

Welding Procedure Qualification – Test Certificate

Manufacturer's WPQR No. : **SEPL/WPQR/203**

Manufacturer : **Sparkline Equipments Pvt. Ltd**

Address : **F-II Block, Plot No. 38, MIDC,
Pimpri, Pune, Maharashtra, India.**

Code/Testing Standard : **EN ISO 15614-1: 2020**

Level of testing : **2**

Date of Welding : **01.12.2022**

Examining Body

**FIRST WELDING
CERTIFICATION PVT LTD.**

Welding Variables	Test Piece		Range Qualification	
	Process	Deposited Thk mm	Process	Deposited Thk mm
Welding Process	136 (FCAW)	30	136 (FCAW)	Max. 60
Type of Joint and weld	Butt Joint and Full penetration		Full and partial penetration butt & fillet welds	
P Metal Group & Sub Group	ISO 15608 - Group 1.2 + 1.2		ISO 15608 - Group 1.2 / 1.1	
Parent Metal Thickness	30 mm		BW: 15 to 60 mm & FW: ≥ 5	
Throat Thickness(mm)	--		FW: No restriction	
Single run/Multi run	Multi run		Multi run	
Outside Pipe Diameter(mm)	--		>500 & >150 (in PC or in PA/PF Rotated)	
Filler Material Designation	EN ISO 17632-B-T49 2 T1-1 C1 A-K (AWS A 5.20 E 71T-1C)		The same electrode or with equiv. properties	
Filler Material Brand / Make	Blume E71T-1C / Blumenotics		Any	
Filler Material Sizes(mm)	Ø1.2 mm		Ø1.2 mm	
Designation of Shielding Gas/Flux	ENISO14175 C1 (100% CO₂)		ENISO14175 C1 (100% CO₂)	
Designation of backing gas	None		None	
Type of welding current & Polarity	DCEP		DCEP	
Transfer mode	Globular		Globular / Spray	
Heat Input KJ / mm	0.63 – 1.20		0.47 – 1.50	
Welding Position	PA (Flat)		PA (Flat)	
Preheat Temperature	Ambient (32°C)		Ambient ($\geq 15^\circ\text{C}$)	
Inter Pass Temperature	Max . 271 °C		Max . 300 °C	
Post Heating	None		None	
Post Weld heat treatment	None		None	
Other Information	None		None	

We confirm that the statements in this record are correct and the test pieces were prepared, welded, tested and have fulfilled the requirements with the above indicated code / testing standard.

Location : Pimpri, Pune

Date of issue : 04-12-2022

International Welding Technology
A. Arun
Sign : *[Signature]*
Date : 04/12/22
Examiner
(Name, Date & Signature)

Welding Procedure Qualification – Record of Weld Test

Location : Pimpri, Pune, Maharashtra, India.

Manufacturer's pWPS No. : SEPL/pWPS/103

Manufacturer's WPQR No. : SEPL/WPQR/203

Manufacturer : Sparkline Equipments Pvt. Ltd.

Welding process : 136 (FCAW)

Welder : Mr. Tirath Rajput

Parent matl Specification : IS 2062 E 350 BR +

Joint Type and weld : Butt & Full penetration

IS 2062 E 350 BR

Method of Preparation : Thermal cutting & grinding

Material thickness (mm) : 30 + 30

Method of Cleaning : Grinding & Wire Brush

Outside pipe diameter (mm) : NA

Welding position : PA (Flat)

Weld Preparation details (sketch)

Joint Design	Welding Sequences
Refer Annexure A	

Welding details

Run	Welding Process	Size of Filler (mm)	Current A	Voltage V	Type of current/ Polarity	Wire Feed Speed mm/min	Travel Speed (mm/min)	Heat Input (KJ/mm)	Type of Metal Transfer
Refer Annexure A									

Filler Designation : EN ISO 17632-B-T49 2 T1-1 C1 A-K (AWS A 5.20 E 71T-1C)

Filler Brand name/ Make : Blume E71T-1C / Blumenotics

Any Special baking or drying : None

Gas / Flux-Shielding : EN ISO 14175 C1 (100% CO₂)

Gas / Flux-Backing : None

Gas Flow rate - Shielding : 18 LPM

Gas Flow rate - Backing : None

Weaving : Stringer / Weaving

Oscillation : Not Applicable

Pulse Welding Details : None

Distance Contact tube/Workpiece : 15 mm

Torch Angle : 0 - 10° from Vertical Plane

Plasma Welding details : Not Applicable

Tungsten Electrode Type/ Size : Not Applicable

Details of Backgouging / Backing : Grinding

Preheat Temperature : Ambient (32°C)

Inter pass Temperature : Max. 271°C

Post-Heating : None

Postweld heat treatment : None

Other Information : None



(Name, Date & Signature)



(Name, Date & Signature)

Welding Procedure Qualification – Test Results

Manufacturer's WPQR No. : **SEPL/WPQR/203**

Non Destructive Test	Report No	Results
Visual Examination	SEPL/VT/WPQR/011	Acceptable
Magnetic Particle Testing	INS/MPI/22-23/SEPL/108	Acceptable
Ultrasonic Testing	INS/UT/22-23/SEPL/103	Acceptable

Examining Body

**FIRST WELDING
CERTIFICATION PVT LTD.**

Transverse Tensile Test

Type / No.	Gauge Width (mm)	Gauge Thick (mm)	Cross Sect. Area mm ²	Tensile Load (kN)	Tensile Strength (MPa)	Fracture Location	Remarks
T1	19.60	29.57	579.572	311.92	538.19	Parent	--
T2	18.74	29.49	552.643	294.79	533.43	Parent	--

Transverse Bend Test

Type / No.	Bend Angle	Mandrel Dia (mm)	Remarks
Side Bend (1)	180	4T	Satisfactory
Side Bend (2)	180	4T	Satisfactory
Side Bend (3)	180	4T	Satisfactory
Side Bend (4)	180	4T	Satisfactory

Impact Test - Charpy

Location	Specimen size mm	Notch Type	Temp. (C°)	Absorbed Energy (J)			Average(J)
				1	2	3	
Weld	10x10x55	V	25 (Room Temp)	126	130	136	130.67
HAZ	10x10x55	V	25 (Room Temp)	66	64	68	66

Hardness Test – Vickers (Load HV 10 kg)

Location	Values
Parent Metal	134,134,136,136,139,141,134,135,134,139,140,140,135,137,137,140,138,136
HAZ	162,165,165,165,169,169,165,165,163,164,166,166,163,164,164,167,167,140
Weld Metal	181,183,185,183,184,182,187,187,188

Macro Examination

Macro Examination of the specimen did not reveal inclusion, porosity, crack or other defects. Observed complete weld fusion in all examined areas.

Other Tests: Not Applicable.

Test carried out by in accordance with the requirement of : **ISO 15614-1: 2020**

Laboratory report Reference no.: **16318 Dt-04 Dec 2022**

Test results were **Acceptable / Not-acceptable**

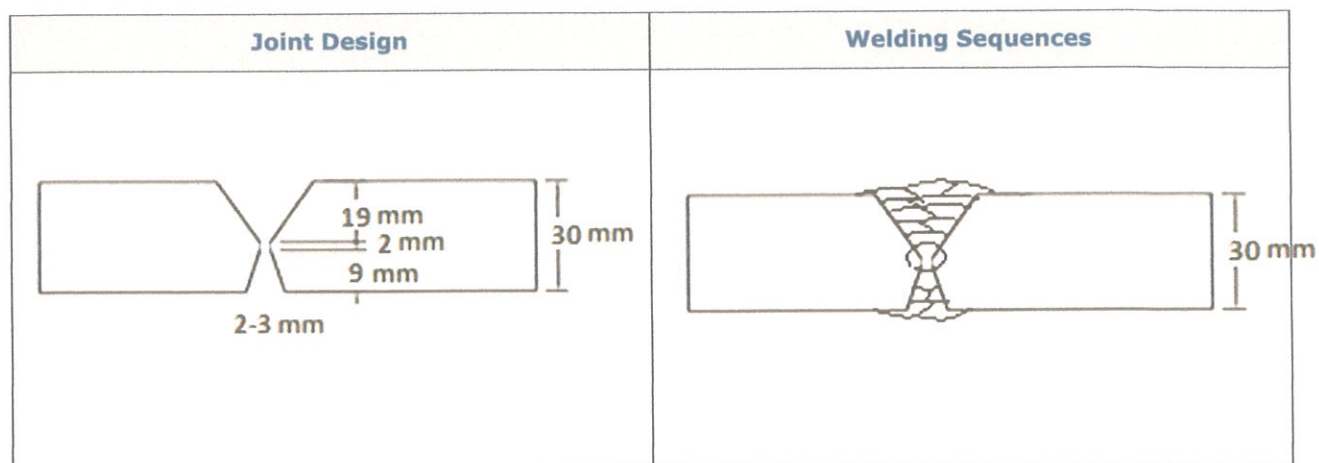
Test carried out in the presence of



Examiner

(Name, Date & Signature)

Welding Procedure Qualification – Annexure A



Welding details

Run	Welding Process	Size of Filler (mm)	Current A	Voltage V	Type of current/ Polarity	Wire Feed speed	Tr.Speed mm/min	Heat Input KJ/mm	Type of metal transfer
Top Side									
1	136	1.2	135 - 140	24 - 25	DCEP	-	247	0.63 - 0.68	Globular
2	136	1.2	151 - 156	24 - 25	DCEP	-	263	0.66 - 0.71	Globular
3 a,b	136	1.2	230 - 236	27 - 28	DCEP	-	269	1.11 - 1.18	Globular
4 a,b	136	1.2	245 - 252	28 - 29	DCEP	-	292	1.13 - 1.20	Globular
5 a,b	136	1.2	246 - 254	28 - 29	DCEP	-	323	1.02 - 1.09	Globular
6 a,b,c	136	1.2	261 - 267	29 - 30	DCEP	-	323	1.12 - 1.19	Globular
7 a,b,c	136	1.2	263 - 268	29 - 30	DCEP	-	323	1.13 - 1.19	Globular
Back Grinding (Bottom Side)									
1	136	1.2	156 - 159	24 - 25	DCEP	-	244	0.74 - 0.78	Globular
2	136	1.2	170 - 176	25 - 26	DCEP	-	266	0.77 - 0.83	Globular
3 a,b	136	1.2	242 - 246	28 - 29	DCEP	-	328	0.99 - 1.04	Globular
4 a,b	136	1.2	245 - 252	29 - 30	DCEP	-	328	1.04 - 1.11	Globular

Welding Technology

 04/12/22

URJA METALLURGICAL SERVICES

J/P-15, TELCO BHOSARI ROAD, OPPOSITE TO RELIENCE COMMUNICATION, BHOSARI, PUNE-26

MAHARASHTRA

Email Id : urjametallurgical@gmail.com

TEST REPORT

To,
SPARKLINE EQUIPMENTS PVT.LTD.
PLOT NO. 38, F II BLOCK MIDC PIMPRI PUNE-
411018, MAHARASHTRA

Challan No.: 24

Lab ID :

UMI-139

Challan Date:

03/12/2022

Test Report
No.:

16318

Work Order No. :

UMS/04860

Date of
Reporting:

04/12/2022

Date of Sample Receipt:

03/12/2022

ULR No:

TC774822000086385F

Page No:

1/2

Sample Description :- TEST COUPON SIZE:- 350 X 300X30 MM THK PLATE, JOINT:- BUTT, PROCESS:- FCAW, MATERIAL GRADE:- IS 2062 E350BR, WELDER NAME - MR. TIRATH RAJPUT, WELDER ID - W2-1, WPQR NO. - SEPL/WPQR/203, TR. BEND TEST (ISO 5173-2012), TR. TENSIL (ISO 4136-2012).

Discipline: Mechanical

Group:

Env Cond.: Ok

Test Name : Welder Qualification

Test Method : ISO 15614-1 : 2020

Sr.No	Parameter	Unit	Specification	R1	R2	R3	R4
1	Thickness	mm	—	29.57	29.49	—	—
2	Width	mm	—	19.6	18.74	—	—
3	Area	mm ²	—	579.572	552.643	—	—
4	Max Load	KN	—	311.92	294.79	—	—
5	UTS	N/mm ²	490.0 Min	538.19	533.42	—	—
6	Fracture Location	—	—	IN PARENT METAL	IN PARENT METAL	—	—
7	Thickness	mm	—	30.0 (SIDE BEND)	30.0 (SIDE BEND)	30.0 (SIDE BEND)	30.0 (SIDE BEND)
8	Width	mm	—	10.0	10.0	10.0	10.0
9	Former Dia	mm	4W	40.0	40.0	40.0	40.0
10	Bend Angle	—	—	180 Deg	180 Deg	180 Deg.	180 Deg
11	Remarks	—	—	SATISFACTORY	SATISFACTORY.	SATISFACTORY.	SATIAFACTORY.

Remark :SATISFACTORY

Discipline: Mechanical

Group:

Env Cond.: Ok

Test Name : Charpy impact test V notch

Test Method : IS 15614-1 : 2020 / ISO 148-1 / ISO 9016

Sr.No	Parameter	Unit	Specification	R1	R2	R3
1	Notch	—	V NOTCH	HAZ	WELD	P METAL
2	Temperature	°C	25°C (ROOM)	—	—	—
3	SIZE	mm	10 X 10 X 55	—	—	—
4	R1	J	—	66	126	80
5	R2	J	—	64	130	76
6	R3	J	—	68	136	70
7	Average	J	—	66.00	130.67	75.33

Remark :-

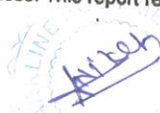
FOR URJA METALLURGICAL SERVICES


UJJWALA SURYAWANSHI (Mech. Head)
Authorized signatory



Reviewed By :UJJWALA SURYAWANSHI

Note :- Sample(s) are not drawn by Urja Metallurgical Services. This report refers to sample(s) submitted for test. Report shall not be reproduced except





URJA METALLURGICAL SERVICES

J/P-15, TELCO BHOSARI ROAD, OPPOSITE TO RELIANCE COMMUNICATION, BHOSARI, PUNE-26

MAHARASHTRA

Email Id : urjametallurgical@gmail.com

TEST REPORT

To,
SPARKLINE EQUIPMENTS PVT.LTD.
PLOT NO. 38, F II BLOCK MIDC PIMPRI PUNE-
411018, MAHARASHTRA

Challan No.: 24

Lab ID :

UMI-139

Challan Date:

03/12/2022

Test Report

No.: 16318

Work Order No. :

UMS/04860

Date of

Reporting: 04/12/2022

Date of Sample Receipt:

03/12/2022

ULR No:

TC774822000086385F Page No:

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Discipline: Mechanical

Group:

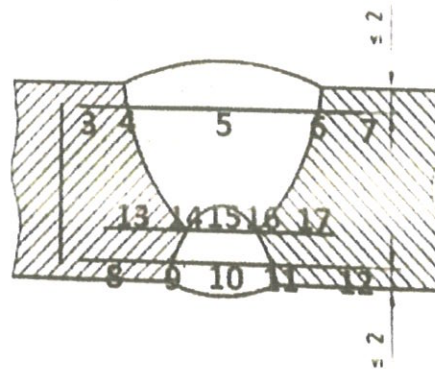
Env Cond.: Ok

Test Name : VICKER'S HARDNESS TEST

Test Method : ISO 15614-1 : 2020

Sr.No	Location	Parameter	Unit	Specification	Result
1		Load	KG	10	--
2		INDENTOR	--	136° DIAMOND	--
3	AT 2 MM DEPTH FROM	P METAL (L.H.S)	HV	--	134,134,136
4	TOP SURFACE	HAZ(L.H.S)	HV	--	162,165,165
5		WELD	HV	--	181,183,185
6		HAZ(R.H.S)	HV	--	165,169,169
7		P .METAL (R.H.S)	HV	--	136,139,141
8	AT 2 MM ABOVE FROM	P METAL (L.H.S)	HV	--	134,135,134
9	BOTTOM SURFACE	HAZ(L.H.S)	HV	--	165,165,163
10		WELD	HV	--	183,184,182
11		HAZ(R.H.S)	HV	--	164, 166,166
12		P .METAL (R.H.S)	HV	--	139,140,140
13	AT ROOT	P METAL (L.H.S)	HV	--	135,137,137
14		HAZ(L.H.S)	HV	--	163,164,164
15		WELD	HV	--	187,187,188
16		HAZ(R.H.S)	HV	--	167,167,140
17		P .METAL (R.H.S)	HV	--	140,138,136

NOTE :- SKETCH OF HARDNESS MEASUREMENT



Remark :HARDNESS MEASUREMENT AS PER ISO 9015 -1 : 2011

FOR URJA METALLURGICAL SERVICES

UJWALA SURYAWANSHI (Mech. Head)
Authorized signatory



Reviewed By :UJWALA SURYAWANSHI

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Signature
Date
04/12/22



URJA METALLURGICAL SERVICES

J/P-15, TELCO-BHOSARI ROAD, OPPOSITE TO RELIANCE COMMUNICATION,
BHOSARI, PUNE-26 PH-020-46780012, Email-urjametallurgical@gmail.com

ORIGINAL



TC-7748

Test Report: 16318

ULR No: 774822000086385F

Report Date : 04/12/2022
Challan no: 24/03.12.2022

SPARKLINE EQUIPMENTS PVT.LTD.
PLOT NO. K 79, CHAKAN PHASE-II,
KHED, PUNE MAHARASHTRA.

TEST REPORT

LAB ID:- UMI-139

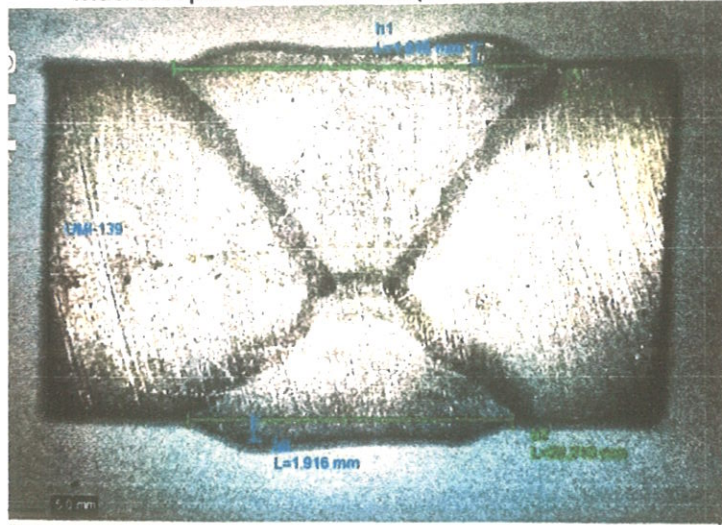
Sample Type:- BUTT JOINT,

Sample Description:- TEST COUPON SIZE:- 350 X 300X30 MM THK PLATE, JOINT:- BUTT, PROCESS:- FCAW, MATERIAL GRADE:- IS 2062 E350BR, WELDER NAME - MR. TIRATH RAJPUT, WELDER ID - W2-1, WPQR NO. - SEPLWPQR/203, TR. BEND TEST (ISO 5173-2012), TR. TENSIL (ISO 4136-2012),

Etchant:- 2% Nital, **Welder Name:-** MR. TIRATH RAJPUT, **MATERIAL:-** IS 2062 E350BR

Test Method:- ISO 15614-1 : 2020

Macroscopic Examination as per ISO 17639 : 2022



Weld measurement as per ISO 5817 : 2014

Weld measurement as per ISO 5817 : 2014			
SR. NO.	Imperfection	Location	OBSERVED VALUE (mm)
1	EXCESS WELD METAL TOP	b	32.04
		h	1.92
2	EXCESS WELD METAL BOTTOM	b	28.21
		h	1.92
Etchants :		2 % Nital	
Observation		No inclusion ,. No porosity , no cracks or other defects observed .	
Weld Fusion		Satisfactory	

For Urja Metallurgical Services

Rohidas Chavhan
(Tech. Manager)



Reviewed By : Tushar Gaikwad

ULTRASONIC EXAMINATIONREPORT

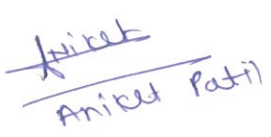
Report No.: INS/UT/22-23/SEPL/103

Date: 01.12.2022

01	Client	Sparkline Equipments Pvt. Ltd.
02	Customer	-
03	Project Name	-
04	Project Code	-
05	Component	WPQR
06	WPQR No.	SEPL/WPQR/203
07	Material Specification	IS 2062 E350B
08	Welding Process	FCAW
09	Test Equipment [i] Calibration date [ii] Due date of calibration	GE USM 36 (Sr. No. 17097594) 05.05.2022 04.05.2023
10	Probes	4 MHz, Size 8 x 9, 70° & 60° Angle Probe
11	Search unit cable type and length	Co-axial, Lemo to Mini Lemo, 1.5 mtrs.
12	Couplant	Oil
13	Calibration Block	IIW V2
14	Technique	Pulse Echo, Contact Method
15	Calibration (I) Range (II) Sensitivity (III) Ref dB (IV) Scanning dB	0 – 150 DGS on 2 mm D _{DSR} 46dB & 44dB Ref dB + 6 dB
16	Scanning Surface Condition & Temp	As Smooth & Ambient 31°C
17	Scanning Speed	Less than 150mm/sec
18	UT Specification & Acceptance Criteria	EN ISO 17640: Edition 2018 EN ISO 11666: Acceptance level 2 Edition 2018
19	Result: The Test Coupon with identification as below were ultrasonically tested for internal defects and found as below.	

Tested Part Details:

Sr No	Welder Name	Welder ID	Plate Thk	Qty	Observation	Remark
01	Mr. Tirath Rajput	W2-1	30mm thk Butt Joint	01 No.	No Relevant Indication Observed	Acceptable

Tested By	Sparkline Equipments Pvt. Ltd.	Inspection Authority
  For Integrated NDE Solution	 Aniket Patil	 

Format No.: INS/UT/05 sheet 1/1 Rev.0



MAGNETIC PARTICLE EXAMINATION REPORT

Client	Sparkline Equipments Pvt. Ltd.	Report No	INS/MPI/22-23/SEPL/108
Customer	-	Date	01.12.2022
Project code	-	Component	WPQR
WPQR No.	SEPL/WPQR/203	Material	IS 2062 E350B
Surface	As welded	Weld Process	FCAW

MPT Details

Equipment	Electromagnetic Yoke – AC	Method of MPT	Visible
Magnetization Technique	Longitudinal Magnetization	Lifting capacity of Yoke	4.5 Kg for AC
Equipment Sr. No.	MF-ADY 11366	Magnetizing Flux Medium	Oil
Calibration date	26.03.2022	Expiry date	25.03.2023
MPT Material Make& ID	Pradeep – Magna Ink BK (Black –Liquid Concentrate) Batch No- 1711 Expiry 04/24 Pradeep – WC-23 (White Contrast) Batch No – 1701 Expiry Date 03/24		
Light Intensity	1150-1220 Lux	Lighting Equipment	Natural Day Light

Referenced Documents

MPT Specification	EN 17638 Edition 2015
Acceptance Standard	EN 23278 Level 1 Edition 2015

Job Description and Test Results

Sr No	Welder Name	Welder ID	Plate Thk	Qty	Observation	Remark
01	Mr. Tirath Rajput	W2-1	30mm thk Butt Joint	01 No.	No Relevant Indication Observed	Acceptable

Tested By	Sparkline Equipments Pvt. Ltd.	Inspection Authority
 ASHISH C. PHADKE 3197-CERT-NDT-0308-17 UT+MPT+VT+PT+RT For Integrated NDE Solution	 Aniket Patil	 A. Arun Sign: [Signature] Date: 04/12/22 International Welding Technology Diploma No: IN/WT/51000412

Format No.: INS/MT/05 sheet 1/1 Rev.





Ref.No.

SEPL/VT/001

Rev.No.

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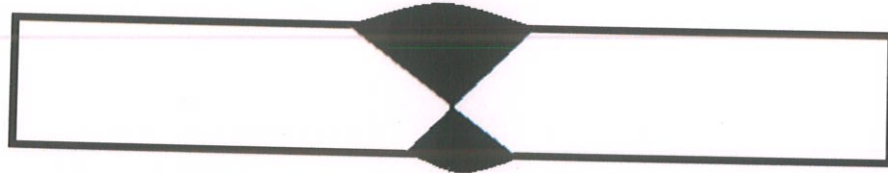
Rev. Date

03/10/2022

Visual Inspection Report

Report Number	SEPL/VT/WPQR/3	Date	01.12.2022
Description	Butt Joint	Quantity	1 Nos
Ref. Standard	ISO 17637	Material Grade	IS 2062 E 350 Grade B
Instrument Used	Torch	Material Thickness	30mm
Light Intensity	1076 Lux	Welding Process	FCAW
Light Source	Torch /Nature Light	Welding Joint	Butt Joint
Identification Number	W2-1	Surface Condition	Found OK
Acceptance Standard	5817 Level-B	Stage of Exam	After Welding

Sketch : SEPL / WPQR / 203

30mm
thick
plate

Observation

No Recordable indication observed.



Date : 01.12.2022

Signature





**STEEL AUTHORITY OF INDIA LIMITED
BHILAI STEEL PLANT
RESEARCH & CONTROL LAB (MECHANICAL TESTING LAB)**

Page No :D-1 of 1

IS : 2062



CM/L-0057534

MTL-II/OR-2

**TEST CERTIFICATE FOR HOT ROLLED MEDIUM AND HIGH TENSILE STRUCTURAL
STEEL**

Sold-to-Party:

SHRI SIDDARTH INDUSTRIES

203,PENINSULA HEIGHTS

MUMBAI 400058

Ship-to-Party:

SHRI SIDDARTH INDUSTRIES,Raigad.

T.C.No

RCL/MTL/PLM/80714818

T.C. Date

: 27.09.2022

SALES ORDER NO

: 1100432460

DA No

: 80714818

Wagon No / Trailer No

: SE55070014952

Process of Manufacture of Steel : Basic Oxygen Converter > Continuous Cast > Fully Killed Steel > SIAIK

Specification : IS 2062 E 350 BR : 2011 RA 2021

We certify that the material described below fully conforms to IS 2062 : 2011 RA 2021. Chemical composition and Mechanical properties of the product, as tested in accordance with the scheme of testing and inspection contained in the BIS certification mark Number CM/L 0057534 are as indicated against each Order No.

(Please refer to IS 2062 : 2011 RA 2021 for details of specification requirements)

TEST RESULTS

SECTION (NOMINAL SIZE)			Plate No / Pc. No.	Heat No	MECHANICAL PROPERTIES										Bend Test	M Dia
THICK	WIDTH	LENGTH			YS	UTS	%E	%E2	CHARPY V NOTCH (L) Impact Values (J)							
mm	mm	mm			330 MPa Min	490 MPa	Min22(5.6 5Sqrt(S0))		I1	I2	I3	lavg	°C			
30	2500	12000	2904524/1	349500	433	570	22	--	90	88	86	86	RT	--	--	
				349500	416	546	23	--	--	--	--	--	--	--	--	
30	2500	12000	2904526/1	349500	--	--	--	--	--	--	--	--	--	--	--	
Heat No	CHEMICAL COMPOSITION (LADLE ANALYSIS)															
	C	S	P	Mn	Si	Al	Cu	Cr	Ni	Mo	Nb	V	Ti	N ₂	B	CE
	%	%	%	%	%	%	%	%	%	%	%	%	%	ppm	%	%
349500	0.16	0.013	0.024	1.32	0.26	0.022	< 0.02	0.030	<0.015	<0.015	0.036	<0.010	0.014	65	<0.0005	0.39

Total Pieces Page / Sales Order : 2 / 2

Total Pieces / TC

: 9

Ultrasonic Testing Level :ASTM A 435 Satisfactory & level of acceptance as per TDC.

The Material supplied conforms to the standard rolling and weight tolerances..

CE calculated by formula: $[C + Mn/6 + (Cr + Mo + V)/5 + (Ni + Cu)/15]$.

RT- Room temperature as defined in the specification,

Size of impact test specimen:10x10x55 mm(above 10mm thickness) ; 7.5x10x55 mm(upto 10mm thickness).

Note: * M = Mandrel Dia, T = Plate Thickness, Length is the rolling direction of the plate,

TC as per BSEN 10204 Type 3.1,



This is to Certify that
Being Material sold to:- Sparkline equipments p ltd
Against Challan No.:- 10422
Dated:- 8-10-22
Vehicle No.:- MH4C BB 1196



Authorised Signatory
SAIL /CMO/BSN

Authorized Signatory
Research & Control Laboratory, Bhilai Steel Plant



Blumenotics Pvt. Limited



Duo Harmony
1 Suranjandas Road
New Thippasandra
Bangalore 560075
India

Tel +91 80 2528 3432
Email info@blumenotics.com
URL www.blumenotics.com

Inspection/Test Certificate

No. BPL/MTC/22-23/0081

Customer MM Enterprises										
Trade Name BLUME® E71T-1C				Diameter (ø mm) 1.20				Type E71T-1C		
Lot No. TX00091		Manufacturing Date 26 Sep 2022			Executed Standard AWS A5.20 E71T-1C			Date Of Sample 28 Sep 2022		
Mechanical Properties										
Item		Specifications					Actual Results			
Tensile Strength Rm (Mpa)		≥480					575			
Yield Strength Rm (Mpa)		≥400					480			
Elongation A (%)		≥22					29			
V	Impact V Notch				-20°C		-20°C			
	(J)				≥27		90			
Chemical Composition										
Elements	C	Mn	Si	S	P	Ni	Cr	Mo	V	
Specifications	≤0.12	≤1.75	≤0.90	≤0.03	≤0.03	≤0.50	≤0.20	≤0.30	≤0.08	
Actual Results	0.07	1.32	0.51	0.011	0.012	0.004	0.001	0.001	0.011	
Other Tests - Weld Metal										
Test	Fillet Weld Test					Radiographic Test				
Specifications	According to ASTM/ASW A5.20 E71T-1C; Paragraph no. 15					According to ASTM/ASW A5.20 E71T-1C; Paragraph no. 11				
Result	Approved					Approved				
Remarks										

This is to certify that the electrode/wire conforms with the above standards.

The information contained or otherwise referenced herein is presented only as "typical" values and does not constitute a warranty. Blumenotics Pvt. Limited expressly disclaims any liability incurred from any reliance thereon. Typical data and test results for mechanical properties, deposit or electrode composition and other properties were obtained from a weld produced and tested according to prescribed standards and should not be assumed to be the expected results in a particular application or environment. Actual results will vary depending on many factors, including but not limited to, weld procedure, plate geometry and temperature, electrode design and fabrication methods. Users are cautioned to confirm by qualification testing or other appropriate means, the suitability of any welding consumable and procedure before use in the intended application.


DIRECTOR OF QUALITY ASSURANCE

An ISO 9001:2015 Company

CIN No. U51109WB1995PTC073476

Regd. Office
Works

3rd Floor, No. 57B Chittranjan Avenue, Kolkata 700012, W. Bengal, India
No. 53 KIADB Industrial Area Phase II, Malur 563130, Karnataka, India

SGPL

SANDESH GASES (P) LTD.



HO: AS-1, AKSHAY APARTMENTS, OPP VISHAL CINEMA, PIMPRI, PUNE - 411018
 PH. 27426736 / 27426353 Fax: 27426735 E mail: yogesh_sethia@yahoo.com

Works: Gat No. 343/45 & 343/46, A/P: MAHALUNGE, CHAKAN - TALEGAON ROAD, MAHALUNGE, TAL:- KHED,
 DIST:-PUNE - 410501. PH. 9225536381/4/5, Email: sandeshgases@gmail.com.
 (ISO 9001:2015 Certified Company)

.Certificate of Analysis.

REF: - SGPL/CAL/1017/2022/11

CUSTOMER :- M/S. Sparkline Equipment (P) Ltd. Warale MIDC, Chakan.	DATE :- 19.11.2022
P.O.NO. :- 220200700 DT: 01.06.22	BATCH NO :- 546 DT.18.11.22
CYLINDER NO.:- 15800,7045.	CYLINDER W.C:-47 LIT.VALVE-BSP 1/2 GAS WT- 30 KG

PRODUCT: - CARBON DIOXIDE ($\geq 99.9\%$)

Component Specification

Component	Specification
Oxygen	≤ 05 PPM
Moisture	≤ 03 PPM
Nitrogen	≤ 25 PPM
CARBON MONOXIDE	≤ 0.5 PPM
THC	≤ 2.0 PPM

*IMPORTANT:

The information contain herein has been prepared at your request by personel within SGPL Specialty geses.While we believe the information is accurate whithin the limits of the analytical methods employed and is complete to the extent of the specific analyses performed,we make no warranty or representation as to the sultability of the use of the information for any particular purpose.The information is offered with the understanding that any use of the information is at the sole discretion and risk of the user. In no event shall liability of SGPL specialty Gases arising out of the use of the information contained herein exceed the fee established for Providing such information.

For Sandesh Gases Pvt. Ltd.

Quality Control Incharge.

Name: - Ashish Patil

Dated:



Hanmant Kanwate
 Chemist

Name: - Hanmant Kanwate

** Instrument List :- 01) Gas Chromatograph -TCD. II) Gas Chromatograph - FID/ with Methaniser. III)Trace Oxygen Analyzer . IV) Trace Moisture Analyzer.





BALAJI ENTERPRISES

CALIBRATION LABORATORY



Flat No. 2, Krishna Chambers, Behind M'La Sales Corp. Yashwant Nagar, Pimpri, Pune - 411 018.
Mob. : 9146006300, 8411023131 Email : balajicalibrations@gmail.com

CERTIFICATE OF CALIBRATION

Page No.: 1 of 1

ULR :	CC240522000001407F	Date of Issue	09-04-2022
Calibration Date	09-04-2022	Calibration due date (Customer Decided)	08-04-2023
Customer Name And Address:	M/s. SPARKLINE EQUIPMENTS PVT.LTD. UNIT II Plot No- K-79 Varale ,Near Shindler Company, Khed pune.		
Customer Chalan No. & Date.	on-site Dated: 09-04-2022	Date of receipt	09-04-2022
		Work Order No	BE09D-05
Details of Device Under Calibration (DUC)	Name: AMMETER Range: 0 - 350 Amp ID No: SEPL-C-12 Type: Digital	L.C.: 1 Amp Make: XIELI Location: Warpp make Co2 Welding machine	
Condition of DUC when receipt	OK		
Calibration Method	BE/CM/ET-03		
Enviromental Condition During Calibration:	Temperature 25±4 °C, Humidity: 45-70%RH		

Reference Masters used for Calibration:

Master	Master I.D.	Certificate No.	Validity	Traceable to National/International Standard through NABL Accredited Calibration Laboratory
5.5 Digit Multifunction Calibrator with Current Coil	BE/MC/01	SCL/21-22/07/09-001	03-07-2022	

Discipline: Electro-Technical

Group- Alternating Current(<1 GHz)

Calibration Result				
Calibration Point (AMP)	UUC Reading (AMP)	Standard Reading	Error	Expanded Uncertainty in ± AMP
		(AMP)		
100	100	100.32	-0.32	7.820
150	150	150.28	-0.28	7.820
200	200	200.35	-0.35	7.820
250	250	250.41	-0.41	7.820
350	350	350.45	-0.45	7.820

Remark:

- The values mentioned are the average of 5 readings.
- The reported expanded uncertainty is stated as a standard uncertainty multiplied by coverage factor 'k=2' at 95.45% confidence level.
- The standards used for calibration were calibrated by using reference standard traceable to National/International standard.
- The calibration result reported in this certificate are valid at the time of & under the stated conditions of measurement

BECL

S.D.S. Calibrated By		

*** End of Calibration Certificate ***



BALAJI ENTERPRISES

CALIBRATION LABORATORY



Flat No. 2, Krishna Chambers, Behind M'La Sales Corp. Yashwant Nagar, Pimpri, Pune - 411 018.
Mob. : 9146006300, 8411023131 Email : balajicalibrations@gmail.com

CERTIFICATE OF CALIBRATION

Page No.: 1 of 1

ULR :	CC240522000001408F	Date of issue	09-04-2022
Calibration Date	09-04-2022	Calibration due date(Customer Decided)	08-04-2023
Customer Name And Address:	M/s. SPARKLINE EQUIPMENTS PVT.LTD. UNIT II Plot No- K-79 Varale ,Near Shindler Company, Khed pune.		
Customer Challan No. & Date.	on-site Dated: 09-04-2022	Date of receipt	09-04-2022 Work Order No BE09D-05
Details of Device Under Calibration (DUC)	Name: VOLTMETER Range: 0 - 60 Volt ID No: SEPL-C-12 Type : Digital	L.C.: 0.1 Volt Make : XIELI Location: Warpp make Co2 Welding machine	
Condition of DUC when receipt	OK		
Calibration Method	BE/CM/ET-03		
Enviromental Condition During Calibration:	Temperature 25±4 °C.Humidity: 45-70%RH		

Reference Masters used for Calibration:

Master	Master I.D.	Certificate No.	Validity	Traceable to National/International Standard through NABL Accredited Calibration Laboratory
5.5 Digit Multifunction Calibrator with Current Coil	BE/MC/01	SCL/21-22/07/09-001	03-07-2022	

Discipline: Electro-Technical

Group- Alternating Current(<1 GHz)

Calibration Result				
Calibration Point (Volt)	UUC Reading (Volt)	Standard Reading (Volt)	Error	Expanded Uncertainty in ±, Volt
10	10	10.13	-0.13	7.820
20	20	20.11	-0.11	7.820
30	30	30.10	-0.10	7.820
40	40	40.18	-0.18	7.820
60	60	60.21	-0.21	7.820

Remark:

- The values mentioned are the average of 5 readings.
- The reported expanded uncertainty is stated as a standard uncertainty multiplied by coverage factor 'k=2' at 95.45% confidence level.
- The standards used for calibration were calibrated by using reference standard traceable to National/International standard.
- The calibration result reported in this certificate are valid at the time of & under the stated conditions of measurement

BECL

S.D.S. Calibrated By		

*** End of Calibration Certificate ***