

# Process-reliable deburring of undefined workpiece contours

Expert Forum DeburringEXPO 2023

A close-up photograph of a metal component, possibly a valve or a similar mechanical part, showing significant surface damage and burrs. The metal is dark grey and has a rough, textured appearance. There are several circular openings or recessed areas, some of which are partially obscured by the burrs. The background is a solid blue color.

Issues with  
burrs?

We got  
solutions.

Multiple solutions for  
**#burr-free**, straight out of the machine.



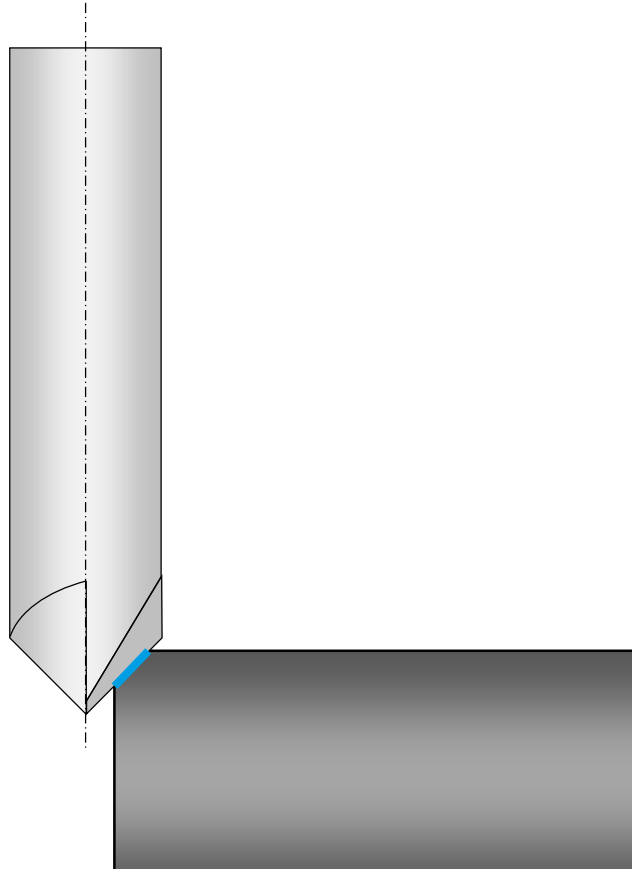
# Deburring method

**A** Contour-linked deburring tools

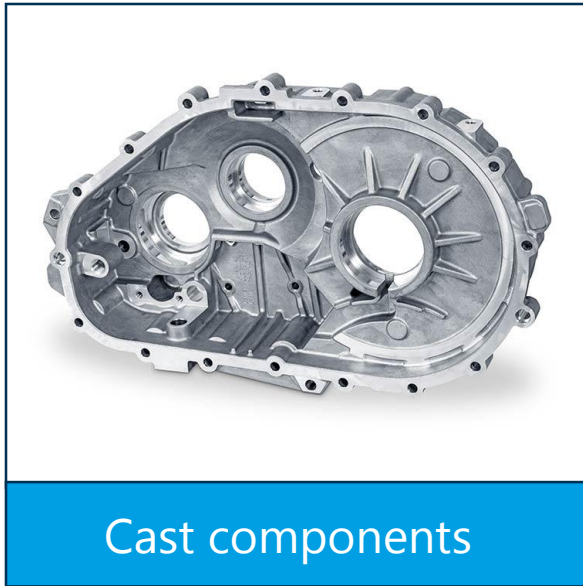
**B** Power-linked deburring tools

**C** Brush deburring

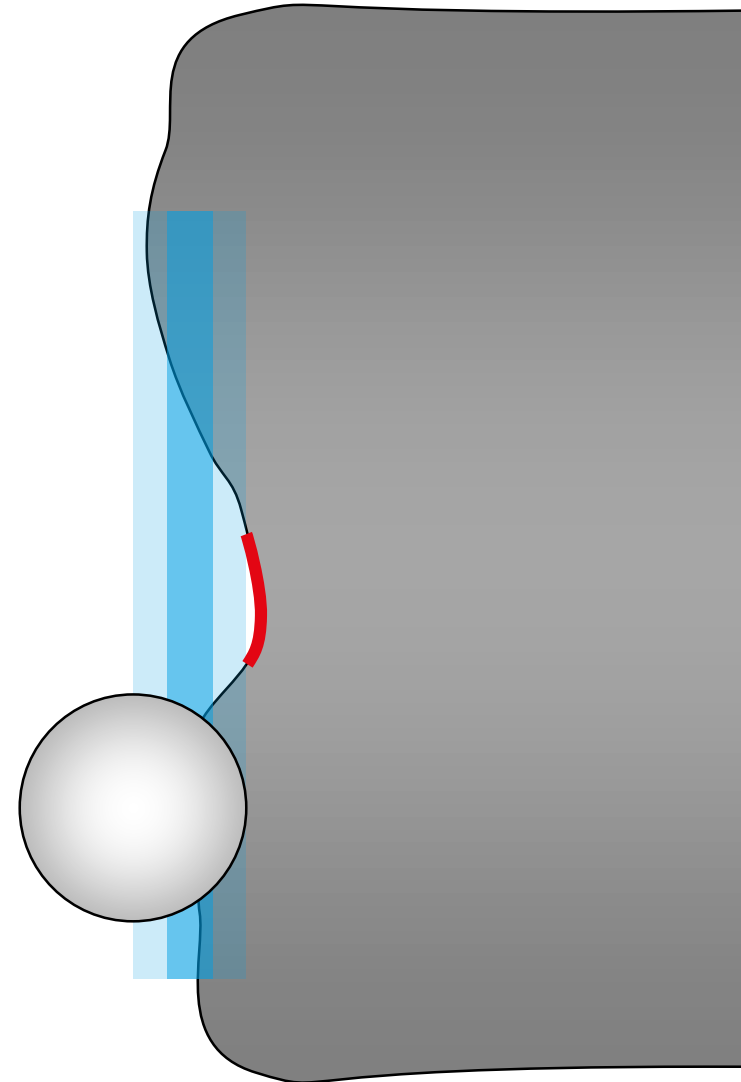
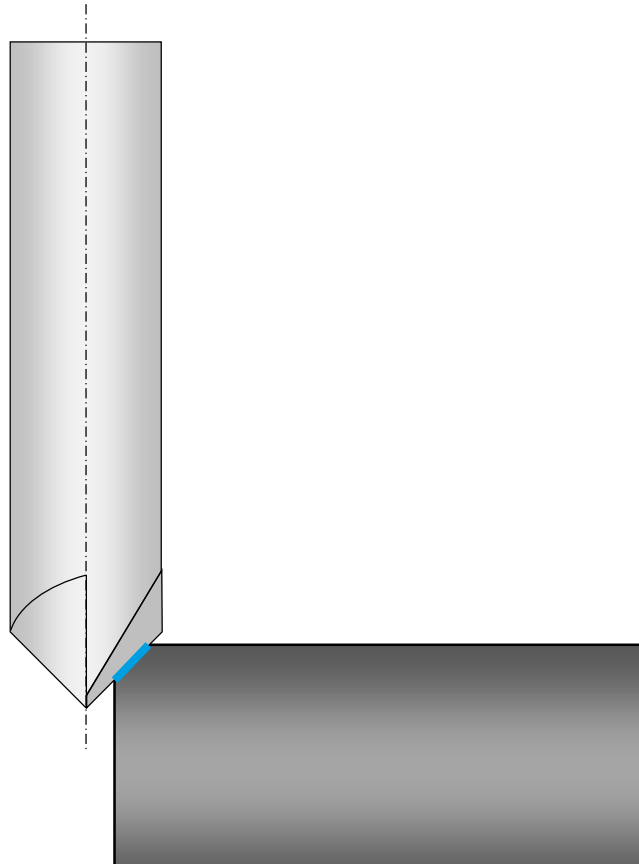
Well – isn't it this easy?...



# What does “undefined workpiece contour” mean?



# Contour-linked chamfering tools reach their limits



# Deburring method

**A** ~~Manual linked deburring tools~~

**B** Power-linked deburring tools

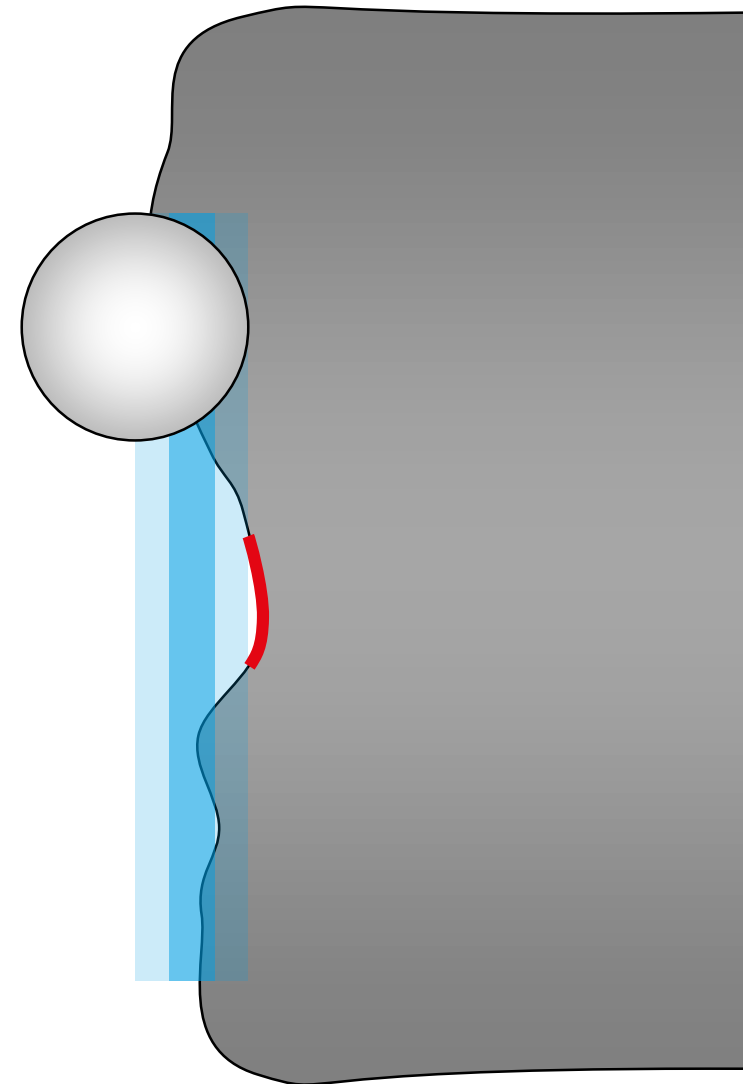
**C** Brush deburring



## Rough terrain

Agility is in demand

Adaptability to the contour





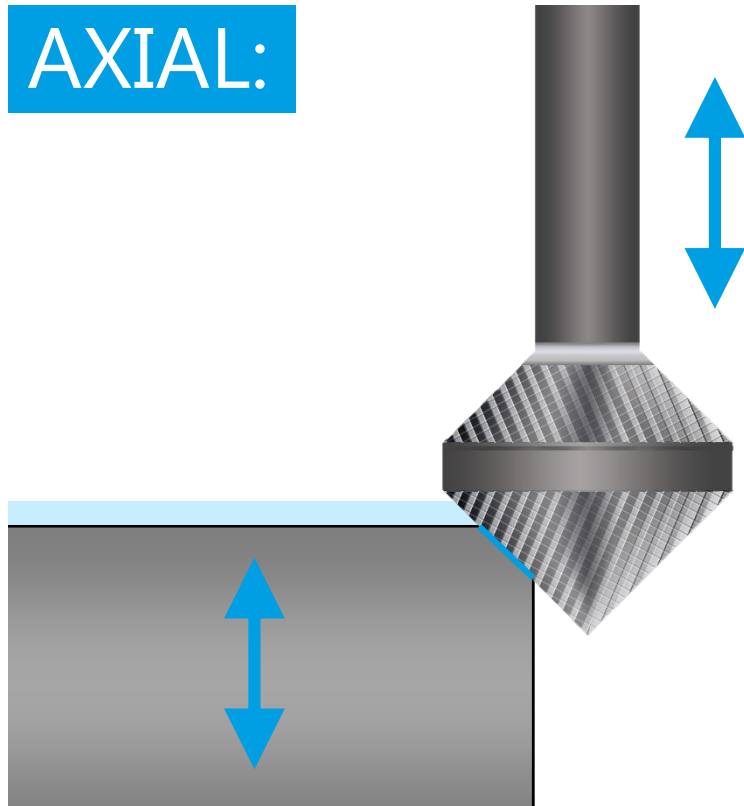
# *ibex*

AGILE – IN ROUGH  
TERRAIN

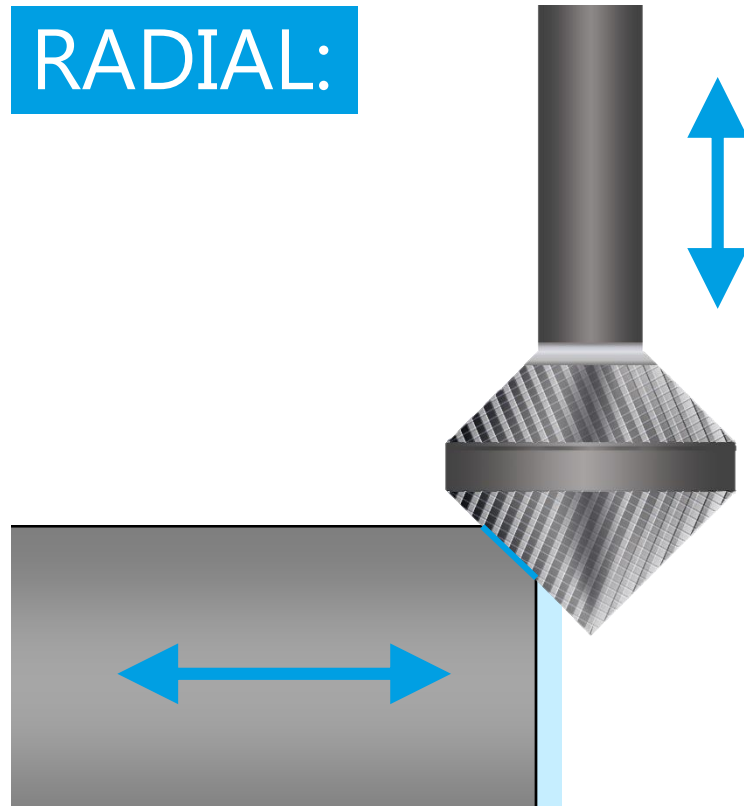


# Compensates for axial and radial deviations

**AXIAL:**

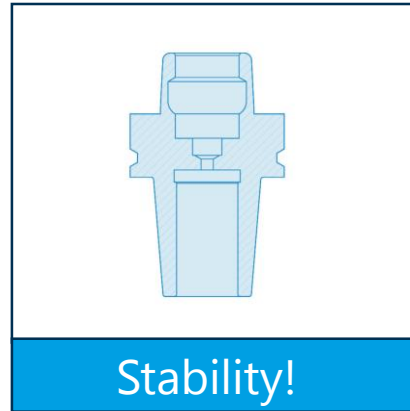
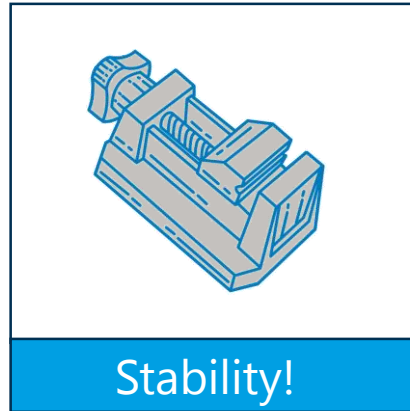
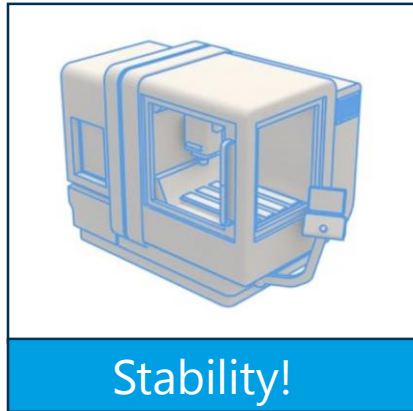


**RADIAL:**





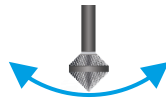
# The challenge: low-chatter chamfering



# The ibex system is perfectly balanced

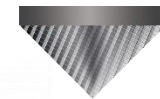
## ibex compensation holder

- No radial compensation
- Guidance quality of the piston in the cylinder
- Compact and slim design

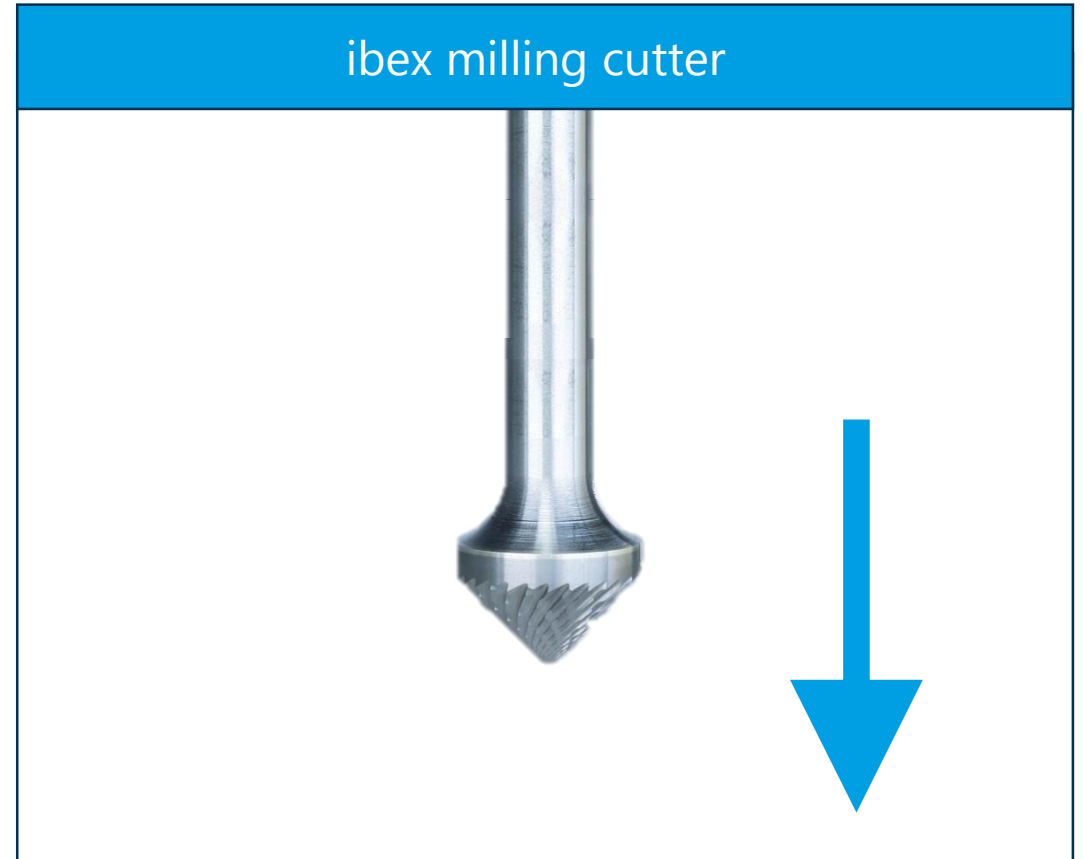


## ibex milling cutter

- Milling cutter geometry specially designed for axial stroke movement
- Multi-tooth cutter
- Cross-Cut-geometry



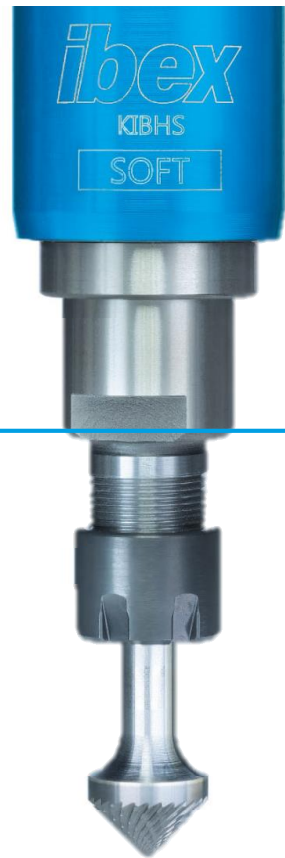
# Axial forces are compensated in part







# 10 mm compression and tension compensation



+ 10 mm



- 10 mm







for soft materials



for all materials,  
compression level adjustable



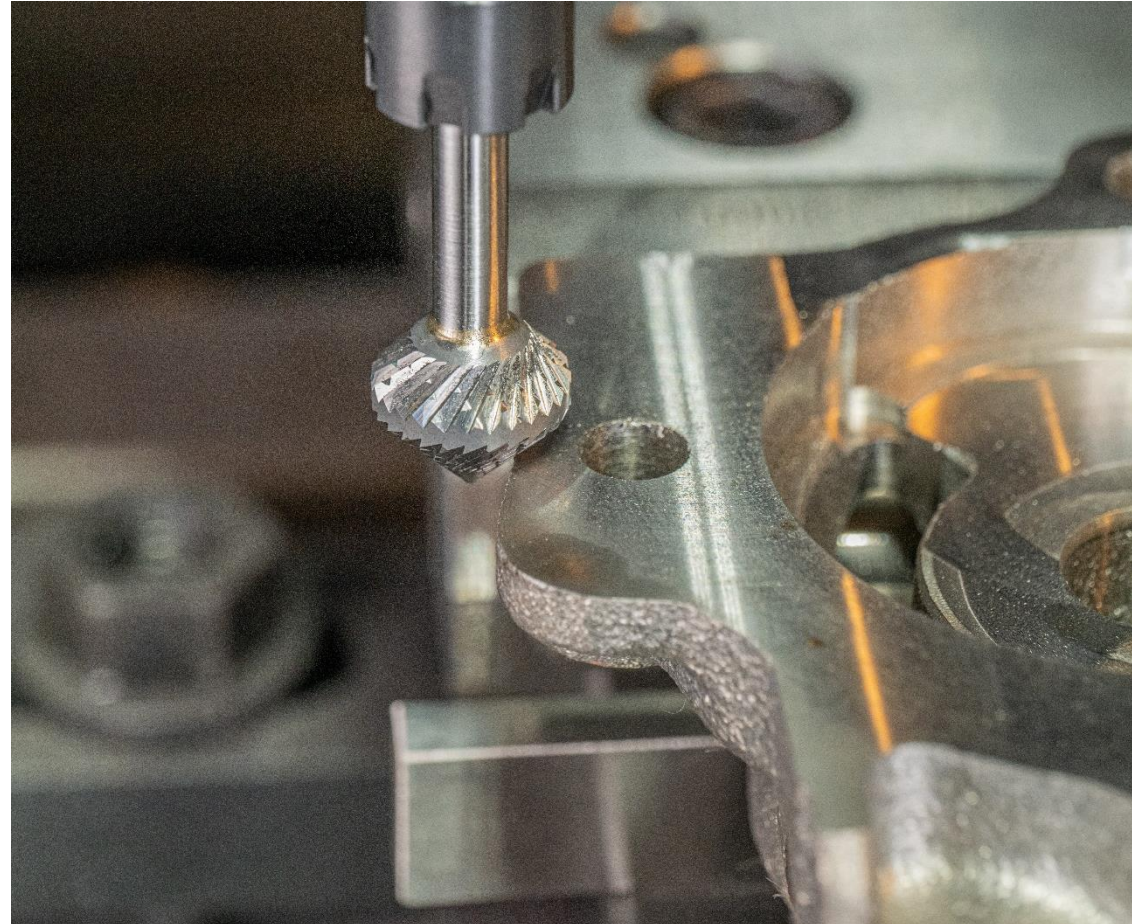
for firmer materials



for firm materials,  
hard to machine

## Use case

Workpiece	Housing
Material	Cast GGG-40
ibex holder	KIBHM
ibex cutter	KIBCD Ø16
RPM	5.000 rev/min
Feed rate	3.000 mm/min



## Use case

Cast iron component; Before

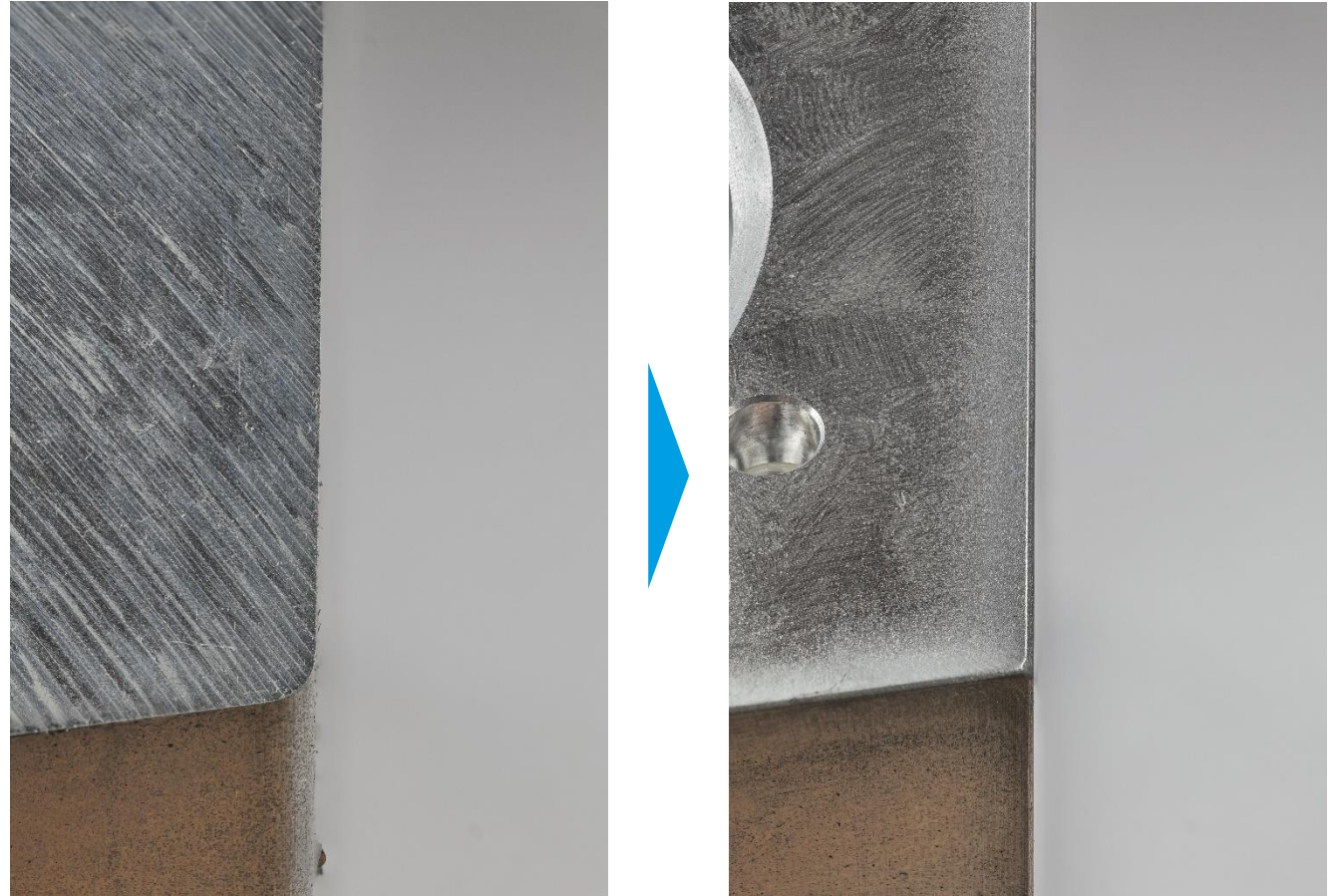


Cast iron component; After



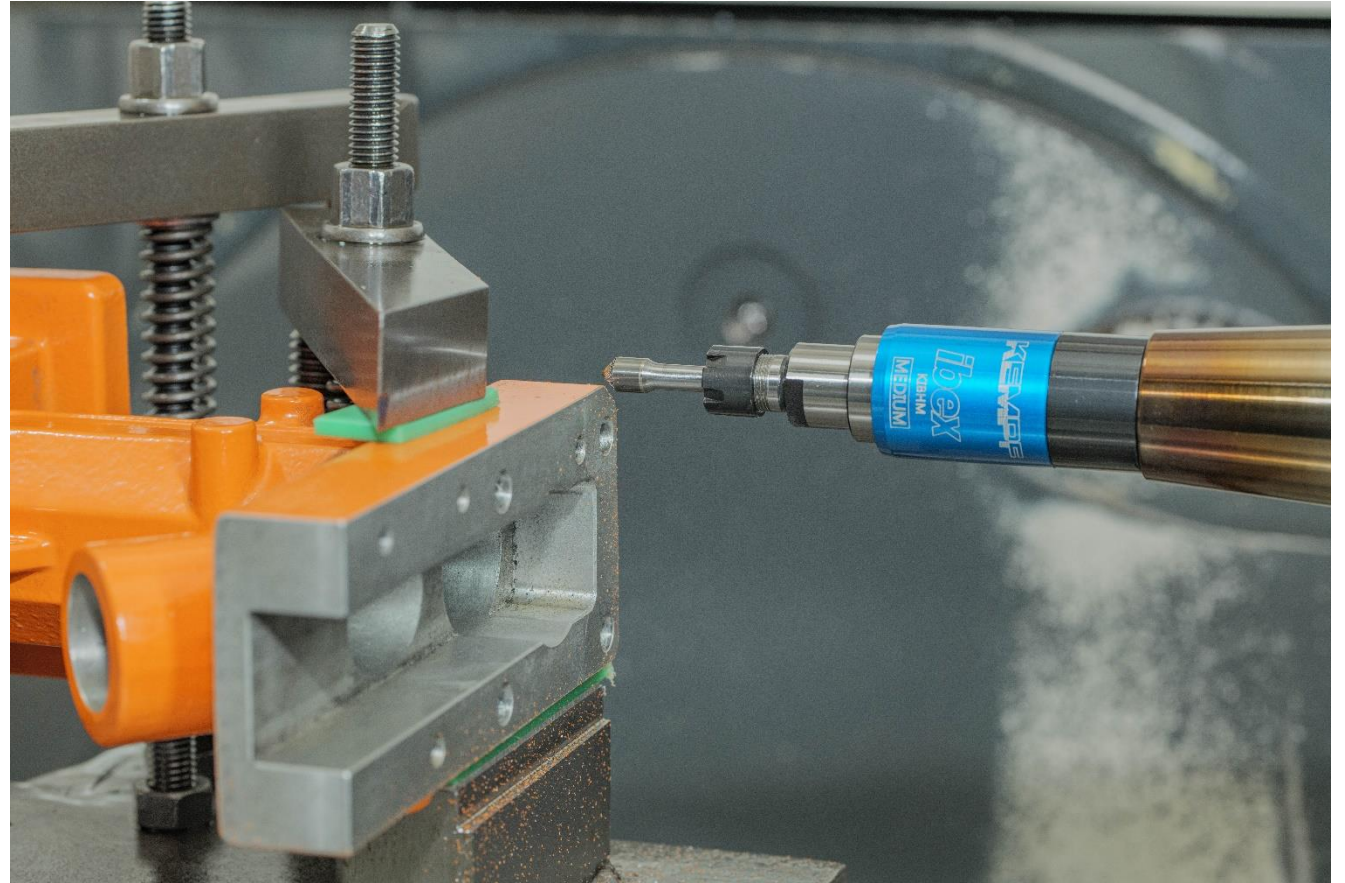
## Use case

Workpiece	Cup housing
Material	Aluminum
ibex holder	KIBHM
ibex cutter	KIBCD Ø16
RPM	5.000 rev/min
Feed rate	3.000 mm/min



## Use case

Workpiece	PT500 housing
Material	EN AlSi7Mg03
ibex holder	KIBHM
ibex cutter	KIBCF Ø8
RPM	8.000 rev/min
Feed rate	4.000 mm/min



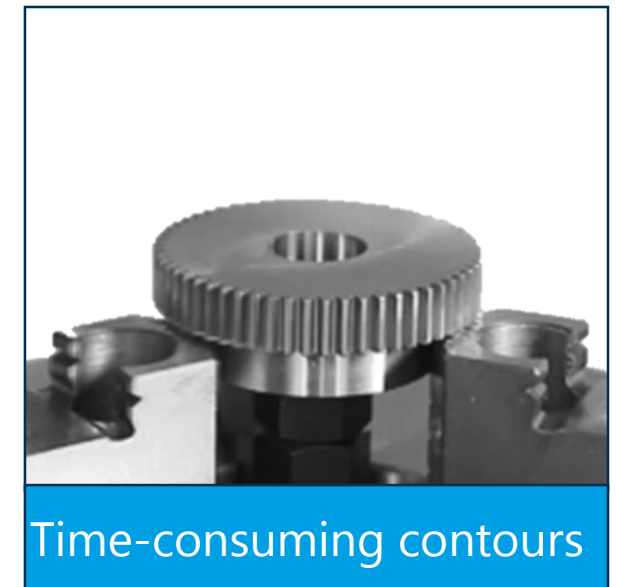
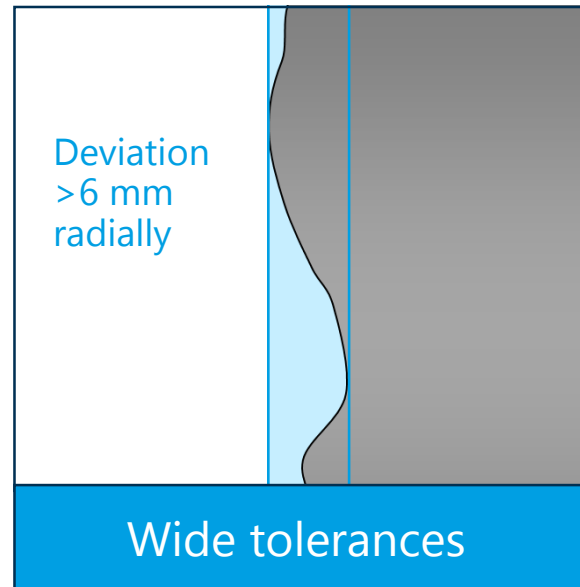
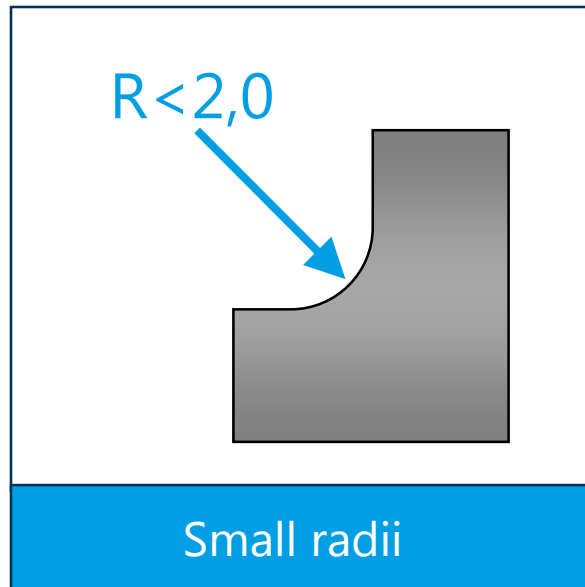
## Use case

Workpiece	PT500 housing
Material	EN AlSi7Mg03
ibex holder	KIBHM
ibex cutter	KIBCF Ø8
RPM	8.000 rev/min
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# Limitations of the ibex deburring system



# Deburring method

**A** Contour-linked deburring tools

**B** Power-linked deburring tools

**C** Brush deburring



# Ceramic fibers with superior characteristics

1

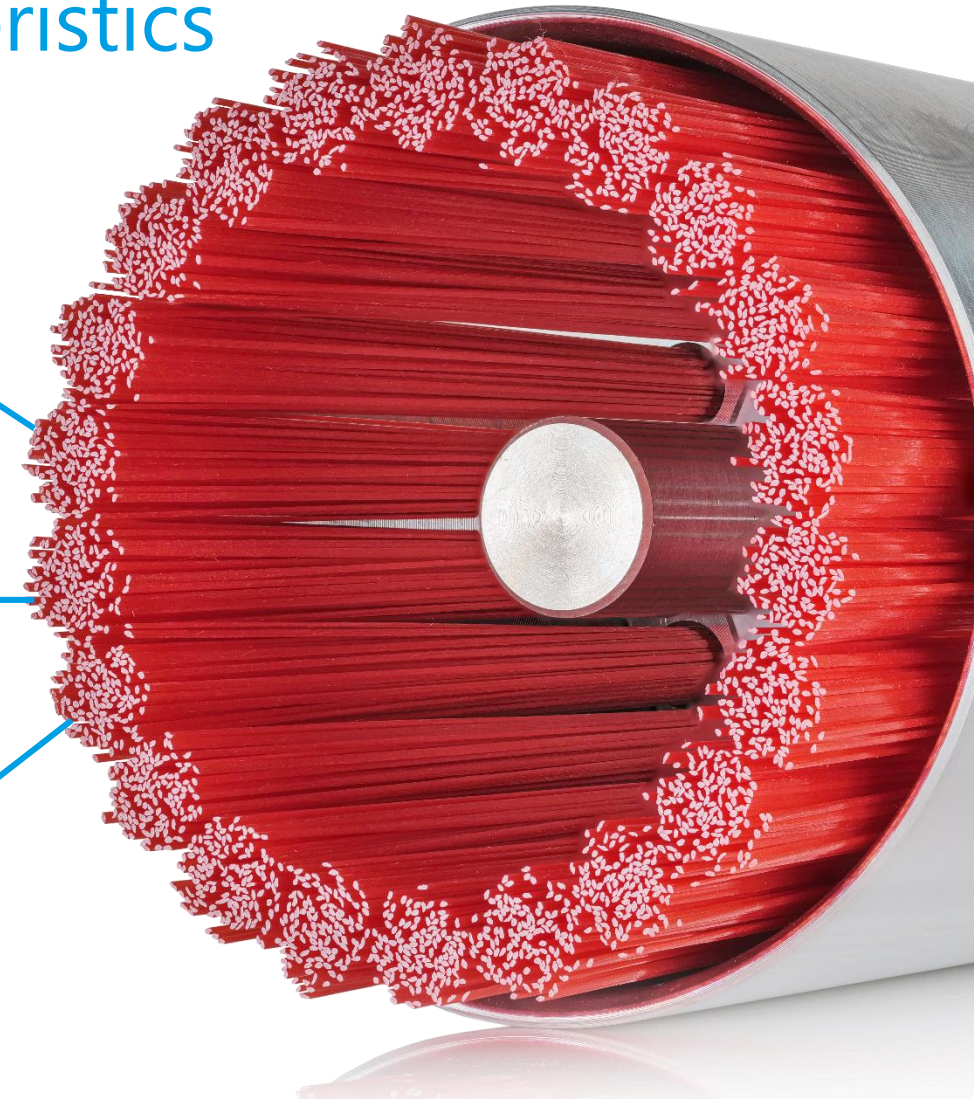
Higher grinding power

2

Continuous grinding performance

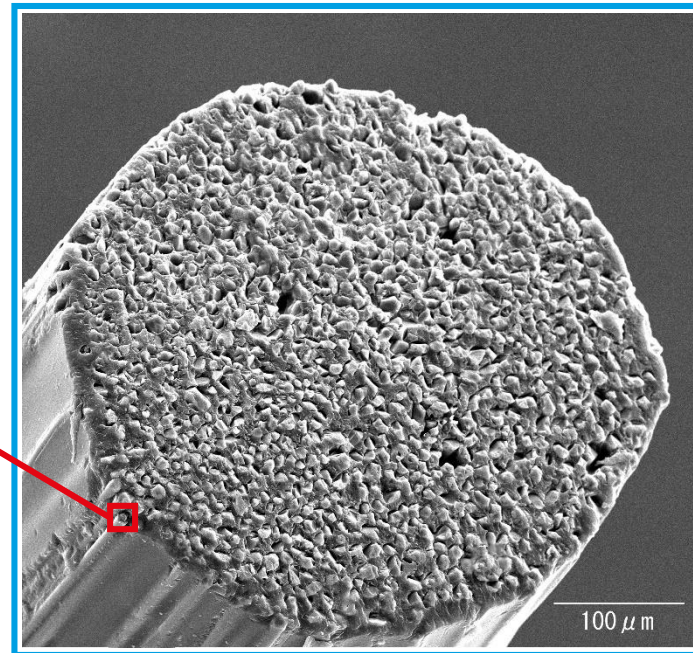
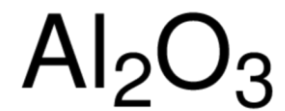
3

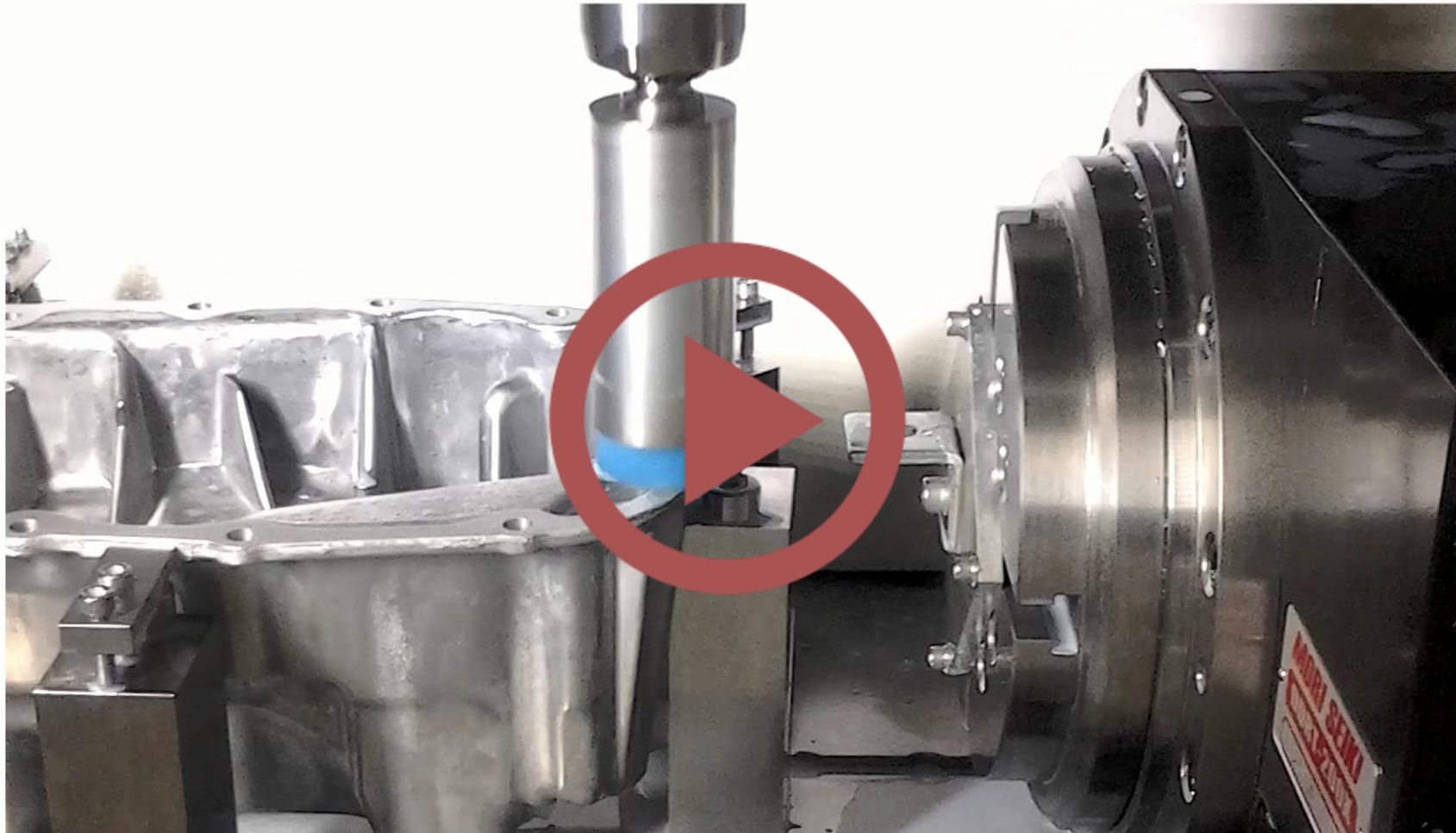
High form stability



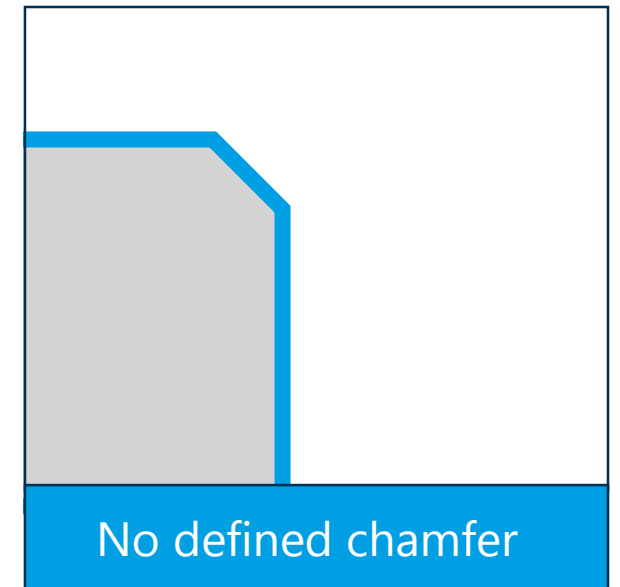
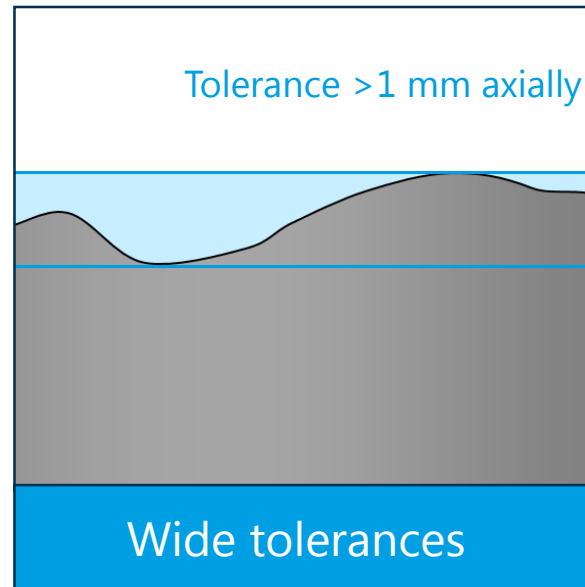
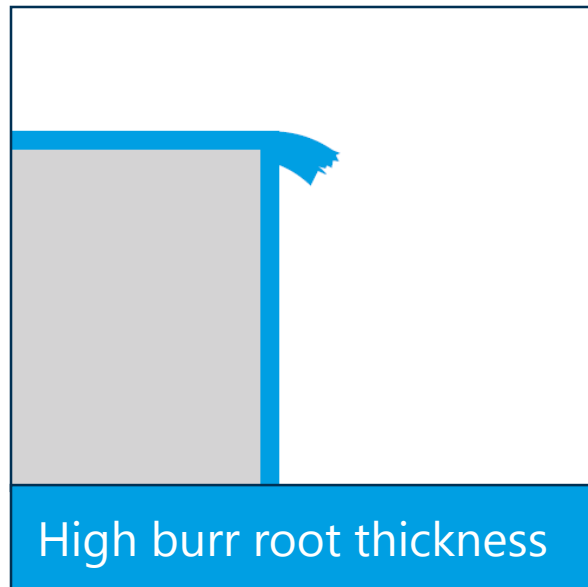
# The tips of the ceramic fibers are abrasive

Ceramic fibre





# Limitations of the ceramic fiber brushes



# Deburring method

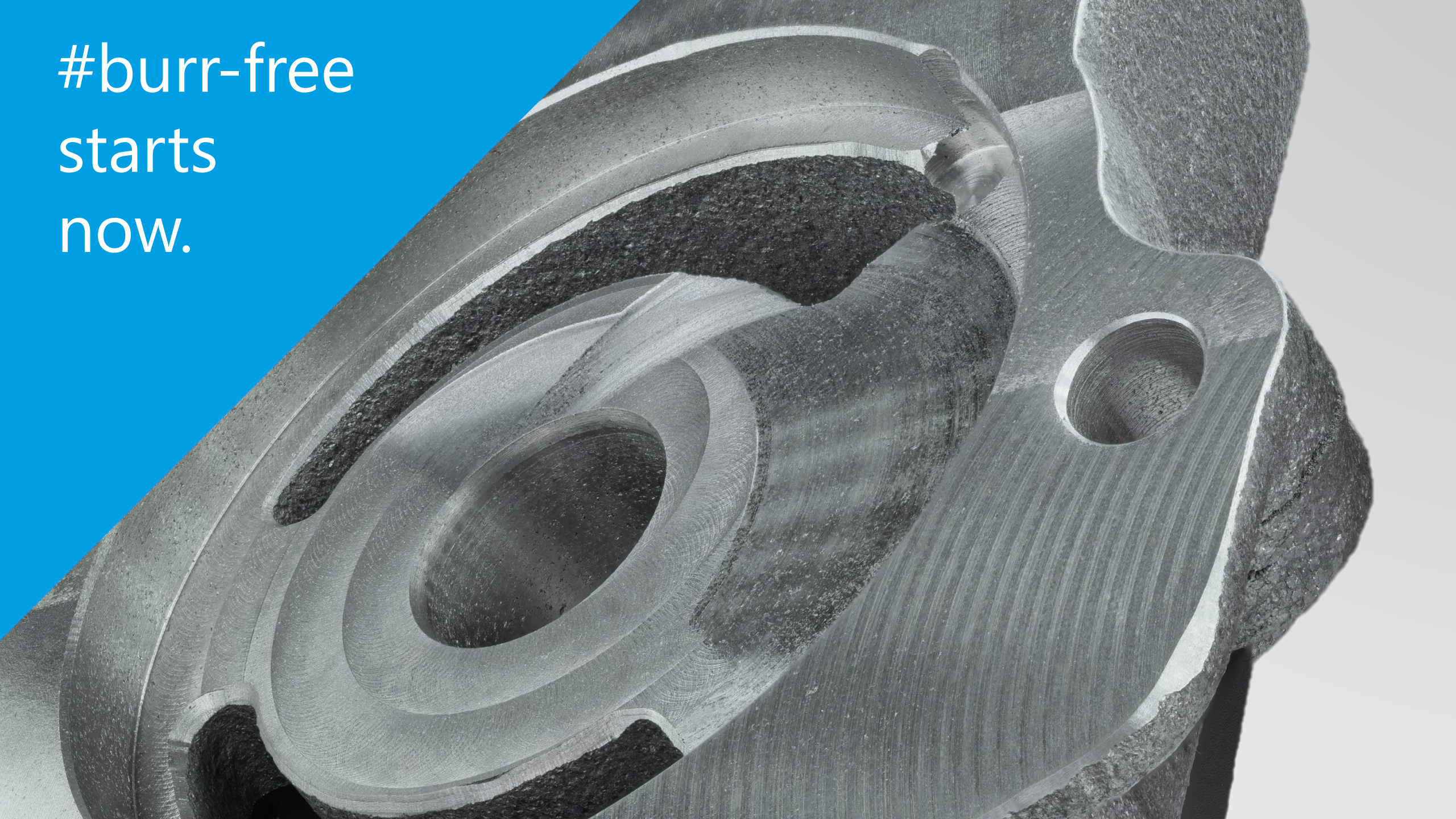
**A** Contour-linked deburring tools

**B** Power-linked deburring tools

**C** Brush deburring



#burr-free  
starts  
now.



**KEMDE**

The logo consists of the word 'KEMDE' in a bold, dark blue, sans-serif font. Below the letters are several horizontal lines of varying lengths and thicknesses, creating a stylized, industrial appearance. A central 'V' shape is formed by the negative space between the lines under the 'M' and 'D'.

SONDERWERKZEUGE IN PRÄZISION