



Technical Data Sheet

Product Name
SCGC LLDPE

Product Type
Linear Low Density Polyethylene

Product Grade
M3863RW

Product Description

SCGC M3863RW is a linear-low density polyethylene (LLDPE) with hexene co-monomer for rotational moulding applications. M3863RW is a natural color PE resin available in a pellet form. This grade is suitable for rotational moulding of storage tanks and general purpose applications.

Typical Application

- Water storage tanks
- Chemical tanks
- Underground tanks
- Construction eg. manhole

Product Characteristics

- Stiffness & impact balance
- Good processing
- High thermal stabilizer
- Good dimension stability
- Easy de-molding
- High UV protection (UV8) for outdoor use

International Compliance

- AS/NZS 4766 for water storage tanks and chemicals.
- AS/NZS 4020 for contact to drinking water.
- European Union (EU) Food contact – Commission Regulation (EU no. 10/2011)
- REACH registration
- RoHS

Physical Properties

Properties

Resin Properties

Properties	Test Method	Typical Value	Unit
Melt Flow Rate	ASTM D 1238 @ 190 °C, 2.16 kg	3.0	g/ 10 min
Density	ASTM D 1505	0.938	g/cm ³
Melting Point	ASTM D 2117	127 (260)	°C (°F)
Heat Deflection Temperature	ASTM D 648 @ 0.455 MPa	54 (136)	°C (°F)
Vicat Softening Temperature	ASTM D 1525	116 (241)	°C (°F)

Mechanical Properties

Tensile Strength at Yield	ASTM D 638 @ Speed 50 mm/min	24 (3480)	MPa (psi)
Elongation at Break	ASTM D 638 @ Speed 50 mm/min	1000	%
Flexural Modulus	ASTM D 790	800 (116000)	MPa (psi)
Surface Hardness	ASTM D 2240	60	Shore D
ARM Impact Strength @ -40 °C	ARM Method (5.5 mm rotomoulded sample)	30 (122)	J/mm (lb-ft)
Brittleness Temperature	ASTM D 746	< -70 (-94)	°C (°F)

Note: - The given values are typical value measured on the product. Values herein are not to be constructed as a product specification.
- Conversion factor for changing unit from kg/cm² to MPa is divided by 10.20.



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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 Peak Internal Air Temperature (PIAT) for M3863RW is about 210 - 230 °C.

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.
- Avoid use of pigments above 0.3% by dry blending into natural powder due to risk of lower impact strength.
- Depending on the end application, additional antioxidants, internal lubricants, or UV stabilizers into the virgin resins during the compounding process should be considered.

Product Technical Assistance

For technical assistance or further information on this product, please contact your Long Son Petrochemicals technical service or SCG Chemicals technical service as specified below.

Product Available Form

- Pellet

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 SCG Chemicals 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 sloped.

Safety

- The product is not classified as a hazardous material.
- Please see our Safety Data Sheet for details on various aspects of safety, recovery, and disposal of the products; for more information, contact your Long Son Petrochemicals technical service or SCG Chemicals technical service.



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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 Long Son Petrochemicals technical service or SCG Chemicals technical service.

Related Documents

- The latest version of this document will be available at our website, www.lsp.com or www.scgchemicals.com, or can be obtained from your Long Son Petrochemicals technical service or SCG Chemicals technical service.
- The following related documents are available on request, and represent various aspects on the usability, safety, recovery and disposal of the product.
 - Safety Data Sheet.
 - Declaration of Compliance.

Disclaimer

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