



**SP-707  
HIGH TEMPERATURE  
EPOXY SURFACE COAT  
ALUMINUM FILLED**



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**DESCRIPTION**

SP-707 is a thixotropic, aluminum filled, high temperature epoxy surface coat which gives excellent surface duplication while maintaining non-sag qualities. SP-707 mixes easily and applies smoothly with a brush. SP-707 can be used for high temperature tooling applications up to 300°F (149°C). Use SP-707 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-Temp 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  |
| Work Life (230 gram mass) .....  | 23 minutes  |
| Mixed Viscosity .....  | 12,400 cps  |
| Yield Per Pound @ 0.030"/1mm .....                                       | 4.6 sq/ft   |
| Specific Gravity .....   | 1.39 g/cc   |
| 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 of Resin and Hardener (in original unopened containers) ..... | 2 years   |

**TYPICAL PHYSICAL PROPERTIES (Cast Bar)**

|   |                       |
|---|-----------------------|
| Tensile Strength .....                      | 11,640psi (80MPa)     |
| Tensile Elongation .....                    | 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)         |

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## **POST CURE SCHEDULE**

- 6 – 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-temp 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).

### **HEATING AND COOLING RATES DURING POST CURE**

When oven curing laminated molds always place the mold in a room temperature oven, increasing the temperature at a rate of no more than 50°F (30°C) per hour. When cooling, allow molds to remain in the heated oven, decreasing the temperature at a rate of no more than 50°F (30°C) per hour. Never remove the mold from the oven until temperature has been lowered to less than 100°F (38°C).

Once a mold has been heat cured and conditioned, and during the production curing cycles of composite parts or thermoplastic parts, you can revert to the heating/cooling rates prescribed for the production resin or thermoplastic being processed.



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