Go beyond PET

Polyisorb® isorbide

POLYSORB® isosorbide

KEY BENEFITS
- Heat resistance
- Increased glass temperature
- Good chemical and mechanical resistance
- Optical properties

PERFORMANCE MATERIALS

Rigid packaging
Hot fill container
Technical polymers
Food contact
Heat resistant packaging
3 STEPS REACTION

- **Oligomerization step:**
  Formation of dihydroxy Oligomers of PET

- **Transesterification step:**
  Increase of molecular weight
  Performed at molten state

- **Solid State Polymerization:**
  Increase of molecular weight
  Performed at solid state for crystallized products

TUNED PROPERTIES WITH ISOSORBIDE

<table>
<thead>
<tr>
<th>Semi-crystalline</th>
<th>Amorphous Polymer</th>
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<tbody>
<tr>
<td>PEIT</td>
<td>PEIT with or without co-monomers</td>
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<tr>
<td>75 &lt; Tg &lt; 95°C</td>
<td>Tg &gt; 95°C</td>
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<tr>
<td>Classical range from 95 up to 130°C</td>
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Isosorbide Amount on diols %

- **Chemical Resistance**
  - Ketone
  - Aromatic Hydrocarbon
  - Aliphatic Hydrocarbon
  - Cosmetics

- **Optical properties**
  - PET 91% 91% 88-90%
  - PETg 5% 1% < 1%

- **Chemical Resistance**
  - PEIT
  - PMMA
  - PC

- **Heat stability (Tg)**

TIPS TO REDUCE COLORATION

- High purity POLYSORB® Isosorbide from Roquette
- Avoid Presence of Oxygen
- Polymerization conditions (time, temperature, catalyst)
- Use appropriate Additives

Our experts can help you to gain value in Polyesters with isosorbide