

Coating Cooling Water Pipe Clears \$26K in Savings and Uptime

Nuclear Power—Cooling and Service Water ARC S2 Case Study 161

Challenge

Issue

Water service cooling pipes lined with glass flake epoxies were delaminating within two years. This led to concerns about emergency core cooling components becoming plugged with loose delaminated coatings.

Goals

Extented life to over 10 years.

Root Cause

Glass flake epoxy high cure shrinkage rate accelerated blistering of coating.

Solution

Preparation

Pipe weld quality inspected, then pipes were abrasive grit blasted to Sa 2.5 cleanliness with 75+ µm (3 mils) angular profile.

Application

- 1. First coat: ARC S2 green applied at 0.25 - 0.325 mm (10 - 13 mils).
- 2. Second coat: ARC S2 applied within overcoat window to total dry film thickness of 0.5 – 0.65 mm (20 – 25 mils).





Nuclear plants have unique coating requirements.



Prepped pipes after blasting.

Results

Client Reported

Pipes coated with ARC S2 have been in service for eight years with zero failure points! This safe solution was a success and saved money.

Cost Comparison

Over 10 year expected life:

Blass Flake Epoxy		\$71,665
ARC S2		\$45,000
	Savings	\$26,665

Return on investment is 3.8 years



Finished pipes ready for service coating with ARC S2.

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