

CTC5240

TAME THE BEAST...



Grade CTC5240

Best in Class. By Design.

- **Performance:** Number 1 industry leading grade for indexable machining of titanium
- **Reliability:** Tools that meet and exceed expectation
- **Accuracy:** Consistent precision and process security
- **Expertise:** Proven success stories in serial production
- **Security:** Full control of the value chain, from raw material to recycling

CERATIZIT is a high-technology engineering group specialised in cutting tools and hard material solutions.

Tooling a Sustainable Future

ceratizit.com



CTC5240: Redefining Titanium Machining

As titanium content in components and structures increase, machining performance becomes critical. With heat concentrated at the cutting edge, insert technology is decisive. CTC5240 has been engineered specifically to meet that challenge.

Titanium: the machining reality

Titanium alloys are fundamental to modern components and structures. Their strength-to-weight ratio, corrosion resistance and fatigue durability make them indispensables.

However, titanium remains one of the most demanding materials to machine. Unlike steel, where most of the heat generated during cutting is carried away by the chip, only approximately 25 percent of the heat in titanium machining is dissipated via the swarf. The majority remains concentrated at the cutting edge.

The result is accelerated diffusion wear, adhesion, edge chipping and reduced tool life. For manufacturers operating under strict tolerance and cost-per-part constraints, insert performance becomes critical.

Engineering the grade around titanium

CERATIZIT's CTC5240 carbide grade, has been developed specifically for high-performance titanium milling.

Rather than adapting a general-purpose carbide, the CTC5240 platform integrates a titanium-focused micro-grain substrate with a patented high heat-resistant coating architecture.

DRAGONSKIN Coating performance under heat concentration

The patented 4 micron CVD-TiB2 double-layer coating acts as an effective thermal and diffusion barrier. With heat concentrated at the cutting edge, high heat resistance is essential.

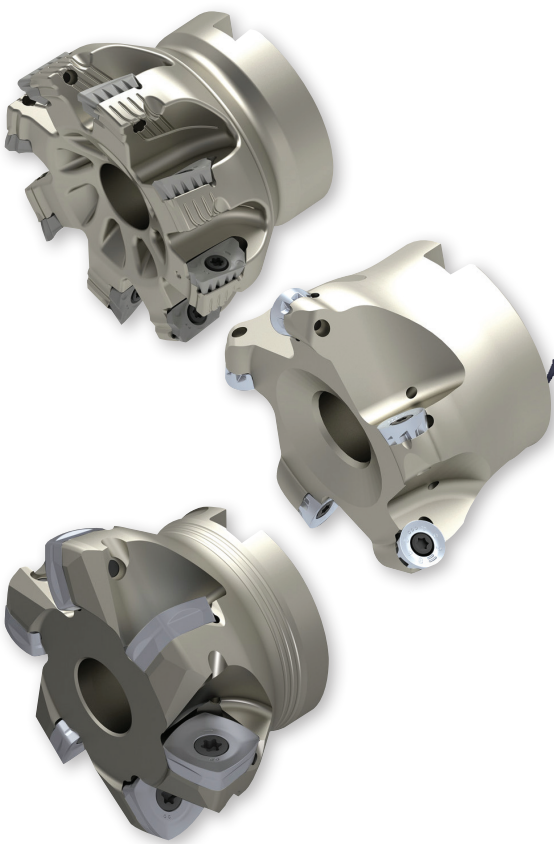
HyperCoat low-friction post-treatment technology reduces surface friction, optimises chip flow and improves heat distribution across the rake face.

Technical Data: CTC5240 Grade

Substrate Type	Micro-grain carbide
Coating System	4µm double-layer CVD-TiB2
Post-Treatment	HyperCoat low-friction technology
Heat Resistance	High thermal stability for titanium
Surface Finish	Ultra-smooth, low-friction coating
Application Focus	Titanium structural components

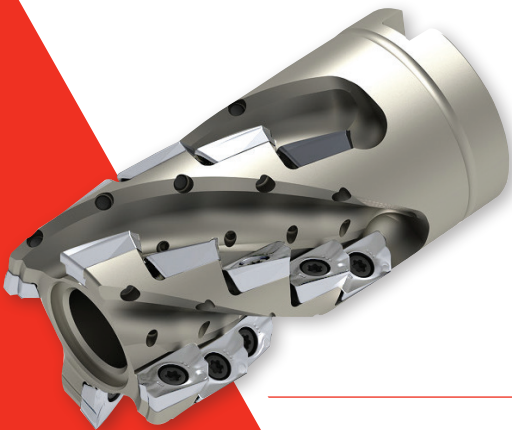
“In titanium machining, the majority of heat remains concentrated at the cutting edge.”

Integrated Tool Geometry



Challenge us with your indexable titanium machining application

CTC5240 represents a titanium-focused approach built on metallurgy, coating science and integrated geometry.



UNLEASH THE
DRAGON!



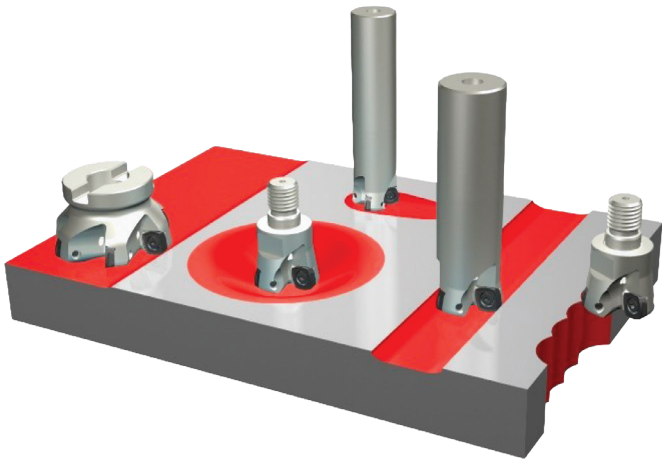
DRAGONSKIN
LEGENDARY
PERFORMANCE

SUCCESS STORIES:

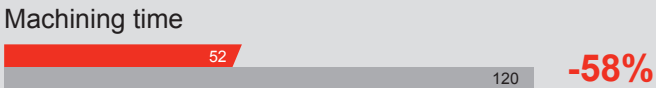
High Feed Roughing

MaxiMill HFC-19

- MaxiMill HFC 19 – indexable insert milling system
- High feed freeform roughing with enormous metal removal rates
- 4 cutting edges per insert
- Depth of cut up to 3.3 mm (19-size insert)
- Small approach angle of the insert ensures stable machining even with long overhangs
- Optimised chip gullets for excellent chip evacuation
- Coolant holes for emulsion/air/MMS
- Cutting forces are exerted primarily in the axial direction



High Feed Roughing with MaxiMill HFC-19

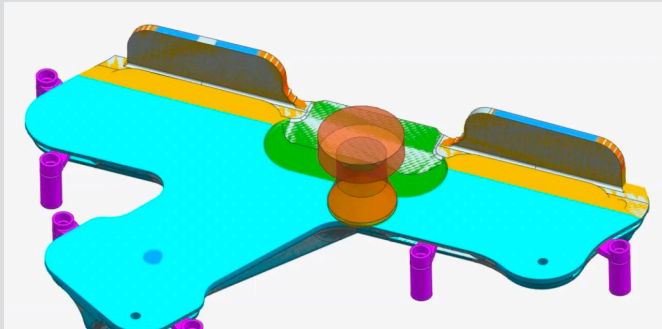


Material:
Ti6Al4V (3:7165)

Indexable insert:
XOLX 190615ER-F40 CTC5240

Tool:
AHFC.63R.05-19

Cutting Data	Competitor	CERATIZIT
vc (m/min)	50	50
fz (mm/tooth)	0.25	0.71
ap (mm)	3	3.3
ae (mm)	40	40
Coolant	Emulsion	Emulsion
Tool life (pieces)	1	3



SUCCESS STORIES:

90° Shoulder Milling

MaxiMill RadX – Indexable Porcupine Milling Cutter

- 90° Shoulder, pocket, or slot milling with high depth of cut on medium and large aerospace components**
- Perfectly optimized tool body for machining titanium
 - Developments with the customer
 - Negative SXHU inserts with eight cutting edges for competitive cost per edge
 - Cost-effective milling system consisting of indexable inserts with eight cutting edges



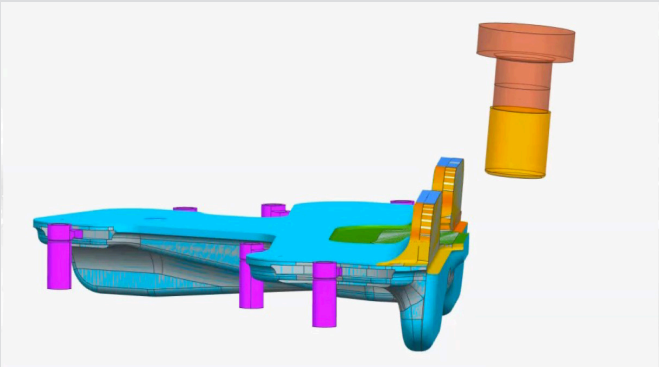
90° Shoulder Milling with MaxiMill RadX



Machine:
Starrag ZT 1000

Material:
Ti6AlV4

Cutting Data	Competitor	CERATIZIT
V _c (m/min)	45	55
f _z (mm/tooth)	0.09	0.11
a _p (mm)	60	60
a _e (mm)	1	20
Q (cm³/min)	98	146
Coolant	40	40
Tool life / component	1	1



SUCCESS STORIES:

Indexable Porcupine Milling Cutter

MaxiMill – 211-KN

- 90° Shoulder, pocket, or slot milling with high depth of cut on medium and large aerostructure components.
- Perfectly optimized tool body for machining titanium
 - Developments together with the customer
 - Insert radii up to 6.0 mm
 - Positive XDKT inserts for a softer cut and higher performance during machining
 - Universal solution that enables a higher removal rate



SUCCESS STORIES:

3D-printed Shoulder Milling System

MaxiMill 211-DC

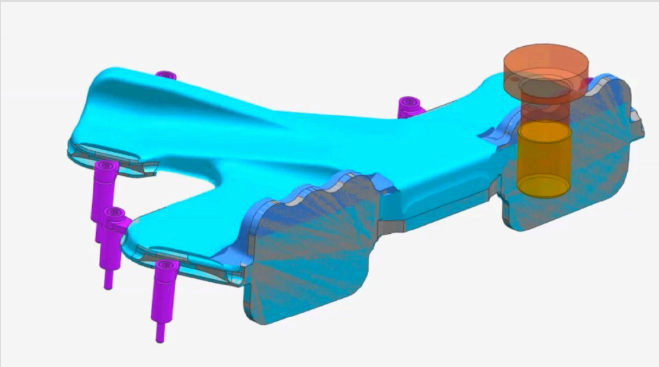
- Universal with 90° approach for various applications on medium size and large areas
- Maximum process security and tool service life despite high cutting speed
- Insert geometry with coolant holes incorporated into the design allowing for through coolant optimally directed at the cutting-edge during machining.



Indexable Porcupine Milling Cutter with MaxiMill - 211-KN



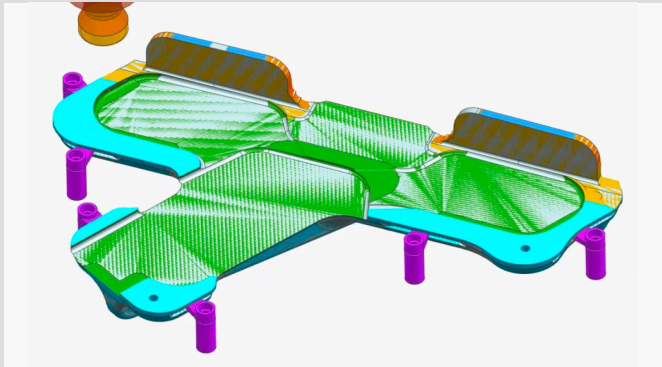
Cutting Data	Competitor	CERATIZIT
V _c (m/min)	30	30
f _z (mm/tooth)	0.08	0.17
a _p (mm)	45-90	45-90
Q (cm³/min)	137	205
a _e (mm)	25	25
Coolant	Emulsion	Emulsion
Tool life (min)	90 min	113 min



3D-printed Shoulder Milling System



Cutting Data	Competitor	CERATIZIT
vc (m/min)	50	50
fz (mm/tooth)	0.07	0.07
ap (mm)	10	10
ae (mm)	8	8
Q (cm³/min)	8.8	8.8
Coolant	70	70
Tool life / component	120 min	360 min



SUCCESS STORIES:

3D Milling

5240 MultiLock tool system

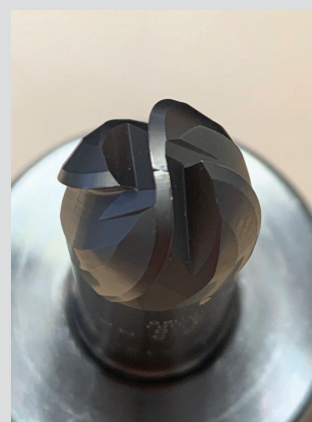
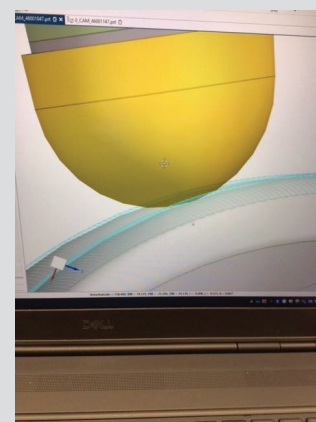
After 160 minutes of service, there is no evidence of wear on the cutting edges. Increased tool life minimum of 80%.

Competitor		CERATIZIT
TOOL		
Tool Type	6 tooth solid carbide cutter	5380301200 EL12.B12.Z04 CTC5240 12587288
RESULTS		
Calculated life time [min]	90 min	162 min

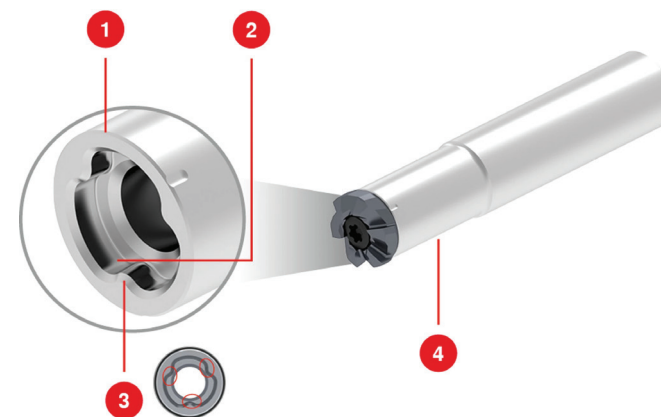
Calculated Life Time [Min]



- Clamping with Centro P
- Excellent condition of the tool after 162 minutes
- Excellent surface finish on the part to reduce polishing required
- CAM strategy can be supported by Ceratizit



- 1. For longer tool service life**
High-precision interface
- 2. High stability and very resource-efficient**
Flat, stable interface with face contact



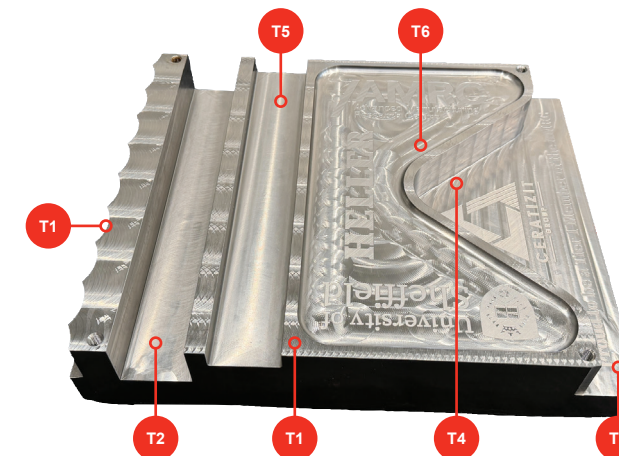
- ### 3. Ensures high force absorption
- Positive locking ensures stability
- ### 4. Optimum surface quality
- Steel/carbide combination has a vibration-dampening effect



Best in Class 5240 Titanium Indexable Milling Strategy Day at the AMRC

24th November 2026 Morning and Afternoon session available

- See the number 1 industry leading performance of 5240 live
- Learn about the material science behind the performance
- The sessions consist of theoretical presentation and practical demonstration on a 5 Axis Heller F6000 in the AMRC Factory of the Future
- In partnership with Heller Machine Tools and Siemens NX
- Tea, coffee, cold drinks and pastries provided
- Morning session 9am to 12.30pm
- Afternoon session 1pm to 4.30pm
- Limited to 40 places, 20 per session morning and afternoon, book early to secure your place



CERATIZIT / AMRC - TiAl6V4 - CTC5240 Demo

Machine Tool: Heller F6000				Material: TiAl6V4		Stock Size: 500x400x150							
ID	Name	Insert	Body	Holder	Vc	RPM	z	Fz	F	Ap	Ae	Q	Notes:
T1	Ø80 HFC Size 19	50504515 x6	50683280	8274512755									
	Face Top				50m/min	199	6	1	1194 mm/min	3mm	53mm	189.85 cm³/min	
	Plunge Milling				50m/min	199	6	0.2	238.8 mm/min	48mm	12mm	137.55 cm³/min	
T2	Ø63 RADX	5128810801 x24	5051906346	8274512755									
	Full Slot				50m/min	253	4	0.1	101.20 mm/min	50mm	63mm	318.78 cm³/min	*Entry Arc Fz reduce to 40%*
T3	Ø80 HFC Strong 13	5129912501 x8	5034408008	8274513255									
	Shoulder Milling				55m/min	219	8	1	1752 mm/min	1.8mm	50mm	157.68 cm³/min	
T4	Ø50 A211-K	50473508 x12	5078105034	8274512755									
	Trochoidal V				55m/min	350	3	0.125	131.25 mm/min	50mm	15mm	98.44 cm³/min	
T5	Ø63 A211-DC	5116513201 x6	5079826306	8274512255									
	Full Slot - 2 Steps				55m/min	278	6	0.1	166.80 mm/min	10mm	63mm	105.08 cm³/min	
T6	Ø50 A251	50493582 x5	50686050	8274512255									
	Helical Entry Pocket				55m/min	350	5	0.35	612.50 mm/min	3	37mm	67.99 cm³/min	

In partnership with
HELLER SIEMENS



Advanced Manufacturing Research Centre

Morning Session

9:00am	Arrival and registration
9:30am	Welcome
9:45am	Presentation - The material science behind the number 1 industry leading 5240 grade
10:15am	Machining Demonstration
11:30am	AMRC Factory of the Future Tour
12:15pm	Q&A Session
12:30pm	Close

Afternoon Session

1:00pm	Arrival and registration
1:30pm	Welcome
1:45pm	Presentation - The material science behind the number 1 industry leading 5240 grade
2:15pm	Machining Demonstration
3:30pm	AMRC Factory of the Future Tour
4:15pm	Q&A Session
4.30pm	Close

Register

Please scan the QR-code with
your mobile phone or go to
www.wnt.com/uk/wntevents

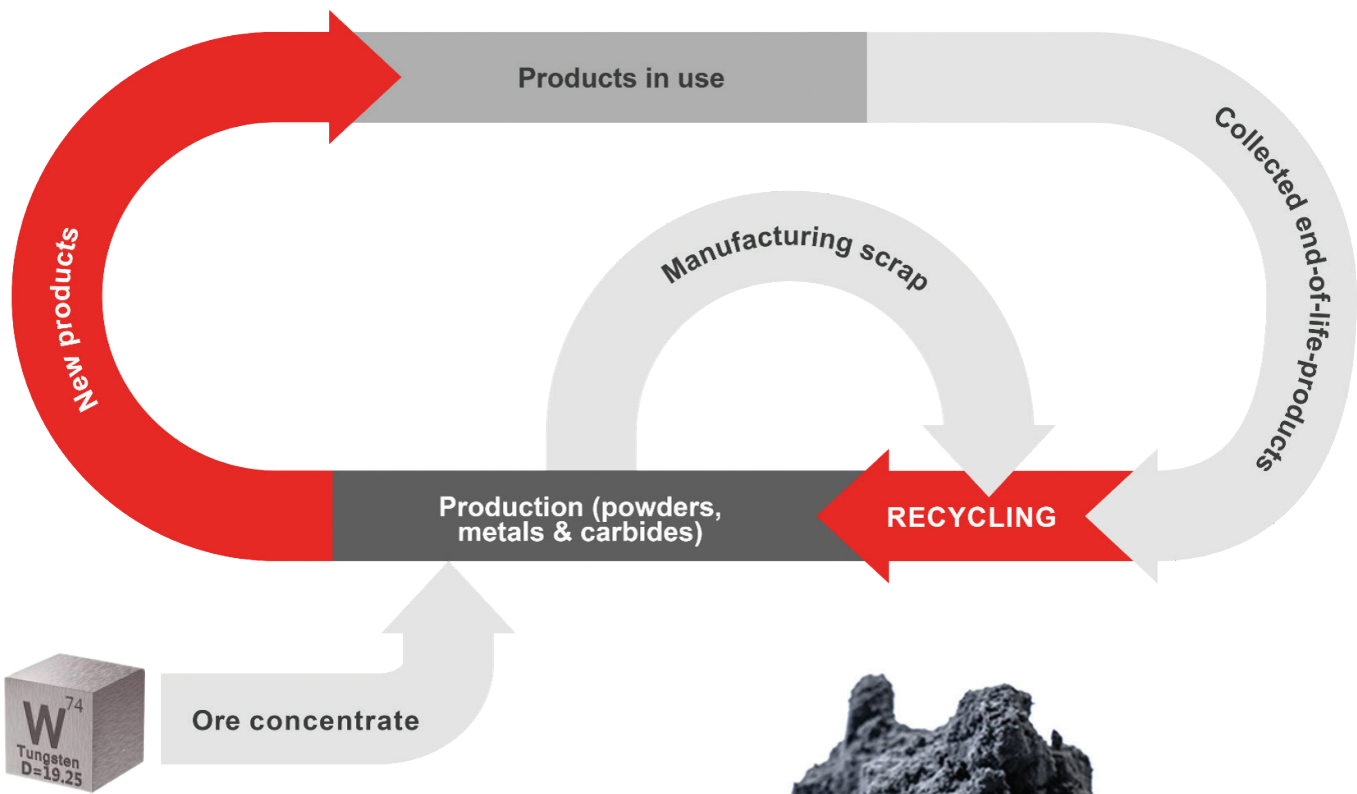
Fill in your details in the form fields and register for the event.

Contact

Dan Atkinson on **07989 385988** or
Dan.atkinson@ceratizit.com for further details.

QR Code

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CERATIZIT CORE COMPETENCES





UNLEASH THE DRAGON!

DRAGONSKIN LEGENDARY PERFORMANCE

**Talk to us about your
indexable titanium
machining challenge**

**CTC5240 represents a titanium-focused approach built on
metallurgy, coating science and integrated geometry.**

If you don't get chance to attend the event at the AMRC come
and see us at our tech centre in Sheffield at a time to suit you
and we will happily show you the performance of 5240 on
Titanium tailored to your application(s)

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