Superior Chemical Properties

The billets used to make PFI Tirumala TMT bars are made of iron ores from the main plant and not from recycled steel. This reduces impurities and gives them the best chemical composition in the trade.

Chemical Properties

Elements	CRS		IS : 1786 Fe 550	Tirumala Fe 550	Tirumala Fe 500D
Chemical	Fe 500				
	BIS	PFI			
Carbon	0.25	0.25	0.30 Max.	0.220 Max.	0.220 Max.
Carbon Equivalent © +Mn/6)			0.420 Max.	0.330-0.340 Max	0.040 Max
Sulphur	0.040	0.035	0.055 Max	0.050 Max	0.040 Max
Phosphorus	0.040	0.37	0.050.max	0.045 Max.	0.040 Max
S&P	0.075	0.072			
Cu + Cr		>0. 40%			
Alloying Element (>0.40%)					
Corrosion Resistanct index (>1.5 min) Potentio Dynamic Polarisation test index (>1.5 min)					

Mechanical Properties

Test Elements	Unit	IS : 1786 Fe 550	Tirumala Fe 550	Tirumala Fe 500 D
Mechanical Properties	Unit	IS : 1786 Fe 500	IS : 1786 Fe 500	IS : 1786 Fe 500
Yield Stress (YS)	N/mm^2	550 min.	570 min	570 min
Ultimate Tensile Strength (UTS)	N/mm^2	585 min	650 min	670 min
UTS / YS	Ratio	1.06 min	1.16 min	1.16 min
Elongation	%	10 min	18 min.	18 min.

Why PFI Tirumala Fe 550 Grade is Better than other Steel bars

Properties	Local TMT Bars	Min Producers	PFI Tirumala TMT Bars
Strength	Inconsistent 500 grades	High (Grade Fe 500)	High (Grade Fe 550 is minimum)
Elongation	Low	High	High : 18-25%
Weldability	weak	Better & More Strength	Better & More Strength
Formability	Non-standard	Excellent due to uniform elongation	Excellent due to uniform elongation
Technology	Thermex/ others	TEMPCORE technology (CRM, Belgium)	TEMPCORE technology (CRM, Belgium)
Ductility And Fatigue Strength	Non-Standard	High	High: Most appropriate for coastal and earthquake prone areas
Corrosion Resistance	Very Low	High	High
Ribs	Manual & inconsistent	CNC Notched & uniform	CNC notched & uniform
Savings	Nill	No Saving Due to higher prices	15-20% compared to every other option
Availability	Inconsistent	Irregular Supply	Easily available all throughout south India
Price	Very cheap due to lack of standard	Very high price for the same product	Much lower than main producers for the same grade

Superior Physical Properties

The superior quality of our products is visibly reflected in their luster and rib designs. this is because we use only state-of-the-art techology from Morgardshammar, Sweden and Danieli, Italy; used by those who understand what's best

Weight Tolerance

Size of Bar	Cross-Sectional Area mm^2	BIS IS : 1786			PFI Tirumala Fe 550	
		Min.	Standard	Max.*	Min.	Max.*
8	50.2	0.367	0.395	0.423	0.380	0.411
10	78.6	0.574	0.617	0.660	0.590	0.642
12	113.1	0.844	0.888	0.932	0.850	0.942
16	201.2	1.501	1.580	1.659	1.520	1.640
20	314.3	2.396	2.470	2.544	2.396	2.544
25	491.1	3.735	3.850	3.966	3.735	3.966
32	804.6	6.121	6.310	6.499	6.121	6.499

Bending and Re-bending Properties

Bending				
Size	Indian Standars Is 1786 : 2008			PFI Tirumala TMT Rebars
	Fe 415	Fe 500	Fe 550	Fe 550
Up to and including 20 mm	3d	4d	5d	3d
Over 20 mm	4d	5d	6d	3d
Re-Bending				
Up to and including 10 mm	5d	5d	5d	5d
Over 10 mm	7d	7d	7d	5d

Tirumala TMT STEEL

Build with PFI Tirumala TMT bars

WITH THE WORLD'S MOST ADVANCED TEMPCORE® TECHNOLOGY

NOW AVAILABLE IN FE550

BEYOND STRENGTH

Authorised Dealer

A Product of : Prakash Ferrous Industries Put Ltd.

Prakash Group, a diversified conglomerate, operates across verticals like agriculture, warehousing, food preservation, heavy engineering, automation engineering, hospitality, real estate and lately steel rebars.

In keeping with Prakash Group's indomitable spirit to deliver the best, Prakash Ferrous Industries Limited, applies nothing but the best and latest in technology. This is achieved with technology brought in from Danieli in Italy and Morgårdshammar in Sweden. Our facility in Srikalahasti was set up to deliver the infrastructure industry with top class steel rebars under the brand name 'PFI Tirumala TMT'.

Details of our wide range rebars:

Grades: Fe 415, Fe 500, Fe 500 D, Fe 550, Fe 550 D, CRS Fe 500 D and Superior Strength Corrosive Resistant Steel (SSCRS). Size in mm: 8, 10, 12, 16, 20, 25, 32, 36, and 40

HIGHER STRENGTH

The superior strength of PFI Tirumala TMT bars reduces the overall cost and consumption.

BENDING PROPERTIES

PFI Tirumala TMT bars which follow the Tempcore, CRM Belgium guidelines have > 1.10 UTS/YS ratio due to its superior chemical composition and elongation value. Which means that these rebars will bend but not break.

CORROSION RESISTANCE

The unique technology used in the TMT box, controls air & water mixed dispersion and prevents the formation of coarse carbides, the chief reason for corrosion. The absence of such stress-induced abnormalities strengthens structures.

CUSTOMIZATION

Every construction is unique and has different needs. Which is why, the metallurgical and physical properties of PFI Tirumala TMT bars can be customized. The brand also offers exclusive services.

FINER MICROSTRUCTURE

Due to continuous section reduction in rolling from billet to the finished bars, PFI Tirumala TMT bars have a better and more consistent micro-grain structure. The refined microstructure improves uniformity of performance and gives them a longer life.

COST-EFFECTIVE

Greater strength means fewer rebars needed. PFI Tirumala TMT rebars are required in lesser numbers resulting in the reduction in overall cost of the project.

SUPERIOR METALLURGICAL PROPERTIES

State-of-the-art automation technology is used at our plant to ensure maximum variation of .05± from computer programmed parameters.

PERFECT ROUNDNESS

Our mill has looping systems to reduce tensions that occur during the bar making process and enable perfect roundness while ensuring uniform properties with precision.

BETTER WELDABILITY

Our bars have low carbon equivalent (<.25). They can be easily butt-welded or lap-welded using ordinary rutile-coated electrodes of matching strength without any pre/post-treatment.

FIRE RESISTANCE

The quenching process used to create our TMT bars gives them higher thermal stability. The rebars can withstand temperatures up to 600°C with no loss of strength.

PRECISION GAUGE

The section weight of the rebars is automatically controlled and are consistent and precise.

HIGHER BONDING STRENGTH

PFI Tirumala TMT bars are made using state-of-the-art CNC machines used for both heavy-duty construction like bridges, railways, skyscrapers, dams and smaller constructions like independent houses. This ensures uniform ribs across every bar. Consistent depth and spacing of the ribs result in a better steel and cement grip and bonding.

EARTHQUAKE & SEISMIC RESISTANCE

Because of their excessive bending and stretching capability, PFI Tirumala TMT bars can easily absorb the excessive stress generated during earthquakes, preventing damage of buildings and loss of lives. It is perfect for constructions in earthquake prone zones and coastal areas.

FORMABILITY

Our higher elongation values and consistent chemical and physical properties make PFI Tirumala TMT bars an excellent choice in forming the skeleton for application structures.

CONSTSTENCY

Each bar of PFI Tirumala TMT would give 100% consistent properties in both chemical & physical parameters.