



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 27150 is supplied in pellet form, fully compounded.

Applications

- BioBlend® BC 27150 is intended for agricultural mulch 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 ³
THERMAL			
Melt Flow Index	ASTM D1238	1.7	g/10 min (190 °C/2.16 kg)
Melting Temperature Range:	ASTM D3418	130	° C
Glass Temperature Range:	ASTM D3418	81 – 100	° C
ADDITIONAL INFORMATION			
Moisture Content: ⁽¹⁾	ASTM D6980	~ 0.5	%
MECHANICAL PROPERTIES⁽²⁾			
Tensile Properties			
Secant Modulus @ 1%	D638	210	MPa
Tensile Strength at Break	D638	14	MPa
Elongation at Break	D638	100	%
Flexural Properties			
Flexural Modulus	D790	150	MPa
FILM PROPERTIES⁽³⁾			
Tensile Strength			
MD	ASTM D882	17.0	MPa
TD	ASTM D882	17.0	MPa
Elongation at Break			
MD	ASTM D882	550	%
TD	ASTM D882	600	%
Elmendorf Tear			
MD	ASTM D1922	400	g
TD	ASTM D1922	550	g
Dart Drop Test			
	ASTM D1709	180	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 27150.
- 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 27150 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 27130 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.