

Technical Datasheet

M20CR1 Polysure PP Homopolymer

Injection Molding

Product Characteristics:

Polysure M20CR1 is a Polypropylene Homopolymer, produced by latest Spheripol – II Technology & primarily suitable for Injection Molding process. M20CR1 is a clarified grade, and it offers exceptional processability with superior transparency, low warpage, low cycle time & good dimensional stability.

Recommended Applications:

Medical Syringes, High Clarity Consumer Products, Multicavity Thin Wall Products

Typical Properties:

Sr. No.	Property	Test Method	Unit	Value*
1	Melt Flow Index (230°C & 2.16 kg)	ASTM D1238	g/10 min	20
2	Tensile Strength at Yield, Type I Specimen	ASTM D638 (50 mm / min)	MPa	36
3	Tensile Elongation at Yield, Type I Specimen		%	12
4	Flexural Modulus (2% Secant)	ASTM D790A	MPa	1600
5	Notched Izod Impact Strength (23°C)	ASTM D256A	J/m	35
6	Vicat Softening Point (10 N)	ASTM D1525	°C	151
7	Heat Deflection Temperature (0.455 MPa)	ASTM D648	°C	106
8	Hardness	ASTM D2240	Shore D	69

*All the mechanical properties are tested on Injection molded Test Specimen, prepared in accordance with ASTM D4101

Processing Guidelines:

- Barrel Temperature : 180 - 250°C
- Mold Temperature : 30 - 40°C

Storage & Handling:

Bags should be stored in dry & dust free environment at temperature below 50°C and Prevent from direct exposure to sunlight & heat to avoid quality deterioration.

This grade meets the requirements of IS 10951:2020 - Specification for Polypropylene Material for Moulding and Extrusion.

Regulatory Requirements:

M20CR1 to be manufactured complying the requirements specified in IS 10910 on "Specification for Polypropylene & its Copolymers for safe use in contact with Foodstuff, Pharmaceutical & Drinking water". Furthermore, the Additives added in this grade formulation compiles to the "Positive list of constituents for Polypropylene, Polyethylene and their Copolymers for its safe use in contact with Foodstuffs & Pharmaceuticals" as laid down under IS 16738:2018. In general, the additives & constituents used in the grade are in line with requirement laid down under FDA: CFR Title 21,177.1520, Olefin Polymers.

Updated as of July 2025

Disclaimer: The information & data presented herein are typical values & should not be considered as specification and may be used as guideline only. HMEL does not undertake any responsibility for any outcome or results from the adoption or replication of the above-mentioned data & information there on for possible use for various applications. HMEL reserves the right to change the information & data without any prior notice or information. The user will solely be responsible for any process/product usage.

HPCL-Mittal Energy Limited (HMEL), The Rise, Plot No.17B & 17C, Block – FC, Sector-16A, Noida – 201301 (U.P), India. Tel: 0120-4634500. Corporate Site: www.hmel.in