

HKR102

Polypropylene homopolymer

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Sasol Polymers Polyolefins Business

MFR: 3.5g/10min

Features

- Low flow
- Low water carry over during the extrusion process
- Suitable for high strength technical articles requiring superior mechanical properties
- Available in narrow viscosity range (HKQ102)

Applications

Extrusion

- Woven industrial fabric for high strength products
- Carpet backing
- Sacks and bags
- Flexible intermediate bulk containers (FIBC's)
- Monofilaments
- Packaging strapping

Injection moulding

- Domestic, industrial and general purpose articles

Additives

- High processing stabilisation

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

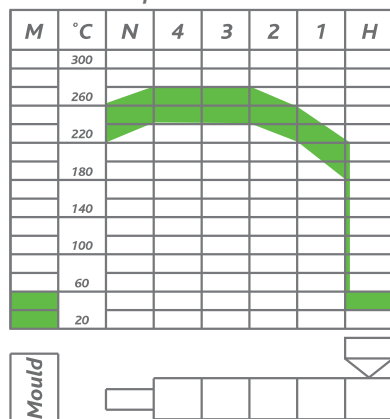
| | Value | Unit | Test method |
|--|-----------|-------------------|-----------------|
| Rheological properties | | | |
| Melt mass-flow rate - MFR (230/2.16) | 3.5 | g/10min | ISO 1133 |
| Moulding Shrinkage - S_{Mp} / S_{Mn} | 1.5 / 1.4 | % | ISO 294-4 |
| Mechanical properties | | | |
| Flexural modulus | 1550 | MPa | ISO 178 |
| Tensile modulus of elasticity | 1600 | MPa | ISO 527-2/1A/1 |
| Tensile stress at yield | 34.5 | MPa | ISO 527-2/1A/50 |
| Tensile strain at yield | 9.0 | % | ISO 527-2/1A/50 |
| Tensile strain at break | >50 | % | ISO 527-2/1A/50 |
| Charpy notched impact strength (23°C) | 3.5 | kJ/m ² | ISO 179-1/1eA |
| Ball indentation hardness - HB | 72 | N/mm ² | ISO 2039-1 |
| Thermal properties | | | |
| Melting temperature - DSC | 163 | °C | ISO 11357-3 |
| Heat deflection temperature - HDT/A (1.8 MPa) | 53 | °C | ISO 75-2 |
| Heat deflection temperature - HDT/B (0.45 MPa) | 85 | °C | ISO 75-2 |
| Vicat softening temperature - VST/A 120 (10N) | 154 | °C | ISO 306 |
| Vicat softening temperature - VST/B 120 (50N) | 90 | °C | ISO 306 |
| Other properties | | | |
| Density | 0.905 | g/cm ³ | ISO 1183-1 |



Typical processing conditions

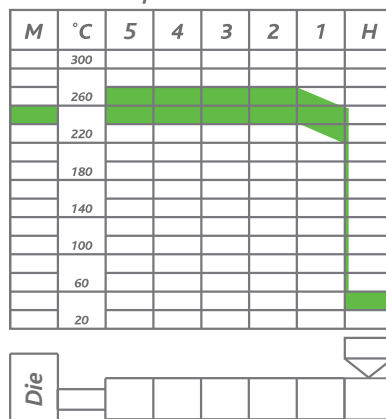
Injection moulding

Melt temperature 220 - 280°C



Extrusion

Melt temperature 220 - 280°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.