

WELDING PROCEDURE SPECIFICATION

WPS NO- CS 110336
REV. NO. : 00

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COMPANY NAME : BHEL HARIDWAR.

WPS No. : CS 110336 , Date : 27/08/2009
Supporting PQR No. : PQR-336 R00 , Date : 09/10/2009
Welding Process(es) : GMAW , Type(s) : Manual

JOINTS

Joint Design : AS PER APPROVED PRODUCTION DRAWINGS
Backing : Yes
Backing Material (Type) : Base Metal/Weld metal
Retainers : None

BASE METALS

P.No. __1__ Group No. __1 or 2__ To P.No. __1__ Group No. __1 or 2
OR

Spec. Type / Chemical Analysis : N.R
To

Spec. Type / Chemical Analysis : N.R

Base Metal Thickness range

Plate weld : Groove: 5 – 200 mm , Fillet Weld : All
Pipe Dia Range : Groove : All Diameters , Fillet Welds : All Sizes

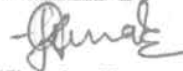
FILLER METALS

Spec. No. (SFA) : 5.18
AWS No. (Class) : ER 70 S-G
F No. : 6
A.No. : 1
Size of filler metal : Bare (Solid) Wire Dia 1.2

DEPOSITED WELD METAL (THICKNESS RANGE)

Groove : 200 mm.(max)
Fillet : all sizes

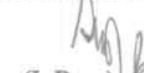
WORKED BY


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POSITION

Position of Groove : All
Welding Progression : Up-hill for V
Position of fillet : All

	GAS(es)	Flow Rate(LPM)
Shielding:	Ar / CO ₂ (%)	15-25
	(80 / 20)	
Trailing :	NIL	NIL
Backing :	NIL	NIL

PREHEAT

Preheat Temp. : Ambient.(Min 16°C)
Interpass Temp. : 300 °C Max.
Preheat Maint. : N.R
Other : NIL

POSTWELD HEAT TREATMENT

Type : NIL
Temperature range : NIL
Time range : NIL

ELECTRICAL CHARACTERISTIC

Current AC or DC : DCRP
Amps range : As per table given below
Volts Range : As per table given below
Tungsten Electrode for GTAW : NA
Mode of Metal transfer for GMAW : Spray
Electrode wire feed speed range : 6-12 m/min

TECHNIQUE

String or weave bead : Stringer/ Weaving up to 3-5 mm
Orifice or Gas Cup Size : NA
Initial & Interpass Cleaning : Brushing / Grinding / Chipping
Method of back gouging : Air Arc / Grinding
Orifice or gas cup size : NA
Oscillation : NA
Multiple or single pass (per side) : Multipass Pass
Multiple or single electrode : Single
Travel Speed (Range) : 150 – 350 mm/min
Peening : Not Permitted / Permitted
Other : Max pass thickness <8mm

WELDING PARAMETER DETAILS

Weld layers	Process	Filler Material		Current		Volt (V)	Travel Speed, mm/min
		Class	Dia(mm)	Type	Amps.		
Root	GMAW	ER 70S-G	1.2	DCRP	110-200	18-32	150-350
Subsequent Layer	GMAW	ER 70S-G	1.2	DCRP	180-300	22-36	150-350

SPECIAL REMARKS :.

a) Ensure that approx.12.5 mm area near the weld joint is thoroughly cleaned prior to welding

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