

Datenblatt | Data sheet

Tungsten carbide ball with YN10 Nickel binder

Tungsten carbide with Nickel binder (10%). Compared to the YN6 type, the corrosion resistance is higher, while the mechanical properties are slightly lower. Only unmachined raw materials are used.

Field of application

Nozzles/pumps for atomizers, special pumps and valves, dispensers, bearings, pens. Mining and petroleum industries.

Corrosion resistance

Good corrosion resistance in neutral and basic substances. In acidic substances resistant up to approx. pH 3.

Material

Technical name	Alternative name	Abbreviation	
YN10	-	-	

Chemical composition in %

WC	NI		
89,00 - 91,00	9,00 - 11,00		

Physical / mechanical / thermal / electrical / magnetic characteristics

Characteristic	Symbol	Unit	Type	Note	Value
Density	δ	g/cm ³	Physical	Environmental temp.	14,70
Modulus of elasticity	E	GPa	Mechanical	-	650
Specific heat	C	J/kg*K	Thermal	Environmental temp.	215
Coefficient of linear thermal expansion	α	10 ⁻⁶ /°C	Thermal	(DT = 0 - 100 °C)	6,1
Thermal conductivity	λ	W/(m*K)	Thermal	Environmental temp.	84,0
Volume resistivity	ρ	Ω *m ⁹	Electrical	-	175
Relative magnetic permeability	μ	-	Magnetical	Slightly ferromagnetic	<= 3,0

Technical characteristics

Characteristic	Type	Unit	Value	Unit	Value
Grain size	Physical	μ m	~ 1,4		
Hardness	Mechanical	HRA	89,0 - 91,0	HV	1400 - 1700
Break load compression	Mechanical	MPa	4900 - 5200	psi*10 ³	711 - 754
Operating temperature	Thermal	°C	-196 / 540	°F	-320,8 / 1004

Available with

Diameter min/max (mm)	Diameter min/max (in)	Precision grade
0,200 - 127,000	1/64 - 5,0	G 5 / 10 / 16 / 20 / 25 / 28 / 40 / 60 / 100

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