

MAITHAN STEEL & POWER LIMITED  
www.maithansteel.com  
info@maithansteel.com  
+91 8651540007 | +91 8229800017

SHAPING FOREVER

RISING TOGETHER







## COMPANY PROFILE

Moving ahead together

This journey of trust and excellence that commenced half a century ago with business leaders who are adept at serving all over the country, is enabling us to set newer benchmarks and attain newer heights everyday in the infrastructure sector.

Being in tune with the evolution in steel-making technology, Maithan Steel and Power Limited has an integrated state-of-the-art plant in Salanpur, West Bengal and is all set to provide the best quality product, using the best technology.

As we believe in caring for our society, we have provided 1500 direct employment and have generated 10,000 indirect employment; consequently, standing by the "Make in India" initiative. Our transparent practices led us to being an ISO 9001, ISO 14001 and ISO 18001 accredited company.



**DIRECTOR  
SPEAKS**



Building dreams  
with passion



“When it is time to create a magnum opus, one looks for strong, solid construction that can stand the test of time. At Maithan Steel and Power Limited, we don't just produce steel, we believe in being the bedrock around which your dreams take shape.

We firmly believe in inclusive development, taking responsibility in steering the path to progress, and providing security to all our consumers along with all those who work with us.

We produce only the best quality product available globally and are one of the most trusted brand in Eastern & Northern India, which is an accomplishment achieved through consistent superior product standard.

Our vision for the future has led us to embark on an ambitious expansion plan to cater to the latent demand in the infrastructure sector. It is a constant endeavor to ensure unmatched product quality coupled with superior sales network and after-sales service.

At Maithan Steel, we push our boundaries everyday, striving to provide the best value in terms of service, honest business policies and practices.”

**-Madhur Agarwalla, Director**



# MANUFACTURING PROCESS

At Maithan Steel, we produce only the strongest TMT rebars available globally. It is an accomplishment achieved through consistent superior product standard, well-equipped research and development and an integrated steel plant, with a passion for innovation.

## Iron Making

Virgin iron ore and coal are mined, then shipped to the plant. DRI is a solid-state reduction process of iron ore using coal as a reducing agent at a temperature of 1150 °C in Rotary Kilns.

## Steel Melt Shop

DRI, pig iron and ferroalloys are added in furnaces which melt the metals at an extremely high temperature of 1650 °C. The molten metal after removal of slag is taken to LRF (for removal of unwanted Sulphur and Phosphorus) and fed to Continuous Casting Machine (CCM). Then the molten and refined steel is solidified into high quality billets.





### Rolling Mill

The high quality billets from CCM are directly charged to the High UTS Quenching and Self Tempering (HUQST) Rolling Mill where it is reduced to rebars at 1050 °C.

#### • Quenching

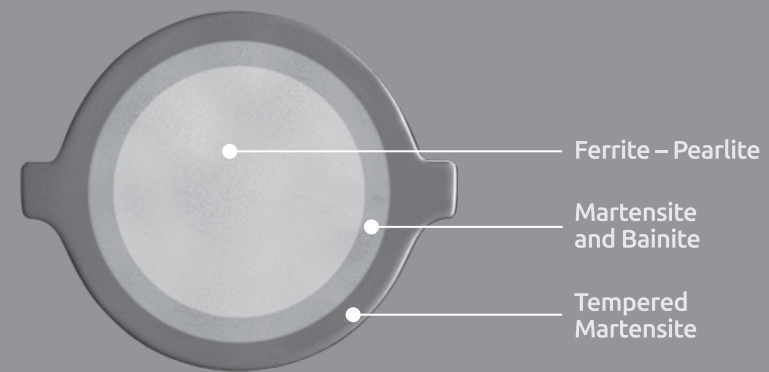
The hot rolled rebars are rapidly cooled with RO water through special spray nozzles. This hardens the outer layer of the rebar and helps in formation of Martensite rim while the core remains hot.

#### • Self-Tempering

After the rebar leaves the quenching station, heat transfers from the hot core to the surface, tempering the outer Martensite rim into Tempered Martensite and an intermediate ring of Martensite and Bainite is also formed.

#### • Atmospheric Cooling

The rebar is cooled slowly at the automatic cooling bed, where the core is transferred into a ductile Ferrite – Pearlite structure. The stronger surface with a ductile core gives Maithan 600 its unique characteristic.



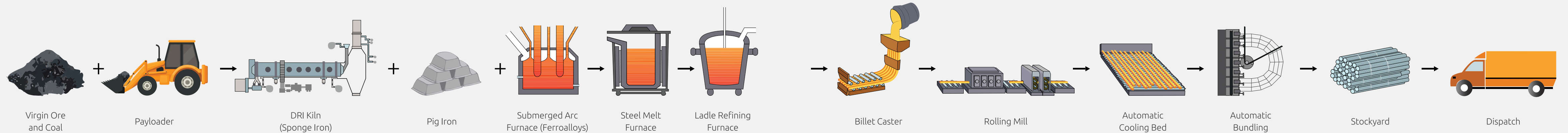
Cross-section of Maithan Steel





# MANUFACTURING EDGE

MAITHAN STEEL	OTHERS
Uses virgin iron ore and deploys high-tech steel making and refining process at our integrated steel plant.	Reheated ingots or scraps are used leading to no control over physical and chemical properties.
Steel is made using DRI + Pig Iron → SMS → LRF → Concast → Hot charging → Rolling Mill.	Use scraps or ingots for steel melting without any secondary refining process, which results in inconsistent chemistry.
TMT rebars are manufactured using High UTS Quenching and Self Tempering Technology (HUQST).	Outdated rolling process and technology suitable for Fe415 and Fe500 grade.
Provides precise and uniform parallel rib pattern engraved through computer-controlled CNC notch cutting & branding machines.	Ribs are manually cut resulting in non-uniform rib pattern and weaker bonding.
Meets UTS/YS (Ultimate Tensile Strength to Yield Strength) ratio and high percentage elongation.	Old technology leading to high variation in elongation.
Uses RO water for Quenching to provide TMT rebars more consistency, finish and shine.	Use unprocessed water thereby compromising on quality.
Automatic Rolling Mill, Cooling Bed, Cutting and Bending Machines.	Manual process which leads to manufacturing imperfections.
State-of-the-art laboratory with high-tech computer aided facilities like Spectrometer and UTM.	Use conventional testing facilities with low level accuracy and reliability.
TMT rebars made from in-house high quality billets to enhance the tensile strength under adverse situations	Made from ingots or commercial billets.





Quality that stands tall





# ADVANTAGE MAITHAN



#### Extra Strength

Maithan Steel gives higher tensile strength compared to the BIS standard without compromising on ductility & bendability.



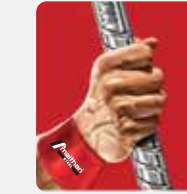
#### Earthquake Resistance

Due to its unique combination of strength and ductility, Maithan Steel has a higher UTS/YS ratio absorbing a large amount of energy during cyclic loading, experienced at the time of the earthquakes without any catastrophic failure.



#### Super Flexible

Flexible rebars bend into customized shapes due to their inherent microstructure with a soft Pearlite core. They bend around small diameter norms and re-bend without cracking.



#### Solid Grip

It has scientific and uniform ribs with greater depth and closer rib spacing to ensure better bonding and grip with concrete. The uniform ribs are achieved by using a computer-controlled CNC notch machine.



#### TC Finish

Tungsten Carbide (TC) Rolls are used only by ultra-modern Rolling Mills for excellent surface finish and lower dimensional tolerance.

#### Consistent Quality

Maithan Steel rebars are made using high end automated machines right from hot charging of billets to Caster, Rolling Mill, Automatic Cooling Beds and Bending Machines, resulting in high quality consistent products.

#### Online Quality Control

PLC to record temperature of TMT rebar from the time of entry in Rolling Mill to finishing strand, ensuring rolling at optimum and controlled temperatures.

#### Ductility

Ductile in nature because of its high Manganese content, low Carbon content and core Ferrite-Pearlite structure.

#### Weldability

Comes with excellent weldability due to its low Carbon content. It can be welded in both Butt and Lap procedure without compromising on strength.

#### Anti-Corrosion

Maithan Steel has higher corrosion resistance capability because of its fine grain microstructure.

#### Fire Resistance

Even at temperatures as high as 600°C there is no loss of strength, ensuring thermal stability of concrete.

# Advancement with trust

TUNGSTEN CARBIDE ROLL



# PRODUCT SPECIFICATIONS MAITHAN 600

CHEMICAL AND PHYSICAL PROPERTIES OF MAITHAN STEEL TMT rebars

PROPERTIES	UNIT	BIS 500D	BIS 550D	BIS 600	Maithan 600
Yield Stress (YS) Min.	N/mm <sup>2</sup>	500	550	600	600
Tensile Strength Min.	N/mm <sup>2</sup>	565	600	660	675
Elongation Min.	% min.	16	14.5	10	16
Carbon	% max	0.25	0.25	0.30	0.30
Sulphur	% max	0.040	0.040	0.040	0.040
Phosphorus	% max	0.040	0.040	0.040	0.040
(S + P)	% max	0.075	0.075	0.075	0.075

Maithan 600	8 mm	10 mm	12 mm	16 mm	20 mm	25 mm	32 mm	36 mm

RIBBED BAR	4.5 mm	5.5 mm	6 mm

## APPLICATION

Maithan Steel is available for all kinds of reinforcement applications like housing, high - rise buildings, shopping malls, hospitals, school buildings and other concrete reinforcement structures.





## WHY CHOOSE MAITHAN 600

	AUSTRALIA		ENGLAND		JAPAN		AMERICA	INDIA	
GRADE	500 N	500 E	500 B	500 C	SD 390	SD 490	Grade 60	MAITHAN 600	STRENGTH TEST PASSED
YIELD STRESS	500	500	500	500	390	490	420	600	✓
ULTIMATE TENSILE STRENGTH	540	575	540	575	560	620	620	675	✓

\*Note: The above unit is N/mm<sup>2</sup>

Maithan Steel has passed international strength test. Hence, it is the bench mark of International standards.

Maithan Steel offers the strength of 20 % more as compared to conventional Fe500 grade available globally.



## 20% MORE SAVINGS

- 20% less steel consumption
- 20% reduction in labour cost
- 20% reduction in transportation cost
- 20% less storage space

### •Reduction in rebar congestion :

Using higher strength TMT rebars lead to increased rebar spacing as fewer TMT rebars are required.

### •More useful floor space:

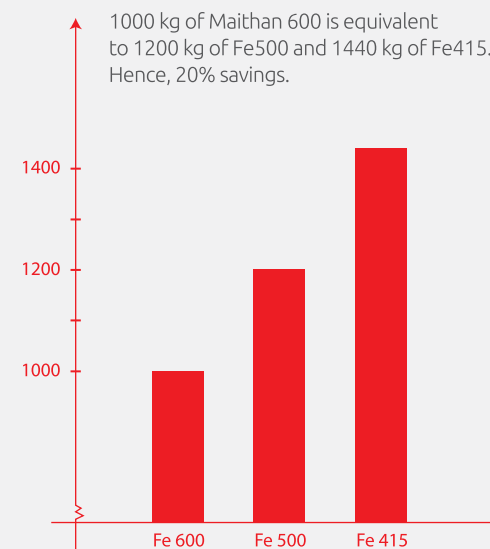
Due to less consumption of steel, the pillars of the building can be made thinner resulting in extra space.

### •Quicker construction:

As less TMT rebars are required, the construction time decreases.

### Maithan Savings

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



Honesty  
and  
commitment



# PRODUCT SPECIFICATIONS MAITHAN 550D

## CHEMICAL AND PHYSICAL PROPERTIES OF MAITHAN STEEL TMT rebars

PROPERTIES	UNIT	BIS 550D	Maithan 550D
Yield Stress (YS) Min.	N/mm <sup>2</sup>	550	550
Tensile Strength Min.	N/mm <sup>2</sup>	600	635
Elongation Min.	% min.	14.5	18
Carbon	% max	0.25	0.25
Sulphur	% max	0.040	0.040
Phosphorus	% max	0.040	0.040
(S + P)	% max	0.075	0.075

SIZE RANGE	8 mm	10 mm	12 mm	16 mm	20 mm	25 mm	32 mm	36 mm
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## APPLICATION

Maithan Steel is available for all kinds of reinforcement applications like highways, flyovers, bridges, ports, dams, refineries, thermal & hydel power plants, industrial structures and other critical heavy constructions.





# WHY CHOOSE MAITHAN 550 D

Maithan 550 D TMT rebars have higher elongation & UTS / YS ratio which matches or surpasses the prerequisite criteria of all projects & Departments of National repute.



## APPROVALS



## CLIENTS





## MORE FROM MAITHAN

### MAITHAN LINKON

Mild steel binding wires are needed to keep the TMT rebar reinforcements intact during concrete placements. Maithan Linkon is first drawn from rods and then annealed to eliminate stress by providing ductility without compromising on strength. It has flexibility to tie easily. It also has the strength to hold the joints in place. It is available in two sizes – 20 gauge and 22 gauge.

### ADVANTAGE MAITHAN LINKON

- Uniform diameter with more length per kg.
- Offers superior strength and ductility.
- Greater flexibility for hassle-free bar binding.
- Moisture and tamper proof HDEP packaging.

**maithan**  
**LINKON**



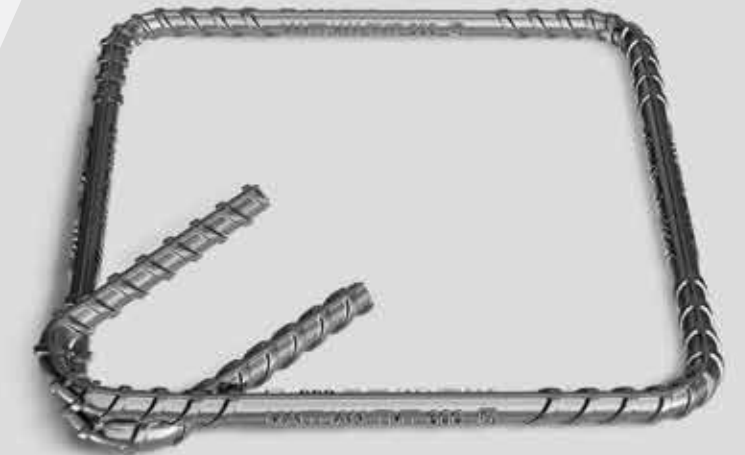
### MAITHAN POWER RING

Stirrups are rectangular in shape and are placed at regular intervals along a column or beam to secure and prevent it from shifting during concrete placements. Maithan Power Ring is made from the strongest TMT rebars and has 135° bends to prevent it from collapsing under severe forces experienced during earthquakes. It is available in commonly used sizes like 4"x4", 7"x4", 7"x7", 7"x9" and so on.

### ADVANTAGE MAITHAN POWER RING

- High quality with zero defect
- Fast and easy construction site work
- Ready stock available at distributors
- Reduced steel wastage due to end cuts

**maithan**  
**POWER RING**





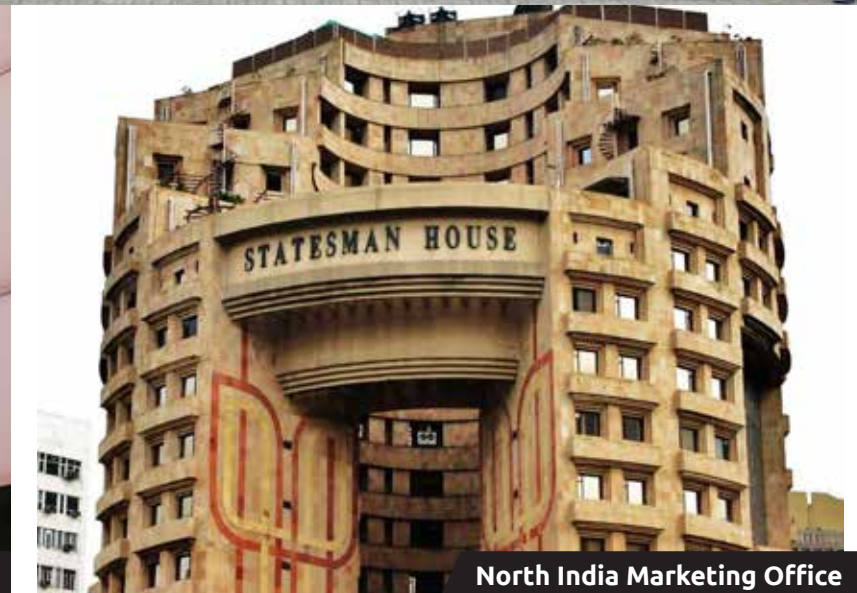
**BONDING  
TOGETHER**



Plant Office



Head Office

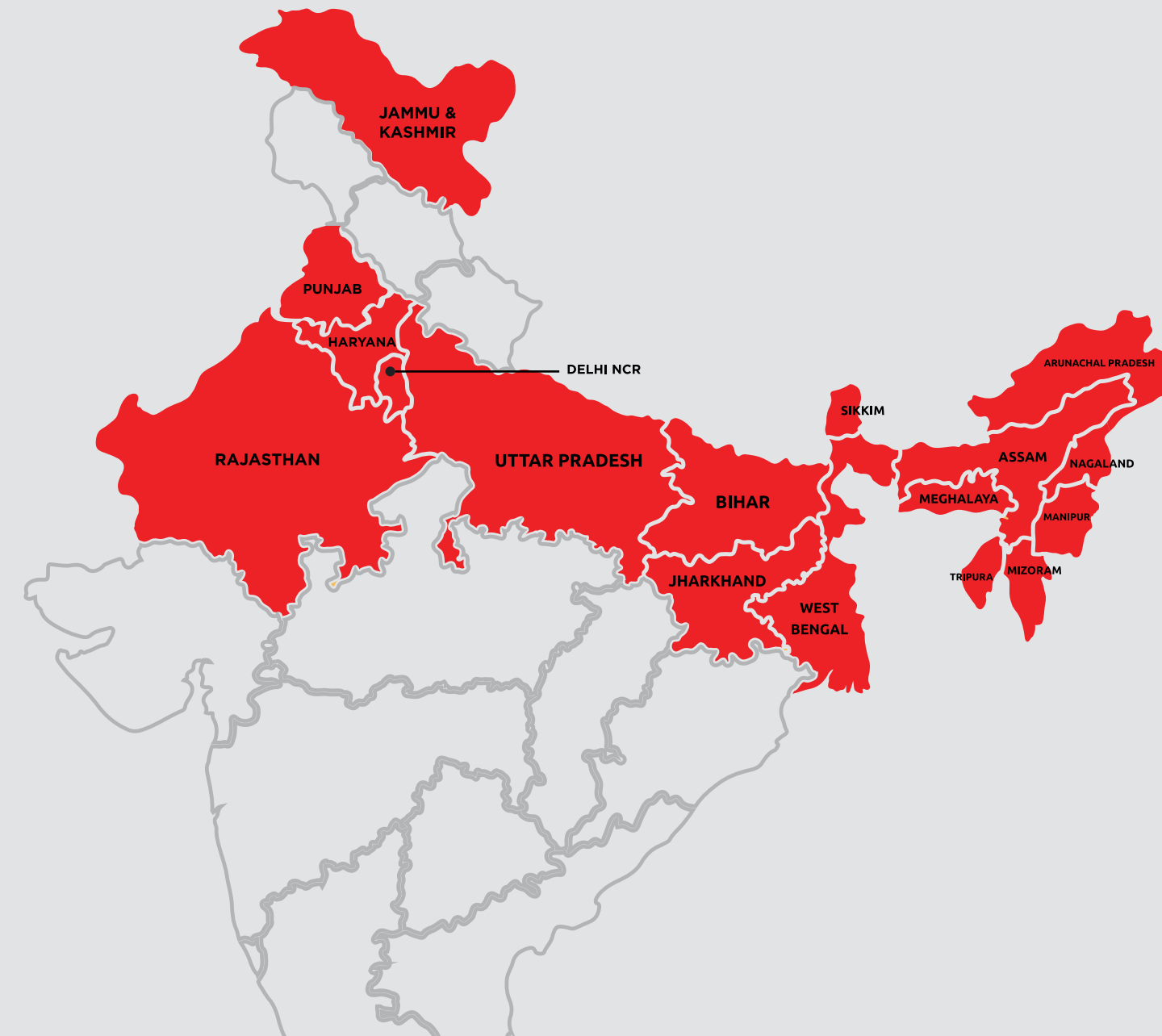


North India Marketing Office



Eastern India Marketing Office

**OUR  
RETAIL PRESENCE**



**Maithan Steel & Power Ltd.**

**Head Office & Jharkhand Marketing Office**  
Maithan road, near Sanjay Chowk, Chirkunda, Dhanbad - 828202,  
Jharkhand, Contact - 8651540007 / 8229800017

**West Bengal Marketing Office & Registered Office**  
Ideal Center, 9 AJC Bose Road, 6th Floor, Kolkata – 700017.  
Contact - 033 - 6644 - 7200

**North India Marketing Office**  
4th Floor, Statesman House, Barakhamba Road,  
New Delhi - 110001

**North East India Marketing Office**  
Shreeji Tower, GS Rd, Kaligaon, Christian Basti,  
Guwahati, Assam 781005

**Bihar Marketing Office**  
4th floor, Hardi Complex, Coworking Studio, above P. C.  
Chandra Jewellers, Dak Bunglow chauraha, Pin code - 800001

**Plant Works – Unit I**  
P.O. – Bonra, P.S. – Neturia Purulia – 723121, West Bengal

**Plant Works – Unit II**  
Chittaranjan Road, P.O. & P.S. - Salanpur,  
Paschim Bardhaman – 713357, West Bengal

 [maithansteel](https://www.facebook.com/maithansteel)  [@maithansteel](https://www.instagram.com/maithansteel)  [infra@maithansteel.com](mailto:infra@maithansteel.com)