
SECTION 11.6 Volume II

PRE-APPROVED REPAIR PROCEDURES FOR SHOP APPLIED COATINGS

11.6.1 PURPOSE

This section provides pre-approved paint repair procedures for structural steel produced by fabricators.

11.6.2 AUTHORITY

Sections 20.23(3)(a) and 334.048(3), Florida Statutes (F.S.)

11.6.3 REFERENCES

For all reference documents always use the most current approved version unless otherwise specified in the **Contract Documents**.

SSPC-PA Guide 13/AASHTO NSBA Steel Bridge Collaboration S.8.1

Technical Data Sheet June 1982 82-08, Department of the Navy, NCEL

11.6.4 SCOPE

This procedure affects fabrication facilities, the State Materials Office, and those consultants who are involved in the verification and quality assurance inspection/testing of shop applied coatings.

11.6.5 GENERAL INFORMATION

These preapproved procedures are not mandatory, so fabricators may elect to use alternative procedures. If a fabricator chooses to use one of the pre-approved procedures for repairs, the procedure does not have to be submitted to the Engineer for approval. If a fabricator elects to use an alternative repair procedure, it must be submitted to the Engineer for approval before any repairs are started. In all cases the Verification Inspector must be notified of the procedure that will be used prior to starting repairs.

These preapproved procedures apply to the application of inorganic zinc (IOZ) only.

The fabricator may incorporate these preapproved procedures into their **Quality Control Plan**.

Repair Procedure 1			
Condition	Cause	Remedy	Standard/Method
Checking or Crazing	Thick film, drying/curing condition	If visible to the naked eye, screen surface (see Drip, Sag, Run ... remedy), to remove appearance. Confirm dry film thickness, reapply as necessary, according to Insufficient Film Build remedy. If visible only under magnification, no action is necessary.	Visual ASTM D660 SSPC PA 1 SSPC PA 2

Repair Procedure 2			
Condition	Cause	Remedy	Standard/Method
Contaminants in Paint	Contaminated paint pot or air supply, residue in spray lines, and pre- or post- application fallout	Remove, determine and correct root cause, and reapply.	Visual SSPC-Guide 15

Repair Procedure 3			
Condition	Cause	Remedy	Standard/Method
Delamination, Adhesive (Coating Separates from Previous Coat)	Surface contamination, excessive film build, insufficient surface profile, insufficient surface cleanliness, dry spray	Remove, determine and correct root cause, and reapply. Prepare these areas to the degree of cleanliness as specified in the contract documents while providing or maintaining the proper surface profile. Use masking or other practical means to protect adjacent areas of sound coating from being damaged by the removal operation.	Visual SSPC PA 1 SSPC PA 2

Repair Procedure 4			
Condition	Cause	Remedy	Standard/Method
Delamination, Cohesive (Coating Splits, Leaving Portions on Its Substrate and Subsequent Coat)	Excessive film build, surface contamination, improper cure, adulteration of coating material, improper mixing, excessive thickness of subsequent coats	Remove, determine and correct root cause, and reapply. If due to excessive thickness, remove to sound coating material and apply to achieve specified thickness. See Insufficient Film Build. For all other causes, remove and reapply coating.	Visual SSPC PA 1 SSPC-PA 2

Repair Procedure 5			
Condition	Cause	Remedy	Standard/Method
Drip, Sag, Run, Dry Spray or Excessive Film Build	Improper application technique	Where possible, remove to specified film thickness (for example, by rubbing with a plastic or aluminum wire screen). Care must be taken not to burnish the steel or coating surface, thereby reducing the profile/anchor pattern for subsequent coats.	Visual SSPC PA 2

Repair Procedure 6			
Condition	Cause	Remedy	Standard/Method
Holidays (Voids)	Improper application technique; foreign matter in the material, on the substrate, or in the coating pump or line	Apply IOZ reduced as recommended by coating manufacturer to the specified film thickness and to facilitate tie-in with adjoining coated areas. Follow manufacturer's recommendations for touch-up. If the manufacturer does not provide written endorsement, contact the State Materials Office.	Visual


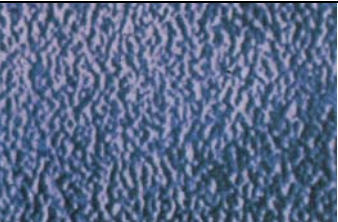




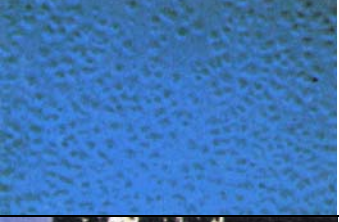



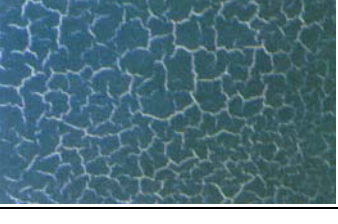

Repair Procedure 7			
Condition	Cause	Remedy	Standard/Method
Improper Cure	Insufficient cure time, low humidity, lack of ventilation, low temperature	Correct environmental conditions by water misting, use of humidifiers, or other means to achieve proper curing humidity. Provide for ample cure time in those conditions. Confirm cure before top-coating or shipping by using rub test or pencil hardness test. If the pencil hardness test is used, consult the coating manufacturer (or Owner's specification) for the recommended hardness.	ASTM D3363 ASTM D4752 SSPC-PS 12.00

Repair Procedure 8			
Condition	Cause	Remedy	Standard/Method
Insufficient Film Build	Improper application technique	Apply IOZ thinned as recommended by coating manufacturer to the specified film thickness. If the manufacturer does not provide written endorsement, contact the State Materials Office.	SSPC PA 1 SSPC-PA 2

Repair Procedure 9			
Condition	Cause	Remedy	Standard/Method
Mudcracking	Excessive thickness	Mudcracked material must be removed. Prepare these areas to the degree of cleanliness as specified in the contract documents while providing or maintaining the proper surface profile (zinc may remain in original profile). Use masking or other practical means to protect adjacent areas of sound coating from being damaged by the removal operation and reapply coating. Microcracking is not considered a non-conformance.	Visual SSPC PA 1 SSPC PA 2

Repair Procedure 10			
Condition	Cause	Remedy	Standard/Method
Physically Damaged or Rusted Areas	Various	Use appropriate hand or power tools to prepare these areas to the degree of cleanliness specified in the contract documents while providing or maintaining the proper surface profile. Protect adjacent areas of sound material from being damaged by the removal operation by masking or other practical means and reapply coating	Visual

Alternative Repair Procedure			
Condition	Cause	Remedy	Standard/Method
Physically Damaged Area, Rusted Area, or Mudcracking	Various	In lieu of using IOZ, prepare the surface and apply an epoxy mastic coating per manufacturer's recommendations. This repair is limited to small areas or hard to access areas, such as pick points or behind stiffeners, and not to exceed more than 5% of the total square footage of the piece.	

Table 1 Examples Of Paint Non-Conformances			
Blistering		Orange Peel	
Checking		Overspray	
Cracking		Pinholing	
Cratering		Pinpoint Rusting	
Delamination		Sags	
Mudcracking		Wrinkling	

11.6.6 TRAINING

None Required

11.6.7 FORMS

None required