

Milliken® Hyperform® HPN® 600ei

High-Performance Additive for Polypropylene

Hyperform® HPN® 600ei enhances the appearance of parts and sheets with higher gloss and reduced haze, offering an ideal balance of mechanical and physical properties, with excellent top load compression and improved impact resistance.

Hyperform HPN 600ei Attributes

- Fast polymer crystallization speed
- Improved ovality
- Excellent aesthetics
- Higher stiffness/ Impact performance

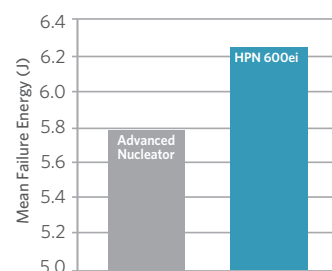
Typical applications

Packaging, drink cups and lids, thermoformed parts

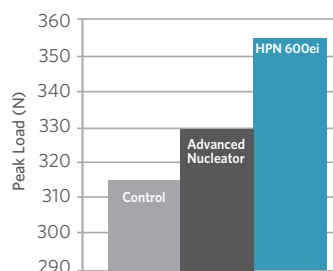
Mechanical Properties

Hyperform additives offer the best balance of mechanical and physical properties. Thermoformed parts made with HPN 600ei exhibit excellent top load compression and improved impact properties.

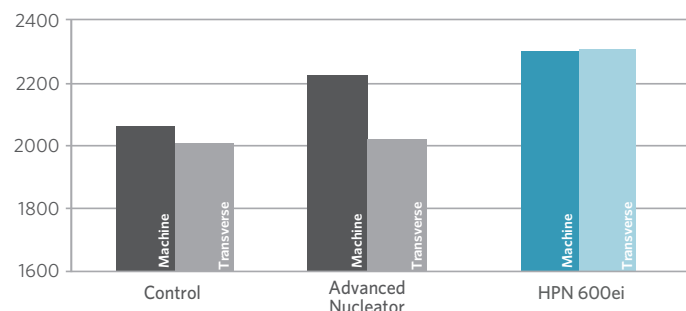
Gardner Impact



Top Load Comparison



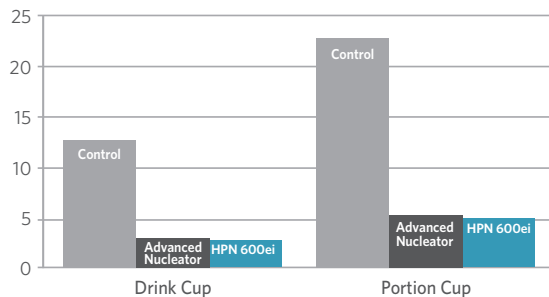
1.2mm Sheet Flexural Modulus (MPa)



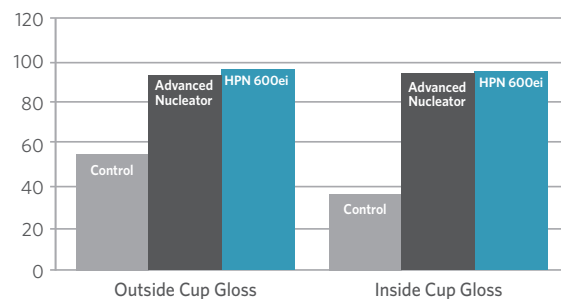
Typical Haze Values

HPN 600ei improves upon the aesthetic benefits of previous nucleators, including better part and sheet appearance.

Part Optics - Haze (%)



Drink Cup Gloss (%)



Hyperform® HPN® 600ei

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for Polypropylene



Ovality and Productivity

Fast crystallization speed and isotropic shrinkage combine to allow improved thermoforming cycle time using HPN 600ei.



Cup Rim Ovality

Cycle time improvements without compromising part quality

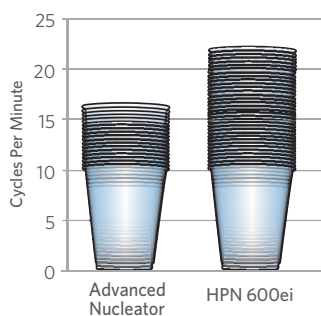


Advanced Nucleator
Cycle Time:
16-17 cycles
(cups/minute)

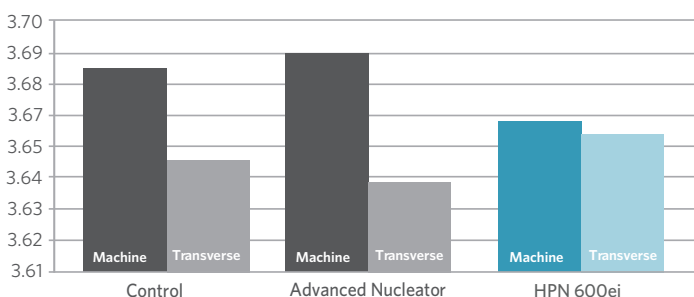


HPN 600ei
Cycle Time:
22-23 cycles
(cups/minute)

Cycle Time-Portion Cup



Ovality at Maximum Rate



Thermoformed Packaging

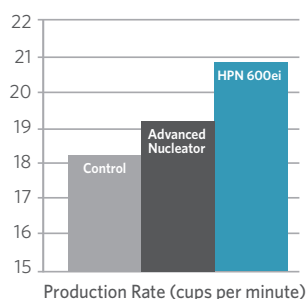
Case Study: Food Packaging, Drink Cups

Process: Thermoforming

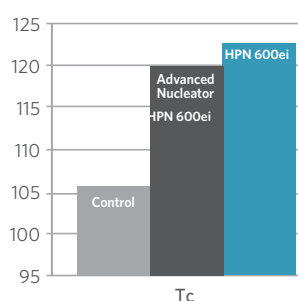
- Cost effective clarity/aesthetics
- Warpage Control
- Low density (lightweight)
- Improved quality to uniform shrinkage - less ovality = less warpage
- Faster cycle times - improved shrinkage characteristics and high crystallization rates lead to more cups/minute
- Improved Stiffness - Impact balance

Improved Productivity

Drink Cup Maximum Production



Peak Crystallization Temperature T_c (°C)



Please contact your Milliken representative for any additional information.

PLEASE NOTE: As each customer's use of our product may be different, information we provide, including without limitation, recommendations, test results, samples, care/labeling/processing instructions or marketing advice, is provided in good faith but without warranty and without accepting any responsibility/liability. Each customer must test and be responsible for its own specific use, further processing, labeling, marketing, etc. All sales are exclusively subject to our standard terms of sale posted at www.milliken.com/terms (all additional/different terms are rejected) unless explicitly agreed otherwise in a signed writing.

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