PRODUCT DATA SHEET

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# Polypropylene Homopolymer

# HKR102

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**Date of issue:** February 2020

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## MFR: 3.5 g/10min

## Density: 0.905 g/cm$^3$

### Features

- Low flow
- Low water carry-over during the extrusion process
- Suitable for the injection moulding of technical articles requiring good mechanical strength

### Applications

**Extrusion**

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

**Injection moulding**

- Domestic, industrial and general purpose articles

### Additives

- Antioxidant
- Processing stabiliser
- Acid scavenger

| Typical properties (not to be construed as specifications) | | Value (SI) | Value (English) | Method |
|---|---|---|---|---|
| **Resin Properties** | Melt mass-flow rate – MFR (230/2.16) | 3.5 g/10min | 3.5 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 | 1 550 MPa | 224 810 psi | ISO 178 |
| | Tensile modulus of elasticity | 1 600 MPa | 232 060 psi | ISO 527-2 |
| | Tensile stress at yield | 34.5 MPa | 5 004 psi | ISO 527-2 |
| | Tensile strain at yield | 9.0 % | 9.0 % | ISO 527-2 |
| | Tensile strain at break | >50 % | >50 % | ISO 527-2 |
| | Charpy notched impact strength (23°C) | 3.5 kJ/m$^2$ | 1.7 ft·lbf/in$^2$ | ISO 179-1 |
| | Ball indentation hardness – HB | 72 N/mm$^2$ | 10 440 psi | ISO 2039-1 |
| **Thermal Properties** | Melting temperature – DSC | 166°C | 332°F | ISO 11357-3 |
| | Heat deflection temperature – HDT / A (1.8 MPa) | 53°C | 127°F | ISO 75-2 |
| | Heat deflection temperature – HDT / B (0.45 MPa) | 85°C | 185°F | ISO 75-2 |
| | Vicat softening temperature – VST / A120 (10 N) | 154°C | 309°F | ISO 306 |

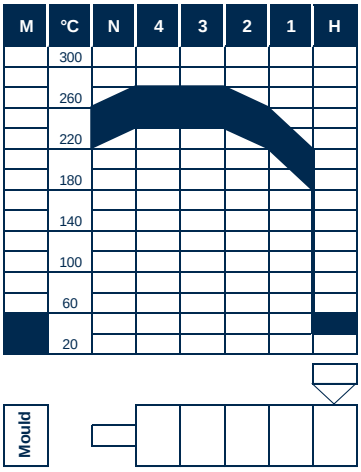
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## Typical processing conditions – HKR102

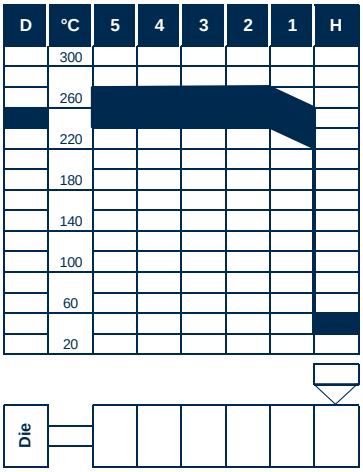
### Injection moulding

MELT TEMPERATURE 220 - 280°C




### Extrusion

MELT TEMPERATURE 220 - 280°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 and Shelf Life

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 from production.

## 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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