H.C.Starck
Tungsten Powders
Member Masan High-Tech Materials Group

Tungsten Carbide Powders

Number PD-1406
Issue 5-23.09.2021

WC
DN
0.09 – 0.20 µm

TUNGSTEN CARBIDE DN

Description of Product

Nano to ultrafine grained deagglomerated tungsten carbide powders with narrow grain size distributions. They offer controllable and extremely high hardness as well as simultaneously high toughness. DN grades are suitable for binderless hardmetals also.

All grades can be customized to include grain growth inhibitors.

Physical Characteristics

Grades	Spec. surface Area BET	Max. O (in %)	Min. $C_{combined}$ (in %)	Max. C_{free}[1)] (in %)
DN 2.0	1.8 - 2.3 m²/g	0.30	6.07	0.10
DN 2.5	2.4 - 2.7 m²/g	0.35	6.06	0.12
DN 3.0	2.8 - 3.2 m²/g	0.35	6.05	0.13
DN 3.5	3.3 - 3.7 m²/g	0.40	6.02	0.16
DN 4.0	3.8 - 4.2 m²/g	0.45	6.00	0.18

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Chemical Characteristics

(Mass fraction in % [cg/g]; ppm [µg/g])

C_{total} [2)]	6.14 ± 0.04	%	
Al	max. 20	ppm	
Ca	max. 25	ppm	
Co	max. 100	ppm	
Cr [3)]	max. 50	ppm	
Fe	max. 150	ppm	
Na	max. 20	ppm	
Ni	max. 70	ppm	
S	max. 30	ppm	
Si	max. 40	ppm	

Packaging 50 kg in 30 l steel drum with liner.

[1)] Determination for Cr_3C_2-doped carbides not possible.
[2)] For doped material total carbon is increased corresponding to the amount of grain growth inhibitors.
[3)] Not valid for Cr_3C_2-doped carbides.