



J.R.METAL
CHENNAI LIMITED



BARS FOR GENERATION



INTRODUCTION

J.R. Metal Chennai Limited ('JRM') is the flagship company of J.R. Group with more than two decades of experience in the field of steel manufacturing and marketing.

JRM is a leading steel manufacturer and one of the fastest growing companies in South India. The Group continuously intends to further invest in its backward and forward integration so as to consolidate its core business activity and insulate it from market volatility. The group has successfully executed Six Steel plants till date. At JRM we concentrate on quality steel making. Quality is the goal of the organization. JRM has high-end infrastructure with a fully modern and automated plant that ensures the output of highest quality TMT Re-bars and Mild Steel Billets.

The company has highly skilled team of employees and fully automated Computer controlled system from the start to end. Straight and continuous mill with a world-class cooling bed equipped with electromagnetic arrays. JRM is an established player in the steel industry with an excellent track record for the best customer satisfaction. Each of the manufacturing / processing centers of JRM conforms to total commitment in controlling the degradation of the environment by maintaining Green-belt and open space around the manufacturing / processing complexes.



OUR TECHNOLOGY

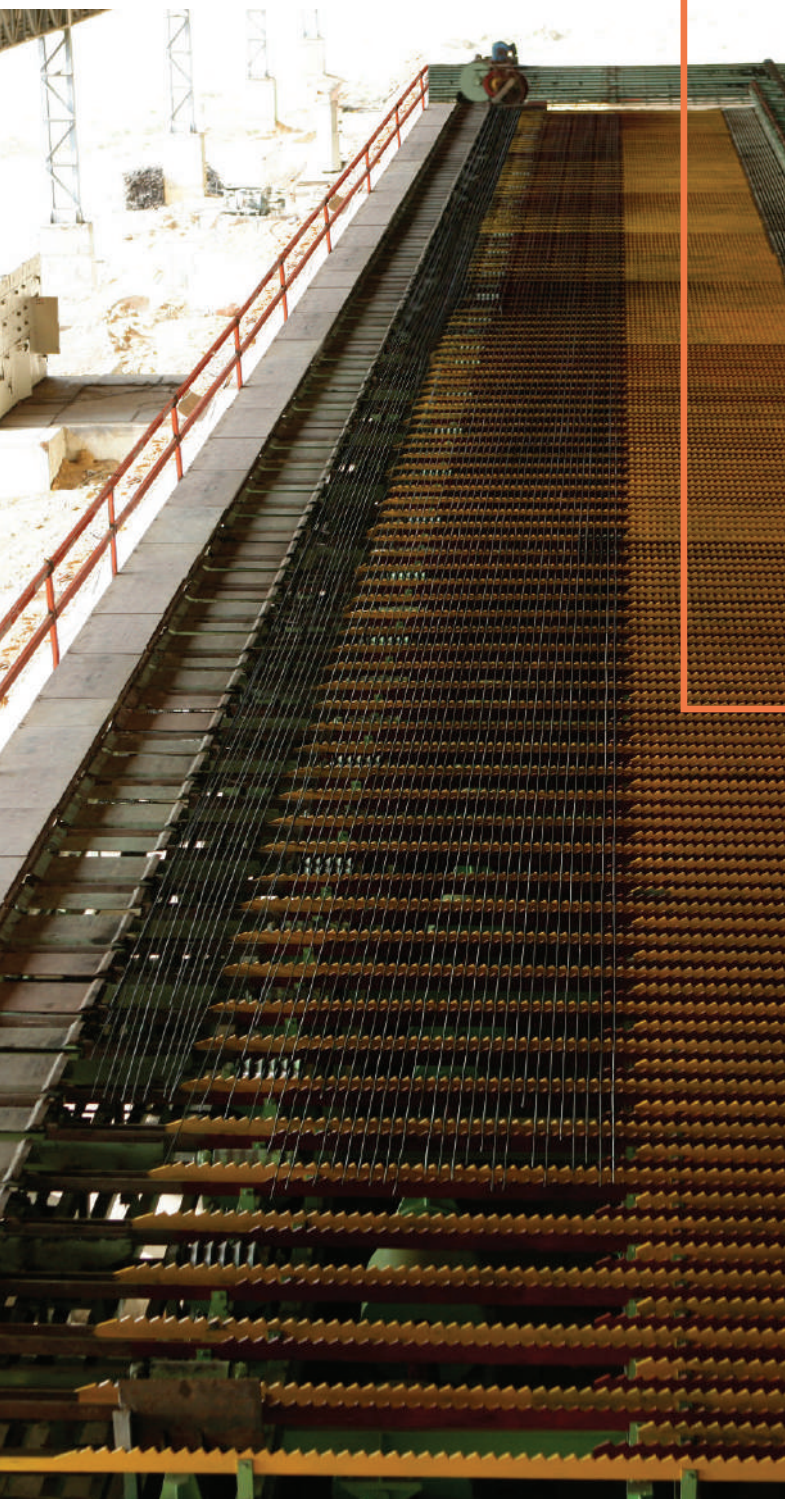
Tempcore (TMT) Technology

JR TMT is produced using the world's most advanced technology - the "Tempcore Process", under license from Centre de Recherche Metallurgiques (CRM), Belgium, inventors of the process. Tempcore bars are being successfully used in most parts of the developed world. The Tempcore Process imparts high strength to the bar using the latest technique of thermo mechanical treatment (TMT) as against cold twisting, which is used to manufacture traditional reinforcing bars. The Tempcore Process involves passing of bars through a special cooling pipe system

where they are rapidly water quenched for a few seconds depending on the size of the bars and then rolling speed. The result of the rapid quenching is a hardened martensitic structure on the surface of the bar and a soft core of the ferrite pearlite. The heat at the core of the bar reheats the surface to an equalising temperature, which gives them high strength and toughness. Our plant is a fine tune for consistent cooling and equalising temperature levels, the two factors which enhances the strength of TMT bars.

OUR PRODUCTS

TMT BARS



Thermo mechanically treated steel, known as TMT steel, can be described as a new generation high-strength steel having superior properties such as weldability strength, ductility and bendability meeting highest quality standards at the international level.

JR TMT RE-BARS is manufactured from superior quality billets manufactured in the same plant according to the requirement of the customers. At JRM our mantra is quality. JR TMT RE-BARS of FE-500 & FE550 grades for sizes ranging between 8mm to 32mm are produced. Special length orders for up to 22mtrs can be satisfied. The standard length of the brand is 12mtrs.

WEIGHT PARAMETERS

SIZE	WEIGHT IN KGs (Per meter)	WEIGHT IN KGs (Per Rod)
8 mm	0.395 - 0.400	4.819 - 4.880
10 mm	0.598 - 0.614	7.290 - 7.490
12 mm	0.860 - 0.868	10.490 - 10.589
16 mm	1.577 - 1.573	19.000 - 19.200
20 mm	2.420 - 2.459	29.500 - 29.990
25 mm	3.852 - 3.893	47.000 - 47.500
32 mm	6.270 - 6.327	76.500 - 77.200

PRODUCT TEST METHODOLOGY

JR Metal has a well equipped laboratory with testing machines like 120 m.t. UTM for measuring strength of steel bars and a physical lab under a well qualified chemist. Inspection is done from the raw material stage and continued till the preparation of test certificates for weight, strength and labeling of the products to conform to BIS Standards. To ensure international quality norms for Tempcore bars in India, an independent laboratory has been assigned the task of periodically inspecting the quality of TMT rebars made by each Tempcore Licensee in the secondary sector.



Billet produced at our plant is tested in Spectrolab for chemical compositions and released to rolling mills. After rolling samples are cut every half an hour and checked for physical properties and section weights. First and last bars of each lot are cross checked for chemical tests such as carbon, manganese, silicon, sulphur and phosphorus and lot numbers are allotted for despatch.

JR Metal has duly obtained BIS License for its products and ISO Certification for quality.



UNIVERSAL TESTING MACHINE: 120 MT

- Fully computerized with zero human interference
- Directly prints stress strain curve of the specimen
- No manipulation possible thus ensures reliability
- High accuracy of tensile bend and rebend test

SPECTROMETER

- Proven German Technology
- Extremely accurate testing instant results
- Over width 34 elements tested in 60 seconds
- Superior analytical performance





CNC RIB CUTTING MACHINE

- Uniform ribs throughout the length of the bar.
- Avoids distortion of roll material and material properties.
- 4 arcs CNC ensures perfect angles and degrees.

LABORATORY FURNACE (5 kg. capacity)

- Actual production simulation possible
- Facilitates actual working conditions, testing & analyzing



FEATURES

Resists fire: Withstand temperatures up to 500 degrees celsius

Resists corrosion: The TMT process gives the bar superior strength and good anti-corrosive properties

Earthquake resistance: The soft ferrite-pearlite core enables the bar to bear dynamic and seismic loading

Malleability: TMT bars are most preferred because of its flexible nature

Enables welding: They have fine welding features

Bonding strength: External ribs running across the entire length of TMT bar give superior bonding strength between the bar and the concrete

Cost-effective: A high tensile strength and better elongation value gives you great savings



SPECIFICATIONS



The quality of steel can make all the difference between a construction that will just last and one that will last for generations. That's exactly why JR TMT stands apart from the rest. Our commitment to quality is carried out by qualified professionals & technicians who by their virtue, set personal goals to achieve the company's goals. We strive to provide the best technology and continuously keep in tune to the innovative and the latest approaches that are available in the market.



PHYSICAL PROPERTIES	FE 500 GRADE		FE 500D GRADE		FE 550 GRADE		FE 550D GRADE	
	BIS	JR TMT	BIS	JR TMT	BIS	JR TMT	BIS	JR TMT
Yield strength N/mm ² Min	500	520-560	500	520-560	550	580-610	550	580-610
Tensile strength N/mm ² Min	545	585-640	565	570-580	585	585-640	600	585-640
Stress ratio (TS/YS) Min	1.10	1.12-1.14	1.10	1.08	1.10	1.12-1.14	1.10	1.08
Elongation %	12	12-17	16.0	16.0-18.0	10	16-20	14.5	16-20

CHEMICAL PROPERTIES	FE 500 GRADE		FE 500 D GRADE		FE 550 GRADE		FE 550D GRADE	
	BIS	JR TMT	BIS	JR TMT	BIS	JR TMT	BIS	JR TMT
Carbon (Max%)	0.30	0.18 – 0.22	0.25	0.18 – 0.22	0.30	0.18 – 0.22	0.25	0.18 – 0.22
Sulphur (max)	0.055	0.040 – 0.050	0.040	0.030	0.055	0.040 – 0.050	0.040	0.030
Phosphorous	0.055	0.045 – 0.050	0.040	0.035 – 0.040	0.050	0.045 – 0.050	0.040	0.035 – 0.040
Sulphur & Phosphorus	0.105	0.095	0.075	0.072	0.100	0.090	0.075	0.072

WHY JR TMT

RIBS

JR TMT Ribs are unique and different from other brands. This unique pattern ensures cent percent bonding which results in bearing more load than the conventional Rebars. This uniqueness also minimize the damages to the structures in the event of seismic activities in the region. The research team of JR METAL CHENNAI LTD has done extensive research to improve the rebar bonding with concrete to increase the stability of the structures during earthquakes in various parts of the world and developed this Geometric RIBS for better bonding.



BENDABILITY, WELDABILITY AND BONDING

The bars contain low carbon and high manganese, this ensures easy Weldability. The Bendability is also high as it makes the steel very ductile. The special design of the bars provide excellent bonding between the bar and concrete for superior life.

CORROSION, EARTHQUAKE AND FIRE RESISTANCE

Due to the special Quenching process JR TMT Bars are highly corrosion resistant and suited for coastal areas. High ductility and elongation make these bars earthquake resistant and suitable for use in seismic zones 4 and 5. Due to its composite structure it resists huge load and can also withstand high temperature ensuring safety.



PRODUCT LICENSE AND APPROVALS



BUREAU OF INDIAN STANDARDS

Ministry of Consumer Affairs ,Food & Public Distribution, Government of India

Product Certification

Application/Licence Related

S.No.	Licence No	Firm Name & Address	District	State	Country	IS No	Validity Date	Status	Grade Variety
1	3468166	J.R. METAL CHENNAI LIMITED,152, 153 Periyapulliyur village Poovalam pedu post, via.Kavarapettai Gummidipoondi TK ,Kavarapettai, PIN- 601206	CHENNAI	TAMIL NADU	INDIA	IS 1786 : 2008	2020-03-31	Operative	8 mm to 32 mm, TMT Fe 415 and 500. Fe 500 D, Sizes 8 to 25 mm Fe 500-D Size 32 mm(Variety)Size 8mm to 32mm. Grade Fe550, Fe550D



BSCIC Certifications Pvt. Ltd.

Certificate Of Registration

QUALITY MANAGEMENT SYSTEM

This is to certify that:

J R METAL CHENNAI LIMITED

REGISTERED OFFICE: NO. 3, MANALI EXPRESS ROAD, T.K.P. NAGAR

THIRUVOTTIYUR, CHENNAI – 600 019, TAMIL NADU, INDIA

FACTORY: PERIYAPULIYUR VILLAGE, POOVALAMPEDU POST

GUMMIDIPOONDI T.K., DIST. THIRUVALLUR – 601 206

TAMIL NADU, INDIA

Hereby granted the Certificate Number : **BN16492/16691**

Subsequent to the **Assessment** of the organization it has been found to be operating a Quality Management System which complies with the requirements of

ISO 9001:2015

For the following scope :

Manufacture and Sale of Billets and TMT Bars

Originally Registered: **09-Oct-2017**

Latest issue: **09-Oct-2017**

Expiry Date: **08-Oct-2020**

For BSCIC CERTIFICATIONS PVT.LTD.



Sanjay Seth
Managing Director

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Validity of this Certificate is subject to Annual Surveillance Audits to be done Successfully on or before 09-Oct-2018 and 09-Oct-2019 resp. (In case if Surveillance Audit is not allowed to be conducted; this Certificate shall be Suspended/Withdrawn).

Please re-check the validity thereafter at <http://bscic.com/admincontrol/certificatestatus.php> or www.bsc-icc.com at REGISTRATION STATUS. This Certificate of Registration is granted subject to relevant provisions of the BSCIC Certifications PVT. LTD. Contract Terms & Scheme for Registration Form B 018 (Latest Version). Please see B 018 at our website www.bsc-icc.com. The certificate of Registration remains the property of BSCIC Certifications Pvt. Ltd. and shall be returned immediately upon request. BSCIC Headquarters: 11nd Floor, SCO 150, Sector - 21 C, Faridabad 121001 Haryana, INDIA



**GOVERNMENT OF TAMIL NADU
PUBLIC WORKS DEPARTMENT**

CERTIFICATE OF PRODUCT APPROVAL

RENEWAL No. PWD / 52 ASC / RC1 / 2018 / dated 12.04.2018

The Assessment Committee constituted by the Government of Tamil Nadu vide G.O. Ms. No. 106 / Housing / dated 06.03.1975, in its 52nd meeting held on 29th January 2015 have accorded approval for the product - JR TMT BARS and have issued Product Approval Certificate in Approval No.12/52ASC/TABRS/dated 16.02.2015. Now, the Chairman of the Assessment Committee & Engineer-in-Chief (Buildings), Public Works Department after examining various aspects has accorded approval for the Renewal of this product.

Products / Product Range : "JR TMT" - Fe 500 (8,10,12,16,20,25&32mm Dia)

Manufacturer / Company : J.R Metals Chennai Limited, No.3, Manali Express Road, T.K.P Nagar, Thiruvottiyur, Chennai-600019.

Location of Manufacturing Unit : Periyapuliur Village, Poovalambedu Post, Via Kavaraipettai, Gummidipoondi, Thiruvallur.

References : BIS License Number CM/L - 3468166

Standards/ Specifications : ISI786:2008

Limitations:

1. Renewal is subject to validity and scope of BIS License for the product and compliance to the specification(s) mentioned.
2. Quality should be maintained conforming to the Latest Test Results produced at the time of Renewal and relevant BIS Standards.
3. Any change of materials, manufacturing process, quality control routines that may affect the validity of this certificate should be notified to the Assessment Committee, PWD, Government of Tamil Nadu, failing which TNPWD reserves the right to cancel the approval.
4. The certificate is valid from 12.04.2018 up to and inclusive of 11.04.2021 for a period of three years.



**Member Secretary, Assessment Committee &
Superintending Engineer, PWD
Planning and Designs Circle (Buildings)
Chepauk, Chennai - 600 005**



TAMIL NADU HOUSING BOARD
CERTIFICATE OF PRODUCT APPROVAL

File No. QC./18783/2018 date 18.12.2018

The Chief Engineer (City), Tamil Nadu Housing Board has examined various aspects of the following products with reference to your letter No. JRM/TNHB/01/18 dated. 19.07.2018. M/s. J.R. METAL CHENNAI LTD and has accorded approval on 18.12.2018 on the following products in the works carried out by Tamil Nadu Housing Board Projects.

- | | | |
|---------------------------------|----|--|
| 1. Name of the company | :: | M/s. J.R. METAL CHENNAI LTD |
| 2. Name of the Products | :: | High strength deformed steel bars and wires for concrete reinforcement. |
| 3. BIS License | :: | 1. BIS License No: CM/L 3468166 dated 01.04.2018 Valid up to 31.03.2019. |
| 4. Standard Specification | :: | IS :1786:2008 |
| 5. PWD Approval | :: | No.PWD/52ASC/RC1/2018/dated 12.04.2018 valid up to 11.04.2021 |
| 6. Third party Test Certificate | :: | 1. DELTA METALLURGICAL & ANALYTICAL LABORATRY TC NO: DM&AL/2015/APR/00322 dated 27.04.2015.
2. DELTA METALLURGICAL & ANALYTICAL LABORATRY TC NO: DM&AL/2015/APR/00323 dated 27.04.2015.
3. DELTA METALLURGICAL & ANALYTICAL LABORATRY TC NO: DM&AL/2015/APR/00324 dated 27.04.2015. |
| 7. ISO CERTIFICATION | :: | ISO 9001:2015 Certificate received from BSCIC Certification Private Ltd vide letter Certificate No.16492/16691 dated 09.10.2017 |
| 8. TEST REPORT | :: | 1. Test Report obtained from MSME TESTING CENTRE vide Test Report No. 17183754 dated 13.10.2017.

2. Test Report obtained from MSME TESTING CENTRE vide Test Report No. 17183755 dated 13.10.2017.

3. Test Report obtained from MSME TESTING CENTRE vide Test Report No. 17183756 dated 13.10.2017.

4. Test Report obtained from MSME TESTING CENTRE vide Test Report No. 17183757 dated 13.10.2017.

5. Test Report obtained from MSME TESTING CENTRE vide Test Report No. 17183758 dated 13.10.2017.

6. Test Report obtained from MSME TESTING CENTRE vide Test Report No. 17183759 dated 13.10.2017.

7. Test Report obtained from MSME TESTING CENTRE vide Test Report No. 17183760 dated 13.10.2017. |

9. The Validity of the approval

:: From 18.12.2018 up to & inclusive of 17.12.2019.

Limitations:

1. The test results produced at the time of approval should be adhered to
2. The approval is subjected to the validity and the scope of BIS License for the product and compliance to the specification mentioned.
3. Any change of materials manufacturing process, quality control routines that may affect the validity of this certificate should be notified to the Chief Engineer, Tamil Nadu Housing Board immediately.
4. It is informed that the SEs/EEs should insist the field staff to get the test certificates along with each consignment without fail. If the performance of the product seems to be unsatisfactory, the same should be brought to the notice of the undersigned with relevant records at once.
5. The agreement specification for the above products of M/s. J.R. METAL CHENNAI LTD should be strictly followed.
6. The approval with up to date renewal obtained from the under signed for M/s. J.R. METAL CHENNAI LTD shall be allowed to use on the works.
7. The brand name of the company M/s. J.R. METAL CHENNAI LTD should be engraved on the products.
8. The quality should be maintained confirming to the test results produced at the time of approval and relevant BIS Standards.
9. The validity of this approval is from 18.12.2018 to 17.12.2019.

Subl
18/12/2018

C. Srinivas
Superintending Engineer
Quality Control
Tamil Nadu Housing Board
18/12/18

GROUP COMPANIES

NARAYAN INDUSTRIES

First company of the group established in the year of 1990 manufacturing CTD Bars, MS Rounds, and Light Structurals like MS Flats, Angles, Channels etc. In the last 20 Years the company has specialized in light structural, a market leader in Tamil Nadu.

INDO STEEL RE-ROLLERS

Buoyed by the success of NARAYAN INDUSTRIES, The Company worked to expand their product range and INDO STEEL RE-ROLLERS was established in 1993. The company has specialized in Medium Structural like Flats, Angles, Channels and has been catering to the industrial and fabrication sectors.

JANAKIRAM STEEL AND POWER PVT. LTD

In order to meet the growing demand for its light structural JR GROUP set up JANAKIRAM STEEL AND POWER PVT LTD in 2004. JR diversified to make pencil ingots from imported scrap in its integrated plant which manufactures high quality structural's.

SRI VADIVUDAI AMMAN STEEL COMPANY

This company is the trading arm of the group. The company trades in all Steel Materials like, TMT Re-Bars of all Brands, Structural, Pipes, Tubes and also exports to South East Asian countries

J.R.S CONTAINER TERMINAL PVT. LTD

The company provides ware house for containers and also extends a lot of servicing facilities for the container manufacturer.

SRI KUMARAN WIND ENERGY PVT. LTD

With a vision to contribute to the Nations Power need, the company has set up 3 wind mills with 1250KW in Tirunelveli District, Generating to the optimum capacity and contributing to grid. The company's contribution is remarkable in the current power deficit scenario.







J.R.METAL
CHENNAI LIMITED



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Our Factory:

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Thiruvallur District - 601206,
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ISO 9001 - 2015
RQ91/6963

