

## Product Description

M3804 is a linear-low density polyethylene with a balance of impact properties, stiffness, and processability. M3804 is suitable for rotational molding of storage tanks and general applications.

## Typical Application

- Water storage tanks
- Medium to large tanks
- Material handling containers
- Septic tanks

## 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)
- Good impact properties
- Excellent rigidity
- Broad processing window

## Physical properties

Properties	Test Method	Value*	Unit
<b>Resin properties</b>			
Melt Index	ASTM D 1238 @ 190°C, 2.16 kg	4.0	g/10 min
Density	ASTM D 1505	0.938	g/cm <sup>3</sup>
Melting Point	ASTM D 2117	125 (257)	°C (°F)
Crystallization Point	ASTM D 2117	113 (236)	°C (°F)
Heat Deflection Temperature (HDT)	ASTM D648	70 (158)	°C (°F)
Vicat Softening Temperature	ASTM D1525	120 (248)	°C (°F)
<b>Mechanical Properties</b>			
Tensile Strength-at-Yield	ASTM D 638 @ Crosshead speed 50 mm/min	200 (20)	kg/cm <sup>2</sup> (MPa)
Tensile Strength-at-Break	ASTM D 638 @ Crosshead speed 50 mm/min	180 (18)	kg/cm <sup>2</sup> (MPa)
Elongation-at-Break	ASTM D 638 @ Crosshead speed 50 mm/min	800	%
Flexural Modulus	ASTM D 790 @ Crosshead speed 2 mm/min	7000 (700)	kg/cm <sup>2</sup> (MPa)
Surface Hardness	ASTM D 2240	60	Shore D
ARM Impact Strength @ -40°C	ARM Method (5 mm rotomolded sample)	19 (70)	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

- **M3804RU** = Natural pellet with low level UV resistance (UV2)
- **M3804RUP** = Natural powder (35 mesh) with low level UV resistance (UV2)
- **M3804RW** = Natural pellet with high level UV resistance (UV8)
- **M3804RWP** = Natural powder (35 mesh) with high level UV resistance (UV8)
- **Marvel M10** = Color compound powder (35 mesh) with high level UV resistance (UV8)

## Product Packaging

- 25 kg loose bag
- 25 kg bag on pallet

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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 slopped.

## 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
- Statement on compliance to food contact regulations

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