TECHNICAL DATA SHEET

Product Name: CGTECH–BCR–XX-Rev 8.1-5- Series

Product Description: Intended for mono-layer injection molding and compression blow forming of coffee capsules and similar products requiring barrier.

Physical Properties	Typical Values*	Test Method
Melt Flow Index	11± 2 g/10min@190°C,2.16Kg	ISO 1133
New Carbon Content	Over 55%	C14
Density	1.6± 0.05 g/cm^3	ISO 1183
Tensile Strength at Yield	37 MPa	ISO 527
Tensile Modulus	1.6 GPa	ISO 527
Tensile Elongation at Yield	4.7%	ISO 527
Notched Izod Impact at 23°C	4.1kJ/m^2	ISO 180
Heat Deflection Temperature	96 ℃	ISO 75
Moisture Content	⩽1	ASTM D6980
Mold Shrinkage	0.13%	
Water Vapor Transmission rate	2.55 g/m^2/day at tropical conditions (38°C and 90%RH) at 1 mm thickness	ASTM D7709
Oxygen Transmission rate	1.55 cc/ m^2/day** at 0% RH and 23°C at 1 mm thickness	ASTM D3985

Notes: *Values provided are typical and should not be interpreted as product specification.

This meets ASTM D 6400 standard – is a BPI Certified resin. https://products.bpiworld.org/companies/competitive-green-technologies.

And also, the Dincertco Certificated Resin: https://www.dincertco.tuv.com/search?locale=en&q=Competitive+Green+Technologies.

The results reported are typical with the caveat that due to variable processing methods and conditions, no guarantees or warranties are expressed or implied, including expressions of fitness for purpose or merchantability. This is a patent pending formulation.

**In a hot beverage packaging consumer product (Nespresso compatible capsule, for example), with a 0.5mm wall thickness, the OTR translates

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to 0.0042 cc/capsule/day on average.

Suggested Processing Guidelines

Drying of Resin:

Dry down to 0.1% at 90˚C in desiccant dryer with -40°C dew point of air – should take three to four hours based on our supplied resin at moisture content of 0.5%. (Please check incoming moisture to verify).

Processing:

Barrel temperature: 160°C at hopper going up to 175˚C (please don't exceed 185°C at injection tip point).

Injection tip temperature: Maximum 185˚C

Hot Runner: Max 185˚C +/- 2˚C.

Injection speed range: 0.5 – 1 mm/sec.

Back pressure: 10%

Notes: May find cooling time is less than fossil polymer - around 1.5-2 seconds.
Keep B side (moving side) at approximately 100°F (38°C).

Caution:

Resin should not sit in the manifold or the barrel for more than three minutes at elevated temperatures. If any resin has sat for more than this time, please purge.

Because of resin shrinkage, being 0.13%, molding should be done in molds specifically made using the mold flow analysis (MFA) of our resin and the .UDB file. Using a mold intended for higher shrinkage resin like fossil polymer polypropylene for example, can result in an oversized part, and could pose ejection related issues.

Cooling cycle reduction advantage may not be realized when using our resin in a mold not designed for our compostable bio-composite barrier resin's shrinkage.

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