

Hydrophobic Chemical Agent Resistant Coating (CARC) System

Problem

Concurrent Technologies Corporation (CTC), through internal research and development funding, has developed a water reducible, hydrophobic Chemical Agent Resistant Coating (CARC) system. This coating has been developed in response to direct need of missile launching systems moisture and condensation accumulation that resulted in icing issues within the missile cartridge rendering it inoperable in cold climates.

Solution

To address this need, CTC coatings formulators developed a hydrophobic CARC system. This system has been designed to meet the physical properties and chemical agent resistance requirements of conventional MIL-DTL-64159 water reducible topcoats with the added benefit of rapidly shedding water. The ability to shed and repel water provides the tactical advantages of reduced moisture/condensation accumulation on parts. Additionally, the hydrophobic and oleophobic (oil) properties of this coating also help reduce cleaning times of the weapon system and paint behaves similar to a freshly waxed vehicle. All this was achieved without sacrificing recoat ability and can be directly applied over conventional CARC.

Benefits

The hydrophobic CARC's ability to shed and repel water provides the advantages of reduced moisture and condensation accumulation on parts. Cleaning time will be reduced as paint sheds water, dirt and oil better than conventional CARC. Material is designed as a drop in replacement for conventional CARC with lower Volatile Organic Compounds (VOCs) and can be applied with the same paint equipment used for CARC.

Implementation

Upon physical property testing to verify the hydrophobic CARC's ability to reduce icing on key components, CTC will work with the U.S. Army Aberdeen Proving Ground CARC commodity manager to fully qualify the system for implementation.



Panel with hydrophobic Chemical Agent Resistant Coating applied



U.S. Army photo

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