

Technical Delivery Conditions

TMT BARS

Chemical Properties

Chemistry	IS:1786 Fe500D	BEEKAY TMT Fe500D	Effects of Element
Carbon %	0.25 max.	0.20-0.24	Increases Hardness & Strength, Decreases Ductility & Weldability.
Manganese %	Not mentioned	0.90 – 1.00	Mn has similar effect as C but in lesser extent and controls S.
Carbon Equivalent	0.42 Max for Weldable TMT Bars	0.35 to 0.41	Lower carbon levels results in Excellent Ductility, High Bendability, Better Corrosion Resistance and Superior Weldability.
S % & P %	0.040 max	0.030 max	S & P –Decreases Ductility & Weldability. P increases Corrosion Resistance.
S+P %	0.075 max	0.055 max	

Mechanical Properties

Properties	Units	IS:1786 Fe415	BEEKAY TMT BARS	IS:1786 Fe500	BEEKAY TMT BARS
Yield Stress	N/mm ² Min	415	450	500	530
Tensile Strength	N/mm ² Min	485	510	550	580
Elongation	%Min	14.5	20	12.5	18
Bend Test	Upto & incl. 22 mm	3d	2d	4d	2d

Comparative Chart With ISI Standard

SIZE	SPEC GR./m	ISI STANDARD			BEEKAY TMT Bars		
		Tolerance Limit as per is Grams/m	Per Wt.var. Gr./m	Indv. Sample %var.	Weight Tolerance Grams/m	Wt. Var. Gr./m	Indv. Sample %var.
08mm	395	367 to 423	56	±7	370 to 402	32	±4
10mm	617	574 to 660	86	±7	578 to 616	38	±3
12mm	888	844 to 932	88	±5	856 to 892	36	±2
16mm	1580	1501 to 1659	158	±5	1528 to 1592	64	±2
20mm	2470	2396 to 2544	148	±3	2435 to 2485	50	±1
25mm	3850	3735 to 3965	230	±3	3798 to 3876	78	±1
28mm	4830	4685 to 4975	290	±4	764 to 4860	96	±1
32mm	6310	6121 to 6499	378	±3	6100 to 6226	126	±1