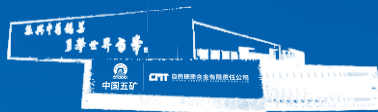


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ZGCC

ZGCC TOOLS FOR MINING



CMT ZIGONG CEMENTED CARBIDE CORP.,LTD



APPLICATION



CMT ZIGONG CEMENTED CARBIDE CORP.,LTD



ISO9001:
CN-CQC08Q10970
ISO14001:
CN-CQC08E22096



体系认证
CNAS C001-Q

品质成就未来

QUALITY ACCOMPLISHES THE FUTURE

自贡硬质合金有限责任公司

- 世界500强企业中国五矿的核心成员
- 中国第一家自主设计建设的大型硬质合金企业
- 国内领先的硬质合金及配套工具制造商
- 世界先进水平的表面工程技术服务提供者
- 国内领先的钨钼制品制造商

ZIGONG CEMENTED CARBIDE CO., LTD.

- Zigong Cemented Carbide Co.,Ltd(ZGCC) is a core member of China Minmetals which is one of the world 500 top companies.
- It is the first home-designed and built large scale cemented carbide manufacturing enterprise in China.
- It is one of the leading manufacturers of cemented carbides and related tools at home.
- It's a reliable supplier of the surface engineering technology with advanced world levels and their application services.
- It holds the leadership position in the tungsten and molybdenum product manufacture in China.



我们的优势 Our superiority

- ☐ Special design and development of materials
- ☐ Complete production procedure-from manufacturing of materials to making finished wear parts
- ☐ Advanced equipments and powerful systematic secure capability
- ☐ Quality control in wide range

The many different types of mining tools provided by ZGCC:

1.Parts Introduction

01

(a) Carbide Inserts

02

(b) Retainers

2. Technical advantages 3. Surface Mining

03

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4. Underground Mining

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(a) Tunneling

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(b) Mining

5. Tool Blocks &Tool Sleeves

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(a) Tool Blocks

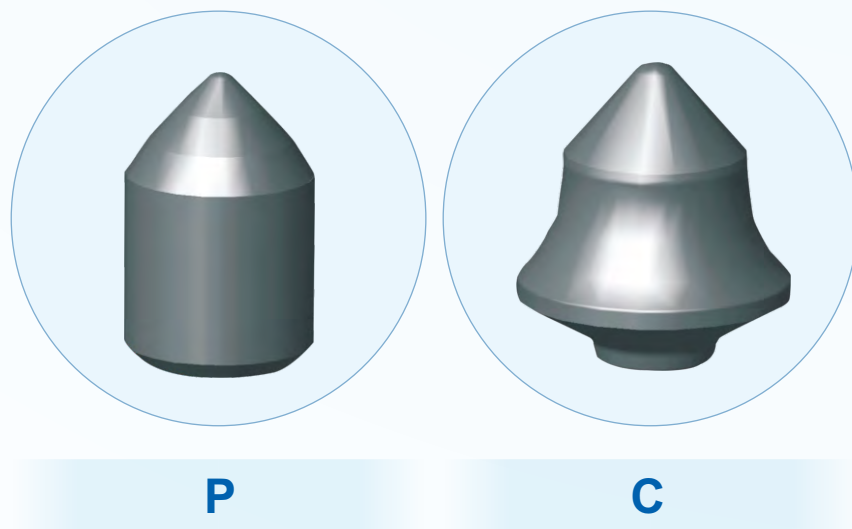
18

(b) Tool Sleeves

Products introduction

The different shapes and codes of carbide inserts

- ▼ P-Plug
- ▼ C-Cap
- ▼ NB-Narrow Bottom
- ▼ F-Flat Bottom



▼ In the following product introduction, the acronym at the end of the “type” is used to indicate the insert shape of the tool. But they are compiled by Chinese usual practice, so we increase a list of “Insert Type” in the table for your reference.

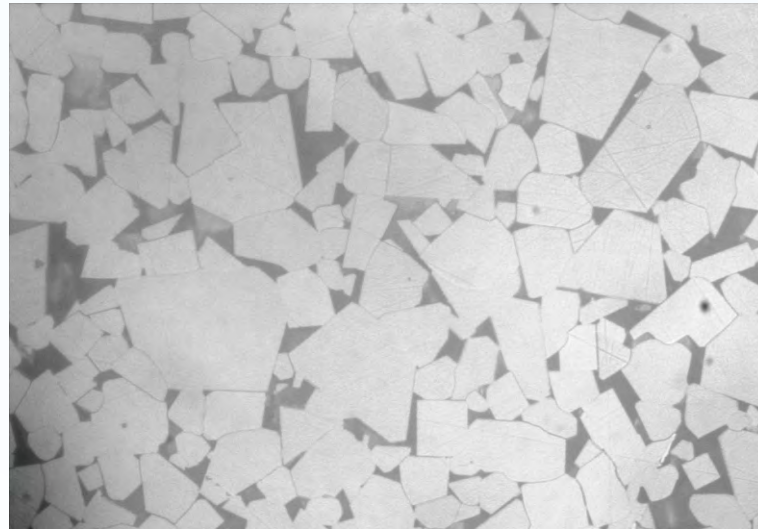
Retainers

▼ Retainers can be chosen freely according to the shape of the shank.

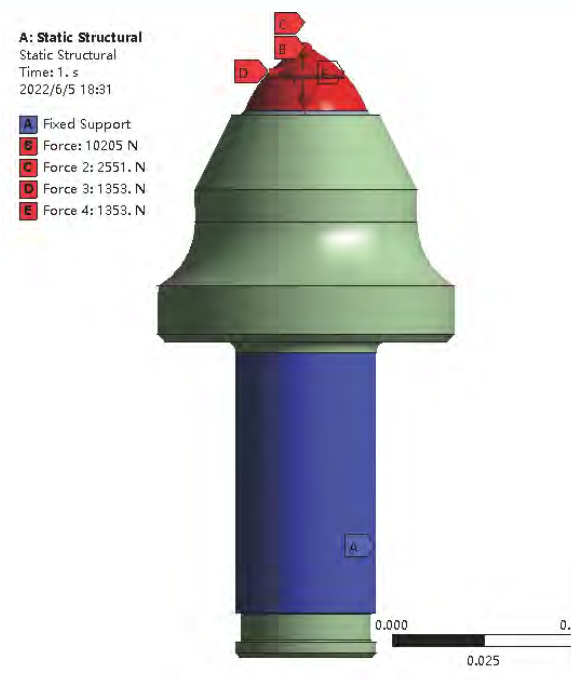


Technical advantages

By using ultra-coarse tungsten carbide raw material, the range of grain size and metallurgical boundary of carbide grain are so perfect, and thickness of cobalt binder related to interlay reach to several micrometers. This structure greatly improves heat conduction and fatigue crack resistance and makes carbide insert high fracture toughness and high-temperature wear resistance.



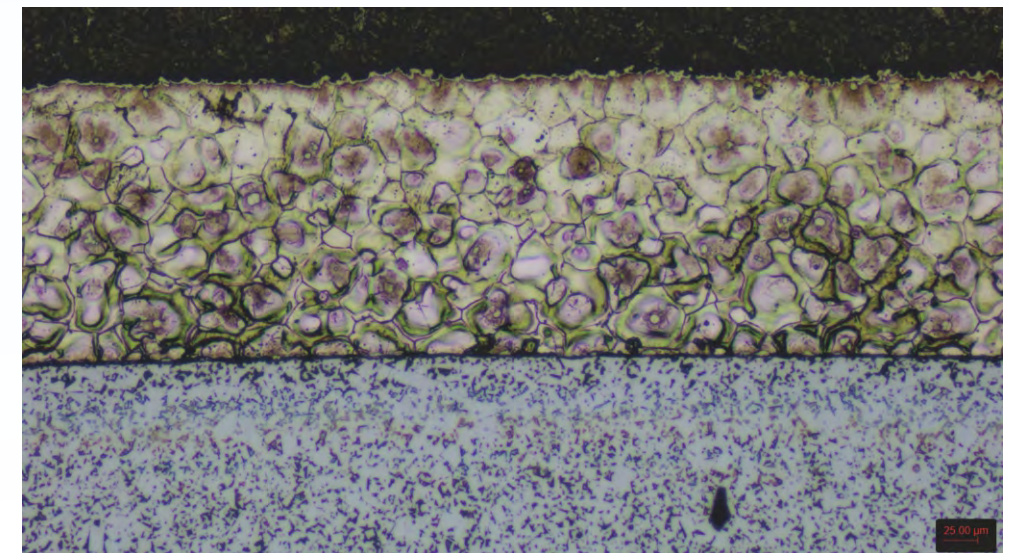
Scientifically building up a stress model for functioning of carbide insert and tool, the shapes of both carbide insert and tool are designed through stress analysis, and the service life of tool extend.

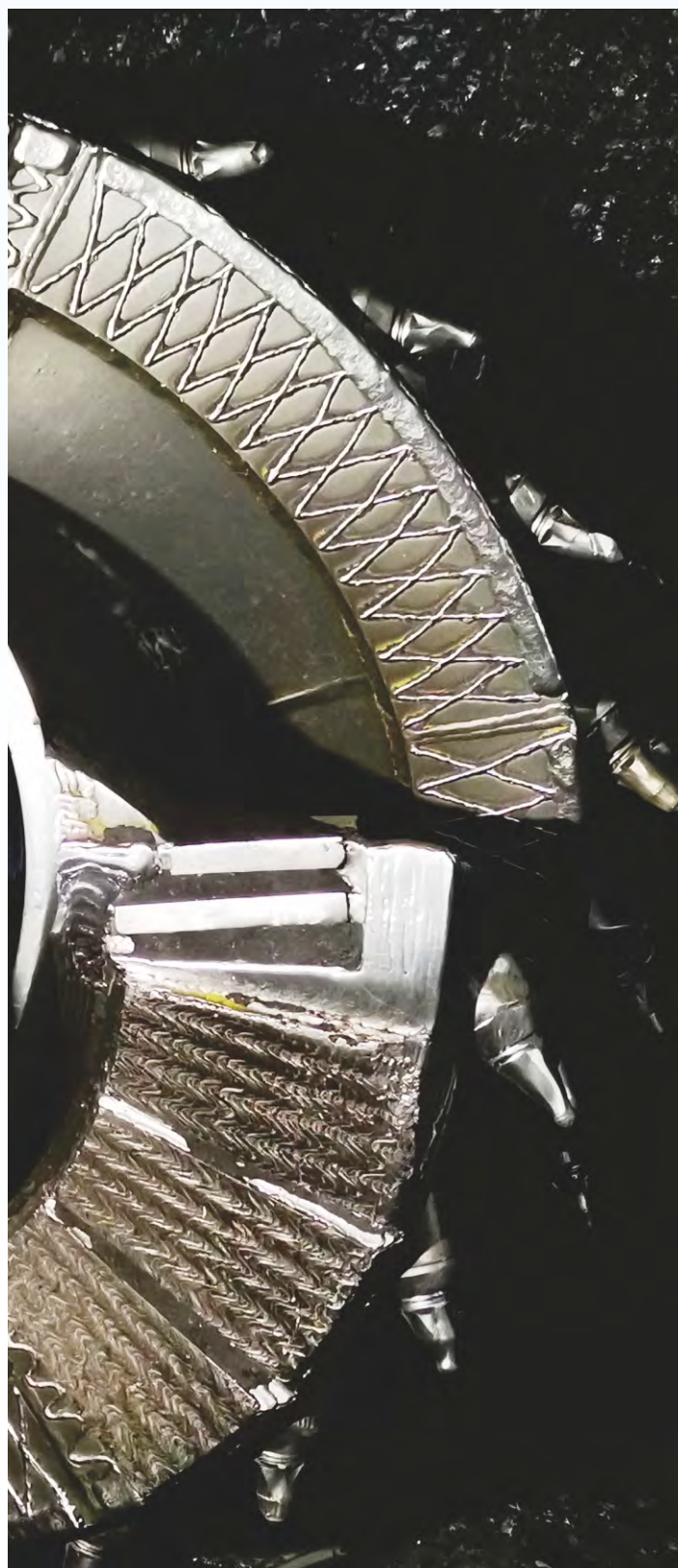


Heat treatment technology effectively controls ribbon-like structures such as undissolved ferrite structures. Compared to the induction hardening metallographic testing standard for steel parts of JB9204, there are a large number of finely-refined and uniform ferrite structures in the steel body after heat treatment, which are 3-4-level ferrite structures.

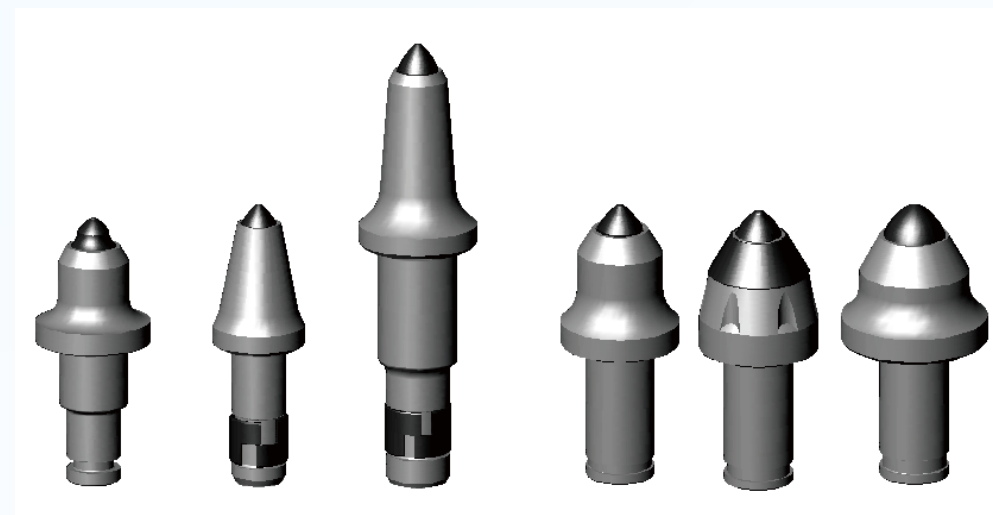


Excellent weld microstructure, ensuring strong welding of the carbide insert and steel body, and a mean shear strength value greater than 300 Mpa.





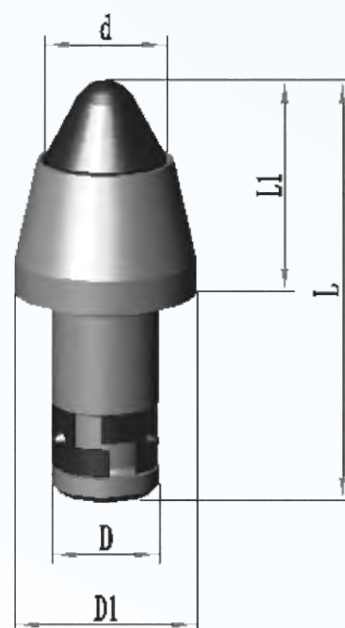
ZGCC produce mining bits diameter from 5mm to 43mm×35mm



We design and manufacture super-coarse grain cemented carbide insert independently, with a variety of protection schemes such as plasma surfacing, pisolitic carbide welding.



Surface Mining



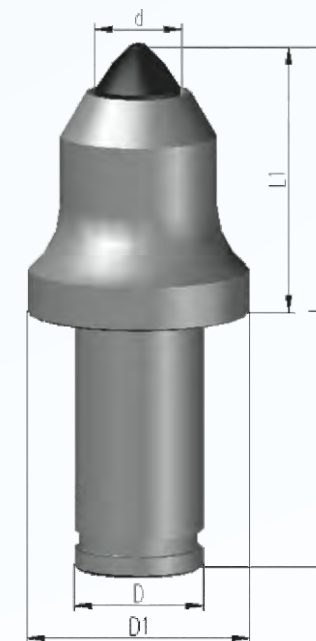
Note: The letters “HXV” under type mean road stabilization & trenching.

Type	D	d	D1	L1	L	Kgs/pc	Pcs/Box	Condition	Insert Type
HXV2242-16M	22	16	36	42	76.2	0.280	50	medium	C
HXV2244-16PC	22	16	38.1	44	87	0.286	50	light	P/F
HXV2244-16MC	22	16	38.1	43.5	86.5	0.283	50	medium	C
HXV2245-25P	22	25	37	45	87	0.380	50	medium	P/F
HXV2557-25M	25	25	41.9	57	101.7	0.535	35	medium	C
HXV2563-25M	25	25	41.9	63	107.7	0.560	35	medium	C

Underground Mining

Tunneling

Shank Diameter of 38 mm



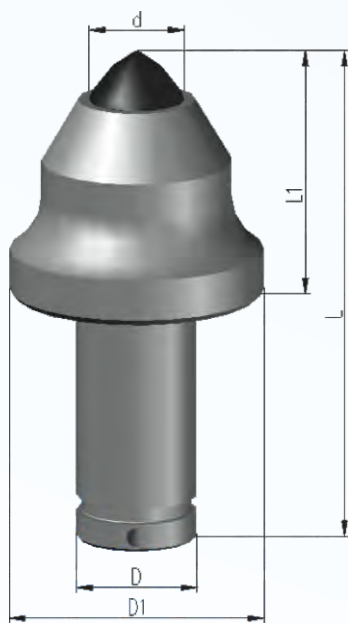
Note: The letters “HVJ” under type mean tunneling

Type	D	d	D1	L1	L	Kgs/pc	Pcs/Box	Condition	Insert Type
HVJ135-22	38	22	65	80	156	1.76	10	heavy	P
HVJ135-22G	38	22	65	80	156	1.76	10	heavy	NB
HVJ135-25	38	25	65	80	156	1.85	10		P
HVJ135-25G	38	25	65	80	156	1.82	10	heavy	NB
HVJ135-29M	38	29	65	80	156	1.9	10	medium	C

Underground Mining

Tunneling

Shank Diameter of 38mm (Heavy Duty)

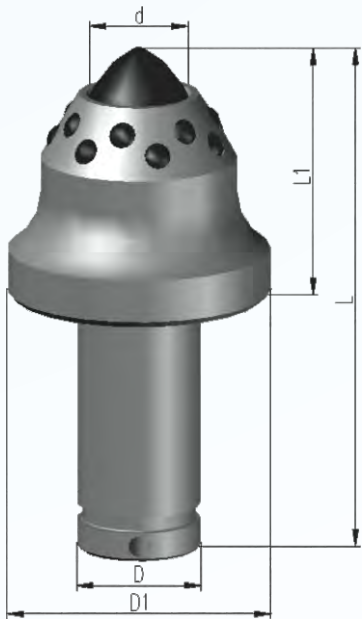


Note:The letters “HVJ” under type mean tunneling

Type	D	d	D1	L1	L	Kgs/pc	Pcs/Box	Condition	Insert Type
HVJ135M-22G	38	22	80	79	158	2.28	5	light	NB
HVJ135M-28	38	28	80	79	158	2.4	5	severe	P
HVJ135M-30	38	30	80	79	158	2.47	5	severe	P
HVJ135M-30G	38	30	80	79	158	2.5	5	medium	NB
HVJ135M-34	38	34	80	79	158	2.53	5	severe	P

Tunneling

Shank Diameter of 38mm (Reinforced)



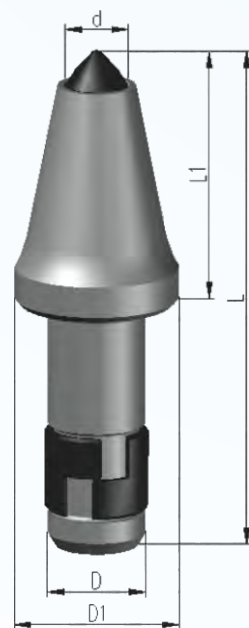
Note:The letters “HVJ” under type mean tunneling

Type	D	d	D1	L1	L	Kgs/pc	Pcs/Box	Condition	Insert Type
HVJ135D12-28	38	28	65	80	159	2.0	10	Heavy	P
HVJ135D12-30	38	30	65	80	159	2.1	10	Heavy	P
HVJ135D14-28	38	28	80	79	158	2.5	5	Heavy	P
HVJ135D14-30	38	30	80	79	158	2.5	5	Heavy	P
HVJ135D14-32	38	32	80	79	158	2.5	5	Heavy	P
HVJ135D14-34	38	34	80	79	158	2.6	5	Heavy	P

Underground Mining

Mining

Shank Diameter of 30mm

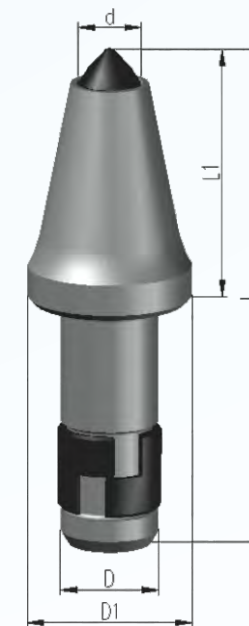


Note: The letters “HV” under type mean mining

Type	D	d	D1	L1	L	Kgs/pc	Pcs/Box	Condition	Insert Type
HV62-16	30	16	45	68	133	0.83	20	light	P
HV62-25M	30	25	45	68	133	0.83	20	medium	C
HV82-14G	30	14	50	80	156	0.99	15	Light	NB
HV82-16G	30	16	50	80	156	0.99	15	Light	NB
HV82-20X	30	20	50	84	160	1.04	15	Light	NB
HV82-19	30	19	50	80	156	1.1	15	Medium	P
HV84-18	30	18	50	70	146	0.97	15	Medium	P
HV84-19G	30	19	50	70	146	1.0	15	Medium	NB
HV84-22	30	22	50	70	146	0.99	15	Heavy	P
HV84-30	30	30	50	70	146	1.21	15	Heavy	P
HV85-19	30	19	50	86	162	1.0	15	Medium	P

Mining

Shank Diameter of 35mm



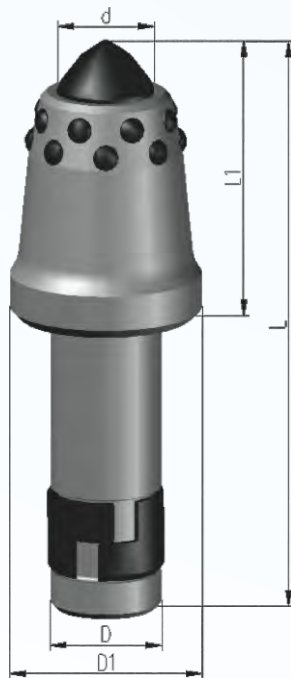
Note: The letters “HV” under type mean mining

Type	D	d	D1	L1	L	Kgs/pc	Pcs/Box	Condition	Insert Type
HV92-16	35	16	55	102	196	1.6	10	Light	P
HV94-19	35	19	55	89	183	1.32	10	Medium	P
HV94-19G	35	19	55	89	183	1.28	10	Light	NB
HV94-22	35	22	55	89	183	1.52	10	Medium	P
HV94-22G	35	22	55	89	183	1.46	10	Medium	P
HV94-25M	35	25	55	89	183	1.5	10	Light	C
HV95H-25G	35	25	55	89	183	1.46	10	heavy	NB
HV95H-25	35	25	55	89	183	1.64	10	heavy	P

Underground Mining

Mining

Shank Diameter of 35mm

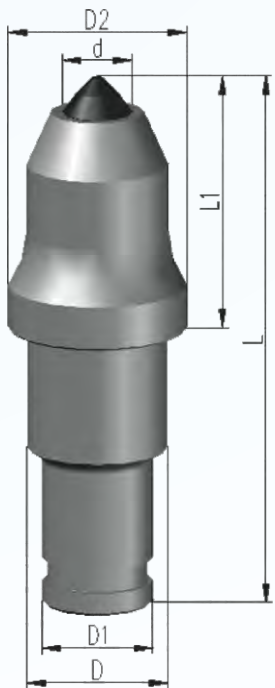


Note:The letters “HV” under type mean mining

Type	D	d	D1	L1	L	Kgs/pc	Pcs/Box	Condition	Insert Type
HV95D12-25	35	25	55	89	183	1.81	10	Medium	P
HV95D12-28	35	28	60	89	183	2.03	10	severe	P
HV95D16-30	35	30	60	89	183	2.03	10	Heavy	P
HV95D16-32	35	32	67	89	183	2.1	10	Heavy	P

Mining

Shank Diameter of 38×30mm



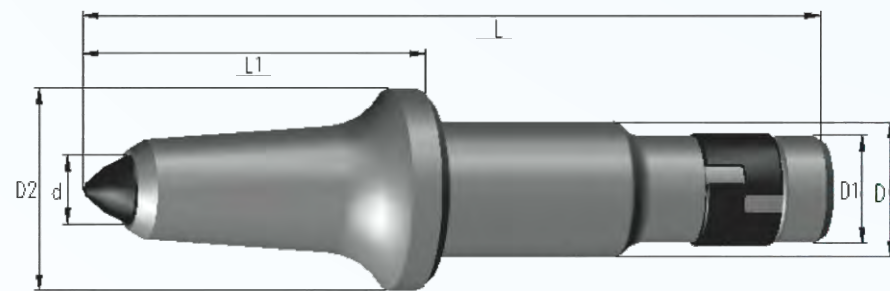
Note:The letters “HVJ” under type mean tunneling

Type	D	D1	d	L1	D2	L	Kgs/pc	Pcs/Box	Condition	Insert Type
HV47-19G	38	30	19	70	55	146	1.4	10	Light	NB
HV47-22G	38	30	22	80	65	156	1.37	10	Medium	NB
HV47-22	38	30	22	76	63	153	1.4	10	heavy	P
HV47-25M	38	30	25	70	63	146	1.31	10	Light	C
HV47/76-19	38	30	19	76	63	152	1.32	10	Medium	P
HV47/89-19	38	30	19	89	63	165	1.42	10	Medium	P

Underground Mining

Mining

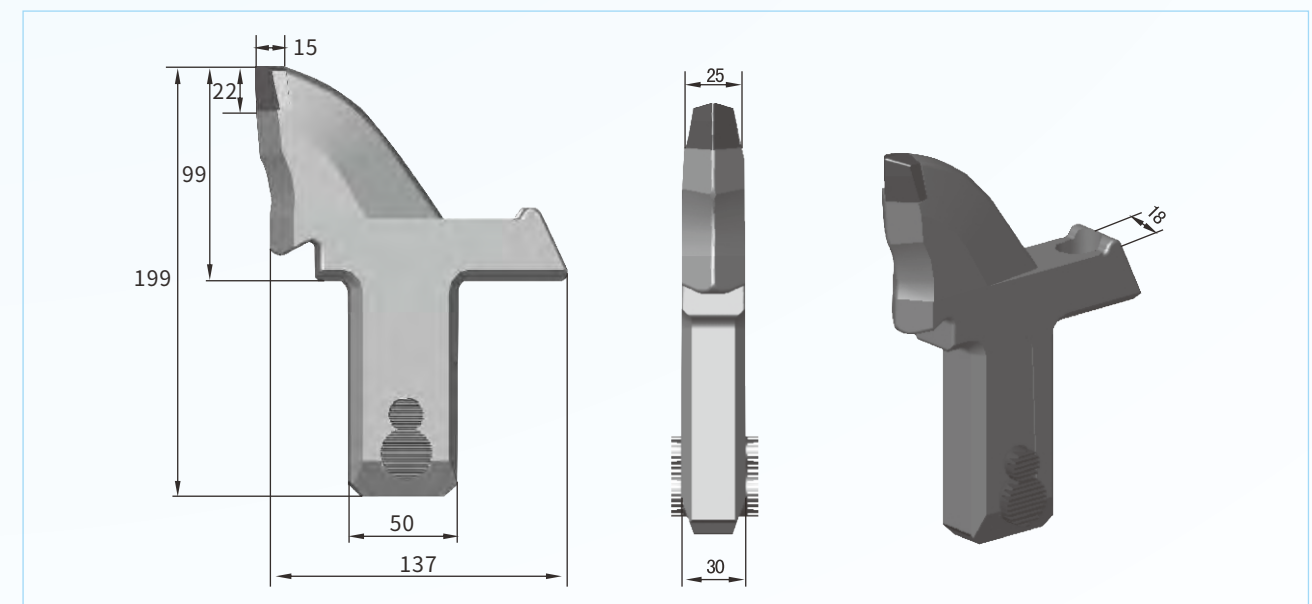
Shank diameter of 43×35mm



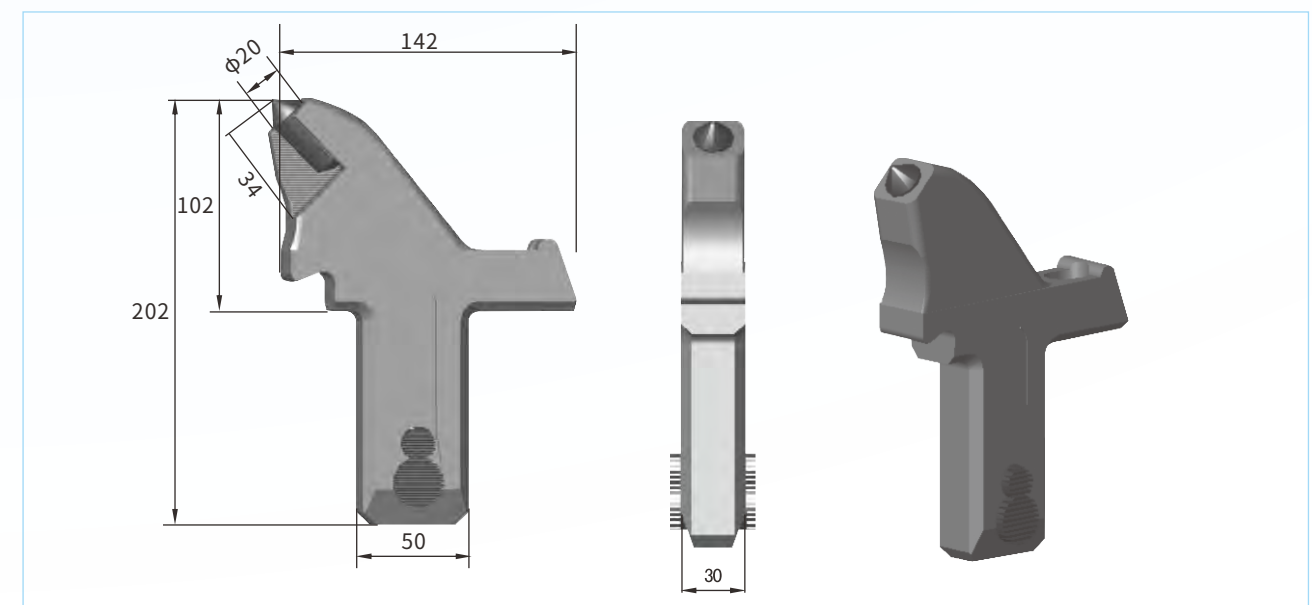
Note: The letters “HV” under type mean mining

型号	D	D1	d	L1	D2	L	Kgs/pc	Pcs/Box	Condition	Shape of Alloy
HV170/89-25	43	35	25	89	65	221	2.4	6	Heavy	P
HV170/89-28	43	35	28	89	67	221	2.63	6	Heavy	P
HV170-30	43	35	30	89	67	221	2.64	6	Heavy	P
HV170-30G	43	35	30	89	67	221	2.65	6	Heavy	NB
HV170-32	43	35	32	89	67	221	2.6	6	Heavy	P
HV170-34	43	35	34	89	67	221	2.8	6	Heavy	P
HV170/102-25	43	35	25	102	65	234	2.56	6	Heavy	P
HV170/102-28	43	35	28	102	67	234	2.46	6	Heavy	P
HV170/114-22	43	35	22	114	65	246	2.39	6	Medium	P
HV170/114-25	43	35	25	114	65	246	2.46	6	Medium	P/C
HV170/114-25G	43	35	25	114	65	246	2.48	6	Light	C
HV170/114-25M	43	35	25	114	65	246	2.27	6	Light	C/NB
HV170/114-29M	43	35	29	114	65	246	2.46	6	Light	C
HV170/114-33M	43	35	33	114	65	246	2.57	6	Medium	C
HV170/137-29M	43	35	29	137	65	269	2.8	4	Light	C

HV5030-2522

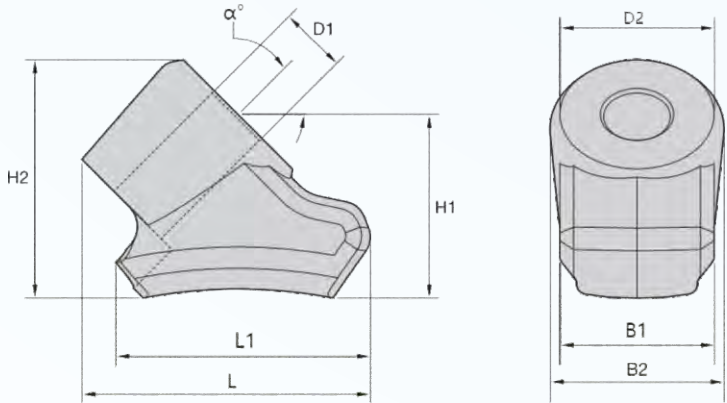


HV5030-2034

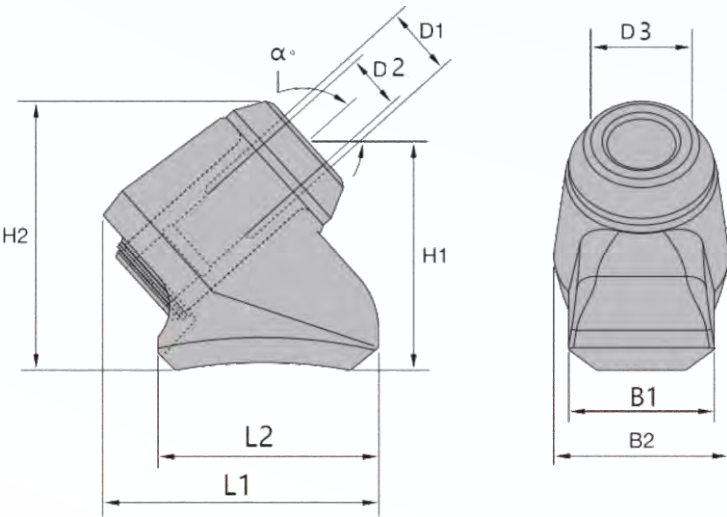


Tool Blocks & Tool Sleeves

Tool Blocks

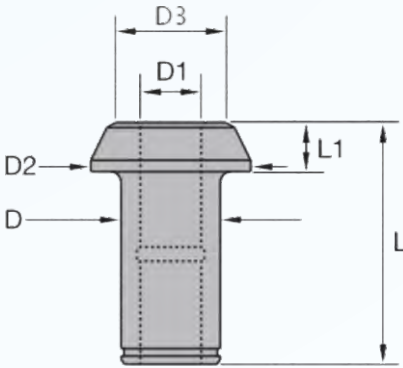


	D1	D2	L1	L2	H1	H2	B1	B2	a°
HVZU43XHD 30	30	70	115	130	83	108	70	83	45



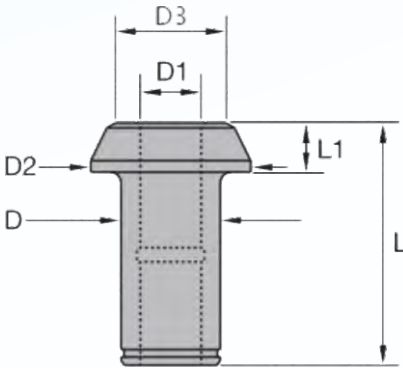
	D1	D2	D3	L1	L2	H1	H2	B1	B2	a°
HVZ43XHD	38	30	70	130	115	83	108	70	79	45
HVZ43XHD-P	38	30	70	130	115	76	101	70	79	45

Tool Sleeves



30mm

Type	D1	D2	D3	D	L	L1
HVT80K177S	30	76	51	45	117	28
HVT84	30	76	51	45	99	21
HVT62	30	70	51	45	92	21

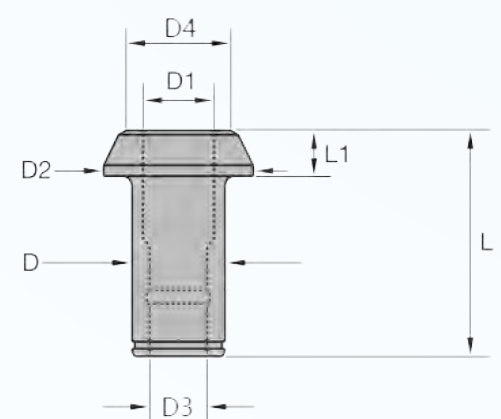


35mm

Type	D1	D2	D3	D	L	L1
HVT90 K35P	35	95	64	57	114	28
HVT90K225S P	35	92	74	57	139	28
HVT90K175S	35	78	57	51	134	29
HVT90K200S	35	89	57	51	134	29
HVT90K225R	35	92	64	57	139	28

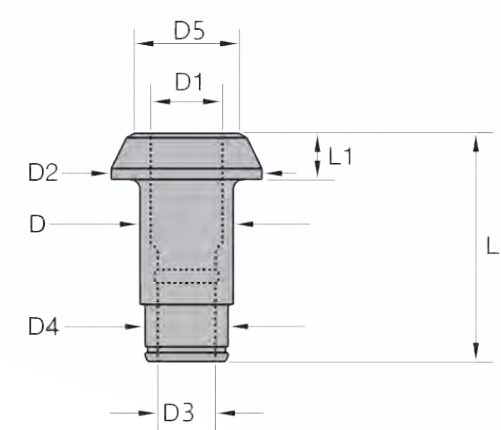
Tool Blocks & Tool Sleeves

Tool Sleeves



43 × 35mm

Type	D1	D2	D3	D4	D	L	L1
HVT170 K35P	44	95	35	64	57	114	28
HVT170K225S P	44	92	35	64	57	67	28
HVT170K225R	44	92	35	64	57	139	28
HVT100	44	95	35	65	60	149	36

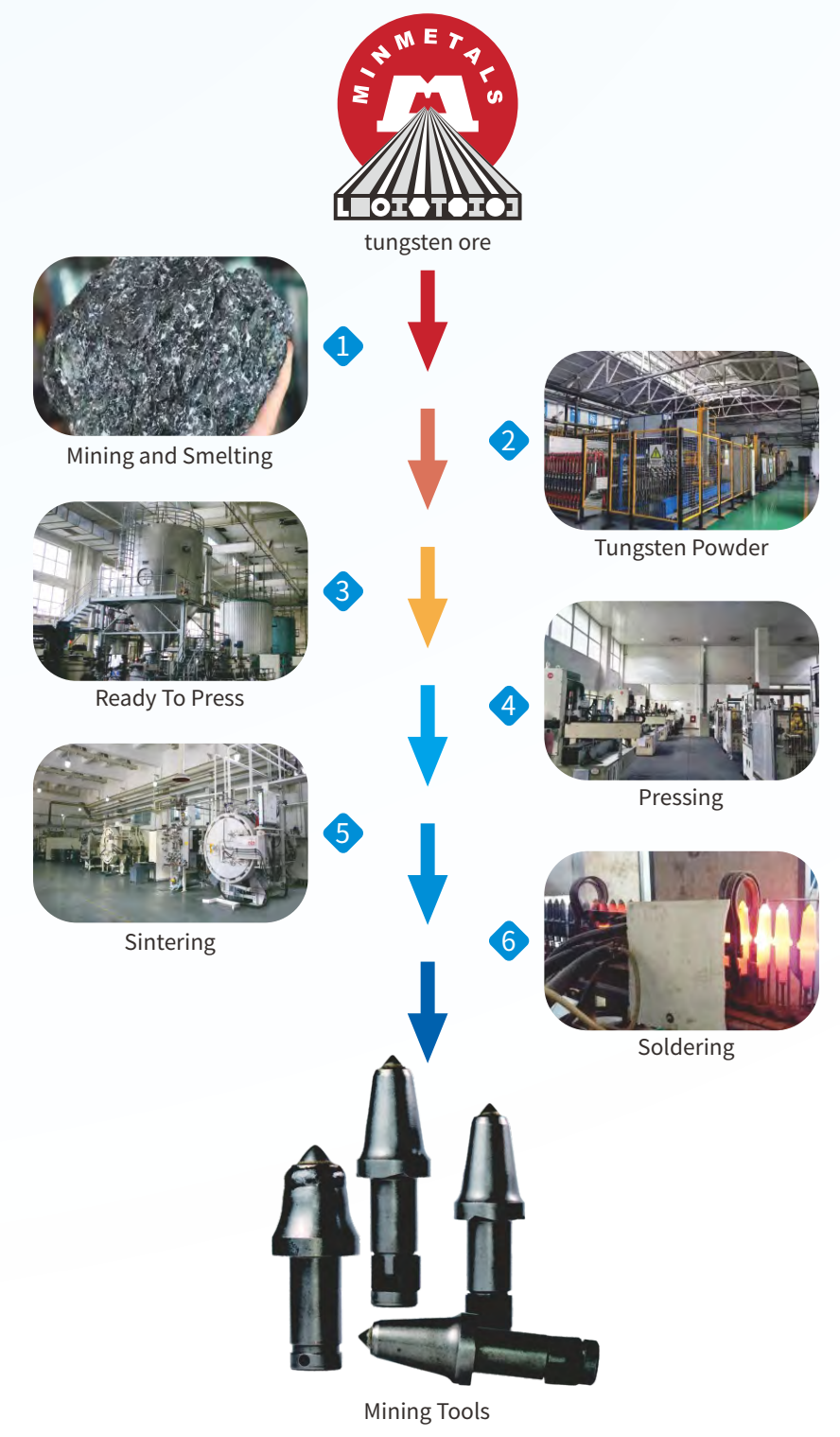


Type	D1	D2	D3	D4	D5	D	L	L1
HVT170K225S	44	89	35	51	64	57	139	28
HVT170K225S NR	44	89	35	51	64	57	139	28
HVT100B	44	92	35	51	64	57	146	33

Advantages of ZGCC

Whole process quality control

- Entire Process Quality Control
- ZGCC has a complete Cemented Carbide industry chain-link from Mining/Smelting to Tungsten raw materials (CMC) and finished parts and tools (ZGCC). Every production process is under CMC's internal QC system.
- 57 Years of Carbide Production History
- Super Coarse Grain Size Grades
- Optimized Design of Inserts



Advantages of ZGCC

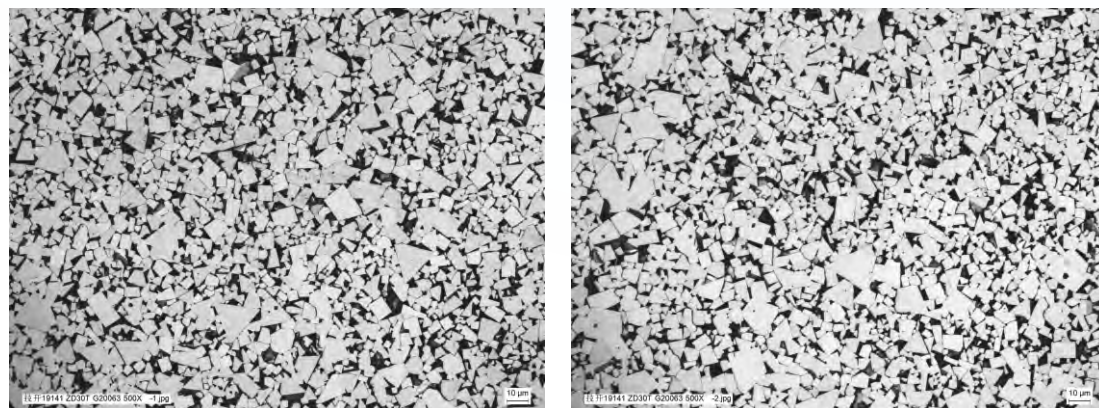
CMC Core Member

ZGCC is a top Global 500 Company. China Minmetals owns the largest portion of Tungsten Ore in the world. From CMC, ZGCC has the ability to secure financial support to build up sufficient stocks of raw materials, semi-finished blanks, and finished product stock for a short leading time or urgent demand.



Professional team of researching and developing raw material

Use super coarse, optimized tungsten carbide grain size to improve the impact and fatigue crack resistance. With the professional shape design, optimal tungsten carbide material, and strictly controlled steel body, our coal mining & construction tools show an exceptional life cycle and can significantly reduce your operating costs.



Strict Quality Management Systems (QMS)



- ☐ The quality inspection system is authorized by China's international laboratory accreditation commission (CNAS).
- ☐ ISO9001:2015 Quality Management System
- ☐ ISO14001:2015 Environment Management System
- ☐ ISO45001:2015 Occupational Health and Safety Management System
- ☐ ISO10012 Measurement Management System
- ☐ AS9100D Aviation Quality Management System
- ☐ EN9100:2015
- ☐ API Q1

Advantages of ZGCC

Advanced Inspection Equipments

- ☐ 48 units (sets) large physical and chemical testing instruments, such as:
- ☐ UK malvern laser granulo meter MS - 2000;
- ☐ United States LECO CS - 600,TC - 600,ON - 836;
- ☐ Hitachi scanning electron microscope S - 3000n;
- ☐ Germany brooke fluorescence spectrometer S4 and etc;



ISO9001:
CN-CQC08Q10970
ISO14001:
CN-CQC08E22096



ISO9001:
00108Q10970R0L/5100
ISO14001:
00108E22096R2L/5100



体系认证
CNAS C001-Q



008

Advanced equipments and powerful systematic secure capability

- ☐ Advanced equipments and powerful systematic secure capability



Blank production line

Soldering line

