# PRODUCT DATA SHEET

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## Linear Low Density Polyethylene

# HR3935U

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## Melt Index: 3.5 g/10min

## Density: 0.939 g/cm³

**Features**
- High rigidity
- Excellent impact strength
- Excellent chemical resistance
- Good ESCR
- Heat and UV resistant
- Tough and abrasion resistant
- Colourable
- Hexene copolymer
- UV8 rating

**Applications**
- Rotational moulding of large items such as water tanks, chemical tanks and industrial products
- Injection moulding of large parts
- Outdoor use

**Additives**
- Antioxidant
- UV stabiliser
- Internal mould release

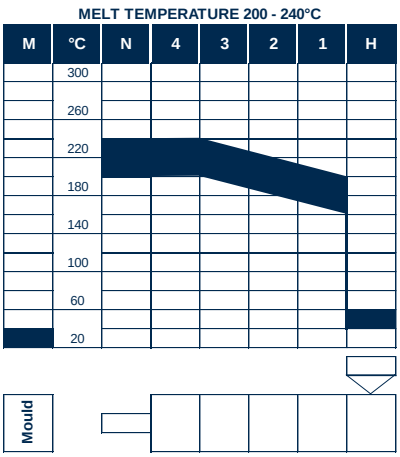
| Typical properties (not to be construed as specifications) | | Value (SI) | Value (English) | Method |
|---|---|---|---|---|
| **Resin Properties** | Melt Index (190°C/2.16kg) | 3.5 g/10min | 3.5 g/10min | ASTM D1238 |
| | Nominal density | 0.939 g/cm³ | 0.939 g/cm³ | ASTM D1505 |
| **Product Properties** | Tensile strength at yield | 19 MPa | 2755 psi | ASTM D638[1)] |
| | Tensile strength at break | 25 MPa | 3625 psi | ASTM D638[1)] |
| | Elongation at break | 850 % | 850 % | ASTM D638[1)] |
| | Flexural modulus | 800 MPa | 116000 psi | ASTM D790 |
| | ESCR | > 1000 hr | > 1000 hr | ASTM D1693[2)] |
| | Impact energy at -40°C | 30 J/mm | 111 ft/lbs | ASTM D5628[3)] |
| | Shore D hardness | 61 | 61 | ASTM D2240 |
| | Vicat softening temperature | 120 °C | 120 °C | ASTM D1525 |

1) **Crosshead speed 50 mm/min**
2) **100% Igepal CO630**
3) **Tested on 5mm rotomoulded product**

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**Injection moulding**




## Processing – Rotational moulding

An air temperature of 270°C to 300°C is recommended for rotational moulding of HR3935U. Temperatures above 300°C should be avoided as this can narrow the processing window, and may result in poor physical properties. Due to the material's excellent heat resistance, it has very good colour stability, even in overcure conditions.

## Processing – Injection moulding

HR3935U has a medium melt viscosity making it unsuitable for moulds with long flow paths. Typical melt temperatures are 200°C to 240°C. Parts can be demoulded at a relatively high temperature due to the material's high melting point and good rigidity.

## Handling

Workers should be protected from the possibility of skin or eye contact with molten polymer. Safety glasses are suggested as a minimal protection to prevent possible mechanical or thermal injury to the eyes. Fabrication areas should be ventilated to carry away fumes or vapours. Please consult the material safety data sheet (SDS) for more detailed information.

## Storage

As ultraviolet light may cause a change in the material, all resins should be protected from direct sunlight during storage. If stored in cool (<25°C), dry area with low ambient light levels, polyolefin resins are expected to maintain their original material and processing properties for at least 12 months.

## Combustibility

Polyethylene resins will burn when supplied adequate heat and oxygen. They should be handled and stored away from contact with direct flames and/or other ignition sources. In burning, polyethylene resins contribute high heat and may generate a dense black smoke. Fires can be extinguished by conventional means with water and water mist preferred. In enclosed areas, fire fighters should be provided with self contained breathing apparatus.

## Conveying

Conveying equipment should be designed to prevent accumulation of fines and dust particles that are contained in all polyethylene resins. The fines and dust particles can, under certain conditions, pose an explosion hazard. We recommend that the conveying system used:

- be equipped with adequate filters
- is operated and maintained in such a manner to ensure no leaks develop
- that adequate grounding exists at all times

It is further recommended that good housekeeping is practiced throughout the facility.

## Regulatory & Legal Compliance

This material complies with FDA regulation 21 CFR 177.1520 when used unmodified and according to good manufacturing practices for food contact applications. Refer to applicable food contact compliance statement which is available on request.

This material is not medically approved and should therefore not be used in any such application.

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