



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 molding applications.
- BioBlend® XD 26242 is a masterbatch that contains 40% NuPlastiQ CG BioPolymer compounded with ABS and an impact modifier.
- Made from 40% annually renewable agricultural resources.
- Supplied in pellet form.

Applications

- BioBlend® XD 26242 is intended for injection molded applications.

Properties

PHYSICAL	TEST METHOD	NOMINAL VALUE	UNITS
Density:	ASTM D792	1.2	g/cm ³
THERMAL			
Melt Flow Index	ASTM D1238	1.1	g/10 min (190 °C/10 kg)
ADDITIONAL INFORMATION			
Moisture Content: ⁽¹⁾	ASTM D6980	≤ 0.5	%
MECHANICAL PROPERTIES ⁽²⁾			
Tensile Properties			
Secant Modulus @ 1%	ASTM D638	517	MPa
Ultimate Tensile Strength	ASTM D638	21.3	MPa
Tensile Strength at Break	ASTM D638	20.9	MPa
Elongation at Break	ASTM D638	16.8	%
Flexural Properties			
Flexural Modulus	ASTM D790	1185	MPa
Ultimate Flexural Strength	ASTM D790	41.3	MPa
Notched Impact Strength			
Izod - Notched	ASTM D256	36	J/m

Table Notes:

- 1) Moisture content was measured with an infrared moisture analyzer at 110°C for 10 minutes.
- 2) Mechanical properties were measured on injection molded parts made directly from the XD 26242 blend.
- 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 26242 is designed to be diluted with a customer specific ABS to achieve a final NuPlastiQ CG concentration between 10% and 40%.
- XD 26242 can be run on existing process equipment with a few adjustments.

- Injection molded applications with XD 26242 are 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 26242 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.

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 110°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.

Appendix

- The following table contains the mechanical properties of injection molded parts made by taking 50% XD 26242 and dry blending with 50% PA-757 ABS from Chi Mei Corporation to achieve a total NuPlastiQ CG concentration of 20%.

MECHANICAL PROPERTIES ⁽¹⁾	TEST METHOD	NOMINAL VALUE	UNITS
Tensile Properties			
Secant Modulus @ 1%	ASTM D638	693	MPa
Ultimate Tensile Strength	ASTM D638	32.8	MPa
Tensile Strength at Break	ASTM D638	28.7	MPa
Elongation at Break	ASTM D638	16.8	%
Flexural Properties			
Flexural Modulus	ASTM D790	1935	MPa
Ultimate Flexural Strength	ASTM D790	61.5	MPa
Notched Impact Strength			
Izod - Notched	ASTM D256	47	J/m

Table Notes:

- 1) Mechanical properties were measured on injection molded parts made from dry blending 50% XD 26242 and 50% PA-757 ABS at the injection molded stage.
- 2) These values are typical properties only and should not be used for specification purposes. End users should confirm results with their own tests.