PRODUCT DATA SHEET

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Polypropylene Impact Copolymer

CHR440

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MFR: 1.5 g/10min

Density: 0.905 g/cm^3

Features

- Low flow
- Recommended for applications where superior impact properties and toughness is required at ambient temperatures as well as at below 0°C
- Contains a nucleating agent which ensures rapid crystallisation, resulting in an improved impact to stiffness balance as well as shorter cooling times

Applications

Injection moulding

- Industrial crates and boxes
- Transport containers
- Automotive components

Extrusion

- Twin walled corrugated sheeting
- Monolayer or composite thermoforming films
- Pipe (non-pressure) and profile extrusion

Blow moulding

- Bottles and containers up to 2 litre in capacity

Additives

- Antioxidant
- Processing stabiliser
- Acid scavenger
- Nucleating agent

Typical properties (not to be construed as specifications)		Value (SI)	Value (English)	Method
Resin Properties	Melt mass-flow rate – MFR (230/2.16)	1.5 g/10min	1.5 g/10min	ISO 1133
	Moulding Shrinkage – S_{Mp} / S_{Mn}	1.5 / 1.4 %	1.5 / 1.4 %	ISO 294-4
Physical Properties	Flexural modulus	1 300 MPa	188 600 psi	ISO 178
	Tensile modulus of elasticity	1 350 MPa	195 800 psi	ISO 527-2
	Tensile stress at yield	28 MPa	4 060 psi	ISO 527-2
	Tensile strain at yield	7.0 %	7.0 %	ISO 527-2
	Tensile strain at break	>50 %	>50 %	ISO 527-2
	Charpy notched impact strength (23°C)	>50 kJ/m^2	>25 ft·lbf/in^2	ISO 179-1
	Charpy notched impact strength (0°C)	9.0 kJ/m^2	4.5 ft·lbf/in^2	ISO 179-1
	Charpy notched impact strength (-20°C)	6.0 kJ/m^2	2.9 ft·lbf/in^2	ISO 179-1
	Ball indentation hardness – HB	50 N/mm^2	7 250 psi	ISO 2039-1
Thermal Properties	Melting temperature – DSC	169°C	337°F	ISO 11357-3
	Heat deflection temperature – HDT / A (1.8 MPa)	50°C	122°F	ISO 75-2
	Heat deflection temperature – HDT / B (0.45 MPa)	82°C	180°F	ISO 75-2
	Vicat softening temperature – VST / A120 (10 N)	153°C	307°F	ISO 306

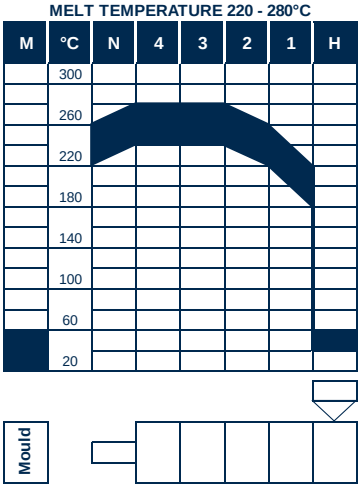
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Typical processing conditions – CHR440

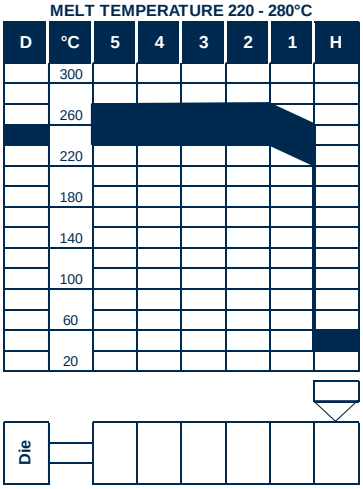
Injection moulding

MELT TEMPERATURE 220 - 280°C



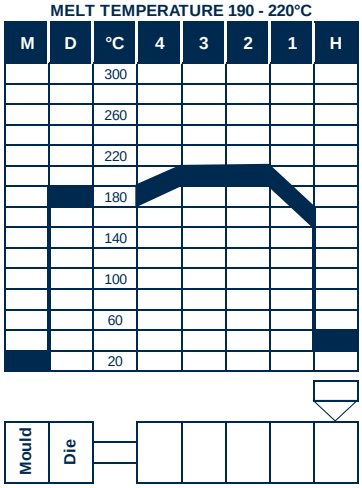
Extrusion

MELT TEMPERATURE 220 - 280°C



Blow moulding

MELT TEMPERATURE 190 - 220°C



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 material properties, 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

Polypropylene 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, polypropylene resins contribute high heat and may generate a dense black smoke. Fires can be extinguished by conventional means with water, water mist being 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 polypropylene 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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