Custom sheet extruder Pacur® has developed LENSTAR® Plus, a new and improved polyester resin manufactured specifically for today's lenticular print market. LENSTAR Plus represents a polymer technology the printers can use to achieve their sustainable goals. LENSTAR Plus carries the #1 resin identification code, which can be used to drive sustainable practices.

### Features
- Exceptionally Clear
- Chemical Resistant
- BPA and Chlorine Free
- Easily Recyclable (Resin ID Code #1)
- Exceptional Toughness
- Great Impact Resistance
- Excellent Ink Adhesion

### Benefits
- Near Optical Clarity
- No Pre-Treatment for Printing
- Die Cutting Ease
- Fast Cycle Times
- Minimal Trim Dust
- Less Cracking
- Stable Through Press
- Scrap Can Be Recycled
**Lenticular Characteristics**

<table>
<thead>
<tr>
<th>Product</th>
<th>Usage</th>
<th>Lenticules / in</th>
<th>Lens Thickness</th>
<th>Lenticule Width</th>
<th>Viewing Angle</th>
</tr>
</thead>
<tbody>
<tr>
<td>Digital</td>
<td>Short Run</td>
<td>40</td>
<td>0.0330&quot;</td>
<td>0.0251&quot;</td>
<td>49º</td>
</tr>
<tr>
<td>Motion</td>
<td>Animation</td>
<td>50</td>
<td>0.0240&quot;</td>
<td>0.0200&quot;</td>
<td>54º</td>
</tr>
<tr>
<td>Poster</td>
<td>POP Display</td>
<td>62</td>
<td>0.0270&quot;</td>
<td>0.0161&quot;</td>
<td>42º</td>
</tr>
<tr>
<td>Universal</td>
<td>All Effects</td>
<td>75</td>
<td>0.0180&quot;</td>
<td>0.01330&quot;</td>
<td>49º</td>
</tr>
<tr>
<td>3D</td>
<td>3D Only</td>
<td>100</td>
<td>0.0215&quot;</td>
<td>0.0101&quot;</td>
<td>31º</td>
</tr>
<tr>
<td>Premium</td>
<td>Stellar Effects</td>
<td>100</td>
<td>0.0140&quot;</td>
<td>0.0100&quot;</td>
<td>47º</td>
</tr>
<tr>
<td>Thin</td>
<td>Special Effects</td>
<td>150</td>
<td>0.0103&quot;</td>
<td>0.0067&quot;</td>
<td>43º</td>
</tr>
</tbody>
</table>

**General Information**

- **Surface**: Top: Gloss - Bottom: Lenticular, with lenticules embossed parallel to machine direction
- **Standard Stock Pallet**: Four-Way Entry
- **Standard Stock Sheet**: Full, Half, and Quarter sizes are available in various Lenstar Plus® products
- **Approximate Lead Time**: With credit approval: 2-3 days for stock sheet, 2 weeks or less for custom non-stock sheet
- **Custom Design Patterns**: Available with customer specified requirements
- **Sheet Dimensions**: Length: 14” - 72” - Width: 14” - 49” (both dependent upon product and thickness)
- **Length or Width Tolerance**: ± 1/32” Measured using PTM #20 and PTM #57
- **Sheet Squareness**: Specifications 0.0 ± 0.008". Ultimate target is maximum of ± 0.006". Measured using PTM #26
- **Gauge Tolerance**: ± 5% Measured using PTM #6
- **Surface Tension**: That of natural resin, 40 dynes minimum. Measured using PTM #13

**Disclaimer**: The information contained herein is true and accurate to the best of our knowledge; however, it is presented without any guarantees and without assumption of any liabilities as a result of its use. PTMs are Pacur Test Methods.
Comparisons

Recycle Code

Price

Die Cutting

Clarity/Color

Printability

Toughness/Cold Impact

% Haze

Stability

Pacur is an ISO 9001:2008 company
www.pacur.com · lenstar.org
PACUR
Lenstar Plus

General Information

<table>
<thead>
<tr>
<th>Surface</th>
<th>Top: Gloss - Bottom: Lenticular, with lenticules embossed parallel to machine direction</th>
</tr>
</thead>
<tbody>
<tr>
<td>Standard Stock Pallet</td>
<td>Four-Way Entry</td>
</tr>
<tr>
<td>Standard Stock Sheet</td>
<td>Full, Half, and Quarter sizes are available in various Lenstar Plus® products</td>
</tr>
<tr>
<td>Approximate Lead Time</td>
<td>With credit approval: 2-3 days for stock sheet, 2 weeks or less for custom non-stock sheet</td>
</tr>
<tr>
<td>Custom Design Patterns</td>
<td>Available with customer specified requirements</td>
</tr>
<tr>
<td>Sheet Dimensions</td>
<td>Length: 14&quot; - 72&quot; - Width: 14&quot; - 49&quot; (both dependent upon product and thickness)</td>
</tr>
<tr>
<td>Length or Width Tolerance</td>
<td>± 1/32&quot; Measured using PTM #20 and PTM #57</td>
</tr>
<tr>
<td>Sheet Squareness</td>
<td>Specifications 0.0 ± 0.008&quot;. Ultimate target is maximum of ± 0.006&quot;. Measured using PTM #26</td>
</tr>
<tr>
<td>Gauge Tolerance</td>
<td>± 5% Measured using PTM #6</td>
</tr>
<tr>
<td>Surface Tension</td>
<td>That of natural resin, 40 dynes minimum. Measured using PTM #13</td>
</tr>
</tbody>
</table>

Physical Properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
<th>ASTM Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Specific Gravity</td>
<td>1.27</td>
<td>D 792</td>
</tr>
<tr>
<td>Dyne Level (Natural Resin Min.)</td>
<td>40</td>
<td>-</td>
</tr>
<tr>
<td>Flexural Strength @ 10³ psi</td>
<td>68</td>
<td>D 790</td>
</tr>
<tr>
<td>Flexural Strength @ 10⁴ psi</td>
<td>2060</td>
<td>D 790</td>
</tr>
<tr>
<td>Notched Izod Impact Strength @ 23°C</td>
<td>105</td>
<td>D 256</td>
</tr>
<tr>
<td>Notched Izod Impact Strength @ -40°C</td>
<td>40</td>
<td>D 256</td>
</tr>
<tr>
<td>Haze @ 0.012&quot; Thickness</td>
<td>0.2</td>
<td>D 1003</td>
</tr>
<tr>
<td>Refracture Index</td>
<td>1.563</td>
<td>D 542</td>
</tr>
</tbody>
</table>

Disclaimer: The information contained herein is true and accurate to the best of our knowledge; however, it is presented without any guarantees and without assumption of any liabilities as a result of its use.
Our History - Pacur® is an ISO 9001 certified custom sheet extruder located in Oshkosh, Wisconsin, that specializes in the extrusion of light and heavy gauge polyester, copolyester, and polypropylene resins for a variety of different applications.

Founded in 1979, Pacur occupies a facility constructed specifically for sheet extrusion, that provides polyester and polypropylene sheet and roll stock to converters, distributors, and end users.

Sheet is extruded from various polyester and copolyester resins. Additionally, Pacur extrudes a variety of copolymer and homopolymer polypropylenes with a unique blend of properties, including:

- Exceptional clarity
- Minimal environmental impact
- FDA approval for use in food and medical packaging
- ETO and gamma sterilizable
- High temperature resistance
- Lower forming temperatures, faster cycle times, and lower energy requirements
- Excellent chemical resistance to many different solvents and chemicals

Our Quality Mission - We will continuously improve the control over our processes to ensure that the quality, delivery, and service requirements of our customers are met and/or exceeded. We will accomplish this by applying the concepts described as our Quality Principles.
PACUR

Milestones

1979 > Founded as a captive supplier to Curwood (A150 copolyester for lunch meats)
1981 > Began extruding PETG copolyester following FDA approval for food and medical use
1983 | Developed the extrusion of Goodyear CPET for Campbell’s dual ovenable trays
1985 | Startup of Laminator to produce competed structure for lunch meats
1986 | Began extruding Polypropylene sheet for Duncan Hines soft cookie trays
1986 > Pacur sold to Bowater PLC
1989 | Approved as supplier for 3M Duo Lock product
1991 | Became “Certified Quality Supplier” to Ethicon, Inc. Div. of Johnson & Johnson
1993 > Achieved ISO 9002 certification
1993 | Name changed to Rexam Extrusions
1995 | Achieved “Preferred Supplier Status” at Ethicon Endo-Surger Div. of Johnson & Johnson
1995 | Start up of Heavy Gauge sheetline to produce Spectar heavy gauge sheet
1996 | Received “Supplier of the Year Award” from Plastofilm
1996 | Entered Lenticular sheet and rollstock market
1997 > Reacquired business from Rexam, changed name back to Pacur
1998 | Commercialized TPO sheet for automotive paint film application
1998 | Acquired Lustro’s Medical Packaging business prior to Spartech’s acquisition of Lustro
1998 | Again received “Supplier of the Year Award” from Plastofilm, the last year it was given
1999 | Received Baxter Health Care’s “World Class Supplier” award
1999 | Commercialized Pacur PETG-PD (washable ESD thermoformable web)
2000 | The first year given, received Ethicon Endo-Surgery’s “Supplier Award of Excellence”
2000 | Achieved “Preferred Supplier Status” from TEK Packaging
2001 | Achieved “Certified Supplier Status” from Sabin Corporation
2001 | Ethicon, Inc. presents “Supplier Certificate Award” to Pacur
2002 | Eastman Chemical licenses Lenstar® brand name to Pacur
2002 | Becton Dickinson Corporate approves Pacur as “Certified Supplier”
2003 > Achieves ISO 9001:2000 Certification
2003 | Awarded prestigious PH3D for the development of Lenstar®
2005 | Received Ethicon Endo-Surgery’s “Customer Service Award”
2008 | Announces flexographic printing system at Pack Expo
2008 | Joins Flexographic Technical Association (FTA)
2009 | Commercialized Lenstar® Flexo rollstock
2009 | Joins Tag and Label Manufacturers Institute (TLMI)
2009 > Achieves ISO 9001:2008 Certification
2012 | Commercialized Ecolens® lenticular sheet
2012 | Awarded strategic supplier award from Brentwood Industries
2013 | Introduces Pacur PETG Medical Grade CD as a silicone free alternative
2013 | Introduces Pacur FLEX for thin gauge medical applications
2014 | New addition to offices, manufacturing, and warehouse brings Pacur to a quarter million square feet
2014 | Commercialized Ecolens Graphic Gloss sheet
2014 | Introduces Ecolens Graphic Gloss stock program
2014 | Introduces PETG FOAM for medical device packaging
Mission

To achieve profitable growth by committing ourselves to providing high quality custom extruded and converted products, with excellent service to our customers.

We will pursue our Mission by dedicating ourselves to the following beliefs and values:

• We recognize the primary importance of our customers, and our need to listen and respond to their needs.
• We are committed to achieving continuous improvement through innovation and dedication to our duties.
• We believe our employees are the key ingredient to our success.
• We strive to develop and train people dedicated to working as a team to accomplish our goals.
• We desire that our relationships between our Customers, Suppliers, and Colleagues be mutually beneficial and based on trust and mutual respect.
• We will be open and honest in all communications.
• We will be receptive to the views and ideas of others.
• We will pursue excellence and efficiency in all that we do.
• We will maintain our individual and collective integrity.

Quality Statement

We will continuously improve the controls of our entire process to ensure that the quality, delivery, and service requirements of our customers are met and/or exceeded. We will accomplish this by applying the concepts described in our Quality Principles.