Coating Extends Operation Life and Lowers Maintenance Costs

Chemical Processing Industry
ARC HT-S
Case Study 157

Challenge

Issue
An impeller required unscheduled cleaning from the copper chromite (catalyst) buildup every three months.

Goals
- Extend Mean Time Before Failure (MTBF) over three months.
- Reduce maintenance cost and time.

Root Cause
Buildup of catalyst in the impeller caused the motor to overload.

Solution

Preparation
- Hot water pressure wash.
- Grit blast to Sa 2.5 with 3 mil (75 µm) angular profile.

Application
- Three coats ARC HT-S to DFT (0.9 – 1.2 mm) on impeller, internal pump casing, and backplate.
- Dynamic balancing of the impeller.

Results

Client Reported
MTBR extended over eight months with inspection only 15% final coat loss.

Additional Benefits
The built up catalyst was easily cleaned by using a water pressure wash. Previously, needle gun was required to remove the buildup.

Client Follow Up
Client decided to coat all of the pumps exposed to the copper chromite catalyst with ARC HT-S.

Catalyst built up in the Impeller: needle gun cleaning was required.

Condition of new impeller, before grit blast.

Final coat of ARC HT-S.

A.W. Chesterton Company
860 Salem Street, Groveland, MA 01834 USA

EN351045
03/21

CHESTERTON
Global Solutions, Local Service.