

Product Description

Marvel M90 is a color-compounded polyethylene specifically developed for rotational molding applications. Marvel M90 is a LLDPE grade with excellent stiffness, good impact strength and toughness. Marvel M90 is the recommended material for large water tanks and other general rotational molded articles.

Typical Application

- Large tanks (\geq 10,000 liters)
- Agricultural storage tanks
- Material handling containers

Product Characteristics

- Meet the requirements of U.S.21 CFR F.D.A. regulation Part 177.1520 clauses (C) for food contact use
- Meet Thai industrial standard TIS 816-2538 (1995)
- Meet the requirements of AS/NZS 4020 : 2002 for drinking water
- Enhanced outdoor performance with proven UV 8 recipe
- Excellent rigidity and toughness
- Broad processing window
- Resistant to algae growth by blocking out sunlight when used in water tanks
- No pigment wipe off

Physical properties

Property	Test Method	Value*	Unit
Resin properties			
Melt Index	ASTM D 1238 @ 190°C, 2.16 kg	3.2	g/10 min
Density	ASTM D 1505	0.939	g/cm ³
Melting Point	ASTM D 2117	127 (260)	°C (°F)
Crystallization Point	ASTM D 2117	113 (236)	°C (°F)
Tensile Strength-at-Yield	ASTM D 638 @ Crosshead speed 50 mm/min	210 (21)	kg/cm ² (MPa)
Tensile Strength-at-Break	ASTM D 638 @ Crosshead speed 50 mm/min	280 (28)	kg/cm ² (MPa)
Elongation-at-Break	ASTM D 638 @ Crosshead speed 50 mm/min	1,100	%
Flexural Modulus	ASTM D 790 @ Crosshead speed 2 mm/min	7500 (750)	kg/cm ² (MPa)
Surface Hardness	ASTM D 2240	60	Shore D
ARM Impact Strength @ -40°C	ARM Method (5 mm rotomolded sample)	25 (90)	J/mm (lb-ft)
Brittleness Temperature	ASTM D 746	<-60 (140)	°C (°F)
UV Resistance Level	ASTM 2565	8	

*According to the base resin properties

Processing Guidelines

Molding cycles depend on mold materials and its wall thickness, oven temperature, and shot size. Typical oven temperatures should be set between 250 and 300°C.

Product Technical Assistance

For technical assistance or further information on this grade or any other products, please contact Technical service engineer.

Product Available Form

- Colored granule
- Black granule
- Colored powder (35 mesh)
- Black powder (35 mesh)

Product Packaging

- 25 kg loose bag
- 25 kg bag on pallet
- 750 kg big bag

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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 sloped.

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 Chemicals 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 Data Sheet for details on various aspects of safety, recovery and disposal of the product, for more information contact your SCG Chemicals technical service.

Related Documents

The following related documents are available on request, and represent various aspects on the usability, safety, recovery and disposal of the product.

- Material Safety Data Sheet

Disclaimer

- This product(s) can be used only for the application as specified hereabove.
- 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 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.

EL-Lene™ EL-Pro™ EL-Wax™



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