

Product Description

M9001 is specifically developed for rotational molding applications. M9001 is a LLDPE grade with excellent stiffness, good impact strength and toughness. M9001 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
- Excellent rigidity and toughness
- Broad processing window

Physical properties

Properties	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)
Heat Deflection Temperature (HDT)	ASTM D648	75 (167)	°C (°F)
Vicat Softening Temperature	ASTM D1525	122 (252)	°C (°F)
Mechanical Properties			
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

*Value quoted are the result of tests on representative samples, and product supplied in all respects.

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

- **M9001RU** = Natural pellet with low level UV resistance (UV2)
- **M9001RUP** = Natural powder (35 mesh) with low level UV resistance (UV2)
- **M9001RW** = Natural pellet with high level UV resistance (UV8)
- **M9001RWP** = Natural powder (35 mesh) with high level UV resistance (UV8)
- **Marvel M90** = Color compound powder (35 mesh) with high level UV resistance (UV8)

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.

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