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NORTH INDIA'S
FIRST GREEN
STEEL BARS

AMBA®
SHAKTI TRICORE
GREEN STEEL BARS

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Mr. S. K. Goel

Our legacy is guided by innovation, ethical practices, and an unwavering commitment to quality which sets Amba Shakti Group as a benchmark in the steel industry.

THE ETERNAL TITAN

MR. S.K. GOEL

Founder

In 1974, Shri S.K. Goel, the visionary Chairman's dynamic leadership ignited the inception of Amba Shakti Group. His approach wasn't just about founding a company, it was about forging a legacy. His pioneering spirit and relentless drive for excellence established Amba Shakti Group as a benchmark in the steel industry. His commitment to innovation and ethical practices not only laid the cornerstone of our success but also became the guiding principles that continue to shape our corporate ethos. His profound influence is seen in all our endeavours, inspiring a culture of resilience, innovation, and unwavering commitment to quality.

UNBREAKABLE LEGACY MAKERS

MR. PANKAJ GOEL
Chairman

MR. MANIK GOEL
Managing Director

Under Mr. Pankaj Goel's leadership Amba Shakti Group gained new heights in 1992, pioneering a new era of innovation and reliability in the steel industry. In 2018 Mr. Manik Goel's strategic vision, fueled the expansion, enabling us to cater to diverse market segments while maintaining our commitment to excellence.

"Spurred an expansive growth, allowing the group to cater to diverse market segments while upholding a steadfast commitment to excellence."

OUR STEEL STORY

The journey of Amba Shakti Group from its inception at the dynamic plant in Muzzafarnagar to its expansion across various locations like Kala Amb, Goa, Noida, and Sikandarabad signifies a relentless pursuit of excellence. This evolution mirrors the company's unwavering commitment to uphold core values while catering to diverse markets which brings our group's turnover to about 2500 cr.

Each expansion undertaken by Amba Shakti Group isn't merely about geographical reach but a deliberate strategy to embed innovation, quality, and adaptability into every facet of their operations.

These strategic moves represent more than just physical expansions; they are pivotal in establishing innovation hubs, fostering a culture of continuous improvement and technological advancement within the steel industry.

MUZAFFAR NAGAR : TMT Bar, Angle, Channel, Billets
GOA : TMT Bar, Sponge Iron, Angle, Channel, Billets
SIKANDRABAD : TMT Bar, Angle, Channel, Billets, Wire Rods
GREATER NOIDA : LPG Cylinders

OUR TECHNOLOGY

Our latest state-of-the-art rolling mill, powered by imported special High-Speed rolls, boasts the highest operational speed in northern India. To maintain the precision required for such high-speed production, we've implemented advanced electronics and instrumentation in our plant.

At the core of the Amba Shakti Steel plant's operations lies an unwavering commitment to precision and excellence. Their process is a symphony of innovation, merging the latest CNC technology to intricately carve rib patterns on their bars, ensuring unparalleled accuracy. Complementing this, their use of state-of-the-art fully automatic 72-meter cooling beds guarantees that these bars emerge without the slightest deviation, flawlessly straight and devoid of defects. This harmonious blend of technology results in the creation of TMT bars that not only fulfill industry standards but elevate the quality benchmark, setting a new pinnacle for excellence.

Having our own steel melting facility gives us an upper edge for maintaining high chemical accuracy. This quality is made possible by use of high quality imported HMS (Heavy Melting Scrap) from across the world and top quality sponge iron from across the nation.

HORIZONTAL - VERTICAL TECHNOLOGY

The revolutionary horizontal-vertical technology employed by the Amba Shakti Steel plant marks a significant advancement in steel production. This Horizontal-vertical configuration allows us to roll a single billet of upto 1 ton in weight. Out of this single piece hundreds of meters of TMT is rolled, giving the same consistent TRICORE formation throughout every meter of each TMT bar. This configuration also eliminates the need to twist the billet as it passes through each mill stand, adding more uniformity to the consistency of the rebars.

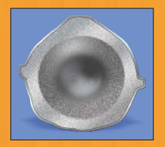
Redefining the efficiency standards in the industry. Through this fusion, the plant achieves an optimal balance in its production workflows, maximizing efficiency while simultaneously boosting precision and consistency in output. This amalgamation of horizontal and vertical methods streamlines operations, allowing for a more synchronized and seamless manufacturing process, ultimately revolutionizing the landscape of steel production.

OUR PRODUCT

We manufacture Fe500, Fe500D, Fe550, Fe550D, 600 & CRS grades TMT bars in 8mm,10mm,12mm,16mm, 20mm, 25mm, 32mm sizes and 12 Mtr as well as in customizable length.We also offer master bundles, each weighting 3-4 tons, in all the tmt sizes.

AMBA SHAKTI TMT WITH PATENTED 'TRICORE' TECHNOLGY

Amba Shakti Group presents emphatic TRICORE, which provides maximum earthquake resistance & greater tensile strength to your building structure. If cut and washed with acid, Amba Shakti TMT would give a view of 'Three Layers', which proves its supreme merits and hence, makes constructions immortal. We have patented this tricore technology. **(Tested and approved by IIT)**



TRICORE™

AMBA TRICORE TMT BARS ☑

ORDINARY BARS ☒

MANUFACTURING TECHNIQUE

QUENCHING - THERMEX®

At the forefront of our manufacturing technique lies the quenching stage, where the hot rolled bar swiftly proceeds from the final mill stand to encounter a specialized water spray system. This rapid cooling process transforms the bar's surface layer into a hardened structure known as Martensite while preserving an austenitic core.

A short, intensive but very precise in-line cooling of the rolled bar is made possible at AMBA SHAKTI GROUP because we are using the world leading german technology of thermex Quenching system in our process.

This treatment results in a cooled hardened output. On further cooling of the bar in atmosphere a Thermal exchange occurs between the inner and cooled outside martensite surface where by the resultant bar structure is a distinct tempered martensite at periphery and a fine grained ferrite — pearlite structure in the central zone.

SELF TEMPERING

In the self-tempering phase, the bar emerges from the quenching box with a higher core temperature than its surface. This deliberate temperature differential facilitates controlled heat flow from the core to the surface, tempering the surface to create Martensite while maintaining an austenitic core structure.

ATMOSPHERIC COOLING

In the automatic cooling stage the bar undergoes a transformative cooling process. This process ensures the transfer to a ductile Ferrite-Pearlite core structure, resulting in TMT bars that boast tempered Martensite on the surface and a robust Ferrite-Pearlite core. This synthesis delivers an unparalleled combination of strength, durability, and flexibility, cementing our commitment to producing TMT bars of exceptional quality through innovative manufacturing techniques.

STRICT QUALITY CONTROL

Adherence to stringent quality control measures remain of the core of our operations. The implantation of the world renowned quenching and tempering technology from Thermex Germany ensures superior strength while our in house melting capability ensures the chemical precision in our TMT. This guarantees, our products' Reliability in various applications.

CHEMICAL COMPOSITION (Percent, Maximum)

CONSTITUENT	Fe500	Fe500D	Fe550	Fe550D	Fe600
Carbon	0.30	0.25	0.30	0.25	0.30
Sulphur	0.055	0.040	0.055	0.040	0.040
Phosphorus	0.055	0.040	0.050	0.040	0.040
Sulphur + Phosphorus	0.105	0.075	0.100	0.075	0.075

MECHANICAL PROPERTIES

PROPERTY	Fe500	Fe500D	Fe550	Fe550D	Fe600
0.2 percent proof stress/yield stress, Min, N/mm2	500.0	500.0	550.0	550.0	600
0.2 percent proof stress/yield stress, Min, N/mm2	-	-	-	-	-
TS/YS ratio 1), N/mm2	≥1.08, but TS not less than 545.0 N/mm2	≥1.10, but TS not less than 565.0 N/mm2	≥1.06, but TS not less than 585 N/mm2	≥1.08, but TS not less than 600 N/mm2	≥1.06, but TS not less than 660 N/mm2
Elongation, percent, min. on gauge length 5.65 √A, where A is the **cross-sectional area** of the test piece	12.0	16.0	10.0	14.5	10.0
Total **elongation** at maximum force, percent, Min, on gauge length 5.65√A, where A is the cross-sectional area of the test piece	-	5	-	5	-

MANDREL DIAMETER SIZES FOR BEND & REBEND TEST

MAXIMUM MANDREL DIAMETER FOR BEND TEST

SR.No.	Nominal Size (in mm)	MAXIMUM MANDREL DIAMETER FOR DIFFERENT GRADES				
		Fe 500	Fe 550D	Fe 550	Fe 550D	Fe 600
1	Up to and including 20	4Ø	3Ø	5Ø	4Ø	5Ø
2	Over 20	5Ø	4Ø	6Ø	5Ø	6Ø

MANDREL DIAMETER SIZES FOR REBEND TEST

SR.No.	Nominal Size of Specimen	Dia of Mandrel for Fe 415 and Fe 500	Dia of Mandrel Fe 415D, Fe 500D	Dia of Mandrel Fe 550 and Fe 600	Dia of Mandrel Fe 550D
1	Up to and including 10 mm	5Ø	4Ø	7Ø	6Ø
2	Over 10 mm	7Ø	6Ø	8Ø	7Ø

Note : Ø is the nominal size of the test piece, in mm.

NOMINAL SIZES AND SECTION WEIGHT OF THE TMT BARS

SR. NO	SIZE (mm)	WEIGHT (Minimum)	WEIGHT (Maximum)	BUNDLE PIECE	BUNDLE WEIGHT	LENGTH
1	8	0.375	0.394	18	84 to 86 kg	40 Ft.
2	10	0.580	0.585	12	84 to 84 kg	40 Ft.
3	12	0.850	0.870	8	83 to 84 kg	40 Ft.
4	16	1.540	1.570	5	91 to 93 kg	40 Ft.
5	20	2.410	2.450	3	89 to 90 kg	40 Ft.
6	25	3.820	3.850	2	90 to 92 kg	40 Ft.

OUR PRODUCT BENEFITS

Fire Resistance: Good quality TMT bars have higher thermal stability and retain more than 80% of their ambient temperature yield strength at 300A. Thus makes the concrete structure safer in fire hazards.

Cost Effectiveness: Batch to batch consistency and uniform sectional weight per unit minimizes steel wastage and makes it beneficial for the customers to buy TMT bars in small quantities as well.

Weldability: Low carbon content in TMT bars makes it easy for welding works. Excellent weldability in steel rebar requires no pre or post welding treatment and makes it easier for the construction workers.

Bendability: Advanced quenching process toughens the surface layer yet the core remains soft. This in turn makes the TMT bar easily bendable. The cutting and bending strength can be determined as per the Bar Bending Schedule (BBS) certification.

Dimension Tolerance: Nominal values specified in BIS code determine the grades of dimension tolerance. Closer values of sectional weight ensure higher meterage per unit weight in good quality TMT bars, compared to ordinary rebar.

Chemical Composition: Certified composition of Sulphur, carbon and phosphorus and exclusion of unwanted materials such as cast iron, non-metallic and non-ferrous etc. are the determinants of a good quality TMT bar.

Seismic Resistance: Seismic resistant structure is dependent on its reinforcement strength. Buildings that are compliant to the recent seismic building code and standards are obviously more capable of withstanding the earthquake damages. TMT bars along with a good concrete bond, fortify the tensile strength of a structure. However, grades of TMT bar differ at different seismic zones.

GreenPro CERTIFIED · Bureau of Indian Standards · CERTIFIED ISO 9001:2015 COMPANY · TRICORE AMBA TRICORE TMT BARS · TRADEMARK TEMPCORE CRM BELGIUM · THERMEX®

OUR MISSION & VISION

At Amba Shakti, our vision is to fortify India's growth by providing steel of unparalleled quality. We aim to be pioneers in the steel industry, contributing to the nation's transformation from a developing to a developed powerhouse.

At Amba Shakti, we build dreams in steel. More than a company, we are a testament to enduring relationships and uncompromising quality—paving the way for a brighter, stronger future.

GREEN STEEL

Beyond our commercial pursuits, we deeply value our responsibility towards the environment and society at large. Embracing sustainable practices, our plants prioritize eco-friendly approaches, minimizing our carbon footprint. Additionally, our initiatives extend to fostering a pollution-free environment and supporting communities, affirming our dedication to holistic growth.

Committed to environment, We are actively progressing towards replacing brown power with renewable clean energy. Achieving zero usage of coal or fossil fuels in all our plants is a commendable milestone, reflecting a strong commitment to sustainable and eco-friendly practices.