J. MANGSUN & CO

Plot No A – 483, Road No 24, Wagle Estate, Thane; PIN 400604

State: Maharashtra

INDIA

Contact: +91224064 2127 / 2157 / 2134 / 2148 / 2128

Mobile: 7666695198 / 7718846007 / 7208503967 / 7666695283

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Revision 01

PRODUCT OVERVIEW

Right from the era of closed door economy of 1980s when Indian Companies did not have much access to the international bearing industry till today's era of fully globalised open door economy, JMC, through its determined and ingenious efforts, has been able to develop a range of Import Substitute products. Today we feel extremely proud that we have been instrumental in not only saving costs for Indian steel industry but also contribute to Indian exchequer, by saving valuable foreign exchange, worth millions of USDs.

Given here-below is the range of various types of bearings we manufacture and supply to Indian and Global steel industry:

- ROLLER CAGE BEARINGS, WITHOUT INNER & OUTER RACE
- FLEXIBLE ROLLER BEARINGS
- SPIRAL (FLEXIBLE) BUSH BEARINGS for SLAB CASTERS
- BACK-UP ROLL BEARINGS FOR 20-HI, 12-HI, 6-HI CRM
- FOUR ROW CYLINDRICAL ROLLER BEARINGS FOR LONG PRODUCTS
- SPLIT ROLLER BEARINGS FOR LINE SHAFTS / LONG SHAFTS
- TAPER ROLLER BEARINGS
- PRESSURE ROLLER UNITS (BEARINGS) FOR SINTERING PLANTS
- CARDON SHAFT ASSEMBLY, AND LOOSE YOKE, U J CROSS AND CROSS BEARINGS

•FOUR ROW CYLINDRICAL ROLLER BEARINGS

PRODUCT GALLERY

FOUR ROW CYLINDRICAL ROLLER BEARING

Revision 01

ABOUT 4 ROW CRB

- Roll neck bearings are very heavily loaded and subjected to high pressure. They are used where space restriction in radial direction is very severe.

- This is a bearing of low section heights with high load carrying capacity.

- The available mounting space should be primarily used to accommodate the radial bearings since by comparison to the radial loads, the axial loads are relatively small.

- Cylindrical Roller Bearing having the same cross section and the same ring sections accommodates larger diameter roller than a spherical roller bearing or a tapered roller bearing.

- Since the Roller diameter is the factor with the strongest impact on the load rating, the Cylindrical Roller has the highest load carrying capacity when compared to the other bearing types-on the basis of identical boundary dimensions.

ABOUT 4 ROW CRB

- A high degree of accuracy can be achieved with bearing comprising of parts of simplest geometry. Expending the same amount of workmanship the Cylindrical Roller Bearing will therefore exhibit a higher running accuracy than the tapered rollers or the Spherical Roller Bearing.

- For high speed rolls the low rolling contact friction characteristic of the Cylindrical Roller Bearing is highly favourable.

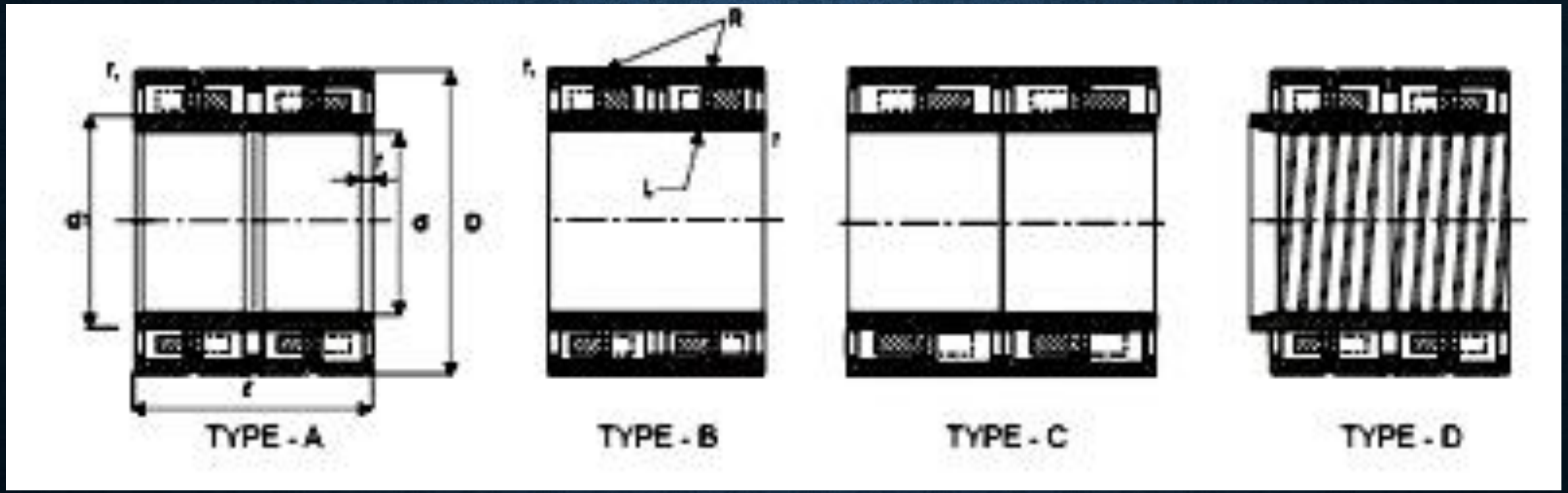
- Within a given mounting space Cylindrical Roller Bearing offer the greatest load carrying capacity. This bearing is suitable for highest radial loads and owing to its low friction coefficient, for highest speeds.

ABOUT 4 ROW CRB

- **We can supply Bearings and Races in the following manner:**

  - **Complete Bearing with Inner Race**
  - **Bearing without Inner Race (R)**
  - **Loose Inner Race (L)**

GENERAL SPECIFICATIONS



GENERAL SPECIFICATIONS

JMC. No.	TYPE	SIZE (mm)				LOAD RATING TONS		Wt. Kg.	EQV. No.
		d	D	ℓ	d1	Dyn. C	Stat. Co.		
4 CRB-100/140/80	B	100	140	80	110	42	66	5	FAG-537676
4 CRB-120/165/90	B	120	165	90	132	50	76	5.55	FAG-537675
4 CRB-145/210/155	B	145	210	155	166	102	175	18	SKF-314625 A FAG-511605 KOYO-29FC21155C4
4 CRB-145/225/156	B	145	225	156	169	105	160	22.7	SKF-313924 A FAG-538522
4 CRB-150/230/156	B	150	230	156	174	105	180	24	SKF-313891 A FAG-506962 OR FAG-508955
4 CRB-160/230/130	B	160	230	130	180	81	130	17.6	SKF-314190 FAG-502894A
4 CRB-160/230/168	B	160	230	168	179	115	200	23.5	SKF-315189A FAG-510150
4 CRB-165/225/168	C	165.10	225.45	168.3	181	100	190	20	SKF-2x315642 VJ202 FAG-529468.N12BA
4 CRB-170/230/130	B	170	230	130	188.5	75	125	15	SKF-313673 FAG-508370
4 CRB-170/240/156	B	170	240	156	190	115	210	19	NSK-170RV2403C*OB
4 CRB-180/260/168	B	180	260	168	202	115	195	29.7	SKF-313812 A FAG-507536
4 CRB-190/270/200	B	190	270	200	212	150	285	36.5	SKF-314199 B FAG-508657
4 CRB-190/280/200	B	190	280	200	214	155	295	42	SKF-314049 A FAG-510199
4 CRB-200/270/170	B	200	270	170	222	125	255	28.2	SKF-314553 A FAG-522742
4 CRB-200/280/170	B	200	280	170	223	145	250	33.5	SKF-314385 FAG-549864
4 CRB-200/280/200	B	200	280	200	222	162	300	39	SKF-313893 FAG-508726
4 CRB-200/290/192	B	200	290	192	226	172	295	42	SKF-313811 FAG-512580
4 CRB-200/310/200	B	200	310	200	229	195	270	59	FAG-524373
4 CRB-210/290/192	B	210	290	192	236	167	335	38.7	FAG-507628/SKF-313646 NSK-210RV2901C3*OB

Revision 01

GENERAL SPECIFICATIONS

JMC BEARINGS

JMC. No.	TYPE	SIZE (mm)				LOAD RATING TONS		Wt. Kg.	EQV. No.
		d	D	ℓ	d1	Dyn. C	Stat. Co.		
4 CRB-220/310/192	B	220	310	192	246	182	300	45.5	SKF-313839 FAG-507333
4 CRB-220/310/225	B	220	310	225	244	210	400	54.2	SKF-313894 B FAG-514461
4 CRB-230/330/206	B	230	330	206	260	200	370	58	SKF-313824 FAG-508727
4 CRB-230/365/250	A	230	365	250	266	300	410	100	SKF-313581 A FAG-529113
4 CRB-240/330/220	B	240	330	220	270	190	390	57.5	SKF-313921 FAG-508368
4 CRB-260/370/220/240	D	260	370	220/240	292	210	390	79.5	FAG-536897
4 CRB-260/370/220	B	260	370	220	292	210	390	77	SKF-313823 FAG-507336
4 CRB-260/400/290	A	260	400	290	296	400	600	135	SKF-313427 FAG-518214
4 CRB-280/390/220	B	280	390	220	312	220	410	82	SKF-313822 FAG-507339
4 CRB-290/440/310	B	290	440	310	328	410	700	164	FAG-517796
4 CRB-300/420/300	A	300	420	300	332	410	780	130	SKF-314484 D FAG-524289 B
3 CRB-325/470/271/281[SG]	SPL	325	470	271/281	364.13	395	810	166	BSC-456986
4 CRB-330/460/340	A	330	460	340	365	430	900	175	SKF-313445 C FAG-543447
4 CRB-340/480/350	A1	340	480	350	378	560	1125	207	FAG-525837 A
4 CRB-340/480/350	A	340	480	350	378	520	1050	205	SKF-314485A FAG-527634
4 CRB-374/520/360/370[SG]	SPL	374.65	520	360/370	414.6	595	1190	250	BSC-456985
4 CRB-380/540/300	A	380	540	300	421	505	900	217	SKF-313030 A FAG-541962
4 CRB-400/560/410	A	400	560	410	445	650	1250	325	SKF-313015A FAG-513769A
4 CRB-536/762/558	A1	536.176	762.030	558.800	598	1250	2900	872	SKF-313535B FAG-524544A

Revision 01

GENERAL SPECIFICATIONS

Material And Metallurgy:

MOC (RM Grades)	RACES			ROLLERS			CAGES		
	SAE52100			SAE52100			Steel / Brass		
Metallurgy (Heat Treatment)	Parameter	Min	Max	Parameter	Min	Max	Parameter	Min	Max
	Hardness (HRC)	58	62	Hardness (HRC)	58	62	NA		
	Micro-structure	Well distributed fine / globular carbide with tempered martensite		Micro-structure	Well distributed fine / globular carbide with tempered martensite		NA		
	Retained Austenite (RA)		2%	Retained Austenite (RA)		2%	NA		

Revision 01

GENERAL SPECIFICATIONS

Dimensional & Geometric Accuracies:

RACES			ROLLERS			CAGES		
Parameter	Min	Max	Parameter	Min	Max	Parameter	Min	Max
ID / OD	0.01 mm	0.02 mm	OD	0.005 mm	0.01 mm	Clearance between Pocket dia and roller dia	0.17 mm	0.22 mm
ID to OD Concentricity		0.01 mm	Circularity of OD		0.002mm	PCD		0.05 mm
Circularity		0.008mm	Cylindricity of OD		0.004mm	Burr-free and smooth edges		
Cylindricity		0.015mm	Length	0.01 mm	0.02 mm	Smooth Pocket Surface		
Parallelism between faces		0.01 mm	Parallelism between faces		0.015 mm			
Track to Face Perpendicularity		0.015mm	OD to Face Perpendicularity		0.015mm			
Surface Roughness	0.2 Ra	0.4 Ra	Surface Roughness	0.15 Ra	0.25 Ra			

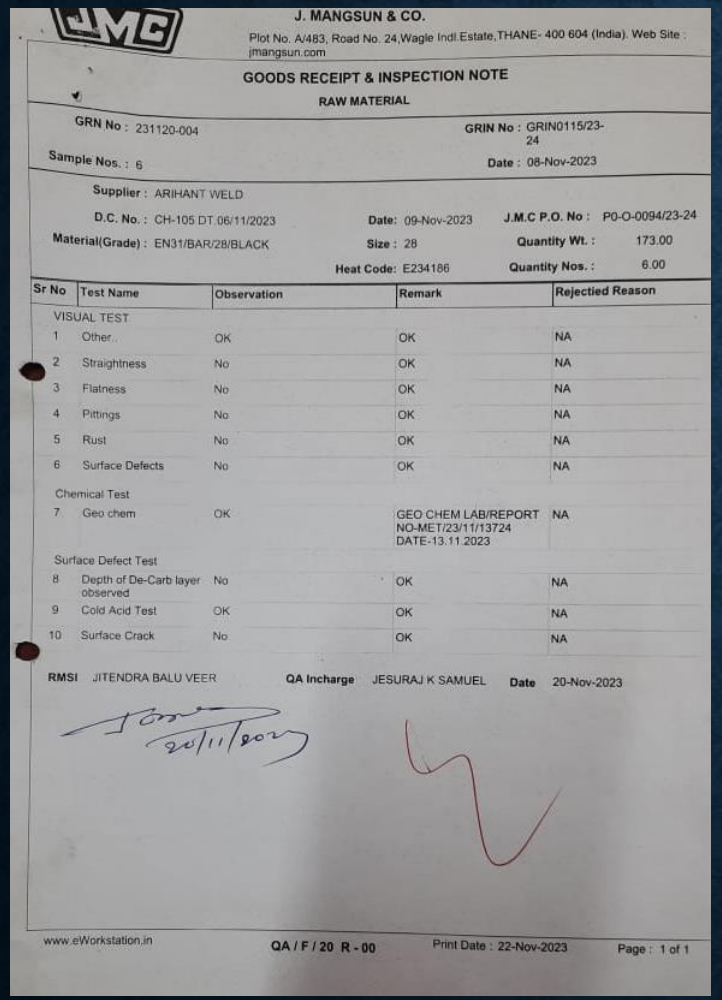
INFRASTRUCTURE GALLERY

Quality is never an accident; it is always the result of high intention, sincere effort, intelligent direction and skilful execution; it represents the wise choice of many alternatives, the cumulative experience of many masters of craftsmanship. Quality also marks the search for an ideal after necessity has been satisfied and mere usefulness achieved.

John Ruskin

INFRASTRUCTURE GALLERY

ENSURING GOOD MATERIAL



J. MANGSUN & CO.

Plot No. A/483, Road No. 24,Wagle Indl.Estate,THANE- 400 604 (India). Web Site : jmangsun.com

GOODS RECEIPT & INSPECTION NOTE

RAW MATERIAL

GRN No : 231120-004 GRIN No : GRIN0115/23-24

Sample Nos. : 6 Date : 08-Nov-2023

Supplier : ARIHANT WELD

D.C. No. : CH-105 DT.06/11/2023 Date: 09-Nov-2023 J.M.C P.O. No : P0-O-0094/23-24

Material(Grade) : EN31/BAR/28/BLACK Size : 28 Quantity Wt. : 173.00

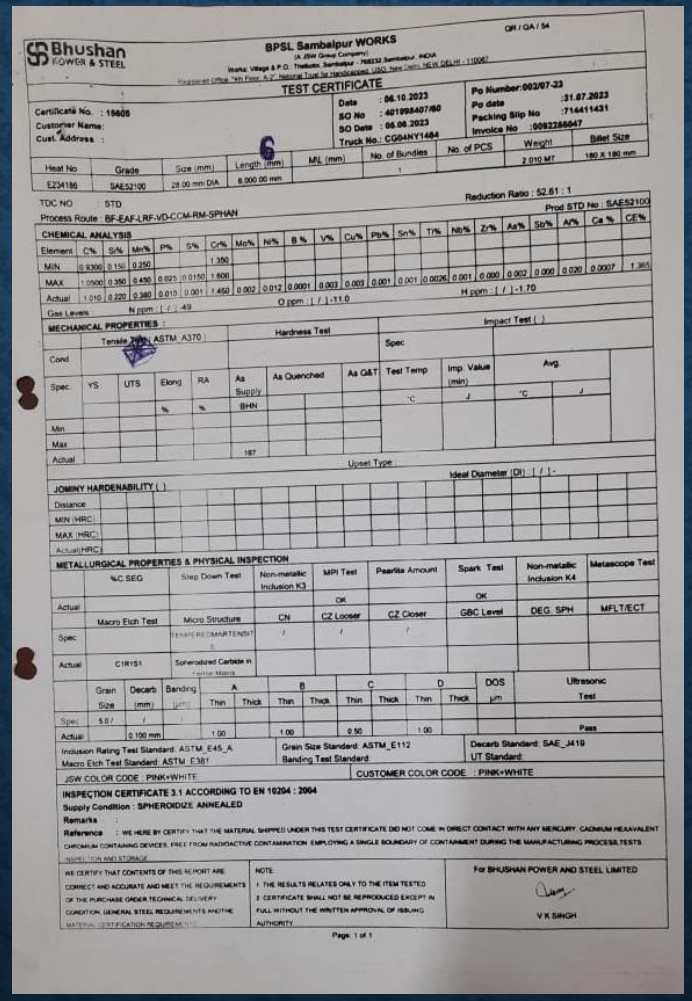
Heat Code: E234186 Quantity Nos. : 6.00

Sr No	Test Name	Observation	Remark	Rejected Reason
VISUAL TEST				
1	Other..	OK	OK	NA
2	Straightness	No	OK	NA
3	Flatness	No	OK	NA
4	Pittings	No	OK	NA
5	Rust	No	OK	NA
6	Surface Defects	No	OK	NA
Chemical Test				
7	Geo chem	OK	GEO CHEM LAB/REPORT NO-MET/23/11/13724 DATE-13.11.2023	NA
Surface Defect Test				
8	Depth of De-Carb layer observed	No	OK	NA
9	Cold Acid Test	OK	OK	NA
10	Surface Crack	No	OK	NA

RMSI JITENDRA BALU VEER QA Incharge JESURAJ K SAMUEL Date 20-Nov-2023

20/11/2023

www.eWorkstation.in QA / F / 20 R - 00 Print Date : 22-Nov-2023 Page : 1 of 1



Bhushan POWER & STEEL

BPSL Sambalpur WORKS

QR / QA / 54

TEST CERTIFICATE

Certificate No. : 15605

Customer Name:

Cust. Address :

Date : 06.10.2023

SO No : 401098407/60

SO Date : 06.06.2023

Truck No.: CG04NY1484

Po Number:002/07-23

Po date :31.07.2023

Packing Slip No :714411431

Invoice No :0092256047

Heat No	Grade	Size (mm)	Length (mm)	M/L (mm)	No. of Bundles	No. of PCS	Weight	Billet Size
E234186	SAE52100	28.00 mm DIA	6,000.00 mm		1		2.010 MT	180 X 180 mm

TDC NO : STD

Reduction Ratio : 52.61 : 1

Process Route : BF-EAF-LRF-VD-CCM-RM-SPHAN

Prod STD No : SAE52100

CHEMICAL ANALYSIS

Element	C%	Si%	Mn%	P%	S%	Cr%	Mo%	Ni%	B %	V%	Cu%	Pb%	Sn%	Ti%	Nb%	Zr%	As%	Sb%	Al%	Ca %	CE%
MIN	0.9300	0.150	0.250			1.350															
MAX	1.0500	0.350	0.450	0.025	0.0150	1.600															
Actual	1.010	0.220	0.380	0.010	0.001	1.450	0.002	0.012	0.0001	0.003	0.003	0.001	0.001	0.0026	0.001	0.000	0.002	0.000	0.020	0.0007	1.365

Gas Levels N ppm : [/] -49 O ppm : [/] -11.0 H ppm : [/] -1.70

MECHANICAL PROPERTIES :

Tensile Test (ASTM A370)

Cond	Spec	YS	UTS	Elong	RA
				%	%
Min					
Max					
Actual					

Hardness Test

As Supply	As Quenched	As Q&T
BHN		
187		

Impact Test ( )

Spec	Test Temp	Imp. Value (min)	Avg.	
	°C	J	°C	J

Upset Type

JOMINY HARDENABILITY ( )

Ideal Diameter (DI) : [/] -

Distance																
MIN (HRC)																
MAX (HRC)																
Actual(HRC)																

METALLURGICAL PROPERTIES & PHYSICAL INSPECTION

	%C SEG	Step Down Test	Non-metallic Inclusion K3	MPI Test	Pearlite Amount	Spark Test	Non-metallic Inclusion K4	Metascope Test
Actual				OK		OK		

	Macro Etch Test	Micro Structure	CN	CZ Looser	CZ Closer	GBC Level	DEG. SPH	MFLT/ECT
Spec		TEMPERED MARTENSITE	/	/	/			
Actual	C1R1S1	Spheroidized Carbide in ferrite Matrix						

	Grain Size	Decarb (mm)	Banding	A Thin	A Thick	B Thin	B Thick	C Thin	C Thick	D Thin	D Thick	DOS µm	Ultrasonic Test
Spec	5.0 /	/											
Actual		0.100 mm		1.00		1.00		0.50		1.00			Pass

Inclusion Rating Test Standard: ASTM_E45_A Grain Size Standard: ASTM_E112 Decarb Standard: SAE_J419

Macro Etch Test Standard: ASTM_E381 Banding Test Standard : UT Standard:

JSW COLOR CODE : PINK+WHITE CUSTOMER COLOR CODE : PINK+WHITE

INSPECTION CERTIFICATE 3.1 ACCORDING TO EN 10204 : 2004

Supply Condition : SPHEROIDIZE ANNEALED

Remarks :

Reference : WE HERE BY CERTIFY THAT THE MATERIAL SHIPPED UNDER THIS TEST CERTIFICATE DID NOT COME IN DIRECT CONTACT WITH ANY MERCURY, CADMIUM HEXAVALENT CHROMIUM CONTAINING DEVICES, FREE FROM RADIOACTIVE CONTAMINATION EMPLOYING A SINGLE BOUNDARY OF CONTAINMENT DURING THE MANUFACTURING PROCESS,TESTS

INSPECTION AND STORAGE

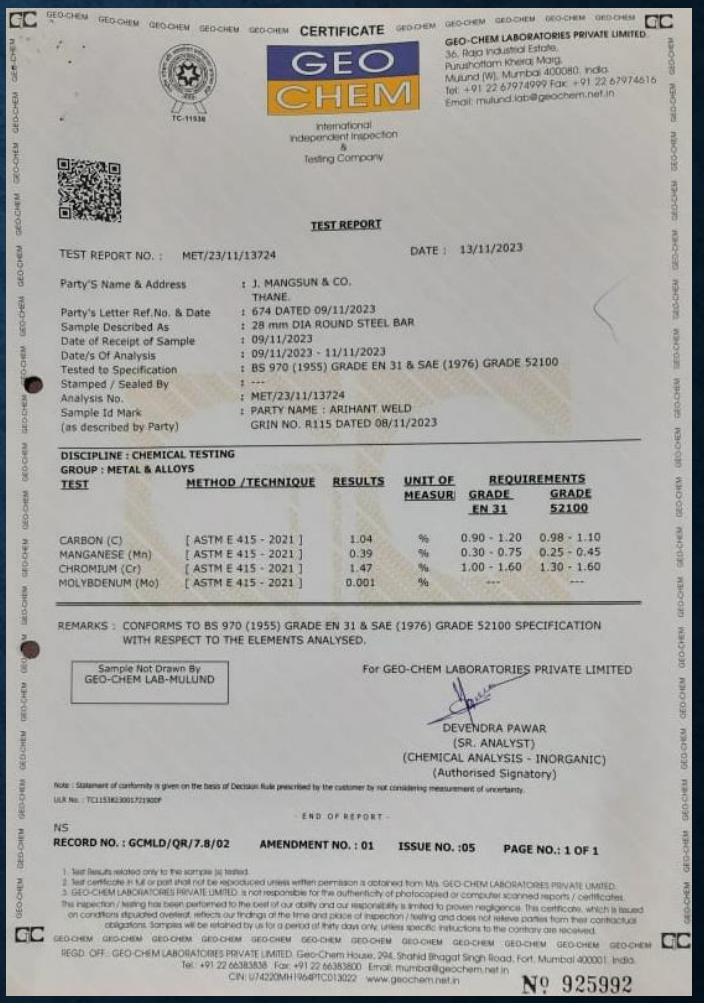
WE CERTIFY THAT CONTENTS OF THIS REPORT ARE CORRECT AND ACCURATE AND MEET THE REQUIREMENTS OF THE PURCHASE ORDER TECHNICAL DELIVERY CONDITION, GENERAL STEEL REQUIREMENTS AND THE MATERIAL CERTIFICATION REQUIREMENTS

NOTE:
1. THE RESULTS RELATES ONLY TO THE ITEM TESTED.
2. CERTIFICATE SHALL NOT BE REPRODUCED EXCEPT IN FULL WITHOUT THE WRITTEN APPROVAL OF ISSUING AUTHORITY.

For BHUSHAN POWER AND STEEL LIMITED

V K SINGH

Page 1 of 1



GEO-CHEM LABORATORIES PRIVATE LIMITED

36, Raja Industrial Estate, Purushottam Kherai Marg, Mulund (W), Mumbai 400080. India. Tel: +91 22 67974999 Fax: +91 22 67974616 Email: mulund.lab@geochem.net.in

GEO CHEM

International Independent Inspection & Testing Company

CERTIFICATE

TC-11536

TEST REPORT

TEST REPORT NO. : MET/23/11/13724 DATE : 13/11/2023

Party'S Name & Address	: J. MANGSUN & CO. THANE.
Party's Letter Ref.No. & Date	: 674 DATED 09/11/2023
Sample Described As	: 28 mm DIA ROUND STEEL BAR
Date of Receipt of Sample	: 09/11/2023
Date/s Of Analysis	: 09/11/2023 - 11/11/2023
Tested to Specification	: BS 970 (1955) GRADE EN 31 & SAE (1976) GRADE 52100
Stamped / Sealed By	: ---
Analysis No.	: MET/23/11/13724
Sample Id Mark (as described by Party)	: PARTY NAME : ARIHANT WELD GRIN NO. R115 DATED 08/11/2023

DISCIPLINE : CHEMICAL TESTING

GROUP : METAL & ALLOYS

TEST	METHOD /TECHNIQUE	RESULTS	UNIT OF MEASUR	REQUIREMENTS GRADE EN 31	REQUIREMENTS GRADE 52100
CARBON (C)	[ASTM E 415 - 2021]	1.04	%	0.90 - 1.20	0.98 - 1.10
MANGANESE (Mn)	[ASTM E 415 - 2021]	0.39	%	0.30 - 0.75	0.25 - 0.45
CHROMIUM (Cr)	[ASTM E 415 - 2021]	1.47	%	1.00 - 1.60	1.30 - 1.60
MOLYBDENUM (Mo)	[ASTM E 415 - 2021]	0.001	%	---	---

REMARKS : CONFORMS TO BS 970 (1955) GRADE EN 31 & SAE (1976) GRADE 52100 SPECIFICATION WITH RESPECT TO THE ELEMENTS ANALYSED.

Sample Not Drawn By GEO-CHEM LAB-MULUND

For GEO-CHEM LABORATORIES PRIVATE LIMITED

DEVENDRA PAWAR (SR. ANALYST) (CHEMICAL ANALYSIS - INORGANIC) (Authorised Signatory)

Note : Statement of conformity is given on the basis of Decision Rule prescribed by the customer by not considering measurement of uncertainty.

ULR No. : TC115362300172190OF

- END OF REPORT -

NS

RECORD NO. : GCMLD/QR/7.8/02 AMENDMENT NO. : 01 ISSUE NO. :05 PAGE NO.: 1 OF 1

1. Test Results related only to the sample (s) tested.
2. Test certificate in full or part shall not be reproduced unless written permission is obtained from M/s. GEO-CHEM LABORATORIES PRIVATE LIMITED.
3. GEO-CHEM LABORATORIES PRIVATE LIMITED. is not responsible for the authenticity of photocopied or computer scanned reports / certificates.

This inspection / testing has been performed to the best of our ability and our responsibility is limited to proven negligence. This certificate, which is issued on conditions stipulated overleaf, reflects our findings at the time and place of inspection / testing and does not relieve parties from their contractual obligations. Samples will be retained by us for a period of thirty days only, unless specific instructions to the contrary are received.

REGD. OFF.: GEO-CHEM LABORATORIES PRIVATE LIMITED. Geo-Chem House, 294, Shahid Bhagat Singh Road, Fort, Mumbai 400001. India. Tel.: +91 22 66383838 Fax: +91 22 66383800 Email: mumbai@geochem.net.in CIN: U74220MH1964PTC013022 www.geochem.net.in

No 925992

Raw Material is sourced from only recognised Steel Mills.

Each RM lot procured is further inspected in NABL accredited Lab and RM Inspection Report is prepared.

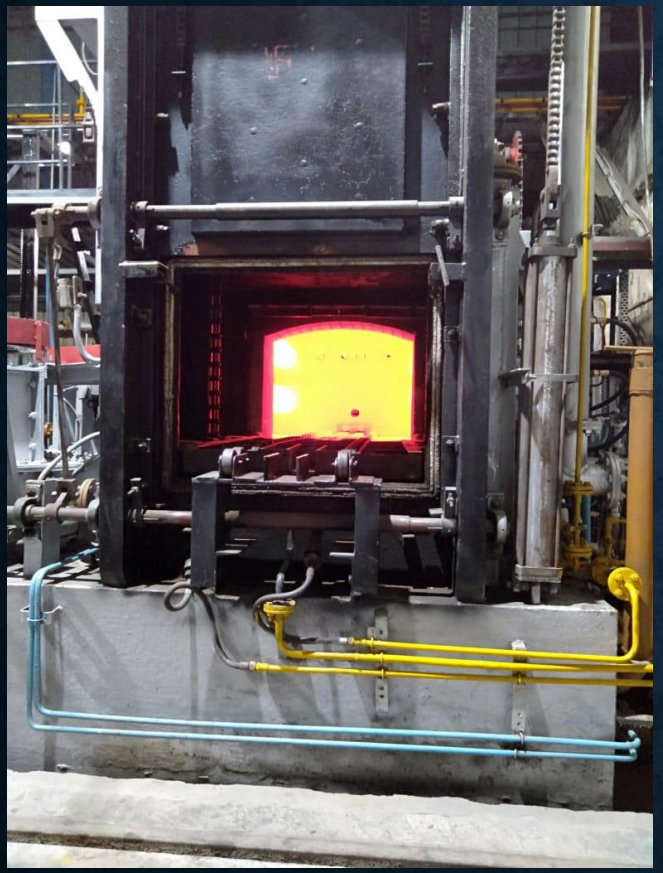
Revision 01

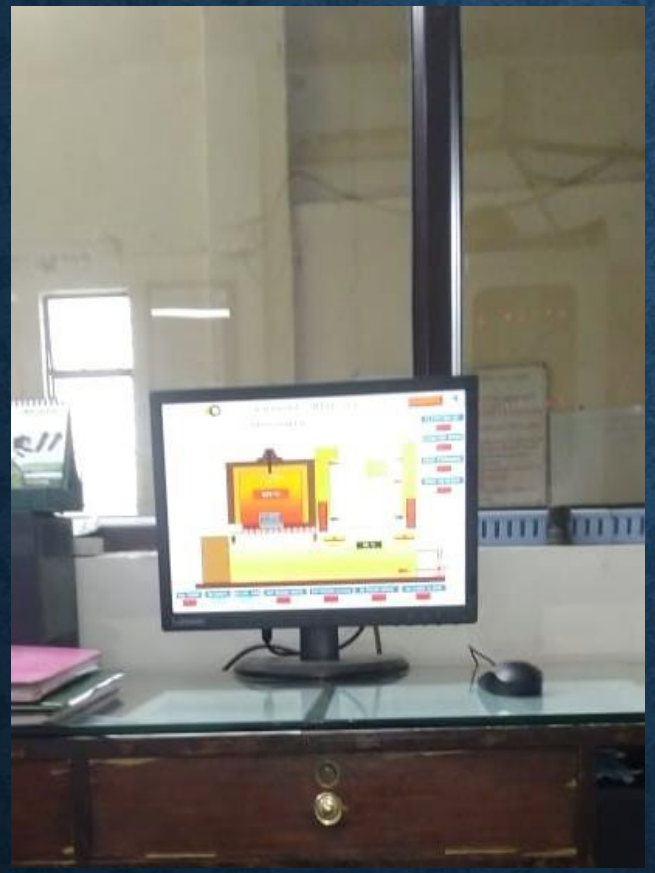
LIST OF MACHINERY SET-UP			
DESCRIPTION	QTY.	MAKE & MODEL NO.	CAPACITY
For manufacturing Bearing And Bearing Components			
CNC VERTICAL TURNING LATHE(VTL)	1	TAL - VTL-800	MAXIMUM DIA 800 mm*LENGTH 650mm
CNC WIRE CUT MACHINE [EDM]	1	ELECTRONICA	JOB HEIGHT 550 mm
CNC VERTICAL GRINDING MACHINE - TAIYO KOKI	1	TAIYO KOKI - NVG-5	MAXIMUM DIA : 560 mm MAXIMUM Length : 500 mm
CYLINDRICAL GRINDER	1	NORTON - USA	MAXIMUM I. D. 350 mm MAXIMUM O.D. 400 mm BETWEEN CENTRE 1300 mm
CENTRELESS GRINDER	1	CINCINNATI	DIA 4 mm To 75 mm
CNC CYLINDRICAL INTERNAL GRINDER	1	WMW GERMANY	MAXIMUM ID 1000 mm MAXIMUM OD 750 mm MAXIMUM JOB LENGTH 250 mm
SUBZERO RE-TEMPER SUB ZERO CHAMBER WITH WORKSPACE DIMENSIONS OF 1000X1000X1000 MM	1	OWN DESIGN	RANGE +210 DEG.TO -80 DEG C
RADIAL DRILLING MACHINE	1	ENERGY	1.1/2"
DRILLING & TAPPING MACHINES	3	THAKOOR	DIA UPTO 20 mm
COIL WINDING MACHINE	1	SPM	
HYDRAULIC PRESS	1	ELETRO-PNUEMATICS	32 TONS
BAND SAW	1	BATLIBOI	DIA 180 mm

LIST OF MACHINERY SET-UP			
DESCRIPTION	QTY.	MAKE & MODEL NO.	CAPACITY
For manufacturing of Bearing Rollers, Cages, Pins and Shafts etc.			
HIGH SPEED CUTTER SAW MACHINE	1	ITL	MAXIMUM DIA.245.00
CNC LATHE	15	LMW, Jyoti, ACE	MAXIMUM DIA 350 mm MAX LENGTH 850mm
THREAD ROLLING MACHINE MODEL MTR-15	2	MTE - MTR 15	MAXIMUM DIA 50.00 mm
CNC VERTICAL MACHINING CENTRE (VMC)	1	HAAS USA- VF-1	TRAVEL :X:510mm Y:405 mm Z:550 mm
CNC VERTICAL MACHINING CENTRE (VMC)	1	HAAS USA - VF-2	TRAVEL X:762.0 mm Y:508.0 mm Z:550 mm
DOT PINNING MARKING MACHINE	1	Vihan	NA
LAZER MARKING MACHINE	1	Suresh Indo Lazer	Lazer range 250*250
SEALED QUENCH FURNACES	2	Bharat Gears	650 KG EACH
CNC CYLINDRICAL GRINDER [ANGULAR PLUNGE]	5	SRB	MAX DIA 350 mm MAX LENGTH 700 mm

INFRASTRUCTURE GALLERY

ENSURING GOOD METALLURGY





SQF with Integrated Quenching Tank, Fully Computerized SCADA Controls, And Sub-Zero Treatment

Revision 01

INFRASTRUCTURE GALLERY

ENSURING GOOD METALLURGY

QA Lab facility

Revision 01

INFRASTRUCTURE GALLERY

ENSURING DIMENSIONAL AND GEOMETRIC ACCURACIES

CNC Vertical Turning Lathe

- Best in Class (TATA Automation Ltd And MAUS, Italy Collaboration make) VTL.
- Max Component Size: 1000 mm
- Having Heidenhain, Germany make Optical scale for both X and Y axis, ensuring Positional accuracies of 0.1 Microns.
- All the parameters are processed in the same setting without removing the component
- This ensures top class dimensional and geometrical accuracy

Revision 01

INFRASTRUCTURE GALLERY

ENSURING DIMENSIONAL AND GEOMETRIC ACCURACIES

CNC Vertical Grinding Machine

- Best in Class (Taiyokoki – MoriSeiki, Japan make) Vertical Grinding Machine
- Max Component Size: 550 mm
- Having Heidenhain, Germany make Optical scale for both X and Y axis, ensuring Positional accuracies of 0.1 Microns.
- All the parameters are processed in the same setting without removing the component
- This ensures top class dimensional and geometrical accuracy

INFRASTRUCTURE GALLERY

ENSURING DIMENSIONAL AND GEOMETRIC ACCURACIES

CNC Grinding Machine

- Best in Class (WMW, Germany make) ID / OD Grinding Machine
- Max Component Size: 1000 mm
- Having Heidenhain, Germany make Optical scale for both X and Y axis, ensuring Positional accuracies of 0.1 Microns.
- All the parameters are processed in the same setting without removing the component
- This ensures top class dimensional and geometrical accuracy

JMC BEARINGS

LIST OF QUALITY MEASUREMENT EQUIPMENTS			
DESCRIPTION	**QTY.**	**MAKE**	**RANGE**
MODEL : CONTRACER, CV-2100M4	1	MITUTOYO	
MODEL : LINEAR HEIGHT, LH600-EG	1	MITUTOYO	
PROFILE PROJECTOR	1	DELTA	L.C. 1.0 u
DIGITAL SURFACE FINISH TESTER	1	MITUTOYO	Ra 0.05 u
ROCKWELL HARDNESS TESTER	1	AKASH -A1-RAS	Max.250 mm scale HRB HRC
ROCKWELL HARDNESS TESTER	1	FINE-TSM	Max.300 mm scale HRA HRB,HRC
MICRO HARDNESS TESTER	1	MITUTOYO HM-113	Traverse method HV, Case depth 4 max.
GRANITE SURFACE PLATE	1	JAFUJI	600 x 1000 x 180 mm
GRANITE SURFACE PLATE	1	JAFUJI	1200 x 800 x 160 mm
DIGITAL OUTSIDE MICROMETER	2	MITUTOYO	0.0 - 25.00 mm
	3		25 --50.00 mm, 50 - 75.00mm , 75 - 100 mm
OUTSIDE MICROMETER	3	MITUTOYO	300 TO 400mm.

LIST OF QUALITY MEASUREMENT EQUIPMENTS

OUTSIDE MICROMETER	9	MITUTOYO	0.0 - 25.0
	8		25 - 50.0
	16		50 - 75, 75 - 100 , 100 - 125, 125 - 150, 150 - 175, 175 - 200 , 200 - 225 , 225 - 250 , 250 - 275, 275 - 300
DIAL VERNIAR CALIPER	17	MITUTOYO	0.00 - 200.0 mm
VERNIAR CALIPER	3	MITUTOYO	0.0 - 450 , 0.00 - 600 , 0.0 - 1000 mm
DIAL BORE GAUGE	5	MITUTOYO	18 TO 400mm.
DIGITAL VERNIER CALIPER	1	MITUTOYO	0 TO 150mm. L.C. 0.01 u.
PLUNGER DIAL GAUGES	20	MITUTOYO	0.001 ,0.010, 0.10 mm LC
LEAVER DIAL GAUGES	4	MITUTOYO	0.002 ,0.010mm LC
AIR GAUGE	1	ACCURATE	40 u. , L.C. 0.5 u.
DIAL COMPARATOR WITH STAND	8	MITUTOYO	0 TO 0.2 mm.
SLIP GAUGE	1	LIMBACH	1.001 TO 100mm.
	1	STD.	0.5 TO 100 mm.
DEGREE PROTRACTOR	2	INOX	5´
		DDR	5´
BLADE MICROMETER	2	MITUTOYO	0 - 25 mm
			25 - 50 mm
SINE BAR	1	SUPREME	100 TO 300 mm.

INFRASTRUCTURE GALLERY

ENSURING DIMENSIONAL AND GEOMETRIC ACCURACIES

JMC BEARINGS

Best in Quality Control Lab.

Revision 01

BUREAU VERITAS

Bureau Veritas Certification

J. MANGSUN & CO.

PLOT NO. A-483, ROAD NO. 24, WAGLE INDUSTRIAL ESTATE, THANE – 400 604, MAHARASHTRA, INDIA.

Bureau Veritas Certification Holding SAS – UK Branch certifies that the Management System of the above organization has been audited and found to be in accordance with the requirements of the Management System Standard detailed below.

Standard

ISO 9001:2015

Scope of certification

MANUFACTURERS & SUPPLIERS OF ANTI FRICTION TAILOR MADE BEARINGS, PINS & HOLLOW/SOLID SHAFTS, RING NUT FOR GEAR BOX & INDUSTRIAL APPLICATION.

Original cycle start date: **19 January 2014**

Recertification cycle start date: **04 January 2023**

Subject to the continued satisfactory operation of the organization's Management System, this certificate expires on: **18 January 2026**

Certificate No: **IND.22.10263/QM/U** Version: **1** Issue date: **04 January 2023**

Signed on behalf of BVCH SAS UK Branch
Jagdheesh N. MANIAN
Director – CERTIFICATION, South Asia
Commodities, Industry & Facilities Division

UKAS MANAGEMENT SYSTEMS
0008

Certification body address: *5th Floor, 66 Prescot Street, London, E1 8HG, United Kingdom.*

Local office: *Bureau Veritas (India) Private Limited (Certification Business) 72 Business Park, Marol Industrial Area, MIDC Cross Road "C", Andheri (East), Mumbai – 400 093, India.*

Further clarifications regarding the scope of this certificate and the applicability of the management system requirements may be obtained by consulting the organization. To check this certificate validity please call + **91 22 6274 2000.**

JMC BEARINGS

Revision 01

QUALITY ASSURANCE

- We are ISO 9001:2015 company for last one decade
- Currently we are upgrading our system to meet the requirements of IATF 16949
- Quality is monitored at every stage through robust Quality assurance System supported with fully customised ERP System that enables tracking of quality at all stages of production starting from Raw Material Inspection to Final Inspection.

- Raw Material is sourced from only Approved Steel Mills. Each RM lot procured is inspected and RM Inspection Report is prepared.

- For each process, a Process Plan is made that spells out all the specifications and Control methods for both Product and Process Characteristics.

- Quality is regularly monitored through First Piece Approval, On Line Inspection, Run Charts, Stage Inspection And Final inspection.

TRACEABILITY

OUR QA SYSTEM AND MATERIAL HANDLING METHODOLOGY ENABLES US TO ENSURE THE TRACEABILITY IN THE MOST RELIABLE MANNER

- Production is done against internally issued Work Order. For each Work Order, raw material received against only one RM Inspection Report can be issued.

- It ensures that:
One Work Order ←→ One RM Inspection Report
(So No mixing up of RMs of two lots in one WO)

- For each WO, after the RM is cut, the lot is given one big tray that accommodates full quantity of the WO. This tray also is marked with the WO number. Material is transferred from one process to the next in the same tray till the WO is finished.

- It ensures that:
Material from Two different WOs don't get mixed up during the process.

- Material from a given Work Order is transferred from one process to the next process only after full Work Order is completed in the first process.

- It ensures that:
Material from Two different WOs don't get mixed up during the process.

- The standard Work Order quantity for each part code has been determined based on optimum batch size for Heat Treatment for each part code.

- It ensures that:
Each WO gets linked with a specific Heat treatment batch number

- Fully Customised ERP System tracks all the Inspection reports against a particular WO starting from RM Inspection Report To Final Inspection Report.

- It ensures that:
The traceability for each Final Inspection Report with RM Inspection Report

APPLICATIONS

We regularly supply 4 Row Cylindrical Roller bearings and Races to Indian and Global Steel Industry for:

- Mill Stand Application in:
  - ➢Bar Mill
  - ➢Rod Mill
  - ➢Wire Rod Mill
  - ➢Section Mill
  - ➢Profile Mill
  - ➢Plate Mill

- In 6Hi & 4 Hi Cold Rolling Mill For Application in:
  - ➢ Back up Rolls

OTHER CAPABILITIES

OUR FOUR DECADE LONG EXPERIENCE OF CATERING TO GLOBAL REQUIREMENTS HAS HARNESSED VARIOUS CAPABILITIES NECESSARY TO BECOME POSITIVE CONTRIBUTOR TO THE GLOBAL VALUE CHAIN.

- We monitor the performances of our various departments through KPIs.
- Our development team is well-versed with the procedure and documentation of APQP and PPAP
- We regularly monitor the machine capabilities to identify any maintenance need in time.
- Our dedicated Quality Engineer monitors the training needs of our operators, inspectors as well as Subcontractors and also ensures their continuous upgradation.
- We are proud of our legacy of almost zero attrition over several decades.
- This has helped us evolve a unique intellectual property amongst all our operators and inspectors who understand and know the process and product requirements thoroughly well.
- We have our own customized ERP system and we keep it continually improving.

THANK YOU!