H.C. Starck
TUNGSTEN POWDERS
A Group Company of MITSUBISHI MATERIALS

Tungsten Carbide Powders

Number PD-1403
Issue 10-16.10.2025

WC
DS
0.5 – 2.5 µm

TUNGSTEN CARBIDE DS

Description of Product

Submicron- to medium-grained deagglomerated tungsten carbide powders with narrow particle size distributions. They are designed for submicron cutting tools, end mills, drills and dies.

All grades can be customized to include grain growth inhibitors (Cr_3C_2, VC, TaNbC and others).

Physical Characteristics

Grades	Fisher number (as supplied)	Spec. surface area BET	max. O	max. C_{free} 1)
DS 40		2.3 - 2.7 m²/g	0.50 %	0.10 %
DS 50	0.50 - 0.60 µm	(2.0 - 2.3) m²/g	0.40 %	0.08 %
DS 60	0.60 - 0.70 µm		0.40 %	0.08 %
DS 70	0.70 - 0.80 µm		0.30 %	0.06 %
DS 80	0.80 - 0.90 µm		0.25 %	0.06 %
DS 90	0.90 - 1.00 µm		0.25 %	0.06 %
DS 100	1.00 - 1.20 µm		0.25 %	0.06 %
DS 120	1.10 - 1.30 µm		0.12 %	0.06 %
DS 130	1.20 - 1.40 µm		0.12 %	0.06 %
DS 150	1.40 - 1.60 µm		0.12 %	0.06 %
DS 180	1.70 - 1.90 µm		0.12 %	0.06 %
DS 200	1.90 - 2.10 µm		0.12 %	0.06 %
DS 250	2.30 - 2.70 µm		0.10 %	0.06 %

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Chemical Characteristics

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

C_{total} [2)]	6.13 ± 0.05 %		
Al	max.	20	ppm
Ca	max.	25	ppm
Co	max.	100	ppm
Cr [3)]	max.	50	ppm
Cu	max.	10	ppm
Fe	max.	150	ppm
Mo	max.	100	ppm
Na	max.	20	ppm
Ni	max.	70	ppm
S	max.	30	ppm
Si	max.	40	ppm

Packaging 50 kg in 18 l or 100 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