

TANTALUM / NIOBIUM CARBIDE TaC/NbC

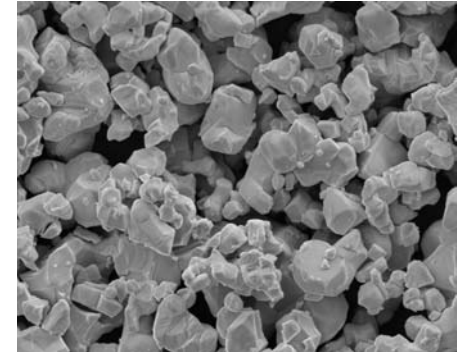
Application

Tantalum / niobium carbides are used as additives mainly for P-type cutting tools and cermetts because of the beneficial effect on hot hardness and toughness.

The material is produced by a carbothermal reduction in high temperature vacuum furnaces followed by milling with a classifier mill. Therefore these products are homogeneous mixed crystals with high purity and narrow particle size distribution.

Chemical Characteristics

	TaC 100	TaC/NbC 90/10	TaC/NbC 80/20	TaC/NbC 77/23
C tot	6.10 – 6.30	6.50 – 6.90	7.00 – 7.40	7.15 – 7.55
Nb	0.25 max	8.2 – 9.6	16.7 – 18.7	19.4 – 21.4
Ta	balance	83.2 – 85.2	73.8 – 75.8	71.0 – 73.0
	TaC/NbC 70/30	TaC/NbC 60/40	TaC/NbC 50/50	NbC 100
C tot	7.50 – 7.90	8.00 – 8.40	8.50 – 8.90	11.0 – 11.4
Nb	25.7 – 27.5	34.4 – 36.4	43.3 – 45.3	balance
Ta	64.8 – 66.6	55.1 – 57.1	45.8 – 47.8	0.25 max
Al	0.005 max		N	0.05 max
Ca	0.005 max		S	0.005 max
C free	0.15 max		Si	0.005 max
Fe	0.03 max		Ti	0.05 max
O	0.35 max	for fine		
	0.25 max	for standard		
	0.20 max	for coarse		



2µm

Packing

- NbC 100 fine/standard: 50 kg in 40 l coated steel drums with rubber sealing
- All others: 50 kg in 25 l coated steel drums with rubber sealing
- Material in PE- Bag

Maximum Lot Size

- NbC 100 fine: 500 kg
- NbC 100 standard/coarse 1000 kg
- All Others 2000 kg

Inspection certificate according
DIN EN 10204 3.1 8

Particle Size / Order No.

FSSS / µm	TaC 100	TaC/NbC 90/10	TaC/NbC 80/20	TaC/NbC 77/23
0.8 – 1.0	5340005	5340024	-	5340021
1.0 – 2.0	5340006	5340025	5340023	5340022
2.0 – 3.0	5340008	5340027	-	-
	TaC/NbC 70/30	TaC/NbC 60/40	TaC/NbC 50/50	NbC ¹
0.8 – 1.0	5340018	5340014	5340010	5340001
1.0 – 2.0	5340019	5340015	5340011	5340002
2.0 – 3.0	-	5340016	-	5340003

¹ NbC 100 fine FSSS 0.9 – 1.2 µm