

DIXI
COOL+

DIXI 7453 COOL+

IMPROVE
YOUR PRODUCTIVITY !

New corner radius end mills with oriented and accelerated lubrication

AN EFFECTIVE CONCEPT !

The use of oriented and accelerated lubrication drastically reduces the heat generated by the cutting of materials with low thermal conductivity (stainless steel, titanium, nickel alloys)



C-TOP COATING

- New generation of dropleless coating
- High wear and oxidation resistance

SYMMETRICAL FRONT GRINDING

- High efficiency in plunging
- Perfect balance

GEOMETRY

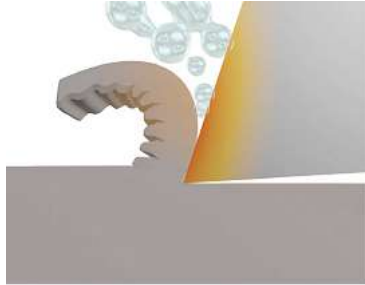
- Large cross-section for maximum rigidity
- Flute developed for optimal chip evacuation

PATENTED CONCEPT OF ORIENTED AND ACCELERATED DIXI COOL+ LUBRICATION

- Optimal lubrication
- High performance cooling

DIXI COOL+ CONCEPT, THE LUBRICANT IS ORIENTED AND ACCELERATED !

THERMAL ENERGY DISTRIBUTION DUE TO CUTTING IN MATERIALS WITH LOW THERMAL CONDUCTIVITY



External coolant

- High machining temperature on the cutting face
- High friction of the chips on the cutting face



DIXI COOL+ coolant system

- ✓ Moderate machining temperature on the cutting face
- ✓ Limited friction on the cutting face

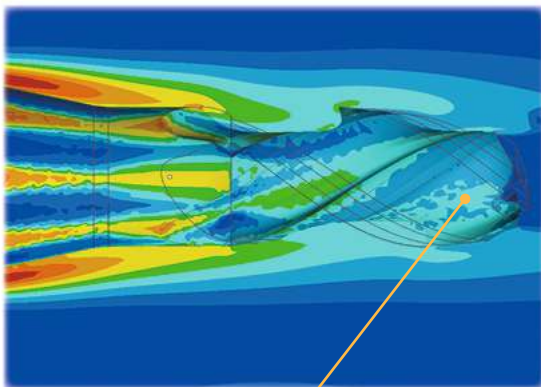
INFLUENCE OF THE CHAMBER RING - PRESSURE 20 BAR



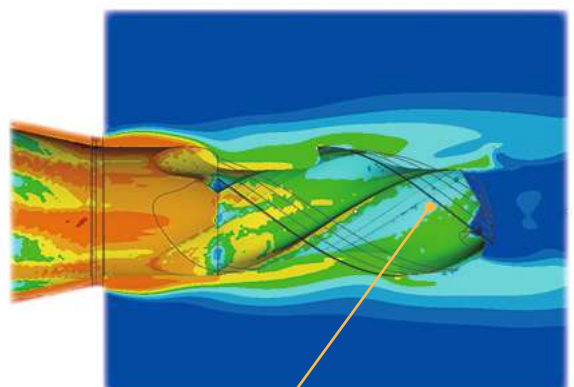
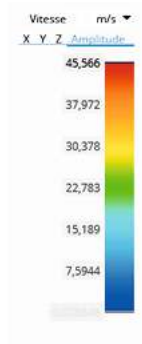
Without ring



With ring



Fluid velocity = 8 m/s



Fluid velocity = 18 m/s
More efficient lubrication with DIXI COOL+

DIXI COOL+ CONCEPT, THE LUBRICANT IS ORIENTED AND ACCELERATED !

APPLICATION EXAMPLE

– Machining of key ways

External coolant



n = 15'000 rpm (Vc = 47 m/min)
Depth of the pocket = 1,2 mm
Material = 1.4441
(medical stainless steel)

Feed speed (Vf) = 170 mm/min

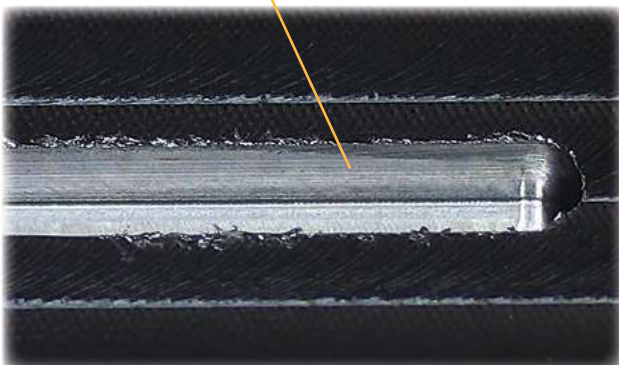
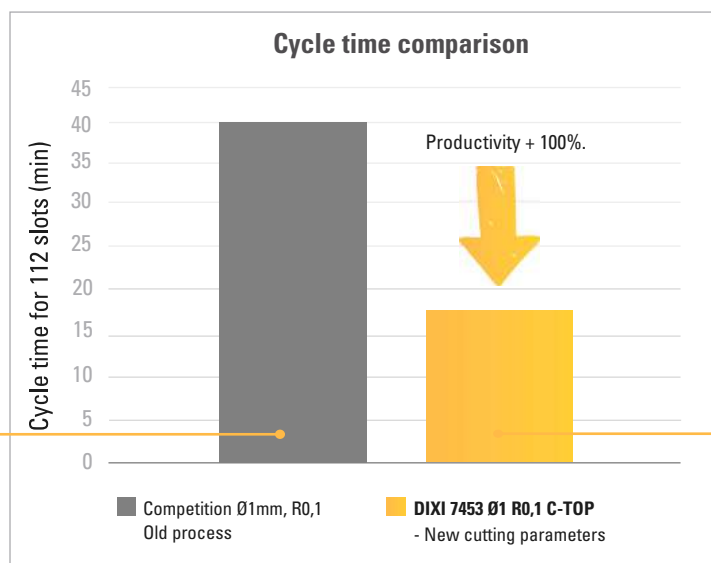
Ramp angle (α) = 5°

DIXI COOL+ coolant system



Feed speed (Vf) = 240 mm/min

Ramp angle (α) = 20°



Lot of burrs



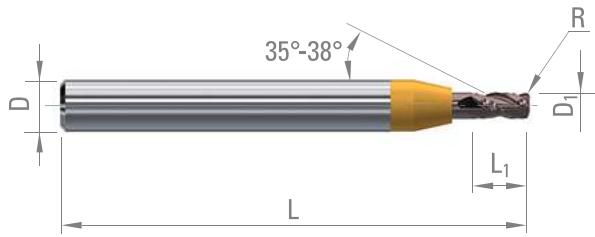
Fewer burrs

DIXI 7453 COOL+



CORNER RADIUS END MILLS
WITH ACCELERATED LUBRICATION

Z = 3



D ₁	L ₁	D _{h5}	L	R	C-TOP
Ø > 0.40 - 0/-0.01 Ø < 2.00 - 0/-0.02				R ≥ 0.10 ± 0.01 R < 0.30 ± 0.015	
0.4	0.90	4	38	0.05 0.10	413162 413163
0.5	1.10	4	38	0.05 0.10	413164 413165
0.6	1.40	4	38	0.05 0.10	413166 413167
0.7	1.60	4	38	0.05 0.10	413168 413169
0.8	1.80	4	38	0.05 0.10	413170 413171
0.9	2.00	4	38	0.05 0.10	413172 413173
1.0	2.20	4	38	0.10 0.20	413174 413175
1.5	3.20	4	38	0.10 0.20	413176 413177

Low alloyed steel	High alloyed steel	DUPLEX stainless steel	Cast iron	Refractory alloy
Titanium, titanium alloy	Cu alloy Silver Gold	Cu alloy difficult to machine	Gold	Silver

D ₁	L ₁	D _{h5}	L	R	C-TOP
Ø < 2.00 - 0/-0.02				R < 0.30 ± 0.015 R ≥ 0.30 ± 0.02	
2.0	4.30	6	55	0.20 0.30	413179 413180
2.5	5.30	6	55	0.20 0.30	413181 413182
3.0	6.30	6	55	0.20 0.30 0.50	413183 413184 413185
4.0	8.30	8	64	0.30 0.50 1.00	413186 413187 413188
5.0	10.30	8	64	0.30 0.50 1.00	413189 413190 413191

APPLICATION EXAMPLE

- Maximum ramp angle (α) in diving
DIXI 7453 Ø5.0 R1.00 COOL+ C-TOP

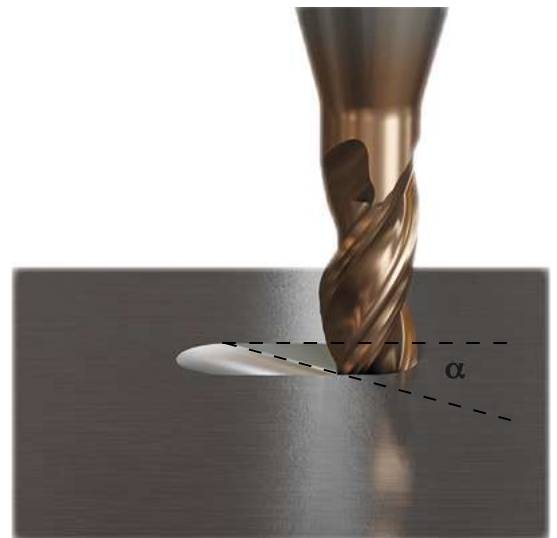
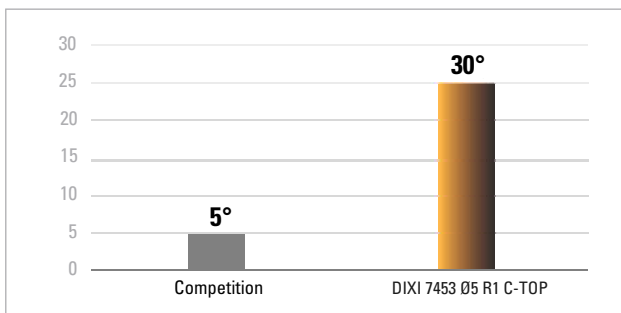
n = 6'000 rpm (Vc = 94 m/min)

Vf = 280 mm/min (fz = 0,015 mm)

Ramp depth : 5 mm

Material : 1.4441 (medical stainless steel)

Lubrication : Emulsion



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VIDEO

