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TURBOMACHINERY LABORATORY
TEXAS A&M ENGINEERING EXPERIMENT STATION



51ST TURBOMACHINERY & 38TH PUMP SYMPOSIA

SEPTEMBER 13-15, 2022 | HOUSTON, TX | GEORGE R. BROWN CONVENTION CENTER

Repair and Protection of Pump Foundation

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Repair and Protection of Pump Foundation

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- While we go to great efforts to properly set rotating equipment, often consideration is not made to protect the base, and foundation system from erosion or corrosion. In this case study severe erosion of the foundation took place as the pump seals failed. This allowed for the acid to soak into the foundation causing it to deteriorate. We will go through the process of restoring the foundation and protecting it from further chemical attack.

Deteriorating foundations:



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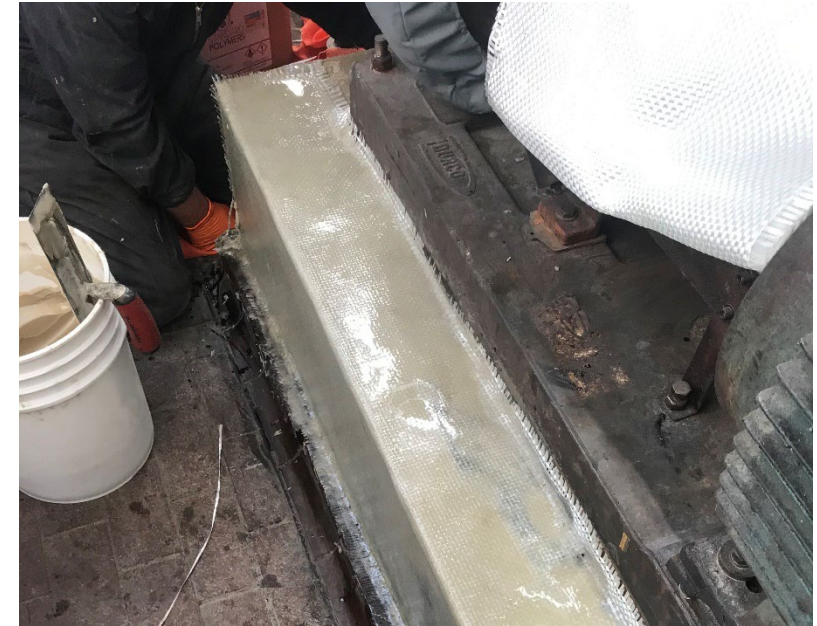


Restoration of Foundation:



- Structural Repair made with epoxy grout.

Protective Coating:



- Installation of Novolac Mud Glass Mud (MGM) coating.
- Left Novolac Primer
- Middle Mud coat
- Right Glass Coat

Protective Coating:



- Installation of Novolac Mud Topcoat
- Left Applying Top Mud Coat
- Middle Before and After Topcoat.
- Right Finished Product

Performance Specifications:

TYPICAL PROPERTIES PROPERTY Novolac Lining MGM

- Tensile strength ASTM C-307-83..... 2,250 psi
- Compressive strength ASTM C-579-82..... 10,850 psi
- Coefficient of thermal expansion..... 15×10^{-6} in/in/°F

TYPICAL PROPERTIES PROPERTY Epoxy Grout

- Tensile strength ASTM C-307-83..... 2,100 psi
- Compressive strength ASTM C-579-82..... 14,000 psi
- Coefficient of thermal expansion..... 14.6×10^{-6} in/in/°F

Questions?