

PRODUCT: NuPlastiQ[®] GP General Purpose BioPolymers



DESCRIPTION

NuPlastiQ GP General Purpose BioPolymers are plant-based polysaccharide, low crystallinity, thermoplastic resins that offer exceptional functional and environmental benefits. They can be used alone, but are designed to be blended with legacy thermoplastics such as HDPE, LDPE, LLDPE, PP, ABS, TPE, and rHDPE*. Using **NuPlastiQ GP** resins helps reduce both fossil fuel-based plastic content and greenhouse gas generation.

APPLICATIONS

- NuPlastiQ GP is designed to be compounded with traditional fuel-based and plant-based plastics to produce three groups of polymers: NuPlastiQ XP High Performance BioPolymers for packaging; NuPlastiQ XD High Durability Polymers for durable goods; and NuPlastiQ BC Biodegradable/Compostable BioPolymers for packaging and films.
- The strength of GP can allow for significant downgauging, especially for thin film applications.
- GP maintains the recyclability or compostability of the resin with which it is compounded.
- Specific grades are ASTM D6400 and EN-13432 certified for compostability. All GP resins are USDA Certified Biobased Products.
- GP resins are certified marine biodegradable and industrial compostable by OK TUV.
- Thin films made with GP have a soft feel.
- Can be used as a stand-alone polymer for certain low temperature, injection molding applications.
- Supplied in pellet form.

STORAGE

- Should be stored in a sealed container in a dry location away from heat.

DRYING

- Delivered in a sealed container, pellets normally do not require drying prior to use. However, if left in opened containers, pellets should be dried to less than 1% moisture prior to processing. Drying of pellets can be performed by introducing warm, dry air at 60°C for 1-4 hours.

PROPERTIES

PHYSICAL	TEST METHOD	NOMINAL VALUE
Density:	ASTM D792	1.40 g/cm ³
THERMAL		
Melt Flow Index (200 °C/5kg):	ASTM D1238	1.98 g/10 min
Melting Temperature Range:	ASTM D3418	166 – 180 °C
Glass Transition Temperature:	ASTM D3418	81 – 100 °C
MECHANICAL		
Tensile Strength at Yield:	ASTM D638	>30 MPa
Tensile Strength at Break:	ASTM D638	>30 MPa
Young's Modulus:	ASTM D638	1.5 GPa
Elongation at Break:	ASTM D638	<10%
Dart Impact Resistance:	ASTM D5628	3.5 kg
ADDITIONAL INFO.		
Water Content:	ASTM D6980	<1 %

*Recycled or recovered HDPE, including marine & ocean