

TUNGSTEN CARBIDE (WC) YN6 Ni BINDER ALLOY BALLS

Tungsten Carbide with Ni binder (6%) balls, they show slightly worse mechanical characteristics but better corrosion resistance properties with respect to the Cobalt binder tungsten carbides. Virgin powder is always used.

Applications

Special bearings, pumps and valves, dispensers, nozzles/pumps for sprayers, ballpoint pens. They are used in mining and petrol industry.

Chemical composition

%WC	%Ni	-	-	-	-	-	-	-	-	-
93,00-95,00	5,00-7,00	-	-	-	-	-	-	-	-	-

International standards

-	-	-	-	-	-	-	CHN	-
-	-	-	-	-	-	-	YN6	-

Physical / mechanical / thermal / electric / magnetic properties

Property	Symbol	U.o.M.	Type	Notes	Values
Density	δ	g/cm ³	Physical	Room temp.	14,95
Young's modulus	E	GPa	Mechanical	-	620
Specific heat	c	J/kg-K	Thermal	Room temp.	212
Coefficient of linear thermal expansion	α	10 ⁻⁶ /°C	Thermal	($\Delta T=0-100^{\circ}C$)	5,9
Thermal conductivity	λ	W/(m·K)	Thermal	Room temp.	92,0
Electric resistivity	ρ	$\Omega \cdot m \cdot 10^{-9}$	Electric	-	185
Relative magnetic permeability	μ	-	Magnetic	Slightly ferrom.	max 3,00

Technical data

Property	Type	U.o.M.	Values	U.o.M.	Values
Grain size	Physical	μm	~ 1,4	-	-
Hardness	Mechanical	HRA	89,0 - 91,0	HV	1400 - 1700
Ultimate compressive strength	Mechanical	MPa	4900 - 5200	psix10 ³	711 - 754
Service temperature	Thermal	°C	-196 / 540	°F	-320,8 / 1004

Range

Diameters (min/max)	U.o.M.	Diameters (min/max)	U.o.M.	Precision Grade (ISO 3290)
0,300 - 127,000	mm	1/64 - 5	"	G5-10-16-20-25-28-40-60-100-200-500-1000

Corrosion Resistance

Good corrosion resistance in basic and neutral solutions. For acid solutions they resist up to pH 4.