

Abyssinia Group Of Industries

CONTRACTOR'S HANDBOOK



Reinforcement Steel Bars (TMT)

Our TMT bars are available in the following sizes:

8mm 10mm 12mm 14mm 16mm 20mm 22mm 25mm 32mm 40mm

Specifications

Our Reinforcement Steel Bars (TMT) conform to various national and international standards such as British Standards: 4449: 2009, ASTM A 615.

Grade 40, Grade 60 and East African Standard KS EAS 412-2:2019.



Registered trademarks for our reinforcement bars are PRIME TMT - B500B WR and AGI PLUS B500B WR. These are respectively rolled on every meter length of the bar for unique identification.





Nominal Dimensions, Weight and Tolerance

DESIGNATION	NOMINAL DIA (d) mm	CROSS SECTION AREA (mm ²)	UNIT MASS (kg/m)	WEIGHT kgs PER 12MTR
D8	8	50.27	0.395	4.74
D10	10	78.54	0.617	7.4
D12	12	113.1	0.888	10.66
D14	14	153.9	1.21	14.52
D16	16	201.1	1.58	18.96
D18	18	254.4	2.00	24
D20	20	314.2	2.47	29.64
D22	22	380.1	2.98	35.76
D25	25	490.9	3.85	46.2
D28	28	615.8	4.83	57.96
D30	30	706.9	5.55	66.6
D32	32	804.2	6.31	75.72
D36	36	1017.9	7.99	95.88
D40	40	1256.6	9.86	118.37

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APPLICATIONS

Our TMT bars have been specifically designed for high strength applications. This includes situations where high yield strength is required without compromise to elongation. Examples include: airports, bridges, damns, flyovers, high rise buildings, industrial structures, power plants, and other such critical structures.



ADVANTAGES

Excellent Bend-Ability: Fully conforms to East African and International Standards requirement of bending and re-bending.

Superior Weld-Ability: Low carbon equivalent which ensures superior weld-ability without preheating; irrespective of the welding used.

Higher Bond Strength: uniform and precise ribs providing for uniform bond strength

Superior Earthquake Resistance and Higher Fatigue Strength: TMT bars have high strength, durability, and a high ratio of UTS/YS which allows them to absorb shocks as well

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as cyclic loading conditions. Therefore TMT bars are recommended for areas prone to earthquakes.

No Additional Treatment: Requires no additional corrosion resistant treatment

Economy: Higher strength and elongation properties make TMT rebar extremely economical where steel consumption is concerned.



Technology & Quality Assurance:

Our finished rebars undergo water quenching via the tempo process to achieve high strength and coupled with advanced thermo-mechanical treatment (TMT), resulting in excellent corrosion resistant properties.

This process is known as quenched and self tempered (QST).

They are also passed through series of rigorous tests to ensure performance under atmospheric conditions, in concrete conditions and in marine, coastal and tidal environments.

Cost Effectiveness: Provides at least 60% more corrosion resistance than conventional bars at only marginally higher costs.

Properties of Thermo-Mechanically Treated Bars

CHARACTERISTICS

Ratio: YS/UTS (%)

KS EAS 412-2:2019

GRADE: B500B WR

1.08 Min

CHEMICAL COMPOSITION			
Carbon (C) %	0.22 Max		
Manganese (Mn) %	1.60 Max		
Silicon (Si)%	0.60 Max		
Phosphorous (P) %	0.050 Max		
Sulphur (S) %	0.050 Max		
Nitrogen (N) ppm	120		
Carbon Equivalent (CE) %	0.50 Max		
MECHANICAL PROPERTIES			
Yield Strength (N/mm ²)	500 Min		
Elongation (%)	14 Min		



NB: We can produce B500A WR and B500C WR as per customer requirements. On specific demand we can also produce B550C WR.





To use the Diamond mark of quality specified in the first column of the appendix hereunder upon and in respect of the commodity and brand specified in the second and third column there of, which conform to the standard specification in the fourth column.



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British Reinforcement Concrete (BRC)

British Reinforcement Concrete (BRC) is manufactured as per KS EAS 412-3:2019.

It is a welded mesh fabric which can be supplied either in a roll form or panels of various dimensions.

Туре	Wire Diameter (mm)	Mesh Size (mm)	Width (m)	Lenth (m)
A66	4.0	200 x 200	2.1 & 2.4	30 & 48
A98	5.0	200 x 200	2.1 & 2.4	30 & 48
A142	6.0	200 x 200	2.1 & 2.4	30 & 48



Applications

BRC is widely used in agricultural, industrial, transportation, horticultural and food sectors.

It is also used in mines and for machine protection.

Binding Wire

Our Binding Wire is drawn from a 5.5mm wire rod and annealed at intermediate stages. Annealing wire is available in 1.6mm and 1.8mm diameters. The binding wire comes in pre-packed bundles of 25kg.

WIRE SIZE (Gauge)	WEIGHT (Kg)
11	50
14	50
16	25





Applications

Binding wire is used for binding reinforcement bars in construction.



Mild Steel Nails

Our Mild Steel Nails conform to KS EAS 914:2019. These nails are manufactured from drawn wire using the most advanced

100
1/4

Size (Inches)	Length (mm)	Shank Diameter (mm)	Kgs/ Bags
1.0	29.4	2	50
1.5	38.1	2.5	50
2.0	50.8	3	50
2.5	63.5	3.5	50
3.0	76.2	4	50
4.0	101.6	5	50
5.0	127	5.5	50
6.0	150.4	5.9	50

Applications

Mild steel nails are used for construction and furniture applications

Tolerance:

+/– 2.5% on shank diameter and length.

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