



CORROSION RESISTANT COATINGS IN SEVERE ENVIRONMENTS

In addition to being resistant to chemical attack at the surface, an industrial coating must act as a barrier to prevent chemicals or moisture from contacting the protected surface. This is done by developing a film of sufficient impenetrability to stop molecular size particles from passing through the film.

Adhesion to existing coatings is also problematic for many coatings. Stresses in curing or bonding to an existing coating or application to poorly bonded existing coatings are the chief reasons for poor adhesion. EPOX-Z's solventless formulation eliminates shrinkage from the edges and any potential softening of underlying coatings.

These performance characteristics are especially meaningful for water and wastewater facilities as well as other severe environments.





The landmark study "[Corrosion Costs to the US Economy](#)" estimates the combined cost of corrosion to water and waste water systems to be 36.0 billion dollars annually.

Prior to the Clean Water Act of 1980 levels of Hydrogen Sulfide (H_2S) were consistently in the range of 10ppm (parts per million). This range could increase to 30-50ppm in times of high temperatures or low rain. Concrete would then be susceptible to accelerating corrosion.

Protective coatings of this time were based upon coal tar and amine cured epoxies. However, as a result of government mandated pre-treatment and stricter air quality regulations, the environment at wastewater facilities has changed considerably over the past twenty five years. The increased build up of H_2S has led to increased production of H_2SO_4 which is highly corrosive to the structures of the facility and leads to early catastrophic failure of the coal tar and amine cured epoxies. These failures are mainly a result of the coatings inability to resist the aggressive attack of the now increased levels of corrosive gases.

EPOX-Z's superior resistance to sulfuric as well as other acids coupled with superior density and flow characteristics make it ideally suited for use in water, wastewater treatment facilities and severe environments.

EPOX-Z's solventless, 100% solids coatings offer the following advantages over other coatings:

-  "0" VOCs
-  absence of flammable or combustible solvents
-  high build capability
-  superior chemical and corrosion resistance



Technical Bulletin

Corrosion Resistant Coatings

- ✦ ease of application
- ✦ surface-tolerant and self-priming
- ✦ less coating loss due to overspraying
- ✦ no coating volume loss due to solvent or water evaporation
- ✦ no special VOC containment equipment required
- ✦ high-build characteristics reduce labor
- ✦ no special spray or heating equipment needed