



TECHNICAL DATA SHEET (TDS)

FullCycle™ PCR PP

SMR4202 (Natural color, Food grade)

100% Post-Consumer Recycled Polypropylene For Injection Molding Process.

DESCRIPTION

PCR PP SMR4202 is a 100% Post-consumer recycled (PCR) PP resin. It uses 100% caps from water and beverage bottles as the raw materials, and produced by sorting, regrinding, cold wash, hot wash, flakes sorting, melting, filter and extrusion, pelletization and odor removal processes. The product complies with GRS (Global Recycled Standard) and FCM (food contact materials) requirements.

PROPERTIES

Item	Typical Value	UoM	Standard
Density	0.90-0.91	g/m <sup>3</sup>	ISO 1183
MFI (230°C, 2.16kg)	7-10	g/10min	ISO 1133-1
Tensile Strength	26	MPa	ISO 527-2
Tensile Modulus	990	MPa	ISO 527-2
Elongation at Break	> 120	%	ISO 527-2
Flexural Strength	31	MPa	ISO 178
Flexural Modulus	1000	MPa	ISO 178
Charpy Impact Strength-Notched	6.5	KJ/m <sup>2</sup>	ISO 180
Charpy Impact Strength- Unnotched	96.6	KJ/m <sup>2</sup>	ISO 180
Heat Deflection Temperature	80	°C	ISO 75-2, 0.45MPa
Melting Point	160	°C	ISO 11357
Molding Shrinkage	1.6	%	Internal
Moisture content	< 0.2	%	ISO 15512
Ash content	< 0.1	%	ISO 3451-1, 800°C

\* Data shown above are representative values for reference purposes only, and not to be construed as specifications.

## APPLICATIONS

Drinking water caps  
Toys

Packaging Components  
Others

## COMPLIANCE

FDA  
REACH (242 SVHC)  
BPA Free

EU10/2011  
RoHS Directive (EU) 2011/65  
PFAS Free

## PRODUCTS FEATURES

Easy for injection  
Stable mechanical performance

Good impact strength  
Low impurities

## PACKING

Trial pack: 25KG/bag.  
Mass production: 25KG/bag or 800KG/bag.

## PICTURE



## PROCESSING CONDITIONS

**PCR PP SMR4202** is easy to process with standard injection moulding machines.

Following parameters should be used as guidelines:

Melt temperature: 190- 230 °C  
Holding pressure: 200- 500 bar  
Mold pressure: 60- 100 MPa  
Mold temperature: 30- 50 °C  
Molding time: 30- 60 s

Typically, it does not need to be dried before use.

The above information is for reference only. Make sure to adjust the molding parameters according to the machine, mold, and other product requirements.

## **STORAGE**

**PCR PP SMR4202** should be stored in room temperature with dry conditions. Improper storage can cause the resins degradation and quality issues of the final products. For more details, please refer to the MSDS or contact your sales representative.

## **DISCLAIMER**

All data generated by SMART lab team, SMART reserves the rights to update this document without notifications.

## **ADDRESS**

Shanghai Smart New Materials Co., Ltd  
19B, No. 985 Dongfang Road, Pudong District, Shanghai, 200122  
Tel.: +86 21 6314 9892  
Email: [info@sumai99.com](mailto:info@sumai99.com)  
Website: [www.sumai99.com](http://www.sumai99.com)