



"UZBEKISTAN TECHNOLOGICAL METALS COMPLEX" JSC

Unlocking Potential: TMK's Innovation Catalog

Table of Contents

1. Activities of the "Future Metals Technoparks"	-3-
2. Export Destination	-5-
3. Midstream Tolling Services	-6-
4. Products	-7-
5. R&D (Research and Development) Center	-23-
6. Central Nano-Analytical Laboratory	-24-
7. International-Level Engineers in Critical Minerals to Be Trained in Uzbekistan	-25-

Activities of the “Future Metals Technoparks”

Within its scope of activity, the “Future Metals Technoparks” can operate in the following directions, based on international experience and the practices of other technoparks in Uzbekistan

Construction and Leasing of Production Facilities

- Ready-made production buildings, laboratories, offices, and logistics infrastructure will be constructed within the technopark.
- These facilities will be offered for lease to investors, local and international companies, providing startups and tech companies the opportunity to start their operations quickly and at low cost.
- Additionally, the buildings can be adapted to specific requirements (e.g., special infrastructure for metallurgy equipment).

Leasing of Land Plots

The technopark will lease land plots within its territory to resident companies, enabling them to independently build their own production infrastructure.

These land plots are usually offered under preferential conditions, such as:

- Long-term lease (e.g., up to 10 years),
- Tax and customs benefits,
- Provision of infrastructure (electricity, gas, water, roads, etc.).

Participant Companies and Projects

The main directions of the projects within the technopark include:

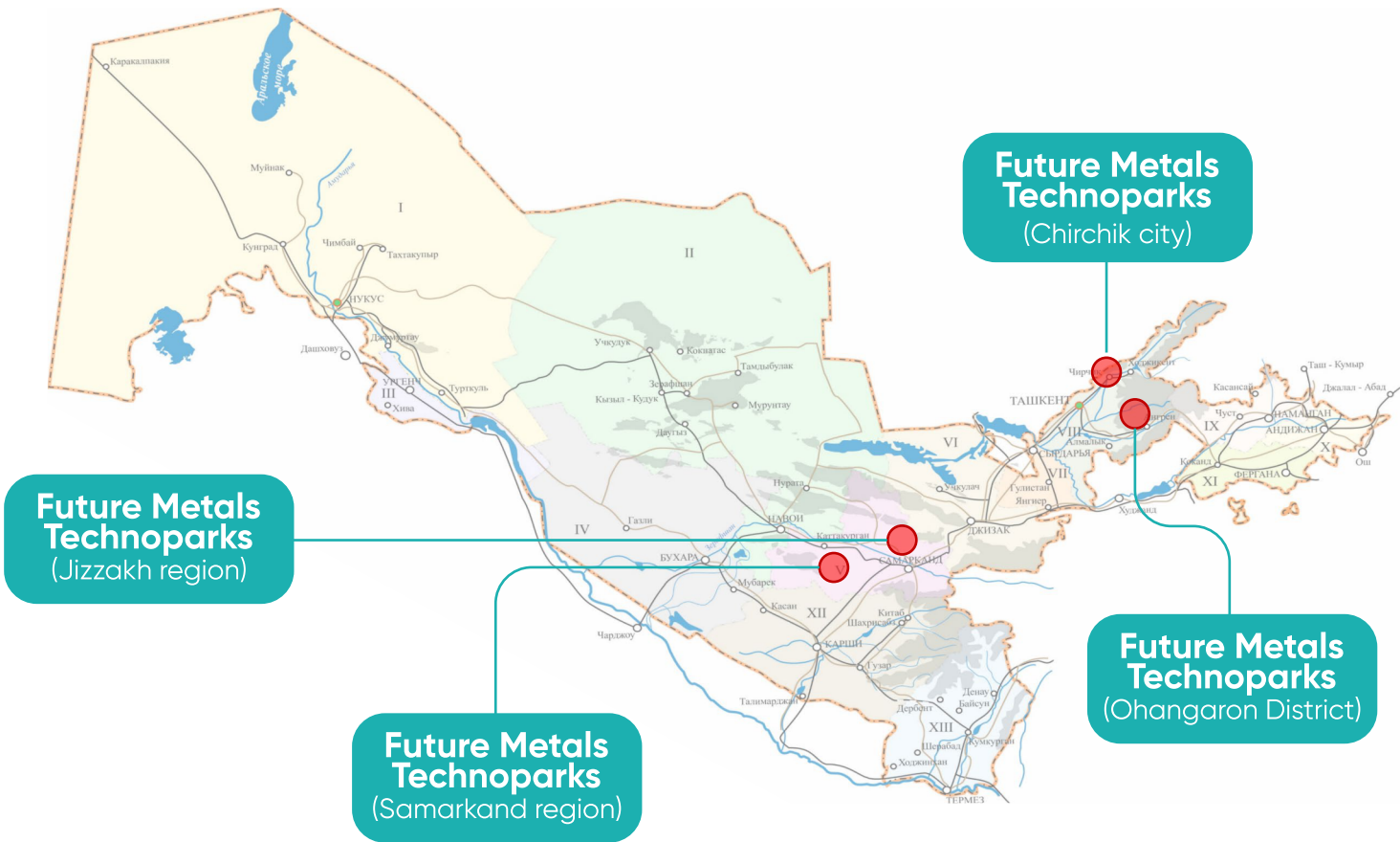
- Processing of rare and strategic metals: Developing technologies for processing metals like lithium, titanium, tungsten, and molybdenum
- Implementation of innovative technologies: Conducting scientific research and applying new technologies in practice
- Production of import-substituting products: Manufacturing high value added products using local raw materials
- Production of export-oriented products: Producing finished products based on metals and valuable raw materials that are in high demand in the global market

Support Provided by the Technopark Administration

Companies utilizing land plots and buildings may be granted:

- Tax incentives, (land tax is reduced by 50%, property tax is reduced by 50%, profit tax is reduced by 50%)
- Customs Privileges (raw materials, components, spare parts, equipment, and construction materials not produced within the Republic and imported into the country are exempt from customs duties)
- Grants for innovative projects
- Administrative assistance in project coordination

Location of Future Metals Technoparks



TMK Export Destination

JSC "Uzbekistan Technological Metals Complex" (TMK)

Factory Location:

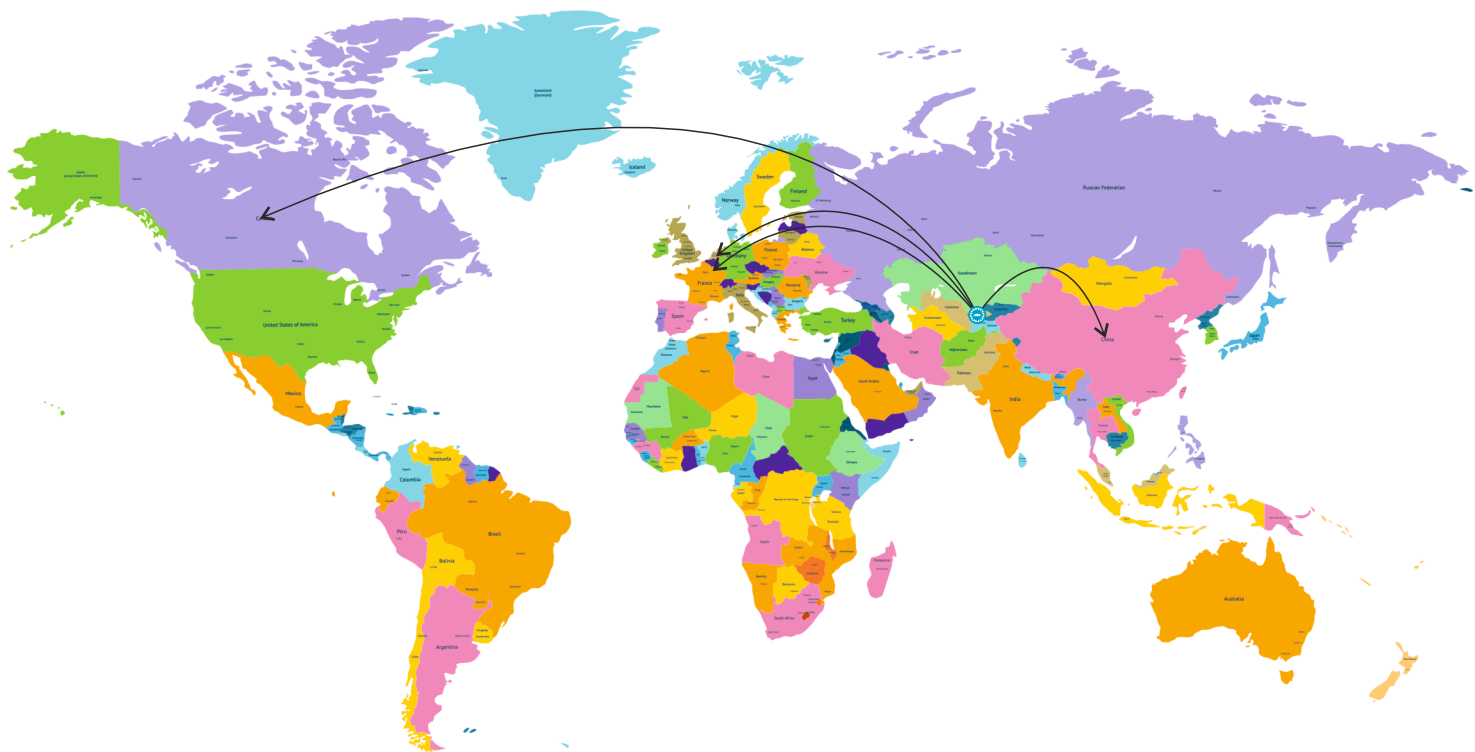
Chirchik city, Tashkent region,
Republic of Uzbekistan

Exported Metals:

- Molybdenum (metallic)
- Tungsten (metallic)
- Rhenium (metallic)

Primary Export Destinations:

- Netherlands
- Belgium
- China
- Canada





TMK Midstream Tolling Services

TMK offers raw material processing (tolling) services for partners worldwide:

Types of Import Raw Materials for midstream Processing:

- Molybdenum concentrate
- Tungsten concentrate
- Molybdenum Trioxide
- APT (Ammonium Paratungstate)

Generated midstream Products:

- Metal powder
- Briquettes
- Bars
- Sheets
- Rods
- Custom-made finished products





METALLIC TUNGSTEN SINTERED BRIQUETTES

Purpose:

Used to improve heat-resistance and strength in special high-alloy steels

Specification:

Ts 00193950-088:2018

Tungsten Content:

Grade 1 – not less than 96.918%
Grade 2 – not less than 96.318%

Technical Specifications:

Chemical Composition:	Grade 1	Grade 2
Tungsten (W) content:	96.918 %	96.318%
Impurities are limited to the following maximum levels:		
Silicon dioxide (SiO ₂)	1.5	1.5
Molybdenum (Mo)	0.4	0.4
Oxygen (O)	1.0	1.0
Carbon (C)	0.1	0.1
Phosphorus (P)	0.02	0.02
Sulfur (S)	0.01	0.01
Copper (Cu)	0.01	0.01
Arsenic (As)	0.03	0.03
Tin (Sn)	0.003	0.003
Antimony (Sb)	0.003	0.003
Lead (Pb)	0.003	0.003
Bismuth (Bi)	0.003	0.003

Briquette Dimensions:

Cross-section ~30 ± 5 mm each side
Length ~400 ± 5 mm

Briquette Weight:

0.02 – 5.05 kg per briquette

Packaging: Metal drums

Minimum Order Quantity: 1.000 kg

HS Code: 8101999000

Delivery Terms: EXW, price negotiable



"UZBEKISTAN TECHNOLOGICAL METALS COMPLEX" JSC



Purpose:

Tungsten bars intended for use
in the production of high-alloy special steels

METALLURGICAL TUNGSTEN BARS

Specification: TU 48-19-76-90
Tungsten Content: $\geq 99.59\%$

Packaging:

Metal containers

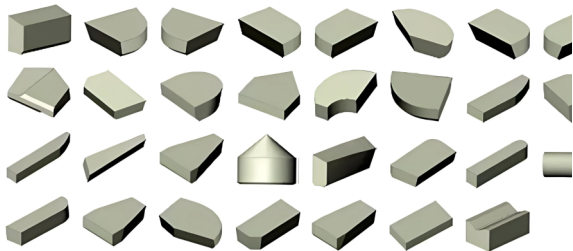
Minimum Order Quantity: 1,000 kg

HS Code: 8101940000

Delivery Terms: EXW, price negotiable

Technical Specifications:

Chemical Composition:	Content, %
Tungsten (W) not less than:	99.59
Maximum impurity content	
Iron + Aluminum (Fe+Al)	0.03
Phosphorus (P)	0.005
Sulfur (S)	0.008
Silicon (Si)	0.04
Carbon (C)	0.015
Lead (Pb)	0.0001
Zinc (Zn)	0.002
Tin (Sn)	0.0003
Antimony (Sb)	0.001
Arsenic (As)	0.001
Copper (Cu)	0.002
Cadmium (Cd)	0.0001
Bismuth (Bi)	0.0001
Molybdenum (Mo)	0.3
Oxygen (O ₂)	0.003
Hydrogen (H ₂)	0.0007



BRAZED CARBIDE PLATES

Grades: VK3 to VK30, T5K10, T15K6, T14K8
Standards: GOST 2209-90; GOST 17163-90;
GOST 20312-90; GOST 3882-74; GOST
25396-90; GOST 25402-90

Purpose: Used as brazed-on cutting inserts for all types of metalworking and woodworking tools, suitable for all types of material processing (attached by soldering/brazing onto the tool body).

Packaging: Cardboard boxes

Minimum Order Quantity: 2 kg. HS Code: 8209008000.

Delivery Terms: EXW, price negotiable.



Replaceable Multi-Faceted Carbide Inserts

Grades: T5K10, T15K6, VK8

Standards: GOST 19042-80;
GOST 19043-80; GOST 19044-80;
GOST 19050-80; GOST 19051-80;
GOST 3882-74

Purpose: Indexable inserts for cutting tools. These multi-edged carbide inserts serve as the working part of cutting tools, offering multiple cutting edges, high precision, quick replacement, and flexible tooling options

Packaging: Cardboard boxes

Minimum Order Quantity: 2 kg

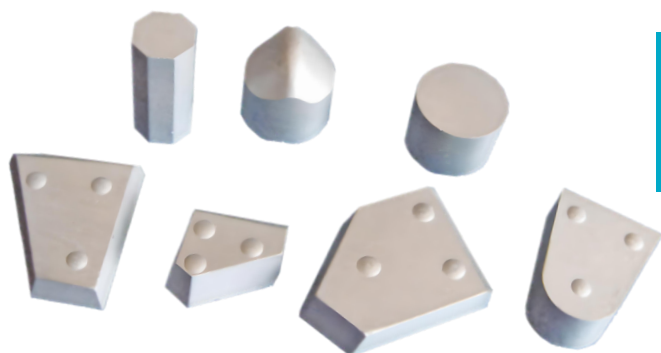
HS Code: 8209002000

Delivery Terms:

EXW, price negotiable



"UZBEKISTAN TECHNOLOGICAL METALS COMPLEX" JSC



CARBIDE PRODUCTS FOR MINING TOOLS

Grades: VK6 to VK20

Standards: GOST 880-75;
GOST 4411-79; GOST 3882-74

Purpose: Tungsten carbide tool inserts designed for equipping mining drill bits (button bits, cross bits, coal cutter picks). They are also used for reinforcing the crowns of rotary drill bits in geological exploration drilling, improving wear resistance and durability.

Packaging: Cardboard boxes.
Minimum Order Quantity: 2 kg
HS Code: 8209008000

Delivery Terms: EXW, price negotiable

Tungsten Carbide
Drawing Dies Grade:
VK (available die forms №8, №10, №12)
Standard: GOST 3882-74



Purpose: Tungsten carbide drawing dies (wire drawing nibs) for reducing wire and rod diameters. Used in drawing wire and round-section rods of various sizes by pulling material through a narrowing profile channel. These dies are characterized by high versatility and quick tool change, making them ideal for demanding wire-drawing operations.

Packaging: Cardboard boxes
Minimum Order Quantity: 10 pieces
HS Code: 8207209000

Delivery Terms:
EXW, price negotiable



LATHE CUTTING TOOLS FOR METAL

Types: A wide range of turning tools including straight and bent turning tools, shoulder (facing) tools, undercutting tools, boring tools (bent and facing), threading tools, grooving tools, parting-off tools, and fillet (profiling) tools.

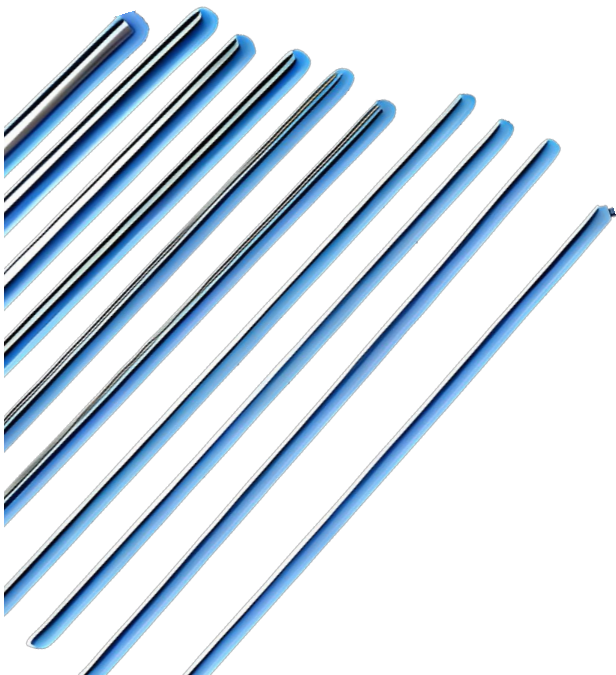
Purpose: Lathe cutting tools are designed for cutting metals, synthetics, and other materials on lathes.

Different tool designs are available for various operations:

- Parting tools – used for cutting off workpiece sections and making grooves.
- Turning (roughing) tools – used for machining rotating cylindrical workpieces along their length.
- Facing (shoulder) tools – used for machining end faces or shoulder areas of a workpiece (undercutting operations).
- Boring tools – used for enlarging or finishing internal blind and through holes.
- Threading tools – used for cutting internal and external threads.

Packaging: Wooden crates
Minimum Order Quantity: 10 pieces
HS Code: 8207801900

Delivery Terms:
EXW, price negotiable



YTTRIUM-DOPED TUNGSTEN ELECTRODES (SVI-1)

Grades: VK6 to VK20.

Standards: GOST 880-75; GOST 4411-79;
GOST 3882-74.

Purpose: Tungsten welding electrodes doped with yttrium oxide are used for semi-automatic or automatic welding in inert gas atmospheres (e.g. argon, helium or their mixtures). These electrodes provide stable arc performance and durability in TIG welding applications.

Technical Specifications:

Chemical Composition:		Mass fraction, %, not more than
Molybdenum		0.040
Iron		0.007
Aluminum		0.005
Silicon		0.010
Calcium		0.010
Nickel		0.005
Yttrium Oxide (Y_2O_3)		1.5–2.3
Tungsten		97.623

Nominal value (mm):	Maximum deviation (mm):	Length, not less than (mm):
from 2.0 mm to 6.0 mm (in 1.0 mm increments)	± 0.07	120
8.0	± 0.010	200
10.0	± 0.010	200

Packaging: Cardboard boxes.
Minimum Order Quantity: 5 kg
HS Code: 8101991000

Delivery Terms:
EXW, price negotiable



COMPOSITE HARDFACING ROD

Purpose: Cored composite rod used for hardfacing (overlay welding). It is utilized to form a cutting and wear-resistant weld overlay on drilling and milling tools, particularly in repair and restoration of oil, gas, and geological exploration well equipment. This rod deposits a durable carbide-rich layer to prolong tool life in harsh service conditions.

Dimensions:

Shape and sizes: Diameter – 15 ± 2 mm, Length – 300 ± 5 mm, Average weight – 0.328 kg

Technical requirements:

Indicator name	Maximum deviation (mm):
Mass fraction	
VK8 alloy (per GOST 3882)	54.8
Brass	37.8
Nickel	6.2

Packaging: Cardboard boxes

Minimum delivery quantity:
5 pieces HS Code: 8311 90 0000

Delivery terms:
EXW, price negotiable



"UZBEKISTAN TECHNOLOGICAL METALS COMPLEX" JSC



HAMMER DRILL BITS WITH CARBIDE TIPS

Purpose: Designed for rotary hammer drills (perforators) to create holes and recesses in concrete, stone, and other hard materials. These drill bits feature a sintered carbide tip of grade VK, enabling efficient percussive drilling into tough surfaces with high durability.

Dimensions:

Available Diameters:

Ø6 mm, Ø8 mm, Ø10 mm, Ø12 mm

Length: 150 mm

Packaging:

Cardboard boxes

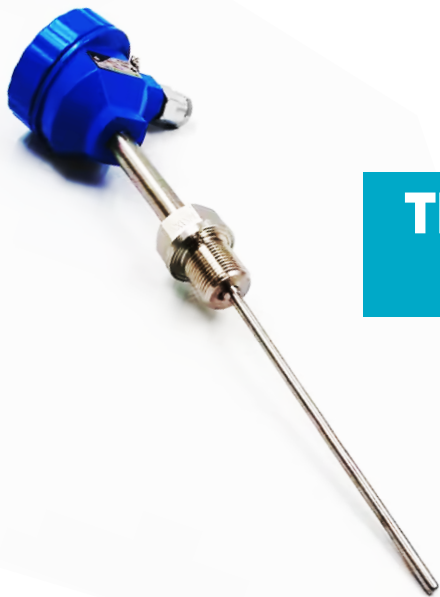
Minimum delivery quantity:

100 pieces

HS Code: 8207 50 900 0

Delivery terms:

EXW, price negotiable



THERMOELECTRIC CONVERTER TXA (CHROMEL–ALUMEL)

Type: Chromel–Alumel
Thermocouple (Type K)

Purpose: A thermoelectric temperature sensor assembly for measuring high temperatures in industrial environments, including aggressive (corrosive) media. This TXA type converter (Chromel–Alumel thermocouple) is suitable for use in furnaces, kilns, and process installations where reliable high-temperature measurement is required.

Length: from 300mm to 3000mm

Packaging: Cardboard boxes

Minimum Order Quantity: 5 units
HS Code: 9025198009

Delivery Terms:
EXW, price negotiable



IRON POWDER

STANDARD: GOST 9849-86

Purpose: Iron powder intended for manufacturing parts by powder metallurgy and for other industrial uses. Applications include the production of welding electrodes and materials, self-lubricating bearings, high-strength and wear-resistant components, machine parts, magnetic materials, friction elements (primarily automotive parts), among others.

Physical-Chemical Properties:

Indicator name	Value
Carbon (C)	0.06
Iron (Fe)	97.00
Silicon (Si)	-
Manganese (Mn)	-
Sulfur (S)	0.01
Oxygen (O ₂)	0.58

Physical-Chemical Properties:

Indicator name	Value
Residue insoluble in hydrochloric acid	2.35
Bulk density (g/cm ³)	2.20

Packaging: Metal drums
Minimum delivery batch: 1000kg

HS Code: 7205 29 0000
Delivery terms: EXW, price negotiable

METALLIC RHENIUM



Information is provided for product sales purposes.

HS Code: 8112 99 300 0

Delivery terms: EXW,
price negotiable

Note: Upon agreement with the customer, the manufacturer may supply metallic rhenium with a higher content of the main component

Application:

- as an additive for high-quality catalysts in the oil refining industry;
- in the production of alloying elements in metallurgy

Name of indicators	Norm according to regulatory documentation	
	Grade 1	Grade 2
Mass fraction of impurities, % no more than		
Ferrum	0.001	0.001
Aluminum	0.0005	0.0005
Nickel	0.002	0.002
Silicon	0.001	0.002
Magnesium	0.001	0.001
Calcium	0.002	0.003
Manganese	0.0001	0.0001
Phosphorus	0.001	0.001
Sulfur	0.002	0.002
Potassium	0.001	0.005
Sodium	0.0005	0.001
Copper	0.0003	0.0003
Molybdenum	0.002	0.003
Oxygen	0.08	0.15
Rhenium, % not less than	99.906	99.829
Average particle diameter according to Fischer, microns	3.0-7.5	



"UZBEKISTAN TECHNOLOGICAL METALS COMPLEX" JSC



SOLID CARBIDE TWIST DRILLS

Standard: GOST 17274-71

Material: Solid VK-grade tungsten carbide

Solid Carbide End Mills

Standard: GOST 18372-73

Material: Solid VK - grade tungsten carbide

Purpose:

Solid Carbide Twist Drills High-precision solid carbide spiral drills for machining metals and composite materials. These drills offer exceptional hardness and wear resistance for improved drilling performance and tool life in industrial cutting operations.

Solid Carbide End Mills Tungsten carbide end mills for milling operations on metals and composite materials. These solid carbide end mills provide high cutting efficiency, rigidity, and longevity, suitable for precision manufacturing and high-speed machining.

Diameter: from Ø6 mm to 16 mm

Length: according to GOST standard

Packaging: Cardboard boxes

Minimum delivery quantity: 100 pieces

HS Code: Drills (8207 50 900 0)

HS Code: Mills (8207 70 370 0)

Delivery terms: EXW, price negotiable



SELENIUM (SE)

Purity 99.9% – 99.999% (3N – 5N)

Production Status: Launching soon

Description:

High-purity selenium metal for use in electronics, glass, metallurgy, and chemicals. Will be available in lump, granule, or powder form

3N – 99.9%

4N – 99.99%

5N – 99.999%

Form: Lumps, powder, pellets, granules

Application:

- Semiconductor and photocell production
- Glass decolorization
- Rubber vulcanization
- Pigments and chemical synthesis
- Metallurgy (additive for steel)

Packaging:

Vacuum-sealed plastic bags inside sealed metal drums or polypropylene containers

Minimum Order Quantity:

3N: 1000 kg

4N / 5N: 100 kg

HS Code: 2804 90 0000

COA and MSDS available with first batch

Delivery terms: EXW

Price: Negotiable, depending on purity and market

METALLIC MOLYBDENUM IN BRIQUETTE FORM



Purpose:

- Alloying of high-strength steels and superalloys
 - Metallurgy and foundry industries
 - Production of molybdenum-based compounds
- Vacuum furnaces and high-temperature technologies

Technical Specifications (Average from Quality Passport):

Indicator	Average Value
Molybdenum (Mo),%	99.7875
Content per briquette, kg	997.8750

Impurities (max, %):

Element	%	Element	%
W (Tungsten)	0.0100	Cu (Copper)	0.0025
O ₂ (Oxygen)	0.1175	SiO ₂ (Silica)	0.0105
C (Carbon)	0.0042	Ni (Nickel)	0.0162
Fe (Iron)	0.0438	Sn (Tin)	0.0010
S (Sulfur)	0.0020	Sb (Antimony)	0.0030
Pb (Lead)	0.0030	Zn (Zinc)	0.0010
Bi (Bismuth)	0.0010	P (Phosphorus)	0.0019
As (Arsenic)	0.0020		

HS Code (TN VED): 8102 94 0000

Delivery terms: EXW

Price: Negotiable

Minimum Order Quantity:
1,000 kg



METALLIC MOLYBDENUM BARS

- Purpose:
- Alloying of special steels and high-temperature alloys
 - Electric vacuum engineering
 - Sputtering targets and evaporation materials
 - Semiconductor and aerospace industries

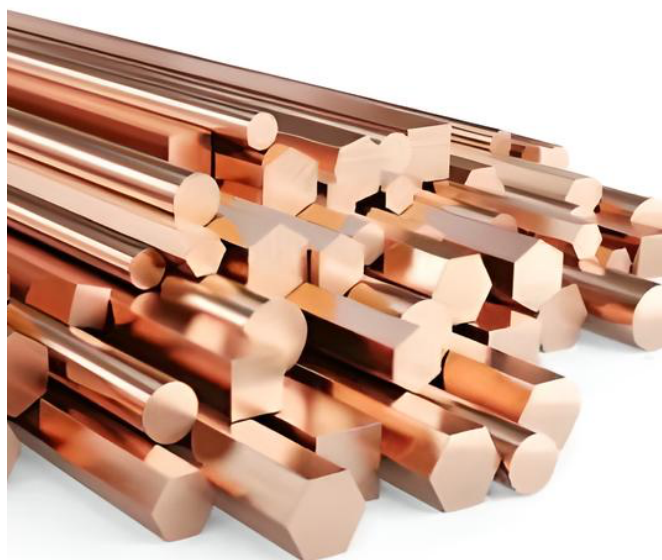
Technical Specifications (Average from Quality Passport):

Indicator	Average Value
Molybdenum (Mo),%	99.9350
Content per briquette, kg	379.7375

Impurities (max, %):		Impurities (max, %):	
Element	%	Element	%
W (Tungsten)	0.0100	Sn (Tin)	0.0005
Fe (Iron)	0.0253	Sb (Antimony)	0.0003
Al (Aluminum)	0.0095	Pb (Lead)	0.0001
P (Phosphorus)	0.0010	Bi (Bismuth)	0.0001
S (Sulfur)	0.0010	Cd (Cadmium)	0.0001
C (Carbon)	0.0042	Cu (Copper)	0.0020
As (Arsenic)	0.0020	Zn (Zinc)	0.0010
O ₂ (Oxygen)	0.0080		

Minimum Order Quantity: 1,000 kg
HS Code (TN VED): 8102 94 0000

Delivery terms: EXW
Price: Negotiable



TELLURIUM (TE)

Product: Launching soon
 Refined Tellurium metal in ingot, granule, or powder form
 Purity Grades Available:

- 3N – 99.9%
- 4N – 99.99%
- 5N – 99.999%

Purpose:

- Tellurium is widely used in:
- Thermoelectric modules (Bi_2Te_3 , PbTe , etc.)
- Solar cell technologies (CdTe thin films)
- Alloying additive in steel and copper
- Chemical and pharmaceutical synthesis
- Semiconductor and infrared optics
- Vulcanization of rubber

Form: Solid ingots, granules, flakes, or powders

Minimum Order Quantity:

3N: 1000 kg
 4N / 5N: 100 kg

Delivery terms: EXW, price negotiable

Price: Negotiable

HS Code: 2804 50 0000

COA and MSDS will be provided upon first batch production

Expected Technical Specifications:

Grade	Te (min %)	Total Impurities (max %)
3N	99.9	0.1
4N	99.99	0.01
5N	99.999	0.001



R&D (RESEARCH AND DEVELOPMENT) CENTER

Project Objective

- Development of new technologies for processing rare metals
- Improvement of technological processes
- Research on the application of rare metals in new industrial sectors
- Development of innovative products for high-tech industries
- Improvement of existing technological processes to increase efficiency and environmental cleanliness

Investment Project

Project Location	City of Chirchik
Project Area	1488 m2
Project Cost	2,9 million USD
Number of	
Directions	8
Specialization	More than 10
Start Date of Work	Year 2025

Structural divisions of the R&D center

Design Department

Designing new devices and mechanisms, performing simulation work.

Technology Department

Implementation of new innovative processes in production, introduction of technology automation systems

VR and AR Department

Creates virtual reality systems prior to production, performs visualization and data presentation tasks.

Digitization and Automation

Department Data collection and analysis, implementation of robotics and artificial intelligence systems.

Reverse Engineering Department

Creates high-quality and efficient prototypes, improves and optimizes products, develops innovative solutions.

Metrology Department

Creating and maintaining technical documentation for measuring instruments, calibration, repair, preparation of measurement reports.

Partners



CENTRAL NANO-ANALYTICAL LABORATORY

CENTRAL NANO-ANALYTICAL
LABORATORY IS A DIVISION
OF TMK JSC, THE MAIN

ADVANTAGE OF WHICH IS TO
CARRY OUT A WIDE RANGE
OF MATERIAL ANALYSES

FROM PHASE COMPOSITION
TO THE STUDY OF THE CRYSTAL
STRUCTURE OF MATERIALS
AT THE NANOSCALE.

- Full cycle from sample preparation to pure metals and alloys analysis
- Routine analyses of minerals and metals (INCLUDING CENTRAL PLANT LABORATORIES)
- International accreditation (iso/iec 17025:2017)
- Modern equipment from the world's leading manufacturers
- Experienced staff with foreign experience
- High efficiency and reliability
- Smart lab (mes)
- Online measurement booking portal (one-stop service)

International-Level Engineers in Critical Minerals to Be Trained in Uzbekistan

Today, one of the most talked-about terms globally is “critical raw materials” These resources have become the driving force behind technological advancement – powering sectors from energy storage to artificial intelligence, electric transportation, and defense systems. As a result, training professionals who possess a deep understanding of these materials, can operate advanced technologies, and bring international expertise has become an urgent priority.

In response, the [Uzbek Technological Metals Combine \(TMK\)](#) has established the country's first [Graduate School for Technological Metals](#) – a pioneering step in Uzbekistan's educational and industrial development. Today, engineering is not merely about formulas; it is a tool to reshape the world. Geology is no longer just excavation; it is the art of strategic thinking. Science is no longer confined to paper – it comes to life in real industrial hubs. Education at the Higher School is based on precisely such a modern and practical vision.

The undergraduate program of the Graduate School is delivered in partnership with the renowned [University of Pisa \(Italy\)](#). Importantly, all instruction is conducted in English, and learning takes place not only in classrooms but also at TMK's real production sites. One of the most exciting features of the program is that students spend their fourth year in Italy, where they continue their academic journey. This means students who study copper crystal structures in the lab today will be melting them in a factory tomorrow – witnessing the entire industrial value chain in action.

Another key focus of the Graduate School is its [master's program in critical minerals](#), launched in collaboration with the [China University of Geosciences \(Wuhan\)](#). This internationally-oriented program is designed to train specialists in geology, exploration, and surveying. During the second phase of their education, students will continue their studies in China. Instruction is provided entirely in English, and upon graduation, students will receive dual diplomas from both Uzbekistan and China.

To support students, TMK has allocated [25 fully funded scholarships for the undergraduate program](#) and [10 scholarships for the master's program](#). Graduates of the Graduate School will be guaranteed employment within TMK upon completion of their studies.



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