中国刀具市场
2021 年进出口测算及近年发展情况
Overview of Import & Export of China's Cutting Tools 2021 & Development Recent Years

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作者简介

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BRIEF INTRODUCTION TO THE AUTHOR

As the 1st E-commerce company of Tungsten (W), Molybdenum (Mo), Rare Earth (RE) in China, China Tungsten Online Manu. & Sales (CTOMS) was founded in 1997 based on China's the 1st and top tungsten website www.chinatungsten.com. As its specialized design, professional manufacturing, excellent service and powerful information database, CTOMS is not only the most authoritative information source of Chinese and English information of W Mo and RE products globally, but also the best comprehensive application solution provider of W, Mo and RE, both chemical materials and machined products, such as tungsten oxide, metal, cemented carbide and heavy alloys.

CTOMS has been created more than 1 million web pages and WeChat information message of W, Mo and RE news, price and market research, analysis. The web news.chinatungsten.com, www.ctia.com.cn are the world's top index websites of tungsten which have received 1 billion visits from 1997.

The major business of CTOMS is to complete product design, R & D with customers and provide customers with processing and integration services. In the past 2 decades, it has provided more than 100,000 different types of W, Mo & RE products to more than 10,000 customers all over the world. Years experience and technology accumulation have laid a foundation for promoting the flexible and intelligent manufacturing of customized products.

The professional research articles and reports of CTOMS are written by Dr. Hanns, Miss Sunny Zheng, professional analyst and its marketing team. Dr. Hanns is an expert of the main market and technical research of CTOMS has been engaged in e-commerce and international trade of tungsten and molybdenum products, production and manufacturing of cemented carbide and high specific gravity tungsten alloy since the early 1990s. He is a well-known expert in e-commerce, tungsten product design, processing and Market Research of tungsten and molybdenum products in the industry with more than 30 years of experience. Miss Sunny has been committed to the research of tungsten market, creating and promoting CTOMS social media form many years. She has strong professional delicacy and sensitivity to tungsten products market and price.

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中国刀具市场 2021 年进出口测算及近年发展情况

Overview of Imp. & Exp. of China's Cutting Tools 2021 & Development Recent Years

1. The Total Consumption Scale, Import and Export Calculation of Cutting Tool Market of China in 2021

The tool branch of China Machine Tool & Tool Builders' Association (CMTBA) has calculated the total consumption scale and import and export volume of China's tool market in 2021 based on the investigation and analysis of the statistical data of member department, customs data, tool raw material statistical data, tool gathering area data, etc.



1.1 Total consumption scale of China's cutting tool market in 2021

The total consumption scale of China's cutting tool market increased from 42.1 billion CNY in 2020 to 47.7 billion CNY in 2021, a year-on-year increase of 13.3% (Figure 1), reaching a new high. Among them, domestic cutting tools are about 33.9 billion CNY, accounting for 71%, with a year-on-year increase of 17%; Imported cutting tools (including those produced and sold by foreign brands in China) amounted to 13.8 billion CNY, accounting for 29%, with a year-on-year increase of 5.3%. Domestic cutting tools have increased significantly in the Chinese market, accounting for 2% more than that in 2020. After declining for two years, the proportion of imported cutting tools increased at a low speed, decreasing by 2 percentage points compared with that in 2020.

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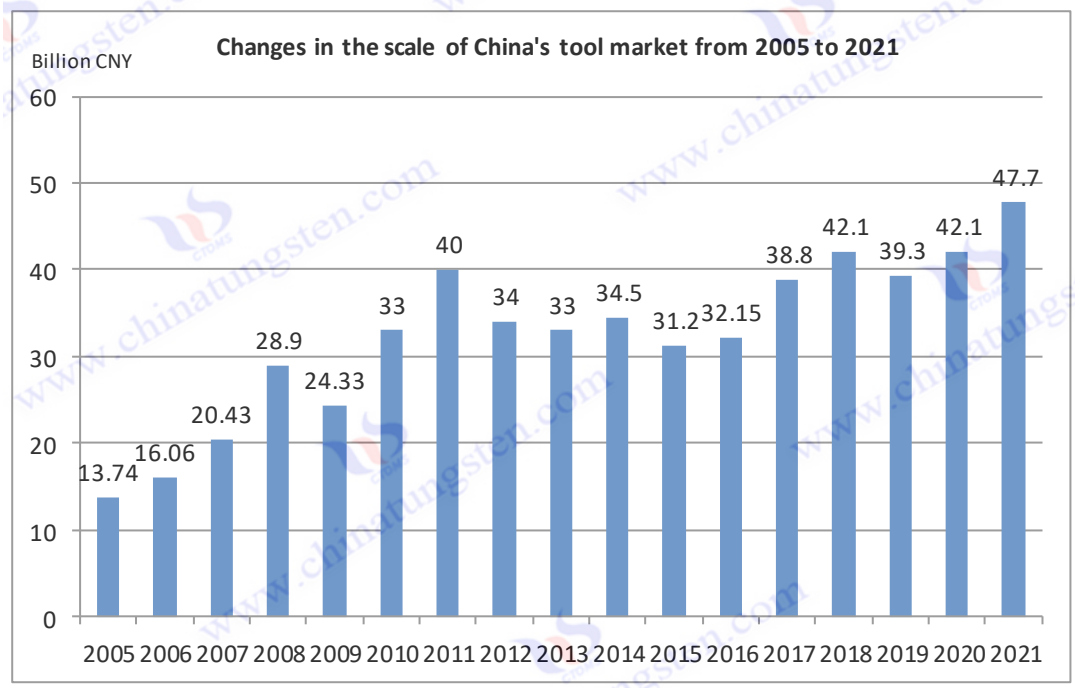


Figure 1 Changes in the scale of China's tool market 2005-2021

Domestic tool production and sales (domestic sales + export): 45.3 billion in 2018 (27.3 billion +18 billion); 44.1 billion in 2019 (25.7 billion +18.4 billion), with a year-on-year decrease of 2.6%; 47 billion in 2020 (29billion +18billion), with a year-on-year increase of 6.6%; 56.4 billion in 2021 (33.9 billion +22.5 billion), with a year-on-year increase of 20%.

1.2 Scale of imported cutting tools (foreign brands) in 2021

The total scale of China's tool imports (including foreign brands produced and sold in China) increased from 13.1 billion CNY in 2020 to 13.8 billion CNY in 2021, a year-on-year increase of 5.3% (Figure 2).

There is a certain difference between import data and customs data (including year-on-year growth), because the statistical caliber is not completely consistent. Foreign brands are produced and sold in China.



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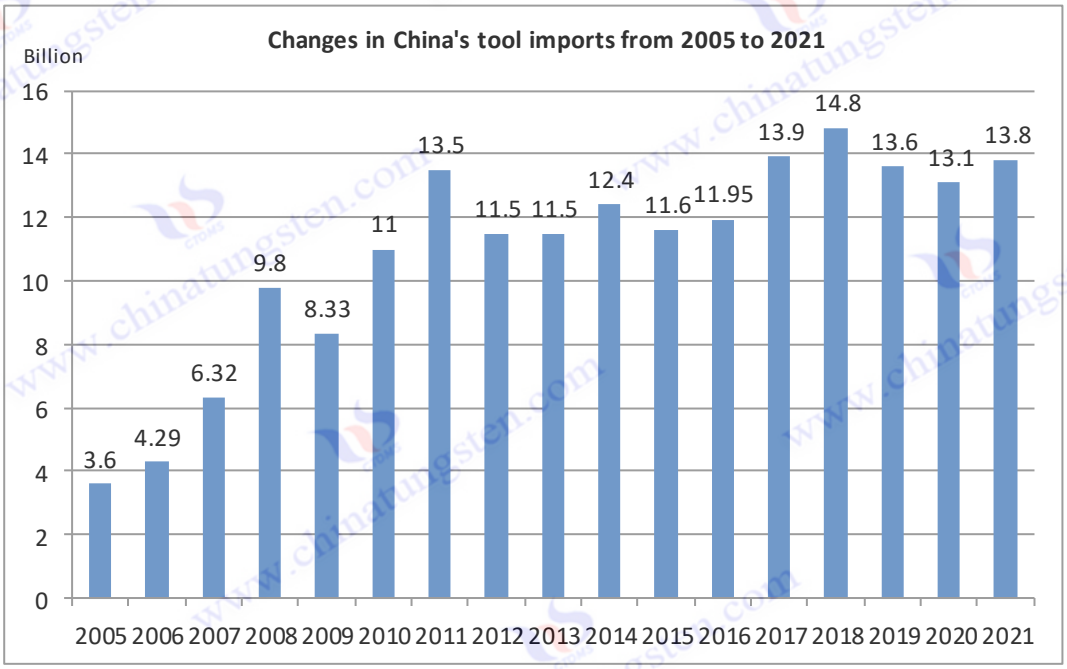


Figure 2 Changes in China tool imports from 2005-2021

1.3 Export scale of cutting tools of China in 2021

China's tool export increased from 18 billion CNY in 2020 to 22.5 billion CNY in 2021, an increase of 25.45%.

2. Development of Cutting Tools in China in Recent Years

According to the statistical data and investigation and analysis, the development of cutting tool varieties with relatively large production and sales in China in recent years (2018-2021) is introduced.

2.1 significant progress has been made in domestic cutting tools

According to the calculation of the tool branch, the market share of domestic cutting tools in China has increased from 65% in 2018 to 71% in 2021. The export value of cutting tools remained basically stable from 2018 to 2020, with an increase of 25.45% in 2021.

2.2 Tungsten Cemented Carbide cutting tools grow rapidly

With the development of China's manufacturing industry, the demand for tungsten cemented carbide tools is increasing. At the same time, in recent years, China's tungsten cemented carbide tool industry has made significant progress in raw materials such as tungsten carbide powder, PVD and/or CVD coatings, sintered process equipment, etc., which has driven the rapid expansion of production capacitysintered, and attracted capital

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attention to accelerate the process of production expansion.

There are two types of cemented carbide tools with large sales volume and rapid development: one is the overall tungsten cemented carbide round handle tools (hereinafter referred to as "cemented carbide tools"), mainly milling cutters and drill bits; The other is CNC blade.

a) Change radically of tungsten cemented carbide tools

The main user fields of tungsten cemented carbide tools are: 3C represented by mobile phones, molds, transportation, aerospace, etc. China is a large mobile phone manufacturer with a large amount of carbide tools, which is one of the main reasons why international tool giants speed up the acquisition of tungsten cemented carbide tools enterprises in China.



Tungsten Cemented Carbide Indexable Coated CNC Blade

The 3C industry represented by mobile phones is highly cyclical, and the product design is updated quickly, which makes the demand for such cutters fluctuate greatly. It grew rapidly in 2017 and 2018, fell sharply in 2019, rebounded rapidly in 2020, grew rapidly in the first half of 2021 and slowed down in the second half.

The raw material of this kind of tungsten cemented carbide cutting tool is tungsten carbide rod/bar. The market demand can be seen from the output of bar. National annual output of bars: 11000 MT in 2018; it will be 8321 MT in 2019, a sharp decrease; 11000 MT in 2020; 14600 MT in 2021.

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Tungsten Cemented Carbide Drills

The entry threshold of hardened tools is low, and the main processing equipment is CNC tool grinder. The rapidly growing market demand has led to the rapid expansion of the production capacity of such tools, and a large number of small, medium enterprises have begun to produce such tools. Therefore, the price competition is fierce, and some enterprises are not very profitable.

High end users, such as aerospace, are still mainly use imported brands.

b) Continuous growth of CNC blades

Tungsten carbide CNC blade is a product with high added value, and it is also the tool variety with the largest import volume. In recent years, the production and sales of CNC blades in China have continued to grow, even in 2019 when the whole industry is adjusted.

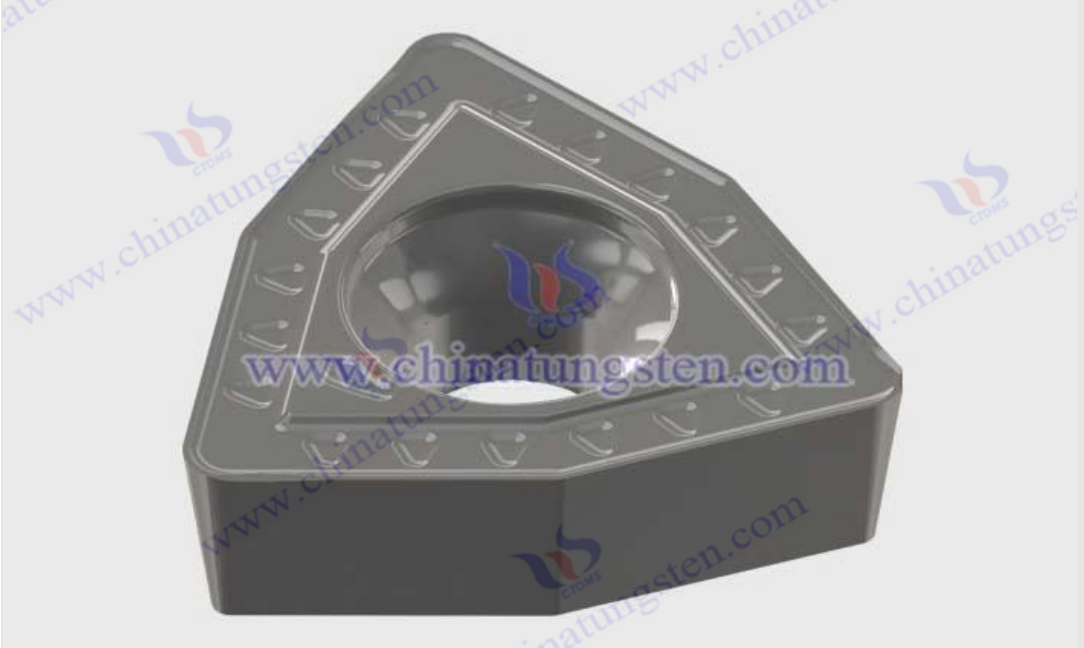
According to the survey, the production and sales of tungsten carbide CNC blades in China were 235 million in 2018, 250million in 2019, 300million in 2020 and 450million in 2021. From 2021 to 2022, capacity expansion will further accelerate.

Tungsten cemented carbide cutting tools (mainly blades) are the cutting tools imported by China, accounting for about 40%. According to the customs data, in 2021, China imported 638 MT cemented carbide coated tools (mainly blades) and 680 MT cemented carbide uncoated tools (including some blades). Based on this data, it is estimated that the number of imported blades is more than 100million. In 2021, the average unit price of imported tungsten cemented carbide coated tools (mainly blades) is 4,251.36 CNY /kg, while the average unit price of exported carbide coated tools (mainly blades) is 1,116.79 CNY /kg.

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According to the 2021 annual report of the tools branch, the average unit price of NC blades in the industry is less than 7 CNY / piece.



Tungsten Carbide CNC Indexable Blade

China's CNC blades are cheap and good, and have made great contributions to improving the efficiency of the manufacturing industry. Due to its high added value, at present, most blade manufacturing enterprises have good profitability. However, from granulation (mixed tungsten carbide powder with Cobalt powder and ball milling), pressing (forming with molds), sintering, grinding (maching to finished) to coating, the product has a long process chain and large equipment investment. It is a capital-intensive product. Moderate capacity expansion can promote competition and facilitate high-quality industrial development; However, excessive expansion is not conducive to the sustainable and healthy development of the industry.

The gap between these products and the international advanced level is mainly due to the original solutions, supporting capacity, service and quality stability, which is also one of the main reasons for the huge price difference between domestic and foreign blade products.

2.3 High Speed Steel Cutting Tool Market Remains Basically Stable

From 2018 to 2020, China's high-speed steel production has basically remained stable, with a slight increase in 2021. In terms of high-speed steel cutting tools, few new enterprises have entered the industry in recent years, the industrial pattern has not changed much, and the profitability of leading enterprises is stable.

Among the high-speed steel cutting tools, the dominant varieties are mainly taps, Broaches and medium modulus gear cutting tools, among which the production and sales of taps are

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the largest. In 2021, China will import 1.07 billion CNY of taps and export 780million CNY (including a small amount of alloy steel wire taps), with a difference of 10 times between the import and export unit prices. High end taps have great market potential, which is one of the reasons for some enterprises to enter the tap product field.



In terms of variety change, the small and medium-sized high-speed steel drill bits and milling cutters are partially replaced by hardened cutters, and the medium and large-sized drill bits, milling cutters and gear cutters are partially replaced by indexable tungsten cemented carbide cutters.

The development of high-speed steel cutting tools in recent years is mainly manifested in the progress of raw materials, the progress of process equipment and the optimization of subdivision fields.

40% of China's total tool production capacity is exported, of which the export volume of drill bits is the largest, accounting for nearly 40%. In 2021, China's export of drill bits was 8.6 billion CNY, mainly high-speed steel (including alloy high-speed steel) drill bits. China is the main producer of this kind of cutting tools, and the main export enterprises have stable profits.

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