

**TECHNICAL DATA SHEET****Product Name: CGTECH-BCR-HMS-TFF-M****Product Description:** The properties below are typical of our compostable bio-composite resins intended for **film blowing / thermo-forming applications.**

Physical Properties	Typical Values*	Test Method
Melt Flow Index	3-7 g/10min@190°C,2.16Kg	ISO 1133
Density	1.36 g/cm ³	ISO 1183
Notched Izod Impact Strength @ 23°C	7.8 kJ/m ²	ISO 180
Tensile Strength at Yield	32 MPa	ISO 527
Tensile Modulus	1.80 GPa	ISO 527
Tensile Elongation at Yield TD (%) / at break TD	17.0 % / 89.0%	ISO 527
Flexural Modulus	1.10 GPa	ISO 178
Flexural Strength	34 MPa	ISO 178
Heat Deflection Temperature at 0.45 MPa (°C)	85°C	ISO 75
Water Vapour Transmission rate	<2 g/m ² /day at tropical conditions (38°C and 90%RH) up to 100-micron film thickness	ASTM D7709
Oxygen Transmission rate	<2 cc/ m ² /day at 0% RH and 23°C up to 100-micron film thickness	ASTM D3985

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

This is a BPI Certified resin. <https://products.bpiworld.org/companies/competitive-green-technologies> and Dincertco No. 720019 (EN13432)

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.

Rev. [3]
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Suggested Processing Guidelines

Drying of Resin:

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

Processing:

Extruder temperature: 160°C – 165°C at hopper going up to 170°C- 175°C before extrusion

Extrusion Tip temperature: 175°C

Manifold: max 175°C +/- 2°C.

Note for Film Blowing:

1. During film blowing, air ring monitoring for maintaining bubble dimensional tolerances recommended.
2. Corona treatment of film may be necessary for superior lamination post processing.
3. Critical that no polyethylene or PET or any other fossil polymer that may have been used earlier is resident in the extruder or die prior to blowing compostable resin because any presence of high melting temp fossil polymer will freeze the die holes resulting in downtime and maintenance - that should be avoided.

Note for Thermoforming:

Could reduce temperature profile to 100 °C – 110 °C for pre-heating in two-stage thermoforming process.

Note: Extruding Zippers:

1. At higher speeds, (250 rpm) waviness may be observed. If waviness is observed, please slow extruder speed to between 120-150 rpm.
2. Die head may need to be modified for exact shape with our compostable resin for CR zippers (if die for PE is used).

Caution:

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

The above are suggested processing guidelines. Please consult with Competitive Green Technologies, based on existing processing parameters and machine capabilities for achieving desired results.

