



TECHNICAL DATA SHEET (TDS)

FullCycle™ PCR HDPE SMR2102NC

100% PCR HDPE, natural color, MFI 4 for injection molding.

DESCRIPTION

FullCycle™ PCR HDPE SMR2102NC is a 100% Post-consumer recycled (PCR) HDPE resin. It uses 100% natural color caps from drink water bottles as the input raw materials, and produced by sorting, regrinding, cold wash, hot wash, flakes sorting, melting, filter and extrusion, pelletization, deodorization. The product complies with GRS (Global Recycled Standard) certification and food contact materials (FCM) regulations.

PROPERTIES

Item		Typical Value	UoM	Standard
Density		0.94	g/m ³	ISO 1183
MFI (190°C, 2.16kg)		4	g/10min	ISO 1133-1
Tensile Strength		20	MPa	ISO 527-2
Tensile Modulus		810	MPa	ISO 527-2
Elongation at break		> 120	%	ISO 527-2
Flexural Strength		22	MPa	ISO 178
Flexural Modules		860	MPa	ISO 178
Charpy Impact Strength, notched (23°C)		7	KJ/m ²	ISO 180
Charpy Impact Strength, Unnotched (23°C)		96	KJ/m ²	ISO 180
Melting point		130	°C	ISO 11357
Filter mesh size		200	Mesh	Internal
Black dots	> 1mm	0	%	Internal
	0.5 ~ 1mm	< 3	%	
	0.2 ~ 0.5mm	< 5	%	
Ash content		< 0.1	%	ISO 3451-1
Moisture content		< 0.2	%	ISO 15512
Heat Deflection Temperature(0,45MPa)		68	°C	ISO 75-2

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

APPLICATIONS

Caps

Boxes

Other injection parts

COMPLIANCE

FDA

REACH (240 SVHC)

BPA Free

EU10/2011

RoHS Directive (EU) 2011/65

PFAS Free

PRODUCTS FEATURES

Good color performance

Stable MFI

Low impurities

Odorless

PACKING

Trial pack: 25KG/bag.

Mass production: 25KG/kg or 800KG/bag.

PICTURE



PROCESSING CONDITIONS

FullCycle™ PCR HDPE SMR2102NC is easy to process with standard injection moulding machines.

Following parameters should be used as guidelines:

Melt temperature: 160- 200 °C

Holding pressure: 200- 500 bar

Mould pressure: 60- 100 MPa

Mould temperature: 30- 50 °C

Molding time: 30- 60 s

Typically, do not need to be dried before use.

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

STORAGE

FullCycle™ PCR HDPE SMR2102NC should be stored in dry conditions at temperatures below 50°C and protected from UV-light. Improper storage can initiate degradation, which results in odor generation and color changes and can have negative effects on the physical properties of this

product.

More information on storage can be found in Material Safety Data Sheet (MSDS) for this product.

RECYCLING

The product is suitable for recycling using modern methods of shredding and cleaning. In-house production waste should be kept clean to facilitate direct recycling.

DISCLAIMERS

This information contained herein is based on the data available to us and is believed be correct. However, SMART makes no warranty, expressed or implied, regarding the accuracy these data or the results to be obtained from the use thereof. Each user of the products shall convince himself through all available sources (including finished product testing in its appropriate environment) of the suitability of the products supplied for its particular purpose.

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