

Aviation Jet Fuel Pipeline Requires Abrasion Resistant Overlay

The Marine Corps Air Station (MCAS) in Beaufort South Carolina is home to the Marine Corps' Atlantic Coast fixed-wing, fighter-attack aircraft assets. It is considered among the United States military's most important and most historically storied installations. Consisting of some 7,000 acres and located 70 miles southwest of Charleston, South Carolina, the base has over 4,700 active personnel and is home to six F/A-18 Hornet squadrons.

Given the base's extensive layout, aviation fuel must be pumped several miles across the terrain to various runways. The costs of corrosion control for these pipelines fall into several categories including, loss of the transmission asset, pollution to the environment and in some cases, the quality of the product can be tainted by corrosion. For these reasons, it became imperative to protect the aviation fuel piping from both internal and external corrosion. For buried service lines, generic fusion bond epoxy is a typical choice, however when terrain, roads, and waterways interfere with traditional open trench installations, trenchless technologies such as directional drilling are often required. For these installations, it is imperative to protect the epoxy with an abrasion-resistant overlay (ARO) such as Powercrete® epoxy.

Pipeline Details and Project Summary

Project:	Jet Fuel Lining with ARO Overcoat
Location:	Beaufort, South Carolina
Length:	2400 LF
Pipe Size:	10.75"
Lining:	MIL-PRF-4556 Interline® 850 at 6-8 mils
Coating:	Powercrete® DD over FBE, 55 mil total thickness



Mobile Pipe has over 40 acres of storage to process large or small orders. Equipment such as forklifts can pick up to 45,000lbs of pipe to quickly and efficiently handle material.

Powercrete® DD has been the workhorse of the abrasion resistant overlay coatings industry for the past 30 years. The epoxy has a polymer concrete additive that gives it outstanding abrasion resistance and provides protection for underlying coatings. For this project, 2400' of 10" carbon steel pipe was FBE coated then sent to Mobile Pipe for the ARO overlay.

For interior protection of the steel pipe, Interline® 850 was chosen. The epoxy adheres to MIL-PRF-4556 and is a thin film epoxy phenolic system which has excellent chemical resistance. The coating was designed to provide corrosion protection for steel tanks and pipes that store and transport jet fuels, gasoline blends and caustic solutions. Mobile Pipe can process a project of this size in as little as three weeks.



After the Powercrete® DD was applied at 35mils, high voltage holiday testing was performed per NACE SP-0188 at 125V per mil. Adhesion Testing was then performed conforming to ASTM D4541.

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Mobile Pipe has both coating and lining capabilities ranging from internal diameters of 2" and greater. Mobile Pipe was a good economic choice as a one-stop option for both the jet fuel lining and the ARO. Having more than 60 years of experience with a wide variety of coatings, Mobile was able to quickly and easily process this job. The military specification requires applicators who possess the SSPC-QP3 quality management certification which Mobile possesses and is audited for. This certification ensures good workmanship by requiring updated automated equipment, work history requirements, and strict adherence to military specifications and industry standards.



Interline® 850 is applied at 6-8 mils in two coats. The holiday testing is performed with a low voltage wet sponge holiday detector to protect the lining.

*Interline® 850 is a registered trademark of AkzoNobel.

*Powercrete® DD is a registered trademark of Seal for Life.