

UNITED INDUSTRIES

INSPECTION REPORT

No. **111**

Customer: Orinda Aluminium Limited	Date: 08.03.2023
Drawing No: RPI-1650-20-A1	Rev: -
Title: Container Holder for RPI Pan	PO No:
Type: RPI Part	Qty: 1 each
Inspection Stage: Machining Stage	W/O No:

Sl. No.	Inspection Details	Specified Dimensions (mm)	Measured Dimensions (mm)			
			1	2	3	4
1	Key width (Die side)	77	77.5	77.5	77.30	
2	Ø190 on Bush bore size	190.0	191.0	191.10	191.10	
3	Main bore (Die side)	190.0	191.5	Quantity 0.10		
4	Die side flange thickness	60	60	61	60.5	
5	Ø18 hole of container holder	18.0	18.5	18.5		
6	Die side flange thickness	60	60	61		
7	Rib thickness	40	40	40		
8	main bore cylindrical side	190.0	191.0	Quantity 0.10		
9	Distance b/w features (Die side)	345	345.0	345.0		
10	Distance b/w key slot (Die side)	84.5				
11	Distance to blue of Ø18 hole	157	158.1	158.9		
12	M16 tap depth	30	30			
13	M16 PCD	161.0	161.0	161.0	161.0	161.0
14	M16 hole depth	30	30	30	30	30
15	M16 hole position	100	38/41	37	37.5	37.5
16	M16 hole pitch	100	100	100	100	100
17	M16 holes pitch (Circular)	83.7	83.6	83.0	83.0	83.9
18	Element hole diameter	Ø1	Ø1	Ø1	Ø1	Ø1
19	Position of element holes (Pitch)	Ø1.0	Ø1.0	Ø1.0	Ø1.0	Ø1.0
20	Pitch of element hole	Ø1	Ø1.0	Ø1.0	Ø1.0	Ø1.0
21	Distance b/w outer face and	191	191	191.5		
22	Area of Ø18 hole	385	385	385		
23	Ø190 on Bush bore hole size	190.0	191.0	191.0		
24	M16 hole pitch	100	100	101.0	101.0	101.0
25	M16 PCD of Ø18 hole distance	161.0	161.5	161.5	161.5	161.5
26	Distance of M16 hole pitch (Circular)	83.7	83.0	83.0	83.0	83.0
27	Ø18 distance of Ø18 hole	157.0	158.0	159.0		
28	Position of M16 hole	100.0	100.0	100.0		
29	Key width (Circular side)	77	77	77	77	77
30	Distance b/w Ø18 hole at 100%	161.0	161.0			
31						
32						
33						
34						
35						

REMARKS: *1) Refer element hole side
*2) Considered bore reference





 INSPECTED BY

UNITED INDUSTRIES

INSPECTION REPORT

No. **474**

Customer: JINDAL ALUMINIUM LTD	Date: 10/11/2022
Drawing No: BP1-1650-20-A1	Rev:
Title: CONTAINER HOLDER FOR BP1 PRESS	PO No: JAL 190 18WD/22-23/00110
Type:	Qty: 1 - No
Inspection Stage: FACE WELD CONDITION	WO No: 183

Sl. No.	Inspection Details	Specified Dimensions (mm)	Measured Dimensions (mm)			
			1	2	3	4
1	Front view Dimension	1435.1	1457			
2	Dimension	1168.4	1167			
3	Rib thickness	25.4	27.0			
4	Dimension	436	436	[use measuring at top - corner]		
5	Step dimension	27.00	25	[20mm noted - rework]		
6	Side view Dimension	1058	1057			
7	Dimension	149.5	211	[follow centre as per customer]		
8	Dimension	385	404			
9	Dimension	615	615			
10	Dimension	735	762			
11	Dimension	φ745	φ793			
12	Section X-X Dimension	φ762	φ734			
13	Dimension	735	762			
14	Dimension	385	404			
15	Flange Thickness (opt)	60	73			
16	Flange Thickness (opt)	60	73			
17	Round blow OD	φ215.9	φ216			
18	Round blow ID	φ139	φ99			
19	Rib thickness	40mm	40mm	[As per front view shown required]		
20	View 4B Dimension	735	762			
21	Distance b/w R. blows	237	237			
22						
23	NOTE (1) Profile cuttings at die side plate is made as per drawing					
24	but in cylindrical side plate, profile is not cut where					
25	required					
26	(2) Outside ribs thickness 25mm and 40mm shown where					
27	decided to use 40mm and inside 40mm & 30mm shown decided					
28	to use 40mm.					
29	(3) Rework above points which is highlighted for rib					
30	partitions					
31	(4) Detail "c", view "A", die side plate, 8mm thick					
32	plate. are not yet assembled.					
33						
34						
35						

REMARKS: Partial Assembly cleaned for welding subjected to above re-work

[Signature]

As per offer to inspect prefabricated container held up inspected dimensions found ok

INSPECTED BY

[Signature]
10/11/22

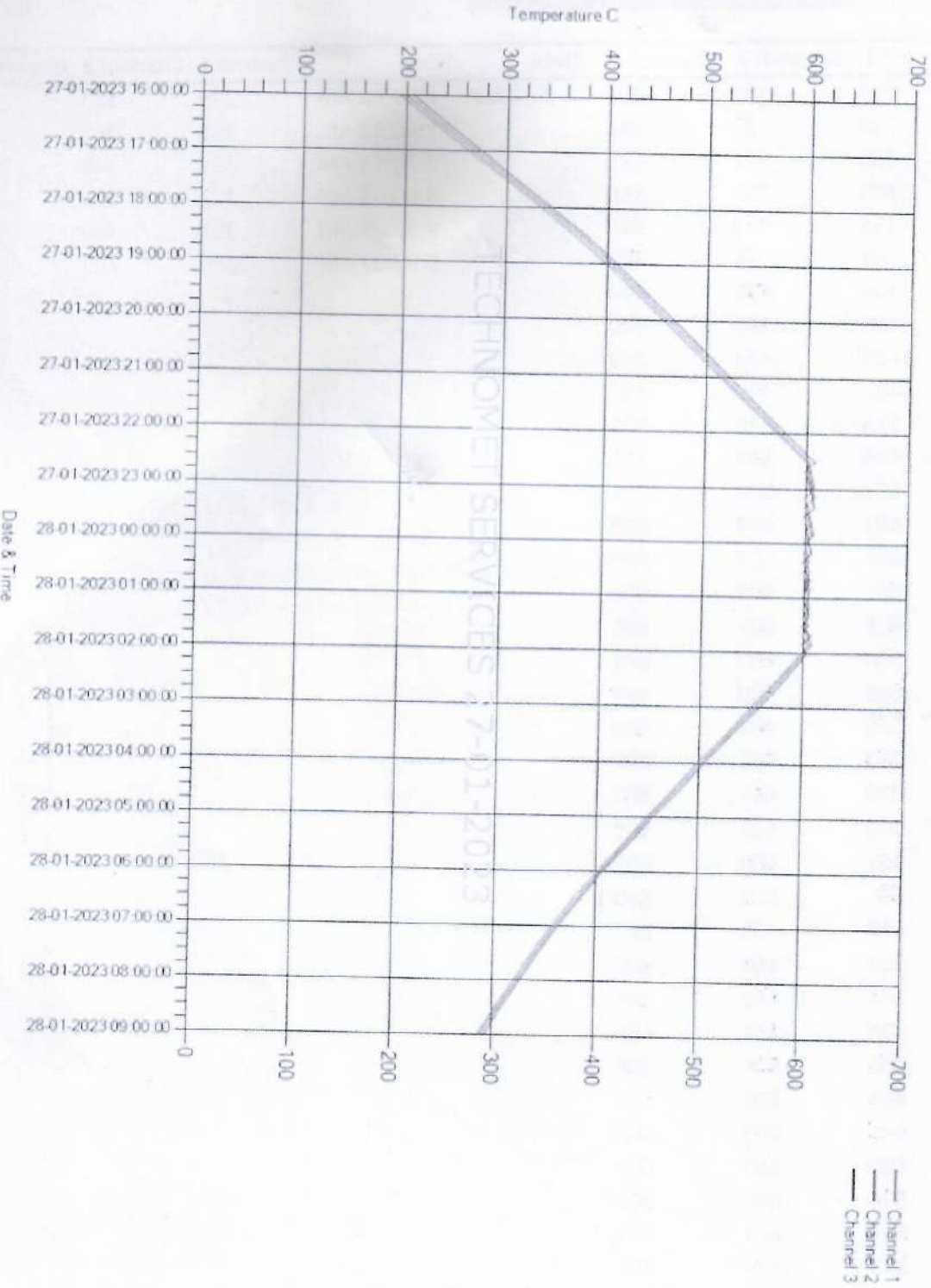
TECHNOMET SERVICES
STRESS RELIEVING CYCLE RECORD
TSC NO 18362

Customer Name: UNITED INDUSTRIES
 Customer Delivery Challen No 454
 Technomet Delivery Challen No 8654

Customer Name: UNITED INDUSTRIES

Date 27/1/2023
 Date 28/1/2023

AUTHORISED CYCLE	HEATING RATE	200 C TO 600 C @ 55 C TO 75 C	ACTUAL CYCLE
SOAKING HOURS	600 C FOR 3.5 HOURS	62 C	3.5 HOURS
FURNACE COOLING	44 C		



Channel 1
 Channel 2
 Channel 3

Item Description

- 01] RAW CASING TOP/BOTTOM- B3 S421 -.01SET
 DRG NO-F2E01265970A
- 02] RAW CASING-B2SV-09-.02SET
 DRG NO-F2E01058248A
- 03] CONTAINER- HOLDER- 01NO
 DRG NO-BP1-1650-20-A1

TECHNOMET SERVICES
 B-51, 3rd Stage,
 Peenya Industrial Estate,
 BANGALORE - 560 058

TECHNOMET SERVICES

TSC 18362

Date	Time	Channel 1	Channel 2	Channel 3	Date	Time	Channel 1	Channel 2	Channel 3
27-01-2023	16:00:15 PM	195	201	208	28-01-2023	6:30:08 AM	379	383	386
	16:30:35 PM	230	236	242		7:00:43 AM	358	361	364
	17:00:54 PM	265	271	277		7:30:18 AM	339	342	345
	17:30:15 PM	300	305	310		8:00:53 AM	321	324	327
	18:00:33 PM	335	340	345		8:30:28 AM	303	306	309
	18:30:56 PM	369	375	380		9:00:02 AM	286	289	293
	19:00:19 PM	400	405	410					
	19:30:44 PM	430	435	440					
	20:00:59 PM	459	464	469					
	20:30:24 PM	487	492	497					
	21:00:58 PM	516	520	525					
	21:30:33 PM	544	548	553					
	22:00:08 PM	573	576	581					
	22:30:43 PM	601	604	609					
	22:40:18 PM	605	603	600					
	22:50:53 PM	607	605	603					
	23:00:27 PM	609	607	605					
	23:10:02 PM	600	609	607					
	23:20:37 PM	603	600	609					
	23:30:12 PM	605	603	600					
	23:40:47 PM	607	605	602					
	23:50:12 PM	609	607	603					
	28-01-2023	12:00:36 AM	600	603		605			
12:10:51 AM		603	600	607					
12:20:10 AM		605	603	600					
12:30:31 AM		600	605	602					
12:40:50 AM		602	604	606					
12:50:10 AM		604	606	602					
1:00:29 AM		606	604	600					
1:10:47 AM		600	606	604					
1:20:12 AM		603	600	606					
1:30:30 AM		605	603	600					
1:40:53 AM		600	605	608					
1:50:19 AM		606	609	600					
2:00:54 AM		598	601	604					
2:30:29 AM		575	578	582					
3:00:04 AM		550	554	558					
3:30:39 AM		525	528	531					
4:00:14 AM		499	503	506					
4:30:49 AM		475	478	482					
5:00:24 AM		450	453	456					
5:30:58 AM		426	429	432					
6:00:33 AM	402	405	407						

TECHNOMET SERVICES
 B-5, 3rd Stage,
 Peenya Industrial Estate,
 BANGALORE - 560 058



HI-TECH BLASTERS & METALLIZERS

No. 480D, 1st Cross, 4th Phase, 3rd Stage, Peenya Industrial Estate, Bangalore - 560 058.
 Ph. : 080-28367560 Mobile : 9880588496, 9880925650, 9880588495, 9844038942
 E-mail hitech_blasters@rediffmail.com Web : www.metallizers.in

Sl.No.170

CERTIFICATE

DATE: 30.01.2023

TO WHOMSOEVER IT MAY CONCERN

This is to certify that the following materials have been **GRIT BLASTED** by Us per undermentioned standards:

Grit Blasting

1. SWEDISH Sa 2 ½ (SVENSK STANDARDS 05 5900 1967)
2. ISO: 8501-1
3. ASTN 2200 D
4. IS: 1477 (PART 1)
5. SSPC –SP 10 (Chapter-2 Volume-2)

The materials were supplied by
 M/s. UNITED INDUSTRIES.
 Binnamangala, Kasaba Hobali,
 Arasinakunte, Nelamangala,
 Bangalore – 562 123

Vide their DC, No: 455

Date: 28-01-2023

and consisted of

Sl. No	DESCRIPTION	PARTICULARS	QUANTITY
1	Housing Lower & Upper Part-B3SH21-	Drg No: F2E01265970A	1 SET
2	Housing-B2SV 09	Drg No: F2E01058248A	2 SET
3	Container Holder	Drg No: BP1-1650-20-A1	1 NO

Your's faithfully

HI-TECH BLASTERS & METALLIZERS



BANGALORE INSPECTION & TESTING AGENCY

275, 5th Cross, 9th Main, 2nd Block, HMT Layout,
Vidyaranyapura, Bangalore - 560097.
E-mail Id : bitask@gmail.com

Phone : 080-23642694
Mobile : 94482 72694



Report No. **8488**

Date : 30-03-2016

ULTRASONIC INSPECTION REPORT

Client	M/s United Industries Nelamangala Bln
Project	
Inspection Site/Date	Walt 30-03-2016.

Equipment Used	1. Kraut Kramer USM 35 S - S.No. 2231a	Block Reference	1W FBW
	2. Modsonic Einstein II DGS - S.No. E1100-0507		
	3. Modsonic Einstein II TFT - S.No. E180-0504	Sensitivity Level	40/50db
	4. EEC Digiscan DS-322 - S.No. DSC159CI		

Probe Used	Φ 2H, 4 MHz Normal Probe.	Scanning Level	+6 dB
		Screen Range	0-100mm

Couplant Used	Water / Oil Grease	Surface Condition	Smooth	Heat Treatment	
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Sl.No.	Description	Qty.	Observation & Remarks
	<u>MS Plates</u>		
1)	25mm X 2400 X 12500 mm UI-0376-16	1 No	Scanned and no significant indications observed. Accepted
2)	36mm X 2500 X 7400 mm UI-0370-16	1 No.	
3)	45mm X 2500 X 5000 mm UI-0371-16 UI-0372-16	2 Nos	
4)	45 X 2500 X 10,000 mm UI-0373-16	1 No	
5)	50mm X 2500 X 10,000 mm UI-0377-16	1 No	

Inspection carried out in the presence of Mr. P. Pradeep
as per ASTM A 578 Level B Standards



MASCOT
WHERE PRECISION
IS CONTINUOUS

No.93, 3rd Phase, 7th Main, Peenya Industrial Area, Bangalore - 560 058.
☎ (O) : 080-28393476, Telefax : 080-41273119, Website : www.mascotlaboratory.com
E-mail : mascotlaboratory@gmail.com

A Unit of M/s. Essen & Co.

Accredited by NABL



Approved by Ministry of Defence (DGQA) BEML, Bangalore for Chemical/Mechanical, Metallography and NDT.

TEST REPORT

T. C. No. MLS/2016-2017/603

Date: 21.04.2016

1. Customer Name & Address : **M/s. UNITED INDUSTRIES.**
Binnamangala, Kasba Hobli, Arasinakunte,
Nelamangala, Bangalore - 562 123.
2. Customer Reference : DC No. 068, Dt: 19.04.2016
3. Date of Receipt : 20.04.2016
4. Date of Completion of Test : 20.04.2016
5. Test Conducted : **Charpy Impact Test**
6. Test Temperature : Temperature @ -20°C
7. Test Method : IS: 1757-1988, RA - 2009
8. Description of the sample : 25mm Thick, M.S Plate, No. UI-0376-16-
Size: 25 x 12500 x 2400mm.

TEST RESULTS

LAB No.

MLS - 0511

Sl. No.	Notch Type	Specimen Size	Notch Depth	Charpy Impact Energy (J)	Specified value
01.	V	10.05 x 10.00 x 54.97	2.01mm	52	27.0 Min
02.	V	10.03 x 10.05 x 55.00	2.01mm	42	27.0 Min
03.	V	10.05 x 10.05 x 54.94	2.01mm	62	27.0 Min

Note:- The Tested Sample conforms to S 355 J2 grade of En-10025-2-2004.

Tested by:
T

Checked by:

Page 1 of 1

Authorised Signatory

Vinayak R Kulkarni

Chief Manager-Operation/Quality

Note:

1. Sampling not done by us. Results related only to the samples submitted.
2. This certificate shall not be reproduced in part or full and cannot be used as evidence in a court of law without prior permission in writing.
3. Total Liability of the Laboratory is Limited to the Invoiced Amount.
4. Sample will be preserved for a maximum of 30 days from the date of test certificate. After which no complaint will be entertained regarding test results.



MASCOT
WHERE PROGRESS
IS CONTINUOUS

No.93, 3rd Phase, 7th Main, Peenya Industrial Area, Bangalore - 560 058,
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TEST REPORT

T. C. No. MLS/2016-2017/0251

Date: 09.04.2016

1. Customer Name & Address : **M/s. UNITED INDUSTRIES**
Binnamangala, Kasaba Hobli, Arasinakunte,
Nelamangala, Bangalore - 562 123.
2. Customer Reference : No. 031, Dated: 06.04.2016
3. Date of Receipt : 06.04.2016
4. Date of Completion of Test : 06.04.2016
5. Test Conducted : **Tensile Test**
6. Instrument Used : UTM - 20
7. Test Temperature : Room Temperature @ 28.2⁰ C
8. Test Method : IS: 1608 - 2005
9. Description of the sample : 25mm Thick, M.S. Plate, No.UI - 0376 -16
Size: 25 x 2400 x 12500mm.

TEST RESULTS

LAB No.

MLS - 0180

Data:-

Dia	12.68 mm
Area	126.329mm ²
Gauge Length	63.00mm
Final Length	80.48 mm
Ultimate Tensile Load	68.33 kN
Yield Load	50.93 kN

Result:-

	<u>Obtained values</u>	<u>Specified values</u>
Ultimate Tensile Strength	540.889 N/mm ²	470 - 630
Yield Strength	403.153 N/mm ²	345.0 Min
% Elongation	27.746	--

The mechanical properties of the tested sample conforms to S 355 J2 grade of En-10025 -2-2004.

ed

Tested by:

V

Checked by:

Page 1 of 1

Vinayak R Kulkarni

Authorised Signatory
Vinayak R Kulkarni

Chief Manager-Operation/Quality

Note :

1. Sampling not done by us. Results related only to the samples submitted.
2. This certificate shall not be reproduced in part or full and cannot be used as evidence in a court of law without prior permission in writing.
3. Total Liability of the Laboratory is limited to the Invoiced Amount.
4. Sample will be preserved for a maximum of 30 days from the date of test certificate. After which no complaint will be entertained regarding test results.



MASCOT
WARRIOR PRECISION
 TECHNOLOGIES

No.93, 3rd Phase, 7th Main, Peenya Industrial Area, Bangalore - 560 058.
 ☎ (O) : 080-28393476, Telefax : 080-41273119, Website : www.mascotlaboratory.com
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TEST REPORT

T.C. No. MLS/2016-2017/0253

Date: 09.04.2016

1. Customer Name & Address : **M/s. UNITED INDUSTRIES.**
 Binnamangala, Kasba Hobli, Arasinakunte,
 Nelamangala, Bangalore - 562 123.
2. Customer Reference : DC No. 031, Dated: 06.04.2016
3. Date of Receipt : 06.04.2016
4. Date of Completion of Test : 06.04.2016
5. Test Conducted : **Chemical Test**
6. Test Method : IS: 8811-1998/Optical Emission Spectrometer German
7. Description of the sample : 25mm Thick, M.S. Plate, No: UI-376 - 16
 Size: 25 x 2400 x 12500mm.

TEST RESULTS


LAB No.

MLS - 0180

<u>Elements</u>	<u>Result Obtained</u> (%)	<u>Specification of S 355 J2 Gr.</u> (%)
CARBON	0.188	0.20 Max
MANGANESE	1.361	1.60 Max
SILICON	0.335	0.55 Max
SULPHUR	0.021	0.025 Max
PHOSPHORUS	0.018	0.025 Max
COPPER	0.397	0.55 Max

The Chemical Composition of the tested sample conforms to S 355 J2 grade of En-10025-2-2004 (Customer's Specification).

Tested by: 

Checked by: 

Page 1 of 1


 Authorised Signatory

Vineyak R Kulkarni

Chief Manager-Operation/Quality

Note :

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BANGALORE INSPECTION & TESTING AGENCY

275, 5th Cross, 9th Main, 2nd Block, HMT Layout,
Vidyaranyapura, Bangalore - 560 097.
E-mail Id : bitasrk@gmail.com

Phone : 080-23542694
Mobile : 94482 72694



Report No. 1950

Date: 4/09/2019

ULTRASONIC INSPECTION REPORT

Client	United Industries, Nellore.		
Project	plates. M.S.		
Inspection Site/Date	4/9/2019		
Equipment Used	1. GE USM36s - S.No. 1510447	Block Reference	IIV BW echo
	2. GE USMGo - S.No. 11095058		
Probe Used	3. GE USM35s - S.No. 22312	Sensitivity Level	38/42/48 dB
	4. Modsonic da Vinci Delta - S.No. D0201-4011		
	5. Modsonic DGS II - S.No. E1100-0507		
	6. Modsonic Arjun20 - S.No. AJ0179-0817		
	7. EEC Digiscan DS 322 - S.No. DSC - 159 C:		
Couplant Used	Water / Oil / Grease	Surface Condition	Heat Treatment

Sl.No.	Description	Qty.	Observation & Remarks
1)	M.S. Plate. 32 x 2500 x 6300 mm UI - 119 - 19	01 NO.	Plate scanned and no significant indications & loss in back wall echo observed.
2)	32 x 2500 x 6300 mm UI - 120 - 19	01 NO.	
3)	45 x 2500 x 6300 mm UI - 088 - 19	01 NO.	
4)	40 x 2250 x 7000 mm UI - 093 / Δ & 2	02 Nos.	Accepted.
5)	36 x 2000 x 6300 UI - 126 - 19	01 NO.	
6)	25 x 2500 x 12500 mm UI - 097 - 19 UI - 097 - 98 / Δ & 2 UI - 097 - 86 / Δ to 5	01 NO. 02 Nos 05 Nos	

Inspection carried out in the presence of Mr. Akhilesh Mishra (United Ind.)
as per ASTM SA 578 LEVEL B Standards

CLIENT Amishra
04/Aug/2019

For Bangalore Inspection & Testing Agency
ASNT LEVEL II - MT, PT, UT & VT
BANGALORE INSPECTION &
TESTING AGENCY, BANGALORE - 97



**STEEL AUTHORITY OF INDIA LIMITED
ROURKELA STEEL PLANT
ROURKELA - 769011 (ODISHA)
RESEARCH AND CONTROL LABORATORY**

IS 2062



Test Certificate For : HOT ROLLED MEDIUM AND HIGH TENSILE STRUCTURAL STEEL

Test Certificate No.: 373789 Dated: 01.07.2019 Product: PM Plate

To : WHM BANGALORE CENTRAL MARKETING ORGANISATION RAMAMURTHY NAGAR MAIN ROAD Bangalore Rural 560016

It is certified that the materials described below fully conforms to IS 2062 - 2011. The chemical composition and Mechanical properties of the product as tested in accordance with the scheme of Testing and Inspection contained in BIS Certification marks License No CML 0000053223 are as indicated against each order. The material supplied conforms to standard Rolling and weight tolerances. (PLEASE REFER TO IS 2062 - 2011 FOR DETAILS OF SPECIFICATION REQUIREMENTS)

Ladle Analysis

Cast No	C%	Mn%	P%	S%	Si%	Al%	CE
1901668	0.1800	1.2700	0.0220	0.0170	0.2510	0.0260	0.3984
1904565	0.1900	1.4300	0.0250	0.0100	0.3420	0.0330	0.4395
1909010	0.1700	1.3400	0.0260	0.0210	0.2900	0.0220	0.4000
1909021	0.1800	1.3000	0.0270	0.0140	0.2870	0.0200	0.4040
1909431	0.1800	1.3100	0.0230	0.0270	0.2550	0.0200	0.3980

Sl. No.	MP / SO No.	Cast	Size(mm) (TxWxL)	No of Piece(s)	Grade / Mode Of Killing	BATCH NUMBERS
1	1400378709	1909431	32x2000x12000	1	IS 2062 E350 BR / ALSIK / TRIM	SCC0583181
2	1400378711	1901668	40x2250x7000	1	IS 2062 E350 BR / ALSIK / UNTRIM	SCC0501971
3	1400378715	1909010	50x2500x12500	1	IS 2062 E350 BR / ALSIK / UNTRIM	SCC0579811
4	1400378715	1909021	50x2500x10000	1	IS 2062 E350 BR / ALSIK / TRIM	SCC0574261
5	1400378724	1901565	20x2500x12000	1	IS 2062 E350 BR / ALSIK / UNTRIM	SCC053291

Total Pieces : 5 Total Weight(Tons) : 39.143

Mechanical Properties

Cast No.	YS	UTS	EI	Bend Test	CVN (1)	CVN (2)	CVN (3)	CVN at RT (Avg)
	(MPA)	(MPA)	(%)		(J)	(J)	(J)	(J)
1909431	371	512	29	OK	60	66	58	61
	382	509	29	OK				

Challan No.
Date:
Quantity:
Test Certificate Issued Against



K PATWARI

2250 x 7000 mm

2500 x 6300 mm

Dispatch Advice No.: 812097821

Dated: 29.06.2019

Wagon No: BOST/SEC/21141077393

AGM , R&C Lab
Rourkela Steel Plant

UI - 093/A & 2

BANGALORE INSPECTION & TESTING AGENCY

275, 5th Cross, 9th Main, 2nd Block, HMT Layout,
Vidyaranyapura, Bangalore - 560 097.
E-mail id : bitaskr@gmail.com

Phone : 080-2364269
Mobile : 94482 72694



Report No. 2001

Date : 04/09/2019

ULTRASONIC INSPECTION REPORT

Client	United Industries, Nelkhanigala						
Project	M.S. plates.						
Inspection Site/Date	04/09/2019						
Equipment Used	1. GE USM36s	- S.No. 1510447	Block Reference	IIW			
	2. GE USM36s	- S.No. 1108058		2W Echo.			
Probe Used	3. GE USM35s	- S.No. 22318	Sensitivity Level	38/42/48dB			
	4. Modsonic da Vinic Delta	- S.No. D0201-4011		Scanning Level	+ 6 dB		
	5. Modsonic DGS II	- S.No. E1100-0507			Screen Range	0-100mm	
	6. Modsonic Arjun20	- S.No. AJ0179-0817		Heat Treatment		-	
	7. EEC Digitecan DS 322	- S.No. DSC - 159 C.					
Couplant Used	Water / Oil / Grease	Surface Condition	Heat Treatment				

Sl.No.	Description	Qty.	Observation & Remarks
1)	<u>M.S. plates</u> 20 X 2500 X 10750 mm UI-122/182 -19	02 Nos	plate scanned and no significant
2)	22 X 2000 X 8500 mm UI-116-19. UI-127/182 -19 UI-118-19	01 NO. 02 NOS 01 NO.	indications & loss in back wall also observed
3)	50 X 2410 X 9100 mm UI-127/182 -19	02 NOS	
4)	63 X 2500 X 8000 mm UI-121-19	01 NO.	Accepted. /

Inspection carried out in the presence of Mr. Akhilesh Mishra (United Ind.)
as per ASTM E78 LEVEL-B Standards

CLIENT R. R. Reddy
11/9/19

For Bangalore Inspection & Testing Agency
B M. Prakash
ASNT LEVEL II - MT, PT, UT & VT
BANGALORE INSPECTION &
TESTING AGENCY, BANGALORE - 97

STEEL AUTHORITY OF INDIA LIMITED
ROURKELA STEEL PLANT
ROURKELA - 769011 (ODISHA)
RESEARCH AND CONTROL LABORATORY

IS 2062



Test Certificate For : **HOT ROLLED MEDIUM AND HIGH TENSILE STRUCTURAL STEEL**
 Test Certificate No.: 373921
 Dated: 02.07.2019
 Product: PM Plate
 To : **WHM BANGALORE CENTRAL MARKETING ORGANISATION RAMAMURTHY NAGAR MAIN ROAD BANGALORE RURAL 560016**

It is certified that the materials described below fully conforms to IS 2062 - 2011. The chemical composition and Mechanical properties of the product as lesled in accordance with the scheme of Testing and Inspection contained in BIS Certification marks License No CMIL 0000053223 are as indicated against each order. The material supplied conforms to standard Rolling and weight tolerances. (PLEASE REFER TO IS 2062 - 2011 FOR DETAILS OF SPECIFICATION REQUIREMENTS)

Sl. No.	MP / SO No.	Cast	Ladle Analysis										Grade / Mode Of Killing	BATCH NUMBERS
			C%	Min%	P%	S%	SI%	Al%	CE	Nb%	V%	TI%		
1	1400378709	1908433	0.1850	1.3680	0.0250	0.0120	0.2660	0.0260	0.4198	0.0350	0.0340	0.0120	IS 2062 E350 BR / ALSIK / TRIM	
2	1400378710	1904600	0.1800	1.4500	0.0170	0.0070	0.3190	0.0300	0.4400	0.0450	0.0400	0.0150	IS 2062 E350 BR / ALSIK / TRIM	
3	1400378715	1909159	0.1700	1.2500	0.0250	0.0200	0.2670	0.0400	0.3780	0.0390	0.0150	0.0150	IS 2062 E350 BR / ALSIK / TRIM	
4	1400378717	1903056	0.1800	1.2600	0.0230	0.0150	0.2530	0.0400	0.3970	0.0380	0.0350	0.0140	IS 2062 E350 BR / ALSIK / UNTRIM	
5	1400378725	1908198	0.1800	1.3000	0.0300	0.0180	0.3050	0.0310	0.3970	0.0430	0.0150	0.0150	IS 2062 E350 BR / ALSIK / TRIM	
Total Pieces :		7	Total Weight(Tons) : 45.521											

Test Certificate Issued Against

Challan No.....

Date.....



Mechanical Properties

Cast No.	YS (MPA)	UTS (MPA)	EI	Bend Test	CVN (1) CVN (2) CVN (3) CVN at RT		
					(J)	(J)	(J)
1908433	375	517	26	OK	56	70	58
1908433	381	508	26	OK	56	70	61

(Handwritten signature)

K PATWARI

Dispatch Advice No.: 812097839
 Dated: 29.06.2019
 Wagon No: BOST/ECOR/21120944937
 AGM, R&C Lab
 Rourkela Steel Plant

IS 2062



**STEEL AUTHORITY OF INDIA LIMITED
ROURKELA STEEL PLANT
ROURKELA - 769011 (ODISHA)
RESEARCH AND CONTROL LABORATORY**



Test Certificate For : **HOT ROLLED MEDIUM AND HIGH TENSILE STRUCTURAL STEEL**

Product: PM Plate

Dated: 02.07.2019

Test Certificate No.: 373921

To : **WHM BANGALORE CENTRAL MARKETING ORGANISATION RAMAMURTHY NAGAR MAIN ROAD BANGALORE RURAL 560016**

Cast No.	YS (MPA)	UTS (MPA)	EI (%)	Bend Test	CVN (1) CVN (2) CVN (3) CVN at RT (Avg)		
					(J)	(J)	(J)
1904800	456	607	21	OK			
	451	692	21	OK			
1909159	396	524	26	OK			
	382	522	26	OK			
1903056	376	513	30	OK			
	382	522	30	OK			
1908198	397	526	26	OK			
	397	526	26	OK			

Remarks : **PROCESS ROUTE - BOF-LHF-CC-PM**

Test Certificate Issued Against

Challan No.....

Date..... Quantity.....



[Handwritten Signature]

K PATWARI

AGM, R&C Lab
Rourkela Steel Plant

Wagon No: BOST/ECOR/21120944937

Dated: 29.06.2019

Dispatch Advice No.: 812097839

BANGALORE INSPECTION & TESTING AGENCY

275, 5th Cross, 9th Main, 2nd Block, HMT Layout,
Vidyaranyapura, Bangalore - 560 097.
E-mail Id : bitasrk275@gmail.com

Phone : 080-41302189
Mobile : 94482 72694



Report No. 2613

Date : 20.02.2021

ULTRASONIC INSPECTION REPORT

Client	M/S United Industries Nelamangala				
Project					
Inspection Site/Date	Work 20.02.2021				
Equipment Used	1. GE USM365 - S.No. 15104457	Block Reference	IIV FBW		
	2. GE USMGo - S.No. 11095058		Sensitivity Level	36/40dB	
3. GE USM35a - S.No. 2231a	4. Modsonic da Vinic Delta - S.No. D0201-4011	Scanning Level		+ 6 dB	
5. Modsonic Arjun 30 - S.No. AJ 0145 - 8150	6. Modsonic Arjun 20 - S.No. AJ 0179 - 0817		Screen Range	0 - 150MM	
7. Modsonic Arjun 10 - S.No. AJ0102 - 0217		Heat Treatment		←	
Probe Used	Φ24, 4MHz Normal Probe				
Couplant Used	Water / Oil / Grease	Surface Condition	Smooth		

Sl.No.	Description	Qty.	Observation & Remarks
	<u>MS Plates</u>		
1)	70mm th x 2500 x 12000mm lg Heat No. A9103206/A/0 UI-05-21	1 No	Scanned and no significant indications observed. Accepted
2)	80mm th x 1700 x 12000mm lg Heat No. B9322709/A UI-06-21	1 No	
3)	50mm th x 2000 x 11200mm lg Heat No. B92518/07 B0 UI-07-21	1 No	
4)	90mm th x 2500 x 12000mm Heat No. A9123901-A0 UI-08-21	1 No	

Inspection carried out in the presence of..... Mr. V. Vijay Kumar
as per ASTM A 578 Level 'B' Standards

CLIENT

V. D. Pray

For Bangalore Inspection & Testing Agency



V. Vijay Kumar
ASNT LEVEL II - MT, PT, UT & VT.
BANGALORE INSPECTION &
TESTING AGENCY, BANGALORE - 57



TEST CERTIFICATE FOR HOT ROLLED MEDIUM AND HIGH TENSILE STRUCTURAL STEEL

Test Certificate No. 000012530J

Date : 29.05.2019

To: M/s JSW SEVERFIELD STRUCTURES LTD, BELLARY
NEAR 10 AIF GATE BESIDE JSW CEMENT LTD, BELLARY, PIN: 583275 Karnataka

Page 1 of 1

We Certify that the material described below fully conforms to IS 2062 : 2011. Chemical composition and mechanical properties of the product as tested in accordance with the Scheme of testing and inspection contained in the BIS certification marks licence No. CM/L-0005639985 are as indicated below against each Heat Number.

(PLEASE REFER TO IS 2062:2011 FOR DETAILS OF SPECIFICATION REQUIREMENT)

Supply Condition: AS ROLLED

TEST RESULTS

Decarburisation : Fully Killed

Process of Manufacture : EAF->LRF->CCM->RHF->Hot rolling
(EAF - Electric Arc Furnace / LRF - Ladle Refining Furnace / VD - Vacuum Degassing / CCM : Continuous Casting Machine/ RHF : Re-heating Furnace)

UT-05-21

Material Grade : IS2062 E350 BR Plate Dimension - Thickness x Width x Length : 70.00mm x 2500mm x 12000mm		Chemical Analysis															Mechanical Properties														
Heat No	Plate No. off Wt. MTI	C	Mn	P	S	Si	Al	Cu	V	Nb	Ti	Mo	Ni	B	Cr	N	CE	YS	UTS	%EL*	Bend Test	Impact Value m(J)									
No	Per	%	%	%	%	%	%	%	%	%	%	%	%	%	%	ppm	%	Mpa	Mpa	%	I	II	III	AVE	Temp °C	Orien					
A91023/06A01	1	16.500	0.25	1.48	0.0041	0.020	0.2700	0.025	0.004	0.026	0.036	0.003				0.006	0.0004	0.110	49	0.43	367	556	30		266	241	255	254.00	25	I	
Sub Total	1	16.500																374	562	30						266	241	255	254.00	25	I
G Total	1	16.500																													

Remarks:
1. Test Certificate as per EN 10204, 2004 Type 3.1
2. Material Specification: IS2062 Grade E350BR:2011
3. IDC reference: STD
4. Orientation of Sample: Tensile and Bend is Transverse to the rolling direction.

The above material supplied conforms to be specified dimensions and tolerances as per specifications and as per mutually agreed technical delivery conditions.

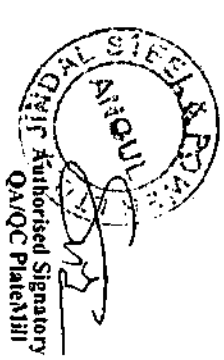
LC Item Desc: BR PLATES PO NO: 1101867 DATED: 09/04/2019 OR PO NO: 1101871 DATED: 09/04/2019 LC Remarks: CIP ANYWHERE IN INDIA INCOTERMS 2010
LC Details: Drawn Under LC No: 0351127/11/15/15/Drawn 26/04/2019 issued by KFCI BANK LTD. KFCI CENTRE 163 H T PARKER MARG, BACKLAKSHY RECLAMATION CHURCHILLATE, MUMBAI 400020, IN INDIA

Purchase Order No. & Date: 1101867 01.05.2019
Despatch Advice No: 61867241
Truck/Wagon No: TN28AW3398
* Gauge Length: 5.65(SO)1/2

Prepared by: SANGRAM APLATE
Preparation Date: 29.05.2019 07:19:30
Printing Date: 29.05.2019 & Time: 07:21:28

JSP/LANG/PM-QA&QC/F-25A

ACCEPTED
PO No: Date:
Accepted On:
Prepared By:
Quantity:
Remarks:
Signature: *[Signature]* 16/6/19



[Signature]
QA/QC

BANGALORE INSPECTION & TESTING AGENCY

275, 5th Cross, 9th Main, 2nd Block, HMT Layout,
Vidyaranyapura, Bangalore - 560 097.
E-mail id : bitask@gmail.com

Phone : 080-23642694
Mobile : 94482 72694



Report No. 519

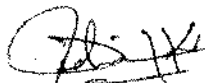
Date : 09-12-2017

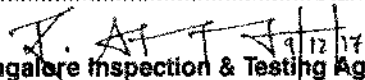
ULTRASONIC INSPECTION REPORT

Client		M/S UNITED INDUSTRIES					
Project							
Inspection Site/Date		WORKS / 09-12-2017					
Equipment Used	1. GE USM36s	- S.No. 1510447	Block Reference	IIW			
	2. GE USM36	- S.No. 11095058		Back echo			
Probe Used	3. GE USM35a	- S.No. 22310	Sensitivity Level	46/50			
	4. Modsonic da Vinic Delta	- S.No. D0201-4011		Scanning Level	+ 6 dB		
	5. Modsonic DGS II	- S.No. E1100-0507			Screen Range	0 - 300mm	
	6. Modsonic TFT II	- S.No. E180-0504					
	7. EEC Digiscan DS 322	- S.No. DSC - 159 C:					
Couplant Used	Water / Oil / Grease	Surface Condition	Smooth	Heat Treatment	-		

Sl.No.	Description	Qty.	Observation & Remarks
	<u>PLATES</u>		
①	50 x 2500 x 12000 IS-UI-006	01 No	Plates Scanned and no significant indications observed. Accepted.
②	50 x 2500 x 12000 IS-UI-007	01 No	
③	150 x 2500 x 6250 UI-0231-17	01 No	
④	160 x 2500 x 5400 IS-UI-008	01 No	
⑤	170 x 2500 x 5500 IS-UI-009	01 No	
⑥	175 x 2500 x 5400 UI-0232-17	01 No	
⑦	210 x 2500 x 4800 UI-0234-17	01 No	
⑧	230 x 2350 x 6300 UI-0230-17	01 No	
⑨	200 x 2500 x 4750 IS-UI-010	01 No	

Inspection carried out in the presence of Mx. SADIQ
as per ASIM 578 'class B' Standards


CLIENT


For Bangalore Inspection & Testing Agency
B Arun Kumar
ASNT LEVEL II - MT, PT, RT, UT & VT
BANGALORE INSPECTION & TESTING AGENCY, BANGALORE - 97

No. 10466284

订 货 单 号: TO WHOM IT MAY CONCERN
 CUSTOMER
 合 同 编 号: 16WY IN-196
 CONTRACT No.:
 技 术 条 件: IS 2062:2011
 TECHNICAL CONDITION:

舞阳钢铁有限责任公司

WUYANG IRON AND STEEL CO.LTD.



质量证明书
 QUALITY CERTIFICATE

产品名称: 热轧钢板
 PRODUCT: HOT ROLLED STEEL PLATE

QR/CG7E05

证 明 书 号: 171B0034
 CERTIFICATE NO:
 生产许可证号:
 PROCESS LICENSE NO:
 车 号:
 TRAIN NO:

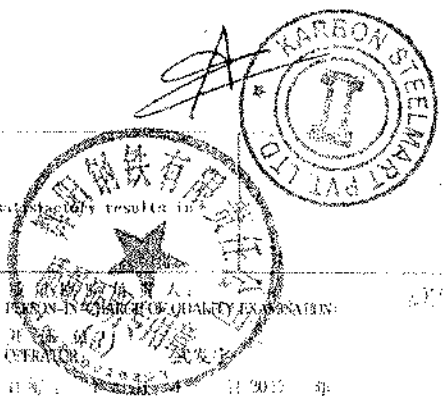
钢号 STEEL GRADE	熔炉号 HEAT No.	批号 BATCH No.	尺寸 DIMENSIONS	块数 PCS	重量 WEIGHT (t)	化学成分 0.001% CHEMICAL COMPOSITION																				试样 TEST PIECE		抗力试验 TENSILE			弯曲试验 BEND TEST		冲击试验 IMPACT			硬度 HB
						* C	Si	Mn	P	S	Cr	Al	Mo	Ti	Cu	Nb	Ni	V	N	B	Co	ReL	Rm	A	结果			D	U	D	Dir.					
						%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%						
E350C	16410753N3	CHA621445	150*2500*3250	1	18.398	0	150	230	1470	17	3	320	49	12	2	20	20	10	1	1	150	1	0	380	506	28.5			29	137	1					
E350C	16410753N3	CHA622792	170*2500*5500	1	18.349	0	150	230	1470	15	3	330	50	11	2	20	19	10	1	1	150	1	0	373	525	30.0			29	182	1					
E350C E5-OT-010	16410753N3	CHA621635	230*2500*1600	2	26.098	0	150	230	1470	16	2	350	52	25	3	10	20	10	6	4	150	1	0	382	520	28.5			29	135	1					
以下空白 BLANK																																				

合计 TOTAL: 块 PCS 73 445 吨 T 超声波试验: ASTM A578 LEVEL B PASS 供货状态: 正火 NORMALIZED D-Direction L: Longitudinal T: Transverse

*化学分析: 熔炼分析(LABILE ANALYSIS), 成品分析(FINISHT ANALYSIS), *试样位置: 1. 头部 HEAD, 2. 尾部 TAIL, *试样状态: 0. 交货状态 DELIVERY STATUS, 1. 调质 QUENCHED/TROPENED, 2. 热轧后 MAX SIMULATIVE TPOHT, 3. 最大模拟后 MAX SIMULATIVE TPOHT, 4. 最小模拟后 MIN SIMULATIVE TPOHT, 5. 最小模拟后 MIN SIMULATIVE TPOHT+STEP COOLING, 6. 正火 NORMALIZED, 7. 回火 TROPENED, 8. 正火+回火 NORMALIZED+TROPENED, 9. 淬火+回火 QUENCHED+TROPENED, 10. 正火+回火+模拟后 NORMALIZED+TROPENED+SIMULATIVE.

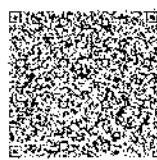
1013 - Commodity: Prime hot rolled steel plate, all steel fine grained, fully killed and vacuum degassed.
 -Sizes tolerance as per EN10028, thickness as per Class A, flatness as per Class A.
 -Surface condition as per Class A and Sub class 1 of EN10163-2: 2005.
 -Quality Certificate as per EN10204:2004/3.1.

REMARKS: 1. 本产品质量证明书用章无效, Effective with quality certificate stamping.
 2. 我们特此证明, 此证书上所描述的材料已按照订单和材料规范要求进行生产和检验, 其结果符合要求。
 3. We hereby certify that the material described herein has been manufactured and tested with satisfactory results in accordance with the requirements of the above material specification and the terms of order.



IS 2062

 CM/L-4100009663



生产单位: 舞阳钢铁有限责任公司
 PRODUCTION UNIT: WUYANG IRON AND STEEL CO.LTD.
 地址: 中国河南舞钢
 ADDRESS: WUYANG HENAN CHINA
 电话(Tel): 0375-8111200 (开票)
 传真(Fax): 0375-8118000 (采购)
 客户服务中心电话: 0375-8118009

Person in Charge of Quality Examination
 388... 21 NOV 17
 Person Steelmart Pvt. Ltd.
 电子质保书查询网址: <http://211.142.116.36:8010>, 密码向合同中的供方索取
 真实质保书纸质邮箱: qabscx@wyls.com, 请将要质询的质保书电子版发到该邮箱
 Signature

日期: 2017 年 11 月 17 日
 DATE: MONTH DAY YEAR
 复印无效

BANGALORE INSPECTION & TESTING AGENCY

275, 5th Cross, 9th Main, 2nd Block, HMT Layout,
Vidyaranyapura, Bangalore - 560 097.
E-mail Id : bitask@gmail.com

Phone : 080-23642694
Mobile : 94482 72694



Report No. 529

Date : 09-12-2017

ULTRASONIC INSPECTION REPORT

Client	M/S UNITED INDUSTRIES		
Project			
Inspection Site/Date	WORKS / 09-12-2017		
Equipment Used	1. GE USM36s - S.No. 1510447	Block Reference	IIV
	2. GE USM36s - S.No. 11096058	Sensitivity Level	Back echo
	3. GE USM35s - S.No. 2231Q	Scanning Level	+6 dB
	4. Modsonic da Vinci Delta - S.No. D0201-4011	Screen Range	0 - 300mm
	5. Modsonic DGS II - S.No. E1100-0507	Heat Treatment	-
	6. Modsonic TFT II - S.No. E180-0504		
	7. EEC Digiscan DS 322 - S.No. DSC - 158 C:		
Probe Used	Normal Probe $\phi 24$ 2MHz & 4MHz		
Couplant Used	Water / Oil / Grease	Surface Condition	Smooth

Sl.No.	Description	Qty.	Observation & Remarks
	<u>PLATES</u>		
①	50 x 2500 x 12000 IS-VI-006	01 No	Plates Scanned and no significant indications observed Accepted.
②	50 x 2500 x 12000 IS-VI-007	01 No	
③	150 x 2500 x 6250 VI-0231-17	01 No	
④	160 x 2500 x 5400 IS-VI-008	01 No	
⑤	170 x 2500 x 5500 IS-VI-009	01 No	
⑥	175 x 2500 x 5400 VI-0232-17	01 No	
⑦	210 x 2500 x 4800 VI-0234-17	01 No	
⑧	230 x 2350 x 6300 VI-0230-17	01 No	
⑨	200 x 2500 x 4750 IS-VI-010	01 No	

Inspection carried out in the presence of M. SADIQ
as per ASTM 578 Class B' Standards


CLIENT


For Bangalore Inspection & Testing Agency

B Arun Kumar
ASNT LEVEL II - MT, PT, RT, UT & VT
BANGALORE INSPECTION &
TESTING AGENCY, BANGALORE - 97

