NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
# STEEL GIRDER BEARING PLATE
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-36, A572, (A709-36, 50), (M270-GR250, 345) Unlimited Thickness**

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

Filler Metal Specification: **AWS A5.1**   Classification: **E-7018**

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

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**

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

Signature: *Randy Dempsey*
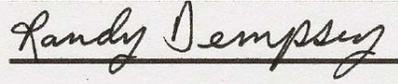
WPS #: **080708002**

Authorized By: **Steve Walton, Metals Engineer**

Revision #: **4**

Signature:
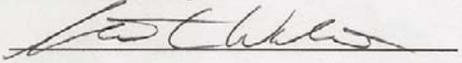
Steel Girder

5/16"

5/16"

BEARING PLATE

Elastomeric Bearing

NOTE: anchor bolts not shown for clarity

5/16" min

5/16" min
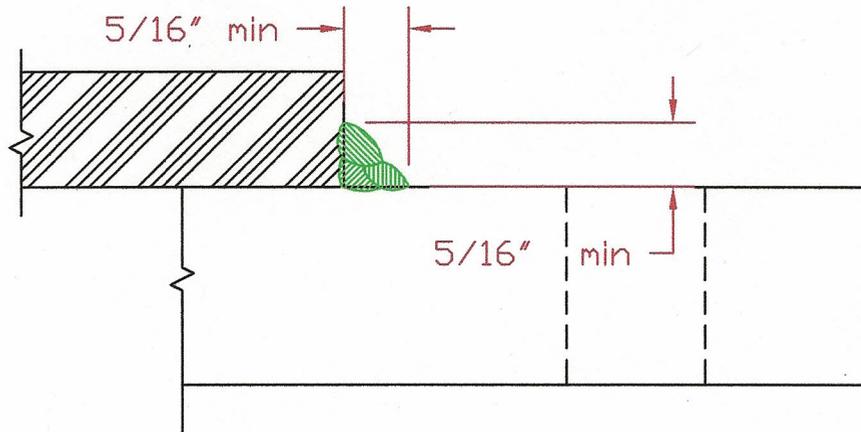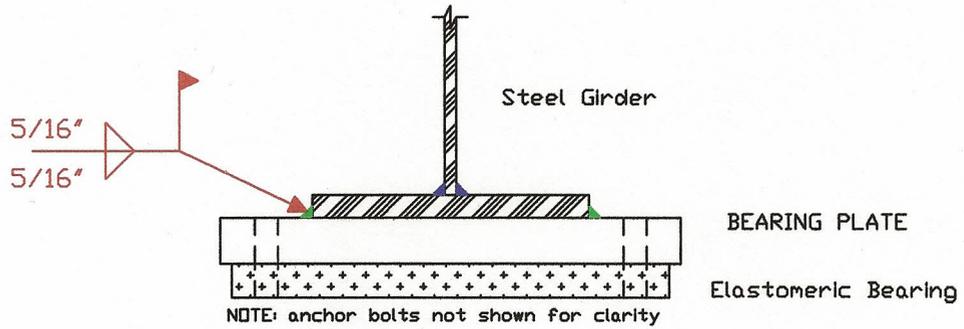
STEEL GIRDER
BEARING PLATE DETAILS

Weld Symbol definitions per AWS A2.4:2007

FIELD
WELD
SYMBOL

5/16"

5/16"

FILLET WELD,
BOTH SIDES
with WELD
SIZE
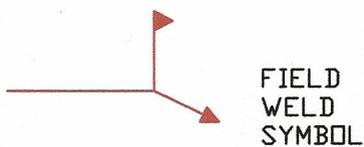
Illustrations for welding steel girders to a bearing plate.

Unacceptable weld (overlap at the bottom toe, undercut at the top toe, inadequate cleaning)
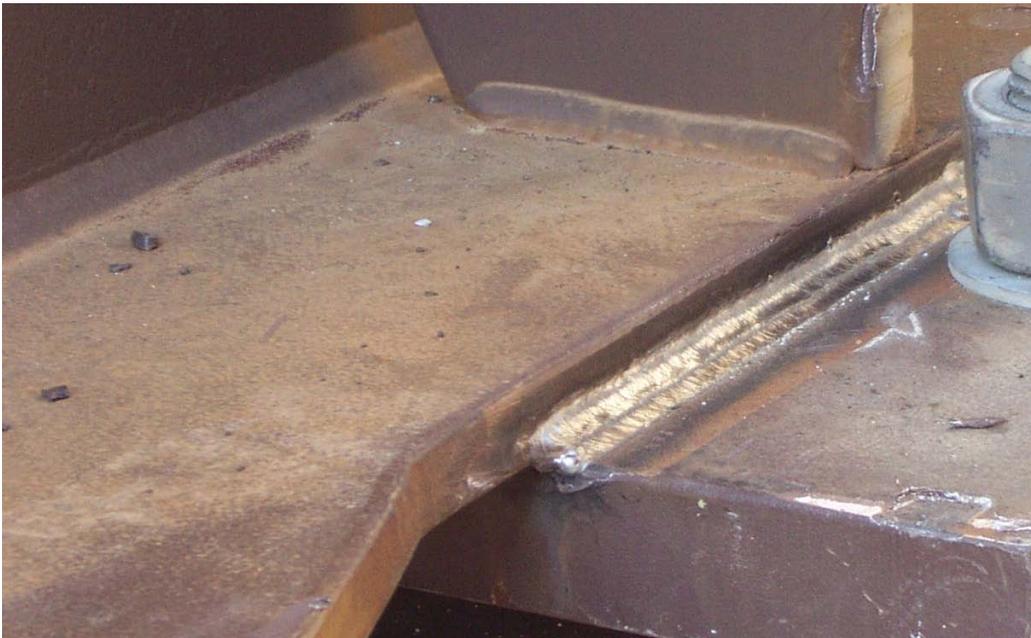
Acceptable weld (needs to be coated)

NCDOT MATERIALS & TESTS UNIT (STEEL SECTION)