

**Description:**

POLYONICS XL-1601 is a lined clear high gloss over laminating film coated with a permanent pressure sensitive silicone adhesive.

**Properties:**

XL-1601 is designed to provide a clear overlaminates that will protect preprinted images from harsh chemicals, abrasion, and weather conditions without changing the look of any color graphics or images in applications requiring extreme temperature (hot or cold) exposure. XL-1601 maintains clarity after high temperature or long term temperature exposure.

XL-1601 passes the requirements of **automotive specification GM6121M**

**Applications:**

- XL-1601 stays clear even after heat exposure keeping color graphics true to color.
- Protects valuable information on Caution, Warning, Instructional, Logo/OEM Branding, ID and Asset tracking labels and signs.
- Recommended for use in Automotive, Aerospace, and Electronic where dimensional stability in a label is required. Especially if long term heat exposure is expected.
- XL-1601 is particularly useful as protection for labels used on heavy equipment, drying and curing ovens, or equipment being used in food processing and metal processing plants.
- XL-1601 high gloss and clarity enhances look and durability of label.

**Special Considerations:**

- The surface that you want to label should be clean, dry and free of any surface contamination
- When you apply the label, you must use firm pressure to increase the physical contact of the adhesive with the surface of the product.
- Pressure sensitive adhesives will provide stronger bonds to a warm surface, as compared to a colder one. The adhesive will 'flow' more readily, increasing the surface area and increasing the adhesion peel strength.
- All values shown are averages and should not be used for specification purposes. Adhesion and tack values have a 15% tolerance allotted to the values stated.
- Test data and test results contained in this document are for general information only and shall not be relied upon by POLYONICS customers for designs and specifications, or be relied on as meeting specified performance criteria.
- Customers desiring to develop specifications or performance criteria for specific product applications should contact Polyonics for further information



**Technical Data**

Properties	Test Method	Average Results	
		USA Units	SI Units
<b>Thickness</b>	<b>ASTM D1000</b>		
-Substrate		0.0020 inch	0.050 mm
-Adhesive		0.0010 inch	0.025 mm
-Total		0.0030inch	0.075 mm
<b>Adhesion</b>	<b>Polyonics 80313</b>		
-Stainless Steel	<b>20 minute dwell</b>	>30 oz/in	
<b>Temperature</b>	<b>Short Term</b>	-148°F to 572°F (-100°C to 300°C)	
	<b>Long Term</b>	320°F (160°C)	
	<b>Application Temp</b>	68°F to 104°F (20°C to 40°C)	
<b>Shelf Life</b>	<b>6 months below 80°F (27°C) and 60% R.H.</b>		

References: ASTM: American Society for Testing and Materials (U.S.A.), SI: International Systems of Units

**Durability Testing**

**Chemical Testing**

Proper	Test Method	Test Fluids	Results
<b>Fluid Immersion</b>	<b>GM6121M</b>		
<b>Surfaces</b>	Aluminum, Stainless Steel, TPO, Polypropylene, HDPE	Engine oil	Pass
		Engine Coolant	Pass
		Windshield Washer Fluid	Pass
		Wetting Agent Solution	Pass
		Brake Fluid (DOT 4)	Pass
		Engine oil	Pass

**Abrasion**

Properties	Test Method	Cycles	Results
<b>Taber Abrasion</b>	<b>GM6121M</b>	500	Pass

**Polyonics Material Compliance**


<b>RoHS- Restriction of Hazardous Substances (EU Directive 2002/95/EC)</b>	Limits set forth in Directive 2005/618/EC amending Directive 2002/95/EC
<b>REACH- Registration Evaluation and Authorization of Chemicals (EU Directive 1907/2006/EC)</b>	Limits set forth in Directive 1907/2006/EC Article 7 (2)
<b>Halogens- Restriction use of Halogen (IEC 61249-2-21)</b>	Limits set forth in International Electrochemical Commission

**WARRANTY-LIMITATION**

Polyonics' products are sold with the understanding that the buyer will test them in actual use and determine for him/herself their adaptability to his/her intended uses. Polyonics warrants to the buyer that its products are free from defects in material and workmanship, but limits its obligation under this warranty to replacement of the products shown to Polyonics' satisfaction to have been defective, provided that the Buyer has complied with the handling, storage and shelf life requirements as specified by Polyonics in applicable materials specifications.

The above warranties extend solely to Buyer and all warranty claims must be made by Buyer. Rework or Replacement shall neither extend nor decrease the original warranty period. The term of all warranty periods shall not exceed thirty (30) days from the date of the original shipment.

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**Polyonics, Inc**  
**867 Rt. 12, Westmoreland, N.H. 03467**  
**Ph: +1 603-352-1415**  
**Fax: +1 603-352-1936**  
**1-888- POLYONX (765-9669)**  
**Email: info@polyonics.com**  
**Web: www.polyonics.com**

**Polyonics, Inc**  
**120 Eunos Avenue 7, #01-01**  
**Richfield Industrial Centre,**  
**Singapore, 409574**  
**Ph: 65-6542-5484**  
**Fax: 65-6542-5185**  
**Email: infoasia@polyonics.com**

**Polyonics, Inc.**  
**Rm. 1004A, Xin Cheng Mansion**  
**No.167 Jiangning Rd.**  
**Shanghai, China 200041**  
**Ph: 86-21-6258-0571**  
**Fax: 86-21-6258-0579**  
**Email: infoasia@polyonics.com**

**Polyonics, Inc**  
**Convention Times Center Exhibition**  
**Bldg. 3008 Yitian Rd. Unit 510**  
**Futian District Shenzhen, China 518026**  
**Ph: 86-755-8825-0441**  
**Fax: 86-755-8825-2429**  
**Email: infoasia@polyonics.com**