

Product  
Bulletin
**AL-3000**
**2 PART EPOXY LINING SYSTEM**
**GENERAL DESCRIPTION**

*AL-3000* is a proven epoxy lining system designed to protect steel and metallic alloys in moist environments.

*AL-3000* offers enhanced cathodic protection per ASTM G-8 at 77°F and ASTM G-42 at 150°F.

*AL-3000* passes all laboratory tests designed to simulate the conditions present in harsh “call wall effect” climates.

*AL-3000* is commonly used for coating of water boxes, tube sheets, condensers, heat exchangers, circulating water pipes, pumps, and traveling water screens.

*AL-3000Blue* top coat imparts a low coefficient of friction to the restored surfaces of pumps and impellers.

**APPLICATION**

1. Mix the contents of each container prior to use.
2. AL-3000 Base Component has a gel consistency to prevent filler settling. It reverts to a pourable liquid with agitation.
3. To 100 Parts of Base, Add 50 Parts of Activator.
4. Mix thoroughly.
5. Apply to surface. Typical coating is 20 mils.
6. Cure according to the schedule below

**SPECIFICATIONS**
HANDLING CHARACTERISTICS

Catalyst Number: AL-3000 Part B  
Mix Ratio, Catalyst to Resin, by Weight: 1:2  
Workable Pot Life, 100 g @ 25°C: 40 Minutes  
Mixed Viscosity @ 25°C cps: 60,000  
Recommended Cure: See Below  
Color: Blue – Other Colors Available.

PHYSICAL CHARACTERISTICS

Hardness, Shore D: 88  
Specific Gravity, 25°C / 25°C: 1.51  
Impact Resistance, lbs : 220

THERMAL CHARACTERISTICS

Operating Temperature Range, °C:

ELECTRICAL CHARACTERISTICS

Dielectric Strength, volts / mil: 590

**STORAGE AND HANDLING**

Shelf Life in unopened containers is 2 years. It is recommended to store containers in a dry environment at room temperature.



Proper curing of AL-3000 is important in obtaining the desired performance. The system has to be fully cured prior to use.

AL-3000 can be cured by one of the following cure schedules:

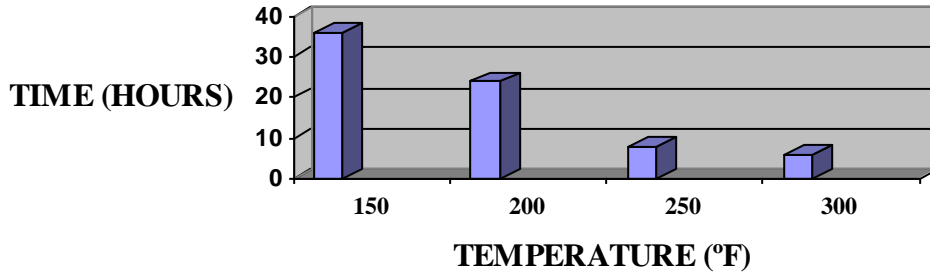
**TEMPERATURE**

- 50° F (10°C)
- 70° F (21° C)
- 90° F (32° C)

**TIME**

- 5 to 7 Days
- 3 to 5 Days
- 2 to 3 Days

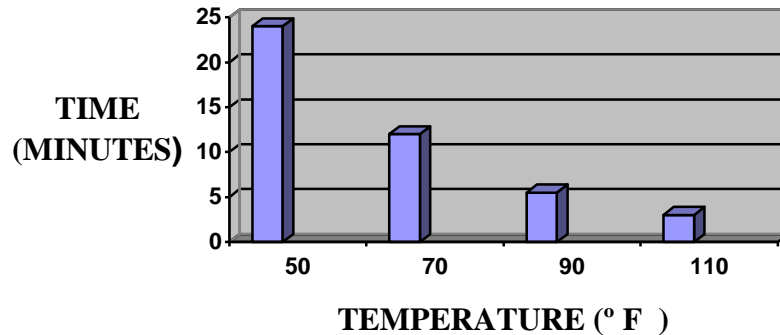
**ELEVATED TEMPERATURE CURE GUIDELINES**



**Overcoat Windows:**

An Overcoat Window is a maximum time or upper limit that must be met for the applied layer to possess maximum inter-coat adhesion to the undercoat. The overcoat window is a function of coating chemistry, temperature and coating thickness. The overcoat window time is reduced as the temperature or coating thickness increase.

For a 20 mil thickness of AL-3000:



**CHEMICAL RESISTANCE DATA  
AL-3000**

**Chemical Exposure**  
**(2 Years @ 25°C)****Mass Hardness**  
**% Change (+)****Comments**  
**Refer to:****Acidic**

|                                    |              |            |
|------------------------------------|--------------|------------|
| 98% Sulfuric                       | Destroyed    | R-825/RT-8 |
| 25% Sulfuric                       | + 3%/ + 9%   | AL-3000 OK |
| 50% Hydrofluoric                   | Destroyed    | No Alfa    |
| 25% Hydrofluoric                   | + 10%/ - 35% | No Alfa    |
| 67% Nitric                         | Destroyed    | No Alfa    |
| Glacial Acetic                     | Destroyed    | No Alfa    |
| 50 % H <sub>2</sub> O <sub>2</sub> | Destroyed    | No Alfa    |

**Caustic**

|          |        |            |
|----------|--------|------------|
| 50% NaOH | 1%/ 0% | AL-3000 OK |
| 50 % KOH | 1%/ 0% | AL-3000 OK |

**Alcohol**

|            |            |            |
|------------|------------|------------|
| Methanol   | + 8%/ -35% | AL- Better |
| Ethanol    | + 4%/ -18% | AL- Better |
| n-Propanol | + 1%/ -10% |            |
| n-Butanol  | + 1%/ -8%  | AL-3000 OK |

**Aliphatic**

|           |            |            |
|-----------|------------|------------|
| n-Pentane | + 4%/ -12% | AL- Better |
| n-Hexane  | + 1%/ -8%  | AL-3000 OK |
| n-Heptane | + 1%/ -8%  | AL-3000 OK |

**Aromatic**

|         |           |            |
|---------|-----------|------------|
| Benzene | + 1%/ -8% | AL-3000 OK |
| Toluene | + 1%/ -8% | AL-3000 OK |
| Xylene  | + 1%/ -8% | AL-3000 OK |

**Chlorinated**

|                    |           |            |
|--------------------|-----------|------------|
| Methylene Chloride | Destroyed | No Alfa    |
| Trichloroethane    | + 1%/ -3% | AL-3000 OK |

**Ketone & Aldehyde**

|                    |                |            |
|--------------------|----------------|------------|
| Acetone            | Ruptured/ +45% | No Alfa    |
| Methy Ethyl Ketone | Ruptured/ +45% | No Alfa    |
| 37% Formaldehyde   | + 1%/ -3%      | AL-3000 OK |