

STEEL BRIDGE GIRDER COATINGS REPAIR MATRIX

ELEMENT No. 515, STEEL PROTECTIVE COATING					RECOMMENDED REPAIR	POTENTIAL RESULT TO CS (NBI)	ANTICIPATED FIX LIFE
Defect	Condition State-CS (National Bridge Inspection-NBI)						
	1 (9-7)	2 (6-5)	3 (4-3)	4 (2-0)			
Chalking (3410)	Chalking is primarily an aesthetic deficiency which may have little to no indication of overall coating system performance, or correlation with remaining service life. See other defects for determining recommended repairs.						
Peeling/ Bubbling/Cracking (3420)	< 5%		Spot Painting ^A		CS 1 (9-7) ^C	Note D	
	5% to 15% ^B		Partial Painting		CS 1 (9-7) ^C	30 years ^C	
	> 15%		Full Painting		CS 1 (9-7)	35-40 years ^E	
Oxide Film Degradation, Color/Texture Adherence ^F (3430)	100%		None		-	-	
	0% to 15%		Partial Painting ^G		CS 1 (9-7) ^C	30 years ^C	
	> 15%		Full Painting		CS 1 (9-7)	35-40 years ^E	
Effectiveness (3440)	< 5%		Spot Painting ^A		CS 1 (9-7) ^C	Note D	
	5% to 15% ^B		Partial Painting		CS 1 (9-7) ^C	30 years ^C	
	> 15%		Full Painting		CS 1 (9-7)	35-40 years ^E	
Damage (7000)	Damage due to vehicle or vessel impact should be evaluated for spot painting or partial painting on a case by case basis. The frequency of damage on some structures should be considered when deciding on the proper repair.						
STRUCTURAL STEEL ELEMENTS (No. 113, 120, 141, 152, 161, 162, 201, 231, 824, 825)							
Corrosion ^H (1000)	< 5%		Spot Painting ^A		CS 1 (9-7) ^C	Note D	
	5% to 15% ^B		Partial Painting		CS 1 (9-7) ^C	30 years ^C	
	> 15%		Full Painting		CS 1 (9-7)	35-40 years ^E	

NOTES: A) Spot painting is not to be used on bridges with red lead paint.

B) When defects are concentrated at beam ends and pin and hanger locations, partial painting may be more appropriate even if CS2-4 is <5% or >15%.

C) Applies only to the areas where repair was done.

D) For the area repaired, assume new service life the same as the current service life of unrepaired coating.

E) Additional spot and partial painting may be necessary during this time.

F) For use with unpainted weathering steel only.

G) Partial painting is typically done at beam ends. If CS3 and CS4 is not at beam ends consider Full Painting.

H) For CS3-CS4, or in the case of steel cracks, buckling, or section loss in excess of 25%, girders should be evaluated for structural steel repairs through detailed inspection or scoping prior to any coating.