RADHA TMT
550 STEEL BARS

RADHA SMELTERS PRIVATE LIMITED
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Dealer Name

ASSOCIATED

RADHA TMT
550 STEEL BARS

Mr. Sunil Saraf
Chairman

Mr. Suman Saraf
Managing Director

RICH LEGACY

Radha TMT 550 is a brand of prestigious Radha group, forged by Late Shri Radheshyam Ji Saraf in 1960's. The legacy grew by leaps and bounds over time & the mantle is being continued by his sons Mr. Sunil Saraf and Mr. Suman Saraf.

Our Rolling Mills today are the leading manufacturers of TMT Bars, MS Flats, MS Squares and Plain Rounds catering to the growing markets of India.

Strategically located in India's fastest growing city, Hyderabad, we cater to the region's ever growing demand for quality steel through our extensive plants, situated at Shankarampet, Chegunta village in Medak district and in the industrial belt at Nacharam, Hyderabad. These full-fledged state-of-the-art manufacturing units include steel melting induction furnaces, fully automised hi-speed rolling mill, continuous casting machine (CCM) and world class testing facilities to make high quality primary steel.

GERMAN TECHNOLOGY
QUALITY PAR EXCELLENCE

By implementing the revolutionary THERMEX technology being used globally to manufacture high quality TMT bars, we produce steel of higher strength, ductility, weldability, bonding and bendability, with the additional advantage of being anti-corrosive, earthquake & heat resistant. These properties make Radha 550 TMT bars the ideal and ultimate choice of both small and large project consultants, architects, structural engineers and builders. Radha Smelters is proud to be amongst the select few primary steel plants to adopt the highly acclaimed, cutting-edge German technology - THERMEX, which is the same manufacturing process being employed by the Durgapur and Bhilai steel plants of SAIL.

PRECISE RIBS FOR BETTER BONDING

Our rolling mill is equipped with automatic Sparkonix CNC machine for even spaced and precise depth rib cutting. This machine is capable of cutting ribs at any angle or even enlarging ribs. Due to uniformity and precision of ribs the anchorage between steel and concrete will be stronger. In addition, the load distribution will be uniform across the entire length of TMT bar making the structure stronger.

STRINGENT TESTING & QUALITY CONTROL

To ensure consistent quality, the physical & chemical properties of the TMT bars are tested in the Universal Testing Machine while the chemical composition of the raw material (MS Billets) is scrutinized by the Spectrometer. This is achieved through pre-defined and random sample tests at every stage of the manufacturing process.

HYDERABAD'S LARGEST HI-SPEED UNIT

Our state of the art high speed continuous rolling mill ensures that loop doesn't get formed and strength, form, shape & diameter is maintained across the entire length of the bar conforming to BIS standards. We follow industry standards for primary steel manufacturing to ensure top quality and consistent mechanical properties.

CUTTING-EDGE TECHNOLOGY

Strong and resilient Thermo Mechanically Treated RADHA 550 (TMT) Bars

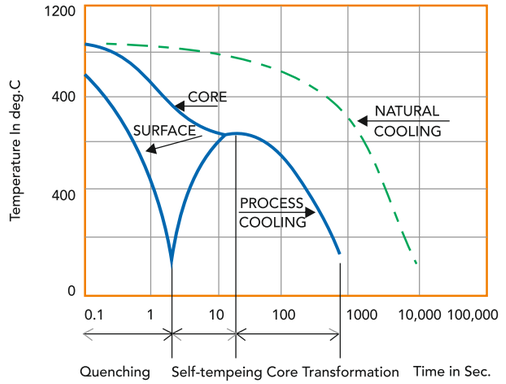
Radha 550 TMT bars delivers exactly what builders, architects and consultants need – the strength, durability and resistance of steel.

The superior quality of Radha 550 TMT bars, Manufactured using THERMEX (also known as 'Quenched and Tempered rebars'), is a result of four key factors:

1) High quality primary raw material - MS Billets
2) Fully automated hi-speed rolling mill
3) German-designed quenching and tempering technology.
4) Stringent testing and quality control process

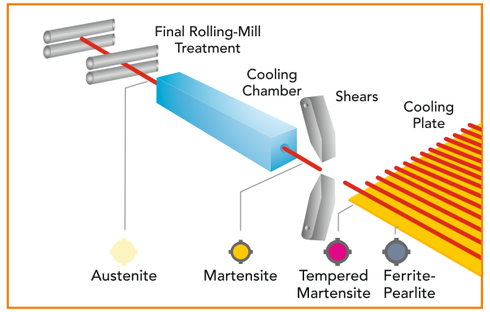
We ensure that our TMT bars not only meet the highest quality specifications, but are suited to the tropical conditions of the region.

Water quality: Dissolved solids and hardness in water impacts quality of TMT bars. Impurities in water gets deposited on the surface which accelerates oxidation process resulting in rusting of bars quickly. Reason why we treat and purify water in our unique treatment plant and only such water is used to quench Radha 550 TMT bars giving it anti-corrosive properties.



What makes Radha 550 TMT bars extraordinary is the specialized 3 stage manufacturing process involving Thermo Mechanical Treatment of the bars.

Stage 1: The rolled bars are subjected to a specially designed water cooling system which renders the outer surface of the bars cold while retaining the heat within the core.



Stage 2: Heat from the core of the bar dissipates to the surface of the bar creating a temperature gradient in the bars forming martensite on the surface while retaining the ferrite, pearlite structure in the core. This process is called "self-tempering".

Stage 3: This unique combination of ferrite, pearlite at the center, and martensite on the surface gives Radha 550 TMT Bars a higher yield strength coupled with higher elongation and finer ductility.

RUST RESISTANT
Unique Treatment lends anti-corrosive properties

CONSISTENT RIBS
Ensures excellent bonding with concrete

HIGH QUALITY BILLETS
Primary Raw material ensures hi-flexibility, bendability, ductility & weldability

UNIFORM GAUGE
Gives consistent strength to the bar

BENEFITS OF RADHA 550 OVER Fe-500 & Fe-415 TMT BARS

Radha 550 TMT bars are much stronger necessitating lesser usage of steel thereby saving on costs.

Mechanical Properties of TMT Bar as per IS:1786-2008

Grade	Fe-415	Fe-500	Fe-550	RADHA Fe-550
Yield Stress (N/mm²)	>415	>500	>550	>570
Tensile Strenght (N/mm²)	>485	>545	>585	>640
Elongation %		>12 %	>10 %	>16 %

Saving in weight and cost of construction by RADHA TMT Fe-550 Bars over Fe-415 TMT bars

Grade	TMT Fe-415	TMT Fe-500	RADHA TMT Fe-550
Design Strength	415 N/mm²	500 N/mm²	550 N/mm²
Quantity Required	1.000 mt	0.854 mt	0.754 mt
% of saving in weight		**upto 14.60%**	**upto 24.60%**

Chemical Properties of TMT bar as per IS:1786-2008

Grade	Fe-415	Fe-500	Fe-550	RADHA Fe-550
Carbon %	<0.30%	<0.30%	<0.30%	<0.25%
Sulphur %	<0.060%	<0.055%	<0.055%	<0.050%
Phosphorus %	<0.060%	<0.055%	<0.050%	<0.050%
Sulphur + Phosphorus %	<0.110%	<0.105%	<0.100%	<0.100%
Carbon Equivalent %	<0.42%	<0.42%	<0.42%	<0.40%

Weight Tolerance in nominal Size

Size	Standerd wt. Kg./mtr as per IS:1786-2008	Wt. Tolerance Kg/mtr. as per IS:1786-2008		Wt Tolerance Kg./mtr. as per RADHA Fe-550	
8MM	0.395	0.367-0.423	± 7%	0.383-0.407	± 3%
10MM	0.617	0.574-0.660	± 7%	0.598-0.636	± 3%
12MM	0.888	0.844-0.932	± 5%	0.861-0.915	± 3%
16MM	1.580	1.501-1.659	± 5%	1.533-1.627	± 3%
20MM	2.468	2.394-2.542	± 3%	2.443-2.493	± 1%
25MM	3.856	3.740-3.972	± 3%	3.817-3.895	± 1%
32MM	6.318	6.128-6.507	± 3%	6.254-6.381	± 1%

Mandrel Diameter for Bend Test

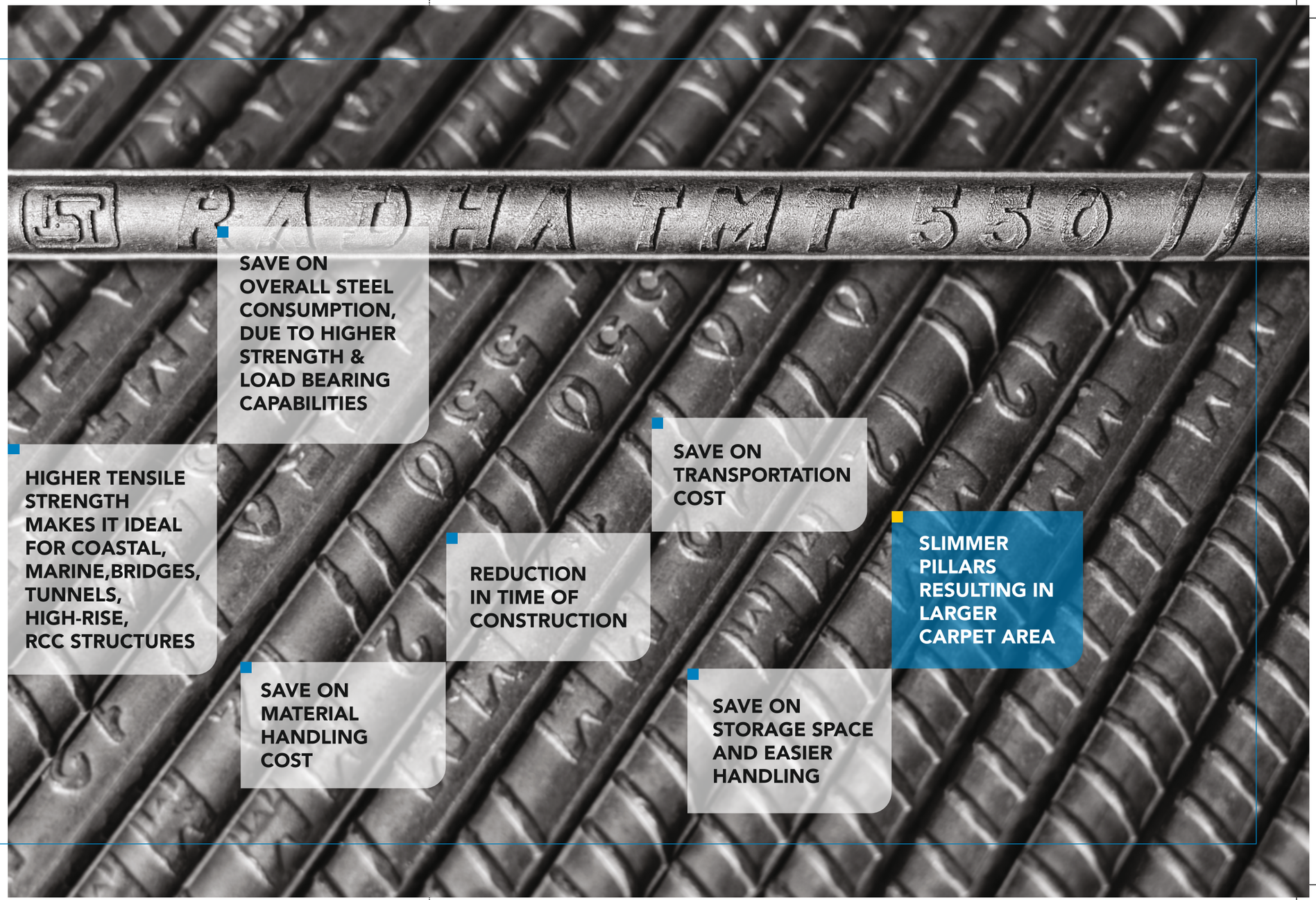
Grade	Fe-415	Fe-500	Fe-550	RADHA Fe-550
Up to and including 20mm	3D	4D	5D	5D
Over 20mm	4D	5D	6D	6D

Mandrel Diameter for Re-Bend Test

Grade	Fe-415	Fe-500	Fe-550	RADHA Fe-550
Up to and including 10mm	5D	5D	7D	7D
Over 10mm	7D	7D	8D	8D

Note: where "D" is the nominal size of the test piece in MM

BENEFITS OF RADHA TMT Fe550 STEEL BARS



- SAVE ON OVERALL STEEL CONSUMPTION, DUE TO HIGHER STRENGTH & LOAD BEARING CAPABILITIES
- HIGHER TENSILE STRENGTH MAKES IT IDEAL FOR COASTAL, MARINE,BRIDGES, TUNNELS, HIGH-RISE, RCC STRUCTURES
- SAVE ON TRANSPORTATION COST
- REDUCTION IN TIME OF CONSTRUCTION
- SLIMMER PILLARS RESULTING IN LARGER CARPET AREA
- SAVE ON MATERIAL HANDLING COST
- SAVE ON STORAGE SPACE AND EASIER HANDLING

PRESTIGIOUS CLIENTS

This is a partial list of our esteemed clients who are happy with the performance of Radha Smelters Private Limited.

Approved by:

... and many more