Technical data sheet

CW5400 - CW5405

2.5 µm - 2.5 µm doped with 0.14% VC

Properties

tungstencarbide

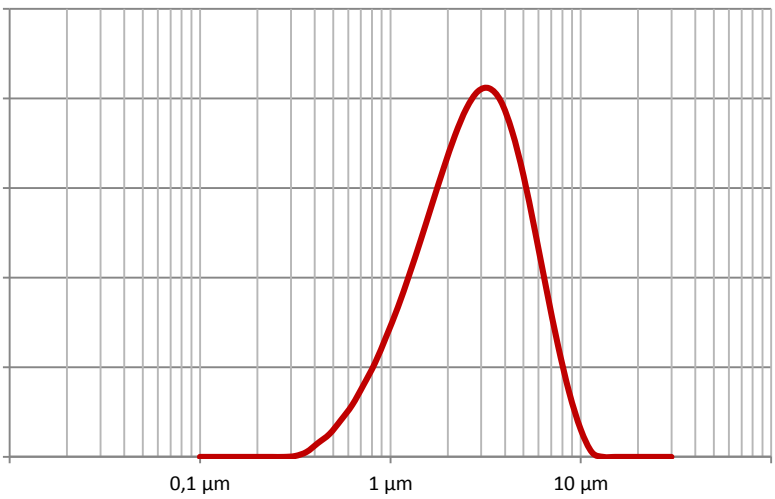
Sintering parameters	
Hardmetal grade CW5400 CW5405	 90.5% WC/0.5% TaC/9% Co 91% VC doped WC/9% Co
Mill	Attritor
Sintering	Vacuum/1450°C/1hr
Sintering results	
Representative specific gravity CW5400 CW5405	 14.56 g/cm^3 14.61 g/cm^3
Representative porosity (ISO 4505)	A02 B00 C00
Representative hardness CW5400 CW5405	 1360 HV50/90.1 HRa 1410 HV50/90.0 HRa
Representative coercive force CW5400 CW5405	 10.5 kA.m^{-1}/130 Oe 12.7 kA.m^{-1}/160 Oe
Representative magnetic saturation	17.2 µT.m^3.kg^{-1}

CW5400 - CW5405	Representative	Guaranteed
Physical analysis		
Fisher size *(as delivered) (µm)*	2.5	2.2 - 2.8
Scott density *(g/cm^3)* CW5400 CW5405	 3.7 3.8	 3.3 - 4.3 3.3 - 4.3
Chemical analysis		
Total carbon *(wt%)* CW5400 CW5405	 6.14 6.15	 6.11 - 6.16 6.12 - 6.17
Free carbon *(wt%)* CW5400 CW5405	 0.04 0.03	 < 0.08 < 0.08
Combined carbon *(wt%)* CW5400 CW5405	 6.11 6.12	 > 6.05 > 6.05
Oxygen *(wt%)* CW5400 CW5405	 0.05 0.04	 < 0.08 < 0.07
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)* [CW5405]	1100	950 - 1300

Particle size distribution

Laser diffraction

(as delivered – representative values)



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