

# NORTH CAROLINA DEPARTMENT OF TRANSPORTATION SIP STRAP 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 single Position of Weld Flat, Horizontal

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

Root Treatment: N/A

Preheat Temp: 50° 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

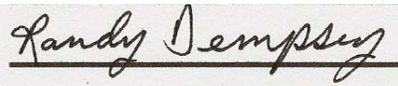
PREHEAT	
Thickness	Min. Temp.
Up to 3/4"	50°
Over 3/4" to 1 1/2"	70°
Over 1 1/2" to 2 1/2"	150°
Over 2 1/2"	225°

**COMMENTS:**

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

WPS Description: SIP Strap

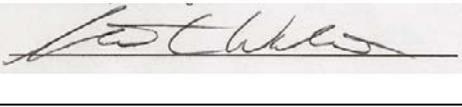
Written By: Randy Dempsey, CWI/CWE, TT IV

Signature: 

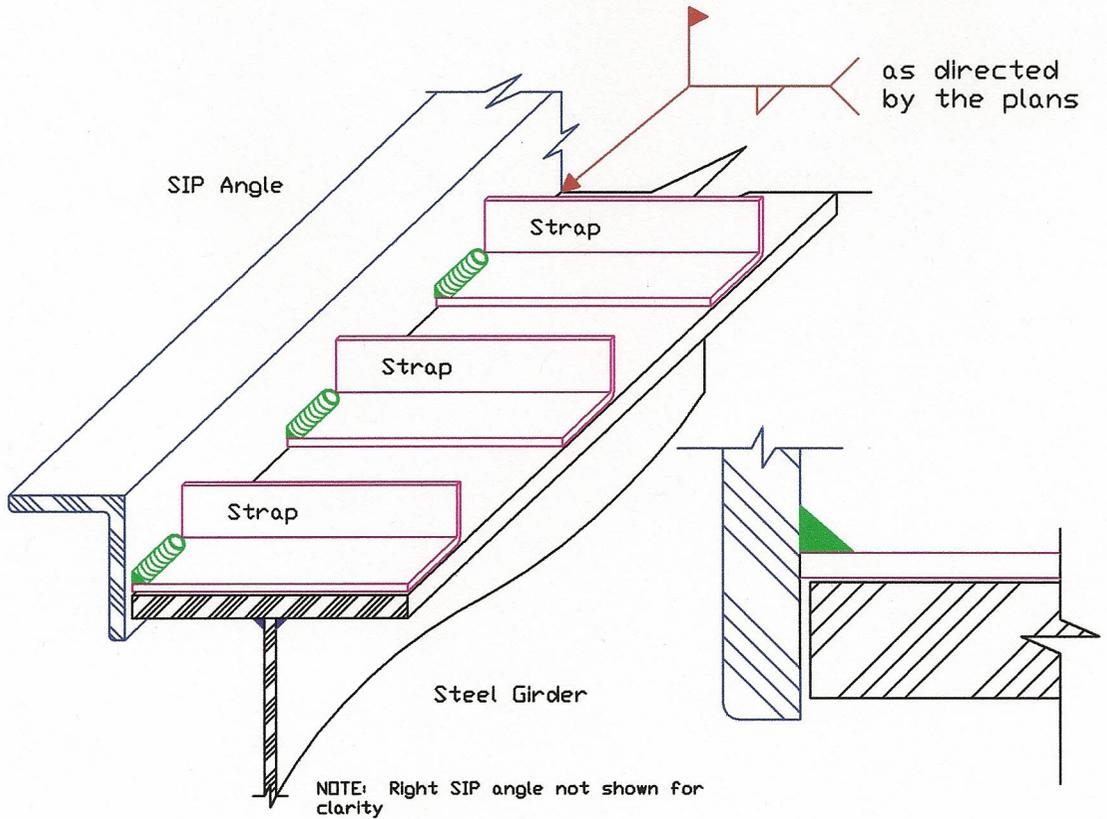
WPS #: 021510015

Authorized By: Steve Walton, Metals Engineer

Revision #: 2

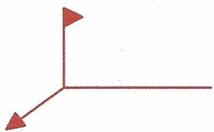
Signature: 

WPS STEEL GIRDER with SIP STRAP 021510015 R2  
JOINT DETAIL ATTACHMENT



STEEL GIRDER  
W/SIP STRAP DETAILS

Weld Symbol definitions per AWS A2.4:2007



FIELD WELD SYMBOL



FILLET WELD, ARROW SIDE

**Illustrations for welding an SIP Strap over a steel girder.**



Unacceptable placement (strap needs to be in contact with flange)



Acceptable

NCDOT MATERIALS & TESTS UNIT (STEEL SECTION)