138000)	MPa (psi)
Surface Hardness	ASTM D 2240	64	Shore D
ARM Impact Strength @ -40°C (5.5 mm rotomolded sample) ARM Method		29 (118)	J/mm (lb-ft)

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

Thai Polyethylene 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 S16 is about 220°C which may vary with a color shade.

### Points of Concerns

- It is not recommended to flame the surfaces of molded parts with an open torch due to risk of thermal degradation and premature failure.
- Inclusion of fillers or recycled materials into the resins either by compounding or dry blending is not recommended due to risk of compromised impact strength.
- Use of pigments above 0.3% by dry blending into natural powder should be avoided due to risks of lower impact strength.
- Additional antioxidants, internal lubricants, or UV stabilizers into the virgin resins during the compounding process should be considered depending on the end applications.
- 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.
- The discoloration to the products may be occurred, irrespective of period of time, due to external factors such as gas fading, staining, sublimation, migration, contamination with packaging or chemicals in contact, either directly or indirectly.
- Customer shall be responsible for testing, verification, and approval of final products for fit-for-use in terms of the customer's own use and end user's use both functions and appearance before make warranties of merchantability.

### 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

- 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 Co., Ltd.
- 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.

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