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เอกสารข้อกำหนดในการเชื่อม WPS

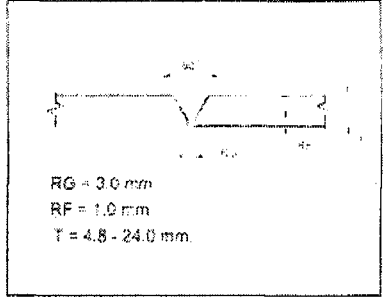
WELDING PROCEDURE SPECIFICATIONS (WPS)

Company Name MIL-1191 By Mt. Moiez Y. Mogil (Sign Date)
 Welding Procedure Specification no. W-Th-C-NP-01 Date December 30, 2004
 Revision no. 0 Date - Supporting PQR no.(s) P-Th-C-NP-01
 Welding Process(es) 1/ SMAW 2/ - Type(s) 1/ Manual
 Impact Test Requirement 1/ Yes 2/ No 2/ -

JOINTS (QW-402)

Joint Design Butt joint (Single V groove)
 Backing Yes No
 Backing Material (Type) 1/ None
 2/ -
 Metal Nonfusing Metal
 Nonmetallic Other (Weld Metal)
 Applicable of Tack Welding Yes No
 Applicable of Repair Welding Yes No
 Reinforce None

Details



BASE METALS (QW-403)

P-No. 1 Group no. 2 to P-no. 1 Group no. 2
 OR Specification Type and Grade ASTM 70 to ASTM 70
 OR Chem. Analysis and Mech. Prop. Equivalent to Equivalent
 Base Metal Thk. Range (T, mm.) Groove 4.8 - 24.0 mm. Fillet Unlimited
 Pipe Dia. Range Groove OD. > 24.0 Inch. Fillet Unlimited
 Other No T pass > 1/2"

FILLER METALS (QW-404)

Spec. no. (SFA) 1/ E1 2/ -
 AWS no. (Class) 1/ E7018 2/ -
 Filler 1/ 4 2/ -
 AWS 1/ 1 2/ -
 Size of Filler Metals 1/ Ø 2.6 - 3.2 mm. 2/ -
 Deposited Weld Metal Thk. Range (t, mm.)
 Groove 1/ 4.8 - 24.0 mm. Max 1 2/ -
 Fillet 1/ Unlimited. 2/ -
 Type wire NA
 Electrode (dry release) NA
 Flux Trade Name NA
 Consumable Inset NA
 Other NA

Sheet No. 2

WPS No. W-104, S.P.02 Rev. 1

POSITIONS (QW-405)		POSTWELD HEAT TREATMENT (QW-407)				
Position of groove: 1	Flat	Temperature Range (See PWHT)	h			
Welding Progression: 1	NA	Time Range: NA	hr.			
Position of fillet: 1	Flat	Other: None				
PREHEAT (QW-406)		GAS (QW-408)				
Preheat Temp. Min:	10	Percent Composition:				
Interpass Temp. Min:	10	Gas:	Mixture:			
Oxy-acet Maintenance:	Capillary method	Flow Rate:				
Other:	None	Shielding: NA				
		Heating: NA				
		Backstrip: NA				
ELECTRICAL CHARACTERISTICS (QW-409)						
Current AC or DC: 1	AC	Polarity: 1	NA			
Voltage (Range):	See table below		Ratio (R ₁ /R ₂):			
Temperature electrode size and type:	NA					
Shielding Metal: Diameter and AWS No.:	NA					
Electrode Wire Lengths of Range:	NA					
TECHNIQUE (QW-410)						
String or Wave Form: 1	String and no Wave Form					
Other (or Gas Cup): 1	NA					
Initial and Interpass Cleaning:	Wire brush and grinding					
Method of Backstripping:	NA					
Overexposure:	NA					
Contact Time to Work (Dwell):	NA					
Multiple or Single Pass (per side):	Multiple					
Multiple or Single Pass (mode):	Single					
Travel Speed (Range):	See Table below					
Peening:	None					
Other:	NA					
Weld Layers:	Process(es):	Electrode Metal:	Electrode:	Wire:	Travel Speed:	Other:
1	SMAW	E 7018	2.0 x 2 mm	AC	80-130	20-30
2	SMAW	E 7018	2.0 x 2 mm	AC	80-130	20-30
3 (Finish)	SMAW	E 7018	2.0 x 2 mm	AC	80-130	20-30

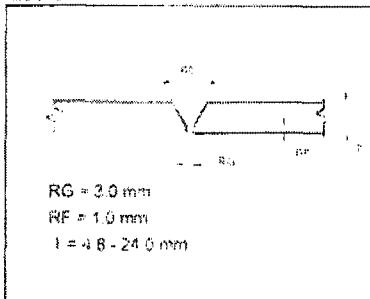
WELDING PROCEDURE SPECIFICATIONS (WPS)

Company Name MIL-1041 By Mr. Moez Y. Mogil (Sign/Date)
 Welding Procedure Specification no. W-Th-C-PW-02 Date December 30, 2004
 Revision no. 01 Date - Supporting PQR no.(s) P-Th-C-PW-01
 Welding Process(es) 1/ SMAW 2/ - type(s) 1/ Manual
 Impact Test Requirement 1/ Yes 2/ No

JOINTS (QW-402)

Joint Design Butt joint (Single-V groove)
 Backing Yes No
 Backing Material (Type) 1/ None
 2/ -
 Metal Nonfusing Metal
Nonmetallic Other (Weld Metal)
 Applicable of Tack Welding Yes No
 Applicable of Repair Welding Yes No
 Retainer None

Details



BASE METALS (QW-403)

P-No. 1 Group no. 2 to P-no 1 Group no. 2
 OR Specification Type and Grade A516-70 to A516-70
 OR Chem. Analysis and Mech. Prop Equivalent to Equivalent
 Base Metal Thk. Range (1. mm) Groove 4.8 - 24.0 mm. Fillet Unlimited.
 Pipe Dia. Range Groove OD 24.0 inch. Fillet Unlimited.
 Other No Excess

FILLER METALS (QW-404)

Spec. no. (SFA) 1/ E1 2/ -
 AWS no. (Class) 1/ E7016 2/ -
 E-no. 1/ 4 2/ -
 A-no. 1/ - 2/ -
 Size of Filler Metals 1/ Ø 2.6 - 3.2 mm 2/ -
 Deposited Weld Metal Thk. Range (1. mm.)
 Groove 1/ 4.8 - 24.0 mm (Max) 2/ -
 Fillet 1/ Unlimited. 2/ -
 Type wire 1/ NA 2/ -
 Electrode flux (class) NA
 Flux Trade Name NA
 Consumable Insert NA
 Other NA

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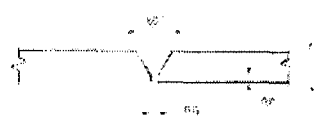
WELDING PROCEDURE SPECIFICATIONS (WPS)

Company Name MIE-TCG By Mr. Moez Y. Moad (Sign/Date)
 Welding Procedure Specification no. W-T-1B-NP-01 Date December 30, 2004
 Revision no. 0 Date - Supporting PQR no(s) P-T-1B-2D-03
 Welding Process(es) 1/ SMAW 2/ - Type(s) 1/ Manual
 Impact Test Requirement Yes No 2/ -

JOINTS (QW-402)

Joint Design Butt joint (Single-V groove)
 Backing Yes No
 Backing Material (Type) 1/ None
 2/ -
 Metal Nonferrous Metal
Nonmetallic Other (Weld Metal)
 Applicable of Tack Welding Yes No
 Applicable of Repair Welding Yes No
 Retainer None

Details



RG = 3.0 mm
 RF = 1.0 mm
 T = 4.8 - 24.0 mm

BASE METALS (QW-403)

P-No. 1 Group no. 2 to P-no. 1 Group no. 2
 OR Specification Type and Grade A516-70 to A516-70
 OR Chem. Analysis and Mech. Prop. Equivalent to Equivalent
 Base Metal Thk. Range (t, mm) Groove 4.8 - 24.0 mm Fillet Unlimited
 Pipe Dia. Range Groove OD = 24.0 Inch Fillet Unlimited
 Other No T.P. or 1/2"

FILLER METALS (QW-404)

Spec. no. (SFA) 1/ 5.1 2/ -
 AWS no. (Class) 1/ E 7010 2/ -
 F-no. 1/ 4 2/ -
 A-no. 1/ 1 2/ -
 Size of Filler Metals 1/ ∅ 2.6 - 3.2 mm 2/ -
 Deposited Weld Metal Thk. Range (t, mm.)
 Groove 1/ 4.8 - 24.0 mm (Max) 2/ -
 Fillet 1/ Unlimited 2/ -
 Type-wire 1/ NA 2/ -
 Electrode-Flux (class) NA
 Flux Trade Name NA
 Consumable Insert NA
 Other NA

