



Ti(C N) powder basic information introduction

Multiple carbide powder TiCN introduction:

Titanium carbide nitrides for the glossy black powder, are one kind of zero Uygur's three Yuan solid solutions, TiC and TiN constitute the Titanium carbide nitrides foundation, has the FCC lattice NaCl structure, simultaneously may also with TaC, NbC and so on many kinds of transition metal carbide form the solid solution. Titanium carbide nitrides are in the sole TiC crystal lattice, nitrogen atom (N) occupies original carbon atom (C) to form the compound compound in the lattice position, in TiC_xN_y the carbon nitrogen atom proportion has two kind of quite ideal patterns, namely $TiC_{0.5}N_{0.5}$ and $TiC_{0.3}N_{0.7}$. Because TiCN has TiC and the TiN overall performance, its degree of hardness is higher than TiC and TiN, therefore is one kind of ideal cutting tool coating material. The carbon titanium nitrides cause the coating both to be possible to enhance with the substrate bonding strength, simultaneously and can have the many kinds of material overall performances.

Product application:

Titanium carbide nitrides have both TiC and the TiN merit, has the high MP, the high degree of hardness, wear-resisting, to bear the oxidation, anti-corrosive and so on characteristics, and has the good thermal conductivity, the electrical conductivity and the chemical stability, widely uses in the cutting tool, the powder metallurgy and the cermet product.

Product performance and technical:

Titanium carbide nitrides compound carbide powder is wear resistance material, make the cermet has the following characteristic: Degree of hardness (HRA) reaches as high as 91-95, then achieves the nonmetallic ceramic cutting tool's degree of hardness level; Has the very good resistance to wear and ideal anti-crescent moon hollow attrition ability, when high-speed cutting steel materials the rate of wear is extremely low, its resistance to wear compared to WC base hard alloy high 3-4 times; Has the high thermal stability, high temperature degree of hardness, the strength at high temperatures and the high temperature resistance to wear is quite good, still could carry on the cutting under 1100-1300°C the high temperature, generally cutting velocity compared to WC base hard alloy high 2-3 times; Has the good chemical stability and high oxidation resistance ability; Compares with the hard alloy, Titanium carbide nitrides cermet has the very high resistance to wear, the oxidized degree to be lower, the heat-resistant knocking to be able to be better, suitable to serve as the high-speed cutting cutting tool material, can the very good control work piece GDOP and the common difference, the smooth finish is high, feed velocity higher; Processing carbon steel, stainless steel, micro alloy steel, as well as modular cast iron time can make the very good progress.

Ti(C N)powder technical data:

GRADE	CHEMICAL COMPOSITION(%)													
	W	Ti	Nb	Mo	N	Total carbon	Free carbon	IMPURITY(%max)						
								Fe	Si	S	O	Na	K	Ca
Ti (C,N)73	----	>78	----	----	6.3±0.3	13.5±0.3	≤0.15	0.06	0.02	0.01	0.8	0.005	0.005	0.02
Ti (C,N)55	----	>78	----	----	10.9±0.3	9.4±0.3	≤0.15	0.06	0.02	0.01	0.8	0.005	0.005	0.02
Ti (C,N)37	----	>78	----	----	14.3±0.3	5.5±0.3	≤0.15	0.07	0.005	0.005	0.8	0.005	0.005	0.005

Particle size:0.5-500micron ,5-400mesh;Particl size and chemical composition are modified on request.