



BioLogiQ creates plastics from polysaccharides found in plants. These plastics are designed to enhance both the functional and environmental performance of the packages and products produced with them.

All BioLogiQ compounded plastics start with NuPlastiQ BioPolymer, a 100% natural, renewably sourced, plant-based biopolymer.

### Description

- One of the BioBlend® BC Biodegradable/Compostable Resins designed for mulch films.
- Made from 50% annually renewable agricultural resources and PBAT.
- BioBlend® BC 27154 is supplied in pellet form, fully compounded.

### Applications

- BioBlend® BC 27154 is intended for blown film.
- Used for products that require biodegradation or are intended for compost environments.

### Properties

PHYSICAL	TEST METHOD	NOMINAL VALUE	UNITS
Density:	ASTM D792	1.3	g/cm <sup>3</sup>
<b>THERMAL</b>			
Melt Flow Index	ASTM D1238	1.3	g/10 min (190 °C/2.16 kg)
Melting Temperature Range:	ASTM D3418	130	° C
Glass Temperature Range:	ASTM D3418	81 – 100	° C
<b>ADDITIONAL INFORMATION</b>			
Moisture Content: <sup>(1)</sup>	ASTM D6980	~ 0.5	%
<b>MECHANICAL PROPERTIES<sup>(2)</sup></b>			
<b>Tensile Properties</b>			
Secant Modulus @ 1%	D638	250	MPa
Tensile Strength at Break	D638	13	MPa
Elongation at Break	D638	41	%
<b>Flexural Properties</b>			
Flexural Modulus	D790	350	MPa
<b>FILM PROPERTIES<sup>(3)</sup></b>			
<b>Tensile Strength</b>			
MD	ASTM D882	14	MPa
TD	ASTM D882	11	MPa
<b>Elongation at Break</b>			
MD	ASTM D882	310	%
TD	ASTM D882	130	%
<b>Elmendorf Tear</b>			
MD	ASTM D1922	100	g
TD	ASTM D1922	130	g
<b>Dart Drop Test</b>			
	ASTM D1709	120	g

Notes:

- 1) Moisture content was measured with an infrared moisture analyzer at 105°C for 10 minutes.
- 2) Mechanical properties were measured on injection molded parts made directly from 100% BC 27154.
- 3) The reported film properties are for a monolayer blown film. The thickness was 1.0 mil, and the blow-up ratio was 2.5:1.
- 4) These values are typical properties only and should not be used for specification purposes. End users should confirm results with their own tests.

## Processing Considerations

- BC 27154 is generally used for monolayer films and is designed to be used on existing equipment with a few adjustments.
- Films made with NuPlastiQ are more sensitive to processing conditions such as temperature profile, residence time, die gap, and blow-up ratio. See the NuPlastiQ/PBAT Film Processing Guide for additional information.
  - A typical recommended temperature profile will be in the 130°C – 165°C range.
  - Depending on equipment, process conditions, and residence time, as temperatures increase in this range the glycerin plasticizer may experience some volatilization. This may cause a slight odor and/or smoke and is expected under normal processing conditions. Always use proper ventilation. See the BioBlend® BC 27154 SDS for details.
  - Melt temperatures above 175°C may cause material degradation, lensing, and fish-eyes in the film.
- If extruder operation must be stopped temporarily, it is recommended to purge the material in the barrel before resuming film processing or material degradation will occur.

## Storage and Drying

- BioLogiQ BioBlends are dried after production and shipped in sealed moisture-proof bags that are ready to use as supplied. They should be stored indoors in the sealed container away from heat until used.
- If pellets are exposed to a humid environment, they will absorb moisture from the air. If needed, dry pellets by introducing warm dry air at no more than 60°C for 1-4 hours.
- The estimated moisture content of a BioLogiQ BioBlend can be measured with an infrared moisture analyzer at 105°C for 10 minutes. The result of the measurement will not perfectly equal the moisture content, due to possible partial evaporation of plasticizer. The result from this test should be <0.5% moisture prior to processing.