

EEC-A3

Engineered Equipment Coatings for Turbomachinery

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Dresser-Rand brand 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">• HCL Concentrated [room temp]• HCL pH 2 [room temp]• NaOH (50%) [room temp]**• NaOH (12.5 pH) [room temp]**• Tolulene• MEK• Ethylene glycol• Withstands most solvents, waters, and fuels

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