

Solutions

by Milliken



Concentrates for polypropylene

Making PP Clearer, Better, Faster

Milliken™



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Faster, trouble-free production

Improved stiffness/impact balance

Isotropic shrinkage

Color independent shrinkage

Superior aesthetics

Clear and bright colorants

The Milliken story

With the introduction of the concentrate solutions, Milliken extends the boundaries of what polypropylene can do. Adding these concentrates to polypropylene across a variety of applications creates value by improving both aesthetics and performance.

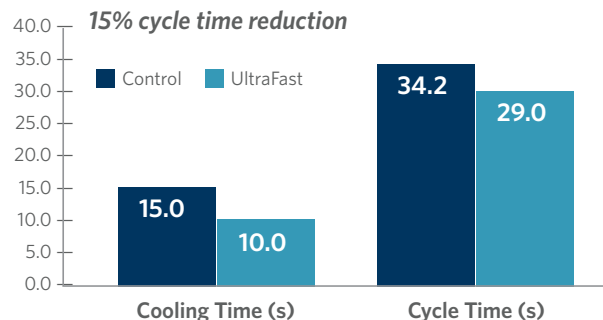


Our promise is to deliver solutions for polypropylene resulting in a faster, trouble-free production, improved stiffness, isotropic shrinkage, or superior aesthetics - and we think that's a story worth sharing.

Faster, trouble-free production

Adding **UltraFast™ Solutions** to polypropylene increases the crystallization temperature and the rate of crystallization.

This results in processing benefits: reduced cooling and cycle times.



High crystallization temperature

Reduced processing times

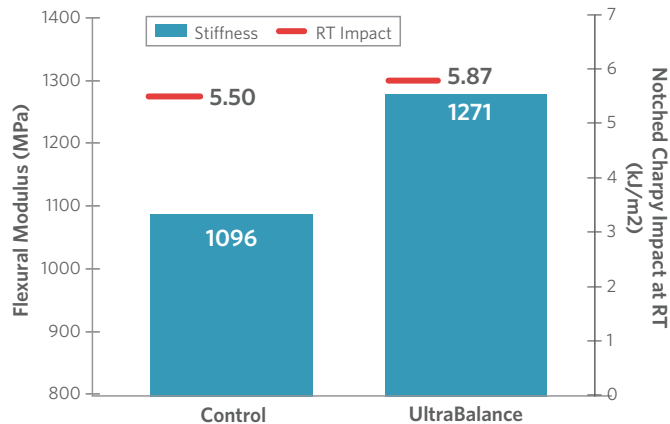
Higher productivity



Improved stiffness/ impact balance

Nucleators often increase stiffness at the expense of impact strength.

UltraBalance™ Solutions improve the stiffness while retaining the same impact behavior.



Improved stiffness/impact balance

Stronger, thinner products

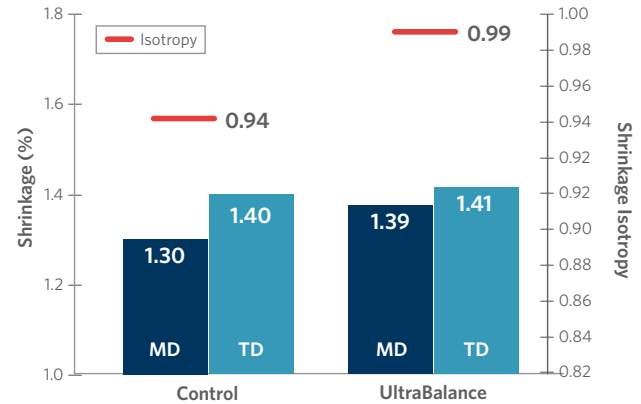
Stable at high temperature



Isotropic shrinkage

Polypropylene is a semi-crystalline polymer, which shrinks after molding. The nucleator influences the absolute shrinkage and the ratio of MD/TD shrinkage.

UltraBalance Solutions imparts excellent isotropy resulting in reduced warpage.



Isotropic shrinkage

Stable dimensions

Quality & less waste

Faster, trouble free production

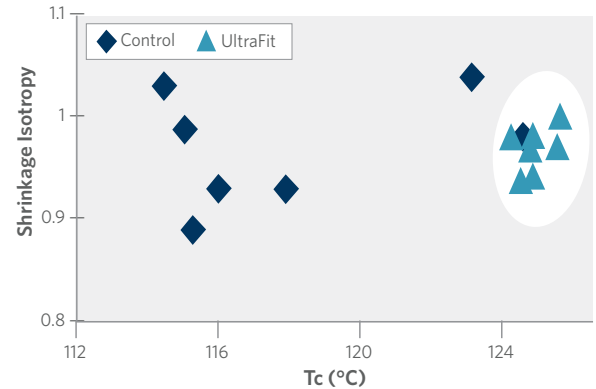


Color independent shrinkage

Pigments nucleate polypropylene to different degrees which makes it difficult to mold parts with identical dimensions.

Part warpage may also arise from the anisotropic shrinkage properties of certain pigments.

UltraFit™ Solutions allows converters to produce a variety of colored parts with identical dimensions in the same mold.



Overriding the nucleation effect of pigments

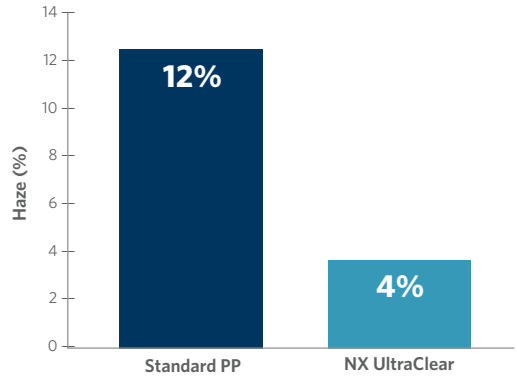
1 set of production conditions for all different colors

Reduced design complexity



Superior aesthetics

Adding **NX™ UltraClear™ Solutions** gives PP parts a transparency boost that overcomes the undesirable milky appearance of PP in injection molded, blow molded, and thermoformed applications creating highly-attractive transparency similar to glass-like materials. **NX UltraClear Solutions** enable the replacement of more expensive and less functional clear materials.



Standard PP | NX UltraClear

- Superior aesthetics
- Replacement of other crystal-clear materials
- Heat resistant & microwavable

Clear and bright colorants

Adding **ClearTint™ Colorants** to NX UltraClear polypropylene offers the clearest and brightest colors. **ClearTint colorants** enhance aesthetics while maintaining the glass clarity look of Millad® NX™ 8000 clarified polypropylene.

ClearTint colorants are non-nucleating polymeric colorants, and their use results in reduced warpage parts with consistent processing.



Polymeric Nature

No haze

Excellent transparency

Non-nucleating technology

Easy to purge



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For twenty years Milliken has developed and improved polypropylene solutions. Our worldwide staff numbers over 4,000, with 100+ Ph.D. scientists to help you elevate your business to the next level.





Interested in Solutions for Polypropylene?

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