



NIK SADRA STEEL COMPLEX CO



مجتمع فولادی نیک صدرای توس

Nik Sadra Steel Complex Co

سهامی خاص، شماره ثبت ۱۷۰۹۱

PVT., Reg No: 17091

بازرگانی، صنعتی

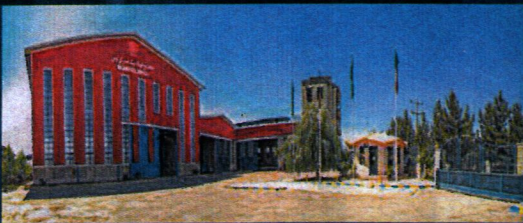
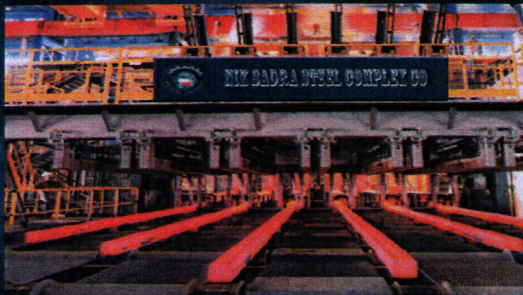
Industrial, Agricultural

ظرفیت تولید سالانه ۳۳۰,۰۰۰ تن

ذوب و نورد مقاطع سبک فلزی: انواع نبشی سایز ۲۵ الی ۱۰

ریبار (میلگرد آجدار) AIII, AIII ۱۲ سایز الی ۳۲

انواع شمش و بیلت ۳SP-5SP سایز ۱۲۵*۱۲۵ و ۱۵۰*۱۵۰



آدرس کارخانه: مشهد، کیلومتر ۲۲ جاده آسپاسی، شهرک صنعتی
فناوری های برتر، صنعت ۹ و ۱۱، قلمنا ۲۵۷-۲۵۸-۲۷۱

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وب سایت: www.niksadraco.com

تلفن کارخانه: ۰۵۱-۳۳۴۰۰۱۹۰-۶

تلفن کارخانه: ۰۵۱-۳۳۴۰۰۱۹۲

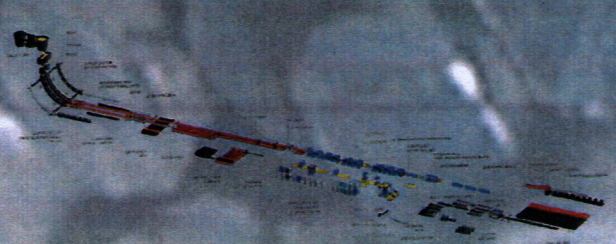
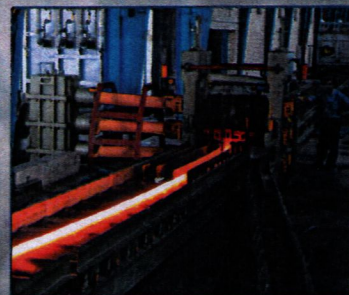
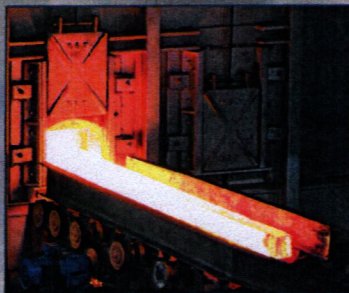
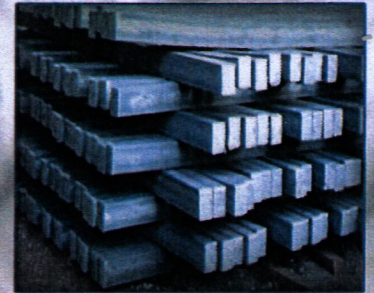
آدرس شرکت: مشهد، میدان شهدا، ساختمان اداری توس، حلقه دوم، واحد ۱۲، شرکت نیک صدرای توس

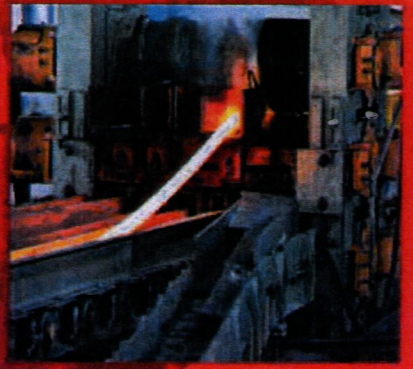
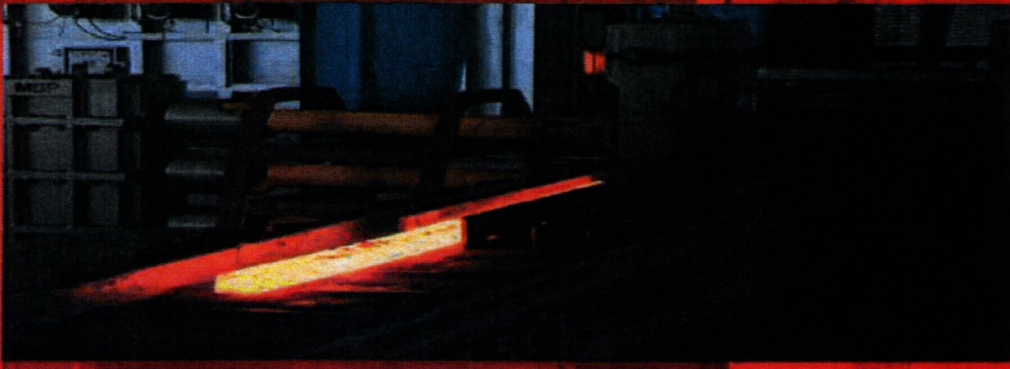
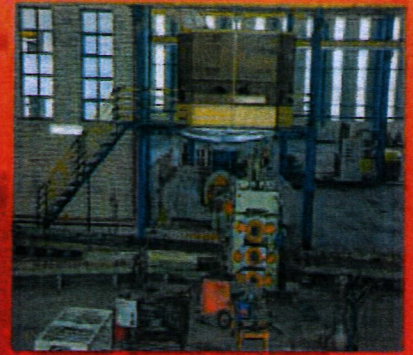
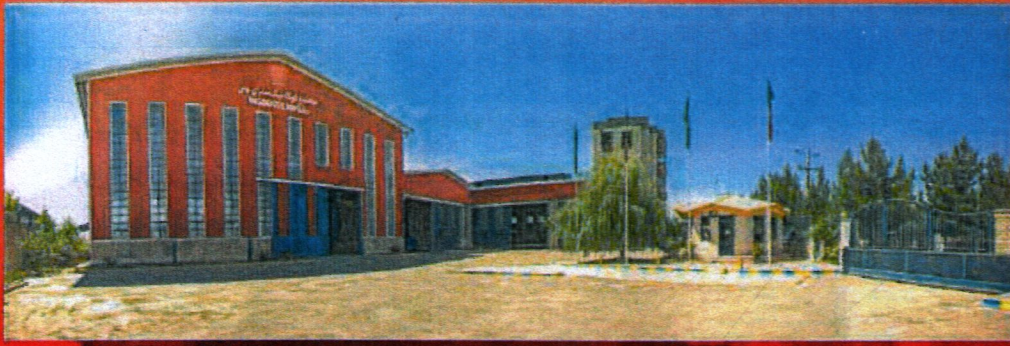
تلفن تماس: ۰۵۱۳۷۱۳۶۰۸۰ - ۰۵۱۳۷۱۳۶۰۱۰۰

تلفنکس: ۰۵۱۳۷۱۳۷۰۶۰

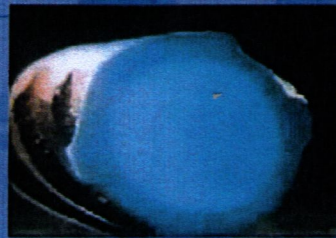
مدیرعامل:
سیداحمد رضوی نیک

تولید مقاطع سبک فولادی و ساختمانی، (طویل) انواع میلگرد آجدار (AIII, AIII)
ظرفیت تولید: ۳۰۰۰۰۰ تن انواع محصولات نورد گرم
میزان اشتغال: ۱۲۰ نفر مستقیم
ایجاد فرصت شغلی: ۱۲۰۰ فرصت شغلی
طرح توسعه
ایجاد و احداث واحد ذوب و تولید شمش و بیلت ۳۰۰۰۰۰ تن در سال

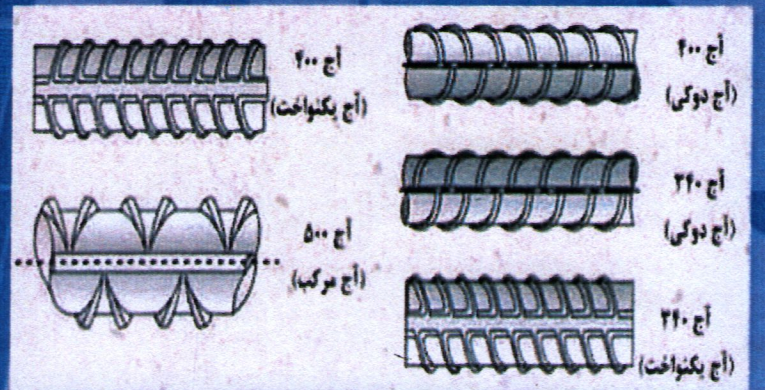
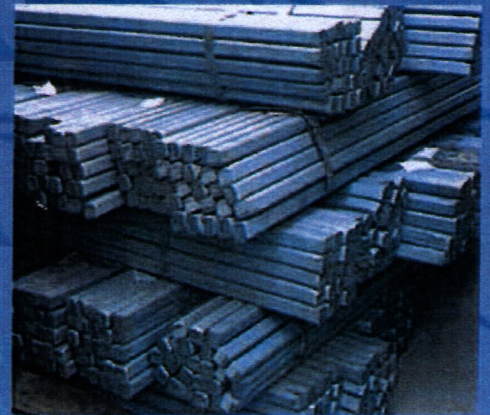




۴A آج ۵۰۰
در دست تولید



سطح مقطع میلگرد تولید شده با
روش عملیات حرارتی
Quench-temper



Quality Control Certification For Rebars



NIK SADRA YE TOOS COMPLEX
CO.

Size : 12 mm

Date:

Truck No:

No: 4100/400

Mechanical properties

Cold bending	Min. elongation A : %	Min.Ultimate Tensile strength Rm : N/mm ²	Min yield strength Re : N/mm ²
180	%17	630	410



Reference:

According to INSO 3132

All specifications are in accordance with the national standard of Iran (No. 3132, Welded steel bars for concrete reinforcement - Specifications and test methods)

The chemical composition of the Ribbed Rebar

Ceq	S	P	Mn	Si	C
0.5	0.05	0.05	1.7	0.65	0.39

Heat No :

Nominal lengths of branches:

Number Of Bundles:

Heat treatment Yes No

As-cast Asrolled (Q.T.B)

Nominal diameter(ds)	The weight of one meter (kg/m)
10	0/616
12	0/888
14	1/210
16	1/580
18	2/000
20	2/470
22	2/980
25	3/850
28	4/830
32	6/310

Quality control :

(QC) :



Guide bending rebar 400
According to the standard



قطر اسمی میلگرد : ds قطر فک خمش : D

قطر فک خمش = ۵ برابر قطر اسمی میلگرد

Factory Add. : Parts 257-258-271 , Sanat 9-11 , Industrial State of Superior Technology, 22th km of Mashhad -Quchan Road.

Tel : +985137130100 - +985132400194

Fax : +985137139080 - +985132400192

Nik Sadra Steel Complex Co.

(Private Joint Stocks)

Registration No. 17091



Nik Sadra Steel Complex Company has been found in 2021 and located on Mashhad, 22km of Quchan Road, High Technologies Industrial Estate, Between Sanaat 9th & 11th Streets, Plot No. 257-258-271, with an area of 160080Sq.metres, with investment capacity more than Rls.850, 000,000,000 and annual capacity of 300,000Tons, producing various types of light construction and long steel sections including Ribbed Rebar, gutter and corner and it has been started up by using update technology and advanced Machines of Italian rolling lines; and in this field, it can received the certificates and licenses from the relevant organizations: Organization of Industry ,Mine and Trade- Permanent Membership of Iranian Steel Manufacturers Associations, holder of Iran National Standard under Number 3132 and OHSAS 18001:2007- ISO 14001:2004- ISO001:2008- ISO9004:2009 from Germany which it is the leading unite holding Quality Improvement and Optimizing Energy Consumption.

Products of Nik Sadra Steel Complex Co.

Production of Light Steel and Construal Structures, (Long) Different Types of Ribbed Rebar (AIII, AIIII), Size No. 12-32

Employment Capacity: 120 People

Job Opportunity: 1200

Annual Production Capacity: 300000Tons, Different Types of Hot Rolled Products

Rolled Light Steel: Various Kinds of Corner, Size No. 2.5-10

Ribbed Rebar (AIII, AIIII), Size No. 8-32

Development Plant

Various Types of Ingot and Billet 5sp and 3sp Size: 125*125 and 150*150

Foundation of Construction of Melting and Casting Ingot and Billet in annual capacity of 300,000Tons, Date of Utilization: 2017

Creating new job opportunities: 150 people directly and 1500 new opportunities

Certificates of Nik Sadra Steel Complex Company

Iran National Standard under Number 3132

OHSAS 18001:2007 ISO 14001:2004

ISO001:2008 ISO9004:2009



OHSAS 18001:2007



ISO 14001:2004



ISO 9001:2008



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Factory Address: Mashhad, 22km from Asian Road, High Technologies Industrial Estate, Between Sanaat 9th & 11th Streets

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1



History of using Rebar in Concrete

Following an evolution and progress, steel consumptions become common in concert: the first reinforced concrete structure was reinforced by a concrete paddle of a boat, with rectangular square nets, iron bars, made by Lambot in 1848.

The consumable Raw in Rebar Production

The used raw materials vary depending on the product. Rolling Parts of beams-studs and corners use the Ingots 3sp; and the Ingots 5sp is also used for rolling rebar (the ingots of 3sp and 5sp are different in analysis). Ingots produced in different dimensions depending on the design and type of preheating furnaces and rolling lines are usually the ingots in dimensions of 150*150*6000 or 125*125*6000. If the length of the ingots is 12meters, then in the factory, they are cut to specific lengths according to the capacity and dimensions of the furnace.



Types of Steel Ingots (Method of Production)

Fabric (CCM)	Manual (Casting)
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Steel Ingots Grades

45ck	52st	37st	5sp	3sp	sp
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Steel Ingots Sections

200*200	150*150	125*125	100*100	80*80	60*60
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Table: Steel Ingots Analysis

Table: Steel Ingots Analysis

Cu(max)	Ni(max)	Cr(max)	S(max)	P(max)	Mn	Si	C	
0.3	0.3	0.3	0.05	0.04	0.4-0.65	0.15-0.3	0.14-0.22	3SP
0.3	0.3	0.3	0.05	0.04	0.5-0.8	0.15-0.3	0.28-0.37	5SP
0.3	0.3	0.3	0.040	0.040	0.35-0.65	0.17-0.35	0.09-0.15	ST37
0.3	0.3	0.3	0.040	0.035	1.30-1.60	0.35-0.55	0.17-0.22	ST52

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ISO 9001:2008



ISO 14001:2004



OHSAS 18001:2007



Introduction to Production Line of Rebar

Rebar or Reinforcement is a steel used in concrete to compensate for its low tensile strength. The steel used for this purpose in the reinforced concrete structures is found in the form of wire or rebar and this steel called rebar.



Classification of Rebar Steel

There are different standards of rebar steel which produced in different countries and there is a specific classification related to the mechanical properties of steels in each standard. Rebar Steel which produced in Iran is divided into three groups (according to Russia Standard):

AI All AIII

Rebar Group AI made of soft steel are produced in flat form (without any rib) and it can be recognized because of this specification.

If this rebar is springy, the rebar is of Group All. These bars is in parallel form.

In Group AIII, These ribs are in zigzag, crisscross form and single forms. Manufacturers' standards also differ in terms of the diameter of the rebar. The rebars are made up to 40mm.

Recognize the Dimension of Rebar

- Rebar Diameter is from one rib to the flat surface of the rebar.
- As according to manufacturer, the type of rebars are not the same, ie. some are flat and some of them are elliptical, so they are distinguished by the weight of the bundle and the technical specifications of the bundle.

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ISO 9001:2008



ISO 14001:2004



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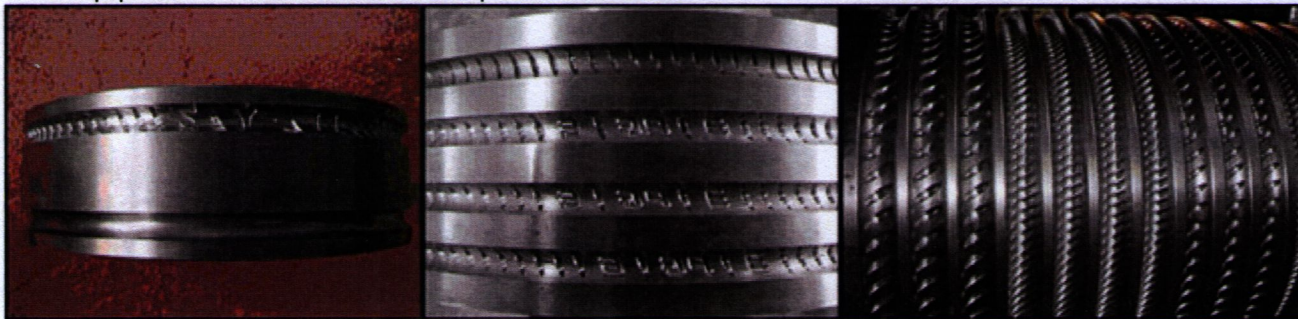
How to produce rebar

Rolling on steel is one of the most common tasks. One of the methods of forming metals is the rolling process. In other words, the process of deformation of metal waxes by passing through the rollers is called rolling which takes place both hot and cold.

Cold Rolling: Deformation at ambient temperature

Hot Rolling: Deformation at temperatures higher than ambient temperature and lower than the temperature of the metal.

Rolling is one of the most common metalworking processes because of its high production and precise final product control. In deformation of the metal between the rollers and as a result of operating pressure to the rollers, a lot of stress is applied to the part. Frictional forces also cause the metal to pull into the rollers. The first conversion of Ingots is generally done by hot rolling. By continuing the hot rolling operation of the plate rebar, the wire of the rail pipe with other structural shapes are created.



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Rolling production lines require their own design depending on the available spaces well as the desired tonnage. First, the ingots must be inserted into the furnaces, which have a furnace temperature of up to 1100°C. In this process, the ingots are guided into the furnaces by hydraulic jacks in specific rows, and when the ingots are placed inside the furnace, they are prepared for rolling by eddy currents at 1100°C. After reaching the desired temperature, the ingots are sent to the production line for rolling, then the prepared ingots are placed on the rolls and directed to the rafting stage. The rafting stage reduces the diameter of the ingots in 7 to 9 rolling passes and increases their length. After this stage, there are stands that includes 10-18 stands in specific Calibers. The last stage of rolling is the part of ribbing stage and after that the scissor is used to cut the produced rebars in specific length, which are usually cut to 24 to 36 meters. Then, the produce rebars are cut under packed guillotines with length of 12meters according to Iran ISO Standard and in the last stage, they are packed in 2ton bundles.

According to Iran ISO Standard, The rebars are produced in two types of AIII, All. The type of All is ribbed in rolling line directly. But, there are another stage named cooling (Sprinkle water or exposing in the air) to produce AIII and it is used after ribbing. Finally the products are steel color.



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ISO 9001:2008



ISO 14001:2004



OHSAS 18001:2007



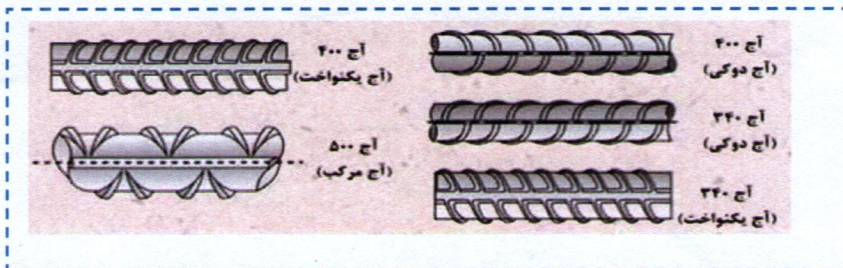
Mechanical Specifications of Simple & Ribbed Bar

Type of Rebar (According to National Standard No.3132)	Specific Sign	Type of Rebar (In Market)	Min Yield-Strength	Min. Ultimate Tensile Strength	Min. Elongation	bending angle	Rebar Bending Diameter than Rebar Nominal Diameter
Simple	240	A1	240 N/mm ²	360 N/mm ²	25 18	180	two times
Spinal Ribbed Bar	340	A2	340	500 A 5	A10 15	180	three times
	350	-	350	500	17 -		
Corrugated Ribbed Bar	400	A3	400	600	16 12	180	
	420	-	420	600	16 -		five times
Composite Ribbed Bar	500	A4	500	650	10 8	90	
	520	-	520	690	13 -		five times

Chemical Composition of Simple or Ribbed Bar

Classification	Specific Sign	Carbon	Silicon	Manages	Phosphor	Sulfur	Max. Carbon
		c	SI	MN	P	S	Ceq
Simple	240	0/24	0/60	0/85	0/055	0/055	-
Spinal Ribbed Bar	340	0/34	0/65	1/40	0/050	0/050	0/50
Corrugated Ribbed Bar	400	0/39	0/65	1/70	0/050	0/050	*
Composite Ribbed Bar	500	0/42	0/95	1/90	0/050	0/050	*

Ribbed Rebar No.400 (Spindle Shaped)
Ribbed Rebar No.340 (Spindle Shaped)
Ribbed Rebar No.340 (Uniform)
Ribbed Rebar No.400 (Uniform)
Ribbed Rebar No.500 (Compound)



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Dimensional specifications and weight of simple and ribbed rebar

Nominal Dimension (mm)	Tolerance of Nominal Dimension	Area (mm ²)	Calculated Weight (kg/m)	Tolerance of Weight	G/ (Cm ³)7/85 has been considered in calculated weight of steel. The difference between Minimum and Maximum in distance of 70% is tolerance range.
8	+0.3	50.3	0.395	±8	
10	-0.5	78.5	0.616	± 5.5	
12		113.1	0.875		
14	+0.4	154	1.16	± 4.5	
16	-0.5	201	1.5		
18		254	1.91		
20		314	2.45		
22		380	2.88		
25	+0.4	491	3.85		
28	-0.6	616	4.83		
32	+0.4	804	6.25		
	-0.7				

Machines in the Factory:

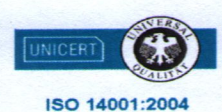
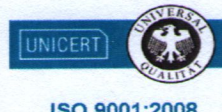
- 1- Preheating Furnace: Preparation and heating steps or ingots up to 2000°F for rolling operations
- 2- Furnace Rolls: Transfer the Ingots for rolling to Rating
- 3- Rafting: For Rolling and Cutting cross section
- 4- Rafting Rolls: Transfer The Rolls to Stands
- 5- Scissors
- 6- Stands: Gearbox Motor, Guardian, Assembled Rollers, input and output Guides
 - A) Middle Stands include 4-6 roll stands to form Metal and decrease section
 - B) Finishing stands includes 4 stands to form and convert to final products

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7- Thermox: Heat treatment device to convert ribbed bar AIII which has a cooling temperature of 300°C to rebar with a temperature of 900°C using water and wind cooling systems and the return operation is performed again, when the surface of the rebar is hardened and converted to AIII.

8- Area Scissor : Cutting the rebar during production at a speed of 9meters per second in specified lengths

9-Cooling Bed: After cutting, the rebar was placed on the bed with dimensions of 40*7.5 during cooling process, and after cooling it was sent to the packing stage for packing and cutting.

10- Packing Bed: This includes 2 sets of smart mechanized packing tables with a length of 12meters, which after cutting the metal for packaging with specific weights, which has been determined, plated and stamped by the operator, and its technical specifications and mechanical properties are inserted in the plate and ready to be offered to the market. The product is stored.



Ribbed Bar		
Point	(kg/m) Weight	(kg/12m) Weight
10	0.616	7.392
12	0.888	10.5
14	1.21	13.92
16	1.58	18
18	2.0	22.92
20	2.47	29.4
22	2.98	34.56
25	3.85	45.6
30	5.5	66
32	6.31	75
34	7.08	84.96
36	7.91	94.92
38	8.83	105.96
40	9.83	117.96

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