

ROTATHENE® Black 55

LLDPE Rotational Moulding Resin

Description

Rotathene® Black 55 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, excellent toughness and good stiffness. Rotathene® Black 55 is a general purpose LLDPE resin intended for applications requiring good surface detail as well as low to moderate shrinkage and warpage. It contains a high quality black pigmentation system to give protection for outdoor use.

Rotathene® Black 55 has been tested to meet the requirements of AS/NZS4020 - Testing of products for use in contact of drinking water (Potable water standard) at a contact ratio of 15,000 mm²/litre.

When used in accordance with FDA application guidelines, Rotathene® Black 55** conforms to the requirements of U.S. FDA 21 CFR 177.1520 (c) 3.1a and AS2070-1999 sec.4.1.1 (a). Containing UV stabilisation, the conditions described in FDA 21 CFR 176.170 (c) table 2, conditions B to H apply. Volume, temperature and food type restrictions may apply. This product should not be used in applications for holding food during cooking without the required product compliance testing.

Typical Applications

Display Applications
Light Materials Handling

General Purpose Custom Moulding
Outdoor Applications

Properties ***	Unit	Value	Test Method
MFI ^(2.16/190)	g/10min	5.0	ASTM D1238
Density	g/cm ³	0.935	ASTM D1505
ESCR ² (F ₅₀)	hours	>1000	ASTM D1693
Flexural Modulus (Youngs)	MPa	730	ASTM D760M
Tensile Strength @ Yield ¹	MPa	15.7	ASTM D638
Tensile Strength @ Break ¹	MPa	N/A	ASTM D638
Elongation @ Break ¹	%	>500	ASTM D638M
Notched Izod Impact @-40°C	J/m	90	ASTM D256
Durometer Hardness	Shore D	55	ASTM D2240
Vicat Softening Temperature	°C	114	ASTMD1525
Heat Deflection Temp	@455kPa °C	64	ASTM D648
	@1820kPa °C	36	

** Base Resin – Properties

1. Crosshead speed @ 50 mm/min
2. 100% Antarox solution

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

*** Rotathene® Black 55 and tanks colours – for FDA status on all other colours please contact your local Vanglobe representative.

Vanglobe Pty Ltd
ABN 64 010 842 243

Brisbane (Head Office) 37 Antimony Street, PO Box 104, Carole Park QLD 4300 Australia
Perth 559 Valencia Way, Maddington WA 6109 Australia
Melbourne

T 61 7 3271 3955 T/F 1800 888 141 F 61 7 3271 4532
T 61 8 9493 6414 F 61 8 9493 6416
T 61 3 8361 8838 F 61 3 8361 8445
E sales@vanglobe.com.au support@vanglobe.com.au

Vanglobe New Zealand Pty Ltd
ACN 113 712 557

Auckland (Head Office) 44-46 Princes Street, PO Box 13966, Onehunga, Auckland

T 64 9 634 5334 T/F 0800 56 33 56 F 64 9 634 5335
E customerservices@vanglobe.co.nz support@vanglobe.com.au

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, Vanglobe Pty Ltd/ Vanglobe New Zealand Pty Ltd and its 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 effect some properties. It is essential that you ensure the suitability of the material for your specific application prior to use. It is the ultimate responsibility of the user to ensure this product is suited 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

While care is taken to keep the amount of sub 150µm particles to a minimum, some fines will always be present in the supplied powder. These fines can, under certain conditions, pose an explosion hazard. We recommend that the processing equipment has adequate grounding at all times and good housekeeping 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 foreign matter contamination.

Hot or Molten Polyethylene contains a high energy value and has the potential to cause severe burns to personnel. Eye and skin protection should be used when handling Polyethylene in this state i.e. safety glasses, gloves and full length natural fibre work wear are recommended.

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

Contact

For further information on Rotathene®, please contact the Vanglobe office closest to you. Vanglobe Technical can be contacted at Vanglobe Melbourne or by emailing support@vanglobe.com.au.

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