Impact Modified PLA Bioplastic Compounds

PLA BIOPLASTIC COMPOUNDS FROM RTP COMPANY

- Bridge the performance gap between petroleum based plastics and neat PLA
- Produce select semi-durable and durable products with bio-based, sustainable materials
- Balance bio-content, properties, and cost to meet your requirements

Imagine using polylactic acid (PLA) compounds, which utilize resin derived from renewable and sustainable agricultural resources, to produce environmentally friendly products with mechanical properties that are similar to common petroleum based thermoplastics such as ABS, acrylic, and high impact polystyrene. At RTP Company, we not only imagined it, we’ve made them a reality.

Growing marketplace demand for environmentally friendly products has led RTP Company to develop an expanded line of PLA bioplastic compounds. Resulting impact modified, nucleated, and mineral reinforced compounds make PLA suitable for select semi-durable and durable products.

Mineral reinforced and nucleated PLA compounds provide increased thermal performance and shorten molding cycle times. Impact modified grades are available in translucent or opaque versions and can also incorporate FDA compliant ingredients. All are fully colorable and a high gloss surface finish is easy to obtain.

A full range of PLA bioplastic compounds allows cost, performance, and renewable resource content to be tailored to individual application specifications. Bio-content in PLA compounds can range up to 95% depending on end-use requirements.

PLA bioplastics compounds can be used in an array of innovative products. Potential applications include products in industries such as consumer electronics, lawn and garden products, medical devices, office equipment and supplies, sporting goods, and toys.

Products made with PLA are considered environmentally friendly because its production uses 50% less energy and produces 60% less CO2 than petroleum based plastics like PET, PS, PC, and nylon. The use of renewable content is also valued by industry certification such as LEED, EPEAT, and the USDA BioPreferred label that increase a product’s marketability.

Impact modified PLA bioplastic compounds…another innovation from RTP Company: your global compounder of custom engineered thermoplastics. Contact your local sales engineer to find out if bioplastic compounds are suitable for your application.
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**Take your “green” products from the drawing board to reality**

![Graph of Impact Modified PLA Bioplastic Compounds](image)

### RTP PRODUCT | RENEWABLE CONTENT | NOTCHED IZOD ASTM D 256 | TENSILE STRENGTH ASTM D 638 | FLEXURAL MODULUS ASTM D 790 | HDT @ 66 psi (455 kPa) ASTM D 648
---|---|---|---|---|---
RTP 2099 X 124790 A Medium Impact, Fast Cycle, High HDT, 10% Talc | 78% | 1.8 ft-lbs/in • 96 J/m | 7,000 psi • 48 MPa | 0.60 psi x 10^6 • 4,137 MPa | 195°F • 90°C
RTP 2099 X 124790 B High Impact, Fast Cycle, High HDT, 10% Talc | 68% | 3.5 ft-lbs/in • 187 J/m | 5,500 psi • 38 MPa | 0.50 psi x 10^6 • 3,448 MPa | 160°F • 71°C
RTP 2099 X 124790 C Medium Impact, Standard Cycle, 10% Talc | 78% | 1.5 ft-lbs/in • 80 J/m | 6,500 psi • 45 MPa | 0.60 psi x 10^6 • 4,137 MPa | 180°F • 82°C
RTP 2099 X 124790 D High Impact, Standard Cycle, 10% Talc | 68% | 3.4 ft-lbs/in • 200 J/m | 5,200 psi • 36 MPa | 0.50 psi x 10^6 • 3,448 MPa | 150°F • 65°C
RTP 2099 X 124790 E High Impact, Fast Cycle, 10% Calcium Carbonate | 73% | 6.0 ft-lbs/in • 182 J/m | 5,700 psi • 39 MPa | 0.45 psi x 10^6 • 3,103 MPa | 145°F • 63°C
RTP 2099 X 124790 F Medium Impact, Fast Cycle, 30% Calcium Carbonate | 53% | 1.5 ft-lbs/in • 80 J/m | 4,600 psi • 32 MPa | 0.60 psi x 10^6 • 4,137 MPa | 165°F • 74°C
RTP 2099 X 124789 A Impact Modified, Lower Cost, Clear | 94% | 0.5 ft-lbs/in • 27 J/m | 9,000 psi • 62 MPa | 0.49 psi x 10^6 • 3,379 MPa | 124°F • 51°C
RTP 2099 X 124789 B Impact Modified, Clear | 89% | 0.9 ft-lbs/in • 48 J/m | 8,000 psi • 55 MPa | 0.44 psi x 10^6 • 3,034 MPa | 124°F • 51°C
RTP 2099 X 124789 C Medium Impact, Clear | 84% | 1.5 ft-lbs/in • 80 J/m | 7,000 psi • 48 MPa | 0.41 psi x 10^6 • 2,287 MPa | 124°F • 51°C
RTP 2099 X 124789 D High Impact, Clear | 79% | 5.0 ft-lbs/in • 267 J/m | 6,000 psi • 41 MPa | 0.37 psi x 10^6 • 2,551 MPa | 124°F • 51°C
RTP 2099 X 126211 Z Impact Modified, FDA Compliant, Clear | 89% | 0.8 ft-lbs/in • 43 J/m | 6,700 psi • 46 MPa | 0.44 psi x 10^6 • 3,034 MPa | 124°F • 51°C
RTP 2099 X 126218 A Impact Modified, Lower Cost, Opaque | 94% | 0.6 ft-lbs/in • 32 J/m | 8,500 psi • 59 MPa | 0.47 psi x 10^6 • 3,241 MPa | 124°F • 51°C
RTP 2099 X 126218 B Medium Impact, Opaque | 89% | 1.0 ft-lbs/in • 53 J/m | 7,300 psi • 50 MPa | 0.44 psi x 10^6 • 3,034 MPa | 124°F • 51°C
RTP 2099 X 126218 C High Impact, Opaque | 84% | 3.5 ft-lbs/in • 187 J/m | 6,400 psi • 44 MPa | 0.39 psi x 10^6 • 2,689 MPa | 124°F • 51°C
RTP 2099 X 126218 D Super High Impact, Opaque | 79% | 10.0 ft-lbs/in • 534 J/m | 5,500 psi • 38 MPa | 0.35 psi x 10^6 • 2,413 MPa | 124°F • 51°C
RTP 2099 X 126217 Z Super High Impact, FDA Compliant, Opaque | 79% | 12.0 ft-lbs/in • 641 J/m | 5,700 psi • 39 MPa | 0.36 psi x 10^6 • 2,482 MPa | 124°F • 51°C

Glass fiber reinforced compounds and thermoplastic alloys using PLA are also available from RTP Company.