

Best TMT Bar Manufacturer in West Bengal | Dytron Steel

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What Is Tmt Bar, Qst Bars

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TMT means Thermo Mechanical Treatment, which is a thermomechanical process; These TMT steel bars are generally used material in construction for enhanced protection against earthquakes and another type of natural disasters. To ensure safety for your structure TMT steel bars should be resistant to corrosion which helps to obtain a longer life to your structure.

The manufacturing process of TMT Bars

First, carefully selected high-quality raw materials are charged into the furnace and heated up to 1600o C. The heated steel is then treated with an inert gas to release any dissolved gasses present in the metal. The liquid steel is cast into steel billets which are apparently the most modern method of casting steel. These billets are then subjected to preheating and are re-sized according to the required diameter. The further manufacturing process of TMT bars involves 3 distinct steps which are as follows:

Quenching

In this step, the finished diameter bars are treated to give the desired properties. The red-hot steel rod is sent to a chamber where water is continuously sprayed onto the incoming bar. This results a rapid change in temperature in the outer layer of the steel rod whereas the temperature on the inner core remains the same.

Tempering

The temperature of the outer layer suddenly decreases from 900oC to 280oC and the temperature on the inner core of the bar remains the same. Therefore, the inner layer tempers the outer layer. The bar now reaches an equalization temperature of 575oC - 625oC depending upon the grade of steel chosen.

Cooling

The bars are then cut according to the desired length and sent to a cooling bed to attain the equalization temperature. This process results in the formation of a hard outer layer that keeps the bar strong and a soft inner layer to provide ductility to the bar.

Testing of TMT Bars

Once the TMT bar of desired grade and diameter is manufactured, it is subjected to finishing to a fine look. Various tests are conducted to check the quality of the bar. There are quite a number of [TMT bar](#) manufacturing companies out in the market. But not all of them provide the best quality of steel. Hence, testing the bar before buying it is of prime importance. The tests are conducted to check the following properties:

Chemical composition

The chemical composition must be in accordance with the IS Specification. It must be right to get the desired properties and grade of steel. A spectrometer is an instrument used for testing the chemical composition of TMT Bar. It gives the chemical composition of the tested bar in terms of 32 elements and also ensuring the IS specifications are strictly maintained.

Strength

The bar strength is tested by the Universal Testing Machine, also known as UTM. TMT bar is placed in between the plates of the UTM and pressure is applied to it. If the bar breaks before the characteristic value for yield strength, it should be sent back.

Flexibility & Bending

The test conducted to check the flexibility of the TMT bar is called the bending and re-bending test. In this test, the bar is bent to 1350 and kept in boiling water for about 30 minutes. It is the re-bent to approximately 157.50. If the bar is designed for the right amount of strength and flexibility, it should bend easily without any appearance of surface cracks along the bends.

Dytron Steel being one of the best TMT bar manufacturers in West Bengal, they are a company with years of experience in this field.

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Dytron Steel are a [TMT Bars Suppliers in Kolkata](#) which manufactures TMT bars of virgin Fe 550, which has 5% higher strength than BIS standards and saves up to 30% compared to ordinary TMT bars. Their products are cost-effective and developed using sustainable and environment-friendly technologies. Dytron uses cutting-edge

technology to produce highly thermally stable, torsional stress-resistant, and are shock-resistant bars.

For more details, please visit <https://www.indiafinder.in/detail/best-tmt-bar-manufacturing-company-dytron-steel-10933>