

# Section 836—Special Surface Coating for Concrete

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## 836.1 General Description

This section includes the requirements for products used to produce a decorative, protective, water-repellent, masonry-like textured finish on specified surfaces.

### 836.1.01 Related References

#### A. Standard Specifications

General Provisions 101 through 150.

#### B. Referenced Documents

Interim Federal Specification TT-P-0035

Federal Specification TT-C-555B

[GDT 71](#)

[QPL 17](#)

## 836.2 Materials

### 836.2.01 Surface Coatings

#### A. Requirements

##### 1. Type

Use a surface coating material that is fine- to heavy-textured and forms a tough adhesive bond to the concrete. For a list of sources, see [QPL 17](#).

Use material that has the following characteristics:

Application rate	50 (± 10) ft <sup>2</sup> /gal [1.25 (± 0.25) m <sup>2</sup> /L] without run or sag on vertical surfaces
Dry film thickness (minimum)	15 mils (0.38 mm) at application rate of 50 ft <sup>2</sup> /gal (1.25 m <sup>2</sup> /L)
Color	Lusterless gray that matches Federal Standard color No. 36622 (unless specified otherwise on the Plans)

Use grout-type coatings that meet the requirements of Interim Federal Specification TT-P-0035.

Use paint-type coatings that meet the requirements of Federal Specification TT-C-555B.

##### 2. Classification

Classify special surface coatings as either Class A or B with these compositional characteristics.

- a. Class A—Acrylic Polymer Modified Portland Cement Grout: An adhesive grout of Portland cement, acrylic polymer modifiers, masonry sand, and water.

Add acrylic polymer modifiers to the cement grout in the form of an emulsion.

Class B—Organic Resin Binder-Type Coating: Pigmented organic binders with suitable texturing agents. Further classify the coatings by solvent/thinner type and resin type.

- 1) Type 1—Acrylic Emulsion: A pigmented, 100 percent acrylic polymer with suitable texturing aggregate additions. Do not use polyvinyl acetate and styrene butadiene polymers as modifying agents.

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- 2) Type 2—Organic Solvent Thinned Vinyl toluene/acrylate copolymer: Pigmented binder in compatible organic solvents with suitable texturing aggregate additions. Use an emulsion polymerization process to form the resinous binder.
3. Submit certified test reports of coating materials from an approved independent laboratory. Submit the results of tests required in this Section and in the referenced Federal Specification.
  - a. If the manufacturer that produces the coating changes the formula, submit new certified test reports.

Certify to the following quantitative characteristics:

- Total solids, percent by weight of the paint
- Vehicle, percent by weight of the paint
- Vehicle solids, percent by weight of the vehicle
- Unit weight

### **B. Fabrication**

General Provisions 101 through 150.

### **C. Acceptance**

Submit to the Engineer the manufacturer's certified test results meeting the applicable Federal Specification and the following requirements when tested according to [GDT 71](#):

1. Freeze-Thaw Resistance: No evidence of cracking, checking, pitting, or adhesion loss after 50 freeze-thaw cycles.
2. Accelerated Weathering: No evidence of cracking, checking, or adhesion loss; no more than slight discoloration after 5000 hours of exposure in a Twin Arc Weatherometer. Use the Weatherometer procedure in [GDT 71](#).

In addition to the previous requirements, no coating will be approved before it completes a two-year field test installation.

### **D. Materials Warranty**

General Provisions 101 through 150.