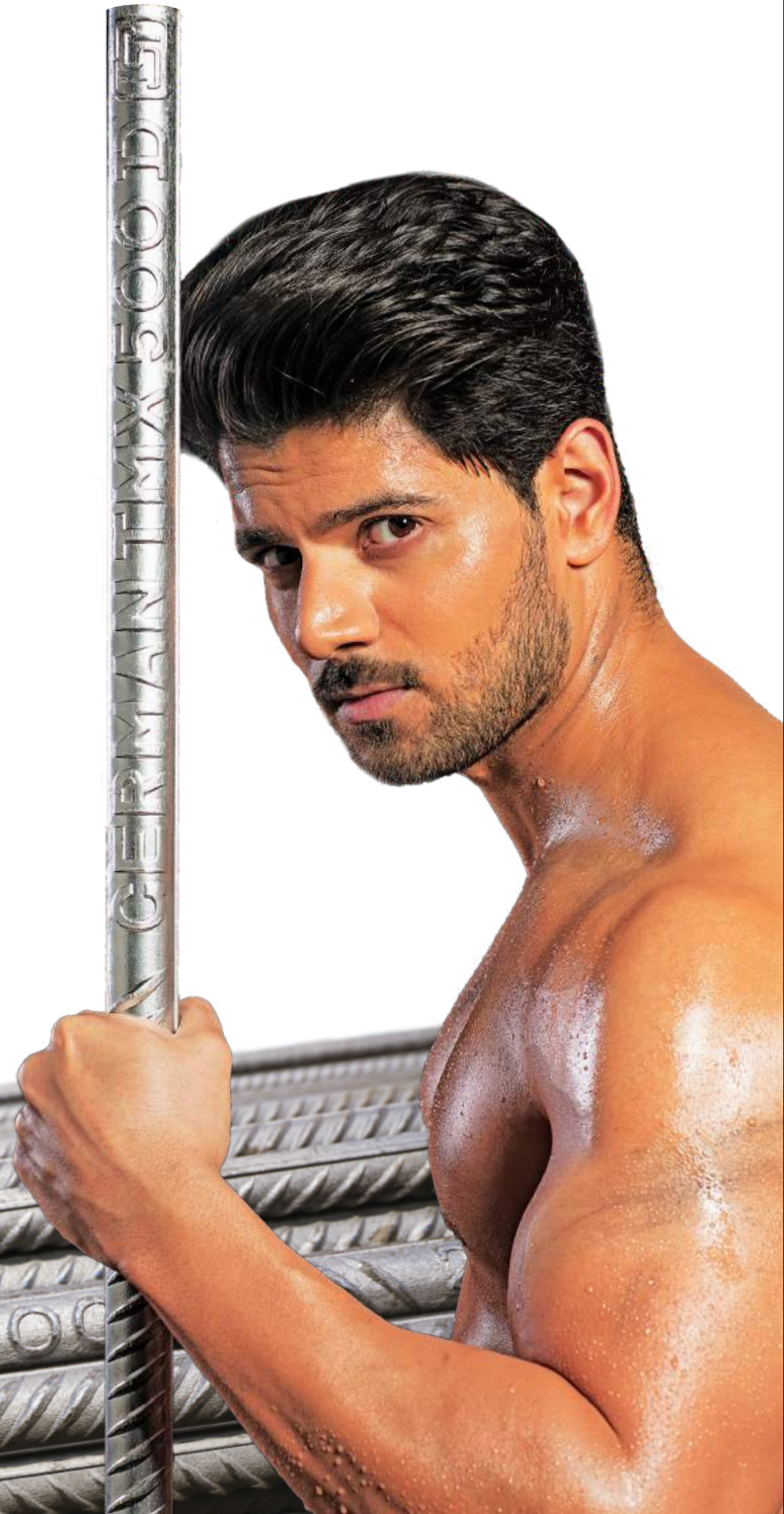


Gujarat's Largest
TMT Manufacturer



GERMAN
TMX

**Iron Ore Based
Fully Integrated Manufacturing Unit**



FE 500 • FE 500D • FE 550 • CRS FE 500 • CRS FE 500D

German TMX

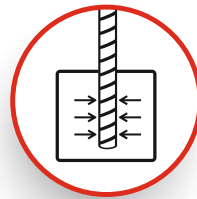
Our DNA is in everything we do. Treasuring it with courage in all that we create, German TMX has seen thousands of foundations concocted and developed over the years right before our eyes with utmost solidity. From TMX Bars to MS Billets to Sponge Iron, we are committed to offering quality. We believe in shaping business excellence with strength and durability through delivering superior value to our customers, shareholders, employees and society at large. With a rebellious spirit, vivacious goal and a commitment to work, we make optimum resource utilization, environment-friendly procedures and practices, and a safe and healthy working environment.

One of the fastest growing business groups of companies in western India, we are the pioneer in manufacturing integrated Iron & Steel products. Since our establishment, we have been a seminal force in shaping visions with strength and have kept our foot indestructibly on the ground, facing all the challenges thrown at us.



Earthquake resistant

The Thermo Mechanical Treatment attributes higher elongation to the GERMAN TMX 500D TMT Bars that make them resistant against earthquakes.



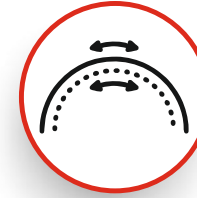
Super bonding ability

TMT Bars strongly bond with their surrounding concrete that adds to the strength and firmness of the construction.



Corrosion-resistant

At the time of manufacturing, the outer surface of GERMAN TMX Fe 500 & Fe 500 D TMT Bars form a hard Ferric Oxide layer in the presence of moisture and air when they are treated on the Cooling Bed. This coating helps the bars resist corrosion.



Extra strength and ductility

A combination of tempered martensite on the surface and fine grain ferrite-pearlite in the core provides higher strength, toughness and ductility to the TMT Bars. Fe 550 meets recognized specifications for the UTS/YS ratio, thereby providing constructions with high strength and high ductility.



Higher weldability

Raw materials used in the production of TMT Bars have low carbon. This ensures higher weldability of the bars.



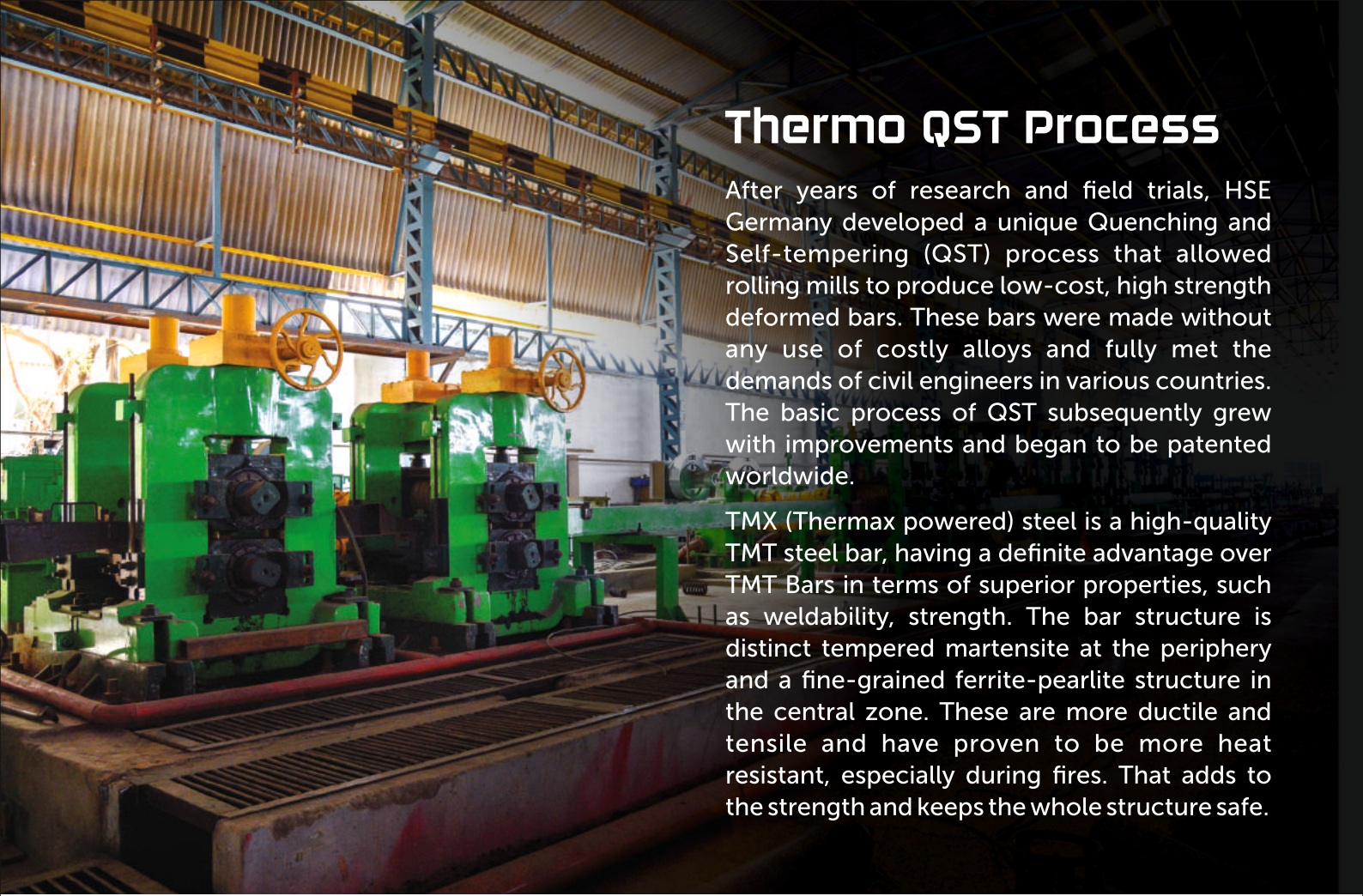
Steel saving

Maintaining a low tolerance of sectional weight enables GERMAN TMX Bars to save 15% approx. in steel consumption, compared to others.

Thermo QST Process

After years of research and field trials, HSE Germany developed a unique Quenching and Self-tempering (QST) process that allowed rolling mills to produce low-cost, high strength deformed bars. These bars were made without any use of costly alloys and fully met the demands of civil engineers in various countries. The basic process of QST subsequently grew with improvements and began to be patented worldwide.

TMX (Thermax powered) steel is a high-quality TMT steel bar, having a definite advantage over TMT Bars in terms of superior properties, such as weldability, strength. The bar structure is distinct tempered martensite at the periphery and a fine-grained ferrite-pearlite structure in the central zone. These are more ductile and tensile and have proven to be more heat resistant, especially during fires. That adds to the strength and keeps the whole structure safe.



Chemical Properties

	Unit	GERMAN TMX		GERMAN TMX 500		GERMAN TMX 500 D		GERMAN TMX 550	
		Fe 415		Fe 500		Fe 500 D		Fe 550	
Chemistry		IS 1786: 2008 (max)	GERMAN TMX Bars (max)	IS 1786: 2008 (max)	GERMAN TMX Bars (max)	IS 1786: 2008 (max)	GERMAN TMX Bars (max)	IS 1786: 2008 (max)	GERMAN TMX Bars (max)
Carbon	%	0.3	0.28	0.3	0.25	0.25	0.25	0.3	0.25
Sulphur	%	0.6	0.055	0.055	0.045	0.04	0.035	0.055	0.04
Phosphorus	%	0.6	0.055	0.055	0.045	0.04	0.035	0.05	0.04
S&P	%	0.11	0.11	0.105	0.09	0.075	0.07	0.100	0.08

*Lower sulphur and phosphorus properties compared to the IS 1786 standards reveal our product is more durable than standards specified

Mechanical Properties

	Unit	GERMAN TMX		GERMAN TMX 500		GERMAN TMX 500 D		GERMAN TMX 550	
		Fe 415		Fe 500		Fe 500 D		Fe 550	
Mechanical Properties		IS 1786: 2008 (max)	GERMAN TMX Bars (max)	IS 1786: 2008 (max)	GERMAN TMX Bars (max)	IS 1786: 2008 (max)	GERMAN TMX Bars (max)	IS 1786: 2008 (max)	GERMAN TMX Bars (max)
Yield Stress	N/mm ²	415 min	450 min	500 min	510 min	500 min	520 min	550 min	560 min
Tensile Strength	N/mm ²	485	520	545	590	565	600	585	640
Elongation	%	14.5 min	18 min	12 min	16 min	16 min	18 min	10 min	14 min

*High Elongation and tensile strength are directly proportional with high yield stress

Standard Weight & Bundal Weight

Size (M.M)	ISI Standard Weight Kg/Mtr	German TMX Standard Weight Kg/Mtr	ISI Tolerance Limit Kg/Mtr	German TMX Tolerance Limit Kg/Mtr	No. of Pcs. Per 40 Ft. Bundle	Weight Per Bundle in Kg.
8	0.395	0.375	0.367-0.423	0.368-0.385	15	70
10	0.617	0.580	0.574-0.660	0.575-0.585	10	70
12	0.888	0.850	0.844-0.932	0.845-0.860	07	73
16	1.580	1.510	1.500-1.659	1.500-1.530	04	74
20	2.470	2.400	2.395-2.544	2.400-2.425	02	59
25	3.850	3.770	3.735-3.965	3.740-3.790	01	46
28	4.830	4.720	4.685-4.975	4.700-4.780	01	58
32	6.310	6.200	6.121-6.499	6.150-6.250	01	75
36	7.986	7.866	7.747-8.226	7.747-8.226	01	94
40	9.860	9.712	9.564-10.165	9.564-10.155	01	116.5



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