



Technical Data Sheet

Product Type

Polyethylene for Rotational Moulding

Product Name

SCGC™ LLDPE

Product Grade

M3504DXP / M50

Product Description

SCGC M3504DXP is natural powder of DOWLEX™ NG 2429.01G which is a linear-low density polyethylene octene copolymer for rotational moulding applications, whereas M50 is the color compound version. M3504DXP is specifically designed for applications requiring excellent environmental stress crack resistance and impact strength combined with low warpage and good processing. It is fully heat and UV stabilized resulting in a wide processing latitude, good color retention, and long life expectancy. These grades are recommended for large and thick tanks with a generous radius and curve.

Typical Application

- Diesel fuel tanks
- Boat and tractor parts
- Chemical storage containers

Product Characteristics

- Excellent ESCR
- Excellent chemical resistance
- High impact strength
- Enhanced outdoor performance with proven UV-protection recipe

International Compliance

- Meet the requirements of U.S. Food and Drug Administration (FDA) 21 CFR Part 177.1520 (c), paragraph 3.1a, for food contact under conditions of use C-H (21 CFR 176.170(c) Table 2), for all food types.
- For compliance of specific colors, please contact our technical service.

Physical Properties

Properties	Test Method	Typical Value	Unit
Melt Flow Rate @ 190°C, 2.16 kg	ASTM D 1238	4.0	g/10 min
Density	ASTM D 1505	0.935	g/cm ³
Melting Point	ASTM D 2117	125 (257)	°C (°F)
Crystallization Point	ASTM D 2117	105 (221)	°C (°F)
Heat Deflection Temperature @ 0.455 MPa	ASTM D 648	60 (140)	°C (°F)
Heat Deflection Temperature @ 1.82 MPa	ASTM D 648	41 (106)	°C (°F)
Vicat Softening Temperature	ASTM D 1525	118 (224)	°C (°F)
Mechanical Properties			
Tensile Strength at Yield @ Speed 50 mm/min	ASTM D 638	17 (2460)	MPa (psi)
Tensile Strength at Break @ Speed 50 mm/min	ASTM D 638	30 (4350)	MPa (psi)
Elongation at Break @ Speed 50 mm/min	ASTM D 638	1000	%
Flexural Modulus, 1% Secant	ASTM D 790	550 (80000)	MPa (psi)
Surface Hardness	ASTM D 2240	57	Shore D
ARM Impact Strength @ -40°C (5.5 mm rotomolded sample)	ARM Method	27 (110)	J/mm (lb-ft)
ESCR (100% Igepal, Condition A)	ASTM D 1693	> 1,000	hrs, F50

Note: • The given values are typical value 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 M3504DXP and M50 color compound are about 210°C but 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.
- Not for cooking less than 10 min heating time.
- 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

- Natural powder
- Color compound powder

Product Packaging

- 25 kg loose bag
- 25 kg stretch wrap palletized
- 750 kg big bag

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 slopped.

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