

# DEMAND CRITICAL WELD NDT REQUIREMENT

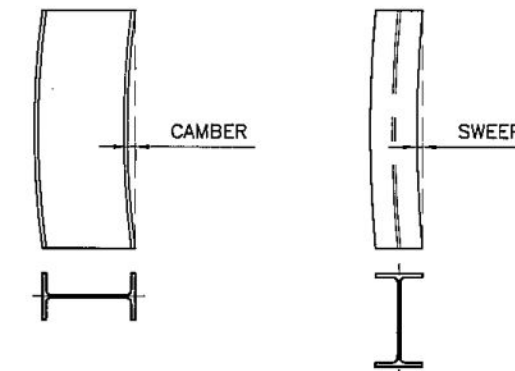
## SEISMIC WELD DEMAND CATEGORY

SEISMIC WELD CONSEQUENCE CATEGORY	SEISMIC WELD DEMAND CATEGORY		
	A	B	C
H	CJP MT 100% OF JOINTS, FULL LENGTH UT 100% OF JOINTS, FULL LENGTH PJP, FILLETS MT 100% OF JOINTS, FULL LENGTH	CJP MT 100% OF JOINTS, FULL LENGTH IF TRANSVERSELY LOADED, PARTIAL LENGTH IF LONGITUDINALLY LOADED. UT 100% OF JOINTS, FULL LENGTH IF TRANSVERSELY LOADED, PARTIAL LENGTH IF LONGITUDINALLY LOADED. (REDUCE UT TO 25% OF JOINTS, OF LENGTH AS ABOVE, WITH LOW REJECT RATE) PJP, FILLETS MT 25% OF JOINTS, FULL LENGTH IF TRANSVERSELY LOADED, PARTIAL LENGTH IF LONGITUDINALLY LOADED.	CJP UT 10% OF JOINTS, FULL LENGTH IF TRANSVERSELY LOADED, PARTIAL LENGTH IF LONGITUDINALLY LOADED. PJP, FILLETS MT 10% OF JOINTS, 6" SPOT AT RANDOM
M	CJP MT 100% OF JOINTS, FULL LENGTH UT 100% OF JOINTS, FULL LENGTH (REDUCE UT TO 25% OF JOINTS, FULL LENGTH, WITH HIGH ACCEPTANCE RATE) PJP, FILLETS MT 100% OF JOINTS, FULL LENGTH	CJP MT 100% OF JOINTS, FULL LENGTH IF TRANSVERSELY LOADED, PARTIAL LENGTH IF LONGITUDINALLY LOADED. UT 100% OF JOINTS, FULL LENGTH IF TRANSVERSELY LOADED, PARTIAL LENGTH IF LONGITUDINALLY LOADED. (REDUCE UT TO 25% OF JOINTS, OF LENGTH AS ABOVE, WITH LOW REJECT RATE) PJP, FILLETS MT 25% OF JOINTS, FULL LENGTH IF TRANSVERSELY LOADED, PARTIAL LENGTH IF LONGITUDINALLY LOADED.	NO NDT REQUIRED
L	CJP MT 25% OF JOINTS, FULL LENGTH UT 25% OF JOINTS, FULL LENGTH (REDUCE UT TO 25% OF JOINTS, FULL LENGTH, WITH HIGH ACCEPTANCE RATE) PJP, FILLETS MT 10% OF JOINTS, 6" SPOT AT RANDOM	CJP UT 10% OF JOINTS, FULL LENGTH PJP, FILLETS MT 10% OF JOINTS, 6" SPOT AT RANDOM	NO NDT REQUIRED

- DEMAND CRITICAL WELDS HAVE A THREE LETTER CODE IN THE NOTE. THERE IS A SLASH(/) BETWEEN THE SECOND AND THIRD LETTER. THE FIRST LETTER (A, B OR C) IS THE SEISMIC WELD DEMAND CATEGORY. THE SECOND LETTER (H, M OR L) IS THE SEISMIC WELD CONSEQUENCE CATEGORY. THE THIRD LETTER (T OR L) INDICATES WHETHER THE WELD IS LOADED TRANSVERSELY (T) OR LONGITUDINALLY (L). THIS CODE IS USED WITH THE DEMAND CRITICAL WELD NDT REQUIREMENTS CHART TO SPECIFY THE EXTENT OF NON-DESTRUCTIVE TESTING REQUIRED FOR THE WELD.
- UT IS REQUIRED ONLY WHEN THE WELD THROAT IS 5/16" (8mm) OR GREATER.
- REDUCE THE RATE OF UT BY 25%, WHERE NOTED, IF AFTER 40 WELDS HAVE BEEN INSPECTED, AN INDIVIDUAL WELDER'S REJECT RATE IS 5% OR LESS.
- PARTIAL LENGTH TESTING IS APPLICABLE FOR LONGITUDINALLY LOADED WELDS WHEN OVER 24 INCHES (600mm) IN LENGTH. INSPECT THE BEGINNING AND END OF EACH WELD FOR A 6 INCHES (150mm) LENGTH, PLUS ANY LOCATION ALONG THE LENGTH OF THE WELD WHERE A STAR AND RESTART IS VISUALLY NOTED FOR A DISTANCED OF 6 INCHES (150mm) ON EITHER SIDE OF THE START/STOP LOCATION, AND A 6 INCHES (150mm) FOR EVERY 10 FEET (3M) FOR A GIVEN WELD
- GROOVE WELDS SHALL BE STARTED AND ENDED WITH A MINIMUM LENGTH OF ONE INCH (25mm) ON WELD TABS (RUN-OFF). ALL WELD TABS SHALL BE REMOVED TO WITHIN 1/8 INCH (3mm), THE AFFECTED AREA GROUND SMOOTH (NOT FLUSH) AND MAGNETIC PARTICLE TESTED FOR DEFECTS.
- WELD DAMS SHALL NOT BE ALLOWED
- ASNT LEVEL II INSPECTOR (ASNT-TC-1A) OR EQUIVALENT SHALL PERFORM NDE.

## FABRICATION TOLERANCE (ACCORDING TO AWS D1.1, SECTION 5)

- STRAIGHTNESS OF COLUMN, MAXIMUM VARIATION
  - LENGTH OF LESS THAN 9M ; 1mm x No. OF METERS OF TOTAL LENGTH
  - LENGTH OF OVER 9M TO 15M ; 10mm
  - LENGTH OF OVER 15M ; 10mm + 3mm x (No. OF METERS OF TOTAL LENGTH-15)/3
- STRAIGHTNESS OF BEAM, MAXIMUM VARIATION
  - 1mm x No. OF METERS OF TOTAL LENGTH
- WEB AND FLANGE CENTERLINE, MAXIMUM VARIATION
  - 6mm AT CONTACT SURFACE OF WEB'S CENTERLINE AND FLANGE'S CENTERLINE
- FLANGE WARPAGE AND TILT, MAXIMUM VARIATION
  - 1% OF TOTAL FLANGE WIDTH OR 6mm, WHICHEVER IS GREATER
- DEPTH, MAXIMUM VARIATION, MEASURED AT THE WEB CENTERLINE
  - FOR DEPTHS UP TO 1M INCL., +/- 3mm
  - FOR DEPTHS OVER 1M TO 2 M INCL., +/- 5mm
  - FOR DEPTHS OVER 2M, +8mm/-5mm



VOGT POWER INTERNATIONAL  
V17494-DWWD-7213-00  
25-Jan-2016

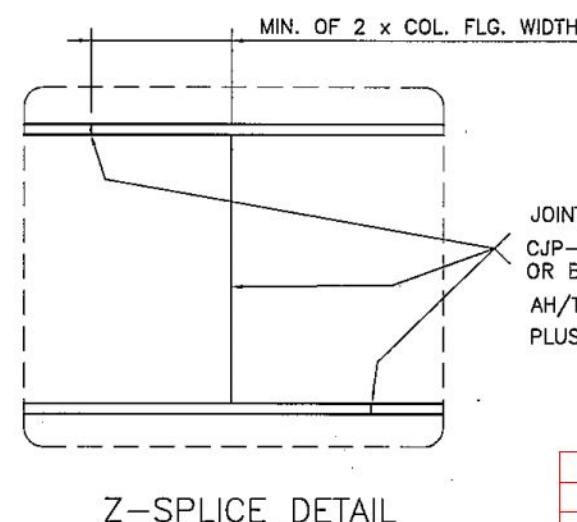
☒ UNIT 1

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**VIPCO**  
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MIDDLETOWN ENERGY CENTER PROJECT  
BUILT-UP BEAM  
ISO-A (3rd)  
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