



Abatement by Encasement:
Safeguarding People while Saving MoneySM.

ENCASUREMENT GUIDE FOR METAL SURFACES

Spec# 01-2 – page 1 of 1

INTRODUCTION: The use of an encasement system over metal surfaces requires consideration of the chemistry of corrosion. Corrosion is the reaction of the surface metal with oxygen from air, catalyzed by surface salts, and requiring a solvent such as water. Verifying these statements are the facts that metal does not corrode in extremely dry environments, (humidity below 30%, actually corrosion is very minor below 50%) or in electrolyte free systems. So to obtain a long lasting encasement coating on a metal surface, one must eliminate one of the following: the oxygen from the air, the water or humidity from the air, or any electrolytes from the surface. Since the elimination of air and water are nearly impossible tasks, chemists have sought to remove the soluble salts that can act as catalysts from the surface, then coat with a coating that contains corrosion inhibitors which form the first film on the coated metal surface, a film which resists the movement of water and oxygen to the surface of the metal. *SE-C*R Chlor*Rid is an additive to wash water for removing the electrolytes from the surface to be coated.* SE-110-CI corrosion-inhibiting-primer contains a multi-metal formulation of 4 different environmentally safe corrosion inhibitors that, during drying, will preferentially attract to the metal surface and form the first film the metal sees. This film is especially resistant to the passage of oxygen and water to the metal surface, and will significantly inhibit the chemistry of corrosion. Metal panels scrubbed with SE-C*R in water, coated with SE-110-CI, over-coated with SE-120 subjected to ASTM testing. All panels passed over 1,500 hours in the salt spray cabinet (ASTM B-117) and over 1,400 hours in the humidity cabinet (ASTM D-4585). *(Copies of these DL Labs Test Reports are available upon request).*

SURFACE EVALUATION: Any metal surface with even the slightest indications of rust, corrosion, or oxidation, needs to be washed with SE-C*R Chlor*Rid soluble salt remover at 2% concentration in a power wash, or at 4% concentration as a scrub. Use of the C*R Test-Kits for determining the surface salt levels before and after removal to insure the surface is ready for coating (below 5 ppm salts) may be appropriate. Upon air drying, the use of SE-110-CI Penetrating-Stabilizer, the corrosion inhibited version of our primer should be applied. *Never post-rinse a SE-C*R treated surface with tap water, as this will likely re-contaminate the surface.*

APPLICATIONS: The SE-C*R should be used as part of a power wash or scrub, keeping in mind what conditions allow. If a power wash is appropriate, 2% SE-C*R in tap water should be used at a rate of 1 gal SE-C*R/1000 sq. ft. This equates to 1 gallon of water+2% SE-C*R solution per 20 sq. ft. *If a scrub is appropriate, water+4% SE-C*R should be used at a rate of 1 gal SE-C*R/300 sq. ft. This equates to 1 gallon of water+4% SE-C*R solution per 12 sq. ft. The applicator should make sure the entire surface is contacted directly with the power wash stream from a distance of 4-8 inches, at a minimum of 3000 psig.* If scrubbing is appropriate, the entire surface needs to be scrubbed. *In areas where visible corrosion is present, these areas need to get a double dose of this treatment. It is not necessary to remove all the old paint or even the rust, as long as the described SE-C*R treatment is used, what remains can stay.* Do not rinse off the SE-C*R treatment, but rather after air-drying, apply the recommended thickness of SE-110 CI Penetrating-Stabilizer. This should be a minimum of 10 wet mils (150 sq. ft. /gallon). If the surface is not smooth or the corrosion is noticeably severe, 16 wet mils or more of SE-110-CI should be applied (90 to 110 sq. ft. /gallon). The drying time before the application of the SE-120 over-coating can be as short as 4 hours, *however in no case should any topcoat be applied until the SE-110-CI has dried completely-clear, no-haze.* This is particularly critical if submersible topcoat SE-FE is applied over the SE-110-CI. *Allow SE-120 to thoroughly dry (24-72 hours) if a high-gloss topcoat such as SE-160 or SE-170 are applied over it.*

Co-Authored with Robert L. Moison, PE, and Fred Budde of SES-MW Office

File name: Spec-No-01-2 Guide for Metal Surfaces

SAFE Encasement Systems ~ 7860 Dana Point Ct. ~ Las Vegas, NV 89117-1927

Phone: (888) 277-8834 or (702) 360-6111 ~ Fax: (888) 277-8835 or (702) 360-5827

www.safeencasement.com