



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® XD family of high durability BioPolymers designed for injection molded applications.
- BioBlend® XD 28100 contains 30% NuPlastiQ® BioPolymer compounded with TPR.
- Made from 30% annually renewable agricultural resources.
- Supplied in pellet form.

## Applications

- BioBlend XD 28100 is intended for injection molded applications where biobased content is a requirement.

## Properties

PHYSICAL	TEST METHOD	NOMINAL VALUE	UNITS
Density:	ASTM D792	1.14	g/cm <sup>3</sup>
<b>THERMAL</b>			
Melt Flow Index	ASTM D1238	2	g/10 min (190 °C/2.16 kg)
<b>ADDITIONAL INFORMATION</b>			
Moisture Content: <sup>(1)</sup>	ASTM D6980	≤ 1.0	%
<b>MECHANICAL PROPERTIES<sup>(2)</sup></b>			
<b>Tensile Properties</b>			
Secant Modulus @ 1%	ASTM D638	65	MPa
Tensile Strength at Break	ASTM D638	3.8	MPa
Elongation at Break	ASTM D638	125	%
<b>Flexural Properties</b>			
Flexural Modulus	ASTM D790	70	MPa
<b>Notched Impact Strength</b>			
Izod - Notched	ASTM D256	187	J/m

Table 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 the 30% NuPlastiQ / TPR BioBlend.
- 3) 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

- XD 28100 can be injection molded directly or can be further diluted with a customer specific TPR to achieve a final NuPlastiQ® content between 10% and 30%.
- Injection molded applications with XD 28100 are slightly more sensitive to processing conditions such as temperature profile and cycle time.
- A typical recommended temperature profile will be in the 180° C – 210° 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® XD 28100 SDS for details.
- Some equipment (shorter residence time) may allow for higher processing temperatures (210° C - 225° C).
- If the melt temperature is too hot for the specific blend, some scorching and dark coloring may occur. Lower the extrusion temperature and continue processing until the color lightens to an acceptable level.
- When extruder operation must be stopped temporarily, it is recommended to purge the material in the barrel before resuming processing.

## 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 80°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 <1.0% moisture prior to processing.