

QW-482 WELDING PROCEDURE SPECIFICATION (WPS AS PER ASME SECTION IX)			
Company Name : Gevasol Industries Pvt. Ltd.		DATE : 15/04/2024	
Welding Procedure Specification No: GIPL/WPS/009 Rev : 1		Supporting PQR NO : GIPL/PQR/009	
Welding Process (es): Laser Beam Welding (Fusion)		Page : 1 of 2	
Type(s): LBW Unit Model No. : (ECO PWR JG10SN) Version : 09/2013			
JOINTS : (QW-402) Joint design: AS PER APPROVED DRAWING Backing (Yes / No): Yes Backing Material (Type): Metal 1. Metal 2. Non-fusing Metal 3. Nonmetallic 4. Others Retainers: NONE			
BASE METALS : (QW-403) P No.: - Gr. No. - To P No. : -- Gr..No. -- OR Specification type & grade: ESS Gr.35C270 to Specification type & grade: ECS Gr. 35C270 OR Chem. Analysis & Mech. Prop: --- to Chem. Analysis & Mech. Prop: ---		FILLER METAL : (QW-404)	
		PROCESS	LBW (Fusion)
		F. No.	NA
		A. No.	NA
		Chem. Composition	NA
		Cross section	NA
		Addition of filler metal	NA
		Method of addition	NA
		Filler Metal Product Form	NA
		Make / brand	NA
		Consumable insert	NONE
Base Metal thk range (mm.)	Groove NA	Lap Stack of Lamination rings	Deposited weld metal thickness (Max.) Groove: NA LAP: Lamination Stack
Others:		Others: <div style="text-align: right;"> Anant Kulkarni CWI 11012521 QC1 EXP. 1/1/2026 </div>	

QW 482		WPS NO: GIPL /WPS/008		Page: 2 OF 2				
POSITION : (QW-405) Position(s) of Lap : Flat (1G) Welding Progression: NA Position(s) of Fillet: NA				ELECTRICAL CHARACTERISTICS: (QW-409) Pulse Duration : 4 ms Frequency : 4 Hz Power : 22.2 watts				
PREHEAT : (QW-406) Preheat Temp (Min.): 10 °C Inter-pass Temp (Max.): 150 °C Max. Preheat Maintenance: NIL				TECHNIQUE : (QW-410) Cleaning Method : Acetone / Ultrasonic cleaning Oscillation : No Angle of Beam : 90 Degree Wash Pass : No 1 Vs 2 side Welding : NA Travel speed : 3 mm /sec				
POST WELD HEAT TREATMENT : (QW-407) Temperature Range : NA Time Range: NA				Optical Technique Change : No Multiple or Single pass : Two Passes Type of Equipment : Nd YAG Laser Use of Thermal Process : NA Change in Wavelength : No Spot size change : As required				
GAS: (QW-408)	Gas (es)	% Composition mixture	Flow rate (Lit/min)					
Shielding	NA	NA	NA					
Trailing	NA	NA	NA					
Others: Clean the joint area on either side of the joint by wire brushing to remove rust & dirt oil grease & other materials detrimental to welding to be removed by solvents.								
Weld Layer(s)	Process (es)	Filler material		Pulse Duration	Frequency	Power	Travel speed in mm / sec	Remark
		Class	Dia (mm.)					
Two Passes	LBW Fusion	NA	NA	4 ms	4 Hz	22.2 watts	3 mm/sec	
Approved by <div style="display: flex; align-items: center; justify-content: center;"> <div> <p style="margin: 0;">Anant Kulkarni CWI 11012521 QC1 EXP. 1/1/2026</p> </div> </div> <div style="text-align: center; margin-top: 10px;"> <p style="margin: 0;">A E Kulkarni (AWS : CWI) Weld Tech Services</p> </div>								

QW 483
PROCEDURE QUALIFICATION RECORD
(PQR)

Procedure Qualification Record No.: GIPL PQR/ 009
WPS No.: GIPL / WPS/009 Rev.: 0
Welding Process(es) : Laser Beam Welding (Fusion)
Types (Manual, Semi automatic, Machine): LBW M/c Model (ECO PWR JG10SN)
Version : 09/2013

Date: 15/04/24

JOINTS (QW 406)

BASE METAL (QW-403)
Material Spec.: Carbon steel Grade 35C270
as per BIS-IS-648
To
Material Spec.: Carbon steel Grade 35C270
as per BIS-IS-648
P No.: - To P No.: -
Thickness of each Lamination : 0.35 mm Thick
Production Mock Up ID : REEM
Dia. OD 34 X LENGTH 33 mm
Dia. of Prod. Mock up (mm.): 15.6 mm ID
Others : NA

POST WELD HEAT TREATMENT (QW-407)

Temperature: NA

Time: NA

Others:

GAS : QW-408	Gas (es)	% Composition mixture	Flow rate (LPM)
Shielding	NA	NA	NA
Trailing	NA	NA	NA
Backing	NA	NA	NA

FILLER METAL (QW-404) LBW (Fusion)

Weld Metal Analysis (A No.) NA

Filler Metal F No NA

Addition of Filler NA

Chemical Composition NA

Cross section NA

Filler Metal Product Form NA

Deposited Weld Metal Only Fusion

Make/ Brand of Filler NA

ELECTRICAL CHARACTERISTICS (QW-409)

Pulse Duration : 4 ms

Frequency : 4 Hz

Power : 22.2 watts

Travel Speed : 3 mm / sec.

POSITION (QW-405)

Position : Flat (1G)

Weld Progression: NA

Others:

TECHNIQUE (QW-410)

Angle of Beam : 90 Degree

Change in Wavelength : NA

Change in Oscillation: No

Multi pass or Single Pass : Two passes

Spot size : As required

PREHEAT (QW-405)

Preheat Temp.: 25 °C (Ambient Temp.)

Inter-pass Temp.: 100 °C

Preheat Maintenance: NONE

Wash Pass - No

Use of Thermal Process : NA

Type of Equipment : Nd YAG Laser

Weld Layer(s)	Process (es)	Filler material		Pulse Duration	Frequency	Power In Watts	Travel speed range (mm./Sec.)	Remarks
		Class	Dia (mm.)					
1st Pass - Forward 2nd Pass - Reverse	LBW Fusion	NA	NA	4 ms	4 Hz	22.2	3	

QW 483 PQR No.: GIPL /PQR/008 (contd.) 2 of 2

TESILE TEST (QW-150) - NA

Specimen No.	Width (mm.)	Thick (mm.)	Area (mm ²)	Ultimate Total Load (N)	Ultimate Tensile Strength (Mpa)	Min. require d UTS (Mpa)	Type of failure & Location

GUIDED BEND TESTS (QW-160) - NA

Type and Figure No.	Results

TOUGHNESS TESTS (QW-170) - NA

Notch Type	Test Temp.	Notch Location	Specimen Number	Impact Values (Joules)	Min. required (Joules)	Lateral Shear (%)	Exp. (Mils)	Drop Weight	
								Break	No Break

PULL OUT TEST

Result: Satisfactory

MACRO TEST (QW 197.1)

Test Result of Production Mock Up Macro Specimen : Satisfactory

Operator's Name: Paresh Naikude T. No.: WO1 Stamp No.: GIPL/PN/WOPQ-01
 Test Conducted by: Gevasol Industries Pvt. Ltd. By : Matscope Material Testing Labs Pvt Ltd.
 Lab Test No. : MD06DN – 05/01
 Test Witnessed by : Mr. A. E. Kulkarni (AWS :CWI Weld Tech Services DT : 07/04 /2024

We certify that the statements in this record are correct and that the test welds were prepared & tested in accordance with the requirement of section IX of ASME BOILER AND PRESSURE VESSEL CODE.



Manufacturer: M/S Gevasol Industries Pvt. Ltd.

 *Anant Kulkarni*
 Anant Kulkarni
 CWI 11012521
 QC1- EXP. 1/1/2026


Signature

15/04/2024

By: MANAGER QC

QW-484B WELDING OPERATOR PERFORMANCE QUALIFICATIONS (WOPQ)		
(See QW-301, Section IX, ASME Boiler and Pressure Vessel Code)		
Operator's Name : Paresh Naikude	Identification No.: WO-1 Coupon Id: GIPL /WPS /009-WOPQ-01 (REEM)	
Test Description	Date of Welding : 07/04/2024	
Identification of WPS Followed : GIPL /WPS /009	Rev. : 1	<input checked="" type="checkbox"/> Test Coupon <input type="checkbox"/> Production Weld
Specification of Base Metal(s) : Carbon Steel Grade 35C270 as per BIS-IS-648 to : Carbon steel Grade 35C270 as per BS -IS -648	Thickness : 0.35 mm of Lamination	
Testing Variables and Qualification Limits		
Welding Variables(QW-350)	Actual Values	Range Qualified
Welding Process(es)	LBW FUSION	LBW FUSION
Type (ie; manual,semi-automatic, Machine) used	M/c No.(ECO PWR JG10SN)	M/c No.(ECO PWR JG10SN)
Backing (metal , weld metal)	with	with
<input type="checkbox"/> Plate <input type="checkbox"/> Pipe (enter diameter if pipe or tube)	Lamination To Lamination (entire stack)	Lamination To Lamination (entire stack)
Base Metal P-Number to P-Number	Carbon steel Grade 35C270	Carbon steel Grade 35C270
Filler metal or electrode specification(s) (SFA) (Info. Only)	NA	NA
Filler metal or electrode Classification(s) (Info Only)	NA	NA
Filler (With / Without)	NA	NA
Filler Metal F - Number(s)	NA	NA
Consumable Insert	None	None
Filler Metal Product Form (solid/metal or flux cored/powder)	NA	NA
Deposit thickness for each process		
Process :---GTAW Fusion -----3 layers minimum - No	0.35 mm thk Lamination stack	0.35 mm thk Lamination stack
Position(s)	1G	Flat
Direct or Remote Visual Control	Direct	Direct
Automatic arc voltage control (GTAW)	No	NA
Automatic joint tracking	No	NA
Single or multiple passes	Two passes	Two passes
Results		
Visual Examination of Completed Weld (QW - 302.4): Satisfactory		
<input type="checkbox"/> Transverse root and face bends[QW - 462.3 (a)]; <input type="checkbox"/> Longitudinal Bends[QW - 462.3 (b)]; <input type="checkbox"/> Side Bends[QW-462.2];		
<input type="checkbox"/> Pipe bend specimen, corrosion-resistant overlay [(QW-462.5(c)); <input type="checkbox"/> Plate bend specimen, corrosion resistant - overlay[(QW -462.5(d));		
<input type="checkbox"/> Pipe Specimen, Macro test for fusion[(QW -462.5(b)); <input type="checkbox"/> Plate Specimen, Macro test for fusion[(QW -462.5(e))]		
<input type="checkbox"/> Type of Test: NA	Result:	
Qualified by Mechanical Testing		
Alternative radiographic examination results (QW-191):		
Fillet Weld - Test(QW-180) : NA Length and percent of defects : NIL		
Macro Examination(QW -197.1) : - Satisfactory Fillet Size (mm) : NA Concavity/Convexity (mm) : NA		
Radiography Test : NA Report No :		
Film or specimens evaluated by : NA Company : --		
Mechanical tests conducted : Matscope Material Testing Lab Laboratory test no.: MD06DN-05/01 Dated : 13/04/24		
Welding Supervised by: Mr. Swapnil Kadam		
We certify that the statement in this record are correct and that the test coupons were prepared, welded, and tested in accordance with the requirements of Section IX of the ASME BOILER AND PRESSURE VESSEL CODE.		
Organization: Gevasol Industries Pvt Ltd.		
  Anant Kulkarni CW 11012521 QC1 EXP. 1/1/2026		
Prepared By:	Certified By :	
Date: 15.04.2024		

TEST REPORT

Name : GEVASOL INDUSTRIES PVT LTD	TC NO : MD05DN-05/01	Date : 07.04.2024
Address : S. No 74+84, Plot No-16, Middle Lane No- 3 & 4, Ramtekdi Industrial Area, Pune, Maharashtra - 411028 India	CHALLAN NO : Verbal	Date : 06.04.2024
	Sample Received Date :	05.04.2024
Contact Person : Mr. Swapnil Kadam	Tested Date :	07.04.2024
Contact Details : +91 9768929218	Testing Temperature	26.1°C

Lab ID No : MD05DN-05/01	Test Method - ASME SEC IX 2023 QW 183(a)
PART 1 & SIZE : Electrical Silicon Steel Grade 35C270 as per BIS -IS-648-0.35 mm Thickness.	Magnification : 20X
PART 2 & SIZE : Electrical Silicon Steel Grade 35C270 as per BIS -IS-648-0.35 mm Thickness.	Testing Group : Mechanical
TYPE OF JOINT: Square PART NO: 5700407	Subgroup : Metallography Test
PART DESCRIPTION: Lamination Stack - REEM	Etching Reagents used : HCL
JOINT ID NO : 5700407 Lamination Stack - REEM,	
Machine Model/SR NO : Make - OR LASER, MODEL - ECO PWRJG105N, OPERATOR NAME: PARESH NAIKUDE, POSITION : 1G, WPS ID NO : GIPL/WPS/009	


MACRO ETCH TEST :	Test Method : ASME SEC IX 2023 QW 183(a)
--------------------------	---



OBSERVATION:-

Visual examination of the cross sections of the weld metal does not show any cracks or flaws

For Matscope Material Testing Labs PVT LTD

Tested By	Authorized Signatory
 Mr Aditya Aundhkar (Lab In-charge)	 Mr. Soudagar M.J. (Tech. Manager)

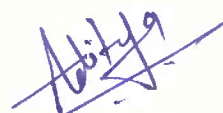
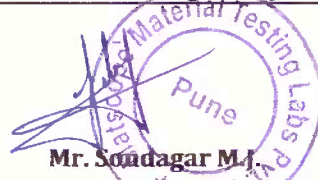
NOTE : 1) This report is for sample drawn and submitted by customer. 2) This report is non NABL. 3) Matscope is going under NABL process and will receive in months time. 4) This report shall not be reproduced, except in full, without our written permission. 5) Test samples are retained by the lab for 3 months. 6) Matscope Material testing labs pvt ltd has made best effort to provide reliable and accurate information, liability of Matscope Material testing labs pvt ltd is limited to the value of testing charges billed for the respective samples and Matscope material testing labs pvt ltd is not responsible for any financial liability due to any act of omission or error.

TEST REPORT

Name : GEVASOL INDUSTRIES PVT LTD	TC NO : MD05DN-05/01	Date : 07.04.2024
Address : S. No 74+84, Plot No-16, Middle Lane No- 3 & 4, Ramtekdi Industrial Area, Pune, Maharashtra -	CHALLAN NO : Verbal	Date : 06.04.2024
	Sample Received Date :	05.04.2024
Contact Person : Mr. Swapnil Kadam	Tested Date :	07.04.2024
Contact Details : +91 9768929218	Testing Temperature	26.1°C

Lab ID No : MD05DN-05/01	Test Method - As requested by customer
PART 1 & SIZE : Electrical Silicon Steel Grade 35C270 as per BIS -IS-648-0.35 mm Thickness.	Testing Group : Mechanical
PART 2 & SIZE : Electrical Silicon Steel Grade 35C270 as per BIS -IS-648-0.35 mm Thickness.	Group : Mechanical Properties of Metal
TYPE OF JOINT: Square PART NO: 5700407	
PART DESCRIPTION: Lamination Stack - REEM	
JOINT ID NO : 5700407 Lamination Stack - REEM,	
Machine Model/SR NO : Make - OR LASER, MODEL - ECO PWRJG105N, OPERATOR NAME: PARESH NAIKUDE, POSITION : 1G, WPS ID NO : GIPL/WPS/009	

Pull Out Test :	Test Method : As per Customers Specification						
<table border="1"> <tr> <td>Observed Max Load :</td> <td>1.724 kN</td> </tr> <tr> <td>Observed Max Displacement</td> <td>9.260 m</td> </tr> <tr> <td>Remark:</td> <td>Sample tested for Pull Out Test and found to be broken at weld. No deformation at observed at Parent Metal.</td> </tr> </table>	Observed Max Load :	1.724 kN	Observed Max Displacement	9.260 m	Remark:	Sample tested for Pull Out Test and found to be broken at weld. No deformation at observed at Parent Metal.	
Observed Max Load :	1.724 kN						
Observed Max Displacement	9.260 m						
Remark:	Sample tested for Pull Out Test and found to be broken at weld. No deformation at observed at Parent Metal.						

For Matscope Material Testing Labs PVT LTD	
Tested By	Authorized Signatory
 Mr Aditya Aundhkar (Lab In-charge)	 Mr. Soudagar M.J. (Tech. Manager)
<small>NOTE : 1) This report is for sample drawn and submitted by customer. 2) This report is non NABL. 3) Matscope is going under NABL process and will receive in months time. 4) This report shall not be reproduced, except in full, without our written permission. 5) Test samples are retained by the lab for 3 months. 6) Matscope Material testing labs pvt ltd has made best effort to provide reliable and accurate information, liability of Matscope Material testing labs pvt ltd is limited to the value of testing charges billed for the respective samples and Matscope material testing labs pvt ltd is not responsible for any financial liability due to any act of omission or error.</small>	
Revision no:00 Revision date:01.09.2021	END OF REPORT 2 of 2
	MAT/F/33