



Fermi National Accelerator Laboratory

Technical Division-Machine Shop

Welding Procedure Specification

Welding Procedure Specification No.: <i>Fermi WPS SS-8-001, R1</i>			Date: 12/7/2009
Revision No.: R1	Revision Date: 6/04/2012	Remarks: <i>Changed Pipe Diameter Range</i>	Supporting PQR No.(s): <i>Fermi PQR SS-8-001</i>
Welding Processes: (1)Type: <i>GTAW/Manual</i> (2)Type:			
(Manual, Automatic, Machine, Semi-automatic)			

Joints (QW-402):			
Joint Design: <i>Square Butt Groove</i>	Backing: <i>Gas</i>	Backing Material (Type) Root: <i>Argon Gas</i>	Remainder: <i>None</i>
Retainer: <i>Yes *** No</i>	Type: <i>Non-Metallic *** Metallic (Non-fusing)</i>		
Joint Details: <i>Square Butt Groove</i>			

Base Metals (QW403):	P-No.: <i>8, Group 1</i>	To	P-No.: <i>8, Group 1</i>
Specification Type and Grade: <i>SA 240 Type 304 Plate</i>			
TO Specification Type and Grade: <i>SA 240 Type 304 Plate</i>			
OR Chemical Analysis and Mechanical Properties:			
TO Chemical Analysis and Mechanical properties:			
Thickness Range:	Process 1		Process 2
Base Metal:	Groove: <i>.035"-.070"</i>	Fillet: <i>Unlimited</i>	Groove: Fillet:
Deposited Weld Metal:	Groove: <i>.035"-.070"</i>	Fillet: <i>Unlimited</i>	Groove: Fillet:
Pipe Diameter Range:	Groove: <i>***Note**</i>	Fillet: <i>Unlimited</i>	Groove: Fillet:
Other: <i>Approved for all diameters, all fillet sizes, all joint types (QW211 & QW451.3)</i>			

Filler Metals (QW-404)	Process 1		Process 2	
Specification No. (SFA):	<i>5.9</i>			
AWS No, (Class):	<i>308/308L</i>			
F-No.:	<i>F6</i>			
A No.:	<i>8</i>			
Size of Filler Metals:	<i>.035", 045"Ø</i>			
Deposited Weld Metal Thickness Range:	Groove: <i>.035"-.070"</i>	Fillet: <i>Unlimited</i>	Groove:	Fillet:
Electrode-Flux (Class):				
Flux Trade Name:				
Consumable Insert:				
Other:				

Each Base Metal-Filler Metal Combination should be recorded individually

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