

OnCap™ BIO Impact T Transparent impact modifier for polylactic acid

Challenge

Polylactic acid (PLA), although a relatively new polymer, has been specified for a broad and growing range of applications. It is embraced because it is based on renewable resources and appreciated for its extreme transparency and rigidity. However, for many applications, it is desirable to have improved impact properties.

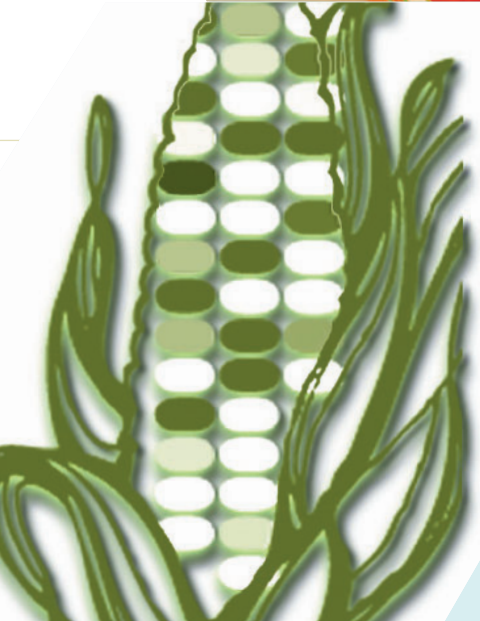
Solution

Typically, impact modifiers are used to enhance impact resistance. While a range of impact resistant polymers are available for polylactic acid systems, the options are limited by the demand for retention of transparency. PolyOne has discovered a combination of additives and molecules used at the nano-scale that results in the desired increase in impact resistance while maintaining good transparency.

Value Provided

The use of OnCap™ BIO Impact T increases STET impact resistance of PLA while maintaining its transparency.

- The increased toughness improves tear resistance. This makes the sheet easier to cut during fabrication and simplifies handling and safety by reducing rough edges and uneven cuts. This also makes the sheet fit for final end use, helping improve consumer acceptance.
- Improved ductility also allows for holes to be punched in trays without tearing or shattering the tray itself. This results in increased production with less product failure as well as increased food safety.
- Reduced brittleness decreases the shattering of cups and trays during handling and packing, which lowers scrap rates and increases safety.
- Attractive, clear parts stand out on the shelf, helping improve consumer acceptance thereby increasing sales revenues and profits.



These products are designed to enhance the performance and applicability of bio-derived or biodegradable polymers and are certified as a PolyOne Sustainable Solution*
To learn more go to www.polyone.com/sustain

*The PolyOne Sustainable Solution certification is awarded to those products or services that meet defined criteria for sustainability in areas such as renew-ability, recycle-ability, reusability, eco-friendly composition, or resource efficiency.

Implementation

OnCap BIO Impact T is available as a compound, or in a solid or liquid concentrate, for use in PLA resin. Usage rates vary based on the effect desired. OnCap BIO Impact T can be used with other processing additives and can be combined with colorants into a single Smartbatch™ BIO concentrate.

Applications

OnCap BIO Impact T can be used in a variety of plastics processing equipment, including extrusion, injection molding, blow molding and film processing. Typical applications include food and beverage packaging, shopping and refuse bags, and consumer goods such as toys.

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