RD TMT

EXTRA GRIP SUPER SHAKTI

PROUDLY MADE IN INDIA

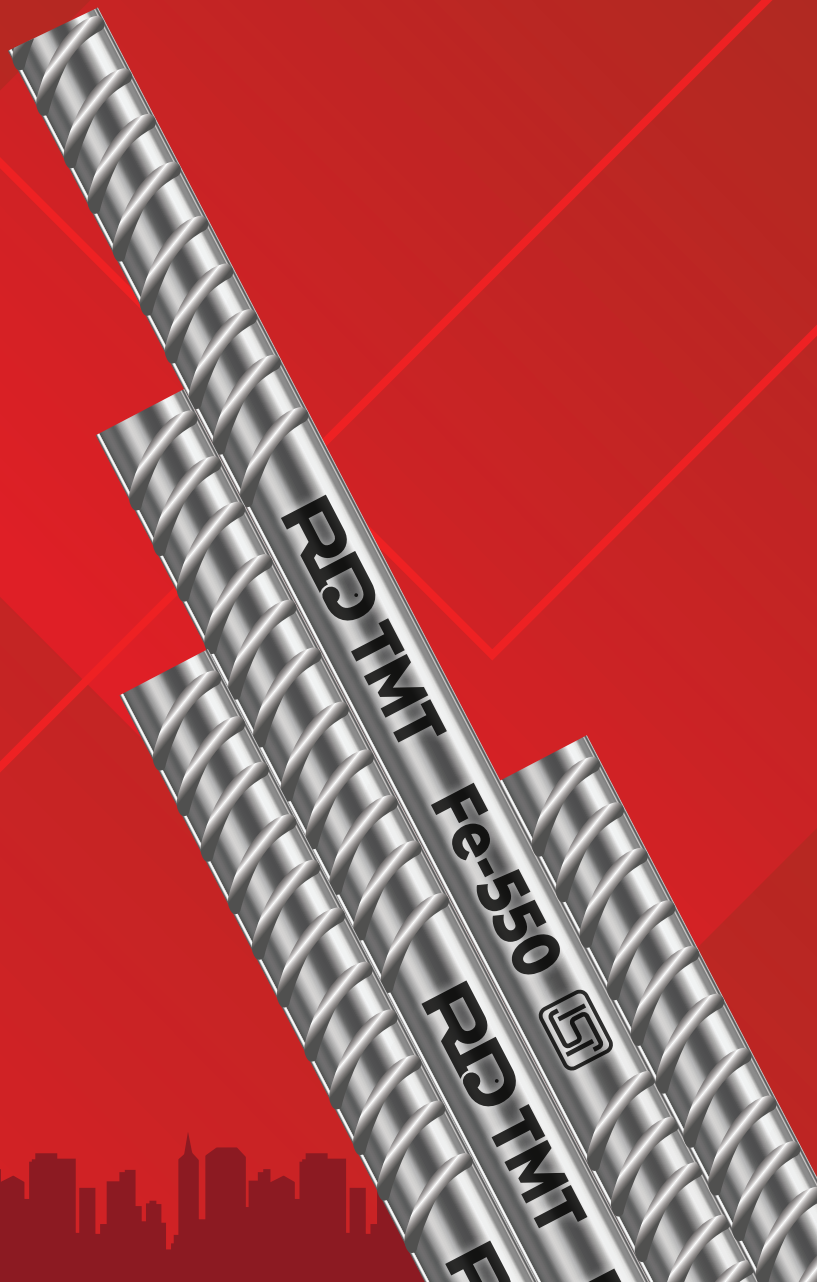
INTEGRATED STEEL PLANT

GRADE 550

IS : 1786-2008 TEMPCORE®

IS : 2830-2012 TEMPCORE®

QUALITY AND ENGINEERING YOU DESERVE



“Revolutionizing Indian Infrastructure , ensuring every bar of steel we produce is of Highest Quality.

It is no surprise that the structures built with our Steel are exceptionally durable & long lasting!”

AP POLICE HOUSING

APTIDCO

QUALITY AND ENGINEERING YOU DESERVE

Scan to visit
our website

- *Leading Steel Producer in South India*
- *Uncompromising Quality and Advanced Technology*
- *Competitive Pricing Leadership*
- *Recognized as South India's Premier TMT Brand*
- *Commitment to Employee Safety and Environment Protection*
- *Recognized with International Accreditations*
- *Innovative TMT rebars Manufacturing Techniques*
- *Strong Focus on Sustainability*
- *Trusted by Leading Construction Companies*
- *Distinctive C RIB Design Patterns*
- *Superior Customer Service and Extensive Dealer network*

JOURNEY

THE BEGINNING OF RD TMT

2013

The successful inauguration of the RD TMT Factory was accomplished by the brothers, who adopted an analytical approach to every activity within their business and focused thoroughly on the core of the business: manufacturing and supply.

EXPANDING RD TMT

2015

2015 was a year of expansion and forming of unique service. we added more than 100+ employees to our team and formulated services on product development that were unique and more advanced than the competitors in the industry.

CONTINUOUS RESEARCH & EXPERIENCE

2017

After conducting various researches and taking in a lot of experiences and feedback, we have reached high standards of excellence that makes us one of South India's most sought-after steel manufacturers.

ROAD AHEAD

2017

By establishing a reputation for high-quality products and customer satisfaction, RD TMT Steels has become one of the premier steel manufacturers in South India. We envision a road ahead with new innovations in quality, standards and personnel with trained techniques to evolve as a better organization to meet your standards and exceed your expectations.

NOW

2023

Started second manufacturing unit with an additional capacity of 1.2 lakh tons per annum

Leaders always look toward the future

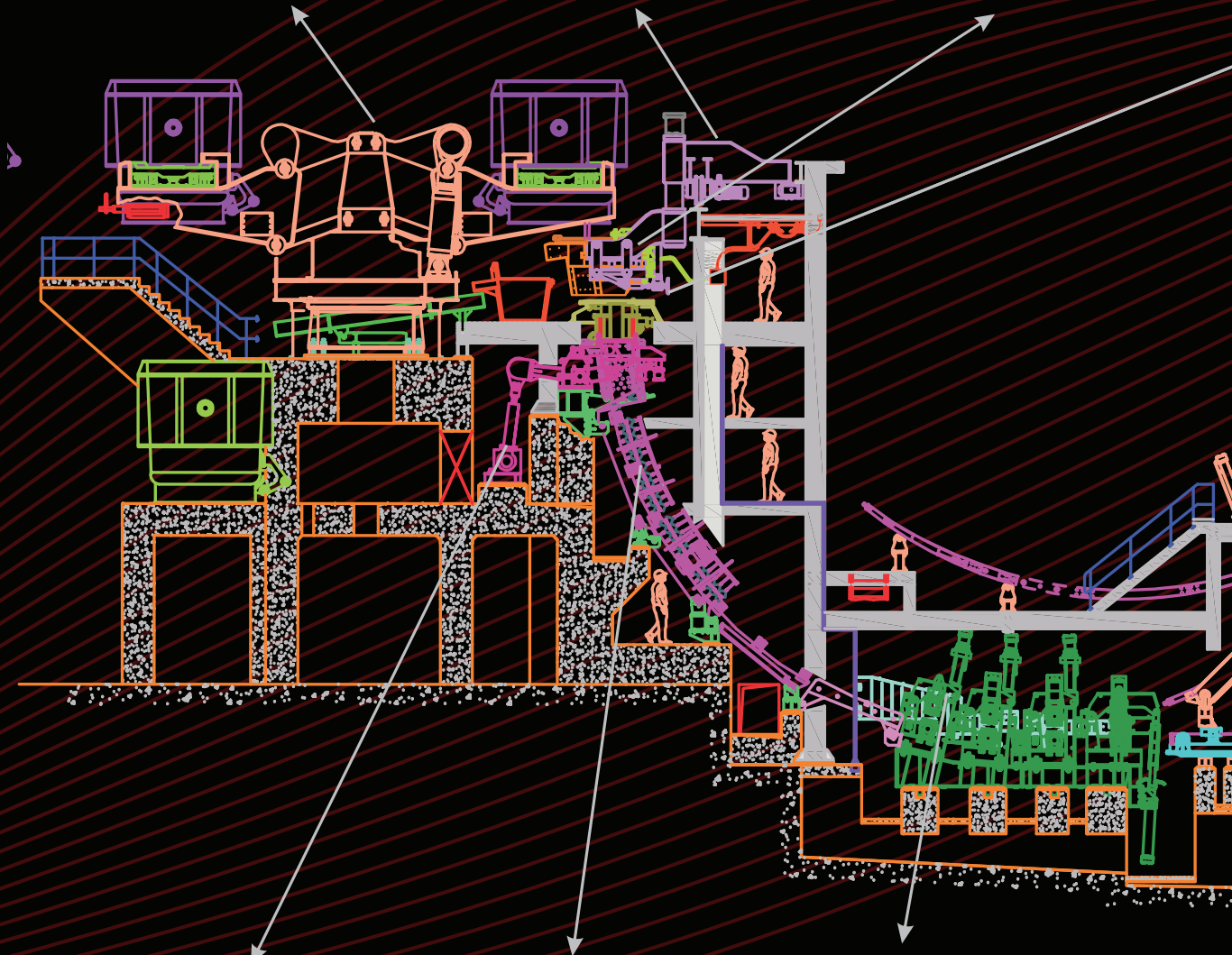
Our quality ensuring processes have contributed in our company's ongoing success with highly marketable services and products. We incorporate quality work at every stage right from conception to completion by adhering to strict quality mandates so that it improves and provides value to every assignment we undertake.

TECH & FACILITY

Ladle Turret: Facilitates sequence casting and bay change for ladle

Overhead Cantilever Cars: Self-propelled rigid cars un-encumbering the casting floor

Cartridge Type Mould Assemblies with External EMS: Easy and quick section change



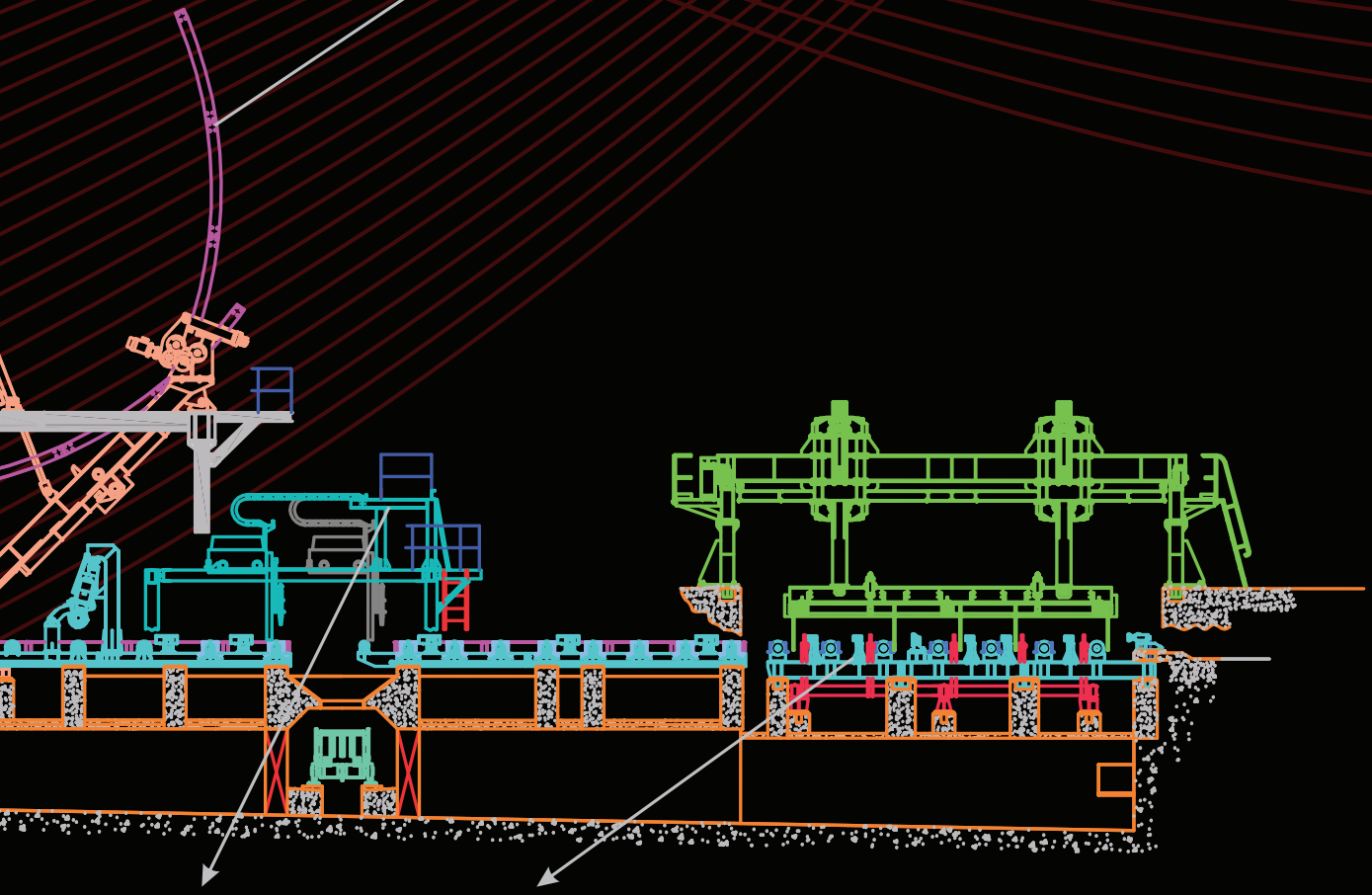
Mould Oscillator: Robust and rigid oscillators with servo actuation

Sturdy, but minimal strand guide equipment: With automatic control of spray water

Multi-Point Straightening: Reduced unbending strain for better quality

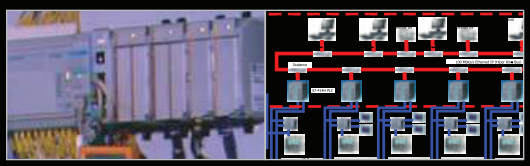
Automatic Mould Level Control System: Improved surface quality in both open and closed casting conditions

Rigid Dummy Bars: Fast turnaround times and section change times



Automatic Gas Cutting Machines: Efficient cutting and consistent performance

Customized Cut-Product Discharge System: Reliable and efficient product handling systems



Computerized PLC-based Machine Automation System: Reliable machine operation and data tracking with closed loop control system

OUR PROCESS

RD TMT Rebars are produced through a rigorous process that integrates advanced iron processing, steelmaking, and rolling techniques, ensuring that it meets exceptionally high standards of strength, ductility, and safety.

Thermo-Mechanical Treatment (TMT)

The heart of our manufacturing process lies in Thermo-Mechanical Treatment (TMT). This metallurgical process is designed to enhance both the strength and ductility of the rebars. Here's a breakdown of how it works:

QUENCHING PHASE

After the hot rolled bar exits the finishing mill at 900°C, it undergoes rapid quenching in a water box. High-pressure water jets from split-style nozzles cool the surface rapidly. This rapid cooling transforms the outer layer of the steel into martensite, which is a hard crystalline structure. The resulting shrinkage on the surface pressurizes the core, crucial for forming correct crystal structures. Despite the rapid surface cooling, the core remains hot and austenitic.

SELF-TEMPERING PHASE

As the bar leaves the quench box, a temperature gradient forms across its cross-section. Heat naturally transfers from the hot core to the cooler surface. This controlled cooling process allows for the proper tempering of an intermediate ring of martensite and bainite under the bar's heat and pressure conditions.

ATMOSPHERIC COOLING PHASE

Subsequently, the bar undergoes slow, atmospheric cooling on a dedicated cooling bed. This final phase of cooling further tempers the austenitic core into a structure of ferrite and pearlite. The resulting rebar features a resilient martensite surface layer, an intermediate zone of tough martensite and bainite, and a refined ferrite and pearlite core. This optimized structure ensures superior ductility and strength.

CUTTING-EDGE THERMEX TECHNOLOGY

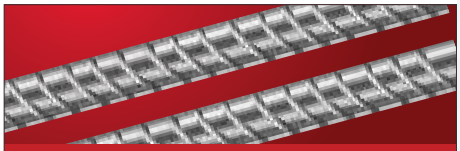
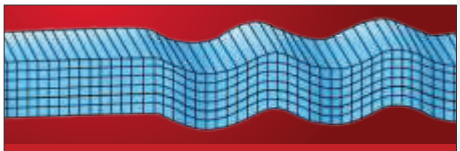
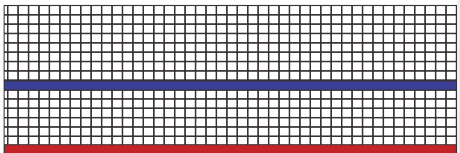
Our manufacturing process incorporates state-of-the-art QST (Quenching and Self Tempering) technology from Thermex. This technology utilizes advanced techniques, including specialized split-style nozzle cooling, to produce rebars with a fine-grained, multi-phase composite structure. The result is rebars renowned for their exceptional strength and ductility, setting a new benchmark in quality and reliability.

TEMP. CONTROL & QUALITY ASSURANCE

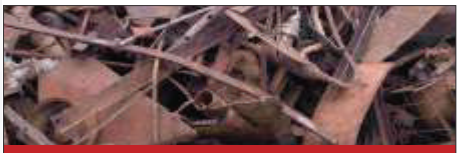
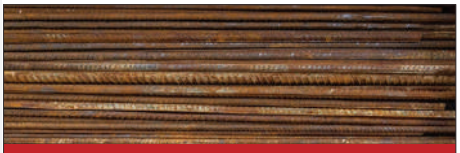
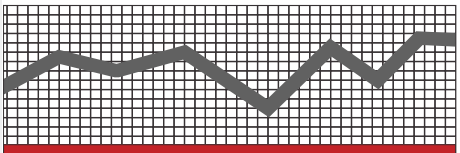
Maintaining precise temperature control throughout the process is crucial to ensure consistent quality. Our system includes automated interlocks managed by programmable logic controllers (PLC). These controls ensure that only billets with optimal temperature characteristics proceed through the manufacturing process. This rigorous quality assurance approach guarantees that RD TMT Rebars consistently meet stringent standards and deliver reliable performance in construction applications.

In essence, our commitment to employing advanced technology, coupled with meticulous attention to metallurgical processes and quality control measures, ensures that RD TMT Rebars are not only robust but also provide superior strength, ductility, and safety, making them an ideal choice for critical infrastructure projects.

HOW RD TMT

RD TMT	YOU GET	RD TMT
Surpasses minimum specified levels of Bureau of Indian Standards (BIS)	More Value for money with upto 7% - 8% savings	BIS STANDARDS ✓ SURPASSES STANDARDS
Uses virgin Iron ore and deploys state of the art steel making and refining processes	Highly clean & homogenous steel quality	 IRON ORE
Steel made using DRI-EIF-LRF - Concast Route	A highly controlled steel chemistry with very low levels of Sulphur & Phosphorus	 BILLETS
Rebars are manufactured using High Yield Quenching and Self Tempering (MWE & Thermex) Technology perfected Thermex from Germany	High Strength and ductility due to fine grain multiphased composite structure	 UNIFORM MICROSTRUCTURE
Provides percise and uniform parallel rib pattern engraved through computer controlled notch making machines	Excellent bond strength with concrete	 UNIFORM RIB PATTERN
Surpasses UTS/YS (Ultimate Tensile Strength to Yield Strength) ratio with high percentage elongation	Superior earthquake resistant qualities due to high capability of absorbing energy	 EARTHQUAKE RESISTANT
Has perdefined and transparent pricing	Fixed and uniform rates evidenced through a well displayed priced list at our dealers shops	 UNIFORM PRICES
South India's Most Awarded Brand	World Class Quality	RD TMT EXTRA GRIP SUPER SHAKTI TRUSTWORTHY

IS SUPERIOR

OTHERS	OTHERS	YOU GET
BIS STANDARDS ✗ INCONSISTENT IN QUALITY	Barely qualifies the minimum requirements of BIS	Less Value for Money and no savings
 SCRAP	Uses only scrap for steel melting without any secondary refining process	Uncertain chemical and mechanical properties due to inclusion of tramp elements
 INGOT	Presence of blowholes and uncontrolled chemical parameters	Variations in chemical composition leading to structual instablity
 Non-Uniform Martensite Ring NON-UNIFORM MICROSTRUCTURE	No standardization in technology. Local outdated and unproven technology used.	Non-Uniform grain size and inconsistent steel quality
 NON - UNIFORM RIB PATTERN	Uses conventional machines for engraving ribs and uses rib design not recommended internationally	X'rib / non - uniform pattern which has fatigue life and reduces bond strength with concrete
 NOT FOR SEISMIC ZONES	Uses old technology leading to high variation in elongation	Much lower resistance to cyclic loading which is not recommended for seismic zones
 FLUCTUATION IN PRICES	Cost are linked to raw material movement like scrap & ingot	Daily fluctuations in rates
?	Are local / regional brands	Average quality

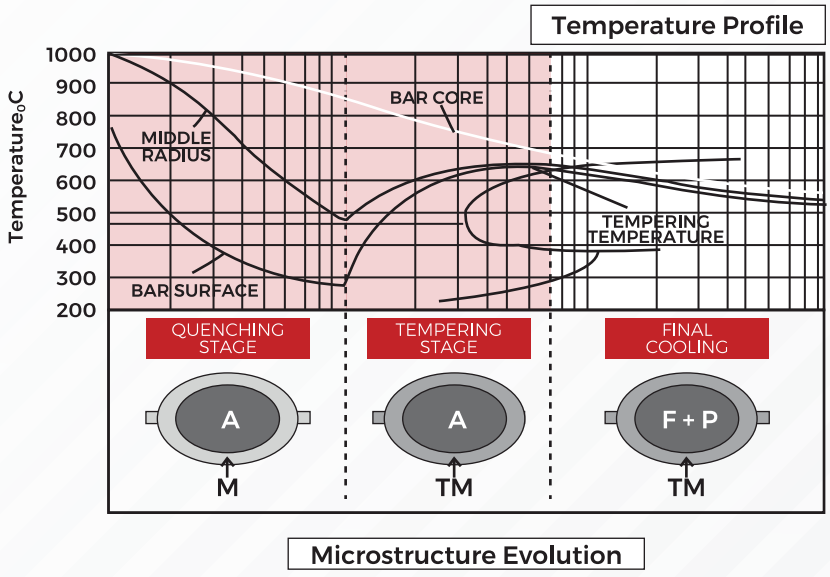
TECHNICAL DETAILS

RD TMT Rebars are engineered with a meticulous focus on metallurgical principles to ensure they offer an optimal combination of strength, ductility, and durability, essential for modern construction needs.

MICROSTRUCTURE AND THERMAL TREATMENT

Surface Strength : The outer layer undergoes rapid quenching to form martensite, providing robustness and wear resistance.

Core Ductility : The slower cooling of the core results in softer phases like ferrite and pearlite, enhancing the rebars' flexibility and toughness.



SELF-TEMPERING AND FINAL COOLING

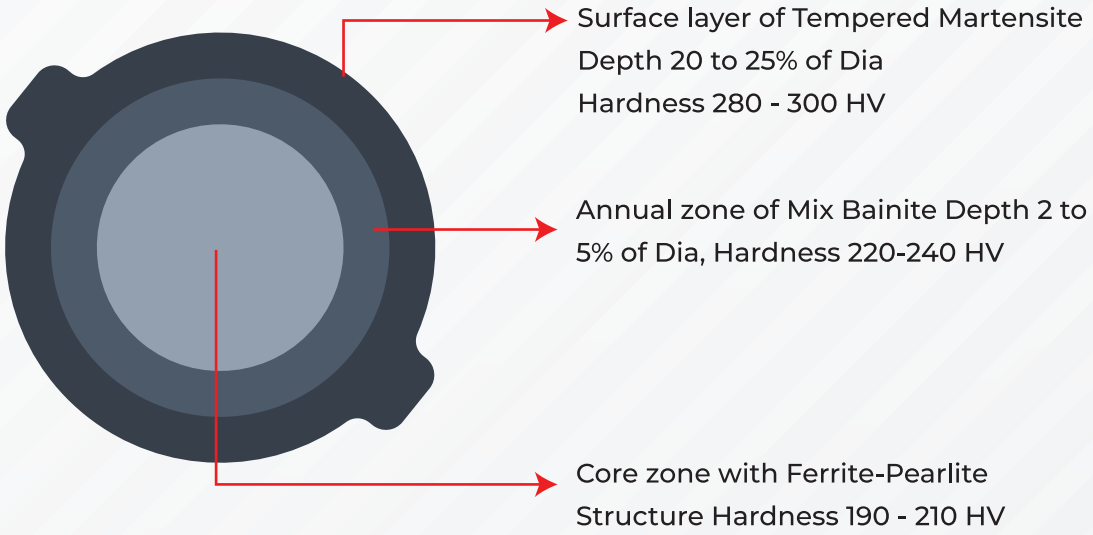
Thermal Stress Relief : Controlled cooling after quenching, known as self-tempering, allows for gradual microstructure adjustment from the tough surface martensite to the resilient core ferrite and pearlite.

Enhanced Ductility: Atmospheric cooling further balances the bar's properties across its cross-section, improving overall ductility and weldability while ensuring corrosion resistance.

PERFORMANCE AND ADAPTABILITY

Mechanical Robustness : Our TMT rebars feature superior tensile strength and elongation, enhancing their ability to withstand bending and re-bending. This robustness ensures excellent seismic resilience, making them ideal for earthquake-prone areas

Environmental Suitability : The slower cooling of the core results in softer phases like ferrite and pearlite. This enhances the rebars' flexibility and toughness, ensuring they adapt well to varying environmental conditions while maintaining structural integrity



QUALITY ASSURANCE

Precision Manufacturing : Stringent controls ensure minimal impurities and defects, guaranteeing consistent quality and reliability in diverse construction applications.

RD TMT Rebars are crafted using advanced metallurgical processes and stringent quality checks to meet the rigorous demands of modern construction. Their superior strength, ductility, and durability make them an ideal choice for ensuring structural integrity and safety in challenging environments.

PRODUCT PORTFOLIO

As we look to the future, we have anticipated what will be required for our country to achieve lean steel structures that are the strongest and offer value for money.

Our Steel offers the widest range of strength allowing engineers to choose the right steel for the right place enabling significant advantage in construction.

All our grades of steel are produced using technology that gives them two desirable properties simultaneously, higher strength and higher ductility, thereby making it most suitable for earthquake resistant structures. Higher strength is achieved by the addition of certain alloying elements and keeping the percentage of carbon lower, ensuring the steel remains sufficiently ductile.

Ductility is the degree of plastic deformation before fracture or simply how much strain a material can with stand before fracture.

UNMATCHED BENEFITS OF Fe 550

RD TMT Fe550 TMT Rebars offer
20% higher strength than conventional steel (415MPa)

Here's how stronger steel benefits your construction:

Reduction of steel Consumption:
Designing structures with Fe550 reduces the steel consumption by 5-6% with optimization using consistent primary steel.

Reduction in Bar Congestion:
Using stronger grade steel means reduction in bar diameter that results in increased bar spacing as fewer rebars are needed.

Reduction in Labour Cost:
Using lesser steel requires less labour and saves on labour cost.

Faster Construction:
Less time is wasted on placing / tying of bars. And less weight on cranes improves construction efficiency.

It results in increased Floor Space index thus giving monetary benefit of extra space generated.

Fe 550D

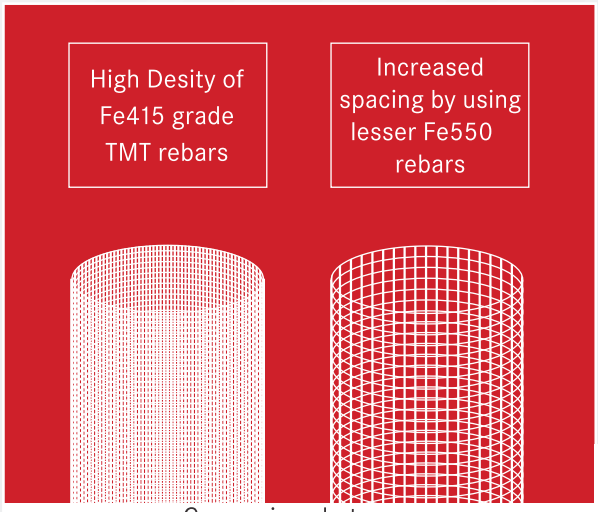
Fe550D is a pioneering introduction by RD TMT. A steel strength of 550 MPa, 40% increase in load bearing capacity and up to 9% lower steel consumption makes our Fe550 the most economical TMT bars for new age high-rises. Better ductility due to extremely low sulphur and phosphorus content makes it strong enough to withstand heavy winds and jerk loads during earthquakes.

Fe 500D

Minimum 5% higher strength than BIS standards and up to 30% more economical than ordinary TMT bars. Has excellent elongation, bend and re-bend properties and superior weldability.

RD CRS

Sea water, acidity in the air or salinity in ground water causes corrosion, weakening RCC structures. RD TMT, Fe500D RD CRS, with corrosion resistant elements Copper(Cu) and Chromium (Cr) present uniformly from the core to the surface, fights corrosion, maintains structural strength over time prolonging the life of RCC structures.



Comparison between
Fe415 and Fe550 Bars - for same load

Range of TMT Rebars

Size range

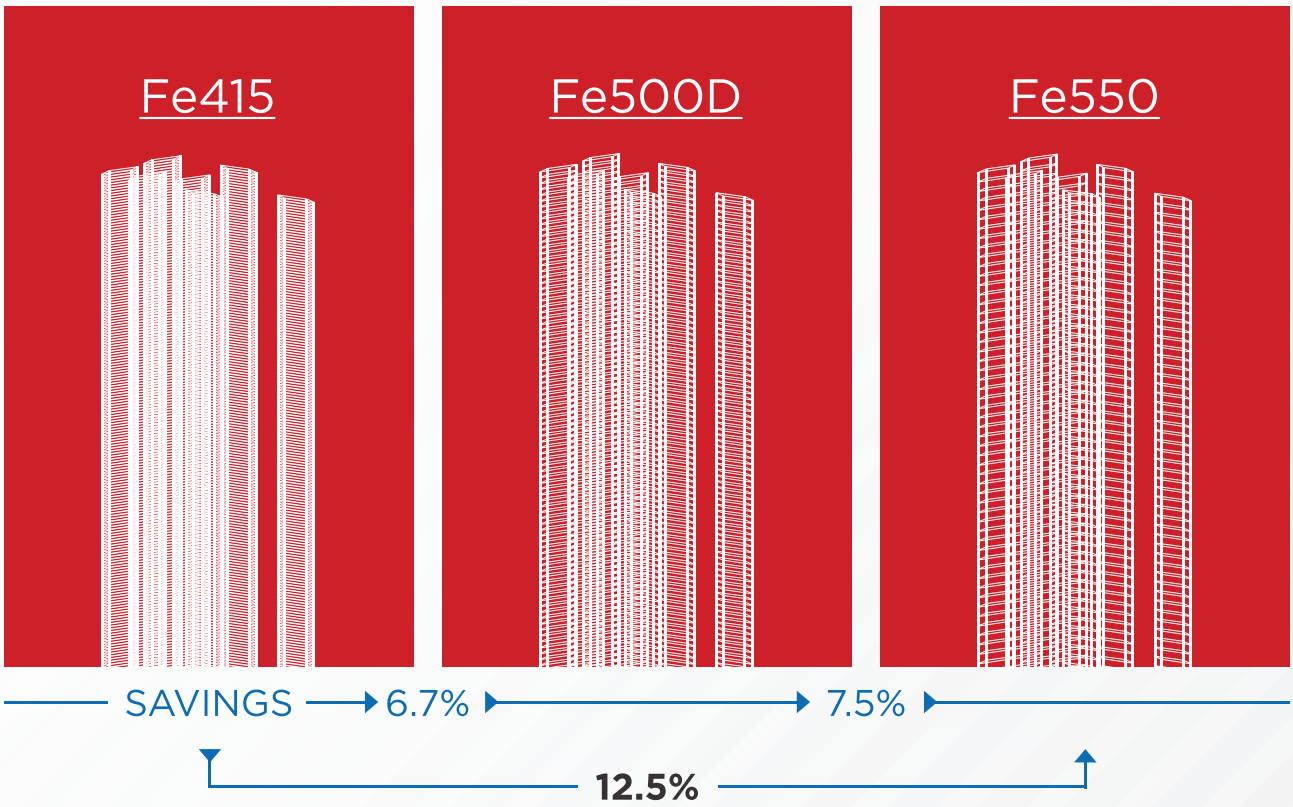
RD TMT Rebars are available in the following sizes as per: 1786-2008 for Concrete Reinforcement

Dia (mm)	Min Weight (kg/mtr)	Nominal Weight (kg/mtr)	Max Weight (mtr)	length Per Rod (kg)	Typical Weight Per Rod
8	0.367	0.395	0.423	12	4.740
10	0.574	0.617	0.660	12	7.404
12	0.844	0.888	0.932	12	10.656
16	1.449	1.578	1.657	12	18.936
20	2.392	2.466	2.540	12	29.592
25	3.738	3.854	3.970	12	46.248
32	6.121	6.310	6.499	12	75.720
36	7.750	7.990	8.230	12	95.88
40	9.564	9.860	10.155	12	118.32

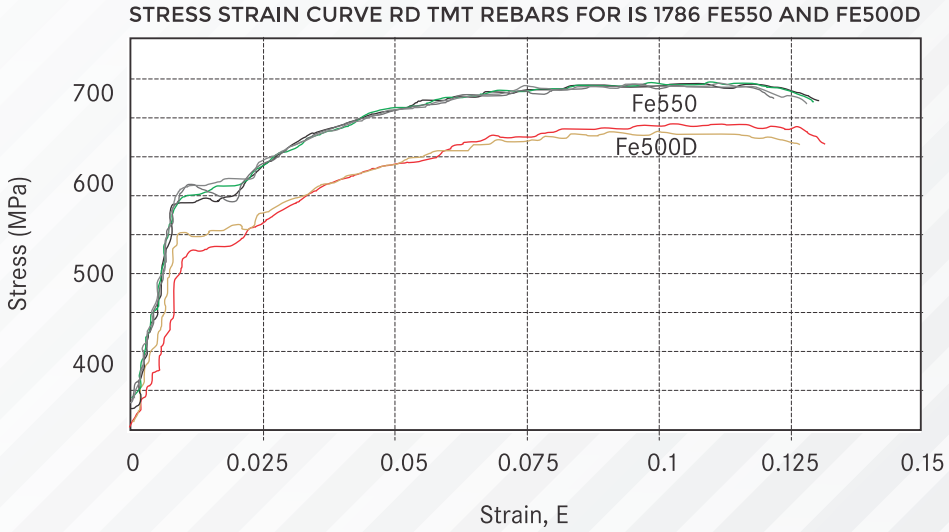
The rebars are delivered in standard length of 12mtr bundles ensuring ease in transportation. 55mm can be manufactured for specific bulk orders.

*Mentioned values observed typical of 90% of heats

Constructing the same structure wth 3 different grades of steel
G+22 Storeys +2 Basements (Zone-4)



Stress Strain Curve Comparison of Fe500D & Fe550



Fe550, Yield Strength (N/mm2) Min % Elongation (Min)- 10 Guarantee	– 550MPa (BIS) – 16%	Typical Values – 580 MPa Typical Values – 18%
Fe500D, Yield Strength (N/mm2) Min % Elongation (Min)- 16.0 Guarantee	– 500MPa (BIS) – 18%	Typical Values – 525 MPa Typical Values – 20%

Chemical & Mechanical Properties of TMT rebars

REBAR GRADE (%)	BIS 550	RD TMT 550 Typical Values	BIS FE 500D	RD TMT 500D Typical Values	RD TMT FE 500D HCRM* Typical Values	BIS FE 600	RD TMT FE 600 Typical Values
Carbon	0.30	0.25	0.25	0.20-0.25	0.15	0.30	0.25
Silicon		0.15-0.25		0.15-0.25	0.35		0.15-0.25
Manganese		0.55		0.90-1.00	0.70 - 1.00		0.95-1.05
Sulphur (MAX)	0.055	0.050	0.040	0.035	0.040	0.040	0.035
Phosphorus (MAX)	0.055	0.050	0.040	0.040	0.090	0.040	0.040
Sulphur + Phosphorus (MAX)	0.100	0.100	0.075	0.070	0.130	0.075	0.075
Carbon Equivalent (CE) MAX	0.50	0.40	0.50	0.31-0.36	0.53	0.42	0.42
Copper					0.20 - 0.30		
Chromium					0.40 - 0.50		
Yield Stress (N/mm^2) MIN	550	580	500	525	525	600	630
Elongation (MIN)	10	18	16	18	18	10	11
Ultimate Tensile Strength (N/mm^2) MIN	585	680	565	600	600	660	670
UTS/YS Ratio	1.06	1.17	1.10	1.15	1.15	1.06	1.06

*RD TMT Fe550 HCRM as per IS 1786:2008, Note. 3 of Cl.4.2

Why are we Unique?

STATE-OF-THE-ART TECHNOLOGY

World-class German technology and fully automated Vertical Horizontal stand mill ensure uniformly shaped TMT rebars.

IN-DEPTH TESTING AND TRACKING

Automated systems ensure quality and traceability for every bar.

EXTRAORDINARY CONSISTENCY

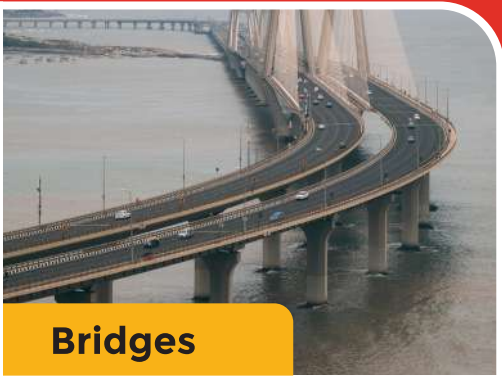
Advanced slit technology & premium billets provide high consistency and exceptional steel quality.

REMARKABLE SURFACE FINISH

Elevated cooling-bed and Pressurized descaler deliver a polished surface for each bar.

APPLICATIONS

Buildings



Bridges

Tunnels

Highways

Railways

Airports

Ports

Metros

CLIENTELE

RD TMT

EXTRA GRIP SUPER SHAKTI

SCAN TO
KNOW MORE

FOLLOW US

UNIT 1

Plot No. 37 APIIC INDUSTRIAL PARK
GOLLAPURAM VILLAGE,
THUMAKUNTA POST - 515211,
HINDUPUR(M) ANANTAPUR(DIST), AP

UNIT 2

Plot No.16C/1,
SOMANAHALLY INDUSTRIAL
AREA MADDUR TALUK,
MANDYA, KARNATAKA - 571605

REGD. OFFICE

54A,
BOMMASANDRA IND. AREA,
ANEKAL TALUK,
BENGALURU- 560099

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