

Chemical Agent Resistant Coating (CARC) Technical Data Sheet

The following discussion describes the makeup and comparison of Solvent-Based, Water Dispersible CARC Paints followed by description of Integument's FluoroGrip applique and comparisons to CARC Paints.

Solvent Based MIL-C-46168 CARC Paint

A two-component aliphatic polyurethane used on exterior surfaces and those interior surfaces frequently exposed (eg, ramps, hatches). Cancellation due September 2005. Replacement with MIL-DTL-64159 and MIL-C-53039

MIL-C-53039 a single component aliphatic polyurethane used wherever MIL-C-46168 may be used.

MIL-C-22750 a two-component epoxy polyamide enamel used only on interior surfaces.

Chemical agent resistant coating (CARC) paint contains isocyanate (HDI), which is highly irritating to skin and respiratory system. High concentrations of HDI can produce symptoms of itching and reddening of skin, a burning sensation in throat and nose, and watering of the eyes. In extreme concentrations, HDI can cause cough, shortness of breath, pain during respiration, increased sputum production and chest tightening. The following precautions must be taken whenever using CARC paint:

ALWAYS use air line respirators when using CARC paint unless air sampling shows exposure to be below standards. Use chemical cartridge respirator if air sampling is below standards.

DO NOT let skin or eyes come in contact with CARC paint. Always wear protective equipment (gloves, ventilation mask, safety goggles, etc.).

DO NOT use CARC paint without adequate ventilation.

Mixed CARC is extremely flammable. Use only in well-ventilated areas. Keep away from open flames, sparks, and other ignition sources.

DO NOT use CARC for items like manifolds and mufflers that exceed 400°F. Doing so may produce toxic fumes and/or equipment damage.

NEVER weld or cut CARC-coated materials.

DO NOT grind or sand painted equipment without high-efficiency air purifying respirators in use.

BE AWARE of CARC paint exposure symptoms; symptoms can occur a few days after initial exposure. Seek medical help immediately if symptoms are detected.

Unusable chemical agent resistant coating (CARC) mixtures are considered hazardous waste.

Notes on use:

CARC colors should not be mixed with one another as this will alter their individual effectiveness when applied to the end item. Blending is not permitted.

Do not use CARC on items which are flexible. Because of its rigidity, the finish may crack when item is bent.

Do not use CARC on rubber, lacquer coatings, or vinyl.

CARC is not used on fabric, metals that have anodized or parkerized finishes (like weapons).

CARC won't last as well on wood. Wood expands and contracts with weather changes. CARC does not. It is not flexible enough to move with the wood, so it cracks and can peel off.

MIL-DTL-64159 Water Dispersible CARC Paint:

The replacement for solvent-based CARC (MIL-C-46168)

Contains water and is thinned with water.

The solvent content of WD CARC is less than half that of solvent-based CARC. It also contains no hazardous air pollutants.

Is fully compatible with all existing CARC primers and topcoats,

Is more flexible after application.

Is more durable and doesn't scratch as easily as the old CARC.

Is much more durable in all weather conditions.

Doesn't fade like the old CARC.

The personal protective equipment required during spray and brush application remains the same as for solvent-based CARC.

Integument's FluoroGrip Applique

FluoroGrip Applique is comprised of a pre-manufactured self-adhesive fluoropolymer films that:

- 1. Have highly accurate random and fixed designs - predetermined and fabricated off site in interchangeable kits**
- 2. Have capability for rapid application, removal, and interchangeability in the field**

- 3. Are lightweight in design**
- 4. Are reusable**
- 5. Have zero environmental impact, i.e. have zero volatile organic carbon (VOC), zero hazardous air pollution (HAP) and zero toxic release inventory (TRI)**
- 6. Have outstanding severe environment protection capability including the capability to withstand and protect structures and equipment from:**
 - a. Corrosion
 - b. Nuclear, Biological and Chemical Agents
 - c. Electromagnetic Environmental Effects