



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

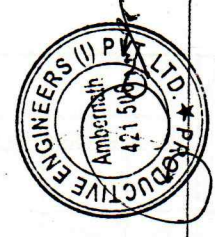


Test Certificate For: HOT ROLLED MEDIUM AND HIGH TENSILE STRUCTURAL STEEL
 Test Certificate No.: 744869 Dated: 21.07.2024 Product: HR Coil
 To: SHREEJEE STRUCTURAL STEEL PVT. LTD. PLOT NO.775.776, ROAD NO.7, MUMBAI 410218

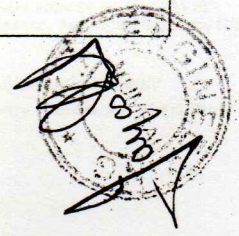
It is certified that the materials described below fully conforms to IS 2062 - 2011. The chemical composition and Mechanical properties of the product as tested in accordance with the scheme of Testing and Inspection contained in BIS Certification marks License No. CM / L 0000053223 are as indicated 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%	Min%	P%	S%	Si%	Al%	CE	RHOB	YS	UTS	EI	Bend Test	CVN (1)	CVN (2)	CVN (3)	CVN at RT (Avg)
Sl. No.	MP / SO No.	Cast / Batch No.	Size(mm) (TxWxL)	Weight(T)	Grade / Mode Of Killing	(MPA)	(MPA)	(%)	(J)	(J)	(J)	(J)	(J)	(J)	(J)	(J)
1	1400811067	2412235 / ND037505	12x1500xCOIL	21.260	IS 2062 E250BR / ALSIK	308	468	30	OK	60	68	66	65			
2	1400811067	2412235 / ND037505	12x1500xCOIL	21.550	IS 2062 E250BR / ALSIK	310	470	29	OK	72	76	74	74			
3	1400811067	2412235 / ND037506	12x1500xCOIL	21.530	IS 2062 E250BR / ALSIK	317	472	28	OK	76	74	78	76			
Total Places : 3														Total Weight(Tons) : 64.340		

Remarks : HSM2 PROCESS ROUTE: BOF-LHF-CC-HSM2, TEST CERTIFICATE AS PER EN 10204 TYPE 3.1.



Against This Certificate Goods Sold
 Mr. K.K. Engineering
 Part of goods delivered Below Bill No 6196
 Date: 18 NOV 24
 Size: 12x1500xCOIL
 Weight: 49.0



Signature valid
 Digitally signed by
 CHANDAN SAMAL
 Date: 2024.07.21
 18:04:41 MST

Dispatch Advice No.: 811538461 Dated: 20.07.2024 Wagon No: BOSTWCR/19160426537 Rourkela Steel Plant



CM/L-0057534
MTL-IVQR-2

TEST CERTIFICATE FOR HOT ROLLED MEDIUM AND HIGH TENSILE STRUCTURAL STEEL

Sold-to-Party: BM BSO MUMBAI
SWASTIK CHAMBER 1ST FLOOR SIGN TROMBAY ROAD CHEMBUR
MUMBAI 400071

T.C.No : RCL/MTL/PLM/80837313
T.C. Date : 26.09.2024
SALES ORDER NO : 1100510449
DA No : 80837313

Ship-to-Party: WHM KALAMBOLI, Raigad.

Wagon No / Trailer No : SECR19140337884

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

Specification : IS 2062 E 250 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 schema 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)				Impact Values (J)			
mm	mm	mm	250 MPa Min	410 MPa	Min23(5.6 5Sart(SO))			I1	I2	I3	Iavg	°C				
20	1850	11800	324600772	386474	355	469	28	-	110	102	100	104	RT	OK	2.0 T	
				386474	330	459	26	-	-	-	-	-	-	OK	2.0 T	
20	1850	11800	324600672	386474	316	446	28	-	-	-	-	-	-	OK	2.0 T	
				386474	323	455	26	-	98	90	96	95	-	OK	2.0 T	
CHEMICAL COMPOSITION (LADLE ANALYSIS)																
Heat No	C	S	P	Mn	SI	Al	Cu	Cr	Ni	Mo	Nb	V	Ti	N ₂	B	CE
	%	%	%	%	%	%	%	%	%	%	%	%	%	ppm	%	%
386474	0.15	0.024	0.009	0.88	0.29	0.019	< 0.02	< 0.015	< 0.015	< 0.015	< 0.010	< 0.010	< 0.005	-	< 0.0005	0.30

Total Pieces Page / Sales Order : 2 / 2

Total Pieces / TC

: 22

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

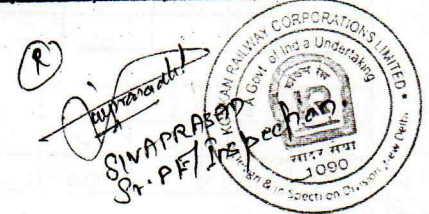
CE calculated by formula: [C + Mn/6 + (Cr + Mo + V)/5 + (Ni + Cu)/15].

Plate sides are in UNTRIMMED condition.,

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.



Against This Certificate Goods Sold

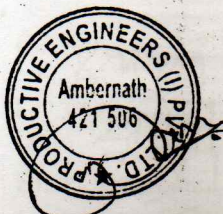
M/s. K.N.S.

Particulars Mentioned Below Bill No

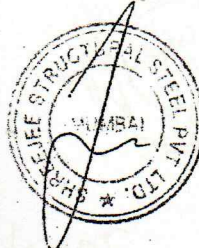
Date: 27/09/2024

Size: 20 x 1850 x 11800 MT

Weight: _____



Authorized Signatory



Validity unknown

Digitally signed by RAJ KUMAR MISHRA
Date: 2024.09.26 15:52:31 IST
Reason: Authorized Signatory RCL, BCP

Authorized Signatory

Research & Control Laboratory, Bhilai Steel Plant



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-III/QR-2

TEST CERTIFICATE FOR HOT ROLLED MEDIUM AND HIGH TENSILE STRUCTURAL STEEL

Sold-to-Party:
 BM BSO MUMBAI
 SWASTIK CHAMBER 1ST FLOOR SION TROMBAY ROAD CHEMBUR
 MUMBAI 400071
 Ship-to-Party:
 WHM KALAMBOLI, Raigad.

T.C.No : RCL/MTL/PLM/80835460
 T.C. Date : 13.09.2024
 SALES ORDER NO : 1100517191
 DA No : 80835460

Wagon No / Trailer No : SECR21141232068

Process of Manufacture of Steel : Basic Oxygen Converter> Continuous Cast> Fully Killed Steel> SIAIK
Specification : IS 2062 E 250 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

ION (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			250 MPa Min	410 MPa	Min23(5.6 5Sqrt(S0))		I1	I2	I3	Iavg	°C			
20	1850	11800	3246006/1	386474	301	432	28	--	--	--	--	RT	OK	2.0 T		
				386474	337	460	25	--	78	84	76	79	RT	OK	2.0 T	
20	1850	11800	3246008/1	386474	--	--	--	--	--	--	--	--	--	--		
20	1850	11800	3246009/1	386474	--	--	--	--	--	--	--	--	--	--		
20	1850	11800	3246009/2	386474	--	--	--	--	--	--	--	--	--	--		
20	1850	11800	3246011/1	386474	--	--	--	--	--	--	--	--	--	--		
20	1850	11800	3246011/2	386474	--	--	--	--	--	--	--	--	--	--		

Heat No	CHEMICAL COMPOSITION (LADLE ANALYSIS)															
	C	S	P	Mn	Si	Al	Cu	Cr	Ni	Mo	Nb	V	Ti	N ₂	B	CE
	%	%	%	%	%	%	%	%	%	%	%	%	%	ppm	%	%
386474	0.13	0.019	0.030	0.78	0.18	0.019	< 0.02	< 0.015	< 0.015	< 0.015	< 0.010	< 0.010	< 0.005	--	< 0.0005	0.26

Total Pieces Page / Sales Order : 6 / 6 Total Pieces / TC : 12

Ultrasonic Testing Level : ASTM A 578 Level B Satisfactory & level of acceptance as per TDC.

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

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

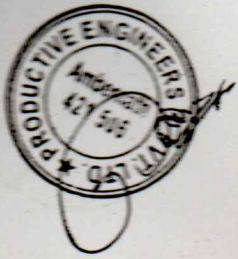
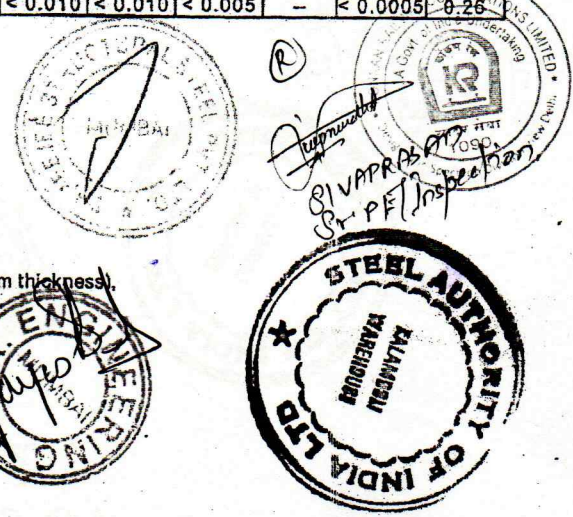
RT- Room temperature as defined in the specification.

Plate sizes are in UNTRIMMED condition.

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

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

TC as per BSEN 10204 Type 3.1.



Against This Certificate Goods Sold
 No. K.M. 019
 Particulars Mentioned Below Bill No 4405
 Date 28/09/2024
 Size: 20x1850x11800-021
 Weight: 20.658 MT

Validity unknown

Digitally signed by RAJ KUMAR MISHRA
 Date: 2024.09.14 09:55:50 IST
 Reason: Authorized Signatory RCL, BSP

Authorised Signatory
 SAIL/ CMO/ BSO

Authorized Signatory
 Research & Control Laboratory, Bhilai Steel Plant



CM/L-0057534
MTL-II/QR-2

TEST CERTIFICATE FOR HOT ROLLED MEDIUM AND HIGH TENSILE STRUCTURAL STEEL

Sold-to-Party:
BM BSO MUMBAI
SWASTIK CHAMBER 1ST FLOOR SION TROMBAY ROAD CHEMBUR
MUMBAI 400071

T.C.No : RCL/MTL/PLM/80834108
T.C. Date : 05.09.2024
SALES ORDER NO : 1100517187
DA No : 80834108

Ship-to-Party:
WHM KALAMBOLI, Raigad.

Wagon No / Trailer No : ER21021810386

Process of Manufacture of Steel : Basic Oxygen Converter> Continuous Cast> Fully Killed Steel> SIAIK
Specification : IS 2062 E 250 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.

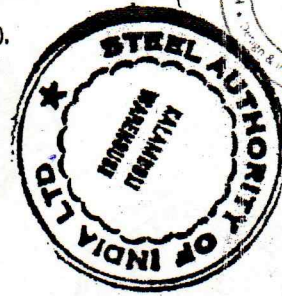
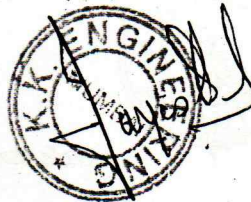
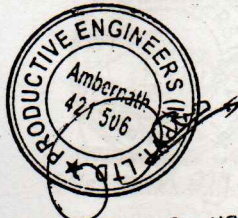
(Please refer to IS 2062 : 2011 RA 2021 for details of specification requirements)

TEST RESULTS

DIMENSION (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)				Impact Values (J)			
mm	mm	mm	240 MPa Min	410 MPa	Min23(5.6 5Sqrt(S0))			I1	I2	I3	lavg	°C				
40	2150	10050	3243953/1	386211	328	465	25	--	--	--	--	RT	OK	3.0 T		
				386211	331	471	26	--	72	74	70	72	RT	OK	3.0 T	
40	2150	10050	3243954/1	386211	--	--	--	--	--	--	--	--	--	--	--	
Heat No	CHEMICAL COMPOSITION (LADLE ANALYSIS)															
	C	S	P	Mn	Si	Al	Cu	Cr	Ni	Mo	Nb	V	Ti	N ₂	B	CE
	%	%	%	%	%	%	%	%	%	%	%	%	%	ppm	%	%
386211	0.17	0.027	0.026	0.89	0.25	0.024	< 0.02	0.020	< 0.015	< 0.015	< 0.010	< 0.010	< 0.005	--	< 0.0005	0.32

Total Pieces Page / Sales Order : 2 / 2 Total Pieces / TC : 8

Ultrasonic Testing Level :ASTM A 578 Level B 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,
Plate sides are in UNTRIMMED condition.,
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,



Against This Certificate Goods Sold
M/No. KK 09
Particulars Mentioned Below Bill No 1405
Date: 29/09/2024
Size: 40x2150x10050 2PL
Weight: 14282 MT

Validity unknown

Digitally signed by S SAIJU
Date: 2024.09.06 11:55:08 IST
Reason: Authorized Signatory RCL, BSP

Authorised Signatory
SAIL/ CMO/ BSO

Authorized Signatory
Research & Control Laboratory, Bhilai: Steel Plant



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



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

CM/L-0057534
MTL-IVQR-2

Buyer-Party:
MUMBAI
CHAMBER 1ST FLOOR SION TROMBAY ROAD CHEMBUR
TELE. 400071

T.C.No : RCL/MTL/PLM/80834109
T.C. Date : 10.09.2024
SALES ORDER NO : 1100517187
DA No : 80834109

Buyer-Party:
KALAMBOLI, Raigad.

Wagon No / Trailer No : ECOR21120942438

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

Specification : IS 2062 E 250 BR : 2011 RA 2021

That the material described below fully conforms to IS 2062 : 2011 RA 2021. Chemical composition and Mechanical properties of the product, as in accordance with the scheme of testing and inspection contained in the BIS certification mark Number CM/L 0057534 are as indicated against each lot.

Refer to IS 2062 : 2011 RA 2021 for details of specification requirements)

TEST RESULTS

Lot No	DIMENSION (NOMINAL SIZE)		Plate No / Pc. No.	Heat No	MECHANICAL PROPERTIES										Bend Test	M Dia
	WIDTH	LENGTH			YS 240 MPa Min	UTS 410 MPa Min	%E Min23(5.0 5SqrtS0)	%E2	CHARPY V NOTCH (L) Impact Values (J)					°C		
	mm	mm							I1	I2	I3	Iavg				
✓	2150	10050	3243955/1	386211	328	465	25	--	--	--	--	--	RT	OK	3.0 T	
✓	2150	10050	3243956/1	386211	331	471	26	--	72	74	70	72	RT	OK	3.0 T	
✓	2150	10050	3243958/1	386211	--	--	--	--	--	--	--	--	--	--	--	

CHEMICAL COMPOSITION (LADLE ANALYSIS)

C	S	P	Mn	Si	Al	Cu	Cr	Ni	Mo	Nb	V	Ti	N ₂	B	CE
%	%	%	%	%	%	%	%	%	%	%	%	%	ppm	%	%
0.17	0.027	0.026	0.89	0.25	0.024	< 0.02	0.020	< 0.015	< 0.015	< 0.010	< 0.010	< 0.005	--	< 0.0005	0.32

Pages Page / Sales Order : 3 / 3

Total Pieces / TC

: 11

Testing Level :ASTM A 578 Level B Satisfactory & level of acceptance as per TDC,

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

Formula: $[C + Mn/6 + (Cr + Mo + V)/5 + (Ni + Cu)/15]$,

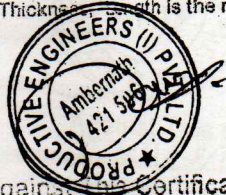
Temperature as defined in the specification,

Condition are in UNTRIMMED condition.,

Impact test specimen:10x10x55 mm(above 10mm thickness) ; 7.5x10x55 mm(upto 10mm thickness),

M = Mandrel Dia, T = Plate Thickness, R is the rolling direction of the plate,

Refer IS 2110204 Type 3.1.



Against Certificate Goods Sold

M/s. K.K. Eng.

Particular's Mentioned Below Bill No L1406

Date: 27/09/2024

Size: 40x50x10050-3Pcs

Weight: 20.952 MT

Validity upto 10/10/2024

Digitally signed by R. SANJU
Date: 2024.09.10 15:31:17 IST
Reason: Authorized Signatory RCL, BSP

Authorized Signatory

Research & Control Laboratory, Bhilai Steel Plant

Lead Signatory

CM/L. BSO



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



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

CM/L-0057534
MTL-II/QR-2

Sold-to-Party: BM BSO MUMBAI
SWASTIK CHAMBER 1ST FLOOR SION TROMBAY ROAD CHEMBUR
MUMBAI 400071

T.C.No : RCL/MTL/PLM/80834109
T.C. Date : 10.09.2024
SALES ORDER NO : 1100517188
DA No : 80834109

Ship-to-Party: WHM KALAMBOLI, Raigad.

Wagon No / Trailer No : Ecor21120942438

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

Specification : IS 2062 E 250 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)				°C			
mm	mm	mm			240 MPa Min	410 MPa	Min23(5.6 59qstS0)		I1	I2	I3	Iavg				
40	2150	11800	3243961/1	386211	328	465	25	--	--	--	--	RT	OK	3.0 T		
				386211	331	471	26	--	72	74	70	72	RT	OK	3.0 T	
40	2150	11800	3243963/1	386211	--	--	--	--	--	--	--	--	--	--	--	
CHEMICAL COMPOSITION (LADLE ANALYSIS)																
Heat No	C	S	P	Mn	Si	Al	Cu	Cr	Ni	Mo	Nb	V	Ti	N ₂	B	CE
	%	%	%	%	%	%	%	%	%	%	%	%	%	ppm	%	%
386211	0.17	0.027	0.026	0.89	0.25	0.024	< 0.02	0.020	< 0.015	< 0.015	< 0.010	< 0.010	< 0.005	--	< 0.0005	0.32

Total Pieces Page / Sales Order : 2 / 2 Total Pieces / TC : 11

Ultrasonic Testing Level : ASTM A 578 Level B 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.

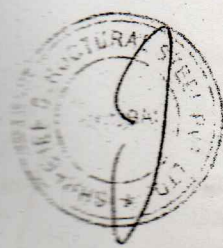
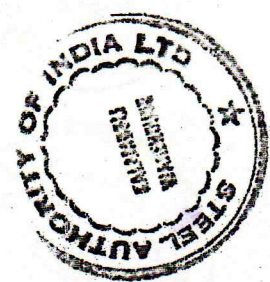
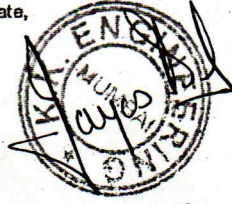
Plate sides are in UNTRIMMED condition.,

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.


 SUNIL PRASAD
 Sr. PFT Inspector



Against This Certificate Goods Sold
 M/s. K.K. Engrs
 Particular's Mentioned Below Bill No 4546
 Date 11.09.2024
 Size 40x2150x11800
 Weight:.....
 IPL

Validity unknown
 Digitally signed by S SAIJU
 Date: 2024.09.10 15:31:17 IST
 Reason: Authorized Signatory RCL
 BSP

Authorized Signatory
 SAIL/ CWO/ BSO

Authorized Signatory
 Research & Control Laboratory, Bhilai Steel Plant



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



CM/L-0057534
MTL-II/QR-2

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

Sold-to-Party:
BM BSO MUMBAI
SWASTIK CHAMBER 1ST FLOOR SION TROMBAY ROAD CHEMBUR
MUMBAI 400071

T.C.No : RCL/MTL/PLM/80835309
T.C. Date : 14.09.2024
SALES ORDER NO : 1100517188
DA No : 80835309

Ship-to-Party:
WHM KALAMBOLI, Raigad.

Wagon No / Trailer No : SR21060614303

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

Specification : IS 2062 E 250 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			240 MPa Min	410 MPa	Min23(5.6 5SqrtS0)		I1	I2	I3	Iavg	°C				
40	2150	11800	3243962/1	386211	328	465	25	--	--	--	--	--	RT	OK	3.0 T		
40	2150	11800	3243964/1	386211	331	471	26	--	72	74	70	72	RT	OK	3.0 T		
			3243964/1	386211	--	--	--	--	--	--	--	--	--	--	--		
CHEMICAL COMPOSITION (LADLE ANALYSIS)																	
Heat No	C	S	P	Mn	Si	Al	Cu	Cr	Ni	Mo	Nb	V	Ti	N ₂	B	CE	
	%	%	%	%	%	%	%	%	%	%	%	%	%	ppm	%	%	
386211	0.17	0.027	0.026	0.89	0.25	0.024	< 0.02	0.020	< 0.015	< 0.015	< 0.010	< 0.010	< 0.005	--	< 0.0005	0.32	

Total Pieces Page / Sales Order : 2 / 2 Total Pieces / TC : 11

Ultrasonic Testing Level : ASTM A 578 Level B Satisfactory & level of acceptance as per TDC.

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

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

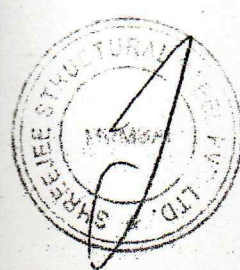
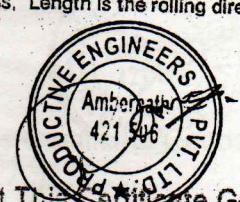
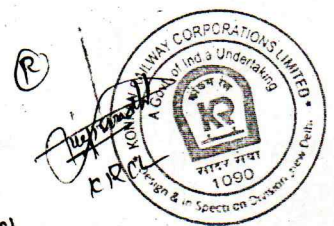
RT- Room temperature as defined in the specification,

Plate sides are in UNTRIMMED condition.,

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,



Against This Bill Date Goods Sold

M/s. K.V. Eng.

Particular's Mentioned Below Bill No

Date: 11/10/2024 4546

Size: 10x2150x11800-225

Weight:

Validity unknown

Digitally signed by RAJ KUMAR MISHRA
Date: 2024.09.14 11:27:05 IST
Reason: Authorized Signatory RCL, BSP

Authorised Signatory
SAIL/ CMO/ BSO

Authorized Signatory
Research & Control Laboratory, Bhilai Steel Plant



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



CM/L-0057534

MTL-II/QR-2

TEST CERTIFICATE FOR HOT ROLLED MEDIUM AND HIGH TENSILE STRUCTURAL STEEL

Sold-to-Party:
SHREEJEE STRUCTURAL STEEL PVT. LTD.
222, GIRIRAJ BUILDING, S.T.ROAD,
MUMBAI 400009

T.C.No : RCL/MTL/PLM/80837283
T.C. Date : 26.09.2024
SALES ORDER NO : 1100518020
DA No : 80837283

Ship-to-Party:
SHREEJEE STRUCTURAL STEEL PVT. LTD.,Raigad.

Wagon No / Trailer No : SEC21141070806

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

Specification : IS 2062 E 250 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)				°C			
mm	mm	mm	240 MPa Min	410 MPa	Min23(5.6 5SqrtS0)			I1	I2	I3	Iavg					
40	1600	12000	3250212/1	386496	325	471	25	-	82	86	78	82	RT	OK	3.0 T	
				386496	356	512	28	-	-	-	-	-	-	OK	3.0 T	

Heat No	CHEMICAL COMPOSITION (LADLE ANALYSIS)															
	C	S	P	Mn	Si	Al	Cu	Cr	Ni	Mo	Nb	V	Ti	N ₂	B	CE
	%	%	%	%	%	%	%	%	%	%	%	%	%	ppm	%	%
386496	0.17	0.020	0.025	0.92	0.18	0.015	< 0.02	< 0.015	< 0.015	< 0.015	< 0.010	< 0.010	< 0.005	-	< 0.0005	0.32

Total Pieces Page / Sales Order : 1 / 1 Total Pieces / TC : 14

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

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

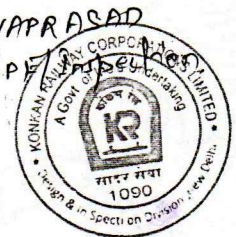
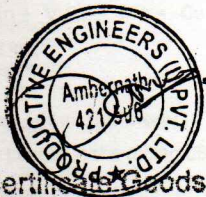
RT- Room temperature as defined in the specification,

Plates are in UNTRIMMED condition,

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,



Against This Certificate Goods Sold

Mr. K. K. Keng
Particulars Mentioned Below Bill No 4790
Date 08/10/2024
Size: 40 x 1600 x 12000 / pc
Weight: 6.110 MT

Signature valid

Digitally signed by RANJAN KUMAR MISHRA
Date: 2024.09.26 11:06 IST
Reason: Authorized Signatory RCL. BSP



**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/QR-2

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

Sold-to-Party:
BM BSO MUMBAI
SWASTIK CHAMBER 1ST FLOOR SION TROMBAY ROAD CHEMBUR
MUMBAI 400071

T.C.No : RCL/MTL/PLM/80835825
T.C. Date : 20.09.2024
SALES ORDER NO : 1100517185
DA No : 80835825

Ship-to-Party:
WHM KALAMBOLI, Raigad.

Wagon No / Trailer No : SWR57150851471

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

Specification : IS 2062 E 250 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)				Impact Values (J)			
mm	mm	mm	230 MPa Min	410 MPa	Min23(5.6 5SqrtS0)			I1	I2	I3	Iavg	°C				
50	1600	11800	3247900/1	386539	335	479	25	--	--	--	--	RT	OK	3.0 T		
				386539	337	471	26	--	50	48	52	50	RT	OK	3.0 T	
50	1600	11800	3247901/1	386539	--	--	--	--	--	--	--	--	--	--		
50	1600	11800	3247902/1	386539	--	--	--	--	--	--	--	--	--	--		
50	1600	11800	3247903/1	386539	--	--	--	--	--	--	--	--	--	--		
50	1600	11800	3247904/1	386539	--	--	--	--	--	--	--	--	--	--		
Heat			CHEMICAL COMPOSITION (LADLE ANALYSIS)													
No	C	S	P	Mn	Si	Al	Cu	Cr	Ni	Mo	Nb	V	Ti	N ₂	B	CE
	%	%	%	%	%	%	%	%	%	%	%	%	%	ppm	%	%
386539	0.15	0.020	0.033	0.88	0.25	0.015	< 0.02	< 0.015	< 0.015	< 0.015	< 0.010	< 0.010	0.007	--	< 0.0005	0.30

Total Pieces Page / Sales Order : 5 / 5

Total Pieces / TC : 9

Ultrasonic Testing Level : ASTM A 578 Level B 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,

Plate sides are in UNTRIMMED condition.,

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 EN 10204 Type 3.1,

Against This Certificate Goods Sold

M/s. K. K. K. Engg.

Particulars mentioned Below Bill No 4547/4548

Date: 11/10/2024

Size: 50 x 1600 x 11800 - 279 (4 Pcs)

Weight: 14.980 MT

(14.950 + 14.950)

Validity unknown

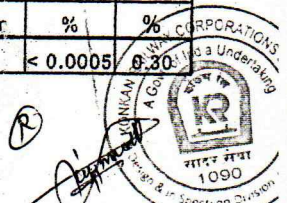
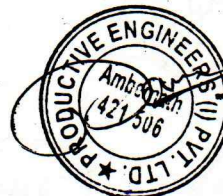
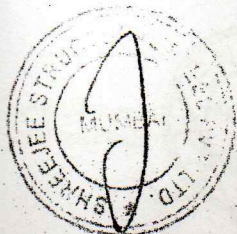
Digitally signed by S SAIJU
Date: 2024.09.20 10:35:05 IST
Reason: Authorized Signatory RCL, BSP

Authorized Signatory

Research & Control Laboratory, Bhilai Steel Plant

Authorized Signatory

SAIL/CMO/BSO





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

Page No : C-1 of 1
IS : 2062



CM/L-0057534
MTL-II/QR-2

TEST CERTIFICATE FOR HOT ROLLED MEDIUM AND HIGH TENSILE STRUCTURAL STEEL

Sold-to-Party:
BM BSO MUMBAI
SWASTIK CHAMBER 1ST FLOOR SION TROMBAY ROAD CHEMBUR
MUMBAI 400071
Ship-to-Party:
WHM KALAMBOLI, Raigad.

T.C.No : RCL/MTL/PLM/80835825
T.C. Date : 20.09.2024
SALES ORDER NO : 1100517184
DA No : 80835825

Wagon No / Trailer No : SWR57150851471

Process of Manufacture of Steel : Basic Oxygen Converter > Continuous Cast > Fully Killed Steel > SIAIK
Specification : IS 2062 E 250 BR : 2011 RA 2021

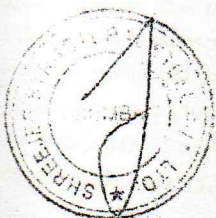
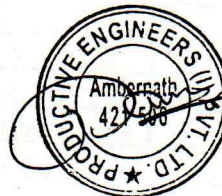
We certify that the material described below fully conforms to IS 2062 : 2011 RA 2021. Chemical composition and Mechanical properties of the product, as tested in accordance with the scheme of testing and inspection contained in the BIS certification mark Number CM/L 0057534 are as indicated against 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)				°C			
mm	mm	mm	230 MPa Min	410 MPa	Min23(5.6 5Sqrt(S0)			I1	I2	I3	lavg					
50	2300	10050	3248996/1	386227	318	457	26	--	--	--	--	RT	OK	3.0 T		
				386227	322	462	25	--	62	60	64	62	RT	OK	3.0 T	
CHEMICAL COMPOSITION (LADLE ANALYSIS)																
Heat No	C	S	P	Mn	Si	Al	Cu	Cr	Ni	Mo	Nb	V	Ti	N ₂	B	CE
	%	%	%	%	%	%	%	%	%	%	%	%	%	ppm	%	%
386227	0.16	0.029	0.020	0.97	0.22	0.011	< 0.02	0.020	< 0.015	< 0.015	< 0.010	< 0.010	0.008	--	< 0.0005	0.34

Total Pieces Page / Sales Order : 1 / 1 Total Pieces / TC : 9

Ultrasonic Testing Level : ASTM A 578 Level B 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,
Plate sides are in UNTRIMMED condition.,
Size of impact test specimen: 10x10x55 mm (above 10mm thickness); 7.5x10x55 mm (upto 10mm thickness),
Notation: M = Mandrel Dia, T = Plate Thickness, Length is the rolling direction of the plate,
TC as per ISRN 10204 Type 3.1.



Against This Certificate Goods Sold
M/s. K.K. 219
Particulars mentioned Below Bill No 4546
Date 11/01/2024
Size 50 x 2300 x 10050 - 1P4
Weight 9.155 MT



Validity unknown
Digitally signed by S. SALJU
Date: 2024.09.20 10:35:05 IST
Reason: Authorized Signatory RCL, BSP

Authorized Signatory
SAP/CMO/BSO



SIVAPRASAD
S-PE/Inspection

Authorized Signatory
Research & Control Laboratory, Bhilai Steel Plant



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

Page No :A-1 of 1
IS : 2062



CM/L-0057534
MTL-III/QR-2

TEST CERTIFICATE FOR HOT ROLLED MEDIUM AND HIGH TENSILE STRUCTURAL STEEL

Sold-to-Party:
BM BSO MUMBAI
SWASTIK CHAMBER 1ST FLOOR SION TROMBAY ROAD CHEMBUR
MUMBAI 400071
Ship-to-Party:
WHM KALAMBOLI, Raigad.

T.C.No : RCL/MTL/PLM/80836299
T.C. Date : 18.09.2024
SALES ORDER NO : 1100517184
DA No : 80836299

Wagon No / Traller No : NCR21131118433

Process of Manufacture of Steel : Basic Oxygen Converter> Continuous Cast> Fully Killed Steel> SIAIK
Specification : IS 2062 E 250 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			230 MPa Min	410 MPa Min	Min23(5.6 5SqrtSO)		11	12	13	avg			°C	
50	2300	10050	3248997/1	386227	318	457	26	--	--	--	--	RT	OK	3.0 T		
50	2300	10050	3248999/1	386227	322	462	25	--	62	60	64	62	RT	OK	3.0 T	
50	2300	10050	3249000/1	386227	--	--	--	--	--	--	--	--	--	--	--	
50	2300	10050	3249001/1	386227	--	--	--	--	--	--	--	--	--	--	--	
50	2300	10050	3249002/1	386227	--	--	--	--	--	--	--	--	--	--	--	
50	2300	10050	3249004/1	386227	--	--	--	--	--	--	--	--	--	--	--	
50	2300	10050	3249005/1	386227	--	--	--	--	--	--	--	--	--	--	--	
CHEMICAL COMPOSITION (LADLE ANALYSIS)																
C	S	P	Mn	Si	Al	Cu	Cr	Ni	Mo	Nb	V	Ti	N ₂	B	CE	
%	%	%	%	%	%	%	%	%	%	%	%	%	ppm	%	%	
0.16	0.029	0.020	0.97	0.22	0.011	< 0.02	0.020	< 0.015	< 0.015	< 0.010	< 0.010	0.008	--	< 0.0005	0.34	

Total Pieces / Sales Order : 7 / 7

Total Pieces / TC : 7

Testing Level : ASTM A 578 Level B Satisfactory & level of acceptance as per TDC.

Material conforms to the standard rolling and weight tolerances.

Formula: $[C + Mn/6 + (Cr + Mo + V)/5 + (Ni + Cu)/15]$

Temperature as defined in the specification.

Condition: UNTEMPERED condition.

Specimen: 10x10x55 mm (above 10mm thickness); 7.5x10x55 mm (upto 10mm thickness)

Labels: D = Nominal Dia, T = Plate Thickness, Length is the rolling direction of the plate.

Standard: IS 2062 Type 3.1.

Against This Certificate Goods Sold

M/s. K. K. Engineering

Particulars Mentioned Below Bill No

Date: 1/10/2024

Size: 50 X 2300 X 10050 7 Pcs

Weight: 18.310

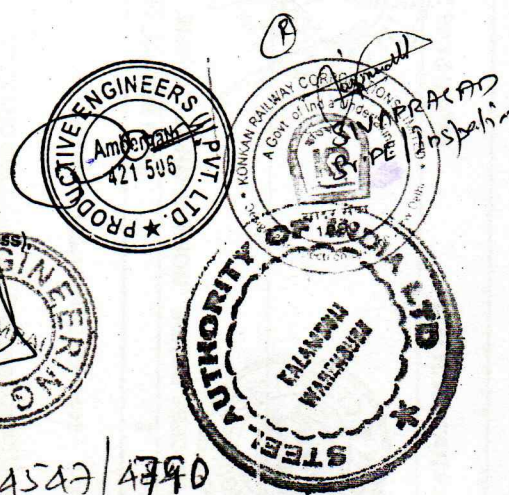
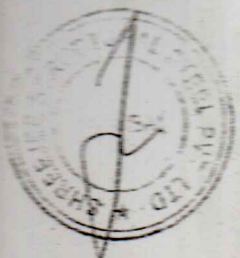
18.310 + 18.500 + 27.963

4548/4547/4790

Validity unknown

Digitally signed by SAIL
Date: 2024.09.18 13:05:45 IST
Reason: Authorized Signatory RCL,
BSI Authorized Signatory

Research & Control Laboratory, Bhilai Steel Plant



Authorized Signatory
SAIL/CMC/BSO



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

IS 2062

Page 1 of 1



Test Certificate for: HOT ROLLED MEDIUM AND HIGH TENSILE STRUCTURAL STEEL
Test Certificate No.: 751486 **Dated: 22.08.2024** **Product: PM Plate**
Specification: IS 2062
To: SHREEJEE STRUCTURAL STEEL PVT. LTD. PLOT NO.775,776, ROAD NO.7, MUMBAI 410218

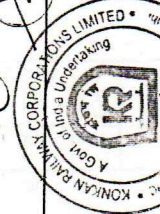
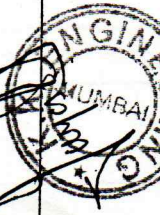
It is certified that the materials described below fully conforms to IS 2062 - 2011. The chemical composition and Mechanical properties of the product as tested in accordance with the scheme of Testing and Inspection contained in BIS Certification marks License No CWL 0000053223 are as indicated against each order. The material supplied conforms to standard Rolling and weight tolerances. (PLEASE REFER TO IS 2062 - 2011 FOR DETAILS OF SPECIFICATION REQUIREMENTS) The Test Certificate is in accordance with the requirements of EN 10204:2004 Type 3.1

Inspection Certificate in accordance with EN 10204: 2004, 3.1.

Sl. No.	MP / SO No.	C%	Mn%	P%	S%	Si%	Al%	CE	RHOB	Grade / Mode Of Killing	YS (MPA)	UTS (MPA)	EI	Bend Test	CVN (1) (J)	CVN (2) (J)	CVN (3) (J)	CVN at RT (Avg) (J)
1	1400818223	0.1700	1.1500	0.0220	0.0070	0.2640	0.0200	0.3620	N	IS 2062 E250BR / ALSIK / UNTRIM	293	446	29	OK	60	62	62	61
2	1400818226	0.1800	1.1200	0.0160	0.0180	0.1660	0.0260	0.3670	Y	IS 2062 E250BR / ALSIK / UNTRIM	293	446	29	OK	72	70	78	73
3	1400818226	0.1700	1.1500	0.0220	0.0070	0.2640	0.0200	0.3620	N	IS 2062 E250BR / ALSIK / UNTRIM	288	448	29	OK	72	70	78	73
4	1400818226	0.1700	1.1500	0.0220	0.0070	0.2640	0.0200	0.3620	N	IS 2062 E250BR / ALSIK / UNTRIM	293	446	29	OK	72	70	78	73
5	1400818226	0.1800	1.1200	0.0160	0.0180	0.1660	0.0260	0.3670	Y	IS 2062 E250BR / ALSIK / UNTRIM	288	448	29	OK	72	70	78	73

Total Pieces : 5 **Total Weight(Tons) : 63.900**

Remarks : PROCESS ROUTE - BOF-LHF-RHOB-CC-NPM



SIVAPRASAD
Sr. PE / Inspection

Validity unknown
Digitally signed by
BAITA KRISHNA GIRI
Date: 2024.08.22
15:09:36 IST

Dispatch Advice No.: 811541977 **Dated: 21.08.2024** **Wagon No.: BRN22.9/NCR/94131258492**

Rourkela Steel Plant



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

IS 2062

Page 1 of 2



Test Certificate For: **HOT ROLLED MEDIUM AND HIGH TENSILE STRUCTURAL STEEL**
 Test Certificate No.: **743592** Dated: **15.07.2024** Product: **PM Plate**
 Specification: **IS 2062**
 To: **WHM KALAMBOLI NEAR BIMA COMPLEX, Raigad 400601**

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) The Test Certificate is in accordance with the requirements of EN 10204:2004 Type 3.1
 Inspection Certificate in accordance with EN 10204: 2004, 3.1.

Ladle Analysis

Cast No	C%	Mn%	P%	S%	Si%	Al%	CE	RHOB
2411243	0.1800	1.1300	0.0200	0.0170	0.1880	0.0290	0.3680	Y
2411714	0.1500	1.2000	0.0140	0.0040	0.1880	0.0260	0.3600	Y
2411943	0.1800	1.1700	0.0240	0.0070	0.2000	0.0300	0.3750	Y

SL No.	MP / SO No.	Cast / Batch No.	Size(mm) (TxWxL)	No of Piece(s)	Grade / Mode Of Killing	YS	UTS	EI	Bend Test	JUST	CVN (1)	CVN (2)	CVN (3)	CVN at RT (Avg)
						(MPA)	(MPA)	(%)		(ASTM(J) A)	(J)	(J)	(J)	(J)
1	1400788478	2411943 / CCN3509861	40x2500x12000	1	IS 2062 E250BR / ALSIK / UNTRIM	293	453	28	OK	578B	74	70	78	74
						295	455	29	OK					
2	1400809640	2411714 / CCN3499491	56x2500x12000	1	IS 2062 E250BR / ALSIK / UNTRIM	307	460	30	OK	435	80	88	100	89
						306	458	29	OK					
3	1400809640	2411714 / CCN3499491	56x2500x12000	1	IS 2062 E250BR / ALSIK / UNTRIM	307	460	30	OK	435	80	88	100	89
						306	458	29	OK					
4	1400809640	2411714 / CCN3498501	56x2500x12000	1	IS 2062 E250BR / ALSIK / UNTRIM	307	460	30	OK	435	80	88	100	89
						306	458	29	OK					
5	1400809640	2411243 / CCN3500041	56x2500x12000	1	IS 2062 E250BR / ALSIK / UNTRIM	294	453	28	OK	435	62	68	68	66
						290	449	28	OK					

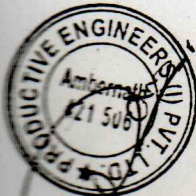
Total Pieces : 5 Total Weight(Tons) : 63.450

marks : PROCESS ROUTE - BOF-LHF-RHOB-CC-NPM

Dispatch Advice No.: 812166789

Dated: 14.07.2024

Wagon No: BOST/ECR/21101015809





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

IS 2062

Page 2 of 2



Test Certificate For: HOT ROLLED MEDIUM AND HIGH TENSILE STRUCTURAL STEEL		
Test Certificate No.: 743592	Dated: 15.07.2024	Product: PM Plate
Specification: IS 2062		
To: WHM KALAMBOLI NEAR BIMA COMPLEX, Raigad 400601		

SALES ORDER NO - 1400786478 PLATES ARE UST OK AS PER ASTM A 578 LEVEL B : SATISFACTORY & LEVEL OF ACCEPTANCE AS PER TDC .
 SALES ORDER NO - 1400809640 PLATES ARE UST OK AS PER ASTM A 435 : SATISFACTORY & LEVEL OF ACCEPTANCE AS PER TDC .

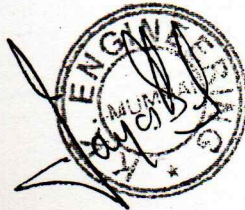
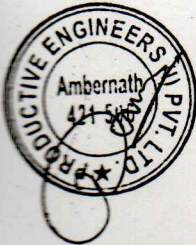
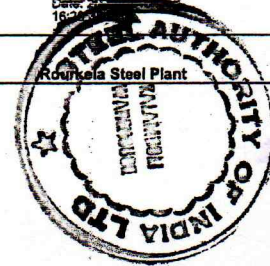
Validity unknown

Digitally signed by
 BATA KRISHNA GIRI
 Date: 2024.07.15
 16:00:00

Dispatch Advice No.: 812166789

Dated: 14.07.2024

Wagon No: BOST/ECR/21101015809





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



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

CML-0057534
MTL-II/QR-2

Sold-to-Party:
SHREEJEE STRUCTURAL STEEL PVT. LTD.
222, GIRIRAJ BUILDING, S.T.ROAD,
MUMBAI 400009

T.C.No : RCL/MTL/PLM/80829238
T.C. Date : 06.08.2024
SALES ORDER NO : 1100514389
DA No : **80829238**

Ship-to-Party:
SHREEJEE STRUCTURAL STEEL PVT. LTD.,Raigad.

Wagon No / Trailer No : SECR21141123717

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

Specification : IS 2062 E 250 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 CML/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	250 MPa Min	410 MPa Min	Min23(5.6 5SqrtS0)		I1	I2	I3	Iavg	°C					
12	2500	12000	3225016/1	384659	313	469	27	-	100	112	106	106	RT	OK	2.0 T	
				384659	305	462	28	-	-	-	-	-	-	OK	2.0 T	
CHEMICAL COMPOSITION (LADLE ANALYSIS)																
Heat No	C	S	P	Mn	Si	Al	Cu	Cr	Ni	Mo	Nb	V	Ti	N ₂	B	CE
	%	%	%	%	%	%	%	%	%	%	%	%	%	ppm	%	%
384659	0.13	0.010	0.021	0.78	0.18	0.017	< 0.02	< 0.015	< 0.015	< 0.015	< 0.010	< 0.010	< 0.005	-	< 0.0005	0.26

Total Pieces Page / Sales Order : 1 / 1 Total Pieces / TC : 11

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],

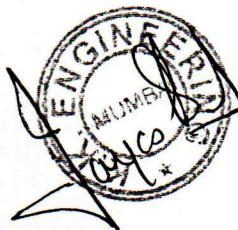
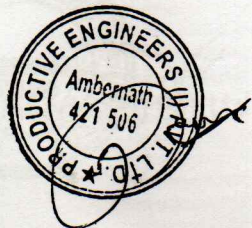
RT- Room temperature as defined in the specification,

Plates are in UNTRIMMED condition.,

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,



Signature valid

Digitally signed by S. RAJU
Date: 2024.08.06 10:57:45 IST
Reason: Authorized Signatory RCL, BSP

Authorised Signatory
SAIL/CMO/BSO

Authorised Signatory
Research & Control Laboratory, Bhilai Steel Plant