



ecoPLAS[®] by REearthable[™] is a Biodegradable and Compostable¹ Limestone based Plastic Alternative that continues to sequester captured carbon dioxide, one manufactured object at a time

Product Description

ecoPLAS[®] is a biodegradable and compostable limestone (CaCO₃) based material series that conforms to the FDA food contact safe (G.R.A.S.) specification, with an option if G.R.A.S. compliance is not necessary. Limestone is a sustainable and abundant resource, scientifically known to naturally sequester CO₂ during formation, and cannot be re-released unless burned at 1500F or higher. Meet ecoPLAS[®]

Our patent-pending formula was designed to address sustainability objectives of lowering overall carbon footprint, minimizing the impact on CO₂ production while taking advantage of drop-in ready alternative materials requiring no manufacturing changes.

- Drop in ready; No manufacturing equipment or processing changes required
- Food contact safe (G.R.A.S.) or optional material with alternate stabilizers
- Off white pellets in their natural, un-dyed processed form, ±0.015" in size
- Pre drying of pellets is necessary for material performance (40ppm/.004% or less)
- DSC melting point 113.30 °C (271.94 °F), ASTM D 1238 Melt Index 7.5g / 10 min

Applications

- Suitable for 3D printing, Thermoforming, Sheet, Film and Injection Molding²

ecoPLAS[®] BIO201 material is suitable for 3D Print monofilament production and printing, Sheet film, Injection Molding, Thermoforming and other similar processing applications.

Methods Performed

- Tensile properties per ASTM D638 with a rate of crosshead of 2 in/min and Type I bars
- Flex Properties per ASTM D790 with a rate of 0.05 in/min, support span of 2.00 in.
- Specific Gravity per ASTM D792 Method A
- Notched Charpy per ASTM D6110 with a pendulum capacity of 24.553 in-lbf
- Izod Impact per ASTM D256-Method A with a pendulum capacity of 24.553 in-lbf
- Shore D Hardness per ASTM D2240
- DSC per ASTM D3418 with a heating rate of 10 °C/minute and a cooling rate of 10°C/minute in a nitrogen atmosphere with gas flow of 50 mL/minute
- Bars were molded at 100% LDR and conditioned at 50±5% relative humidity and 23±2°C for at least 40 hours prior to testing mechanical properties

Form / Storage

ecoPLAS[®] is supplied in pellet form in bulk containers and requires pre drying prior to processing. The material can be stored at ambient room temperature for up to 24 months in a sealed container.

Intellectual Property

It is the responsibility of those to whom we supply our products to ensure that any proprietary rights and existing laws and legislation are observed. All ecoPLAS[®] uses and product obtained are subject to and protected by intellectual property rights. Purchase of ecoPLAS[®] does not entitle the buyer or any third to produce, offer or use ecoPLAS[®] or any blends thereof.

1. Anaerobic Biodegradable (ASTM D5511) and Aerobic Compostable (ASTM D5338) testing is currently underway via 3rd Party validation.
2. Third party lab samples validated manufacturing processes. We assume no liability as to the success of final material runs. Results may vary.



Typical Properties of ecoPLAS® BIO201 by REearthable™ Material

	Value	Unit	Method
Mechanical			
Tensile Modulus	1.6	GPa	ASTM D638
Tensile Strength at Yield	23	MPa	ASTM D638
Tensile Strength at Break	18	MPa	ASTM D638
Tensile Elongation at Yield	3.7	%	ASTM D638
Tensile Elongation at Break	16	%	ASTM D638
Flexural Modulus	1.6	GPa	ASTM D790
Hardness	71	shore D	ASTM D2240
Notched Charpy Impact Strength	84	J/m	ASTM D6110
Notched Izod Impact Strength	77	J/m	ASTM D256
Physical			
Density	1.46	g/cc	ASTM D792
Melt Flow Index (210°C, 2.16kg)	7.5	g/10min	ASTM D1238
Thermal			
Glass Transition Temperature	59	°C	ASTM D3418
Melting Temperature	153.3	°C	ASTM D3418

Note / Disclaimer:

The information supplied is based on our current knowledge as the values presented herein are typical laboratory values and may vary within ranges.

Given the many factors that may affect processing and applications, the data does not relieve processors of their responsibility to carry out their own validation. The applicability or suitability of our products cannot be guaranteed outside of this data. It does not necessarily indicate results a recipient may attain and does not imply any legally binding assurance for a particular purpose.

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