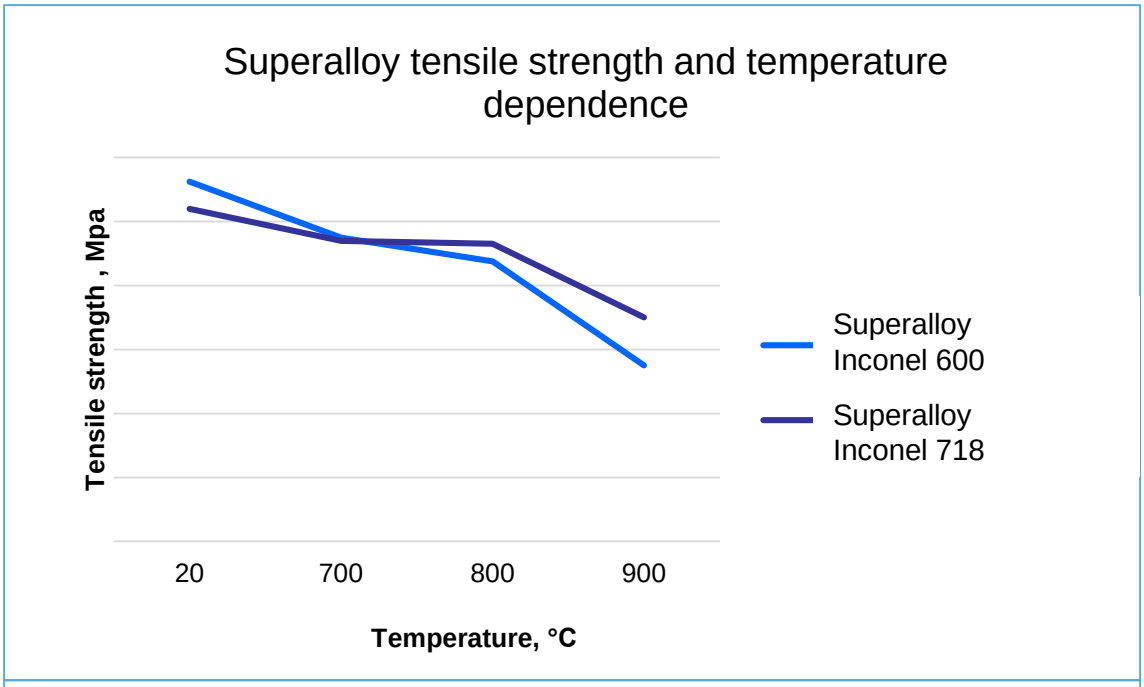
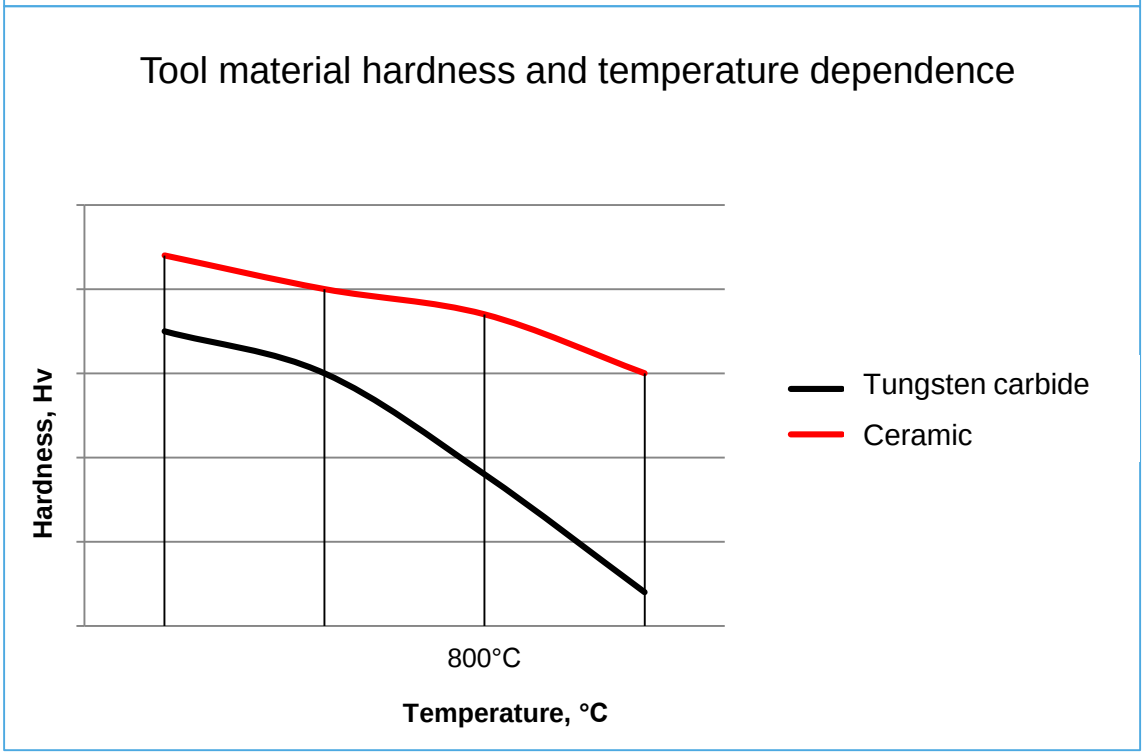
SOLID CERAMIC END MILL FOR AIRCRAFT

Increase the performance about 16 times comparing to the carbide end mill !!!

Superalloy machining
Ceramic tool





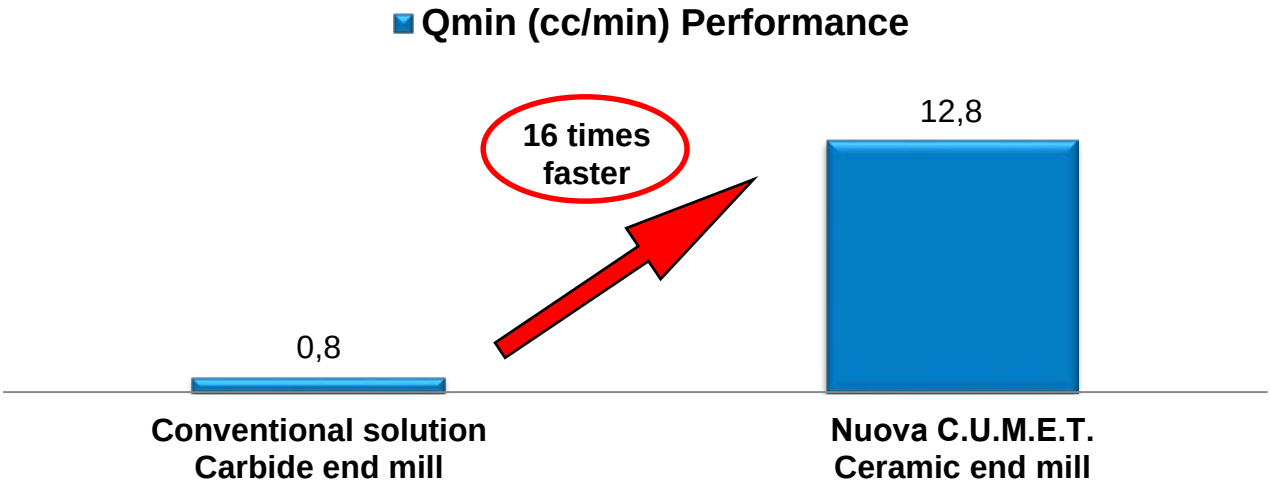
Specially developed ceramic tool material allow to machining Ni based superalloy at high temperature condition and speed level about 1000 m/min. As a result increasing the performance from 10 to 200 times.

Solid ceramic end mill for Aircraft

Nickel based superalloys high-performance machining
Nuova C.U.M.E.T. solid ceramic end mill made in Italy

Increase the performance about 16 times comparing to the carbide end mill !!!

Material – Inconel 718
Machine MAZAK - VARIAXIS 500-5X
Chuck SCHUNK - TENDO E compact



Coated carbide end mill Φ10	**Ceramic end mill Φ10mm Code Y907.101072R125**
Z=5 tooth Ap=0,8 mm Ae=7,0 mm **Vc=30 m/min** (n=955 rev/min) **F=143mm/min**(Fz=0,03mm/tooth) Coolant	Z=4 tooth Ap=0,8 mm Ae=7,0 mm **Vc=600 m/min** (n=19108 rev/min) **F=2293mm/min**(Fz=0,03mm/tooth) Air cooling

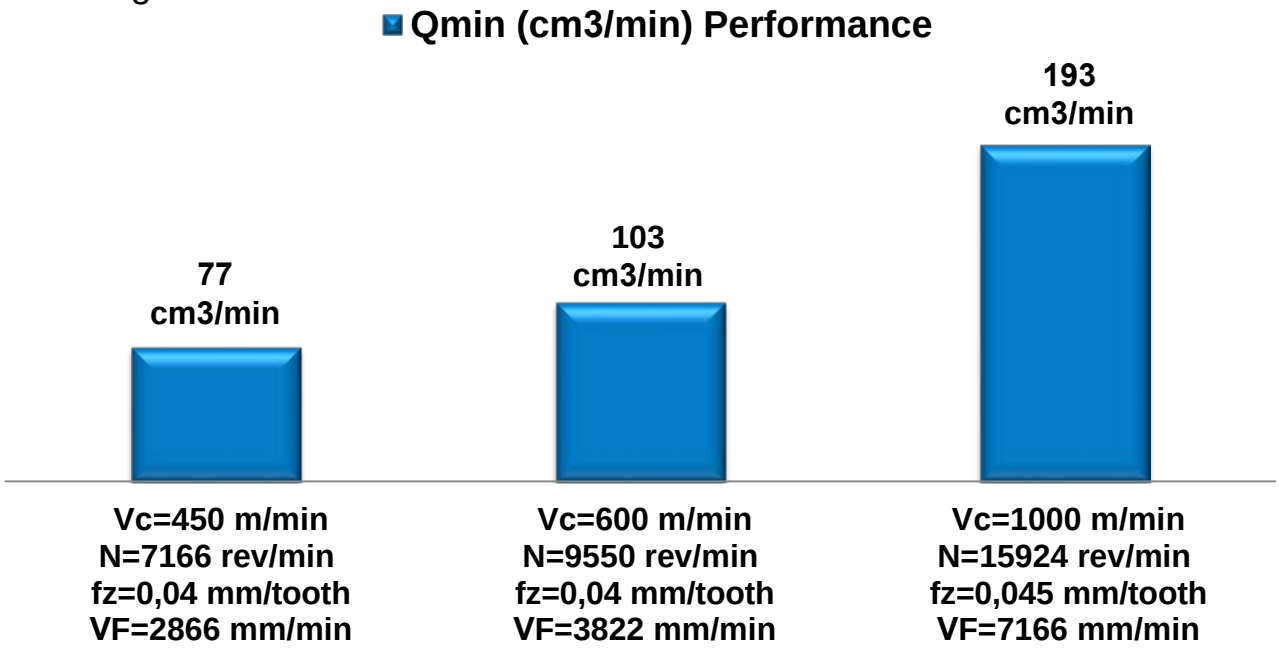
XXI century breakthrough

Solid ceramic end mill Φ20, Z10 CODE Y907DB.2020105R125
New level of Superalloy machining

d1	d2	L1	L	R	Z	VC m/min	Feed per tooth mm/tooth
20	20	20	105	1.25	10	600 (300-1000)	0,04 (0,03-0,08)

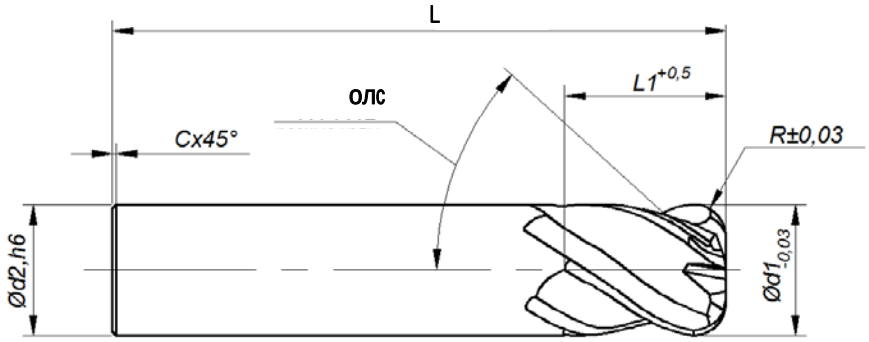
Increase the performance up to 200 times comparing to the carbide end mill !!!

Conditions:
Material – Inconel 718
Machine MAZAK - VARIAXIS 500-5X
Chuck SCHUNK - TENDO E compact
Ap=18 mm;
Ae=1,5 mm
Air cooling

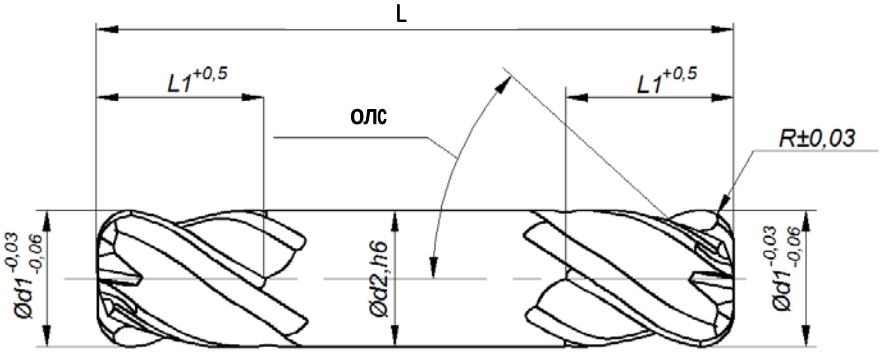


Solid ceramic end mills

Specially designed for nickel based superalloys machining



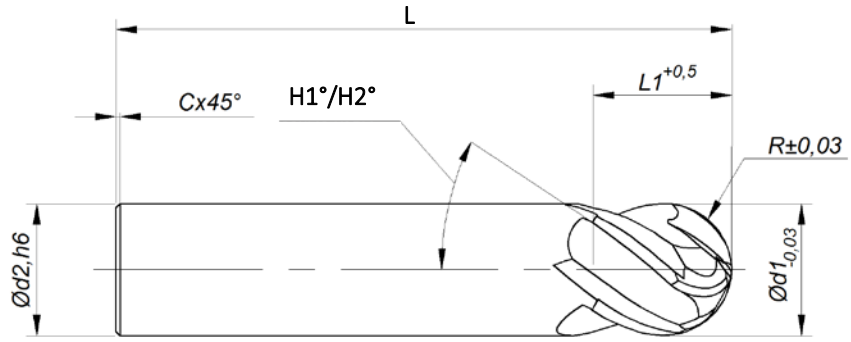
Code	d1	d2	L1	L	Zn	R
Y907.101072R125	10	10	10	72	4	1,25
Y907.2020105R125	20	20	20	105	10	1,25



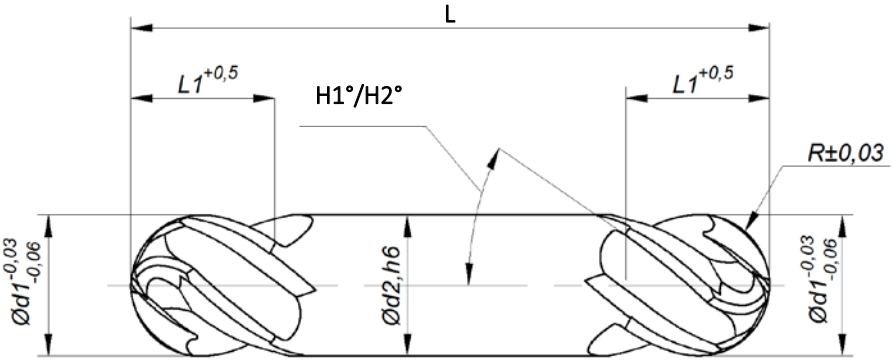
Code	d1	d2	L1	L	Zn	R
Y907DB.101072R125	10	10	10	72	4	1,25
Y907DB.2020105R125	20	20	20	105	10	1,25

Solid ceramic end mills

Specially designed for nickel based superalloys machining



Code	d1	d2	L1	L	Zn	R
Y907R.101072	10	10	10	72	4	5
Y907R.2020105	20	20	20	105	10	10



Code	d1	d2	L1	L	ZN	R
Y907RDB.101072	10	10	10	72	4	5
Y907RDB.2020105	20	20	20	105	10	10

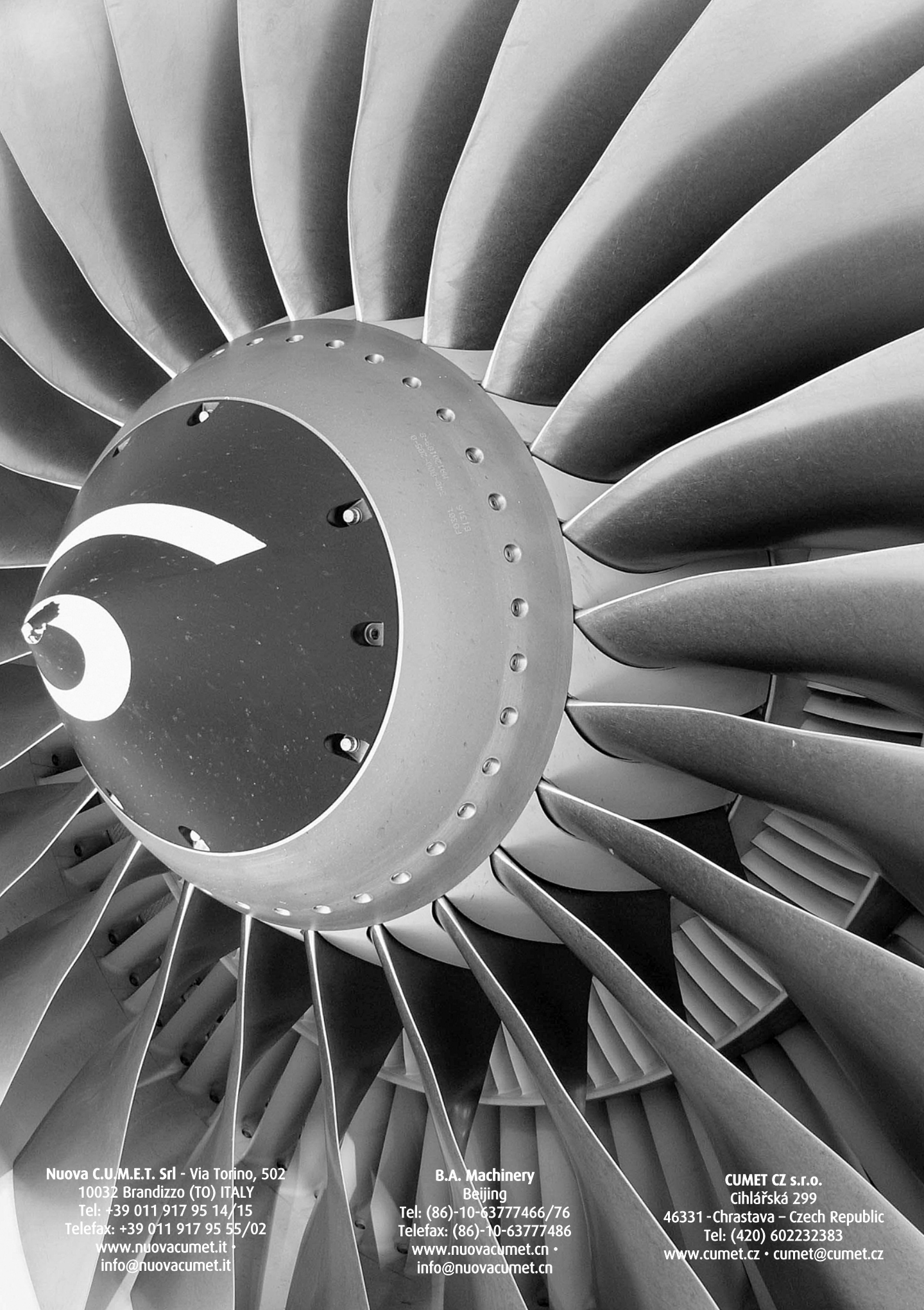
Solid ceramic end mills
Cutting conditions

Recommendations for nickel based superalloy machining

d1	Z	VC m/min	Feed per tooth, mm/tooth
10	4	600 (300-800)	0,03 (0,02-0,05)
20	4	600 (300-1000)	0,05 (0,03-0,08)
20	10	600 (300-1000)	0,04 (0,03-0,06)

Basic recommendations

- Air cooling only
- Minimize vibration
- Down cutting recommended as first choice
- Milling chuck :
  - Hydraulic chuck as first choice
  - Highspeed chuck as second choice.



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