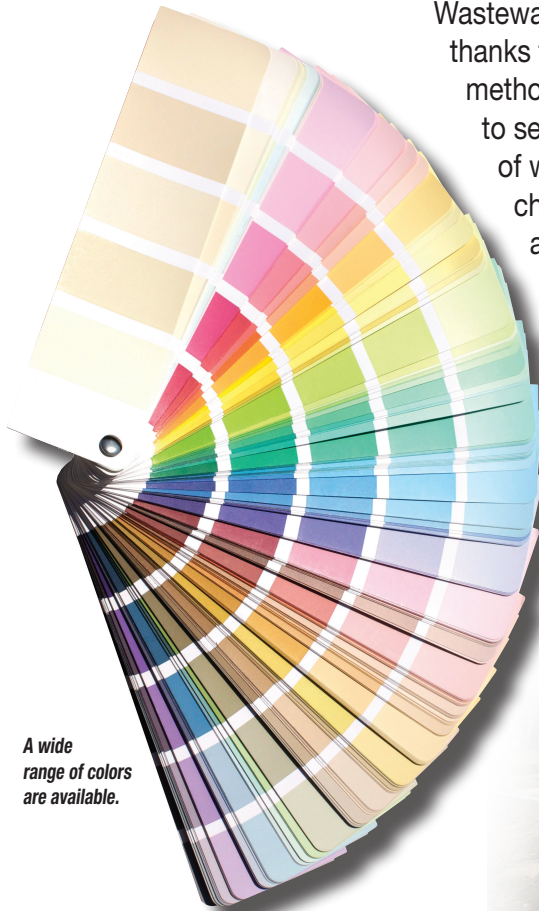


Coating Systems for Steel Wastewater Tankage

Wastewater tankage made of steel has a long and increasingly successful track record thanks to steady improvements in both coating technology and surface preparation methods. The knowledge around coating performance is extensive allowing a specifier to select from a broad range of coatings based on the desired service life for any type of wastewater application. The information in the selection table below can be used to choose the appropriate coating for your wastewater application needs. Specific guidance is also available from the technical sales team at Delta Treatment Systems, an Infiltrator Water Technologies Company. Background information on coating technology can be found on the reverse side.



A wide range of colors are available.



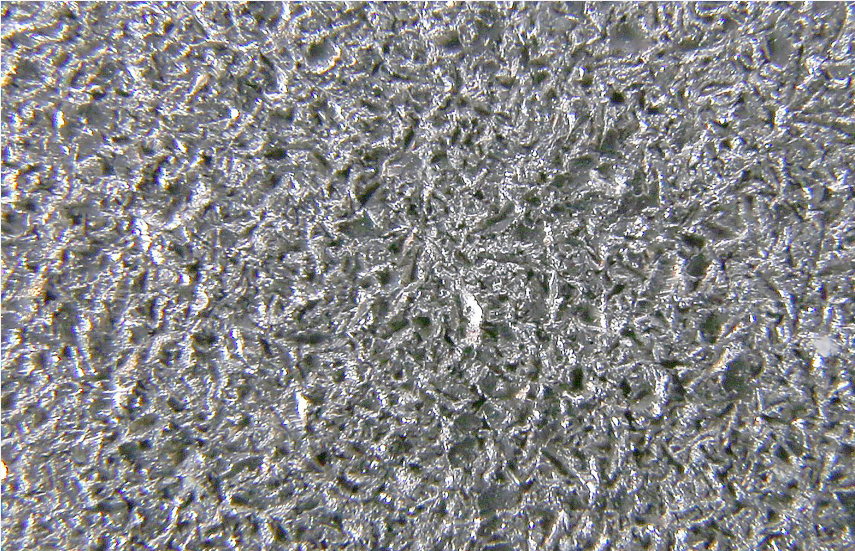
Recommended Coatings for Wastewater Use with Delta Treatment Systems

Name	Type A	Type B	Type C	Type D
Name	Outdoor Exterior	Indoor Exterior	Outdoor or Indoor Interior	Underground Exterior: Epoxy/Coal Tar Epoxy
Surface Preparation	SSPC-SP6/NACE 3	SSPC-SP6/NACE 3	SSPC-SP10/NACE 2	SSPC-SP10/NACE 2
Primer	Tnemec Series N69 Hi-Build Epoxoline II, DFT 10.0 mils min.	Series N69 Hi-Build Epoxoline II, DFT 5.0 mils min.	Series N69 Hi-Build Epoxoline II, DFT 3.0 mils min (optional)	Series N69 Hi-Build Epoxoline II, DFT 3.0 mils min (optional)
Finish Coat	Series 1074 Endura-Shield, DFT 2.0 mils minimum	Series N69 Hi-Build Epoxoline II 5.0 mils minimum	Tnemec Series 46H-413 Hi-Build Tneme-Tar, DFT 14.0 mils minimum	Tnemec Series 46H-413 Hi-Build Tneme-Tar, DFT 14.0 mils minimum
Total DFT	12.0 mils for Epoxy/Polyurethane	10.0 mils for Epoxy	14.0 mils minimum for Epoxy/Coal Tar Epoxy	17.0 mils minimum for Epoxy/Coal Tar Epoxy
Color	Black – see note 7	Black – see note 7	Black	Black

Notes:

1. SSPC stands for “Steel Structures Painting Council”, which was the original name of the organization now known as, “SSPC: The Society for Protective Coatings”.
2. NACE stands for “National Association of Corrosion Engineers”.
3. DFT stands for “Dry Film Thickness” and is measured in accordance with ASTM D7091.
4. Additional options are available for severely corrosive environments involving high abrasion, aggressive industrial waste or high concentrations of hydrogen sulfide gas.
5. For additional protection of the interior surface in outdoor applications, use Type A coating above the scum line and Type C coating below the top of the scum line.
6. Additional service life can be achieved by using cathodic protection. Contact your DTS Engineered Systems Consultant for more information.
7. Other colors are available for Types A and B coatings at additional cost. A wide range of colors are available.

Background on Coating Technology



This photo was taken with a 135mm lens at 2 cm of distance and with normal photography studio lighting after attaining a blast profile range of 2.0 mils to 3.5 mils, a common range specified for wastewater tank coatings. The gray and black spots are not occlusions or discolorations, they are shadows due to the lighting. The result is near white steel (per SSPC-SP10) that offers superior coating adhesion.

The U.S. Bureau of Reclamation and other government agencies have studied the performance of steel coatings for over 100 years contributing significantly to the evolution of usage guidelines, usage limitations, new coating product development, and application standards. As the knowledge base grew, so did the evidence that coating type, surface preparation, and application conditions were all highly important for long term performance. Early tank systems using mop-applied coatings were replaced with coal tar enamels and more effective surface cleaning. Then coal tar epoxies entered the picture, as did mechanical surface preparations, which became the norm. By the late 1980's many manufacturers were using sand blasting to improve coating adhesion, and that has given way to the used of manufactured abrasives. Meanwhile, refinements in epoxy coatings and other technologies have resulted in a plethora of options.

Still, surface preparation may be the single most important factor in the long-term service life of coated steel wastewater tanks. Other key factors during manufacturing include dust removal techniques, timing, atmospheric conditions in the blasting and painting bays, and the blasting material selected.

Sandblasting is the most common and generic term for the acceleration of abrasive media using compressed air and a nozzle. Other abrasives include rounded steel shot, steel grit, aluminum oxide (which is more brittle than steel grit), and a host of other less aggressive media (glass bead, crushed glass, melamine plastic, ceramic grit, and copper slag). The optimum surface profile depth is dependent on the type of coating used. SSPC and NACE guidelines, along with the guidelines from the epoxy paint manufacturer should be followed to achieve the desired service life.

How Long Will They Last?

We believe today's wastewater tankage can last up to 40 years and here's why. Coated steel wastewater systems built using less sophisticated coating application techniques have demonstrated service lives beyond 30 years, and the coating application process didn't generate near the adherence levels achieved today.

Withstanding the Test of Time.

The steel package plant to the right was manufactured using A36 steel and was coated with coal tar epoxy. The surface preparation involved hand tool and air cleaning. It was placed in service in Louisiana in 1986. The photos to the right were taken 32 years later in 2018.

