New system protects USAF infrastructure

Coating spec variance secures improved performance

Location: Hurlburt Field, Eglin Air Force Base, Florida

Owner: U.S. Air Force Special Operations Command

Assets protected: Structural steel of maintenance hangar, weapons shop, and support infrastructure

Date applied: December 2022 - September 2024

Products applied:
Carbozinc 11 (shop primer)
Carbozinc 859 (field primer)
Carboguard 893 SG
Carbothane 134 HG

Departing from strict military specifications

The military's Unified Facilities Guide Specifications (UFGS) govern selection of corrosion protection coatings at military installations. For structural steel, they specify a three-part system meeting requirements published in MIL-DTL-24441/19, MIL-DTL-24441/31, and MIL-PRF-85285.

However, the specific system on which those standards were based is known to perform poorly, with the coatings frequently breaking down prematurely.

As part of construction of a new 105,041-square-foot maintenance hangar and supporting infrastructure at Hurlburt Field, **Champion Special Services Provider** and **Carboline** worked together to persuade military specifiers to agree to a variance, allowing for the selection of an alternative system known for superior performance.

New system supports mission readiness

Champion crews applied the following Carboline protective coating system:

- **Carbozinc 11** inorganic zinc primer was applied in the fabrication shop prior to delivery
- **Carbozinc 859**, a fast-cure organic zinc primer with very low VOCs, was applied for field touch-ups and to repair normal damage from transit
- **Carboguard 893 SG**, a flexible and economic epoxy, is compatible for use over zinc-based primers and features low-temperature cure capability
- **Carbothane 134 HG** is renowned for excellent weatherability in tough coastal locations throughout the Gulf Coast

Initially, spray application was specified for the bulk of the work. But Champion's crews responded to volatile weather and some supply and logistics challenges by brush- and roller-applying 90% of the project.

This successful delivery establishes a precedent the military can cite to specify better-performing corrosion protection systems on future coatings projects.

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Far more of this coatings project was completed by brushing and rolling by hand than was planned. This was partly due to weather conditions including periods of strong winds. Wind contributes to the risk of foreign object debris (FOD) which must be prevented near active runways.

In addition to the structural steel supporting the hangar and weapons shop, this coating project also included protecting steel racks beside the structure.

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