



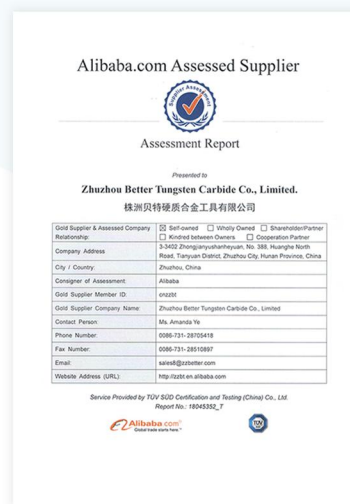
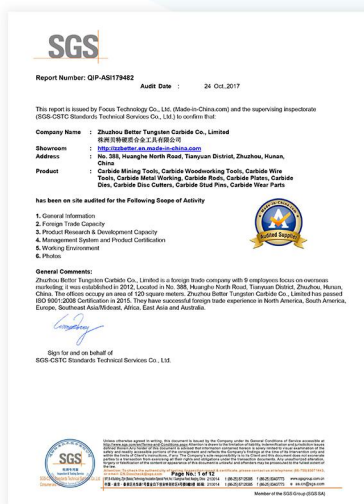
PDC CUTTERS

ZHUZHOU BETTER TUNGSTEN CARBIDE CO., LTD



About ZZBETTER

ZZBETTER has been in line of super hard material since year of 2012, which is committed to offering solutions and services that enhance customers' productivity, profitability, and sustainability. ZZBETTER focus on improving quality to ensure every piece of PDC cutter fills customer's need, and offers different grades to reach the most demanding requirements whether the performance or economically cost.



Zhuzhou Better Tungsten Carbide Co., Ltd

PDC CUTTERS

Brief introduction of PDC cutter

PDC cutter, also named Polycrystalline Diamond Compact cutter, which is a kind of super-hard material. The PDC cutter is usually cylinder with man-made black diamond cutting face, engineered to withstand the extreme abrasion impact and heat that comes from drilling through rock. The diamond layer and carbide substrate are sintered under ultra-high pressure and ultra-high temperature.

The PDC cutter has the features of good wear-resistance, impact resistance and good thermal stability, which is widely used for mining, geological exploration, oil and gas drilling, and so on.



PDC drill bit



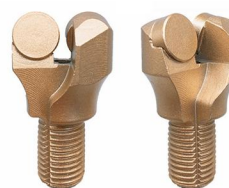
DTH drill bit



Diamond pick



PDC reamer



Anchor bit



Core bit



Diamond bearing element

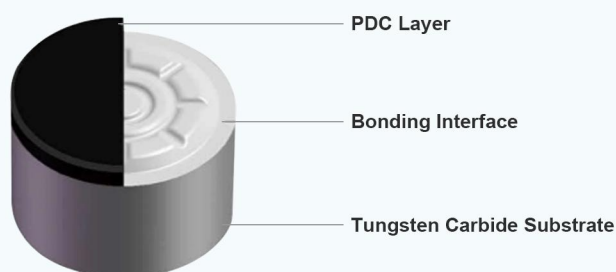


Stone cutting saw blade

PDC CUTTERS

Structure of PDC Cutter

PDC cutter consists of a polycrystalline diamond layer and a tungsten carbide substrate.



Advantages of PDC Cutter

Compared with traditional tungsten carbide cutter, PDC cutter has the following advantages:

1. The service life of PDC cutter is 6-10 times longer than tungsten carbide, reducing the replacement frequency of the drill bit.
2. Consistent and stable drilling rate effectively protects the construction equipment.
3. PDC cutter has fast footage, high rock breaking efficiency, which greatly improve drilling efficiency during construction, meanwhile effectively saving drilling cost by 30%-40%.
4. PDC cutters has high wear resistance, ensure the hole size consistency, also reduce wear of the outer cylinder of the impactor.

Production Process of PDC cutter

Key Process: Sintering the diamond powder and tungsten carbide substrate together under ultra-high temperature and pressure (about 1400~1700°C and 6-7 Gpa)



Raw materials



HTHP synthesis



Semi-finished



Processing



Finished products

PDC CUTTERS

PDC Cutters for Mining Tools

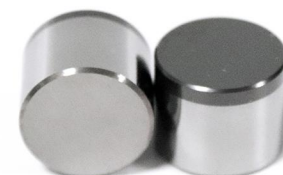
Model No.	Diameter	Total Height	Diamond Height	Chamfer	Application
FC0808	8.00	8.0	1.5-1.8	0.3mm×45°	Mining
FC0808	8.00	10.0	1.5-1.8	0.3mm×45°	Mining
FC1008	10.00	8.0	1.5-1.8	0.3mm×45°	Mining
FC1010	10.00	10.0	1.5-1.8	0.3mm×45°	Mining
FC1308	13.40	8.0	1.5-1.8	0.3mm×45°	Mining
FC1313	13.40	13.2	1.5-1.8	0.3mm×45°	Mining
FC1608	16.00	8.0	1.5-1.8	0.3mm×45°	Mining
FC1610	16.00	10.0	1.5-1.8	0.3mm×45°	Mining
FC1613	16.00	13.2	1.5-1.8	0.3mm×45°	Mining
FC1616	16.00	16.0	1.5-1.8	0.3mm×45°	Mining



PDC Cutters for Oil and gas drilling

> PDC Flat Cutters

Model No.	Diameter	Total Height	Diamond Height	Chamfer	Application
FC0808	8.00	8.0	1.8-2.5	0.3mm×45°	Oil drilling
FC1008	10.00	8.0	1.8-2.5	0.3mm×45°	Oil drilling
FC1308	13.40	8.0	1.8-2.5	0.3mm×45°	Oil drilling
FC1313	13.40	13.2	1.8-2.5	0.3mm×45°	Oil drilling
FC1608	16.00	8.0	1.8-2.5	0.3mm×45°	Oil drilling
FC1613	16.00	13.2	1.8-2.5	0.3mm×45°	Oil drilling
FC1616	16.00	16.0	1.8-2.5	0.3mm×45°	Oil drilling
FC1913	19.05	13.2	1.8-2.5	0.3mm×45°	Oil drilling
FC1916	19.05	16.0	1.8-2.5	0.3mm×45°	Oil drilling
FC1919	19.05	19.0	1.8-2.5	0.3mm×45°	Oil drilling
FC1925	19.05	25.0	1.8-2.5	0.3mm×45°	Oil drilling



Other sizes of PDC cutters are available, welcome to contact us for the details.

PDC CUTTERS

➤ PDC Dome Cutters

Model No.	Diameter	Total Height	SR	Application
DC1117	11.00	17.0	5.59	Oil drilling
DC1217	12.07	17.0	6.7	Oil drilling
DC1318	13.06	18.0	6.7	Oil drilling
DC1420	14.07	20.0	7.5	Oil drilling
DC1623	16.15	23.0	8.25	Oil drilling
DC1624	16.15	24.1	8.25	Oil drilling
DC1823	18.15	22.8	9.93	Oil drilling
DC1826	18.15	26.0	9.93	Oil drilling
DC1924	19.10	24.1	9.93	Oil drilling
DC1926	19.09	26.0	9.93	Oil drilling
DC2026	20.00	26.0	11.47	Oil drilling



➤ PDC Conical Cutters

Model No.	Diameter	Total Height	Diamond Height	Radius	Application
CC080093	8.01	9.3	3.33	3.05	Oil drilling
CC096111	9.60	11.1	4.20	4	Oil drilling
CC116189	11.58	18.9	3.50	8.4	Oil drilling
CC121170	12.07	17.0	4.75	7.5	Oil drilling
CH080093	8.01	9.3	1.70	3.33	Oil drilling
CH096111	9.60	11.1	2.00	4	Oil drilling
CH128156	12.80	17.0	3.00	5.6	Oil drilling



➤ PDC Parabolic Cutters

Model No.	Diameter	Total Height	Diamond Height	Radius	Application
PC050057	5.00	5.7	1.62	1.62	Oil drilling
PC064058	6.42	5.8	1.41	1.41	Oil drilling
PC080071	8.01	7.1	2.14	2.14	Oil drilling
PC112123	11.18	12.3	4.02	4.02	Oil drilling
PC144194	14.36	19.4	6.52	6.52	Oil drilling
PC162230	16.15	23.0	6.63	6.63	Oil drilling
PC182229	18.15	22.9	5.90	5.90	Oil drilling
PC191283	19.11	28.3	7.23	7.23	Oil drilling
PC200280	20.00	28.0	7.64	7.64	Oil drilling



Other sizes of PDC cutters are available, welcome to contact us for the details.

PDC CUTTERS

➤ PDC Ridged Cutters

Model No.	Diameter	Total Height	Diamond Height	Application
RC1308	13.40	8.0	2.0~3.0	Oil drilling
RC1313	13.40	13.2	2.0~3.0	Oil drilling
RC1613	16.00	13.2	2.0~3.0	Oil drilling
RC1616	16.00	16.0	2.0~3.0	Oil drilling
RC1913	19.00	13.2	2.0~3.0	Oil drilling
RC1916	19.00	16.0	2.0~3.0	Oil drilling



➤ PDC Square Cutters

Model No.	Diameter	Total Height	Diamond Height	Application
SC094080	9.40	8.00	1.5~2.0	Oil drilling
SC012080	12.00	8.00	1.5~2.0	Oil drilling
SC012045	12.00	4.50	1.5~2.0	Oil drilling



Other sizes of PDC cutters are available, welcome to contact us for the details.

➤ Other Irregular PDC Cutters

Except for the standard PDC cutter cylinder shape, the irregular shape PDC cutters are also evolving in the drilling arena. ZZBETTER engineering team also collaborates with our customers to develop mutually designed shapes or to build designs developed by them. Welcome to send us drawing for customized PDC cutters.



PDC CUTTERS

Quality Control

ZZBETTER has established a complete inspection laboratory, equipped with various advanced instruments such as wear-resistance testing machine, VTL machine, and Ultrasonic C-scanning inspection machine. In compliance with ISO 9001 quality standards, we institute a strict quality check process on every piece of PDC cutter. We are not limited to industry standards but strive to exceed standards with higher requirements.

Quality Control Including



Raw Materials Control

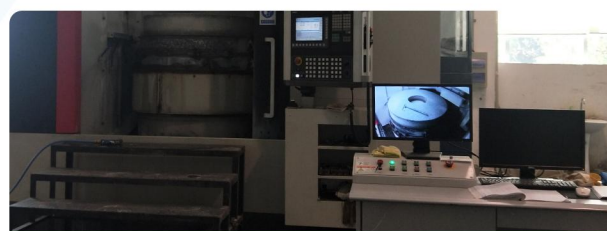
Production Process Control

Finished Products Inspection

Quality inspection



Internal Defect Inspection
- Ultrasonic C-Scan



VTL for Wear Resistance Test



Hammer Dropping Impact
System for Impact Resistance Test



Appearance Inspection



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