

## PRODUCT SPECIFICATION SHEET

### TMT BARS

#### CHEMICAL PROPERTIES

CHEMICAL COMPOSITION AS PER IS 1786-2008 AMENDMENT NO:03						
Sl No.	Constituent	Grade				
		Fe 500	Fe 500D	Fe 500S	Fe550	Fe 550D
1	Carbon % Maximum	0.30	0.25	0.32	0.30	0.25
2	Sulphur % Maximum	0.055	0.040	0.040	0.055	0.040
3	Phosphorus % Maximum	0.055	0.040	0.040	0.055	0.040
4	Sulphur and Phosphorus % Maximum	0.105	0.075	0.075	0.100	0.075
5	Carbon Equivalent	-	0.50	0.61	-	0.61

#### WEIGHT

NOMINAL MASS TOLERANCE AS PER IS 1786-2008				
Size in mm	Nominal Mass (kg/Meter)			Tolerance
	Minimum	Normal	Maximum	
8	0.367	0.395	0.423	±7 %
10	0.574	0.617	0.660	
12	0.844	0.888	0.932	
16	1.501	1.580	1.659	±5. %
20	2.396	2.470	2.544	
25	3.735	3.850	3.965	± 3 %
32	6.121	6.310	6.499	

#### MECHANICAL PROPERTIES

MECHANICAL PROPERTIES AS PER IS 1786-2008 AMENDMENT NO:03						
Sl No.	Property	Grade				
		Fe 500	Fe 500D	Fe 500S	Fe550	Fe 550D
1	0.2% Proof Stress,Min, N/mm <sup>2</sup>	500	500	500 to 650	550	550
2	Tensile Strength,Min, N/mm <sup>2</sup>	545	565	625	585	600
3	TS/YS Ratio,Min, N/mm <sup>2</sup>	1.08	1.10	1.25	1.06	1.08
4	Elongation %,Min on Gauge Length 5.65√A	12.0	16.0	16.0	10.0	14.5
5	Total Elongation at maximum Force %,Min on Gauge Length 5.65√A	-	5	8	-	5

#### BEND PROPERTIES

##### BEND TEST AS PER IS 1599 & IS 1786-2008 AMENDMENT NO:03

No rupture or cracks visible on the bent portion

#### REBEND PROPERTIES

##### REBEND TEST AS PER IS 1786-2008 AMENDMENT NO:03

No rupture or cracks visible on the rebent portion

#### DEFORMATION AND SURFACE CHARACTERISTICS

MEAN AREA OF RIBS mm <sup>2</sup> /mm		
Sl No.	Size in mm	Value Minimum
1	8mm,10mm	0.12xφ
2	12mm,16mm	0.15xφ
3	20mm,25mm,28mm & 32mm	0.17xφ

Where φ is the Nominal diameter of the Bar in mm

#### ROLLING AND COLD WORKING OF BARS/WIRES

The bars/wires shall be well and cleanly rolled and shall be sound and free from surface defects and pipe.

Prepared by : N. Rajamuthu

Checked by : Antonyrooban Ugene