CLIENT

: PI INDUSTRIES LTD.

P.O. NO

: 4500410477 DATED: 12.02.2021

JOB TITLE : DECANTER CS HALAR 500 LTR -

Qty: 2 Nos.

TAG NO.

: OV10M2016, OV10M0612

REF DRG NO : FTE-007 Rev.2

INSPECTION DOSSIER

INDEX

Sr. No.	Description
1	Final Dimension Report
2	Hydro Test Report
3	Material Heat Chart
4	Test Certificates
5	Halar Coating Test Report
6	Halar Material Certificate
7	Calibration Certificates of Instruments
8	PO
9	Approved Drawing (As Built Drawing)

INSPECTION REPORT

REPORT NO: 01-A

DATE : 22/06/2021

CLIENT: PI INDUSTRIES LTD.

REF DRG NO: FTE-007 Rev. 2

P.O. NO : 4500410477

INSPECTION AGENCY: FTEW

DATE : 12.02.2021

JOB TITLE : DECANTER CS HALAR LINED 500 LTR

Qty.: 1 of 2 Nos.

TAG No.: OV10M2016, OV10M0612

		FIN	AL DIMENS	SION REPOR	T		
NOZZLES	NOZZLE SIZE	PROJI	ECTION		TATION/ OCATION	LOCA	ATION
		REQ.	ACT.	REQ.	ACT.	REQ.	ACT.
M1	200NB X 6 mm Thk CLASS 150# X SORF	150 mm	152 mm	0° on Shell	0° on Shell	280 mm from N4	260 mm from N4
N1	80/50NB X SCH.40 CLASS 150#X SORF	150/100 mm	152/101 mm	0° on Shell	0° on Shell	100 mm from LHS TL	120 mm from * LHS TL
N2	50NB X SCH.40 CLASS150#X SORF	150 mm	151 mm	180° on RHS Dish End	180° on RHS Dish End	50 mm from R.H.S. T.L.	50 mm from R.H.S. T.L.
N3	50NB X SCH.40 CLASS150#X SORF	150 mm	151 mm	180° on RHS Dish end	180° on RHS Dish end	100 mm from Bottom corner of the shell	101 mm from Bottom corner of the shell
N4	50NB X SCH.40 CLASS150#X SORF	150 mm	151 mm	0° on Shell	0° on Shell	200 mm from N7	*187 mm from N7
N5	217 X 30	PAD TYPE	₹90 mm	90° on Shell	¥ 105° on Shell		440 mm from
N6	80NB X SCH.40 CLASS150#X SORF	150 mm	154 mm	0° on LHS Dish end	0° on LHS Dish end	N6/N9 C-C600±1mm	N6/N9 C-C601mm
N7	80NB X SCH 40 CLASS 150# X SORF	150 mm	151 mm	0° on Shell	0° on Shell	150 mm from RHS TL	150 mm from RHS TL
N8	40NB X SCH 40 CLASS 150# X SORF	150 mm	153 mm	180° on Shell	180° on Shell	100 mm from LHS TL	100 mm from LHS TL
N9	80NB X SCH.40 CLASS150#X SORF	150 mm	153 mm	180° on LHS Dish end	180° on LHS Dish end	N6/N9 C-C600±1mm	N6/N9 C-C601mm
N10	80NB X SCH.40 CLASS150#X SORF	150 mm	154 mm	0° on RHS Dish end	0° on RHS Dish end	100 mm from Top corner of the shell	101 mm from Top corner of the shell

OVERALL DIMENSIONS

	Required	Actual	Remarks
Shell I.D.	800	801	Acceptable
O.D.C.F.	2551	2555	Acceptable
T.L. to T.L.	1000	1001	Acceptable

addle supports with earthing boss provided as per drawing requirement

INSPECTION REPORT

REPORT NO: 01-B

DATE

: 22/06/2021

CLIENT

: PI INDUSTRIES LTD.

P.O. NO

REF DRG NO: FTE-007 Rev. 2

DATE

: 4500410477

INSPECTION AGENCY: FTEW

: 12.02.2021

Qty.: 2 of 2 Nos.

TAG No.:

JOB TITLE : DECANTER CS HALAR LINED 500 LTR OV10M2016, OV10M0612

FINAL DIMENSION REPORT ORIENTATION/ NOZZLES NOZZLE SIZE **PROJECTION** LOCATION HORIZ. LOCATION REQ. ACT. REO. ACT. REO. ACT. 200NB X 6 mm Thk ₹260 mm from 280 mm from MI CLASS 150# X 150 mm 152 mm 0° on Shell 0° on Shell N4 SORF 80/50NB X SCH.40 100 mm from #120 mm from NI CLASS 150#X 150 mm 152 mm 0° on Shell 0° on Shell LHS TL LHS TL SORF 180° on 180° on 50NB X SCH.40 50 mm from 50 mm from N2 150 mm 151 mm RHS Dish RHS Dish CLASS150#X SORF R.H.S. T.L. R.H.S. T.L. End End 180° on 180° on 100 mm from 102 mm from 50NB.X SCH.40 N3 150 mm 151 mm RHS Dish RHS Dish Bottom corner Bottom corner CLASS150#X SORF end end of the shell of the shell 50NB X SCH.40 187 mm from 200 mm from N4 150 mm 151 mm 0° on Shell 0° on Shell CLASS150#X SORF N7 N7 PAD ¥ 105° on 447 mm from N5 217 X 30 ¥90 mm 90° on Shell TYPE Shell BF 80NB X SCH.40 0° on LHS 0° on LHS N6/N9 N6/N9 N6 150 mm 152 mm CLASS150#X SORF Dish end Dish end C-C600±1mm C-C601mm 80NB X SCH 40 150 mm from 150 mm from N7 CLASS 150# X 150 mm 152 mm 0° on Shell 0° on Shell RHS TL RHS TL SORF 40NB X SCH 40 180° on 180° on 100 mm from 100 mm from N8 CLASS 150# X 150 mm 150 mm Shell Shell LHS TL LHSTL SORF 180° on 180° on 80NB X SCH.40 N6/N9 N6/N9 N9 150 mm 152 mm LHS Dish LHS Dish CLASS150#X SORF C-C600±1mm C-C601mm end end 100 mm from 101 mm from 80NB X SCH.40 0° on RHS 0° on RHS N10 150-mm 150 mm Top corner of Top corner of CLASS150#X SORF Dish end Dish end the shell the shell

OVERALL DIMENSIONS

	Required	Actual	Remarks	
Shell I.D.	800	800	Acceptable	
O.D.C.F.	2552	2552	Acceptable	
T.L. to T.L.	1000	1002	Acceptable	

GIASadole supports with earthing boss provided as per drawing requirement

*Refer IVR For Defei 15 Renewit

INSPECTION REPORT

REPORT NO: 03-A

DATE

: 28/06/2021

CLIENT: PI INDUSTRIES LTD.

REF DRG NO: FTE-007 Rev. 2

P.O. NO : 4500410477

INSPECTION AGENCY: FTEW

DATE

: 12.02.2021

JOB TITLE : DECANTER CS HALAR LINED 500 LTR

Qty.: 1 of 2 Nos.

TAG No.: OV10M2016, OV10M0612

TEST REPORT

The MS antistatic + Halar dish end distill receiver 500 Ltr was coated with HALAR (ECTFE) on inside surface.

A) THICKNESS TESTING: THICKNESS ASSURED: 800 MICRON

READING NO.	hand	2	3	4	5
IN MICRON	921	970	894	940	835
	5	6	7	5	6
CONDUCTIVITY	10	10	10	10	10

Actual observed 892 to 1640 microns 106 to 108 onams/sq

17 Ohams (54)

INSPECTION AGENCY

INSPECTION REPORT

REPORT NO: 03-B

DATE : 28/06/2021

CLIENT: PI INDUSTRIES LTD.

REF DRG NO: FTE-007 Rev. 2

P.O. NO : 4500410477

INSPECTION AGENCY: FTEW

DATE : 12.02.2021

JOB TITLE : DECANTER CS HALAR LINED 500 LTR

Qty.: 2 of 2 Nos.

TAG No.: OV10M0612, OV10M0612

TEST REPORT

The MS antistatic + Halar dish end distill receiver 500 Ltr was coated with HALAR (ECTFE) on inside surface.

A) THICKNESS TESTING: THICKNESS ASSURED: 800 MICRON

READING NO.	1	2	3	4	5
IN MICRON	981	880	884	840	935
CONDUCTIVITY	5 10	10	10	10	10

(In Ohams sa)

Actual Observed (Range). 809 to 1470 mi mons

INSPECTION AGENCY

INSPECTION REPORT

CLIENT: PI INDUSTRIES LTD.

REF DRG NO: FTE-007 Rev.2

P.O. NO : 4500410477

INSPECTION AGENCY: FTEW

DATE : 12.02.2021

JOB TITLE : DECANTER CS HALAR LINED 500 LTR Qty.: 2 Nos.

R.NO.	DESC & SIZE OF MATL. PROCURED	MATL. GRADE	MAT. ID No. / Heat No. / Cast No.	LAB T.C. NO. / MTC NO.	MATL. USED	REMARKS
				PLATE		
1	6 mm 🗸	IS 2062 Gr. A	FT-139 🗸	K6042 🗸	✓ IS 2062 E250 Gr. A	ACCEPTABLE
2	8 mm ~	IS 2062 Gr. A	FT-140 V	K6043 ~ ~	IS 2062 E250 Gr. A	ACCEPTABLE
3	12 mm 🗸	IS 2062 Gr. A	FT- 150	L2568 ~ ~	IS 2062 E250 Gr. A	ACCEPTABLI
4	5 mm 📡	IS 2062 Gr. A	FT-138 ~	K6041 🗸	✓IS 2062 E250 Gr. A	ACCEPTABLE
			BOD	Y FLANGE		
5	32 mm THK (machine to required size)	IS 2062 Gr. A	FT-144	K7339	IS 2062 E250 Gr. A	ACCEPTABLI
		<u>F</u>	LANGE 40N	B X 150 # SORF (N8)		
6	40 NB X 150# SORF	IS 2062 Gr. A	A40 🛩	ASA/3369/21	* SA 105	ACCEPTABL
		FLAN	GE 50NB X	150 # SORF(N1/N2/N3/N4)		, ,
7 ~	50 NB X 150# SORF	IS 2062 Gr. A	A50 🗸	✓ ASA/3369/21	❖ SA 105	ACCEPTABL
		FLANG	E 80NB X 150	0 # SORF(N1/N6/N7/N9/N10	1	*
8 ~	180 NB X 150# SORF	IS 2062 Gr. A	A80 🖊	ASA/3369/21	★ SA 105	ACCEPTABL
		* FLANC	GE 200NB X 1	50 # SORF and BLRF (M1)		31
9	200 NB X SCH 40	IS 2062 Gr. A	A200	ASA/3401/21	★ SA 105	ACCEPTABL
10	200 NB X SCH 40 BLRF	IS 2062 Gr. A	A200B	ASA/3725/21	★ SA 105	ACCEPTABL
			PIPE 40N	B X SCH 40 (N8)		
11	40 NB X SCH.40	SA 106 Gr. B	MA1617	MSL-6/IBR/1429/81/2020	SA 106 Gr. B	ACCEPTABL
		<u>P</u>	IPE 50NB X S	SCH 40 (N1/N2/N3/N4)		
12	50 NB X SCH.40	SA 106 Gr. B	2022611	JSL/Q/B21/TX2002012954-2	SA 106 Gr. B	ACCEPTABL
		PIP	E 80NB X SC	H 40 (N1/N6/N7/N9/N10)		
13	80 NB X SCH.40	SA 106 Gr. B	2021106	JSL/Q/L20/TX2002008032/B-	SA 106 Gr. B	ACCEPTABL







Report No.: K6042

Job No.: J22931

Date: 17-03-2021



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Test Report

ULR - TC559121000004932F

M/s FLUORO TECH ENGINEERING WORKS

Plot No. 89, Survey No 66, Walliv Phata, Sativali,

IS 2062: 2011 E 250 A < 20

Vasai (E), Thane

Discipline: Chemical, Group: Metals and Alloys

Customer's Ref No:

FEW/10/20-21 DTD-11/03/2021

Specification:

Issued To.:

Sample Description Material Dimension

6 MM THK /

ld No

FT-139 /

Sample Received on: 13-03-2021

Date of Completion: 16-03-2021

Page 1 of 2

CHEMICAL ANALYSIS	(4)	Test Method	: IS 8811:1998 (RA-2018)
	Result	Required Value	Conformity
% Carbon (C)	0.147	0.2300 max.	Yes
% Manganese (Mn)	0.462	1.5000 max.	Yes
% Silicon (Si)	0.186	0.4000 max.	Yes
% Sulphur (S)	0.013	0.0450 max.	Yes
% Phosphorus (P)	0.015	0.0450 max.	Yes
% Chromium (Cr)	0.017		
% Nickel (Ni)	0.010		
% Molybdenum (Mo) .	0.005		
% Copper (Cu)	0.012		
% Vanadium (V)	0.005		
% Carbon Equivalent	0.23	0.4200 max.	Yes
Remark: Sample material confo	rms to IS 2062 : 2011	E 250 A w.r.t. above results.	. /

For INO Analytical Laboratories

Checked By

Authorized Signatory Sachin Upadhyay HOD (MECH)

Authorized Signatory Urmila Pichad Sr.Analyst(CHEM)

Authorized Signatory Karuna Naik HOD (CHEM)

Notes: 1) Test results related only to the samples tested.

2) Test report in full or part shall not be reproduced unless written permission of the Company.

3) Sample not drawn by Ino Analytical Laboratories.

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Test Report

Report No.: K6042

Sample Received on: 13-03-2021

Date of Completion: 16-03-2021

Job No.: J22931 Date: 17-03-2021

ULR - TC559121000004932F

M/s FLUORO TECH ENGINEERING WORKS

Plot No. 89, Survey No 66, Walliv Phata, Sativali,

Vasai (E), Thane

Customer's Ref No:

FEW/10/20-21 DTD-11/03/2021

Specification:

Issued To.:

IS 2062: 2011 E 250 A <20

Sample Description

PLATE

Material Dimension

6 MM THK

ld No

FT-139

Discipline: Mechanical, Group: Mechanical Properties of Metals

Test Method: IS 1599:2012 (Ra 2017) Bend Test Report (At 180 Deg) Conformity Bend 2 Bend 1

6.00 6.00 Thickness (mm) 12.00 12.00 Formar Diameter 2xT

(mm)

No Cracks No Cracks Observation Passes the test Passes the test Remark

WGL

Test Method: IS 1608-1:2018 **Tensile Test Report** Conformity Required Value T1 T2 20.10 19.95 Width (mm) 6.00 5.95 Thickness. (mm) 119.70

119.60 Area (mm²) 62.00 Gauge Length (mm) 62.00 38.76 35.34 Yield Load (kN) 52.22 51.18 Ultimate Load (kN) 81.00 80.70 Final Gauge Length (mm) 250.00 min. Yes 323.81 295.50 Yield Stress (MPa) 410.00 min. Yes 427.94 436.26 U.T.S (MPa) 23.00 min. Yes 30.65 30.16 Elongation (%)

WGL

Report Ends*

Satisfactory Satisfactory Remark

Remark: Sample material conforms to IS 2062 : 2011 E 250 A w.r.t. above results.

Fracture

Checked By

Authorized Signatory Sachin Upadhyay HOD (MECH)

Authorized Signatory Urmila Pichad Sr.Analyst(CHEM)

For INO Analytical Laboratories

Authorized Signatory Karuna Naik HOD (CHEM)

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Test Report

ULR - TC559121000004933F

Issued To.: M/s FLUORO TECH ENGINEERING WORKS

Plot No. 89, Survey No 66, Walliv Phata, Sativali,

Vasai (E), Thane

Customer's Ref No:

FEW/10/20-21 DTD-11/03/2021 IS 2062: 2011 E 250 A <20

Specification: Sample Description

PLATE 8 MM THK

Material Dimension

FT-140

Discipline: Chemical, Group: Metals and Allovs

Page 1 of 2

(RA-2018)

Report No.: K6043 Job No.: J22931 Date: 17-03-2021

Sample Received on: 13-03-2021

Date of Completion: 16-03-2021

Discipilite: effectivedity of oup. 1	result aria raine je		
CHEMICAL ANALYSIS		Test Method	: IS 8811:1998 (RA-
	Result	Required Value	Conformity
% Carbon (C)	0.161	0.2300 max.	Yes
% Manganese (Mn)	0.790	1.5000 max.	Yes
% Silicon (Si)	0.101	0.4000 max.	Yes
% Sulphur (S)	0.020	0.0450 max.	Yes

% Phosphorus (P) 0.017 0.0450 max. 0.022 % Chromium (Cr) % Nickel (Ni) 0.012 0.005 % Molybdenum (Mo) . 0.014 % Copper (Cu) 0.005 % Vanadium (V) 0.30 % Carbon Equivalent

Yes

0.4200 max. Yes

Remark: Sample material conforms to IS 2062: 2011 E 250 A w.r.t. above results.



For INO Analytical Laboratories

VO

Checked By

Authorized Signatory Sachin Upadhyay HOD (MECH)

Authorized Signatory Urmila Pichad Sr.Analyst(CHEM)

Authorized Signatory Karuna Naik HOD (CHEM)

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Test Report

Report No.: K6043

Job No.: J22931

Date: 17-03-2021

Sample Received on: 13-03-2021

Date of Completion: 16-03-2021

ULR - TC559121000004933F

M/s FLUORO TECH ENGINEERING WORKS

Plot No. 89, Survey No 66, Walliv Phata, Sativali,

Vasai (E), Thane

Customer's Ref No:

FEW/10/20-21 DTD-11/03/2021

IS 2062: 2011 E 250 A <20

Sample Description Material Dimension

Specification:

Issued To.:

8 MM THK

FT-140

PLATE

Discipline: Mechanical, Group: Mechanical Properties of Metals

Bend 1

Test Method: IS 1599:2012 (Ra 2017) Bend Test Report (At 180 Deg) Conformity Bend 2

8.00 8.00 Thickness (mm) 16.00 16.00 Formar Diameter 2xT

(mm)

Remark

ld No

Observation Passes the test Passes the test Remark

No Cracks No Cracks Test Method: IS 1608-1:2018 **Tensile Test Report** Conformity T2 Required Value T1 20.05 20.05 Width (mm) 8.05 8.05 Thickness. (mm) 161.40 161.40 Area (mm²) 72.00 72.00 Gauge Length (mm) 42.44 Yield Load (kN) 42.58 67.72 67.66 Ultimate Load (kN) 95.30 Final Gauge Length (mm) 95.00 250.00 min. Yes 262.95 263.81 Yield Stress (MPa) 410.00 min. Yes 419.57 419.20 U.T.S (MPa) 23.00 min. 32.36 31.94 Elongation (%) WGL WGL Fracture Satisfactory Satisfactory

Remark: Sample material conforms to IS 2062: 2011 E 250 A w.r.t. above results.

Report Ends**



Checked By

Authorized Signatory Sachin Upadhyay HOD (MECH)



Authorized Signatory Urmila Pichad Sr.Analyst(CHEM)

For INO Analytical Laboratories

Authorized Signatory Karuna Naik HOD (CHEM)

Notes: 1) Test results related only to the samples tested.

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Issue No.: 00

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Test Report

ULR - TC559121000010087F

M/s FLUORO TECH ENGINEERING WORKS

Plot No. 89, Survey No 66, Walliv Phata, Sativali,

Vasai (E), Thane

Customer's Ref No:

Issued To.:

FEW/02/21-22 DTD-22/06/2021

DTD-22/06/2021

Specification:

IS 2062: 2011 E 250 A <20 PLATE

Sample Description Material Dimension

CHEMICAL ANALYSIS

% Manganese (Mn)

% Carbon (C)

% Silicon (Si)

% Sulphur (S)

% Phosphorus (P)

12 MM THK

ld No

FT-150

Result

Discipline: Chemical, Group: Metals and Alloys

Test Method : IS 8811:1998 (RA-2018)

Required Value Conformity
0.2300 max. Yes

Report No.: L2568

Date: 28-06-2021

Sample Received on: 23-06-2021

Date of Completion: 26-06-2021

Job No.: J24883

 0.165
 0.2300 max.
 Yes

 1.09
 1.5000 max.
 Yes

 0.184
 0.4000 max.
 Yes

 0.014
 0.0450 max.
 Yes

 0.021
 0.0450 max.
 Yes

% Chromium (Cr) 0.023 % Nickel (Ni) 0.010 % Molybdenum (Mo) 0.005 % Copper (Cu) 0.013

% Copper (Cu) 0.013 % Vanadium (V) 0.005

% Vanadium (V) 0.005 % Carbon Equivalent 0.35

Remark: Sample material conforms to IS 2062 : 2011 E 250 A w.r.t. above results.

THECH ENGINEERING SHOW

0.4200 max.



Page 1 of 2

For INO Analytical Laboratories

SH

Checked By

Authorized Signatory Sachin Upadhyay HOD (MECH) Authorized Signatory Urmila Pichad Sr.Analyst(CHEM) Authorized Signatory Karuna Naik HOD (CHEM)

Notes: 1) Test results related only to the samples tested.

Test report in full or part shall not be reproduced unless written permission of the Company.

3) Sample not drawn by Ino Analytical Laboratories.

 Sample will be retained by us for a period of thirty days only. Unless specific instructions to the contrary are received.

5) The statement of Compliance, Non compliance and indeterminate is based on 95% coverage probability for the expanded uncertainty of the measured results.

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Test Report

ULR - TC559121000010087F

M/s FLUORO TECH ENGINEERING WORKS

Plot No. 89, Survey No 66, Walliv Phata, Sativali,

Vasai (E), Thane

Customer's Ref No:

FEW/02/21-22 DTD-22/06/2021

DTD-22/06/2021

Specification:

Issued To.:

IS 2062: 2011 E 250 A < 20

Sample Description Material Dimension PLATE 12 MM THK

ld No

FT-150

Page 2 of 2

Report No.: L2568

Job No.: J24883 Date: 28-06-2021

Sample Received on: 23-06-2021

Date of Completion: 26-06-2021

Discipline: Mechanical, Group: Mechanical Properties of Metals

Test Method: IS 1599:2012 (Ra 2017) Bend Test Report (180 Deg) Conformity Result

12.00 Thickness (mm) 24.00 Formar Diameter 2xT

(mm)

No Cracks Observation Satisfactory Remark

Test Method: IS 1608-1:2018 Tensile Test Report Conformity Required Value

Result 19.90 Width (mm) Thickness. (mm) 11.57 230.24 Area (mm²) 86.00 Gauge Length (mm) Yield Load (kN) 76.42 113.38 Ultimate Load (kN) 114.60 Final Gauge Length (mm)

331.91 Yield Stress (MPa) 492.44 U.T.S (MPa) 33.26 Elongation (%) Fracture

Satisfactory Remark

23.00 min. Yes WGL

250.00 min.

410.00 min.

Remark: The result of tensile test meets the corresponding requirements of the Grade IS 2062 : 2011 E 250

SH

****** Report Ends*

Authorized Signator Sachin Upadhyay

HOD (MECH)

orized Signatory Urmila Pichad Sr.Analyst(CHEM)

Yes

YPS

For INO Analytical Laboratories

Authorized Signatory Karuna Naik HOD (CHEM)

Notes: 1) Test results related only to the samples tested.

Checked By

Test report in full or part shall not be reproduced unless written permission of the Company.

Sample not drawn by Ino Analytical Laboratories.

4) Sample will be retained by us for a period of thirty days only. Unless specific instructions to the

contrary are received. The statement of Compliance, Non compliance and Indeterminate is based on 95% coverage probability for the expanded uncertainty of the measured results.

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Format No. DOC/IAL/TRF/02

Issue No.: 00









Accredited by NABL as per ISO/IEC 17025:2017 for Chemical & Mechanical Testing

Gala No. 1, Near Uma Ashish Tower, Opp. Techno Petrol Pump, Kalyan Shil Road, Gholavali, Dombivli (East) 421 203.

Tel: 0251 - 2422624 • Email: customercare@inoanalytical.in • Website: www.inoanalytical.in

Test Report

ULR - TC559121000004931F

M/s FLUORO TECH ENGINEERING WORKS

Plot No. 89, Survey No 66, Walliv Phata, Sativali,

Vasai (E), Thane

Customer's Ref No:

FEW/10/20-21 DTD-11/03/2021

Specification:

Issued To.:

IS 2062: 2011 E 250 A <20

Sample Description

PLATE 5 MM THK

Material Dimension Id No

FT-138

Discipline: Chemical Group: Metals and Alloys

Page 1 of 2

Report No.: K6041 Job No.: J22931

Date: 17-03-2021

Sample Received on: 13-03-2021 Date of Completion: 16-03-2021

CHEMICAL ANALYSIS		Test Method	: IS 8811:1998 (RA-2018)
	Result	Required Value	Conformity
% Carbon (C)	0.177	0.2300 max.	Yes
% Manganese (Mn)	0.849	1.5000 max.	Yes
% Silicon (Si)	0.184	0.4000 max.	Yes
% Sulphur (S)	0.011	0.0450 max.	Yes
% Phosphorus (P)	0.017	0.0450 max.	Yes
% Chromium (Cr)	0.027		
% Nickel (Ni)	0.021		
% Molybdenum (Mo) :	0.005		
% Copper (Cu)	0.023		
% Vanadium (V)	0.005		
% Carbon Equivalent	0.33	0.4200 max.	Yes
Remark: Sample material confo	rms to IS 2062 : 2011	E 250 A w.r.t. above results.	





For INO Analytical Laboratories

VO

Checked By

Authorized Signatory Sachin Upadhyay HOD (MECH)

Authorized Signatory Urmila Pichad Sr.Analyst(CHEM) Authorized Signatory Karuna Naik HOD (CHEM)

Notes: 1) Test results related only to the samples tested.

2) Test report in full or part shall not be reproduced unless written permission of the Company.

3) Sample not drawn by Ino Analytical Laboratories.

 Sample will be retained by us for a period of thirty days only. Unless specific instructions to the contrary are received.

5) The statement of Compliance, Non compliance and Indeterminate is based on 95% coverage probability for the expanded uncertainty of the measured results.

6) INO Analytical Lab is not responsible for any financial liability due to any act of omission or error made.

Format No. DOC/IAL/TRF/02

Issue No.: 00







Page 2 of 2

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Test Report

Report No.: K6041

Job No.: J22931

Date: 17-03-2021

Required Value

250.00 min.

410.00 min.

23.00 min.

Sample Received on: 13-03-2021

Date of Completion: 16-03-2021

Test Method: IS 1599:2012 (Ra 2017)

Conformity

Test Method: IS 1608-1:2018

Yes

Yes

Yes

Conformity

ULR - TC559121000004931F

M/s FLUORO TECH ENGINEERING WORKS

Plot No. 89, Survey No 66, Walliv Phata, Sativali,

Vasai (E), Thane

Customer's Ref No:

FEW/10/20-21 DTD-11/03/2021

Specification:

Issued To.:

IS 2062: 2011 E 250 A <20

Sample Description Material Dimension 5 MM THK

FT-138

Discipline: Mechanical, Group: Mechanical Properties of Metals Bend Test Report (At 180 Deg) Bend 2

Bend 1

Thickness (mm) Formar Diameter 2xT 5.00 10.00

T1

10.00

5.00

(mm) Observation Remark

No Cracks No Cracks Passes the test Passes the test

Tensile Test Report Width (mm)

T2 20.00 20.10 5.06 5.13 101.20

Thickness. (mm) 103.11 Area (mm²) 57.00 57.00 Gauge Length (mm) 30.26 31.92 Yield Load (kN) 46.42 46.46 Ultimate Load (kN) 77.20 77.00 Final Gauge Length (mm)

299.01 309.56 Yield Stress (MPa) 458.70 450.57 U.T.S (MPa) 35.44 35.09 WGL WGL

Elongation (%) Fracture Satisfactory Satisfactory Remark

Remark: Sample material conforms to IS 2062 : 2011 E 250 A w.r.t. above results. **** Report Ends*

For INO Analytical Laboratories

Checked By

Authorized Signatory Sachin Upadhyay HOD (MECH)

Authorized Signatory Urmila Pichad Sr.Analyst(CHEM)

Authorized Signatory Karuna Naik HOD (CHEM)

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Format No. DOC/IAL/TRF/02

Issue No.: 00









Report No.: K7339

Job No.: J23363

Date: 06-04-2021

Sample Received on: 02-04-2021

Date of Completion: 05-04-2021

Test Method: IS 1599:2012 (Ra 2017)

Conformity



INO ANALYTICAL LABORATORIES

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Gala No. 1, Near Uma Ashish Tower, Opp. Techno Petrol Pump, Kalyan Shil Road, Gholavali, Dombivli (East) 421 203. Tel: 0251 - 2422624 • Email: customercare@inoanalytical.in • Website: www.inoanalytical.in

Test Report

ULR - TC559121000006047F

Issued To.: M/s FLUORO TECH ENGINEERING WORKS

Plot No. 89, Survey No 66, Walliv Phata, Sativali,

Vasai (E), Thane

Customer's Ref No:

FEW/01/21-22 DTD-01/04/2021 IS 2062: 2011 E 250 A 20-40

Specification: Sample Description

Material Dimension

32 MM THK X 65 MM

Discipline: Chemical, Group: Metals and Alloys

CHEMICAL ANALYSIS	CHEMICAL ANALYSIS		Nethod: IS 8811:1998 (RA-2018)
	Result	Required Value	Conformity
% Carbon (C)	0.148	0.2300 max.	Yes
% Manganese (Mn)	0.601	1.5000 max.	Yes
% Silicon (Si)	0.193	0.4000 max.	Yes
% Sulphur (S)	0.034	0.0450 max.	Yes
% Phosphorus (P)	0.038	0.0450 max.	Yes
% Chromium (Cr)	0.238		
% Nickel (Ni)	0.123		
% Molybdenum (Mo)	0.039		
% Copper (Cu)	0.010		
% Vanadium (V)	0.006		
% Carbon Equivalent	0.31	0.4200 max.	Yes

Remark: Sample material conforms to IS 2062: 2011 E 250 A w.r.t. above results.

Discipline: Mechanical, Group: Mechanical Properties of Metals

Bend Test Report (180 Deg)

Result

25.00 (Machined)

Formar Diameter 2xD

(mm)

Thickness (mm)

50.00

Observation Remark

No Cracks

Satisfactory

For INO Analytical Laboratories

Checked By

Authorized Signator Sachin Upadhyay HOD (MECH)

Authorized Signatory Urmila Pichad Sr.Analyst(CHEM)

Authorized Signatory Karuna Naik HOD (CHEM)

Notes: 1) Test results related only to the samples tested.

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Issue No.: 00

Revision No.: 02



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Tel: 0251 - 2422624 • Email: customercare@inoanalytical.in • Website: www.inoanalytical.in

Test Report

ULR - TC559121000006047F

Issued To.: M/s FLUORO TECH ENGINEERING WORKS

Plot No. 89, Survey No 66, Walliv Phata, Sativali,

Vasai (E), Thane

Customer's Ref No:

FEW/01/21-22 DTD-01/04/2021

IS 2062: 2011 E 250 A 20-40

Specification: Sample Description

PATTA

Material Dimension

32 MM THK X 65 MM

ld No

FT-144

Page 2 of 2

Report No.: K7339 Job No.: J23363 Date: 06-04-2021

Sample Received on: 02-04-2021 Date of Completion: 05-04-2021

	I I WALL			
Tensile Test Report			Test Method	: IS 1608-1:2018
	Result	Required Value	Conformity	
Gauge Dia. (mm)	10.02		Carama Falanti Fal	
Area (mm²)	78.85			
Gauge Length (mm)	50.00			
Yield Load (kN)	22.92			
Ultimate Load (kN)	40.04			
Final Gauge Length (mm)	64.70			4
Final Dia. (mm)	6.40			
Final Area (mm²)	32.169			
Yield Stress (MPa)	290.66	240.00 min.	Yes	
J.T.S (MPa)	507.77	410.00 min.	Yes	18
Elongation (%)	29.40	23.00 min.	Yes	
Reduction (%)	59.20	20.00	163	
Fracture	WGL			
Remark	Satisfactory			

Remark: The result of tensile test meets the corresponding requirements of the Grade IS 2062 : 2011 E 250 $^{\Delta}$

**** Report Ends******





For INO Analytical Laboratories

Checked By

Authorized Signatory Sachin Upadhyay HOD (MECH)

Authorized Signatory Urmila Pichad Sr.Analyst(CHEM)

Authorized Signatory Karuna Naik HOD (CHEM)

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Issue No.: 00



AMRAT STEEL & ALLOYS



Manufacturers & Suppliers of:

S.S. Pipe Fitting, Carbon Steel, Nipple, Coupling, Flanges, Tee, Reducer, Elbow, etc.

47/49, Shri Prabhuram Mandir Marg,4th Kumbharwada, MUMBAI - 400 004.

		Te	est C	Cert	ifi	cate				
Cert. No ASA	1/3369/2	1	_ Date_	15.03.20	021					
Sub : M. S. FLANGE			Party	: M/S.	ARAV	ALI METAL	INDUSTR	ES		
Specification : SA 105	edif	ion 8	_	No. VEI						
		CHI	EMICA	LAN	ALY	SIS %				0
Size of	Heat No	C%	Mn%	S%	P%	Si%	Cr%	Mo%	Ni%	V% 4
FLANGE 25NB 150#SORF	A25	0.020	0.78	0.014	0.01	8 0.17	0.003	0.06	0.011	- \ no
FLANGE 40NB 150#SORF	A40	0.024	0.70	0.017	0.01	5 0.21	0.002	0.05	0.008	- Rec
FLANGE 50NB 150#SORF	A50	0.019	0,82	0.018	0.02	0.18	0.004	0.08	0.010	
FLANGE 80NB 150#SORF	A80	0.025	0.76	0.015	0.01	4 0.15	0.002	0.10	0.008	-
			SICA	L A		YSIS	Dod. of:		nantin-	Unad
Desci	ription		Heat No	Kg./r		U. T. S. Kg./mm²	Reduction Area%		ngation %	Hardness HB Max
FLANGE 25NB 150#SORF		A25	30.	90	52.80	51.50		37.60	90-97	
FLANGE 40NB 150#SORF			A40	31.	90	53.40	52.60		33.80	105-112
	FLANGE 50NB 150#SORF		A50	32.	10	54.10	50.80		30.40	80-89
FLANGE 80NB 150#SORF			A80	30.		51,90	51.90		29.10	85-92
				V		~	V		~	
HEAT TREATMENT -	NORMAL						HOUR CO	DLING	IN STIL	L AIR
		-	SUPPI	LY D	ETA	ILS		-		
Item No.	Des	script	ion				Heat No.	Batch	No.	Qty.
1 FLANGE 25NB	150#50	RF					A25	ASE	96	25 NOS.
2 FLANGE 40NB	150#80	RF					A40	AS7	43	25 NOS.
3 - FLANGE SONB	150#80	RF					A50	AS7	11 2	30 NOS.
4 FLANGE SONB	150#SOF	RF					A80	1 AS10	058	30 NOS.
		0	1 - 1	Prod	uct		2000	1		
* Vend	or to	trov	odes	+ Re	pur.	t for .	Ventic	chio	2	
REMARKS:		Lead	-		1					^LLOYS
1) THE ABOVE FLANGES	CONFOR	M TO TH	E SPECI	FICATIO	N SA 1	105. Golit	ing 9	2-0-0	Lordio	4-
2) VISUAL AND DIMENS	ION CHEC	KED AN	D FOUND	IN ORI	ER			3.1.	1.0	U
3) WE CERTIFY THAT TO DIMENSION STANDARI	HE ITEM OF B16	CONFOR	M STRICT	LY TO	with	commend	Product	ion / E	xecutive	Manager
			WANT NES	SED /	mspeci	To on				
60	lition?	(Jan 1 ml	NA CONTRACTOR		W S				
			Mulga	1011200	969	- 8 / B				
			7/10	1,	LUV IN	dia				

GHADIGAONKAR



AMRAT STEEL & ALLOYS



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47/49, Shri Prabhuram Mandir Marg,4th Kumbharwada, MUMBAI - 400 004.

			Te	st C	ert	ific	ate				
Cert. No	ASA	4/3401/21		_ Date_1	5.03.20	021					
Sub: M	. S. FLANGE			Party	: M/S.	ARAVAI	I METAL	INDUSTR	RIES		
Specific	cation : SA 105	Eclition	9	P. O. N	o. VE	RBAL					
			CHE	MICA	LAN	ALYS	SIS %				
	Size of	Heat No	C%	Mn%	S%	P%	Si%	Cr%	Mo%	6 Ni%	V% (
LANGE 10	OONB 150#SORF	A100	0.022	0.76	0.012	0.020	0.16	0.002	0.04	0.010	- W
LANGE 1	50NB 150#SORF	A150	0.023	0.74	0.015	0.018	0.19	0.002	0.05	0.009	- F
LANGE 2	00NB 150#SORF	A200	0.020	0.81	0.016	0.021	0.22	0.003	0.09	0.008	-
LANGE 3	00NB 150#SORF	A300	0.021	0.79	0.014	0.019	0.20	0.002	0.08	0.010	-
			PHY	SICAL	. A	ANAL'	YSIS				
	Descr	iption		Heat No		Stress /mm²	U. T. S. Kg./mm²	Reduc		Elongation %	Hardness HB Max
FLANGE	100NB 150#SOR	F		A100	32	2.80	51.40	50.1	0	30,40	79-84
	150NB 150#SORI			A150	30	0.20	54.60	54.2		29.10	95-103
	200NB 150#SOR			A200	33	3.10	56.30	51.5	0	37.40	83-90
FLANGE	300NB 150#SOR	F		A300	31	1.00	52.70	55.6	0	33.20	109-115
HEAT	T TREATMENT -	NORMALI	ZED AT	910 DEGI	REE, SI	DAKING	FOR 1.50	HOUR CO	OLIN	G IN STIL	L AIR
			S	UPPL	Y D	ETAI	LS		-		*
Item No.		Des	cripti	on				Heat No.		tch No.	Qty.
1	FLANGE 100NI	B 150#S0	RF					A100	A	51153	20 NOS.
2	FLANGE 150N	150#80	RF					A150		51169	20 NOS.
3	FLANGE 200N	B 150#S0	RF		1/2	ENGINE		A200	A	51210	20 NOS.
4	FLANGE 300N	B 150#S0	RF	12	THOSE	ASAI (E)	BING!	A300		61505	20 NOS.
					1/8/	+ ST				221 600	Ventions
							A .	1001	20	HO1 1 1019	MANAGE TO STATE OF THE STATE OF

1) THE ABOVE FLANGES CONFORM TO THE SPECIFICATION SA 105 Edition

DIMENSION STANDARD OF B16.5

CALBOAR REVIEWED / NOTED

Production / Executive Manager

REVIEWED / NOTED ASPECTION ASPECTION



AMRAT STEEL & ALLOYS



Manufacturers & Suppliers of :

S.S. Pipe Fitting, Carbon Steel, Nipple, Coupling, Flanges, Tee, Reducer, Elbow, etc.

47/49, Shri Prabhuram Mandir Marg.4th Kumbharwada, MUMBAI - 400 004.

			st C							
Cert. No. ASA.	/3725/21		Date_15							
Sub : M. S. FLANGE			Party	M/S.	ARAVAL	I METAL	INDUSTR	IES		
Specification: SA 105	edition	8	P. O. N	o, VER	BAL					
		CHE	MICA	AN	ALYS	1S %				(
Size of	Heat No.	C%	Mn%	S%	P%	Si%	Cr%	Mo%	Ni%	V% (
FLANGE 40NB 150#BLRF FLANGE 80NB 150#BLRF FLANGE 200NB 150#BLRF FLANGE 300NB 150#BLRF		0.020 0.021 0.024 0.022	0.78	0.011 0.012 0.015 0.013	0.018 0.020 0.021 0.019	0.18 0.20 0.21 0.20	0.003 0.002 0.003 0.003	0.05 0.06 0.09 0.07	0.011 0.010 0.009 0.010	- N - R - 11
	1	PH'	YSICA	L A	NALY				Elemention	Hardnes
Desc	ription	7	Heat No.		Stress /mm	U.T.S. Kg./mm	Reduc		Elongation %	HRB
FLANGE 40NB 150#BLR FLANGE 80NB 150#BLR FLANGE 200NB 150#BL FLANGE 300NB 150#BL	F RF		A40B A80B A200B A300B	33	5.10 1.00 2.80 3.60	56.90 52.70 51.50 54.60	51.55. 50. 54.	60 40	37.40 33.20 30.40 29.10	80.10 79.10 81.70 83.40

Item No.	Description		Heat No:	Batch No.	Qty.
1 2 	FLANGE 40NB 150#BLRF FLANGE 80NB 150#BLRF FLANGE 200NB 150#BLRF FLANGE 300NB 150#BLRF	WASALTE) SO	A100 A150 A200 A300	AS1619 AS1629 AS1752 AS1788	10 NOS. 10 NOS. 10 NOS. 10 NOS
	* Vendor to provide produc	X 2//	Report	For Ven	Ration & ALLOY

1) THE ABOVE FLANGES CONFORM TO THE SPECIFICATION SA 105 Colinary

2) VISUAL AND DIMENSION CHECKED AND FOUND IN ORDER with Comments.

3) WE CERTIFY THAT THE ITEM CONFORM STRICT REVIOWED DIMENSION STANDARD OF B16.5 Edition P

eduction / Executive Manager



MAHARASHTRA SEAMLESS LIMITED

"WELL KNOWN PIPE & TUBE MAKER"

[CERTIFICATE OF MANUFACTURE AND TEST FOR PIPES | REGULATION 4(e)

349730

FORM III A

EN: 10204; 3.1

Name of Part SHAH METAL & TUBES, Customer's Name & Address MAHARASHTRA SEAMLESS LIMITED Makers Name PLOT NO. 1118, ROAD NO. 12, STEEL WAREHOUSE & address: D-114,MIDC Area, MSI, Nagar, Vile- Bhagad, Varchiwadi, COMPLEX KALAMBOLI, TAL- PANVEL. Mangaon, Dist. Raigad , Maharashtra - 402308 DIST-RAIGAD, MAHARASHTRA, 410218, INDIA Email - 7.12.2020 RAW MATERIAL Customer Order No. Process Of Manufacture : BF/EAF/EOF/LRF/ VD/CCM/Rolling MSL-6 / IBR / 1429 / 81 / 2020 Test Certificate No Fully Killed/Rimmed/ Semi-Killed Fully Killed & Fina Grained. 23.02.2021 Date As per Specification 20210002159 Tolerances Works Order No N.A. Kg/cm² HOT FINISH SEAMLESS Design Pressure Process Of Manufacture 48.30 MM O.D. 3.68 MM THK Design Temperature N.A.°C Main Dimension NA Plain / Bevel End SQUARE CUT Drawing No. Specifications & Grade ASME SA 108 Gr.B (2019) Hydrostatic RM Flatte Prates of ing Test SI No ing Dis Range T.C. No. & Date ME Tost Test 5.0 - 7.0 | 035354/14.01.2021 3022573 MA1617 162 28.50 2500 OH NA. NA MA Mechanical Properties (At Room temperature) Chemical Composition (%) li adia/Product 1/Product 2) G.L = 50 MM Name of the Steel U.T.S Hardness Y St Miri S TEST E194 Maker & Inspecting 1.060 0.400 0 150 0 400 0.080 0.290 Children 415 MA1517 0.150 0.005 36.6 487.39 394.11 Jindal Steel & Power Ltd., Chattiegarh Well 0.140 0.690 0.014 0.008 0.210 0.008 0.002 0.004 0.002 0.004 36.7 74-76 388.38 490.22 Known Steel Maker 0.130 0 870 0.007 0.003 0.005 0.005 74 - 76 481.56 390.51 35.8 .74-74 his is to certify that we have sold Following 375.00 492.49 74 - 76 | Waterial to M/s. 388.50 491.54 37:2 392.62 488 18 36.8 WE CERTIFY HAVING BOLD TO MS Pieces -01 Invoice No. VIDE OUR BI NO PO. Properties at Elevated Temperature (Et = 0.2% proof stress at 350 475 500 525 800 300 325 METAL TEMP, (°C) 250 im2) N/mm2 Sr (N/mm2) DALLAS. Certified that perticulars entered herein are correct. The PIPES has been designed and constructed to comply with the The PIPES have been Manufactured & Tested at our works as per specification ASME SA 106 Gr B

1 Mail Confirms to API 5L GR 8 PSL-1 / ASTM A53 GR 8 (EDN. 2019) / ASME / ASTM A106 B (EDN. 2019) / SA106 B (E

Place : MANGAON Date : 23 FEB 2021

M INDAL &

MSL API SPEC SL GR.B PSL-1 / ASME / ASTM SA/A 106 GR.B / ASTM A 53 GR.B / NACE MR 0175 20 X 2 58 HFS HEAT NO _ 2500 PSI + B.NO.-MR 0103 (%S & HARDNESS CONTROLLED



Makers & Representative RAVI TYAGI

(Name & Signature) Engineer

We have satisfied ourselves that the PIPES have been constructed in accordance with this

The tests conducted on the samples taken from the finished PIPES have been witnessed by us and the particulars of

Warning: Modification or unauthorized use of this certification is strictly prohibited. Violation calls for criminal prosecution

For authenticity verification, contact us at : ms/lc@mahaseam.com

Test Certificate valid with original Hologram, only.

Name & Signature of

Inspecting Authority/ Well known Pipe Make

Vile Bhagad Mangaon

and Solina



JINDAL SAW LTD.

F/QLY/03 FORM III A CERTIFICATE OF MANUFACTURE AND TEST FOR PIPE [REGULATION 4 (e)] DATE: JSL /Q/B21/TX2002012954-2 CUSTOMER NAME & ADDRESS DATE INV NO : TX2002012954 amir metal & tubes, 6, ahibka niwas, 18t floor, khetwadi str lahe, mumbai 27-Noy-20 DATE 4011041810-10 SO. NO MAHARABETRA 400004 :1573/11/2020 23-Nov-20 PO. NO MTRS QTY. NO Name of the Part 9 Main Dimensions 2 a Makers Name JINDAL SAW LTD. 80.3 MM X 3.91 MM X 6 - 7 MTR As per IBR & ASTM A 106 GR 6 Works: A./ 59-50, Malegaon MIDC, Sinnar 2b Address 10 Tolerances Dist Nashik, 422 113 Maharashtra, (INDIA) Hot Finished Seamless Pipes 11. Mode of manufacture 3a. Code of manufacture/Specification : ASTM A 106 GR. 8 ** Beyel Ends 3b. Drawing no 13. Bend Test Satisfactory 3c. Design Pressure ---- Ka/cm * 14. Bend test on weld 3d Design Temperature N.A 15. Flaring lest Raw Material : 16. Flattening test N.A. 4. Heat No. Satisfactory 17 Tensile Strength EAF - LF - VD - CC 5. Process of manufacture Satisfactory 18. Elangation percentage 6. Fully Killed/rimmed/semiKilled : Fully Killed N.A. 19. Crushing Test Satisfactory 7. Chemical composition JSPL RAIGARH 20. Heat Treatment 8. Name of the Steel Maker 21. Flange test MA. 162 MM Sa. Size of biller (Diameter) 22. Bulging test and drifting test ifo cooper and brass) N.A. JS3/0000035317 Dated 07:01:2021 8b Test celfficate No & Date Satisfactory 23. Hydraulic test Name of Inspecting Authority. Well known Steel Maker Satisfactory (ECT AS PER ASTM E 309) 24 Non-destructive examination tification mark of Inepesting Authority / Well known pipe maker : JSL CHEMICAL COMPOSITION (%) U. T. S. (MPa) v & AMPa SE STO 415 MPa Min 245 MPa Min 20% Min Ragd.-ELEMENT SHILL Product 1 Product 2 200 BHN Max Width 19.05 mm & G MIN 0.1400 0.1420 0.1900 S 0.0080 0.7410 0.7400 30.20 0.0040 23825388 0.0011 0.0020 Mo Mexam 0.0040 Sn 0.0280 -07 0.0280 F CUR BILL NO 0.0017 0.2667 0.2647 CE O₂ ppm Critical Temp. *C Read. (Nimm) 165.45 148.48 125.71 Se : Average stress to produce an elongation of 1% (creege in 100,000 hours at various working metal temperatures Average and lowest stress to produce rupture in 100,000 hours at the various working metal temperatures. MAWP = Maximum Allowable Working Pressure in Ke /cm²
Tensile strength at 20 °C (Room temperature) as per given above 26
Certified flat the particulars entered herein are correct. The particulars of fabricated component are shown in drawing No.
The Pipes has been designed and constructed to comply with the Indian Boiler Regulations for a maximum working pro in the presence of our responsible 22-Feb-2021 17.24 MPu °C and satisfectorily withstood a water test of temperature of representative whose signature is appended hereunde Remark: Certificate according to DIN 50049: 3.1 / EN 10204 3.1 **Material conforms to EACH SPECIFICATION & GRADE INDIVIDUALLY AS PER ASTM A 106 GR B -19a / A 53 GR B -18 / ASME SA 106 / SA 53 GR B (ASME SEC II PART A EDN. 2019 | / API SL GR.B or L245 PSLI 46TH EDITION / NACE MR 0175 / NACE MR 0103 JEL API SPEC SI ____MM OD X ___MM WT (SCH SIEE) OR L245 PEL 1/ASME SA 106 OR E/ASTM A 106 OR E/ASTM A 53 OR B/ASME SA 53 OR B/ E MR 0103 SMLS H7S ____ MTR LEMOTH _ RE/MTE HYDRO ____ HEAT NO.___ This is to certify that we have sold following Marking on Pipes: NACE MR 0175/ NACE MR 0103 SMLS HFS & Law Material to M/s. ENGINES MUREN SAN Diene & Dienets N SWAPAN PAL Invoice No. Size SHUBHAM SAHU S . VIKRAM & COMPANY REVIEWED LNOTED X ty/Well Ensur Pipe Maker CHECK FOR "ORIGINAL" WATER MARK

ABHISHEK GHADISHON/MAREGON MIDE, Sinnar - 422113, Distr. Nashik, Maharashtra Phone : +91 (2551) 227200 Fax : +91 (2551) 230967

Corporate Office : Jindal Centre, 12 Bhikaiji Cama Place, New Delhi 110066 Phone : +91 (11) 26188360-74 Fax : +91 (11) 26170691

Regd. Office : A-1, UPSIDC, Indi. Area, Nandgaon Road, Kosi Kalan, Distr. Mathura (U.P.) - 281403, Website : www.jindalsaw.com



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Regd. Office: A-1, UPSIDC, Indl. Area, Nandgaon Road, Kosi Kalan, Distt. Mathura (U.P.) - 281403, Website: www.jindalsaw.com



SOLVAY SPECIALITIES INDIA PRIVATE LIMITED

Solvay Speciality Polymers Quality Control Certificate

Customer

DKSH INDIA PYT LTD GALA NO. A.B.,C&D, HARIHAR COMPOUND, BUILLOING NO.E11. SURVEY NO.89/18, DAPODE VILLAGE, MANKOLI ROAD BHIWANDI 421302 Maharashtra

Certificate recipient

IA PVT LTD A,B,C&D, HARIHAR COMPOUND, NO.E11, SURVEY NO.88/18, VLLAGE, MANKOLI ROAD

Transport

Packaging

Delivery note Shipping date 72852485 000010

19.04.2021

12 drum

Order

5343081 000010

Customer ref.

7350010081

HALAR 6614

Batch number 19N6199

/ Quantity

300,000 kg

Characteristics Loss on Drying (LOD) Melt Flow Rate @ 2.16 kg Melt Point (DSC 2nd melt) Production date

Value Units 0.06 % g/10min 12 °C 221 07.12.2019 Specification 0.00 - 0.25 9 - 15 220 - 227

Method HA505-OR **ASTM D1238** HA553-OR

Melt Flow Rate result is for the uncompounded base resin.

Supplier:

REGISTERED OFFICE AND FACTORY

SOL WAY SPECIAL THES INDIA PLYT. LTD.
PLOT NO 3658-27, GIDC, PANOLL-SONTIE, DIST, BHARUCH, GUJARAT (INDIA)
TEL +81-2848-272576, 272576, FAX +91-2646-272141
VAY TIN : 24271306591 DATED 98-05-2006, CST TIN : 24771300501 DATED 12.05-2006

Issued at NAVI MIJMBAI on 20.04.2021 at 12:53

Approved by

REVIEWED / 19 IGAONKAR

14

Page 1 / 1



SOLVAY SPECIALITIES INDIA PRIVATE LIMITED

Solvay Speciality Polymers **Quality Control Certificate**

Customer

DKSH INDIA PVT LTD GALA NO. A B C&D, HARIHAR COMPOUND, BUILDING NO.E11, SURVEY NO.89/18, DAPODE VILLAGE, MANKOLI ROAD BHIWANDI 421302 Maharashtra

Certificate recipient

DKSH INDIA PVT LTD GALA NO. A.B.C&D, HARIHAR COMPOUND, BUILDING NO.E11. SURVEY NO.89/18, DAPODE VILLAGE, MANKOLI ROAD BHIWANDI

Transport

Delivery note Shipping date 72852479 000010

19.04.2021

Packaging

60 drum

Order

5515409 000010

Customer ref.

7350011705

HALAR 6014

Batch number 2136120 V	/ Quantity	1,225.000 kg			
Characteristics Loss on Drying (LOD) Melt Flow Rate @ 2.16 kg Melt Point (DSC 2nd melt) Production date	Units % g/10min °C	Value 0.06 13 223 05.03.2021	Specification <= 0.25 9 - 15 220 - 227	Method HA505-OR ASTM D1238 ASTM D 3418	
Batch number 2136121	/ Quantity	200.000 kg			
Characteristics Loss on Drying (LOD) Melt Flow Rate @ 2.16 kg Melt Point (DSC 2nd melt) Production date	Units % g/10min °C	Value 0.09 13 223 05.03.2021	Specification <= 0.25 9 - 15 220 - 227	Method HA505-OR ASTM D1238 ASTM D 3418	
Batch number 2136122	/ Quantity	75.000 kg			
Characteristics Loss on Drying (LOD) Melt Flow Rate @ 2.16 kg Melt Point (DSC 2nd melt) Production date	Units % g/10min °C	Value 0.05 14 223 11.03.2021	Specification <= 0.25 9 - 15 220 - 227	Method HA505-OR ASTM D1238 ASTM D 3418	



Supplier:

REGISTERED OFFICE AND FACTORY

NEGRI ERECT DEFINE AND FACTORY
SPECIALITIES INDIA PYT. LTD.
PLOT NO 3628-27, GIDC, PANOLI-99116, DIST. BHARUCH, GILIARAT (INDIA)
TEL 191-2646-27/2575, 272575, FAX +91-2645-272141
VAT TIN: 24211300501 DATED 0-90.5 2006, CST TIN: 24711300501 DATED 12.05.2006
Conomic Identity Number: U741303.00550100554
Issued at NAVI MUMBAI on 20.04.2021 at 12:40

Approved by



Kinetic Polymers

प्रम, एस, काई, सी,

(AN ISO 9001 - 2008 Certified Company)

D-13/2, Phase-1, Road No. 3, IDA., Jeedimetla, Hyderabad - 055. INDIA Phones: 7207078344, 7207008277, Telefax: 040-23093957

Email: kineticpolymers@gmail.com / Website: www.kineticpolymers.com

Calibration Certificate

FLUORO TECH ENGINEERING WORKS Company Name

SURFACE RESISTIVITY METER Product

SRM-100V Model No

190515 Serial No.

103 - 1012 Ohms/Square Measurement Range

Pass Result

22.07.2020 Calibration Date

21.07.2021 Next Calibration Due On

Pass Result

Test Conditions

250 C Temperature 51% Relative Humidity

Old New / Old

Signature

The above instrument is calibrated using test and measuring equipment with valid traceability to National standards.

Equipment used for calibration:

1. KP / Combo Testing Zig, Model No: CC-01, S.No: 070201

Traceability: Trucal, Secunderabad, Wide their Calibration Certificate No. TC / 20-21 / 201 02,

Date: 27.05.2020, Due Date: 27.05.2021

Date: 47.05.4040, 1		1 0137	I 783 I 3	Validity
Nomenclature	Make & Model	SLNo	to	Validity
Digital Precision	Flukr / 8846A	19997027	Transcal	06 May 2021
	Nomenclature Digital Precision	Digital Precision Flukr / 8846A	Nomenclature Make & Model Sl.No Digital Precision Flukr 8846A 19997027	Nomenclature Make & Model Sl.No Traceable to

Fluoro Tech Engineering Works 1st Floor, Survey No. 66. Plot No. 89, Valiv Phata, Sativali Road Opp. Jay Equipment Pvt. Ltd, Vasai(E) Dist. Palghar 401 208, Maharashtra.India

Ref No. DCTG/00365

TEST & CALIBRATION CERTIFICATE

Instrument Sr. No.: QU-390

This is to certify that our above Digital Coating Thickness Gauge Model Micronstat FD/ND working satisfactory within below range.

Our Standard calibration folls are measured on the digital micrometer model DIGIMATIC SrNo-19100089/DI/1 having a range of 0 TO 25MM with an accuracy of +/- 1 MICRON traceAble to NPL (New Delhi) standards through Calibration Device SrNo-M10 Grade"0" 1566 of M/s Sacardande Engineers-Mumbai.Probe-FD SrNo -2149. Probe-ND SrNo -1412.

Probe	Unit	Standard Reading	Observed Reading
Probe FD	microns	25 +/- 1	24
	microns	111 +/-2	110
. calibration point	microns	250 +/-2	250
	mm	1.04 +/- 0.02	1.04
Probe -ND	microns	25 +/- 1	25
	microns	111 +/-2	112
. calibration point	microns	250 +/-2	250 " , "
- annears were will go will a	mm	1.04 +/-0.02	1.04

REST OF THE SPECIFICATIONS ARE AS PER CATALOGUE.

For PULSECHO SYSTEMS (BOMBAY) PVT. LTD.

Authorised Signatory

Calibration Date:

October 17, 202

Calibration Due Date:

October 16, 2021

PULSECHO SYSTEMS (BOMBAY) PVT. LTD.

107/110, Nirmal Industrial Estate, Near Sion Fort, Sion(East), Mumbai 400022, Maharashtra, India

Phone: +91-22-24071055, +91-22-24092087

E-mail: sales@pulsecho.com

Weekly Off: All Sundays and 2nd and 4th Saturdays.

Fax:+91-22-24074244 Website:www.pulsecho.com







LAB HOUSE

NABL Accredited Calibration & Validation

Calibration Certificate

Client's Name & Address:

M/s: FLUOROTECH ENGINEERING WORKS Plot No. 89, Survey No. 66, Waliv Phata

Sativali Road Vasai (E).

Certificate No

: 44349 - MT-02 : Good

Condi.on Receipt

: 02/06/2021

Calibration Date Rec. Due Date

: 01/06/2022

Detail Of UUC

: Measuring Tape Nomenclature : Freemans

Make : MT-02 Idnt. No. Range

: 0 to 15 Mtr

Environment Condition: Temperature :-

Resolution Accuracy

Department

mm . ---

Location

Calibration Done at :-%RH RH :-

Observations

All readings are in mm

Sr.No.	Spot Value	Observed Value	Error
1	0	0.00	0.00
2	100	100.00	0.00
3	200	199.99	0.01
4	400	399.99	0.01
5	800	799.98	0.02
6	Subsequent Reading	g upto 1 Mtr	0.01
7	Subsequent Reading		-0.02

UUC: Unit Under Calibration

Calibration is carried out as per 1.H/SOP - 014

The Standard Instrument is used for calibration bears traceability to the National standard as follows.

I.D. / Sr. Number	Certificate No.	Calibration Date	Validity
LH/DVC-01 / 0460004	LH/M-ET/120 - 052	06/09/2020	05/09/2021



Approved By Ar, Mahesh Kulaye

LIABILITY CLAUSE

- 1. This certificate relates to the particular Item submitted for calibration
- 2 The result reported in this certificate are valid at the time of calibration & under the stipulated conditions of measurement
- 3. This Calibration certificate can not be used as evidence in the court of law and can not be used in part of full in any media without prior permission
- 4 All the values have been rounded off as per 18 2-2000
- 5 Calibration certificate shall not be reproduced except in full with out written permission of the technical manager of the laboratory

----END OF REPORT----

Page 1 of 1F21 - 120 Fluorotech





NABL Accredited Calibration & Validation

Calibration Certificate

Client's Name & Address: Certificate No : 44349 - MT-01 M/s : FLUOROTECH ENGINEERING WORKS Condi.on Receipt : Good

Plot No. 89, Survey No. 66, Waliv Phata Calibration Date : 02/06/2021 : 01/06/2022

Sativali Road Vasai (E). Rec. Due Date

Detail Of UUC

Nomenclature : Measuring Tape Department : Freemans Resolution Make : 1 mm : MT-01 Idnt. No. Accuracy : ---0 to 5 Mtr Location Range

Environment Condition: Temperature :-RH :- 49.7 %RH Lab Calibration Done at :-

Observations

All readings are in mm

Sr.No.	Spot Value	Observed \	Value	Error
1	0	0.00		0.00
2	100	100.0	1	-0.01
3	200	200.0	1	-0.01
4	400	400.03	2	-0.02
5	800	800.03	2	-0.02
6	Subsequent Reading	upto I	Mtr	0.02
7	Subsequent Reading	upto 5	Mtr	-0.02

UUC: Unit Under Calibration

Calibration is carried out as per LH/SOP - 014

The Standard Instrument is used for calibration bears traceability to the National standard as follows.

I.D. / Sr. Number	Certificate No.	Calibration Date	Validity
LH/DVC-01 / 0460004	LH/M-ET/I20 - 052	06/09/2020	05/09/2021



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----END OF REPORT----

Page 1 of 1F21 - 121 Fluorotech