

TECHNICAL INFORMATION

CONCRETE GRADE, ANCHORAGE AND LAP LENGTH

Minimum Concrete Grade (28 days, 15 cm cube strength)		150 kg/cm ²
Anchorage and Lap Length	Tension	50
	Compression	35
End Hooks		Not required

WELDABILITY

Himal Steel rod's low carbon content ensures excellent weldability. It can be butt-welded or lap-welded using ordinary rutile coated electrodes of matching strength. In manual arc welding no pre-warming or post heat treatment is necessary.

PHYSICAL FEATURES (Torsteel and TMT Tempcore)

Nominal Diameter (mm)	Cross Section Area (mm ²)	Nominal Weight (kg/meter)	Nominal Length (meter/ton)
8	50.3	0.395	2532
10	78.5	0.617	1621
12	113.1	0.888	1126
16	201.1	1.578	634
20	314.2	2.466	406
25	490.9	3.854	259
28	615.8	4.830	207
32	804.2	6.310	158

MECHANICAL PROPERTIES

	Torsteel	TMT Tempcore
Yield stress (0.2% proof stress)	415 N/mm ² minimum	500 N/mm ² minimum
Tensile Stress	485 N/mm ² minimum or 10% more than proof stress	545 N/mm ² minimum or 8% more than 0.2% proof stress
Elongation	14.5% minimum	12% minimum



Himal Iron & Steel (P) Ltd

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हिमाल स्टील

Himal
Makes Safer Homes

HIMAL IRON & STEEL (P) LTD.

Himal Iron and Steel (P) Ltd. is a part of the Jyoti Group of Companies, established in 1961 by the late Maniharsha Jyoti. It has since emerged as a pioneering force in Nepal's iron and steel industry. The company began with the production of plain bars and subsequently led the nation into self-sufficiency in the reinforced steel industry. Today it produces cold twisted Torsteel bars (licensed from Tor-Isteg Steel Corporation, Luxembourg) and high strength TMT Tempcore bars (licensed from Centre de Recherche Metallurgiques (CRM), Belgium).

Himal Iron and Steel (P) Ltd. is renowned among its consumers for its high quality products, innovative features and customer friendly marketing.

HIMAL STEEL PRODUCTION

A Himal Steel rod is manufactured by heating a steel billet in a reheating furnace and rolling it through a sequence of rolling stands. This progressively reduces the billet into a rod of desired



shape and size. The rod is also rolled with ribs to increase the bond strength. The strength of the rod is decided after the rolling process. It is the Torsteel/Tempcore process that gives the rod its subsequent strength.



Torsteel Process



Fe 415



After the final rolling process, the steel rod is cooled and then cold-twisted in a controlled manner. Each rod is cold twisted individually. The rod is twisted beyond its yield limit and then released. This process raises the yield point of the steel rod and subsequently, its strength also increases.

The twisting procedure also acts as a testing process because a rod with normally invisible rolling or production defects breaks during twisting.

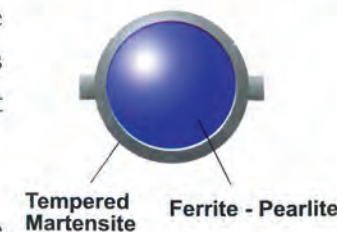
TMT Tempcore Process



Fe 500



After the final rolling process, the red-hot steel rod (over 1000°C) is passed through a water-cooling chamber (Quenching Box). Here, it is subjected to strong quenching (rapid cooling) on its surface. This causes the formation of high strength tempered martensite structure on the surface and an austenitic structure (mild steel) at the core. It is the presence of the very strong material on the surface that gives the rod its high strength and the soft material at the core that gives the rod its ductility.



The success of the process depends on the controlled cooling and tempering of the rod.

ADVANTAGES OF HIMAL STEEL

100% Tested

Himal Steel puts an enormous effort into the quality control of its products. Continuous quality tests are carried out in the mill to ensure high quality rods. Rods produced from each and every billet are 100% tested to assure that high quality steel rods are delivered to the customer.



Transparent Pricing

For the benefit of its customers, Himal Steel has a uniform and transparent pricing system. All price changes are published in leading newspapers. Price lists are also prominently displayed at all Himal Steel depots in Nepal.

High Quality Raw Materials

Himal Steel uses only high-quality prime billets to ensure that the consumer gets nothing but the best.

Customer Friendly

For the benefit of its customers, Himal Steel has over 106 depots all over Nepal including 51 depots in Kathmandu for easy accessibility. Himal Steel also offers free home delivery throughout Nepal. For large orders and projects, Himal Steel offers special facilities.

Product Range

Himal Steel rods are available in the diameters of 8, 10, 12, 16, 20, 25, 28 and 32 mm. In case of other specific size requirement, Himal Steel can produce them for large orders.

Correct Weight Tags

Every Himal Steel bundle comes with a computer generated weight tag. An automated machine weighs each and every bundle and a computer prints all weight tags instantly. This makes Himal Steel weight tags tamper proof.



Applications

Himal Steel rods are perfectly suited for all structures, large to small ranging from dams, power plants, bridges, factories, hotels to all types of commercial and residential structures.

Himal Wires Ltd.

Himal Steel is also the authorized distributor of Himal Wires Ltd. Its products, 4.75 and 7 mm Torkari and annealed wire, are available at all Himal Steel depots.