

NEW

Member IMC Group
Ingersoll
Cutting Tools

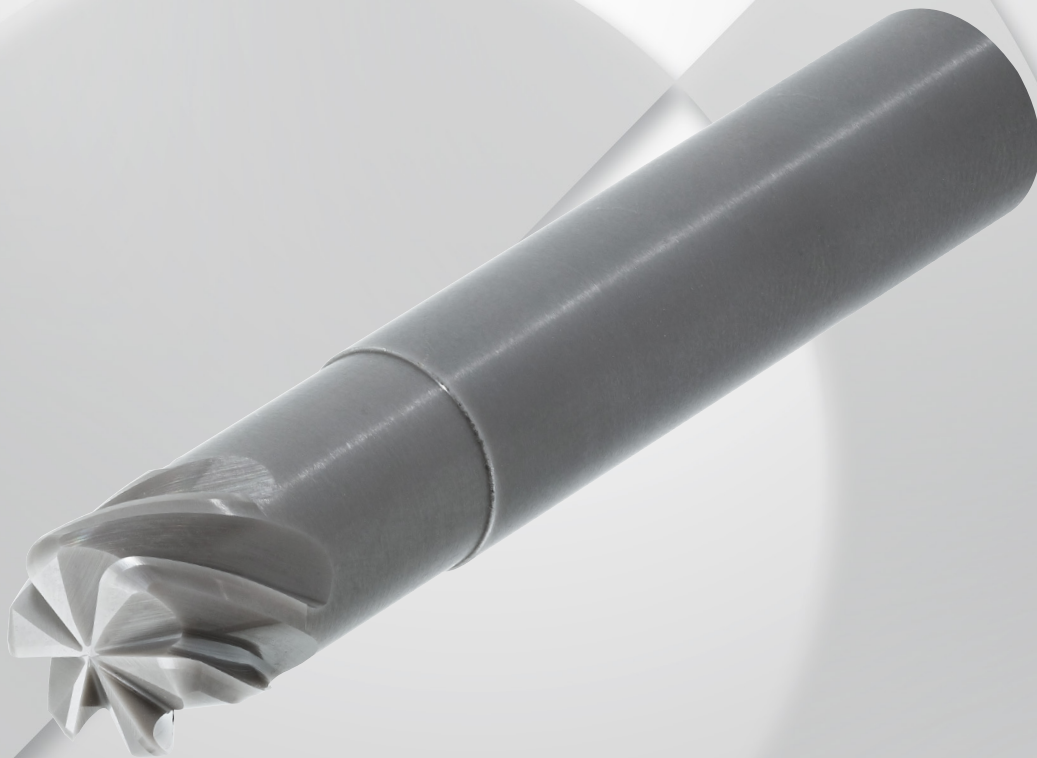
SPEED UP
HIGH SPEED & FEED

INCERAMIC

CERAMIC END MILL LINE
FOR DIFFICULT-TO-CUT MATERIALS

**CERAMIC END MILL LINE
FOR DIFFICULT-TO-CUT MATERIALS**

- Optimal cutting edges for nickel based super alloys •*
- Uses ceramic (SiAlON) series IN76N grade •*
- Superior productivity compared to carbide end mills •*
- For high-speed machining •*



INCERAMIC CERAMIC END MILLS

Product Overview

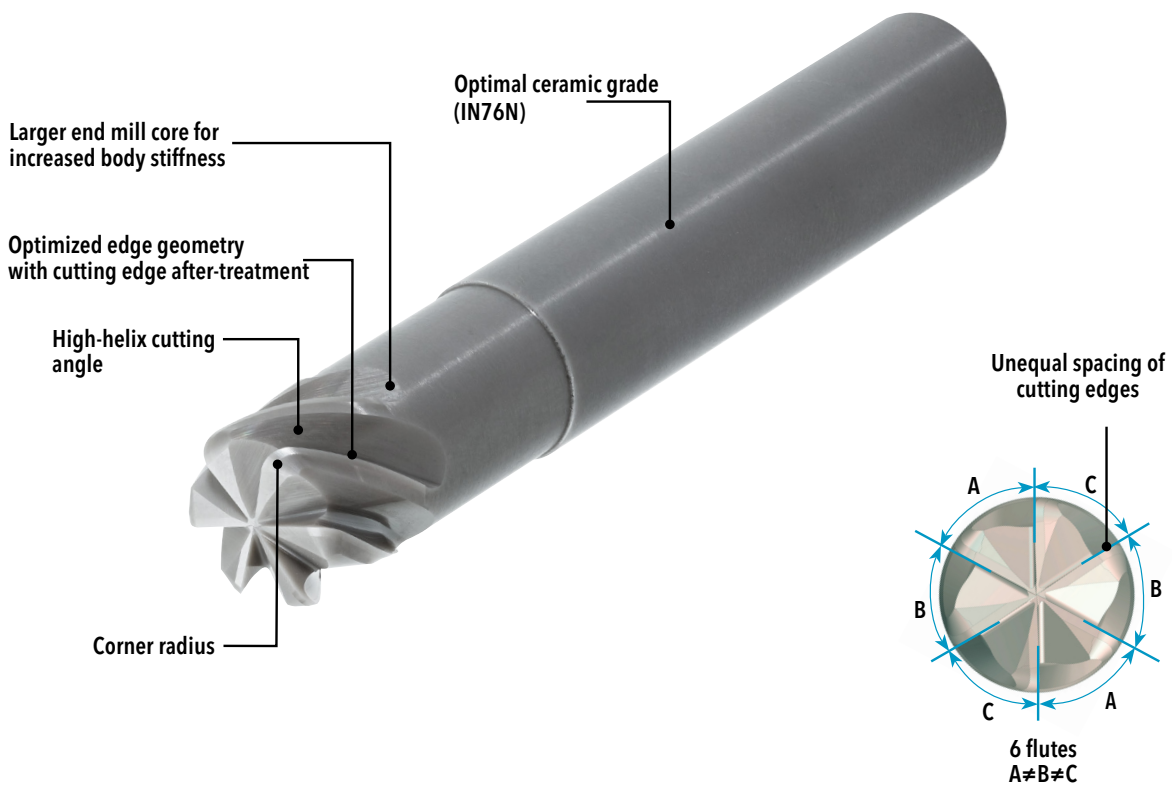
INCERAMIC - a new high productivity ceramic end mill line including IN76N grade optimally suited for nickel based super alloys machining.

Technical Features

The new ceramic end mills get superior productivity compared to carbide end mills since it can be applied to high-speed and high feed machining due to its features such as unequal spacing of cutting edges, a high helix cutting angle and optimized edge geometry with cutting edge after-treatment.

The ceramic end mill line is available in 6 flutes corner radius type (INCER...Z6) and as high feed 3 flutes type (INCER...Z3).

INCERAMIC 6 flutes end mill types Z6



Recommended Cutting Conditions

INCERAMIC 6 teeth Z6

(Unit: mm)

Diameter	Cutting speed (m/min)	Feed (mm/tooth)	Shouldering, profiling		Slotting
			ap	ae	ap
Ø6	300 - 1000	0.02 - 0.03	-0.6xD	-0.1xD	-0.05xD
Ø8	300 - 1000	0.02 - 0.03	-0.6xD	-0.1xD	-0.05xD
Ø10	300 - 1000	0.02 - 0.04	-0.6xD	-0.1xD	-0.05xD
Ø12	300 - 1000	0.03 - 0.05	-0.6xD	-0.1xD	-0.05xD
Ø16	300 - 1000	0.03 - 0.05	-0.6xD	-0.1xD	-0.05xD

- ae must not exceed a maximum 1 mm
- Apply a 30% reduction in feed during slotting, ramping (less 2.5°)

ap: axial direction DOC ae: radial direction DOC

Optimal Conditions for Ingersoll Ceramic End Mills

Recommendations	Details	Remarks
Down cutting	Down cutting is highly recommended Up cutting can lead to rapid wear of the cutting edge and the possibility of the workpiece material's hardened surface	Finish margin: over 0.3 mm
High cutting speed	By maintaining a high cutting speed, the cutting tool minimizes wear and damage by generating the heat needed to soften the material	
Do not use coolant	To prevent the occurrence of thermal crack, it is recommended not to use coolant or air blowing	Air blowing is only recommended for use when good chip evacuation is required
Tool holder	Recommendation for tool holding is a hydraulic chuck or a precision milling chuck for stable machining	Heating chuck is disabled
Do not remove built-up-edges	Do not manually remove any built-up-edge as this may cause damage to the insert's cutting edge	

