



## Steel Rebar



### (1) 產品簡介

Rebar (short for reinforcing bar), known when massed as “reinforcing steel” or “reinforcement bar” , is a steel bar that is used to help increase the tensile strength of concrete. As a result, it helps concrete structures withstand tensile, bending, torsion, and shearing loads. Since these are areas of weakness for concrete, rebar strengthens concrete structures that would otherwise fall apart under these forces.

Rebar is not typically visible in concrete structures because it is usually buried within the concrete structure. It is almost always made of steel because steel has thermal expansion properties like concrete which reduces temperature change issues. Rebar's surface features a continuous series of ribs, lugs or indentations to promote a better bond with the concrete and reduce the risk of slippage.

- The type of rebar:  
Plain rebar, Deformed Bar, Screwing Bar, Compact Bar in Coil, Steel Bar for Machine and Tool use.
- The chemical of rebar:



- Carbon steel bars (low carbon, carbon content less than 0.25%; medium carbon, carbon content 0.25% ~ 0.6%; high carbon, carbon content greater than 0.6%)
- Low alloy steel rebar (adding a small amount of silicon, manganese, titanium or rare earth elements to low or medium carbon steel bars).
- The production of rebar:
  - Hot-rolled steel rebar: hot rolled steel rebar, heat-treatment steel rebar.
  - Cold-rolled steel rebar: cold-stretched steel rebar, cold-drawn steel rebar

鋼筋，是一種用於協助提高混凝土抗拉強度的鋼筋。因此，它有助於混凝土結構承受拉伸、彎曲、扭轉和剪應力負荷。由於這些是混凝土脆弱的環節，鋼筋可以加強混凝土結構，否則在這些作用力下，這些結構會崩解。

鋼筋在混凝土結構中通常不可見，因為它通常埋在混凝土的結構內。它幾乎由鋼製成，因為鋼具有像混凝土一樣的熱膨脹特性，可以減少溫度變化的問題。鋼筋的表面有一連續系列的肋、橫肋或壓痕，以提升與混凝土有更好黏合並降低滑移的風險。

- 鋼筋依形式:
  - 柔性鋼筋（普通鋼筋）：光圓鋼筋、螺紋鋼筋、人字紋鋼筋；柔性鋼筋經過鐵絲綁紮、焊接成鋼筋網、做成平面或空間骨架以便在模板中澆築混凝土。
  - 勁性鋼筋：由各種型鋼、鋼軌等焊接成的骨架。
- 依化學成分:
  - 碳素鋼筋（低碳，含碳量小於 0.25%；中碳，含碳量 0.25%~0.6%；高碳，含碳量大於 0.6%）
  - 低合金鋼筋（在低碳或中碳鋼筋之中，加入少量的矽、錳、鈦或稀土族元素）
- 依生產方式:
  - 熱加工鋼筋：熱軋鋼筋、熱處理鋼筋



- 冷加工鋼筋：冷拉鋼筋、冷拔鋼筋

## (2) 產品用途

Rebar is widely used in various building structure, bridge, road and other civil engineering construction. From highway, railway, bridge, culvert, tunnel, flood control, dam and other public facilities, to the building foundation, beams, columns, walls, plates, screw steel are indispensable structural materials.

鋼筋廣泛應用於各種建築結構，橋樑，道路及其他土木工程建設。從高速公路、鐵道、橋樑、涵洞、隧道、防洪、水壩及其他公共建設，到建築基礎，樑、柱、牆、板及螺紋鋼都是不可或缺的結構材料。

## (3) 產品規格

There are many steel rebar sizes, grades, and types to support a variety of structures. As we know, different countries have their own standard sizes of rebar to let their people to obey as like as US sizes, Canadian sizes, European sizes, Australian sizes, New Zealand, India...and so on. Normally, the metric size and imperial size are two popular measurements in the market.

International standards, including CNS560, JIS3112, ASTM A615/A706, AS/NZS4671, CSA G30, and BS4449.

Please refer the following US Rebar Size chart according to the standard of the ASTM A615 for your reference. This is easy for you to choose the most suitable rebar you need. Customized sizes are also available according to your requirements.

鋼筋有很多尺寸，等級及形式以支援各種結構。眾所皆知，不同國家都有自定標準讓他們的人民去遵守，例如美國尺寸、加拿大尺寸、歐洲尺寸、澳洲尺寸、紐西蘭尺寸、印度尺寸等。通常，公制尺寸及英制尺寸是市場上兩種盛行的測量尺寸。



國際規範標準：CNS560, JIS3112, ASTM A615/A706, AS/NZS4671, CSA G30, and BS4449.

請參考下列依 ASTM A615 標準的美國鋼筋尺寸表供您參考，這些尺寸方便您選擇最適合您需求的鋼筋。同時，我們也可根據您的要求提供客製化尺寸。

Imperial bar size	Metric bar size (soft)	Linear Mass Density		Nominal diameter		Nominal area	
		lb/ft	kg/m	(in)	(mm)	(in <sup>2</sup> )	(mm <sup>2</sup> )
#2	No.6	0.167	0.249	0.250 = 2/8 = 1/4	6.35	0.05	32
#3	No.10	0.376	0.56	0.375 = 3/8	9.53	0.11	71
#4	No.13	0.668	0.994	0.500 = 4/8 = 1/2	12.7	0.2	129
#5	No.16	1.043	1.552	0.625 = 5/8	15.9	0.31	200
#6	No.19	1.502	2.235	0.750 = 6/8 = 3/4	19.1	0.44	284
#7	No.22	2.044	3.042	0.875 = 7/8	22.2	0.6	387
#8	No.25	2.67	3.973	1.000 = 8/8	25.4	0.79	510
#9	No.29	3.4	5.06	1.128 ≈ 9/8	28.7	1	645
#10	No.32	4.303	6.404	1.270 ≈ 10/8	32.3	1.27	819
#11	No.36	5.313	7.907	1.410 ≈ 11/8	35.8	1.56	1,006
#14	No.43	7.65	11.384	1.693 ≈ 14/8	43	2.25	1,452
#18	No.57	13.6	20.239	2.257 ≈ 18/8	57.3	4	2,581

#### (4) 產品包裝

Bundle, or with all kinds of colors PVC or as your requirements.

捆札、或各種 PVC 顏色、或依客戶要求。

#### (5) 主要出口國

The major Steel exporters of steel in 2022.

2022 年主要鋼鐵出口國。



Rank	Total exports	Mt
1	China	68.1
2	Japan	31.7
3	European Union (27)	26
4	South Korea	25.5
5	Germany	22.3
6	Türkiye	18
7	Russia	17.9
8	Italy	16
9	Belgium	14.7
10	Brazil	12.1
11	India	12.1
12	France	11.5
13	Taiwan	9.9
14	Netherlands	9.4
15	Indonesia	9.2
16	Spain	8.4
17	United States	8.3
18	Viet Nam	7.4
19	Malaysia	7.1
20	Austria	6.8

(1) Excluding intra-regional trade

(2) Data for individual European Union (27) countries include intra-European trade.

資料來源：維基百科、World Steel Association