

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION STEEL GIRDER BEARING PLATE WEATHERING STEEL (UNPAINTED) WELDING PROCEDURE SPECIFICATION (WPS) AWS D1.5

Specifications & Codes: NCDOT Standard Specifications/AASHTO/AWS D1.5, Section 2, 5 and 12

Material Specifications: ASTM A-36W, A572W, (A709W-36, 50), (M270W-GR250, 345) Unlimited Thickness
[weathering steel]

Welding Process: SMAW Manual or Semi- Automatic or Automatic: Manual

Filler Metal Specification: AWS A5.5 Classification: E-8018

Manufacturer: NCDOT Approved Electrodes Single or Multiple Pass both Position of Weld Flat, Horizontal

Welding Current: DC Polarity: Positive Progression: N/A

Root Treatment: N/A

Preheat Temp: 100° minimum Interpass: 450° maximum Post Heat: N/A

Pass Num.	Electrode Size	Welding Current		Travel Speed		Joint Details
		Amperes	Volts			
All	1/8"	90-150	20-23	6-9 ipm		SEE ATTACHMENT
	5/32"	120-200	21-24	6-10 ipm		
	3/16"	170-280	21-24	6-11 ipm		

PREHEAT	
Thickness	Min. Temp.
Up to 3/4"	100°
Over 3/4" to 1 1/2"	100°
Over 1 1/2" to 2 1/2"	150°
Over 2 1/2"	225°

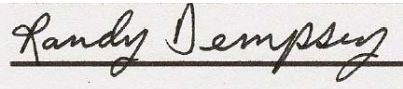
COMMENTS:

Remove all coating, rust, dirt and mill scale within one inch of the area to be welded prior to fit-up. Remove all slag, spatter and weld discontinuities between passes. Clean the completed weld of all debris, slag and spatter.

Care shall be taken to not exceed 250° in the proximity of the Elastomeric Bearing material.

WPS Description: Steel Girder Bearing Plate Weathering Steel (unpainted)

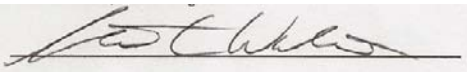
Written By: Randy Dempsey, CWI/CWE, TT IV

Signature: 

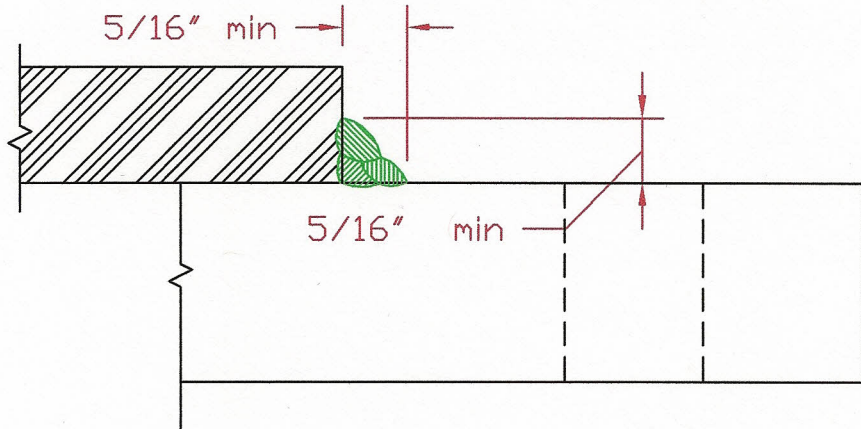
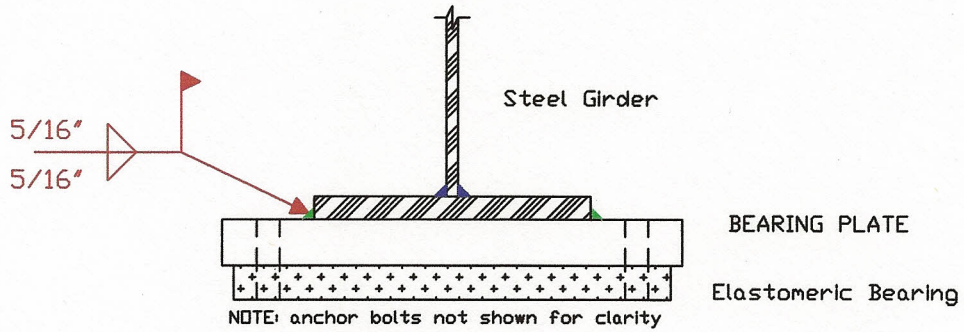
WPS #: 021510013

Authorized By: Steve Walton, Metals Engineer

Revision #: 2

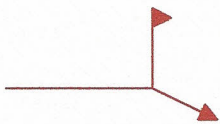
Signature: 

WPS STEEL GIRDER BEARING PLATE
 (weathering steel-unpainted)
 021510013 R2
 JOINT DETAIL ATTACHMENT



STEEL GIRDER
BEARING PLATE DETAILS
(weathering steel)

Weld Symbol definitions per AWS A2.4:2007



FIELD WELD SYMBOL



FILLET WELD, BOTH SIDES
 with WELD SIZE

Illustrations for welding unpainted steel girders to a bearing plate.



Unacceptable weld (overlap at the bottom toe, undercut at the top toe)



Acceptable weld

NCDOT MATERIALS & TESTS UNIT (STEEL SECTION)