

Datenblatt | Data sheet

Tungsten materials

Material	TC K20	YN6	YN10
Name	Tungsten carbide with cobalt binder	Tungsten carbide with nickel binder	Tungsten carbide with nickel binder
Hardness HRA	90 - 91,5	89 - 91,5	89 - 91,5
Density g/cm³	14,95	14,95	14,70
Operating temperature °C	-196 - 540	-196 - 540	-196 - 540
Break load in traction MPa	4900 - 5800	4900 - 5200	4900 - 5200
Chemical composition in %			
WC	93,00 - 95,00	93,00 - 95,00	89,00 - 91,00
Co	5,00 - 7,00		
Ni		5,00 - 7,00	9,00 - 11,00
Available with			
Diameter (mm)	0,2 - 127	0,2 - 127	0,2 - 127
Diameter (in)	1/64 - 5	1/64 - 5	1/64 - 5
Precision grade	G 5 - G100	G 5 - G100	G 5 - G100
Description	For applications where extreme hardness and resistance to wear, abrasion, impact and deformation are required. High degrees of precision can be achieved.	Compared to the more common version with cobalt, it has slightly lower mechanical properties but considerably higher corrosion resistance.	Compared to type YN6, the corrosion resistance is higher, while the mechanical properties are slightly lower.
Field of application	Special valves and precision hydraulic valves, couplers, flow meters, spray nozzles, ball screws, high load bearings, linear bearings, machine tools, sliding guides, precision measuring instruments, medical instruments.	Nozzles/pumps for atomizers, special pumps and valves, dispensers, bearings, pens. Mining and petroleum industries.	Nozzles/pumps for atomizers, special pumps and valves, dispensers, bearings, pens. Mining and petroleum industries.
Resistant to	Immersion in solutions	Neutral and basic substances. For acidic substances resistant up to approx. pH 4.	Neutral and basic substances. For acidic substances resistant up to approx. pH 4.
Unresistant to	Acid solutions		