



أركان

STEEL حديد

Product Catalogue Technical Datasheet

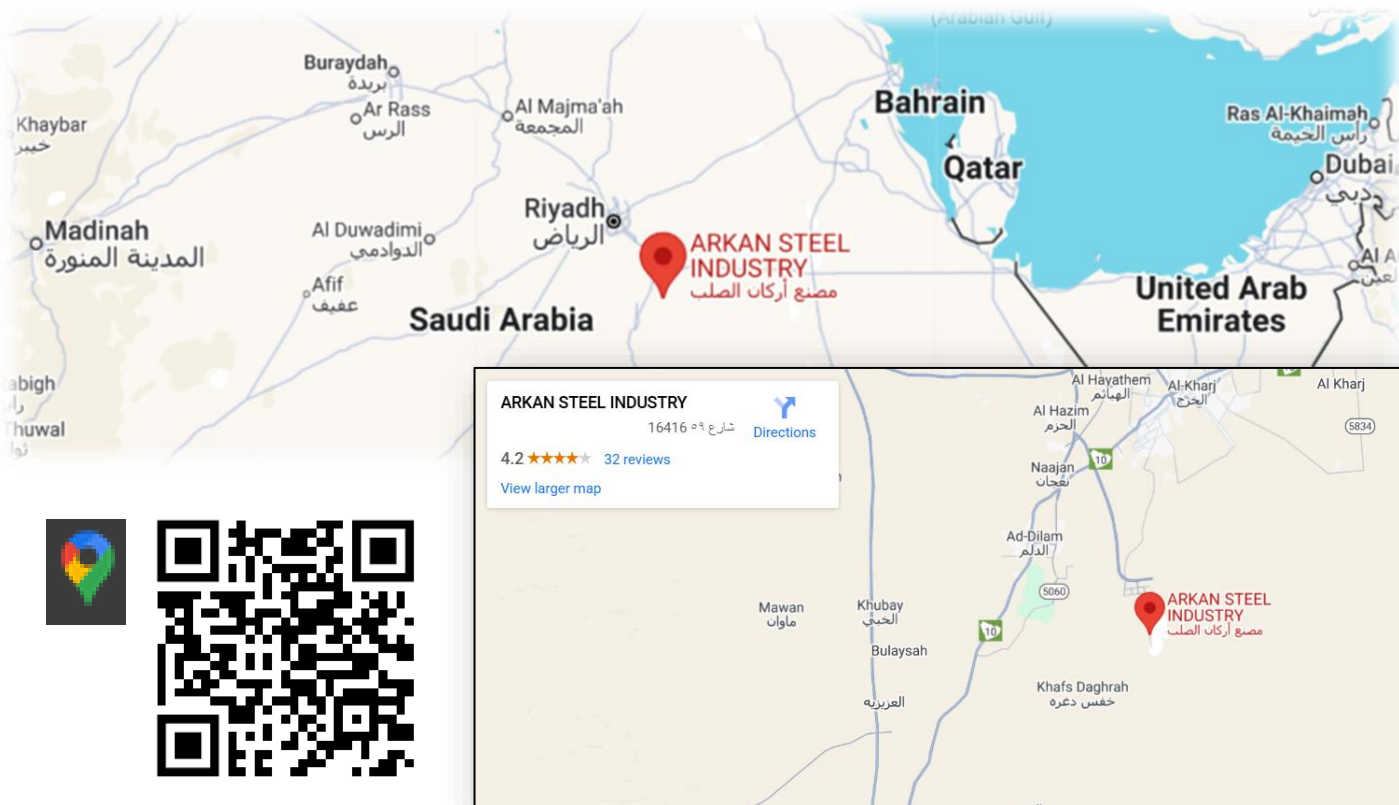


About us

The company's management has worked in the Egyptian market in the trade and industry of rebar since 1988 As well as in the Qatari market since 2003 and for more than twenty years in the Arabian Gulf region in general.

The company also has a vision of future marketing plans in the Saudi market to complement many of the products needed by the market, most of which are imported from abroad, such as specialty steel of various types, high carbon, stainless steel and nickel chrome.

Arkan Steel Factory



Rebars

For concrete reinforcement



TÜV
AUSTRIA
EN ISO 9001:2015
No. 20100233018552

TÜV
AUSTRIA
EN ISO 14001:2015
No. 20104243020139

TÜV
AUSTRIA
EN ISO 45001:2018
No. 20116243020140



LN: 20240598852

Rolling mill process

Capacity: 500,000 Ton/Year



- The raw material is prime steel billets supplied from high-quality national factories



- The billets are charged into a re-heating furnace up to 1150°C



- Discharged billet at 1150°C with 80 T/hr productivity



- Rolling using 16 horizontal and vertical rolling stands – Fast final rolling unit consisting of 10 high-speed rolling units for fine control of dimensions



- Quenching and self tempering box for controlling mechanical properties



- Finish area consisting of an 84-meter-long cooling bed – length shears with the ability to control the production of special lengths up to 12 meters – electronic imaging skewer counting unit – skewer assembly unit And then the strapping unit for an average bundle weight of 2 tons



- Quality control testing conducted in state-of-the-art laboratories to ensure full compliance with international standards and SASO requirements

Product Specification Rebars

1- Chemical composition, heat analysis

According to SASO ASTM A615M : 2023 / SASO ASTM A706M : 2023

Standard	Carbon (C) wt%	Manganese (Mn) wt%	Silicon (Si) wt%	Phosphorus (P) wt%	Sulfur (S) wt%	Carbon equivalent (C.E) wt%
SASO ASTM A615M	-	-	-	<0.06	-	-
SASO ASTM A706M	<0.33%	<1.56%	<0.55	<0.043	<0.053	<0.55

$$\text{C.E.} = \% \text{C} + \frac{\% \text{Mn}}{6} + \frac{\% \text{Cu}}{40} + \frac{\% \text{Ni}}{20} + \frac{\% \text{Cr}}{10} - \frac{\% \text{Mo}}{50} - \frac{\% \text{V}}{10}$$



Product Specification Rebars

2- Rebar Dimension

According to SASO ASTM A615M : 2023 / SASO ASTM A706M : 2023

	Size /nominal diameter (mm)	Nominal linear mass (Kg/m)*	Cross section area (mm ²)	Maximum average rib spacing (mm)	Minimum average rib height (mm)	Maximum gap (Chord of 12.5% nominal diameter)
Long & Rebar coil	8	0.395	50	5.6	0.32	3.0
	10	0.617	79	7.0	0.40	3.8
	12	0.888	113	8.4	0.48	4.6
	14	1.208	154	9.8	0.56	5.3
	16	1.578	201	11.2	0.72	6.1
Long rebar	18	1.998	255	12.6	0.81	6.9
	20	2.466	314	14.0	1.00	7.7
	22	2.984	380	15.4	1.10	8.4
	25	3.853	491	17.5	1.25	9.5
	28	4.834	616	19.6	1.40	10.7
	32	6.313	805	22.4	1.60	12.2
	36	7.990	1018	25.2	1.80	13.7
	40	9.865	1257	28.0	2.00	15.2

*Linear mass tolerance = +/-6%

Product Specification Rebars

3- Mechanical Properties

According to SASO ASTM A615M : 2023 / SASO ASTM A706M : 2023

Standard	Grade	Designation symbol	Yield stress (Mpa)	Tensile stress (MPa)	Ratio	Elongation @200mm	Bending*
SASO ASTM A615M	Gr.60	S4	> 420	> 550	> 1.10	Size 8 to 18 > 9% Size 20 to 25 > 8% Size 28 to 40 > 7%	Size 8 to 16 @ 3.5d Size 18 to 25 @ 5d Size 28 to 40 @ 7d
	Gr.80	S6	> 550	> 690	> 1.10	Size 8 to 25 > 7% Size 32 to 40 > 6%	Size 8 to 25 @ 5d Size 28 to 40 @ 7d
	Gr.100	S7	> 690	> 790	> 1.10	Size 8 to 25 > 7% Size 32 to 40 > 6%	Size 8 to 25 @ 5d Size 28 to 40 @ 7d
SASO ASTM A706M	Gr.60	WS4	420 - 540	> 550	> 1.25	Size 8 to 18 > 14% Size 20 to 40 > 12%	Size 8 to 16 @ 3d Size 18 to 25 @ 4d Size 28 to 40 @ 6d
	Gr.80	WS6	550 - 675	> 690	> 1.25	Size 8 to 18 > 12% Size 20 to 40 > 12%	Size 8 to 16 @ 3.5d Size 18 to 25 @ 5d Size 28 to 40 @ 7d
	Gr.100	WS7	690 - 815	> 805	> 1.25	Size 8 to 18 > 10% Size 20 to 40 > 10%	Size 8 to 16 @ 3.5d Size 18 to 25 @ 5d Size 28 to 40 @ 7d

*Bending is carried at 180o angle on a former pin diameter selected according to nominal rebar size (d)

Marking



Tradeamrk Country Size Standard Grade



Product Specification Rebars

4- Packing

Long rebars

Size /nominal diameter (mm)	Nominal linear mass (Kg/m)	Number of bars/ standard 12m bundle
8	0.395	422
10	0.617	270
12	0.888	188
14	1.208	138
16	1.578	106
18	1.998	84
20	2.466	68
22	2.984	56
25	3.853	44
28	4.834	35
32	6.313	26
36	7.990	21
40	9.865	17

Tying



Product Specification

4- Packing

Labeling

Secured each label with a tag



Product Specification Rebars

4- Packing

Coil rebars



Packing dimensions (approx.)

Rebar coil nominal weight	Inner diameter (ID)	Outer diameter (ID)	Coil Length
1.5 Ton	850 ~ 950 mm	1050mm ~ 1250mm	1100mm ~ 1250 mm
2.0 Ton			1500mm ~ 1600 mm

Estimated Straightened Rebar Length

Size	8	10	12	14	16
Rebar length @ 1.5T	3800	2432	1698	1241	950
Rebar length @ 2.0T	5066	3242	2252	1054	1207

Wire Rod in Coils

For downstream applications



AUSTRIA

EN ISO 9001:2015
No. 20100233018552



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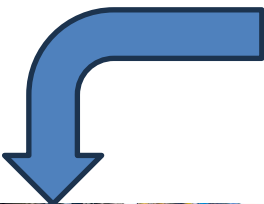
- Discharged billet at 1150°C with 80 T/hr productivity



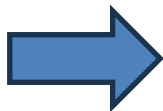
- Rolling using 16 horizontal and vertical rolling stands – Fast final rolling unit consisting of 10 high-speed rolling units for fine control of dimensions



- Coil forming in laying head + cooling on coil conveyor



- Trimming
- Compacting and tying



- Quality control testing conducted in state-of-the-art laboratories to ensure full compliance with international standards



Product Specification Wire Rod

1- Chemical composition, heat analysis

According to SASO and/or international standards,
Example: SASO-GSO-ASTM-A510M

Grade	Carbon (C) wt%	Manganese (Mn) wt%	Phosphorus (P) wt%	Sulfur (S) wt%
1006	0.02/0.08	0.45 max	...	...
1008	0.10 max	0.30-0.50	0.040	0.050
1010	0.08-0.13	0.30-0.60	0.040	0.050
1012	0.10-0.15	0.30-0.60	0.040	0.050
1015	0.13-0.18	0.30-0.60	0.040	0.050
1018	0.15-0.20	0.60-0.90	0.040	0.050
1020	0.18-0.23	0.30-0.60	0.040	0.050
1022	0.18-0.23	0.70-1.00	0.040	0.050

Other international grades/standards can be produced upon agreement



Product Specification Wire Rod

2- Wire rod Dimension

According to SASO and/or international standards,
Example: SASO-GSO-ASTM-A510M

Diameter of rod (mm)	Permissible variation in diameter	Permissible Out-of-Round (mm) [Ovality]
5.5 to 16	+/- 0.40	0.60 max

3- Mechanical properties

Mechanical properties are set according to purchase order

Product Specification Wire Rod

4- Packing

Wire rod



Packing dimensions (approx.)

Rebar coil nominal weight	Inner diameter (ID)	Outer diameter (ID)	Coil Length
1.5 Ton	850 ~ 950 mm	1050mm ~ 1250mm	1100mm ~ 1250 mm
2.0 Ton			1500mm ~ 1600 mm



Contact us

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History of Iron

