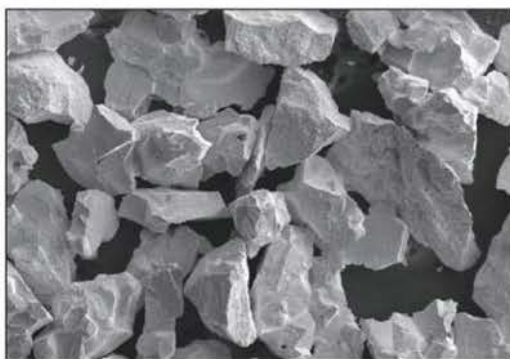


ZTC71 MATRIX POWDERS FOR DIAMOND BITS

Description

- ◎ ZTC71 matrix powders is mainly composed of marocrystalline tungsten carbide and Nikel powder. After special treatment, control and screening, the different powders are prepared according to different application requirements of customers, which are mainly used for infiltration of high-performance diamond matrix drill bits and parts, TC bearings.
- ◎ ZTC71 matrix powder has good wear resistance, corrosion resistance, impact resistance and a high penetration absorption value.



SEM morphology of ZTC71 matrix powder



Grade & Chemical Composition

Grade	Chemical Composition(Wt, %)							
	Fe	T.C	F.C	Si	Ni	Ti	Ta	Nb
ZTC71	≤0.3	3.2-4.1	≤0.06	≤0.1	0-15	≤0.08	≤0.03	≤0.03

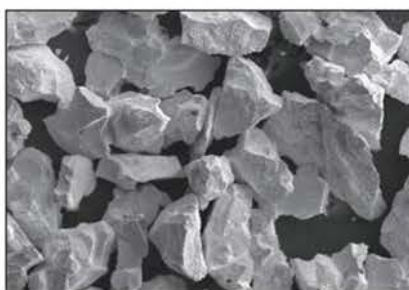
Specification & Physical Properties

Grade	Particle size(mesh)	Transverse Rupture Strength(MPa)	Impact toughness(J/cm ²)
ZTC7128	-80+200	650-800	2.0-2.8
ZTC7127	-70+400	700-800	2.0-3.0
ZTC7126	-60+325	920-1000	3.5-5.1

ZTC72 MATRIX POWDERS FOR DIAMOND BITS

Description

- ◎ The ZTC72 series is specifically designed for matrix materials of PDC bits. It is a type of matrix powder products with superior erosion resistance, abrasion resistance and good infiltration performance.



SEM morphology of ZTC72 matrix powder



Grade & Chemical Composition

Grade	Chemical Composition(Wt, %)							
	Fe	T.C	F.C	Mo	Ni	Ti	Ta	Nb
ZTC7232K1	≤3.2	5.2-5.6	≤0.04	≤0.1	—	≤0.08	≤0.03	≤0.03
ZTC7232K2	2.5-3.0	5.7-6.0	≤0.04	≤0.05	—	≤0.03	≤0.03	≤0.03
ZTC7226K3	≤1.0	5.4-5.9	≤0.04	≤0.1	1.5-2.5	≤0.08	≤0.03	≤0.03

Specification & Physical Properties

Grade	Particle size(mesh)	Apparent Density(g/cm ³)	Tap Density(g/cm ³)	Transverse Rupture Strength(MPa)	Macro-hardness (HRC)
ZTC7232K1	-80+325	7.3-8.5	9.5-10.0	586-862	34-42
ZTC7232K2	-80+325	7.2-8.2	10.5-10.9	655-1000	38-42
ZTC7226K3	-60+325	7.2-8.2	9.1-9.8	620-931	32-40

Classification & Application

Grade	Characteristic	Application
ZTC7232K1	Mainly composed of cast tungsten carbide and macrocrystalline tungsten carbide and used by most drill bit factories. Through controlling particle size,the powder has a higher loose density and tap density; it has superior wear and erosionresistance that other tungsten carbide matrix powders.	Mainly used in erosion-resistant, wear-resistant and impact-resistant infiltration drill products.
ZTC7232K2	Mainly composed of cast tungsten carbide and macrocrystalline tungsten carbide;The optimized particle size distribution enables the product to have excellent wear resistance after infiltration.	Mainly used in harsh working conditions that are easy to wear and erosion.
ZTC7226K3	Mainly composed of cast tungsten carbide,macrocrystalline tungsten carbide and nikel powder; Through controlling particle size,the powder has a higher loose density and tap density; it has superior wear and erosionresistance that other tungsten carbide matrix powders.	Mainly used in erosion-resistant, wear-resistant and impact-resistant infiltration drill products.