



**ES-229  
HIGH TEMPERATURE  
EPOXY SURFACE COAT  
ALUMINUM FILLED**



**www.axson-technologies.com  
31200 Stephenson Hwy**

**800.344.7776  
Madison Heights, MI 48071**

**axsonmh@axson.com  
Ph 248.588.2270 Fax 248.588.5909**

**DESCRIPTION**

ES-229 is a thixotropic, aluminum filled, high temperature epoxy surface coat which gives excellent surface duplication while maintaining non-sag qualities. ES229 mixes easily and applies smoothly with a brush. ES-229 can be used for high-temperature tooling applications up to 300°F (149°C). Use ES-229 surface coat with EC-433 / EC-439 / EC-440 casting systems or EL-336 / EL-337 laminating systems. **Typical applications include: Vacuum Form Molds, RIM Molds, High Temperature Bonding Fixtures, Autoclave Molds, Plastic Injection Molding Prototypes, High Temperature Holding Fixtures, RTM Molds, Cold Press Molds and Drape Form Molds.**

**TYPICAL HANDLING CHARACTERISTICS @ 77°F (25°C)**

Mix Ratio (parts by weight) .....	100R/15H
Mixed Viscosity .....	12,400 cps
Mixed Density .....	11.6 lbs/gallon
Specific Gravity .....	1.39 g/cc
Yield Per Pound @ 0.030" .....	4.6 sq/ft (0.4 sq/m)
Work Life (230 gram mass) .....	23 minutes
Cure-To-Demold (also reference laminating or casting system used) .....	8-16 hours
Complete Cure .....	refer to recommended oven cure schedule on page 2
Resin Color .....	Gray
Hardener Color .....	Amber
Mixed Color .....	Aluminum Gray
Shelf Life ES229 Resin (in original unopened containers) .....	2 years
Shelf Life ES229 Hardener (in original unopened containers) .....	2 years

**TYPICAL PHYSICAL PROPERTIES (CAST BAR)**

Tensile Strength .....	11,640psi (80MPa)
Tensile Elongation .....	4.5%
Flexural Strength .....	19,560psi (135MPa)
Flexural Modulus .....	509,000psi (3,509MPa)
Compressive Strength .....	15,290psi (105MPa)
Izod Impact Strength .....	5.8 (ft-lb)/ft
Hardness .....	90 Shore D
Heat Deflection Temperature @ 264 psi .....	220°F (104°C)
Heat Deflection Temperature @ 66 psi .....	229°F (110°C)

**Continued**

**POST CURE SCHEDULE**

- 16 – 24 hours @ 77°F (25°C)
- +2 hours @ 150°F (66°C)
- +2 hours @ 200°F (93°C)
- +2 hours @ 250°F (121°C)
- +2 hours @ 300°F (149°C)

NOTE: The post cure schedule of the high-temperature tooling epoxy laminate or casting system used with your surface coat would have precedence over that of the surface coat. However, to attain suitable high temperature resistance and chemical resistance, the surface coat is recommended to be post cured to a minimum of 200°F (93°C).

ES-229 Tech/Revised 1/12/15  
Supersedes 5/19/14

The information contained in this technical data sheet results from research and tests conducted in our laboratories under precise conditions. Seller cannot anticipate all conditions under which seller's products, or the products of other manufacturers in combination with seller's products, may be used. It is the responsibility of the user to determine the suitability of the Axson Technologies' products, under their own conditions, before commencing with the proposed application. In no event shall Axson Technologies, Inc. be liable for any direct, indirect, punitive, incidental, special, and/or consequential damages, to property or life, whatsoever arising out of or connected with the use or misuse of our products.

<b>AXSON TECHNOLOGIES US</b> +1 248 588 2270 <a href="mailto:axsonmh@axson.com">axsonmh@axson.com</a> <a href="http://axson-na.com">axson-na.com</a>	<b>CHINA</b> +86 21 58 68 30 37 <a href="mailto:marketing.china@axson.com">marketing.china@axson.com</a>	<b>GERMANY</b> +49 6 07 44 07 11-0 <a href="mailto:verkauf@axson.com">verkauf@axson.com</a>	<b>INDIA</b> +91 20 25 56 07 10-11 <a href="mailto:info.india@axson.com">info.india@axson.com</a>	<b>ITALY</b> +39 02 96 70 23 36 <a href="mailto:axson@axson.it">axson@axson.it</a>	<b>JAPAN</b> +81 5 64 26 25 91 <a href="mailto:sales.japan@axson.com">sales.japan@axson.com</a>	<b>FRANCE</b> <b>Global Headquarters</b> +33 1 34 40 34 60 <a href="mailto:axson@axson.com">axson@axson.com</a> <a href="http://axson-technologies.com">axson-technologies.com</a>
	<b>MEXICO</b> +52 55 52 64 49 22 <a href="mailto:marketing@axson.com.mx">marketing@axson.com.mx</a>	<b>MIDDLE EAST</b> +971 7 2432227 <a href="mailto:axsonmideast@axson.com">axsonmideast@axson.com</a>	<b>SLOVAKIA</b> +42 1 76 42 25 26 <a href="mailto:axson.sk@axson.com">axson.sk@axson.com</a>	<b>SPAIN</b> +34 9 32 25 16 20 <a href="mailto:spain@axson.com">spain@axson.com</a>	<b>U.K.</b> +44 16 38 66 00 62 <a href="mailto:sales.uk@axson.com">sales.uk@axson.com</a>	