



# Application Example

QUEEN BEE SERIES



$R\ 0,3 \pm 0,01$





## QUEEN BEE SERIES

### SLEEKER DESIGN FOR CHALLENGING STEELS

Discover the QUEEN BEE SERIES by ZECHA, the ultimate choice for precision and efficiency in machining steels below 58 HRC.

Engineered with advanced WAD coating technology and optimized geometries, QUEEN BEE tools deliver exceptional durability and superior surface finishes.

Ideal for production, mold making, and general machining, the QUEEN BEE SERIES sets new standards in performance and reliability.

Experience unparalleled precision and long-lasting quality with QUEEN BEE.

QUEEN BEE SERIES APPLICATION EXAMPLE





589.T4.0400.050.200

589.B2.0400.150.080

589.B2.0200.100.060



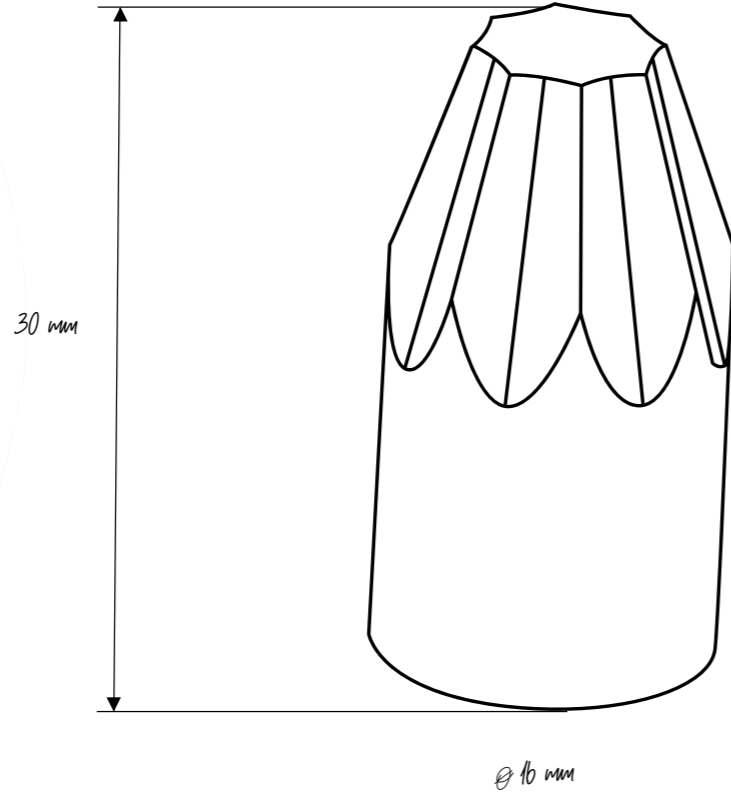
## THE TOOLS

In this case study, we demonstrate the superior performance of the QUEEN BEE SERIES using tools from the 589.T4 and 589.B2 series.

The 589.T4 series, with its 4-flute end mills and 43°/45° helix angles, is perfect for efficient and precise cutting, ensuring excellent chip evacuation and surface quality.

Complementing this, the 589.B2 series, featuring 2-flute ball-nose end mills with a 30° helix angle, excels in delivering fine details and very smooth finishes.

Together, these tools showcase the QUEEN BEE SERIES' ability to achieve exceptional results in various machining applications.



## THE WORKPIECE

In this case study, we'll be milling a demo piece out of Stavax, measuring  $\text{Ø } 16 \times 30 \text{ mm}$ .

This demonstration highlights the QUEEN BEE SERIES' ability to effortlessly cut through Stavax, a tough tool steel, while achieving an outstanding surface finish.

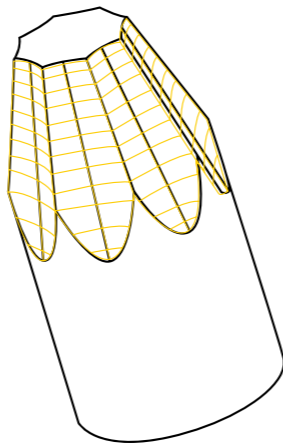
The precise geometry and advanced coating of the QUEEN BEE SERIES tools ensure smooth, efficient machining, showcasing their superior performance and reliability.

589.T4.0400.050.200



## 01. ROUGHING

Tool:	589.T4.0400.050.200
RPM:	6,366
Feed Rate:	1,528 mm/min
Vc:	80 m/min
fpt:	0.060 mm/t
R-Angle:	-
WOC:	1.500 mm
DOC:	0.100 mm
Offset:	0.100 mm
Cooling:	-
Runtime:	00:10:14 h

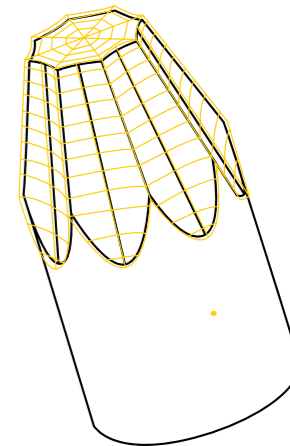


589.B2.0400.150.080



## 02. PRE-FINISHING

Tool:	589.B2.0400.150.080
RPM:	11,539
Feed Rate:	346 mm/min
Vc:	145 m/min
fpt:	0.045 mm/t
R-Angle:	-
WOC:	0.250 mm
DOC:	0.250 mm
Offset:	0.020 mm
Cooling:	-
Runtime:	00:02:50 h

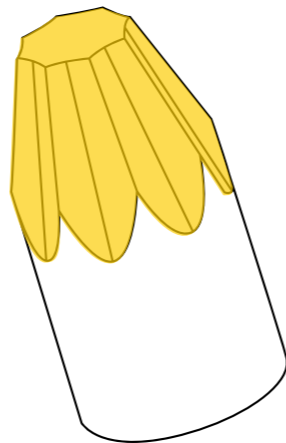


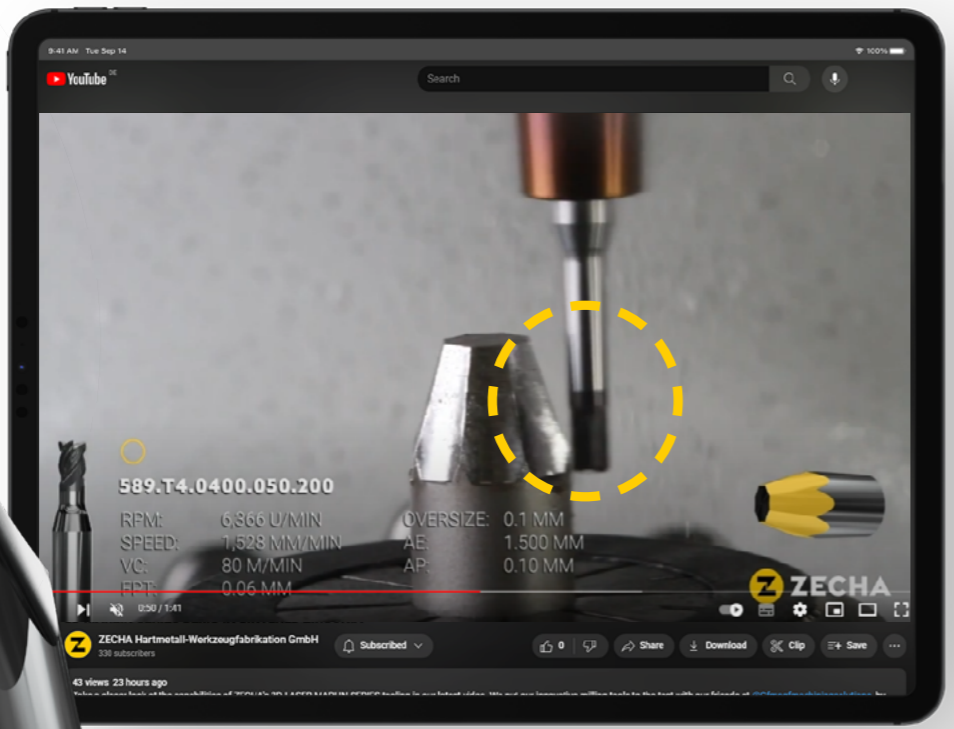


589.B2.0200.100.060

### 03. FINISHING

Tool: 589.B2.0200.100.060  
RPM: 22,282  
Feed Rate: 1,114 mm/min  
Vc: 140 m/min  
fpt: 0.025 mm/t  
Offset: 0.000 mm  
R-angle: 20°  
WOC: 0.010 mm  
DOC: 0.020 mm  
R-Angle: -  
Cooling: -  
Runtime: 01:05:40 h





## SEE IT IN ACTION

Experience the tools and strategies in action by scanning the QR code below. This will direct you to a video of the milling example on ZECHA's YouTube page, where you can see our precision and performance firsthand.

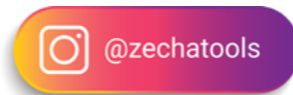




# DON'T MISS A THING

Scan the QR codes below to access ZECHA's various social media accounts where you can stay up to date on new tools, new videos, live events and much more.

Subscribe and stay up to date.







ZECHA Hartmetall-Werkzeugfabrikation GmbH  
Benzstraße 2, D-75203 Königsbach-Stein  
+49 7232 3022 0  
[www.zecha.de](http://www.zecha.de), [info@zecha.de](mailto:info@zecha.de)



Top-Innovator  
2023

STAND 08/2024 | 122001

Copyright by ZECHA Hartmetall-Werkzeugfabrikation GmbH.  
Technische Änderungen unserer Produkte im Zuge der Weiterentwicklung behalten wir uns vor.