

PARAMETER	IS-1786:2008	PARASHAKTI TMT
Y/S (N/MM <sup>2</sup> )	500	510-540
UTS (N/MM <sup>2</sup> )	565	580-650
ELONGATION (%)	16	18-24
RATIO (UTS/Y <sub>S</sub> )	1.13	1.13-1.22

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CARBON (C)	0.30	0.20-0.25
SULPHUR (S)	0.055	0.050
PHOSPHORUS (P)	0.055	0.050
CARBON EQUIVALENT (CE)	0.42	0.25-0.35

SIZE (MM)	ISI WEIGHT (KG/M)	PARASHAKTI TMT WEIGHT (KG/BUNDLE)	PARASHAKTI TMT LENGTH (FT/BUNDLE)
8	0.395	68	600
10	0.617	70	400
12	0.890	72	280
16	1.580	73	160
20	2.470	58	80
25	3.860	45	40

IS 1786:2008



CM/L 2857071

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**PARASHAKTI**

TMT BARS

ABSOLUTE STRENGTH

## STEEL

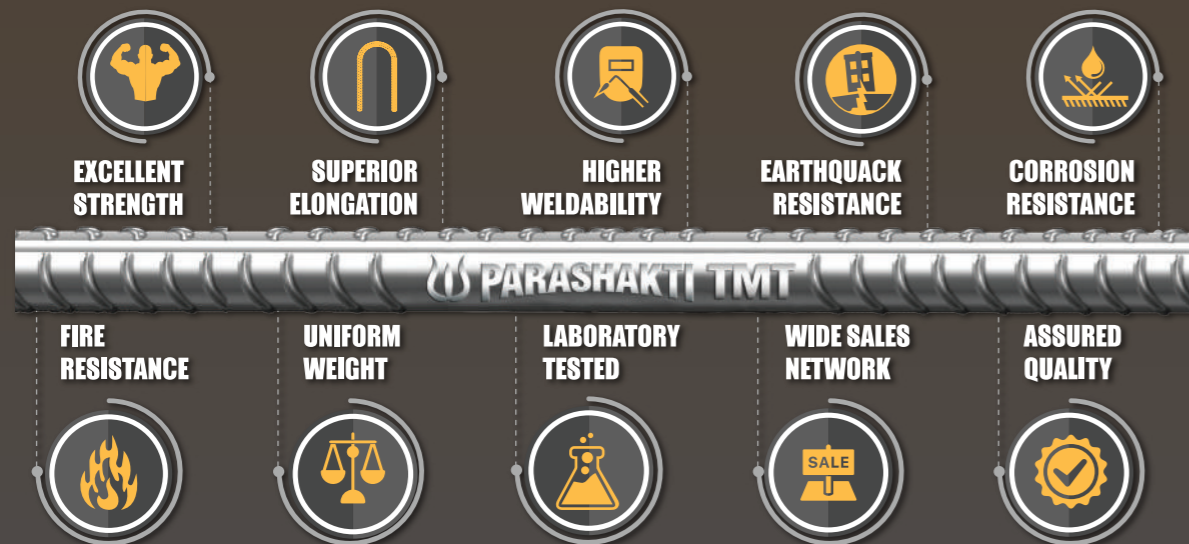
No structure in today's world can claim itself 'steel-free'. The most ambitious visions and structures of today owe their existence thanks to STEEL. The benefits that Steel bestows to construction industry make it a preferred choice by designers and developers since ages.

Termed as one of the technically best and newest form of MS Steel Bar – Thermo Mechanically Treated (TMT) Bars have become the backbone of RCC work in today's construction fraternity.

## PARASHAKTI TMT

At PARASHAKTI TMT we understand that a strong brand, premium quality, prompt supplies and services and competitive pricing are of fundamental importance when delivering vital infrastructure related products. PARASHAKTI TMT bars are consistent in quality, uniform in grades, dimensions and tolerances. Our mission is to deliver finest quality TMT bars for the infrastructure development of our country. We achieve this by following: best manufacturing practices, strict quality control, wide sales network and superior after sales service; in a time and cost effective manner.

PARASHAKTI TMT bars are manufactured at company's state-of-the-art production. Facilities using latest product technologies and fully equipped Quality Assurance and laboratory tested, where every batch of raw material and TMT bars are rigorously tested following procedures outlined by IS 1786:2008, the standard for High Strength Deformed steel bars for concrete reinforcement. The company has a region wide Sales and Distribution network accompanied by highly-organized and effective logistics solutions.



## PROPERTIES OF PARASHAKTI TMT

Parashakti TMT Bars are manufactured by Quenching and Self Tempering (QST) process. The Quenching and Self Tempering forms a composite microstructure having strong, tough, tempered martensite in the surface layer of the bar, an intermediate layer of martensite and bainite, and a refined, tough and ductile ferrite and pearlite core. This results in the following properties

### HIGH STRENGTH & HIGH DUCTILITY

Parashakti TMT bars have a rare combination of high strength and excellent ductility. Higher yield strength results in loss of percentage elongation but in case of Parashakti TMT bars, this loss is negligible. The UTS/YS ratio is always maintained above 1.15 which results in higher percentage elongation values.

### EXCELLENT BENDABILITY

The tough outer layer and the ductile core of Parashakti TMT bars result in excellent bendability. The bars can be bent around small diameter mandrels, without fear of failure. If required, the bars can be straightened and re-bent without failure or cracking due to high ductility.

### SUPERIOR CORROSION RESISTANCE

The Quenching process forms a martensitic layer at the outer surface and the Self Tempering process ensures that there are no torsional stresses in Parashakti TMT bars, which result in superior corrosion resistance characteristics.

### FIRE RESISTANCE

Parashakti TMT bars have an inbuilt ability to resist loss of strength at higher temperatures.

### GREATER WELDABILITY

The low carbon content and low carbon equivalent of Parashakti TMT bars ensure excellent weldability while using any of the welding processes. No pre-heating or post-heating of these bars is required. Tensile tests carried out on bars after welding show no failure at the weld joints.

### EARTHQUAKE RESISTANCE

An Earthquake Resistant bar must have a percentage elongation of at least 16%. The ductile core of Parashakti TMT bars imparts higher percentage elongation values while maintaining superior strength, making it ideal to use in high seismic zones too.

### ECONOMY AND SAVINGS

The use of High Strength FE500 Parashakti TMT Bars leads to savings in number of bars used and weight and there by cost. The effective savings can be in the tune of 17% - 18%.

### WIDESPREAD APPLICATIONS

Apart from usage in general concrete structures, Parashakti TMT bars of FE500 grade find usage in critical applications such as high rise buildings, bridges, flyovers, power plants, etc.

### MEETING INTERNATIONAL STANDARDS

Parashakti TMT Bars FE500 conforms to various international standards like ASTM A615 Grade 60 of the USA, BST 500 of DIN 488 of Germany, BS 4449 Grade 460 of Great Britain, among others.