

## 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**.

Society of Protective Coatings Paint Application (SSPC-PA) Guide 13/AASHTO National Steel Bridge Alliance (NSBA) Steel Bridge Collaboration S.8.1

Technical Data Sheet June 1982 82-08, Department of the Navy, Naval Civil Engineering Lab (NCEL)

SSPC Painting Manual Vol. 1 Good Painting Practice

SSPC Monitoring and Controlling Ambient Conditions during Coating Operations

#### 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**.

<b>Repair Procedure 1</b>			
Condition	Cause	Remedy	Standard/Method
Checking or Crazing	High Wet Film Thickness	Sand the surface down with sandpaper or a wire screen until a uniform surface is achieved. Confirm prescribed dry film thickness. Record ambient conditions and feather in coating system, according to product data sheet. If coating defects continue to be identified, remove the coating down to the substrate, verify the surface profile, record ambient condition and coat per product data sheet.	Visual
	Rapid Change in Ambient Conditions		SSPC Good Painting Practice
	High Temperatures		ASTM D660
	Low Surface Profile		SSPC PA-1 SSPC PA-2

<b>Repair Procedure 2</b>			
Condition	Cause	Remedy	Standard/Method
Contaminants in Paint	Un-clean Equip. Applicator (Air/Pot)	Isolate and remove the contaminated coating system. Record the ambient conditions, and reapply with a new kit per product sheet.	Visual
	Mixing Partial Kits Expired Systems		SSPC Good Painting Practice  SSPC PA-1

<b>Repair Procedure 3</b>			
Condition	Cause	Remedy	Standard/Method
Delamination: (Adhesion or Cohesion) i.e. Coating does not adhere	Surface contamination	Isolate the non-conforming area using a dull putty knife. Remove the affected coating system and verify surface profile (if applicable). Record the ambient conditions, and feather in coating system per product data sheet. (Only acceptable if repair procedure is completed and recoated within one shift)	Visual
	Improper Surface Profile (Substrate)		SSPC Good Painting Practices
	Intercoat cleanliness		SSPC PA-1
	Induction time/ Pot Life		SSPC PA-2
	Condensation		

<b>Repair Procedure 4</b>			
Condition	Cause	Remedy	Standard/Method
Drip	Improper application	Isolate the non-conforming areas. Lightly sand or use a screen (see Repair Procedure 1) to remove the defect. Record the ambient conditions and apply a thin coating per product data sheet. Verify dry film thickness measurements meet specification.	Visual
Sag	Wind Conditions		SSPC Good Painting Practices
Run	Unsatisfactory Containment		SSPC PA-1
Dry Spray	Proximity to Work		SSPC PA-2
Excessive Film Build			

<b>Repair Procedure 5</b>			
Condition	Cause	Remedy	Standard/Method
Holidays (Voids)	Improper Application	Isolate the non-conforming areas. Small areas can be touched up with the manufacturer's recommended touch-up procedure. Record the ambient conditions and % solvent used. Repair areas more than 12 inches squared will require brush blasting per SSPC SP-7.	Visual
	Excess Solvents		ASTM D5162
	High Temperature		SSPC PA-1

<b>Repair Procedure 6</b>			
Condition	Cause	Remedy	Standard/Method
Insufficient Film Build	Improper Application	Record the ambient conditions and apply the coating per product data sheet. Verify dry film thickness measurements meets specifications. If the manufacturer does not provide written endorsement, contact the State Materials Office.	SSPC PA-1
			SSPC PA-2

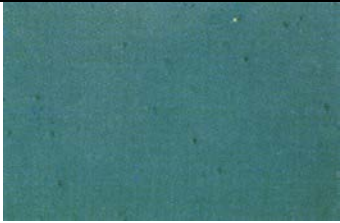





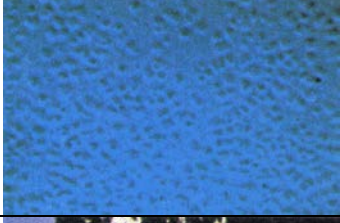
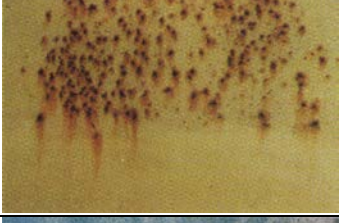


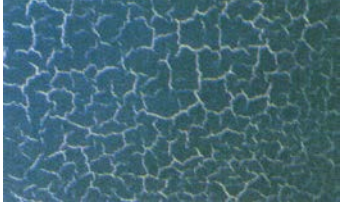

<b>Repair Procedure 7</b>			
Condition	Cause	Remedy	Standard/Method
Improper Cure	Improper Mixing	Isolate the non-conforming area using a dull putty knife. Remove the affected coating system. Record the ambient conditions, and feather in coating system per product data sheet. Verify with manufacturer reported pencil hardness* or solvent rub test. Perform three pull tests to ensure the area meets 800 PSI (to limit damage, abort test when values reach > 800).	ASTM D3363
	Low Temperature		ASTM D4752
	Low Humidity		SSPC-PS 12.01
	Poor Ventilation		SSPC Good Painting Practice
			ASTM D4541

<b>Repair Procedure 8</b>			
Condition	Cause	Remedy	Standard/Method
Mudcracking	Rigid Coatings	Isolate the non-conforming area. Remove the affected coating system.	Visual
	High Film Build	Evaluate the application procedure. Verify that the solvent usage, and	SSPC PA-1
	Improper Application	mixing procedure meet the product data sheet. Record the ambient	SSPC PA-2
	Poor Wetting Properties	conditions, and apply per product data sheet.  (Microcracking is not considered a non-conformance.)	SSPC Good Painting Practice

<b>Repair Procedure 10</b>			
Condition	Cause	Remedy	Standard/Method
Orange Peel	High Temperature	Isolate the non-conforming area. Correct the ambient conditions until they meet those listed in the product data sheet. If the recoat window allows, lightly sand and apply a light mist coat over the non-conforming area and re-evaluate. If it continues to	Visual
	Rapid Change in Environment	orange peel, remove the coating system. Record the ambient conditions and apply the coating system per product data sheet.	SSPC PA-1
	Poor Wetting Properties		SSPC Good Painting Practice
	Expired Pot Life		

<b>Repair Procedure 11</b>			
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

<b>Alternative Repair Procedure</b>			
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.	Visual

<b>Table 1 Examples Of Paint Non-Conformances</b>			
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