Introductory Letter

Dear Sir,

Sub-Requesting to enlist/ register our company name as an approved vendor for supply of Fe 600 MAITHAN TMT Bars.

We would like to introduce ourselves as one of the leading manufacturers of Iron & Steel product in Eastern India, engaged in production of mild Steel products. Having Integrated Steel Plant with own power generation. Our manufacturing activities is located at Village: Mouza Nakrajoria District: Burdwan , West Bengal. Our manufacturing activities include Sponge Iron, **Induction Furnace with continuous casting machine & own generating Power Plant**.

Our Company manufactures wide range of long end products via **TMT bars Fe 600 (8mm, 10mm.12mm.16mm, 20mm, 25mm,) through** in house **Billets (100mm & 130mm)** and Sponge Iron Conforming to National and international Standards / Specifications.

The Group is a renowned name in Iron & Steel Industry with over one and half -decade of extensive as well as in-depth knowledge in manufacturing and marketing the finest quality of Iron & Steel Products. **Maithan Fe 600** re-bars are made from virgin ore to finished products. Our products are produced using the world's most advanced technology. To substantiate the statement details are followed in the presentation.

Maithan Fe 600 re-bars are produced through primary Steel making route using sponge iron from its own unit. It is subsequently processed through the Induction Furnace and Continuous Casting Billet Machine. The resultant Steel is of superior quality contains low harmful ingredients (like Sulphur and Phosphorus) and ensures the desired and consistent properties in the rebar.

We cordially invite you or any of your designated personnel at our manufacturing unit to have a look at our activities. A word of confirmation from your side would help us to coordinate a pleasure visit and mutual business benefits.

We request you to enlist and register our company name in your approved vendor list as producers of TMT Bars. We assure you of providing the best quality materials at competitive price followed by prompt delivery. If you need any other information, please feel free to contact the under- signed.

Thanking you,

Authorized Signatory
Maithan Steel & Power Ltd.

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TMT 600
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SHAPING FOREVER
RISING TOGETHER
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Maithan Group Introduction

- Maithan Group
  - Founded in the year 1963.
  - Driven by leaders having
    - business interests in manufacturing of Iron & Steel, Power, Cement and Ferro Alloys
    - Exported to 56 countries including Japan & EU
  - Financially self sustained without any financial obligation.
- Maithan Steel and Power
  - Established in 1999, now a fully integrated plant.
  - An ISO-9001 & ISO-14000 accredited organization.
  - Having more than 3200 channel partners across Eastern India

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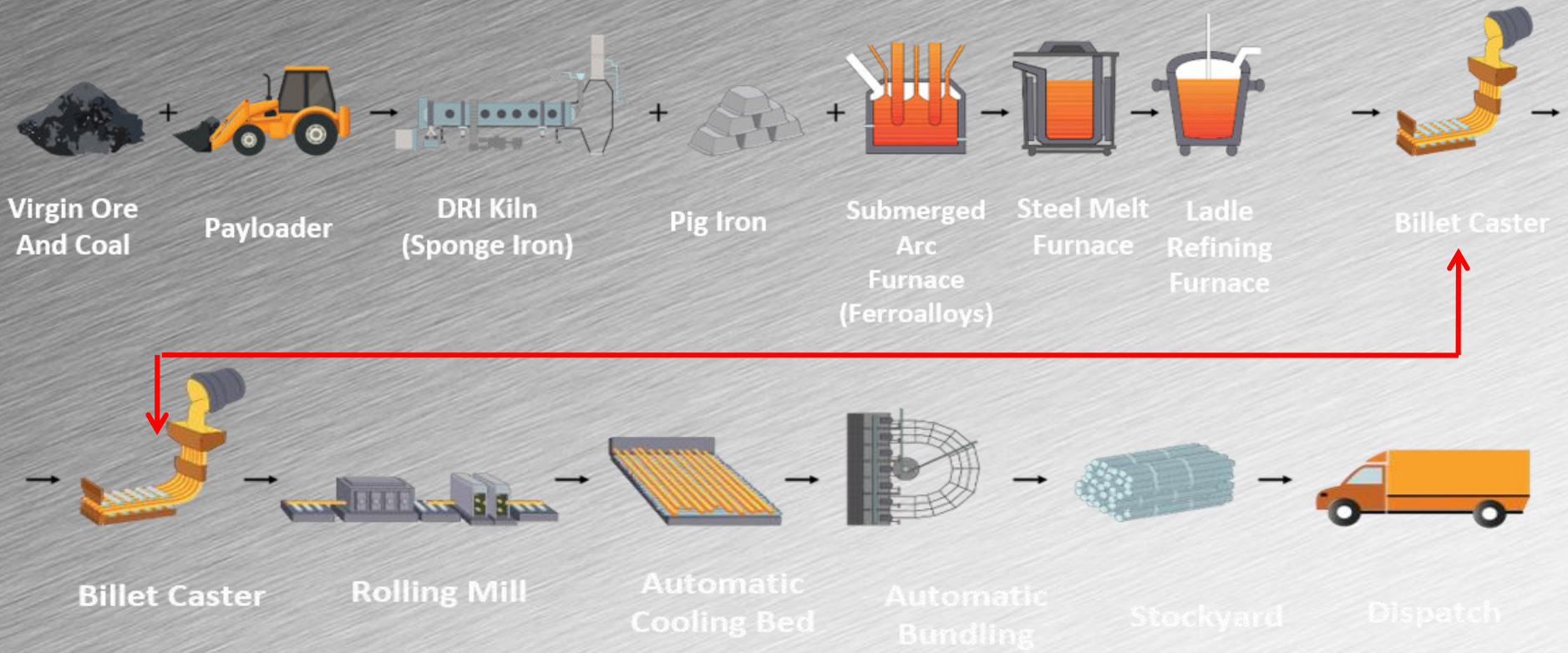
Controlled Process



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Process Edge

Maithan TMT 600	Others Secondary TMT
Uses virgin ore as raw material. Benefit: High Quality Clean Steel	Use scrap or ingots without refining Result: Low quality Steel
Process is DRI + SMS + RM . Benefit: Controlled steel chemistry with low levels of harmful elements like S & P	Use Ingots or commercial billets Result: No control over steel chemistry
TMT manufactured using high yield quenching process Benefit: All batches of products are similar	Outdated rolling and quenching process Result: No two batches of products are the same
Better than minimum BIS specified standards	Barely meeting the minimum BIS specified standards
Meets UTS/TS Ratio and high percent elongation Benefit: Superior earthquake resistance and energy absorption	Does not meet the required ratio Result: Little or no earthquake resistance and energy absorption

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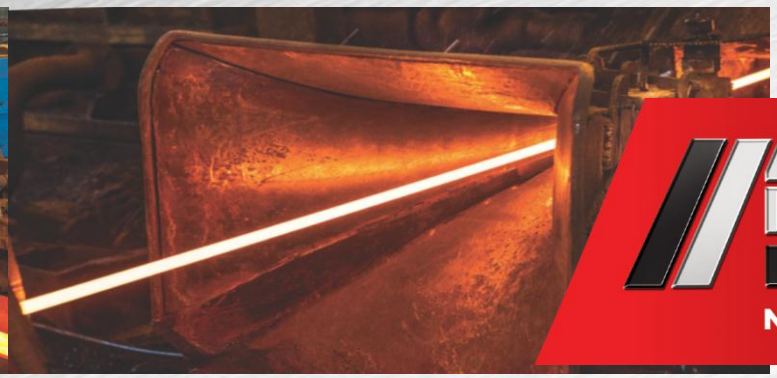
Rolling Mill

- An integrated steel plant, with rolling capacity 200,000 mtpa
- State-of-the art rolling mill with European Technology - High UTS Quenching & Self Tempering, HUQST
- Modern testing lab, Advanced R&D facilities
- In house Billets used for rolling re-bars
- Conformance to BIS Specification
- 100% RO water is used for Quenching process
- Tungsten Carbide Rolls for better finish and lower dimensional tolerance



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Quality Control Checks

To ensure that:

a) The Billets so produced, conform to the BIS Standard – IS 2830 – 2012 and
IS 2831 – 2012.

b) Production of TMT which conforms to the BIS Standard – IS 1786:2008

We currently produce Maithan 600 TMT.

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Quality Checks

Tests carried out at in-house laboratory

a) Tensile test:-

Tensile test for TMT is performed in Universal Testing Machine (UTM). During tensile testing following properties are find out:

1. Yield Strength
2. Ultimate tensile strength
3. Percentage elongation.

b) Bend Test:-

It is carried out when bar is cold. The bar is put on bending machine.
The appropriate diameter of mandrel is selected.
The sample is pressed upto 180°by giving continuous pressure until the sides are parallel.
The sample is considered passed if no crack or rapture is found on the bent portion.

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Quality Checks

Tests carried out at in-house laboratory

c) Rebend Test

The sample is bend up to 45° (up to included angle 135) .
Then bent piece is heated in water up to 100° C for 30 minutes and allowed to cool.
Then sample is again bent back to have an included angle 157.5.
Sample is considered to have passed the rebend test, if there is no cracks or rapture on the rebent surface.

Bend and Re-bend Machine

Maithan TMT FE 600 Deliverables

Product

- ✓Manufacturing MAITHAN TMT 600 as per standardized norms
- ✓Conformance to BIS Specs
- ✓ Higher YST 600N/mm²
- ✓ Superior Rib Pattern
- ✓ Better Bonding with Concrete
- ✓ Higher quantity of Manganese – bring superior strength
- ✓ Higher Elongation – 16%
- ✓ Superior Corrosion resistance
- ✓ JIT delivery

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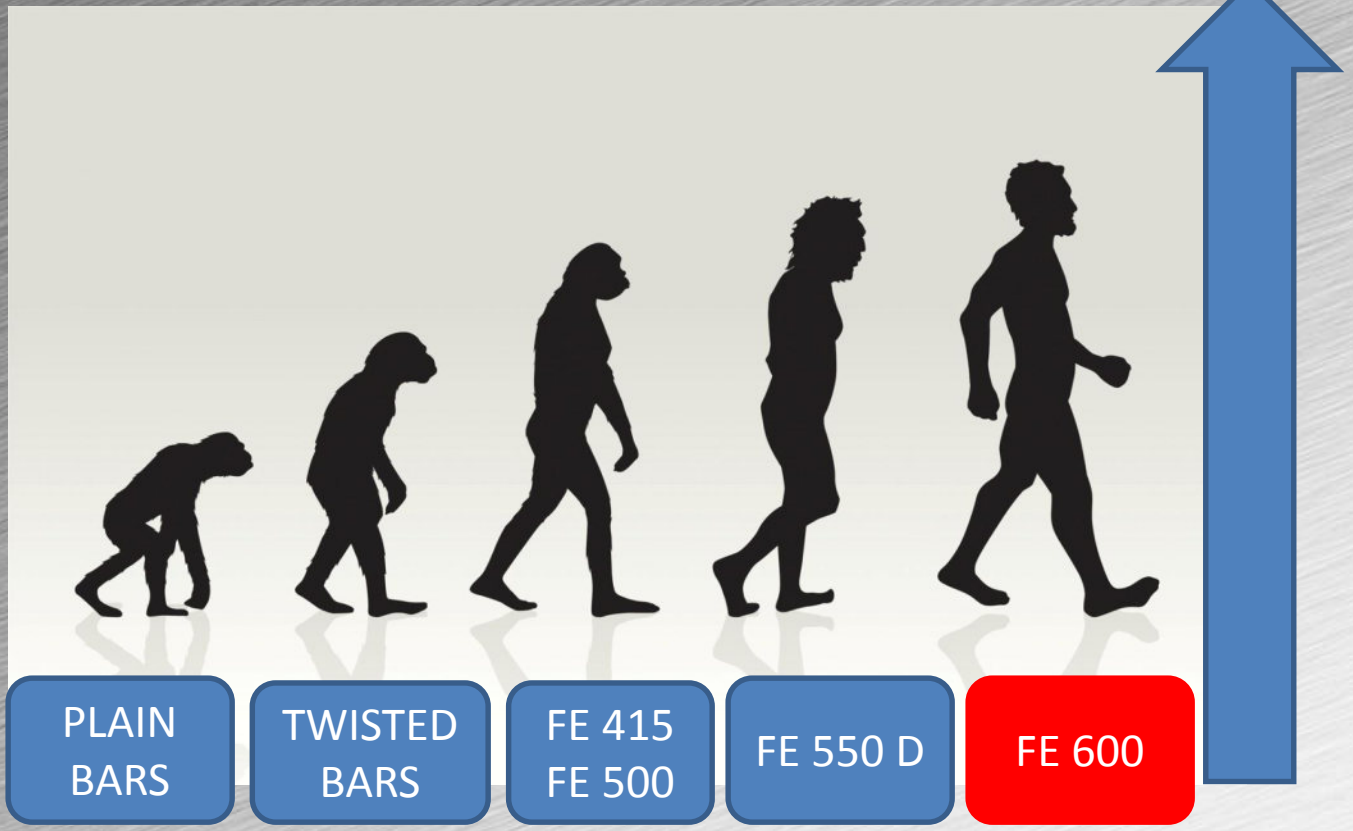
Steel Bar Evolution



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Unique Selling Points

- Genuine quality, genuine price.
- High Strength TMT bars

  20% Lesser consumption required
- The product has been endorsed to FE 600 quality standards by BIS and ISO
- Easy Bendability –

  no reverse cracks, “Paint marke nahi bachate hai”(No Paint used)
- 100% High Quality billets manufactured in house Steel melt shop
- Negative Tolerance – More Profit

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Comparative Technical Specifications *(Physical)*

Physical Properties	IS 1786 / 2008 Fe 500D	Maithan TMT 600
YS (N/mm^2)	500 min	600 min
TS (N/mm^2)	565 min	660 min
TS/YS	>1.10	>1.10
% Elongation	16	15
Application	General / Seismic	General / Seismic

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Comparetive Technical Specifications *(Chemical)*

Element	BIS Fe500D	Maithan 600
% Carbon	0.250	0.280
% Sulphur	0.040	0.040
% Phosphorus	0.040	0.040
% Sulphur & Phosphorus	0.075	0.075
Yield Stress (N / mm^2)	500	600
Tensile Strength (N/mm^2)	565	660
Elongation % Min.	16	14-15%

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Why Use Maithan TMT 600

Mechanical Properties	IS 1786 Fe 500 D	UK BS 4449 -2005	Australia / New Zealand AS NZ S 4671/2001		Maithan TMT 600
	Fe 500 D	500 C	500 NE	500 N	600
Yield Strength (N/mm^2 , Min.)	500		500	500	600
Yield Strength (N/mm^2 , Max.)	Not Specified		600	650	660
Tensile Strength (N/mm^2 ,Min.)	10 % higher to Yield strength		15% higher to Yield strength	8% higher to Yield strength	11 % higher to Yield strength
Tensile Strength (N/mm^2 , Max.)	Not Specified	Not Specified	35 % higher to Yield strength	Not Specified	30% higher to Yield strength
% Elongation (Min.)	16	Not Specified	-	-	15 %
% Uniform Elongation upto UTS (Min.)	5		10	5	8
UTS/ YS Ratio (Min.)	1.10		1.15	1.08	1.1
Application	E Q Zone		E Q Zone	General	E Q Zone

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Advantage Maithan

- **Extra Strength-** Strongest TMT bar on Ductility & Bendability.
- **Earthquake Resistance-** Maithan has higher UTS/YS ratio & absorbs large amount of energy during cyclic loading without catastrophic failure.
- **Super Flexible-** Inherent micro structure with soft Perlite core.

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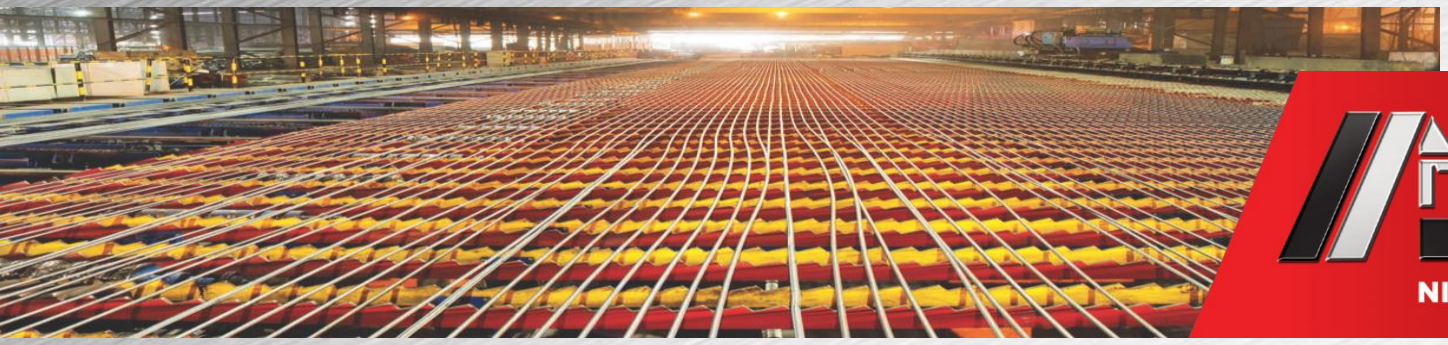
Advantage Maithan

- **Solid Grip-** Uniform ribs are achieved through computer controlled CNC notch machine hence, closer ribs spacing for better bonding.
- **TC Finish-** Tungsten carbide rolls are used for superior surface finish & lower dimensional tolerance.
- **Consistent Quality-** By using ultra modern automated machines, resulting consistent products.



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Advantage Maithan

- **Online Quality Control-** PLC controlled temperature of each Maithan re-bar from time of entry in rolling mill to finishing strand
- **Ductility-** High manganese contained & low carbon content is Super Ductile
- **Weldability-** Low carbon content gives better weldability

TUNGSTEN CARBIDE ROLL

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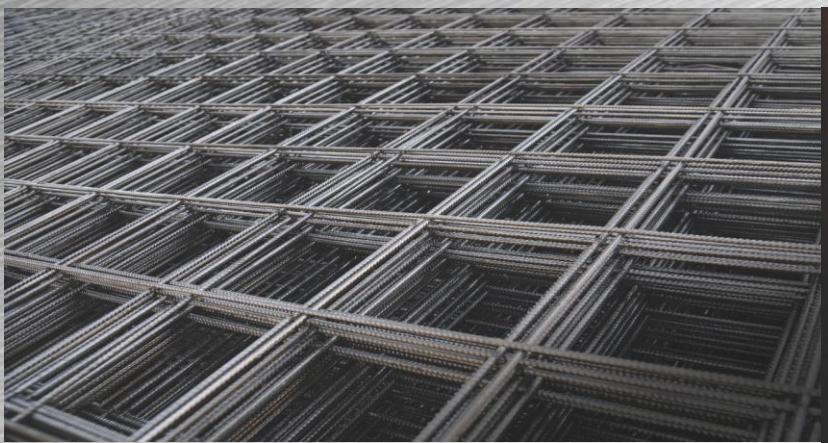
Advantage Maithan

- **Anti Corrosion-** Find grain micro structure leads to less corrosion.
- **Fire Resistance-** Even at 600^0C there is no loss of strength / ensures thermal stability of concrete.



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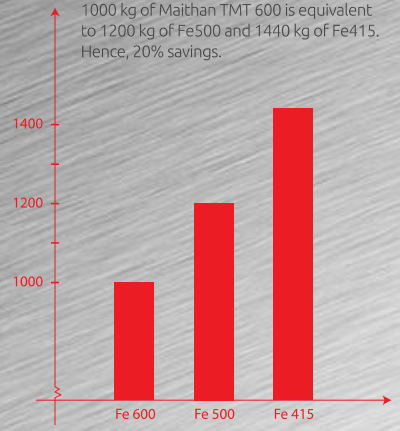
20% More Savings

- Maithan TMT 600 offers the extra strength of 20% compared to conventional FE-500 grade available in the market.
- 20% less- Steel consumption
- 20% reduction- In labour cost
- 20% reduction in- Transportation cost
- 20% less- Storage space
- Reduction in rebar congestion
- More useful floor space

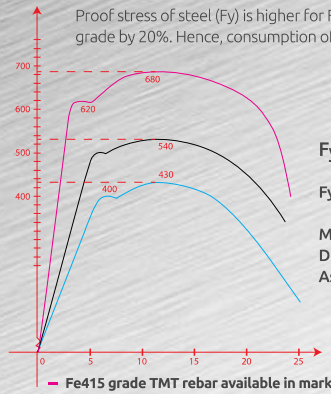
Maithan Savings

1000 kg of Maithan TMT 600 is equivalent to 1200 kg of Fe500 and 1440 kg of Fe415. Hence, 20% savings.



Comparative Proof Stress Graph

Proof stress of steel (Fy) is higher for Fe600 grade than Fe500 grade by 20%. Hence, consumption of steel decreases by 20%.



$$Fy = \frac{0.85 \times M \times D}{Ast}$$

Fy = Proof stress of steel in use
M = Moment in tension
D = Depth of section
Ast = Area of steel in use

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Focus Area in India

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New Addition

Binding Wires

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Rings

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Thank You

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