



Properties



tungstencarbide

Sintering parameters

Hardmetal grade CW5900 CW5905	93% WC/0.5% TaC/6.5% Co 93.5% VC doped WC/6.5% Co
Mill	Attritor
Sintering	Vacuum/1410°C/1hr

Sintering results

Representative specific gravity CW5900 CW5905	14.82 g/cm ³ 14.80 g/cm ³
Representative porosity (ISO 4505)	A02 B00 C00
Representative hardness	1730 HV50/93.0 HRa
Representative coercive force	23.0 kA.m ⁻¹ /290 Oe
Representative magnetic saturation	12.4 $\mu\text{T.m}^3.\text{kg}^{-1}$

CW5900 - CW5905	Representative	Guaranteed
Physical analysis		
Fisher size (<i>as delivered</i>) (μm)	0.7	0.6 - 0.8
Scott density (g/cm ³)	2.4	1.9 - 2.9
Chemical analysis		
Total carbon (wt%)		
CW5900	6.14	6.11 - 6.16
CW5905	6.16	6.13 - 6.18
Free carbon (wt%)	0.03	< 0.08
Combined carbon (wt%)		
CW5900	6.11	> 6.05
CW5905	6.13	> 6.07
Oxygen (wt%)	0.18	< 0.22
Al (ppm)	< 3	< 10
Ca (ppm)	< 3	< 10
Cr (ppm)	15	< 40
Fe (ppm)	50	< 200
K (ppm)	< 5	< 15
Mg (ppm)	< 5	< 15
Mo (ppm)	15	< 50
Na (ppm)	< 5	< 15
Ni (ppm)	10	< 25
Si (ppm)	10	< 40
V (ppm) [CW5905]	1600	1400 - 1800

Particle size distribution

Laser diffraction

(*as delivered* – representative values)

