Hyperform HPN-600ei Attributes

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

Typical Applications

- Packaging
- Drink Cups/Lids
- Thermoformed Parts

Typical Haze Values

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

Typical Drink Cup Gloss (%) and Part Optics - Haze (%)

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.
Hyperform® HPN-600ei  Nucleating Agent 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**

- **Machine Transverse**
- **Control**
- **Advanced Nucleator**
- **HPN-600ei**

**Drink Cup Maximum Production**

**Peak Crystallation Temperature Tc (°C)**

**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

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