



TECHNICAL DATA SHEET

Product Name

SCG LLDPE

Product Type

Polyethylene for Rotational Moulding

Product Grade

M30 / M40

Product Description

SCG M30 and M40 Series are color compound linear-low density polyethylene (LLDPE) for rotational moulding applications. These grades are suitable for containers and general applications which have thin wall less than 5 mm.

M30 and M40 Series includes the following grades:

M30 and M31: color compound designed for indoor and semi-indoor products with UV2 rating

M32: UV4-rating protection for semi-indoor products

M40: UV8-rating protection for outdoor use

Typical Applications

- Cooler boxes
- Portable containers
- Material handling containers
- General purpose moulding
- Fish bins

Product Characteristics

- High impact strength
- Low shrinkage and warpage
- Consistent dimension

International Compliance

- Base resin of M30 and M40 series meets the requirements of U.S. Food and Drug Administration (FDA) 21 CFR Part 177.1520 Olefin polymers (c) 2.1 for food contact under conditions of use D-G (21 CFR 176.170(c) Table 2), for all food types.
- For compliance of specific colors,

Product Properties

Property	Test Method	Typical Value	Unit
Resin Properties			
Melt Flow Rate	ASTM D 1238 @ 190 °C, 2.16 kg	4.0	g/10 min
Density	ASTM D 1505	0.932	g/cm ³
Melting Point	ASTM D 2117	125 (257)	°C (°F)
Crystallization Point	ASTM D 2117	110 (230)	°C (°F)
Heat Deflection Temperature	ASTM D 648 @ 0.455 MPa	58 (136)	°C (°F)
Vicat Softening Temperature	ASTM D 1525	108 (226)	°C (°F)
Mechanical Properties			
Tensile Strength-at-Yield	ASTM D 638 @ Speed 50 mm/min	17 (2500)	MPa (psi)
Tensile Strength-at-Break	ASTM D 638 @ Speed 50 mm/min	25 (3600)	MPa (psi)
Elongation-at-Break	ASTM D 638 @ Speed 50 mm/min	1000	%
Flexural Modulus	ASTM D 790	570 (82700)	MPa (psi)
Surface Hardness	ASTM D 2240	55	Shore D
ARM Impact Strength @ -40 °C	ARM Method (5.5 mm rotomoulded sample)	28 (114)	J/mm (lb-ft)
Brittleness Temperature	ASTM D 746	< -60 (-76)	°C (°F)

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 is about 210 °C for M30 and about 190 °C for M31, M32, and M40. The optimum PIAT 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.
- M30 and M40 Series are not recommended for parts which exceed 5 mm or 30 min heating.
- M30 Series including M30, M31, and M32 are not recommended for products used under direct and intense sunlight.
- 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

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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