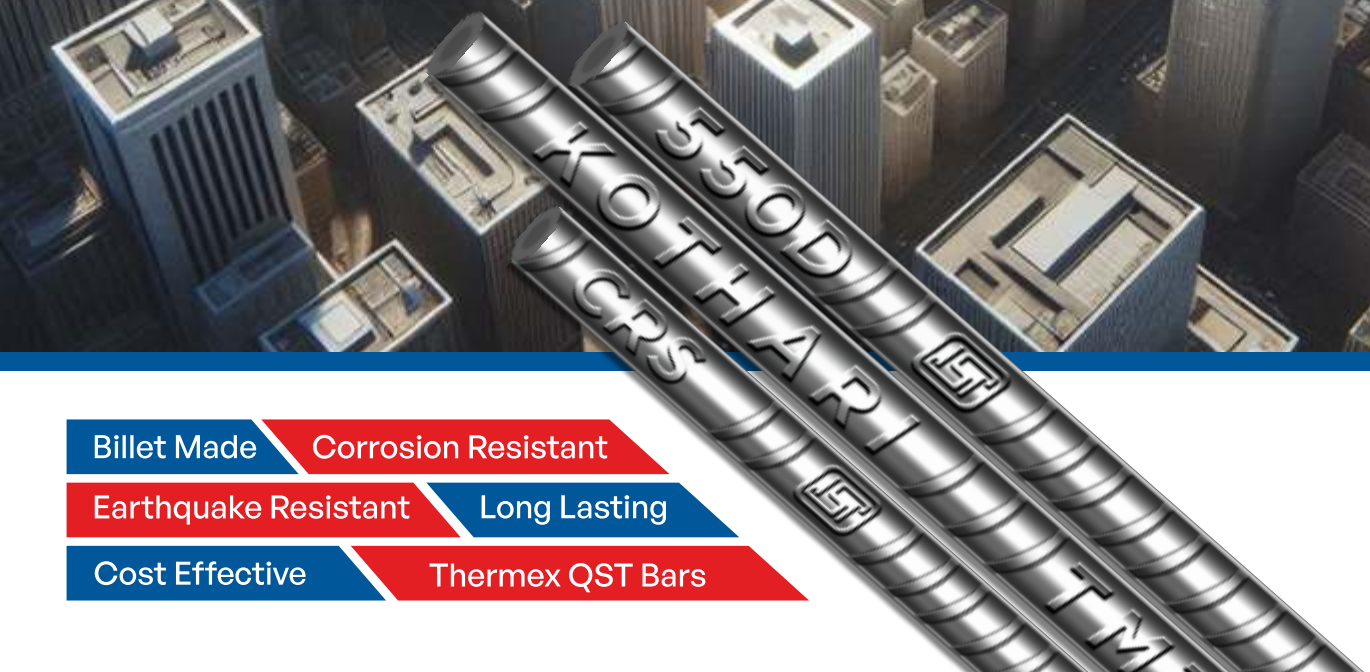
Foundation of Strength

KOTHARI®
A Promise of Strength TMT



Billet Made | Corrosion Resistant
Earthquake Resistant | Long Lasting
Cost Effective | Thermex QST Bars

Introduction

Since our inception in 1990, for 3 decades & more our drive and commitment to quality and productivity have never wavered. The dedication to excellence is reflected in our steel. Throughout the years, we have remained passionate, and spirited, with the same commitment to quality.

Our Kothari TMT bars are manufactured in a single compound using German Technology, and automation that demands the highest quality raw materials. This process ensures consistent quality across the entire length of each bar and every batch. State-of-the-art robotic tamper-proof testing equipment ensures we deliver on our promises.

Certified By

IS 1786;2008 IS 2062;2011

Quality

Quality is our foremost priority, and it naturally reflects in our output. Industry standards serve as our minimum benchmarks. We strive to maintain superior quality, consistently, and better value for money in our products. Our meticulous attention to detail, from raw material procurement to the delivery of finished goods, ensures customer delight.

Melting of Raw Materials

The initial step in processing raw materials involves melting. To ensure the correct chemical composition, samples of the molten metal are tested in the lab using a spectrometer. Required elements are added as necessary until the desired composition is achieved. This step is critical as it directly affects the quality of the final product.

German
Thermex Technology

About German Thermex Technology

Our Kothari TMT Bars, produced using German Thermex Technology (TMX), are of superior quality due to their high tensile strength compared to conventional options. The German Thermex thermo-processing treatment enables the production of exceptionally strong rebars with a yield strength ranging from 550 N/mm^2 and above. This process enhances robustness, flexibility, weldability, and yieldability.

The German Thermex Technology involves a brief but precise in-line cooling of the rolled bar, resulting in a hardened outer layer. Subsequent cooling facilitates thermal exchange (THERMEX) between the inner and outer surfaces of the bar. This process creates a distinct tempered martensite layer on the outer surface and a fine-grained ferrite-pearlite structure in the core, ensuring optimal performance and durability.

German Thermex TMT Reinforced Bars

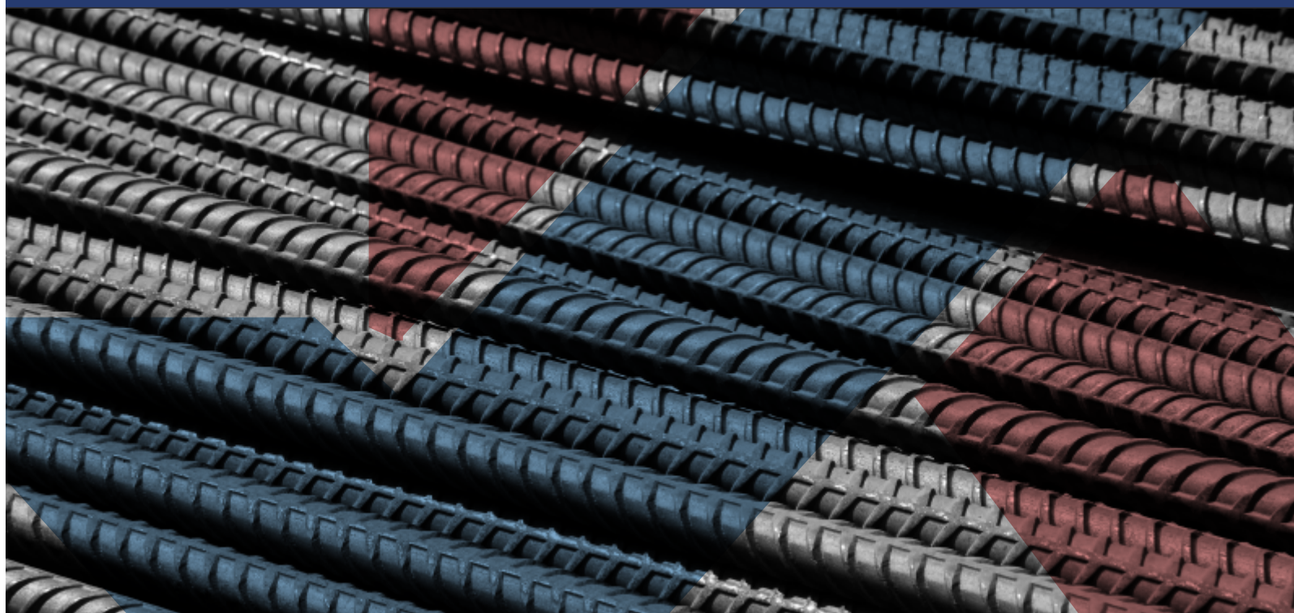
The patented Thermex cooling technology has significantly benefited the Civil Industry by reducing costs and contributing to the global economy. Here are several reasons why Thermex technology TMT bars are highly preferred and widely accepted:

- Superior quality at a lower price, saving up to 17%
- High strength and ductility suitable for all types of construction
- Excellent corrosion resistance
- Greater fire resistance compared to regular TMT bars
- Enhanced fatigue resistance and easy weldability
- Improved earthquake resistance due to high ductility

Finished Goods

The in-house Rolling Mill Laboratory is equipped with Universal Testing Machine for ensuring the UTS, Yield Strength, Elongation, Behaviour of the rod after bend and re-bend, Weight per meter (calibrated weighing scale), Mean Projected Area of Rib, Diameter of the rod (Calibrated Vernier Caliper) and overall length of the rod (calibrated measuring tape)as per the ISI Norms.

The TMT Bars are approved for delivery only after passing these tests to ensure that they adhere to ISI standards.



Fe500D - ‘D’ for Ductility

Low levels of Sulphur and Phosphorus impurities afford extra ductility and better ability to withstand the tremendous shock loads produced during earthquakes. Kothari Fe500D bars are trusted by leading industrial houses.

Fe550D

Higher Strength Fe 550D Kothari TMT bars are known for their exceptional strength and high ductility, making them suitable for all types of construction. Whether for residential and commercial projects, large-scale infrastructure, or structures in earthquake-prone areas, their high elongation property ensures both durability and flexibility.

CRS

Sea water, acidity in the air or salinity in the ground water causes corrosion weakening RCC structures. Kothari 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.

Special Length

Cut to customized length TMT bars can be pre-ordered. Our precision cutting system cuts the bars on the fly enabling lowest wastage and maximised savings for the customer. Bridges, long span floors, wind-mills and many other projects prefer special length TMT bars from Kothari for unmatched precision, ease of availability and small ticket size orders.

Superior rib pattern

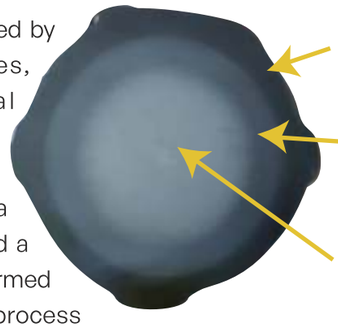
Although steel and concrete are two different materials, they to behave as a single unit in a reinforced structure. This can happen only when the concrete grips the steel rebar to form the strongest bond through the unique rib pattern of the rebar. Kothari TMT Bars has unique rib pattern in terms of greater rib depth and closer rib spacing. Its ribs are made using computer controlled CNC notch cutting machines.

Rib patterns on the rebar surface provide quality bonding with cement only when they are produced through CNC machined Rolls.

This ensures uniform rib pattern for 100% of the rebars, which allows uniformly strong bonding with concrete for the whole structure. This is in contrast to the ordinary rebars, where ribs are cut manually which always leaves scope for non-uniform rib pattern and thereby, non-uniform and weaker bonding throughout the structure. Due to uniformity and critically designed ribs, fatigue strength of Kothari TMT Bars is much superior to ordinary rebars.

Rib patterns on the rebar surface can give quality bonding with cement only if they are produced through CNC machined rolls.

Metallurgical Perspective



Steel's properties can be tailored by adjusting its microstructures, influenced by its chemical composition and thermal treatment. Rebar combines different microstructures, with a hard martensitic outer layer and a softer ferritic-pearlitic core, formed through self-tempering. This process enhances rebar strength, ductility, and corrosion resistance while improving weldability. Kothari TMT bars, produced using advanced automation and control systems, offer superior tensile strength, thermal stability, and a ribbed design for strong bonding with concrete. These qualities make them safer during natural disasters like earthquakes and more resistant to fire.

Kothari Trust

Kothari TMT bars has the best combination of strength and ductility and unparalleled quality consistency. It is available through our professional distribution and dealers' network, assuring the company prescribed price and correct weight at the point of purchase. This ensures a deep-rooted trust in Kothari TMT bars - one of the core values of the brand

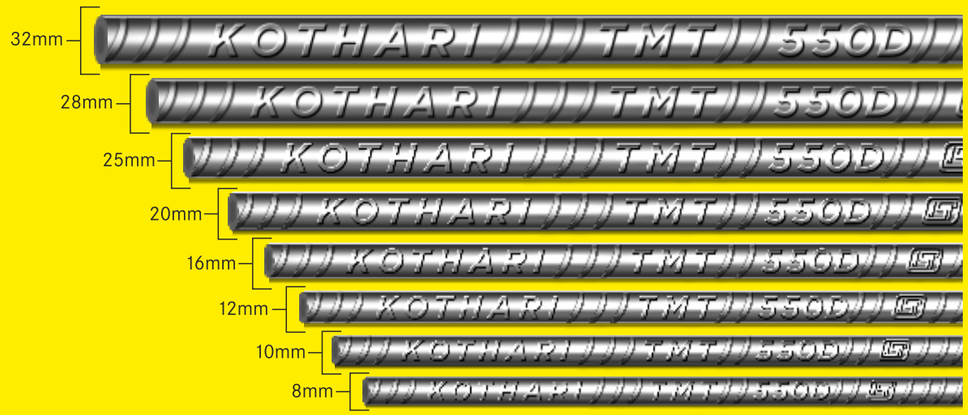
Size range

Kothari 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 (kg/mtr)	length Per Rod (mtr)	Typical Weight Per Rod (kg)
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

The rebars are delivered in standard length of 40 Ft bundles ensuring ease in transportation.

TMT Rebar sizes available



Chemical & Mechanical Properties

All products are manufactured according to ISI standard IS code IS 1786. ISI Specification is given below. Test certificates will be provided for every batch. Our ISI License number for TMT is CM/L-6607573

REBAR GRADE (%)	Kothari 500D Typical Values	Kothari Fe550D Typical Values	Kothari CRS Typical Values
Carbon (Max)	0.25	0.20	0.25
Silicon	0.15-0.25	0.25	0.20-0.30
Manganese	0.65 - 0.75	0.65 - 0.75	0.65 - 0.75
Sulphur (MAX)	0.040	0.035	0.040
Phosphorus (MAX)	0.040	0.035	0.040
Sulphur + Phosphorus (MAX)	0.075	0.070	0.075
Carbon Equivalent (CE) MAX	0.31-0.36	0.42	0.53
Copper			0.18 - 0.25
Chromium			0.35 - 0.45
Yield Stress (N/mm^2) MIN	525	580	525
Elongation (MIN)	18	18.0	16
Ultimate Tensile Strength (N/mm^2) MIN	575	680	600
UTS/YS Ratio	1.15	1.15	1.15

SUITABLE FOR USING THREADED STABLECOUPLERS

Kothari TMT bars can withstand high pressure cold forging process and can be forged uniformly to the required length. Our TMT bars can withstand the threading process (both taper and parallel) without generating metal shavings, which may cause harm while joining tow rods with coupler.

EARTHQUAKE RESISTANCE

The buckling effect will occur while applying load to the structure even after deformation, thus become unstable. Such impact load occurs during earthquake, causing the structure to collapse. Our TMT Bars can withstand the buckling effect that occurs due to sudden sideways deflection of structure member.

CORROSION RESISTANCE

Kothari rebars is produced by TMT technology and not by cold twisting. Therefore, there is no torsional residual stress in the bar, which result in superior corrosion resistant characteristics compared to traditional cold twisted bars. On account of its composite and uniform microstructures, Kothari TMT has comparatively better corrosion resistant properties than other TMT bars, while being embedded inside concrete.

Additional Benefits

- FIRE RESISTANCE
- COST EFFECTIVE
- BETTER WELDABILITY
- STRAIN AGEING
- BENDABILITY
- PRECISE & ACCURATE LENGTHS
- FINER GRAIN STRUCTURE
- CUSTOMIZE PRODUCT
- HIGHER BONDING STRENGTH

SRI SHIVSAKTHI MERCANTILE PVT LTD

Registered Office: No.665/2, 1st Floor, T.H. Road, Tondiarpet, Chennai - 600 081.

Unit 1: B4-N(B) Sipcot Industrial Complex, Gummidipoondi, Thiruvallur Dist.-601201
Unit 2: Padalam Sugar Mill Road, Palayanur , Madurantakam Taluk, Kanchipuram Dist - 603308.

Customer care: +91 81 222 65 222 | E-mail: sales@kotharitmt.com | www.kotharitmt.com