

Section 09901S

PROTECTIVE COATINGS

The following supplements modify Section 09901 – Protective Coating. Where a portion of the Specification is modified or deleted by this Supplementary Specification, the unaltered portions of the Specification shall remain in effect.

2.03 SUBMERGED AND SEVERE SERVICE COATINGS SYSTEMS: Add the following Paragraph 2.03 J and K:

J. System 108 - 100% Solids, Isocyanate-Free, Solvent-Free, High Build Epoxy Coating for Wastewater applications only, to be spray applied in one or more coats to all interior surfaces of exposed concrete above the spring line or as otherwise detailed.

1. Product Characteristics:

- a. Product: 100% solids, solvent-free high-build epoxy system
- b. Product Type: amine cured epoxy
- c. VOC Content (ASTM D3960): 0%
- d. Compressive Strength, psi (ASTM D695): 10,500 (minimum)
- e. Tensile Strength, psi (ASTM D638): 4,500 (minimum)
- f. Flexural Strength, psi (ASTM D790): 7,500 (minimum)
- g. Adhesion to Concrete, psi/mode of failure (ASTM D4541/7234): 350 psi (minimum)/with substrate (concrete) failure
- h. Chemical Resistance, pH \geq 0.5 (ASTM G20): 60% Sulfuric Acid

2. In all cases the coating product(s) shall be applied to a minimum dry film thickness of 80 mils to surface profiles of CSP-4 to CSP-5 or 125 mils minimum DFT to surface profiles of CSP-6 or greater.

3. For resistance to ground water head pressure the coating shall be a minimum of 80 mils for depths up to 15 feet and 125 mils minimum for depths from 15 to 80 feet. For depths greater than 80 feet consult the coating manufacturer for recommendations.

4. Subsequent top-coating or additional coats of the coating product(s) shall occur within the product recoat window or 24 hours whichever is less. Additional surface preparation procedures will be required if this recoat window is exceeded.

K. System 109 - 100% Solids, Solvent-Free, Multi-Layered Polymer Lining System (Polyurea and Polyurethane) for Wastewater applications only, to be spray applied in three layers to all interior surfaces of exposed concrete above the spring line or as otherwise detailed.

3. Product Characteristics:

- a. Product: 100% solids, solvent-free, polyuria (two layers) and polyurethane (one layer) system
- b. Product Type: Self-curing polymer lining
- c. VOC Content (ASTM D3960): 0%

- d. Tensile Strength, psi (ASTM D412): 2,400 (minimum)
 - e. . Elongation % (ASTM D412): 200 (minimum)
 - f. Tear Strength, pli (ASTM D624): 300 (minimum)
 - g. Shore D Hardness, (ASTM 2240): 45 (minimum)
 - h. Adhesion to Concrete, psi/mode of failure (ASTM D4541/7234): 350 psi (minimum)/with substrate (concrete) failure
 - i. Chemical Resistance, $\text{pH} \geq 0.5$ (ASTM G20): 30% Sulfuric Acid
4. In all cases the coating product(s) shall be applied to a minimum thickness of 500 mils total.
 3. For resistance to ground water head pressure the coating shall be a minimum of 500 mils thick for depths up to 32 feet. For depths greater than 32 feet consult the coating manufacturer for recommendations.
 4. Subsequent top-coating or additional coats of the coating product(s) shall occur within the product recoat window or 24 hours whichever is less. Additional surface preparation procedures will be required if this recoat window is exceeded.

END OF SUPPLEMENT

Approved by:



TH Ebi Nassiri, P.E.
Assistant Director,
Wastewater Engineering Section,
Engineering and Construction Division



Date