UMZ
500
TMT

PRODUCT FEATURES

Features that sets UMZ 500 TMT apart makeing it the preferred option.

EXCELLENT BONDING

UMZ 500 TMT has precise, uniform, and parallel rib patterns engraved through precision computer-controlled notch-making machines. This design ensures exceptional grip on concrete, enhancing overall structural reliability.

EXCELLENT BENDABILITY

UMZ 500 TMT with its unique microstructure and soft core of rebar possesses an outstanding bendability feature without compromising its high strength. These bars can be easily bent to precise angles as required by the design.

SUPERIOR WELDABILITY

UMZ 500 TMT due to its low carbon content offers superior weldability allowing for a quicker and simpler welding process without the need for preheating. This contributes to the creation of stronger and safer welding joints.

CORROSION RESISTANT

UMZ 500 TMT is produced by TMT technology, Micro-alloying is a precise process where small amounts of Chromium, Molybdenum, and Copper are added to the steel during its production. The TMT process, which involves controlled cooling after hot rolling, further optimizes the microstructure and properties of the steel. which provides a better corrosion-resistant property compared to other TMT rebars.

EARTHQUAKE RESISTANT

UMZ 500 TMT is designed with heightened ductility to withstand cyclic loads, which makes these rebars ideal for earthquake-prone regions. it meets the UTS/YS ratio (Ultimate tensile strength to Yield strength) while offering a significant elongation percentage.

FIRE RESISTANT

UMZ 500 TMT with its consistent and thick tempered martensitic rim layer on the outer surface equips it with an elevated capacity to retain strength even at elevated temperatures. This property makes it resilient in fire-prone situations.

MARK OF AUTHENTICITY

Inspect the rebars for the **UMZ 500 TMT** marking to verify that you are purchasing the authentic steel bar produced by UMCIL.

UMZ 500 TMT

Steel rebars are the lifeline of construction, where resilience is woven into every reinforced strand. In the crucible of building dreams, these unyielding bars stand as a testament to the enduring strength that underpins our aspirations, shaping structures that reach for the sky while remaining rooted in the unbreakable. Thermo-mechanically treated (TMT) bars play a crucial role in ensuring the structural integrity of reinforced concrete constructions.

Choosing High Tensile UMZ 500 TMT rebars for your structure is a commitment to excellence. With an unwavering dedication to quality standards and an impeccable manufacturing procedure, UMZ 500 TMT rebars stand as the epitome of reliability, ensuring your project is built on a foundation of precision and durability.

CHEMICAL PROPERTIES

Standard	Grade	% C (±0.02)	% S (±0.005)	% P (±0.005)	% Ce (±0.03)
SANS 920:2011	Mild Steel	0.30 Max	0.060 Max	0.060 Max	
SANS 920:2011	High-Yield Stress Steel	0.30 Max	0.060 Max	0.050 Max	0.51 Max
500 UMZ	Mild Steel	0.24 Max	0.035 Max	0.035 Max	0.40 Max

PRODUCT SIZES:

- Diameter Produced (mm): **8,10,12,16,20, 23,32**.
- Length Produced (Mtr) : **6, 12, 13**.

PRODUCT PACKAGING:

- Packaged in unfolded /straight bundles weighing up to 2 MT and tolerance in the length is -0, +50mm.
- Bundles containing a standard number of bars per size and length are securely tied with wire ties at every 2.4 Mtr interval (5 ties).
- Each bundle is identified with a metal label indicating, Trade Name, Date of Production, Batch No / Heat No, Size of the rebar, Number of Pieces, and Weight of the Bundle.

MECHANICAL PROPERTIES

	Yield Strength	Tensile Strength	Elongation	Mandrel Diameter
Specification	**(Min.) [MPa]**	**(min.) [MPa)**	**(min. [%]**	**For 180° Bend Test**
ZS 433:2005 275-460 Mpa	275-450	>1,10xActual Yield Strength	16	3D and Re-bend 5d
SANS 920:2011 450 MPa	450	>1,15xActual Yield Strength	14	3D and Re-bend 5d
*BS 4449:1997 460 B	460	>1,10xActual Yield Strength	12	3D and Re-bend 5d
*BS 4449:2005 Gr B500B	500-650	>1,08xActual Yield Strength	Agt =5Min.	Re-bend </=16 4D
500 UMZ	450	>1,15xActual Yield Strength	14	3D and Re-bend 5d

EXCELLENT BONDING

BETTER WELDABILITY

SUPERIOR BENDABILITY

Bar Size	Cross Section Area	Mass Per Length (Kg/M)	One Bar Mass	Number Of Pcs/Mt (6 Mtr)	Number Of Pcs/Mt (12 Mtr)	Number Of Pcs/Mt (13 Mtr)
Mm	Mm2	Kg/M	Kg/M	Pcs/2mt	Pcs/2mt	Pcs/Mt
8	50.29	0.395	4.73	844	422	390
10	78.57	0.617	7.40	540	270	250
12	113.14	0.888	10.66	376	188	174
16	201.14	1.58	18.96	212	106	98
20	314.29	2.47	29.64	136	68	69
25	491.07	3.85	46.25	88	44	40
32	804.57	6.31	75.76	53	26	24