

## CHR440

Polypropylene impact copolymer

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[www.sasol.com/polymers](http://www.sasol.com/polymers)

## Sasol Polymers Polyolefins Business

**MFR: 1.5g/10min**

### Sasol Polymers PP: CHR440

#### Features

- Low flow
- Recommended for applications where superior impact properties and toughness are required at ambient temperatures as well as 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 and profile extrusion

##### Blow moulding

- Blow moulding of containers up to 1 litre in capacity

#### Additives

- General purpose
- Nucleation

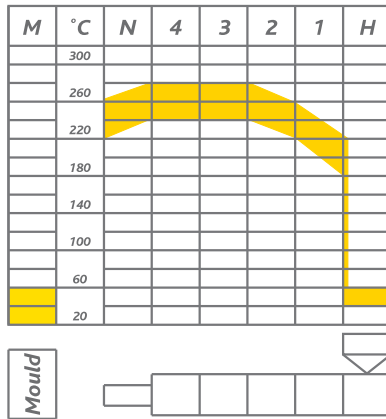
#### Material properties (typical values not to be construed as specifications)

	Value	Unit	Test method
<b>Rheological properties</b>			
Melt mass-flow rate - MFR (230/2.16)	1.5	g/10min	ISO 1133
Moulding Shrinkage - $S_{Mp}$ / $S_{Mn}$	1.5 / 1.4	%	ISO 294-4
<b>Mechanical properties</b>			
Flexural modulus	1300	MPa	ISO 178
Tensile modulus of elasticity	1350	MPa	ISO 527-2/1A/1
Tensile stress at yield	28	MPa	ISO 527-2/1A/50
Tensile strain at yield	7.0	%	ISO 527-2/1A/50
Tensile strain at break	>50	%	ISO 527-2/1A/50
Charpy notched impact strength (23°C)	>50	kJ/m <sup>2</sup>	ISO 179-1/1eA
Charpy notched impact strength (0°C)	9.0	kJ/m <sup>2</sup>	ISO 179-1/1eA
Charpy notched impact strength (-20°C)	6.0	kJ/m <sup>2</sup>	ISO 179-1/1eA
Ball indentation hardness - HB	50	N/mm <sup>2</sup>	ISO 2039-1
<b>Thermal properties</b>			
Melting temperature - DSC	163	°C	ISO 11357-3
Heat deflection temperature - HDT/A (1.8 MPa)	50	°C	ISO 75-2
Heat deflection temperature - HDT/B (0.45 MPa)	82	°C	ISO 75-2
Vicat softening temperature - VST/A 120 (10N)	153	°C	ISO 306
Vicat softening temperature - VST/B 120 (50N)	62	°C	ISO 306
<b>Other properties</b>			
Density	0.905	g/cm <sup>3</sup>	ISO 1183-1

## Typical processing conditions

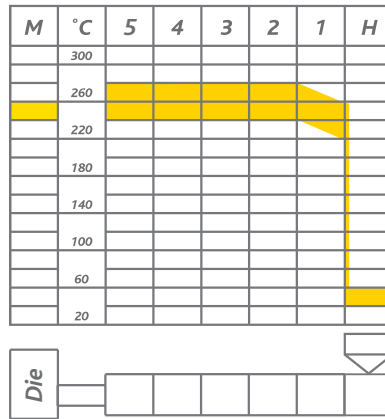
### Injection moulding

Melt temperature 220 - 280°C



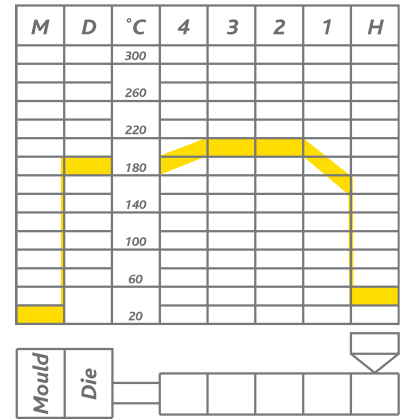
### Extrusion

Melt temperature 220 - 280°C



### Blow moulding

Melt temperature 190 - 220°C



Cooling water (chill roll): 15-30°C  
Cooling water (water bath): 15-40°C  
Cooling water (monofilaments): 60°C

## Packaging

Sasol Polymers polyolefin resins are supplied in pellet form packed in 25kg bags. Alternative packaging modes for polypropylene resins are available for selected grades.

## Handling

Workers should be protected from the possibility of skin or eye contact with molten polymer. Safety glasses and heat resistant gloves are suggested as a minimal precaution to prevent possible mechanical or thermal injuries to the eyes and skin. Fabrication areas should be ventilated to carry away fumes or vapours.

Conveying equipment should be designed to prevent accumulation of fines or dust particles that are contained in all polyolefin resins. These fines and dust particles can, under certain conditions, pose an explosion hazard. Sasol Polymers recommend 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

Sasol Polymers further recommend that good housekeeping be practised throughout the manufacturing facility. Polymer pellets may pose a slippage hazard if spilled.

## Storage

As ultraviolet light may cause a change in the material properties, all polyolefin resins should be protected from direct sunlight during storage. Under cool, dry, dark conditions Sasol Polymers polyolefin resins are expected to maintain their original material and processing properties for at least 18 months.