

Product Description

ICORENE® 3981 is a color compound high density polyethylene which exhibits superior mechanical properties when compared to traditional high density grades. This grade has been specifically developed for kayaks and for products that require a combination of high impact strength and rigidity. ICORENE® 3981 is fully UV stabilized with a minimum UV8 rating.

Typical Applications

- Kayaks
- Pallets
- Underground tanks
- Inspection pits

Product Characteristics

- Excellent stiffness
- Excellent impact strength
- Fast cycle time and excellent flow
- UV8 for outdoor use

Physical Properties

Property	Test Method	Typical Values	Unit
Resin Properties			
Melt Flow Rate	ASTM D 1238 @ 190°C, 2.16 kg	4.8	g/10 min
Density	ASTM D 1505	0.950	g/cm ³
Melting Point	ASTM D 2117	128 (262)	°C (°F)
Crystallization Point	ASTM D 2117	117 (243)	°C (°F)
Heat Deflection Temperature, 0.455 MPa	ASTM D 648	66 (150)	°C (°F)
Vicat Softening Temperature	ASTM D 1525	120 (248)	°C (°F)
Mechanical Properties			
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	27 (3900)	MPa (Psi)
Elongation-at-Break	ASTM D 638 @ Speed 50 mm/min	950	%
Flexural Modulus	ASTM D 790	950 (138000)	MPa (Psi)
Surface Hardness	ASTM D 2240	62	Shore D
ARM Impact Strength @ -40 °C	ARM Method (5.5 mm rotomoulded sample)	28	J/mm

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

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 3981 color compounds is about 210 °C but may vary with a color shade.

Points of Concerns

Finishing rotational parts by flaming can decrease mechanical properties of rotational parts, which is not recommended.

Product Technical Assistance

For technical assistance or further information on this product or any other SCG Chemicals' products, please contact your SCG ICO Polymers / SCG Performance 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 bag on pallet

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 ICO Polymers technical service.

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 ICO Polymers technical service.

Related Documents

- The latest version of this document will be available at our website, www.scgchemicals.co.th, or can be obtained from the SCG ICO Polymers technical service.
- The following related documents are available on request, and represent various aspects on the usability, safety, recovery and disposal of the product.
 - Material Safety Datasheet
 - Statement on compliance to food contact regulations

Disclaimer

- The product can be used only for the application as specified here above.
- To the best of our knowledge, the information contained herein is accurate and reliable as of the date of publication, however we do not assume any liability whatsoever for the accuracy and completeness of such information.
- We make no warranties which extend beyond the description contained herein. Nothing herein shall constitute any implied warranty of merchantability or fitness for a particular purpose.
- It is the customer's responsibility to inspect and test our products in order to satisfy itself as to the suitability of the products for the customer's particular purpose. The customer is responsible for the appropriate, safe and legal use, processing and handling of our products.
- No liability can be accepted in respect of the use of our products in conjunction with other materials. The information contained herein relates exclusively to our products when not used in conjunction with any third party materials.