

# **JAGDAMBA E**

**EARTHQUAKE RESISTANT REBAR**

**Fe 500**



IS - 1786  
CMIL 4049454  
Fe 500/Fe 500D



NS:191

JAGDAMBA E



**JAGDAMBA  
STEEL**

**देशको मेरुदण्ड**



Jagdamba Steel is the leading & the largest steel manufacturer in Nepal. It manufactures a wide range of steel products and its easy availability is ensured all over Nepal through more than 1,500 retail outlets.

To ensure superior quality of Steel Rebars, modern automated manufacturing systems, process and use of superior grade quality raw materials is the hall mark of Jagdamba Steel Rebars and other steel products. This does not only act as the bench mark standard for the steel products in Nepal, in fact Jagdamba Steel is the “Standard” itself for others to follow.

## **Jagdamba E, The Earthquake Resistant Rebar**

Since Nepal is located in Earthquake prone Zone, to address this concern in the safety of construction, after a exhaustive research and with over 20 years of experience in manufacturing high quality Steel Rebars, Jagdamba Steel presents Jagdamba E Steel Rebar. Jagdamba E is a Fe 500 Grade Earthquake Resistant Steel Rebar. It is the first and only of its kind of superior Steel Rebar available in Nepal and specially made for applications in earthquake resistant constructions. Jagdamba E Rebars conforms to Fe-500 Grade quality as per Nepal Bureau of Standards and Metrology, NS:191 Certification and Bureau of Indian Standards (BIS), ISI Certification IS:1786:2008 and Newzealand Standards.

Jagdamba E is highly recommended for applications in earthquake resistant constructions, be it home, commercial building or infrastructure projects. Since Nepal is highly prone to seismic risks, application of Jagdamba E Steel Rebar can help minimize the risks like damage to the RCC structures and thereby help save lives in case of an Earthquake due to its resistant features.

## **Features of Jagdamba E**

Jagdamba E is manufactured from prime billets in state of the art completely automated modern plant. The Rebars are Thermo Mechanically Treated (TMT), to offer better strength in addition to better ductility to make it resistant to seismic conditions. Additionally Jagdamba E comes with the expertise in product innovation from Jagdamba Steels Pvt. Ltd, pioneer and No. 1 Steel producer in Nepal.

## **Controlled Process**

Superior quality in Jagdamba E Rebar is assured through high adherence to the following controlled process in during the manufacturing;

- **Controlled Raw Materials**

To ensure high quality in end product, the raw materials undergo stringent chemical and physical tests. The controlled process through quality assessment of raw materials ensures adherence to the quality standards and consistency in quality of every single Rebar manufactured.

- **Controlled Production Process**

Jagdamba E Rebars are manufactured in the state of the art completely automated plant, the only one in Nepal. The automation ensures consistency in physical quality like Uniform Ribs, Uniform Lengths etc. Further the Rebars produced undergo stringent chemical and physical testing at the state of the art completely computerized labs. This ensures instant results and faster intervention and reliability in the quality assurance.

- Controlled Parameters

Maintenance and consistency of physical and chemical parameters is highly important to ensure superior quality of Rebars. This is ensured through the application of automated systems in production, thermo mechanical treatment, physical and chemical testing. The parameters are stringently controlled and maintained as per the minimum and maximum standards outlined by Indian BIS, IS: 1786:2008 Certification Standards and NS 191, Nepal Bureau of Standards and Metrology Certification Standards.

### Superior Fatigue Strength

Since the fatigue strength of reinforced concrete is highly dependent on the fatigue strength of the Rebar, Jagdamba E has superior fatigue resistance compared to normal Rebars. It is highly recommended for cyclic loads such as heating & cooling cycle, repetitive inward loads and multi loads.



### Superior Raw Material

Jagdamba E Rebars are made from prime billets imported from leading companies like Jindal Steel, SAIL India and TATA Steel. High quality of raw materials also ensures that the Rebars are of high grade quality.

### Better Ductility, Earthquake Resistant

Jagdamba E compared to other normal Steel Rebars available in Nepal comes with better ductility. Better ductility means better elongation in case of stress conditions, like in case of an earthquake, there by offering better stability to the structure and resistance to the damage.

Jagdamba E offers 20% more elongation compared to other normal Steel Rebars. The strength and ductility of Jagdamba E Rebars exceed the minimum level specified by NS, IS and other International Standards.

### Superior RIB Pattern

Jagdamba E Rebars have a superior 60 degree and uniform rib pattern with greater depth and closer rib spacing which is assured through computer controlled CNC grade machine. Superior Rib Pattern ensures better bonding of Rebars with the concrete reinforcement.



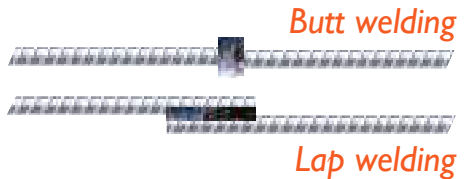
## Bendability

Due to its better ductility, elongation, tough outer surface and soft inner core Jagdamba E Rebar is easily bendable and without any risk of cracks or breakage.



## Superior Weldability

Jagdamba E Rebars have a low carbon content which gives it superior weldability in case required. Also, no pre warming and post welding is required in case of manual arc welding. The Rebar can be butt welded and as well lap welded.



## Quality Consistency & Assurance

The raw material billets and Rebars manufactured undergo stringent chemical and physical testing at the state of the art completely computerized labs. This ensures instant results and faster intervention in the quality control process and enhanced reliability.



## Mechanical Properties

Property	Jagdamba E, Fe500 Grade	Fe500 Grade NS:191 Standard	Fe 500 Grade IS1786:2008 Standard	Fe 500 Grade British Standard	ASTM 60 American Standard	Fe 500 Grade Other Normal Re Bars
Yield Stress (N/mm <sup>2</sup> )	≥ 500 ≤ 600	≥ 500	≥ 500	≥ 500	≥ 420	≥ 500
Tensile Strength (N/mm <sup>2</sup> )	≥ 575	≥ 545	≥ 545	≥ 545	≥ 620	≥ 545
Ratio (Re)	≥ 1.15 ≤ 1.40	≥ 1.08	≥ 1.08	≥ 1.08	≥ 1.25	≥ 1.08
Elongation	14.5%	12%	12%	12%	9% (min)	12%

Size (MM)	Weight (KG/M)	Weight (KG/Pcs)		Quantity (Pcs/Ton)		% Variation (Weight/ Mtr) as per NS 191 and IS 1786:2008 Standard	% Variation (Weight/ Mtr) Jagdamba E Rebar
		Length 6M	Length 12M	Length 6M	Length 12M		
8	0.395	2.370	4.740	422	211	7	4
10	0.617	3.702	7.404	270	135	7	4
12	0.888	5.328	10.656	188	94	5	2
16	1.580	9.480	18.960	105	53	5	2
20	2.470	14.820	29.640	67	34	3	1
25	3.850	23.100	46.200	43	22	3	1
28	4.830	28.980	57.960	35	17	3	1
32	6.310	37.860	75.720	26	13	3	1
36	7.990	47.940	95.880	21	10	3	1
40	9.870	59.220	118.440	17	8	3	1

## Chemical Properties

Chemistry (%)	NS/BIS Standards Fe 500 Grade	ASTM 60 American Standard	Jagdamba E, Fe 500 Grade
Carbon	0.30 Max	0.30 Max	0.17-0.25 Max
Sulphur	0.055 Max	0.045 Max	0.045 Max
Phosphorus	0.055 Max	0.035 Max	0.045 Max
S+P	0.105 Max	-	0.100 Max
Manganese	0.50	1.5 Max	0.60 Max



## Certifications

Jagdamba E Rebars are certified for Fe 500 grade quality by Nepal Bureau of Standards and Metrology by NS:191 Certification and Bureau of Indian Standards (BIS) by ISI Certification IS:1786:2008. This is an assurance of the quality and practice of adhering to highest standards in quality and make at Jagdamba Steel.

The company is also certified by **JAS-ANZ; ISO 9001:2000** and **ICS JAS-ANZ; ISO 9001:2008**



## Availability

Jagdamba E Rebars are conveniently available in sizes 8mm and up to 32 mm through more than 1,500 retail points spread across Nepal. Also available in sizes 36mm and 40mm as per custom requirements.

## Quality Commitment

At Jagdamba Steels the highest standards in quality and make of all products is assured through streamlined and controlled manufacturing process beginning with the physical and chemical quality assessment of the raw material, of the manufactured products during the manufacturing process at the state of the art computerized physical and chemical laboratory. The computerized system of quality assessment ensures that minute details are assessed with precision leaving less room for any human error, that is highly possible in case of manual system of assessment.



## Quality Advantage with Jagdamba Steels

- Prime Billets imported from world renowned companies used as raw material in manufacturing of all range of Steel Products.
- Automated, Streamlined and Controlled manufacturing process to ensure highest quality standards of all the product ranges.
- Automated and stringent physical and chemical quality testing of rawmaterials in during Pre-Production, of Products during Production and Post completion of Production.
- Computerized Physical and Chemical Test Labs to ensure faster and accurate results, reducing any chances of human and manual error.
- Computerized weighing and tamper proof labeling system to ensure right weight and quantity in each set/bundle.
- Computerized delivery processing system for faster, efficient and timely delivery.
- Easy availability through more than 1,500 retail outlets across Nepal.
- All products manufactured to stringent NS and IS Standards. Steel Rebars in Fe 500 and 500 D grades certified for quality by NS 191 and BIS IS: 1786:2008 Certification. GI Wires certified by NS 161 quality certification.



## OTHER PRODUCT RANGES

**Wire Rods/Torkari**



**Plain, Round & Square Rods, Flat**



**Barbed Wire**



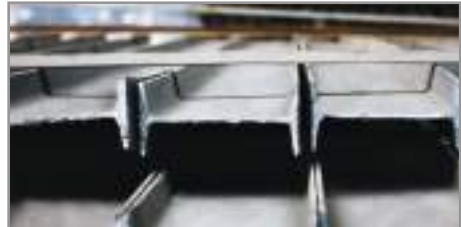
**H.B. Wire**



**Galvanized (GI) Wire**



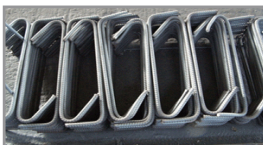
**Structurals**



**Nails/Panel Pins**



**Ready Made Steel (Cut & Bend Products)**



**Jagdamba Steels Pvt. Ltd** began operations at Simara in Bara District, Nepal in the Year 1994 with a setup of cross country mill producing CRT Bars with a capacity of 50 MT per day. Over the years the company has grown over to become the only integrated and the largest steel company in Nepal with a daily production of 1,500 MT. Jagdamba Steels offers a wide range of steel products and the range includes Steel Rebars, Torkari, Wire Rods, Structural's, Angle, Channel, Beam, Plain Round & Square Rods, Flat, GI Wire, Barbed Wire etc.

The products are manufactured at the state of the art modern plant with prime focus on maintaining highest standards in quality and make. The products, Steel Rebars in grades Fe 500 are certified by Nepal Bureau of Standard and Metrology by NS:191 Certification and Bureau of Indian Standards (BIS) by ISI Certification IS:1786:2008 and in grade Fe500 D by ISI Certification IS:1786:2008. GI Wires are certified by NS:161, NS:163/2058 Certifications.

Our commitment to offer quality, wide and newer product range has strongly connected us to the lives of people and the Nation and inspires us to achieve excellence in product innovation and contribute to the growth of the Steel Industry and the Nation.



देशको नेरुदण्ड



**JAGDAMBA STEELS PVT. LTD.**



#### Corporate Office

7th Floor, Neupane Tower,  
Tinkune, Kathmandu, Nepal

T: +977 1 4111 822 | F: +977 1 4111 894

Facebook: [www.facebook.com/JagdambaSteels](https://www.facebook.com/JagdambaSteels)

Website: [www.shankergroup.com](http://www.shankergroup.com)