

## Heat Resistant

Vital in fire safety, heat-resistant construction materials play a crucial role. In the event of a fire, it's imperative for the core building structure to endure. TMT bars find application in building construction, as well as in the creation of dams, flyovers, and bridges. Unlike traditional materials, TMT bars don't succumb to melting during a fire; instead, they contribute to maintaining the structural integrity of cement until evacuation. Our products are designed to withstand temperatures of approximately 600 degrees Celsius.

## Flexibility

TMT bars, known for their exceptional construction and quality, exhibit remarkable flexibility, capable of bending a full 360 degrees. This flexibility is crucial for absorbing shocks from natural disasters like floods or earthquakes, as well as accommodating sudden changes in load on structures. To enhance their flexibility, the steel undergoes meticulous heating during the milling process at extremely high temperatures, defining their rolling specifications. This ensures resilience and durability, preventing structural failure under pressure.

## Corrosion Resistance

Produced using cutting-edge Thermex Technology from HSE, Germany, VSP Fe 550+ Rebar stands out. This technology ensures the rebar is devoid of torsional residual stresses, resulting in significantly improved corrosion resistance compared to traditional cold twisted bars. With its consistent and uniform microstructure, VSP Fe 550+ Rebar exhibits superior corrosion resistance when embedded in concrete, outshining other TMT bars in this aspect.

## Seismic Resistance

Extensive studies were conducted to analyze the performance of concrete beams, columns, and joints reinforced with VSP Fe 550+ Rebar under conditions simulating repetitive reversed loading with significant deformations, resembling those encountered during earthquakes. Impressively, a uniform dissipation of energy was noted throughout each cycle, indicating maintained ductility. The results of these tests highlight the outstanding seismic resistance features demonstrated by VSP Fe 550+ Rebar.

**VSP**

TMT REBAR - FE 550+



**PARTNER TO  
BUILD OUR  
NATION**

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## TMT Trusted Unwaveringly

Emerging from the esteemed Amit Alliance, industry pioneers in metallurgy for nearly two decades, VSP Fe 550+ Rebar epitomizes exceptional manufacturing quality hailing from a unique facility in the eastern region. Boasting a current annual production capacity of 2.70 lakh metric tons, this range incorporates cutting-edge Thermax technology from HSE, Germany, covering all Grades and diameters ranging from 8mm to 25mm. The meticulous application of quality control measures and advanced processes in crafting these FE 550+ grade construction rebars results in an array of earthquake-resistant products, establishing the foundation for future-proof structures in the market. As we forge ahead, the VSP Fe 550+ Rebar continues to be the preferred choice for architects, engineers, and builders who prioritize strength, reliability, and sustainability in their projects. Join us in building a future where structures stand tall, fortified by the excellence of VSP Fe 550+ Rebar.

## Product Specifications

**Range:** VSP Rebar Fe 550+ are available in the following sizes- 8, 10, 12, 16, 20 & 25 mm.

Size (mm)	Specified wt.(kg/m)	Allowable Tolerance %
8	0.395	± 7
10	0.617	± 7
12	0.888	± 5
16	1.578	± 5
20	2.470	± 3
25	3.850	± 3

## Physical Properties

Exceeding the minimum threshold established in the IS:1786 standard, the VSP Rebar Fe 550+ stands out. The standard mandates a minimum yield strength of 550 N/mm<sup>2</sup> for the VSP Rebar Fe 550+, a criterion confidently met. These heightened strength and ductility parameters ensure an unequivocal guarantee of enhanced safety over prolonged durations. The UTS/YS ratio and percentage of elongation, pivotal features in rebars, signify their ability to withstand the rigors of seismic events.

PHYSICAL PROPERTIES	IS:1786 Fe 550	VSP Fe 550+
0.2% Proof Stress: N/mm2 (Min)	550	550
Tensile Strength: N/mm2 (Min)	600	600
Elongation of Max. Force (%)	14.5	16

## Chemical Properties

Strictly adhering to the Fe 550+ IS:1786 specifications, the VSP Rebar Fe 550+ boasts carbon levels that consistently stay within specified limits. This results in remarkable ductility, impressive bending capacity, heightened corrosion resistance, and superior welding strength, distinguishing it as a premier choice in construction materials.

CHEMICAL PROPERTIES	IS:1786 Fe 550	VSP Fe 550+ (Max)
Carbon (%) Max	0.25	0.20
Sulphur (%) Max	0.040	0.040
Phosphorous (%) Max	0.040	0.040
Sulphur & Phosphorus (%) Max	0.075	0.075

## Why Choose VSP

- A seamless process from melting to rolling guarantees meticulous quality control at each stage of the rolling mill operation.
- Tailored solutions for all engineering requirements, ensuring customized products that perfectly fit your needs.
- Elevate your steel standards with superior quality and increased strength, achieved through the utilization of processed iron ore instead of scrap.
- Experience our unwavering commitment to quality and consistency, coupled with cost-effective and timely deliveries

## Application Areas

Distinguished by its unwavering and impressive strength, alongside exceptional ductility, the VSP Fe 550+ Rebar aligns seamlessly with the prescribed standards of IS:1786:2008 in terms of YS, UTS, Elongation, and YS/TS values. The versatility of the VSP Fe 550+ Rebar positions it as an ideal choice for diverse construction projects, ranging from office complexes and residential buildings to warehouses, schools, dams, power plants, and iconic monumental structures.