

# EEC-A3

Engineered Equipment Coatings for Turbomachinery

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Form 2163

Dresser-Rand's EEC-A3 engineered equipment coating was developed as an anti-foulant for rotating and stationary turbomachinery components. The coating is a multi-layer metallic-ceramic-polymeric system that includes a galvanic sacrificial base as a second line defensive layer to protect process equipment from corrosive attack. This base coating is sealed with an anti-stick, polymer-impregnated top layer. This multi-layer combination reduces the maintenance downtime to remove process clogging deposits, extends the operating life of unit components, and increases unit on-line availability.

### Applications

The EEC-A3 coating was developed for use on industrial compressor components. The coating provides a smooth, finished surface to reduce the adherence of process foulants in the operating range of 2 to 12.5 pH.

Coating applications are reviewed by Dresser-Rand for applicability to the design and service conditions of the unit. Components that may be coated include the following (among others):

- Compressor impellers
- Diaphragms
- Inlet guides
- Guide vanes
- Diffusers



### Typical Coating Properties

|  |                          |
|--|--------------------------|
| Average thickness                                  | 3-5 mils                 |
| Surface roughness                                  | <40 Ra                   |
| Coefficient of friction                            | >.02 (on new surfaces)   |
| Max continuous operating temperature               | 350 °F (177 °C)          |
| Peak operating temperature                         | 400 °F (205 °C)          |
| Coating Adhesion(ASTM D2247)                       | Excellent -- no pick off |
| Thermal shock, impact survival, solvent resistance | Excellent                |

|                     |   |
|---------------------|---|
| Chemical resistance | <ul style="list-style-type: none"><li>• HCL Concentrated [room temp]</li><li>• HCL pH 2 [room temp]</li><li>• NaOH (50%) [room temp]**</li><li>• NaOH (12.5 pH) [room temp]**</li><li>• Toluene</li><li>• MEK</li><li>• Ethylene glycol</li><li>• Withstands most solvents, waters, and fuels</li></ul> |
|---------------------|---|

\*\* In high pH applications the coating is applied as a single layer system.

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