

 A JOYCON COMPANY	Welding	SARA SAE
	Validation Record	Date:20/06/2020

DOC NO. SARA/QA/DOC/0611-4

Equipment:

SMAW Technique – Arc Welding Machines & Instruments

- A. Power Source
- B. Baking System
- C. Protective Equipment
- D. Material based consumables etc.

Qualification of Personnel: As per ASME Sec. IX attached

Method: GMAW

Material: IS 2062 GR A to IS 2062 GR A

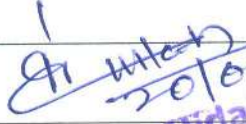
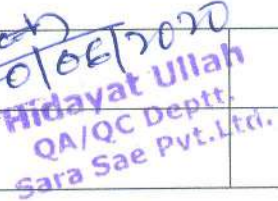
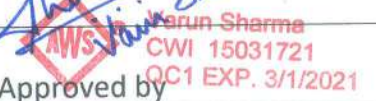
Qualified Parameter: As per Procedure Qualification Record – SARA/PQR/25-015 Dated-05.01.2015

Operating Parameter: AS per Approved Welding Procedure Specification WPS-25-015 Rev 0 Dated-10.12.2014

Process Acceptance Criteria: Mechanical Testing attached

Record: for Validation

- A. Welding procedure specification (as per ASME IX)- WPS-25-015 Rev 0 Dated-10.12.2014
- B. Procedure Qualification Record (as per ASME IX) – SARA/PQR/25-015 Dated-05.01.2015
- C. Welder Performance Qualification (as per ASME IX) – Attached
- D. Welder Continuity Record – Record available
- E. Calibration of Welding equipment – Record available

 	 
Reviewed by	Approved by

QW -482

WELDING PROCEDURE SPECIFICATION (WPS)

(Section IX, ASME Boiler and Pressure Vessel Code)

Company Name : SARA SAE PVT. LTD.

Welding Procedure Specification No WPS-25-015 Rev - 0

Supporting PQR No. SARA/PQR/25-015

Dated: 10.12.2014

Rev 0

Welding Process (es), GMAW

Type(s) SEMI AUTOMATIC.

JOINTS (QW - 402)

JOINT DESIGN : Groove

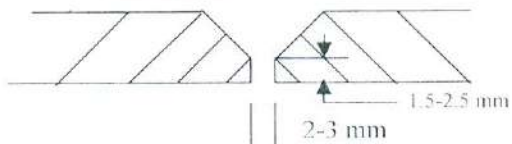
Groove Angle: 60-70 Deg.

BACKING: NO

BACKING MATERIAL (TYPE) : N.A.

BACKING GAS: NIL

DETAILS :



BASE METALS (QW -403)

P. No. - 1

Group No- 1

To P. NO. - 1

Group No. - 1

OR

Specification type and grade; IS-2062 Gr A

To Specification type and grade IS-2062 Gr A

Chem. Analysis and Mech. Prop. IS2062 - C-0.25%MAX, MN-1.5%, P-0.05MAX, S-0.05MAX, Si-0.4%. Y.S.-240MPa, T.S.-410MPa, Elongation.-22%min., Reduction of area-35%.

To Chem. Analysis and Mech. Prop. As above

Thickness Range:

Base Metal :	Groove	1.5-20 mm	Fillet	All
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FILLER METALS (QW-404)

GMAW

Spec. No. (SFA)	5.18
AWS No. (Class)	ER70S-6
E. No	6
A. No.	1
Size of Filler Metals	1.20 mm

Weld Metal

Thickness Range :

Groove (Max.)	20 mm
Fillet	ALL
Electrode - Flux (Class)	NA
Flux Trade Name	NA
Consumable insert	NA
Other	NA



QW -482

WPS No. WPS-25-015

Rev 0

POSITION (QW - 405)

Position(s) of Groove : All
 Welding Progression : Up-hill for 3G
 Position(s) of Fillet : All

POST WELD HEAT TREATMENT (QW-407)

Temperature Range : -Nil
 Time Range : Nil

PREHEAT (QW- 406)

Preheat Temp. Min. : 20°C MIN.
 Interpass Temp. Max : 150°C MAX.
 Preheat Maintenance : Refer Note one
 Post Heating Time

GAS (QW-408)

TYPE OF GAS : CO₂
 COMPOSITIONS OF GAS MIX : 99.99
 FLOW RATE : 10-15 LPM
 BACKING : NIL

ELECTRICAL CHARACTERISTICS (QW-409)

Current AC or DC : DC Polarity : Reverse.
 Amps (Range) : 100-150 Volts (Range) : 20-22 Volt
 Tungsten Electrode Size and Type : -
 Mode of Metal Transfer for GMAW : Globular
 Electrode Wire feed speed range : -

TECHNIQUE (QW-410)

String or Weave Bead : WEAVE BEAD (Max. 2 x Electrode Dia)
 Orifice or Gas Cup Size :
 Initial and interpass cleaning (Brushing, Grinding, etc.,) : WIRE BRUSHING & GRINDING

Method of Back Gouging : Chipping/Grinding up to sound metal., if required.
 Oscillation : -
 Contact Tube to Work Distance : -
 Multiple or single Pass (per side) : - Multiple
 Multiple Or Single electrodes : - Single
 Travel speed (Range) : -160 mm to 220 mm per minute.
 Peening : - N.A
 Other : -

Weld Layer(s)	Process	Filler metal		Current		Volts Range	Travel Speed Range (mm/min.)
		Class	Dia(mm)	Type Polarity	Amp Range		
Ist	GMAW	ER70S-6	1.20	DCEP	100-150	20-22	200-220mm/ minute
Balance	GMAW	ER70S-6	1.20	DCEP	120--150	20-24	160-180mm/ minute

NOTE: Preheat to be maintain 20°C on either side of weld edge at a distance not less then 75mm.

Reviewed By



QW483

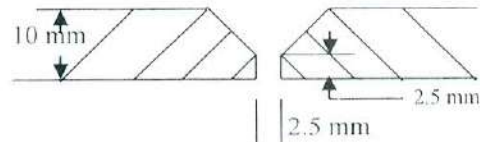
PROCEDURE QUALIFICATION RECORD (PQR)
(SECTION IX, ASME BOILER AND PRESSURE VESSEL CODE)

COMPANY NAME	: SARA SAE PVT.LTD.Dehra Dun.
PROCEDURE QUALIFICATION RECORD (PQR) NO.	: SARA/PQR/25-015
WELDING PROCEDURE SPECIFICATION (WPS) NO	: WPS-25-015 Rev - 0
WELDING PROCESS (ES)	: GMAW
DATE	: 05.01.2015
TYPE	: SEMI AUTOMATIC

JOINTS (QW - 402)

JOINT DESIGN : Groove
Groove Angle: 60 Deg.
BACKING: NO
BACKING MATERIAL (TYPE) : N.A.

DETAILS :



BACKING GAS: NIL

BASE METALS (QW 403)

MATERIAL SPEC.:

IS2062Gr A TO IS2062 Gr A

P. NO. : 1 GROUP NO. -- 1
TO P. NO. : 1 GROUP NO. -- 1
THICKNESS OF TEST COUPON : 10 mm
DIAMETER OF TEST COUPON : Plate
OTHER : -

POST WELD HEAT TREATMENT (QW -407)

TEMPERATURE : NIL
OTHER : NIL

GAS (QW - 408)

TYPE OF GAS OR GASES : Co2.
COMPOSITIONS OF GAS MIX. : 99.99
FLOW RATE : 10-15 LPM
BACKING : Nil

FILLER METALS (QW- 404)

SFA SPECIFICATION. : 5.18
AWS CLASSIFICATION: ER-70S-6
FILLER METAL F- NO. : 6
A. NO. : 1
SIZE OF FILLER METAL: 1.20mm
OTHER: :
WELD METAL THK. : 5 MM TO 20MM

ELECTRICAL CHARACTERISTICS (QW-409)

CURRENT : DC
POLARITY: REVERSE
AMPS: 100 to 150
VOLTS (RANGE) : 20-22
MODE OF METAL TRANSFER FOR GMAW : GLOBULAR
OTHER : -

POSITION (QW- 405)

POSITION OF GROOVE : 3G
WELD PROGRESSION : --UPHILL
OTHER : N/A

TECHNIQUE (QW - 410)

TRAVEL SPEED : 4-10 inch per minute
STRING OR WEAWE BEAD : String and Weave
OSCILLATION : NIL
MULTIPASS OR SINGLE PASS (PER SIDE) : Multi-pass
SINGLE OF MULTIPLE ELECTRODES : Single
BACK CHIPPING METHOD : Grinding
OTHER

PREHEAT (QW - 406)

PREHEAT TEMP: 20°C MIN
INTERPASS TEMP: 150°C (MAX.)
OTHER : N/A



TENSILE TEST (QW – 150) AS PER QW 462.1 (a)

SAMPLE NO.	GAUGE SIZE WxT (mm)	AREA (mm ²)	ULTIMATE LOAD (KN)	UTS N/MM ²	REMARK
T1	18.65 X9.65Thk.	179.97	82.0	456	BROKEN AT PARENT/DUCTILE
T2	18.75 X9.60Thk.	180.0	81.6	453	BROKEN AT PARENT/DUCTILE

HARDNESS SURVEY SCALE : VICKERS

LOAD : 10 KG
 TEST STD.: ASTM E-92
 OBSERVATIONS: AT WELD CROSS SECTION
 AT WELD ZONE: 187,191,189,189HV
 AT HEAT AFFECTED ZONE: 175,177,177,181HV
 AT PARENT MATEL: 155,157HV

GUIDED BEND TESTS (COLD)OVER MANDREL $\phi = 4t$ 180°(FIGURE QW 466.1,QW-463.1(a) OF ASME SEX IX

TYPE AND FIGURE NO.	RESULT
RB1 ROOT BEND	Satisfactory
RB2 ROOT BEND	Satisfactory
FB1 FACE BEND	Satisfactory
FB2 FACE BEND	Satisfactory

IDENTIFICATION NO: W-3 WELDER; OM PAL

VISUAL INSPECTION : SATISFACTORY Test Supervised by; **Mr. Ravi Raj Thapa**

TEST BY: **R K INSPECTION & TESTING SERVICES** Report No. 0115/79719 Dated 05/01/2015

WE CERTIFY THAT THE STATEMENT IN THIS RECORD ARE CORRECT AND THE TEST WELD WERE PREPARED, WELDED AND TESTED IN ACCORDANCE WITH THE REQUIREMENTS OF SECTION IX OF THE ASME CODE.

DATE :05/01/2015

**FOR: SARA SAE PVT.LTD.
DEHRADUN**



**TEST WITNESSED BY
FOR DET NORSKE VERITAS**





NABL CERTIFICATES
NOS. : T-1246 & 1247

R. K.

INSPECTION & TESTING SERVICES

Office : C-42, Manak Vihar Extn. (Tihar) Subhash Nagar, New Delhi - 110018, Ph. : 011-25121201, 28122201 Fax : 011-25122517

Works : C-196/2, Mayapuri Phase-II, New Delhi-110064, Ph. : 011-28114161

WORK TEST REPORT (F/MCT/05/00)

Central Boiler Board (Govt. India) Approved

REPORT NO : 0115 / 79719

WORK ORDER NO.:55248-3/3

CUSTOMER : M/s SARA SAE PVT. LTD., DIVISION - I, SUBHASH NAGAR, MOHABEWALA INDL. AREA, DEHRADUN

REF. : HQ / QA / 907 / 061 : DT. 29.12.2014

DESC. :

10MM THICK MIG WELDED COUPON PLATE SAMPLE BEARING "N" MARK FOR PROCEDURE QUALIFICATION TEST AS PER ASME SEC IX

SAMPLE ID.:

WELDER NAME: OMPAL, WELDER NO. W-03, ELECTRODE: ER70S-6, POSITION: 3G MATERIAL OF CONSTRUCTION: IS: 2062 TO IS: 2062

INSPECTION AUTHORITY: M/s DNV.

MECHANICAL TEST REPORT

DATE OF TESTING.: 05.01.2015

Id. Mark	Gauge Size in MM	Area MM ²	Yield Load KN	Yield Stress N / MM ²	Ultimate Load KN	Ultimate Tensile Stress N / MM ²	Gauge Length on MM	Elongated Length MM	Elongation %	Reduced Dia MM	Reduction In Area %	HARDNESS SURVEY	
												SCALE VICKERS	TEST STD. ASTM E-92
TT1	18.65X9.65Thk.	179.97	-	-	82.0	456	BROKEN AT PARENT METAL / DUCTILE	-	-	-	-	LOAD: 10KGS	AT WELD CROSS SECTION
TT2	18.75X9.60Thk.	180.0	-	-	84.6	453	BROKEN AT PARENT METAL / DUCTILE	-	-	-	-	TEST STD. ASTM E-92	AT WELD CROSS SECTION
	REQUIRED VALUE	-	-	-	-	410 (MIN.)	-	-	-	-	-	-	AT WELD ZONE: 187.191.189.189HV
RB1	ROOT BEND - SATISFACTORY												AT HEAT AFFECTED ZONE: 175.177.177.181HV
RB2	ROOT BEND - SATISFACTORY												AT PARENT METAL: 155.157HV
FBI	FACE BEND - SATISFACTORY												
FB2	FACE BEND - SATISFACTORY												

GUIDED BEND TEST (COLD) OVER MANDREL $\phi = 4t \times 180^\circ$ (FIGURE QW 466.1/466.2) OF ASME SEC IX.

MACRO / MICRO EXAMINATION REPORT

ETCHANT : MAGNIFICATION :

N.A.

CHARPY V NOTCH IMPACT TEST	SIZE : X 10 X 55MM ; CVN 2MM DEEP	AT TEMP.: °C	TEST STD: ASTM -A 370	
			VALUES IN JOULES(J)	
CODE	SAMPLE ID.	(I)	(II)	AVG.
			(III)	
-	-	-	N.A.	-

CHEMICAL ANALYSIS

Id. Mark	C%	Si%	Mn%	P%	S%	Ni%	Cr%	Mo%	Al%	Co%	Cu%	Ti%	V%	N%	B%	*Zr%
W-03	0.060	0.468	1.01	0.018	0.016	0.020	0.022	0.013	0.061	0.003	0.077	0.060	0.010	0.011	0.0006	0.030

FOR DNV.

Conformity to Required Specn.: YES / NO / NOT EVALUATED

Tested by

Remarks

1. Represents only to the samples submitted.

2. Selection of samples not done by M/s.RKITS

3. Not In NABL Scope



CEEL, AUTHORITY OF INDIA, LIMITED
BOKARO STEEL PLANT
ESTERI, CITY - 827901, JHARKHAND, INDIA

Test Certificate
HOT ROLLED LOW, MEDIUM AND HIGH
TENSILE STRUCTURAL STEEL

TO

BM BSO, GHAZIABAD
BM BSO, GHAZIABAD
MEERUT RD, NEAR G
GHAZIABAD

DATE : 05.04.2014
DATE : 05.04.2014

TEST CERTIFICATE NO. : 132129

SHIPPING ADVICE NO. : 80204851

WAGON NO. : NCR35650

We certify that the material described below fully conforms to 2062:2006. Chemical composition and Mechanical / Physical properties of the product as tested in accordance with the scheme of testing and inspection contained in BIS Certification Marks License No: CM/L-0484856 are as indicated against each Coil / Cast No or Order No. The Material supplied conforms to the standard rolling / dimensional and weight tolerances.

(Please refer to 2062:2006 for details of specification requirements)

Chemical Analysis, Mechanical Properties, Specifications & Other Information																	
ITEM NO.	CAST NO.	COIL NO.	SALES ORDER & SIZE (NM)	TONNAGE	T X W X L												
					C%	Mn%	P%	S %	Si%	CE%	YS MPa	UTS MPa	EL %	BEND	EDGE	GRADE	
					(0.23 max)	(1.50 max)	(0.045 max)	(0.045 max)	(0.40 max)	(0.42 max)	(250 min)	(410 min)	(23 min)	(3t)	()		
6	1201712	R1654725	1200129769 10.000X1.250X6.300	10.920	0.15	0.83	0.021	0.028	0.026	0.287	284.0	437.0	34.0	OK	Untrim		35, 30A-2 & 210C-A OK
TOTAL TONNAGE :				62.61													

TOTAL TONNAGE :

685
309-14

170

0-770

32

LEGEND (where applicable):

One: $\text{Nsp} = 1$ Nsp. mm = 0 102 kg/32g

Elongation

by - via Stream

WTS = ultimate tensile strength

CE = Carbon equivalent

MAE = Micro Alloying Elements

GC = Galvanised Corrugated

cpd = Galvanised Plain Deep Dra

XXXX I = "XXXXXXXXXXXXXXXXXXXX"

D DRW = Deep Drawing

CFR = Currenting Value

MAE = Micro Alloying Elements

GC = Galvanised Corrugated

cpd = Galvanised Plain Deep Dra

XXXX I = "XXXXXXXXXXXXXXXXXXXX"

D DRW = Deep Drawing

CFR = Currenting Value

Hard = Hardness

IMP = Impact Value

ST-RL-Stretched & Roller Levelled

COR-02-Corrugated Ordinary

R = Ingot Route

8. *cc* Route

THIRD PARTY / DDQ

AUTHORISED SIGNATORY

FOR SENIOR MANAGER (M)

FOR SENIOR MANAGER (MIL)
RESEARCH & CONTROL LABORATORY

QW- 484A
WELDER PERFORMANCE QUALIFICATIONS RECORD (WPQ)

Welder's name Mr. Om Pal

Identification No. W-03



Test Description

Identification of WPS followed WPS/25/015 Rev 00 Test coupon ☒ Production weld ☐
 Specification of base metal(s): IS 2062 Gr- A to IS 2062 Gr-A Thickness 10 mm
 Welding Machine No. : IMW-02

Testing Variables and Qualification Limits

Welding Variables (QW-350)

	Actual Values	Range Qualified
Welding Process (es)	GMAW	GMAW
Type (i.e. manual, semi-automatic) used	Semi-automatic	Semi-automatic
Backing (with/without)	without	with & without
Plate/Pipe (enter diameter if pipe or tube)	Plate 10mm	
Base metal P-Number to P-Number.	P1	P1 to 15F, P34 & P41 to P49
Filler metal or electrode specification(s) (SFA) (info. Only)	5.18	
Filler metal or electrode classification(s) (info. Only)	E-70S-6	
Filler metal F-Number(s)	F 6 (without backing)	F 6 (with & without)
Consumable insert (GTAW or PAW)	N.A	N.A
Filler metal product form	N.A	N.A
(solid/metal or flux cored/powder) (GTAW or PAW)		
Deposit thickness for each process	10MM	20MM
Position qualified (2G,6G,3F etc.)	3G	1G, 3G (For plate) & (For pipe over 610 MM O.D.) 1G (For 73mm O.D pipe and overbut less than OD 610mm) 1F, 2F & 3F (For plate and pipe)
Vertical progression (uphill or downhill)	UPHILL	UPHILL
Type of fuel gas (OFW)	N.A	N.A
Inert gas backing (GTAW, PAW, GMAW)	N.A	N.A
Transfer mode (spray/globular or pulse to short circuit-GMAW)	GLOBULAR	GLOBULAR
GTAW current type/polarity (AC, DCEP, DCEN)	DCEP	DCEP

RESULTS

Visual Examination of Completed Weld (QW-302.4) No defect was observed- Satisfactory
 Transverse face and root bends [QW-462.3(a)] ☐ Longitudinal bends [QW-462.3(b)] Side bend [QW-462.2] ☐
 Pipe bend specimen, corrosion-resistant overlay [QW-462.5(c)] ☐
 Plate bend specimen, corrosion-resistant overlay [QW-462.5(d)] ☐
 Pipe specimen Macro test for fusion [QW-462.5 (B)] ☐ Plate specimen Macro test for fusion [QW-462.5 (E)] ☐

Type of Test	Figure	Result
RB 1 ROOT BEND	QW 466.1/466.2	SATISFACTORY
FB 1 FACE BEND	QW 466.1/466.2	SATISFACTORY

Alternative Volumetric Examination results (QW-191) RTOR UT (Check one)

Fillet weld- fracture test (QW-181.2) N/A Length and percent of defects

Fillet welds in plate QW-462.4 (b) Fillet welds in plate QW-462.4 (c)

Macro examination (QW-184) N/A Fillet size (in.) Concavity/convexity (in.)

Other tests N/A

Film or specimens evaluated by _____ Company _____

Tested by M/s. R.K. INSPECTION & TESTING SERVICES Laboratory test no. 0915/86513 Date – 12.09.2015

Welding supervised by Mr. RAVI RAJ THAPA

We certify that the statements in this record are correct and that the coupons were prepared, welded and tested in accordance with the requirements of Section IX of the ASME Boiler and Pressure Vessel Code.

Manufacturer or Contractor M/s. SARA SAE PVT.LTD.

Date: 12/09/15

Certified by _____





NABL CERTIFICATES
NOS.: T-1246 & 1247

R.K. INSPECTION & TESTING SERVICES

Office : C-42, Manak Vihar Extn. (Tihar), Subhash Nagar, New Delhi-110018 Ph. : 011-25121201, 28122201 Fax : 011-25122517

Works : C-196/2, Mayapuri Phase-II, New Delhi-110064 Ph.: 011-28114161

WORK TEST REPORT (F/MCT/05/00)

Central Boiler Board (Govt. India) Approved

REPORT NO : 0915/86513

WORK ORDER NO.: 58752-6/8

CUSTOMER : M/s SARA SAE PVT. LTD.; DIVISION-1, SUBHASH NAGAR, MOHABEWALA INDL. AREA, DEHRADUN.

REF.: LETTER ; DT. 10.08.2015

DESC.: 10MM THICK GROOVE WELDED PLATE SAMPLE BEARING "N" MARK, FOR WELDER QUALIFICATION TEST AS PER ASME SEC. IX.

SAMPLE ID.: WELDER NAME: OM PAL, WELDER NO. W-3, FILLER USED: ER70S-6, POSITION: 3G, PROCESS: GMAW GROOVE WELD

MATERIAL OF CONSTRUCTION: IS:2062 E250 GR. A

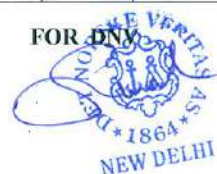
INSPECTION AUTHORITY: M/s DNV

MECHANICAL TEST REPORT

DATE OF TESTING.: 12.09.2015

MECHANICAL TEST REPORT												DATE OF TESTING: 12.02.2015																					
HARDNESS SURVEY																																	
SCALE: VICKERS																																	
LOAD: HV ₁₀																																	
TEST STD: E-92																																	
Id. Mark												Gauge Size in MM		Area MM ²		Yield Load KN		Yield Stress N / MM ² 0.2% Proof		Ultimate Load KN		Ultimate Tensile Stress N / MM ²		Gauge Length on 4DMM		Elongated Length MM		Elongation %		Reduced Dia MM		Reduction In Area %	
-												-		-		-		N.A.		-		-		-		-		-		-		-	
GUIDED BEND TEST (COLD) OVER MANDREL $\phi = 4t \times 180^\circ$ (FIGURE QW 466.1/466.2) OF ASME SEC IX.																N.A.																	
RB		ROOT BEND - SATISFACTORY																															
FB		FACE BEND - SATISFACTORY																															
CHARPY V NOTCH IMPACT TEST																SIZE : X 10 X 55MM ; CVN 2MM DEEP				AT TEMP : C				TEST STD: ASTM -A 370/E-23									
VALUES IN JOULES(J)																																	
		(I)				(II)				(III)				AV																			
-		-				-				N.A.				-				-															
C H E M I C A L A N A L Y S I S																																	
Id. Mark		C%		Si%		Mn%		P %		S%		Cr%		Ni%		Mo%		Cu%		V%		Co%		Ti%		N%		-					
-		-		-		-		-		-		N.A.		-		-		-		-		-		-		-		-					

WITNESSED BY



Conformity to Required Specn. : YES / NO / NOT EVALUATED

Equipment Used: UTK-100, S.NO. 2010/1432| UTK-60, S. NO.96/1092

Tested by

- Remarks
1. Report relates only to the samples submitted.
 2. Selection of samples not done by M/s.RKITS
 3. Not In Nabl Scope

R.K. Inspection & Testing Services

(QUALITY MANAGER)



QW- 484A
WELDER PERFORMANCE QUALIFICATIONS RECORD (WPQ)

Welder's name Mr. Subhan

Identification No. W-02



Test Description

Identification of WPS followed WPS/25/015 Rev 00 Test coupon ☒ Production weld ☐
 Specification of base metal(s): IS 2062 Gr-A to IS 2062 Gr-A Thickness 10 mm
 Welding Machine No. : IMW-02

Testing Variables and Qualification Limits

Welding Variables (QW-350)

Welding Variables (QW-350)	Actual Values	Range Qualified
Welding Process (es)	GMAW	GMAW
Type (i.e. manual, semi-automatic) used	Semi-automatic	Semi-automatic
Backing (with/without)	without	with & without
Plate/Pipe (enter diameter if pipe or tube)	Plate 10mm	
Base metal P-Number to P-Number.	P1	P1 to 15F, P34 & P41 to P49
Filler metal or electrode specification(s) (SFA) (info. Only)	5.18	
Filler metal or electrode classification(s) (info. Only)	E-70S-6	
Filler metal F-Number(s)	F 6 (without backing)	F 6 (with & without)
Consumable insert (GTAW or PAW)	N.A	N.A
Filler metal product form	N.A	N.A
(solid/metal or flux cored/powder) (GTAW or PAW)		
Deposit thickness for each process	12MM	24MM
Position qualified (2G,6G,3F etc.)	3G	1G, 3G (For plate) & (For pipe over 610 MM O.D.) 1G (For 73mm O.D pipe and over but less than OD 610mm) 1F, 2F & 3F (For plate and pipe)
Vertical progression (uphill or downhill)	UPHILL	UPHILL
Type of fuel gas (OFW)	N.A	N.A
Inert gas backing (GTAW, PAW, GMAW)	N.A	N.A
Transfer mode (spray/globular or pulse to short circuit-GMAW)	GLOBULAR	GLOBULAR
GTAW current type/polarity (AC, DCEP, DCEN)	DCEP	DCEP

RESULTS

Visual Examination of Competed Weld (QW-302.4) No defect was observed- Satisfactory
 Transverse face and root bends [QW-462.3(a)] ☐ Longitudinal bends [QW-462.3(b)] Side bend [QW-462.2] ☐
 Pipe bend specimen, corrosion-resistant overlay [QW-462.5(c)] ☐
 Plate bend specimen, corrosion-resistant overlay [QW-462.5(d)] ☐
 Pipe specimen Macro test for fusion [QW-462.5 (B)] ☐ Plate specimen Macro test for fusion [QW-462.5 (E)] ☐

Type of Test	Figure	Result
RB 1 ROOT BEND	QW 466.1/466.2	SATISFACTORY
FB 1 FACE BEND	QW 466.1/466.2	SATISFACTORY

Alternative Volumetric Examination results (QW-191) RTOR UT (Check one)

Fillet weld- fracture test (QW-181.2) N/A Length and percent of defects

Fillet welds in plate QW-462.4 (b) Fillet welds in plate QW-462.4 (c)

Macro examination (QW-184) N/A Fillet size (in.) Concavity/convexity (in.)

Other tests N/A

Film or specimens evaluated by _____ Company _____

Tested by M/s. R.K. INSPECTION & TESTING SERVICES Laboratory test no. 0915/86512 Date – 12.09.2015

Welding supervised by Mr. RAVI RAJ THAPA

We certify that the statements in this record are correct and that the coupons were prepared, welded and tested in accordance with the required Section IX of the ASME Boiler and Pressure Vessel Code.

Manufacturer or Contractor M/s. SARA SAE PVT.LTD.

Date: 14/09/15 Certified by _____





NABL CERTIFICATES
NOS.: T-1246 & 1247

R.K. INSPECTION & TESTING SERVICES

Office : C-42, Manak Vihar Extn. (Tihar), Subhash Nagar, New Delhi-110018 Ph. : 011-25121201, 28122201 Fax : 011-25122517

Works : C-196/2, Mayapuri Phase-II, New Delhi-110064 Ph.: 011-28114161

WORK TEST REPORT (F/MCT/05/00)

Central Boiler Board (Govt. India) Approved

REPORT NO : 0915 / 86512

WORK ORDER NO.: 58752-5/8

CUSTOMER : M/s SARA SAE PVT. LTD.; DIVISION-1, SUBHASH NAGAR, MOHABEWALA INDL. AREA, DEHRADUN.

REF.: LETTER : DT. 10.08.2015

DESC.: 12MM THICK GROOVE WELDED PLATE SAMPLE BEARING "N" MARK, FOR WELDER QUALIFICATION TEST AS PER ASME SEC. IX.

SAMPLE ID.: WELDER NAME: SUBHAN, WELDER NO. W-2, FILLER USED: ER70S-6, POSITION: 3G, PROCESS: GMAW GROOVE WELD

MATERIAL OF CONSTRUCTION: IS:2062 E250 GR. A

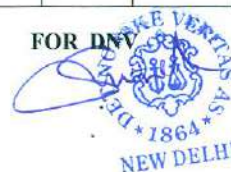
INSPECTION AUTHORITY: M/s DNV

MECHANICAL TEST REPORT

DATE OF TESTING.: 12.09.2015

TENSION TEST (TENSILE) DATA													HARDNESS SURVEY												
DATE OF TEST: 12/02/2018													SCALE: VICKERS												
TEST NO: 1202/2018													LOAD: HV ₁₀												
													TEST STD : E - 92												
Id. Mark													Gauge Size in MM												
Area MM ²													Yield Load KN												
Yield Stress N / MM ² 0.2% Proof													Ultimate Load KN												
Ultimate Tensile Stress N / MM ²													Gauge Length on 4DMM												
Elongated Length MM													Elongation %												
Reduced Dia MM													Reduction In Area %												
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WITNESSED BY



Conformity to Required Specn. : YES / NO / NOT EVALUATED

Equipment Used: UTK-100, S.NO. 2010/1432| UTK-60, S. NO.96/1092

Tested by

Remarks 1. Report relates only to the samples submitted.

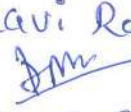
2. Selection of samples not done by M/s.RKITS

3. *Not In Nabl Scope

R.K. Inspection & Testing Services

(QUALITY MANAGER)



	WELDER / WELDING OPERATOR	Cert. No : 20-J-193
	QUALIFICATION TEST RECORD	Test Date : 11-03-2020
Company Name: SARA SAE PVT. LTD. DEHRA DUN		
Name : <u>ISHTKHAR</u> Date of Birth : <u>N.A</u> Identification of WPS Followed.: <u>WPS/25/015 REV.0</u> Identification of PQR Followed.: <u>SARA/PQR/25/015</u> Specification of Base Metal(s): <u>IS2062</u>	Identification No : <u>W-07</u> Joint Type : <u>Single 'V'</u> Weld Type: <u>GROOVE</u> Thickness: <u>10MM</u>	
Testing Variables and Qualification Limits		
Welding Variables	Actual Values	Range Qualified
Welding Process(es) (QW-401)	GMAW	GMAW
Type (ie: manual, semi-auto, auto) used (QW-410.25)	Semi-automatic	Semi-automatic
Backing(with/without) (QW-402)	Without	With or Without
Test Specimen (Plate or Pipe)	Plate	Plate
Base metal P-number to P-number (QW-403)	IS 2062 Gr A	IS 2062 Gr A
Filler metal or electrode classification (info only) (QW-404)	ER70S - 6	All F No. 6
Filler metal or electrode specification(s) (SFA) (info only) (QW-404)	5.18	All F No. 6
Filler metal F-Number(s) (QW-404.15)	6	All F No. 6
Consumable Inert(GTAW or PAW) (QW-404.22)	Nil	Nil
Filler Type (Solid, Flux cored etc.)(GTAW or PAW) (QW-404.23)	Solid	Solid
Deposit thickness for FCAW Process	N.A	N.A
Deposit thickness for SMAW Process	10 mm	20mm
Position Qualified (QW-405)	3G	1G,3G
Groove : Plate & Pipe > 24 in.(610mm) Dia.		1G
Pipe ≤ 24 in.(610mm) Dia.		1G,2G,3G
Fillet : Plate & Pipe		Uphill
Vertical Progression (Uphill or Downhill)	Uphill	Uphill
Inert Gas Backing(GTAW,PAW,GMAW) (QW-408)	N.A	N.A
Mode of metal transfer (spray/globular or pulse or short) (GMAW) (QW-409.2)	Globular	Globular
Current / Polarity (AC,DCEP,DCEN) (QW-409.4)	DCEP	DCEP
Others		
RESULTS		
Test Conducted	Test Detail (Type, Report No, etc.)	Results
Visual Inspection (QW-302.4) [X]	By Inspector	Accepted
Tensile Test []		
Bend []		
Radiography Testing [X]	2020/RT/0100	Accepted
Macro examination (QW-462.5(b)) []		
Macro examination (QW-462.5(b)) []		
Test witnessed by: <u>Varun Sharma</u>		
We certify that the statements in this record are correct and that the coupons were prepared, welded, and tested in accordance with the requirements of <u>Section IX of the ASME Code</u> <u>2019</u> Edition. For . Co.		
JIECO Quality Testing Services (P) Ltd. Name: <u>Varun Sharma</u> Signature:  Date: 12/03/2020		Contractor: SARA SAE PVT. LTD. DEHRA DUN Name: <u>Ravi Raj Sharma</u> Signature:  Date: <u>18-03-2020</u>





INSTITUTE FOR AUTO PARTS & HAND TOOLS TECHNOLOGY

(UNDP/UNIDO ASSISTED PUNJAB GOVT. PROJECT)

A-9, PHASE-V, FOCAL POINT, LUDHIANA- 141010. (INDIA)

Tel. : +91-161-2674597, 5022597 Cell : 98728-74597 Cell : +91-98728-74597

E-mail : iatldh@iapht.org, Website : www.iapht.org



85049

Testing & Evaluation Laboratory

TEST REPORT

FM 61/01/22/ 06/19

ULR - TC562820000010763F

Sr. No.:

Report No. : 2020/RT/0100

Date of Receipt : 11/03/2020

Date of Test : 11/03/2020

Work Order No.: 73578

Type of Sample : Welding Plate, W-7, Istkhar, Qty: 01

Ref. (if any) Challan no. 79, dated 11/03/2020,

Customer: M/s Heco Quality Testing Services Pvt. Ltd.
V/84, Chhoti Line, Model Town,
Yamunanagar.

Date of issue of Test report : 11/03/2020

Condition of Items :

Visually ok

Radiographic Testing

Test Method :

ASME Section V, Article-2/ ASTM E 94

Instrument Used :

225 kV, X-RAY M/C Make YXLON, DENMARK, Sr. No. 552346, Model YXPO 225

Environmental condition :

Acceptance Standard:-

Reference Radiograph: - ASTM E 390

Focal Size: 3 mm

Intensifying Screen: Lead Screen (0.13 & 0.25mm)

IQI: ASTM 17 Th

Focus to film distance: 90 Cm

Film: Agfa D -7

Material: Steel

Thickness: - 10 mm

Technique: SWSI

Sensitivity: 2-2T

OBSERVATION

S. No.	Test No.	Segment	Film Size	Density	Observation	Category	Remarks
1.	B - 5140	A - B	15" X 3"	2.32	Slag Inclusion	Level 1	---

ANALYSED BY

Page 1/1

APPROVED BY

TERMS :

1. The result apply to the sample as received.
2. Sample shall be retained only for 90 days.
3. The results listed refer only to the tested sample and indicated parameters, Endorsement of product is neither inferred nor implied.
4. This test report can not be reproduced wholly or in parts and cannot be used as an evidence in the court of law and shall not be used in advertising media without the written approval of Gernal Manager, Institute for Auto Parts & Hand Tools Technology, Ludhiana.
5. The Parameter marked with * are not accredited by NABL.
6. Total Liability of our laboratory is limited to the invoiced amount. No liability shall be accepted after the sample is taken back by the customer.

