

TECHNICAL DATA SHEET

ROTATHENE® 11UV

LLDPE Rotational Moulding Resin

Description

Rotathene® 11UV is a hexene co-polymer based Linear Low Density Polyethylene resin (LLDPE) specifically designed for rotational moulding applications. It has high ESCR, high chemical resistance, and is intended for applications requiring an exceptional balance of stiffness and toughness. It has been formulated with a full strength UV additive package for Australasian conditions and has been tested to significantly exceed the UV requirements of AS/NZS4766:2006.

Rotathene® 11UV Tank Colours are SAI Global Type Test compliant with Section 5 and Clause 6.1 of AS/NZS 4766:2006, *Polyethylene storage tanks for water and chemicals* which includes AS/NZS 4020:2005 *Testing of products for use in contact of drinking water* (potable water standard) at a contact ratio of 15,000 mm²/litre.

Rotathene® 11UV Compounded Tank Colours comply with the requirements of AS2070-1999 *Plastics materials for food contact use*, sec.4.1.1 (a) and the base resin additionally complies with the requirements of U.S. FDA 21 CFR 177.1520 (c) 3.1a when used under certain conditions. This product should not be used in applications for holding food at elevated temperatures without the required product compliance testing.

Rotathene® 11UV is available in the full range of Rotathene® Tank and Standard Colours. All pigment systems used in Rotathene® Tank Colours are Heavy Metal Free. A colour matching service for custom colours is also available upon request.

Typical Applications

Agricultural Storage Tanks	Water Tanks	Chemical Tanks	Materials Handling
Underground Applications	Silos	Kayaks	Boats
General Moulding	IBC's	Septic Systems	Outdoor Applications

Properties***

	Unit	Value	Test Method
MFI (2.16/190)	g/10min	3.0	ASTM D1238
Density	g/cm ³	0.938	ASTM D1505
UV Rating ¹ (>50% retained tensile elongation)	hours UV rating	20000 UV20	ASTM D2565
ESCR ² (F ₅₀)	hours	>1000	ASTM D1693
Flexural Modulus (1% Secant)	MPa	800	ASTM D790
Tensile Strength @ Yield ³	MPa	19.5	ASTM D638
Melting Point	°C	128	ASTM D3418
Hydrostatic Design Basis ⁴	MPa	8.62	ASTM D2837

*** Base Resin Properties

1. Natural Injection Moulded specimens retained >50% tensile elongation after 20,000hrs irradiation to ASTM D2565 (NATA registered lab)
2. Condition A, 100% Igepal solution
3. Crosshead speed 50 mm/min
4. A service factor must be applied in accordance with AS/NZS4766:2006

*Test data as stated by Raw Material Manufacturer datasheets and brochures - as measured on virgin natural resin.
Typical (average) values only - not to be considered as specifications*

Updated October 2014

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Important Information

Before using this product, moulders are advised to conduct their own determination of the safety and suitability of the product for their specific application and are further advised against relying only on the information contained herein as it may relate to any specific use or application. Whilst care is taken in the preparation of this information, Matrix Polymers and their employees cannot be held responsible for the subsequent use of this information by any third party. The properties quoted are based on standard test methods and standard moulded plaques and shapes using natural resin. The addition of pigments and/or additives to a natural base may affect some properties. It is the ultimate responsibility of the user to ensure this product is suitable for, and the information is applicable to, the user's specific application.

Combustibility

Polyethylene will burn when supplied with sufficient heat and oxygen. Resins should be handled and stored away from contact with direct flames and/or other ignition sources. Conventional fire fighting processes may be used to extinguish polyethylene fires, with water and water mist being the preferred options due to the high heat contribution made by the burning polyethylene. Polyethylene may generate a dense black smoke whilst burning – it is recommended that Fire Fighters use Self Contained Breathing Apparatus when operating in enclosed areas.

Explosion Hazard

Polymer powders can, under certain conditions, pose an explosion hazard. We recommend that processing equipment has adequate grounding at all times and potential sources of ignition eliminated. Due care should be taken to eliminate the generation of dust clouds at all times and good housekeeping should be practiced throughout the facility.

Storage and Handling

Rotathene[®] resins should be stored in a clean, dry place at ambient temperatures. Prolonged or improper storage can result in deterioration of product properties. Care should be taken when handling and transferring product to prevent contamination.

Contact with hot or molten polyethylene may cause severe burns to personnel and powders may cause skin and eye irritation. Use of suitable eye and skin protection such as safety glasses, gloves and full length natural fibre work-wear are recommended when handling polyethylene.

Workstations are to be adequately ventilated to prevent the accumulation of fumes, vapours and smoke resulting from the processing of polyethylene.

Spilt powder or granules can be slippery underfoot so maintaining good housekeeping is essential.

Contact

For further information on Rotathene[®], please contact your local Matrix representative.

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