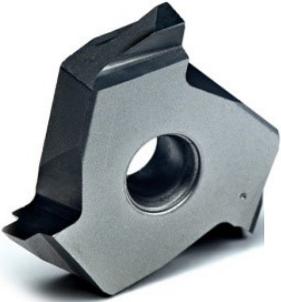


# KONRAD TOOLS

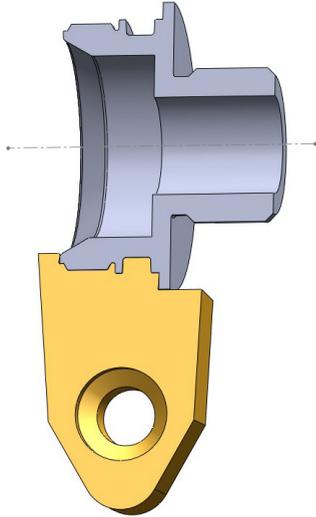
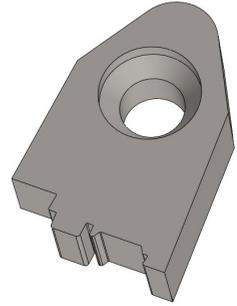


CASE STUDIES  
CUSTOM TOOLS

# CONTOUR GROOVE - CG

A SPECIALISED SOLUTION FOR IMPROVING THE PRODUCTIVITY OF TURNING/GROOVING OPERATION.

CUTTING TIME: 2,45 SEC

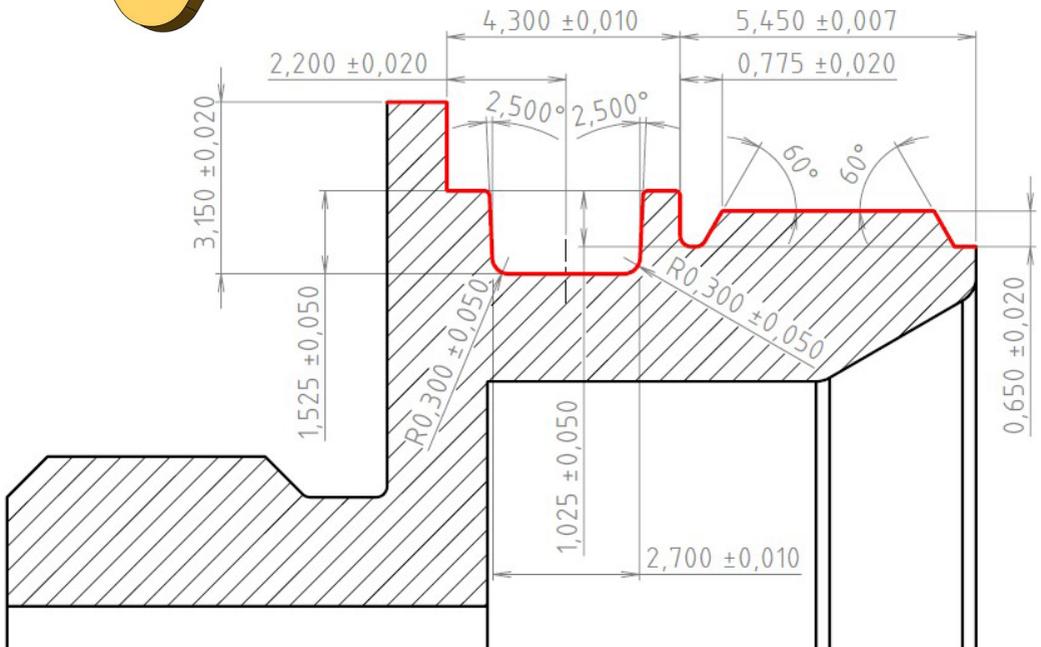


MATERIAL: STRUCTURAL STEEL 1.5680 (12Ni19)

CUTTING SPEED  $V_c$ : 100 m/s

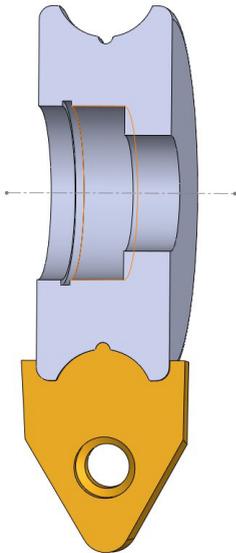
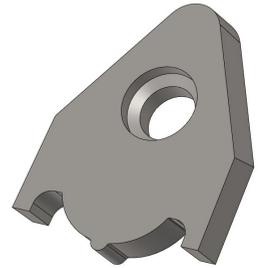
REVOLUTIONS PER MINUTE: 1700  $\text{MIN}^{-1}$

FEED  $f$ : 0,08 mm

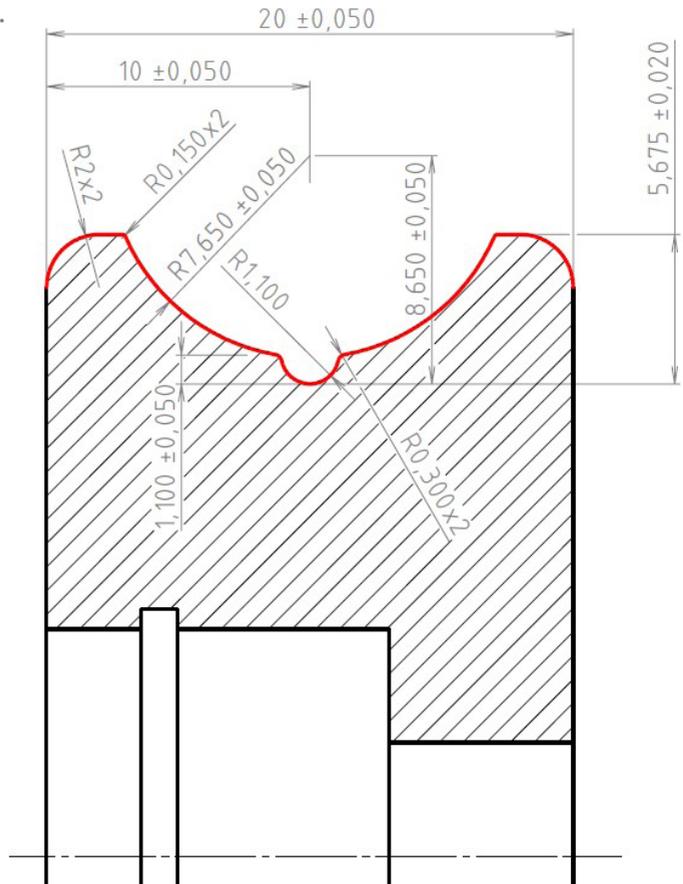


# CONTOUR GROOVE - CG

OUR SPECIAL INSERT IS USED FOR ACHIEVING THE DESIRED SHAPE IN A SINGLE MOVEMENT OF THE TOOL.  
CUTTING TIME: 3,5 SEC



MATERIAL: BRASS 2.0265 (CuZn30)  
CUTTING SPEED  $V_c$ : 160 m/s  
REVOLUTIONS PER MINUTE: 1000  $\text{MIN}^{-1}$   
FEED  $f$ : 0,1 mm

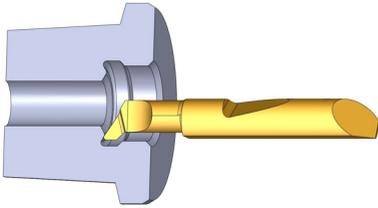




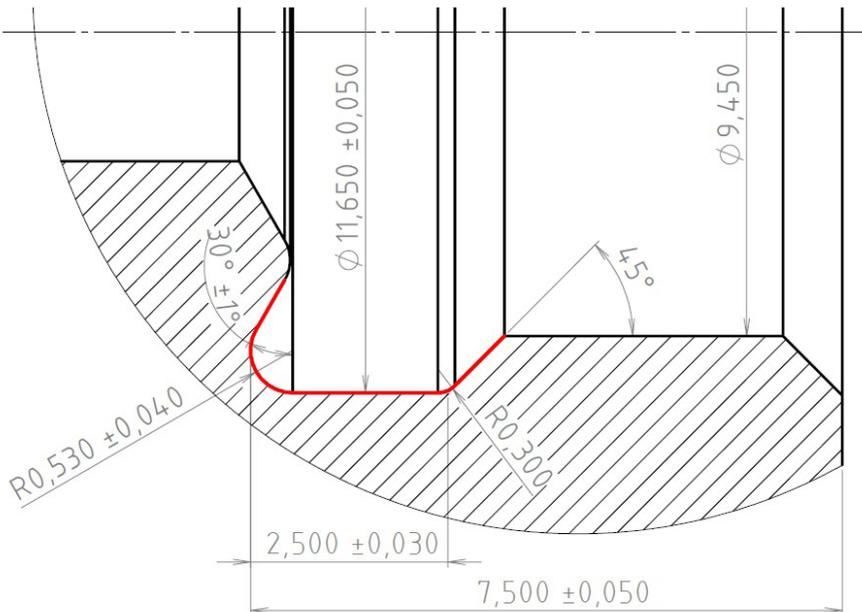
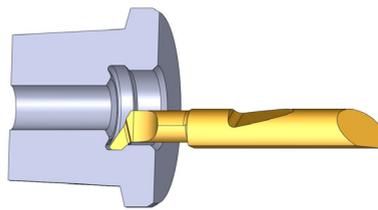
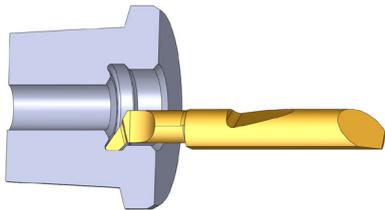
# MICRO CUTTING SYSTEM - MCS

A CUSTOM TOOL SOLUTION WAS USED INSTEAD OF CUTTING BY THE STANDARD INTERNAL BORING BARS.

CUTTING TIME: 2,4 SEC



MATERIAL: STRUCTURAL STEEL 1.1191 (C45E)  
 CUTTING SPEED  $V_c$ : 90 m/s  
 REVOLUTIONS PER MINUTE: 2300  $\text{MIN}^{-1}$   
 FEED  $f$ : 0,03 mm  
 CUTTING DEPTH  $A_p$ : 0,5 mm



# MICRO CUTTING SYSTEM - MCS

A BIG PART OF THE INTERNAL SHAPE IS MACHINED IN A SINGLE MOVEMENT WITH THE HELP OF OUR CUSTOMIZED MCS TOOL.

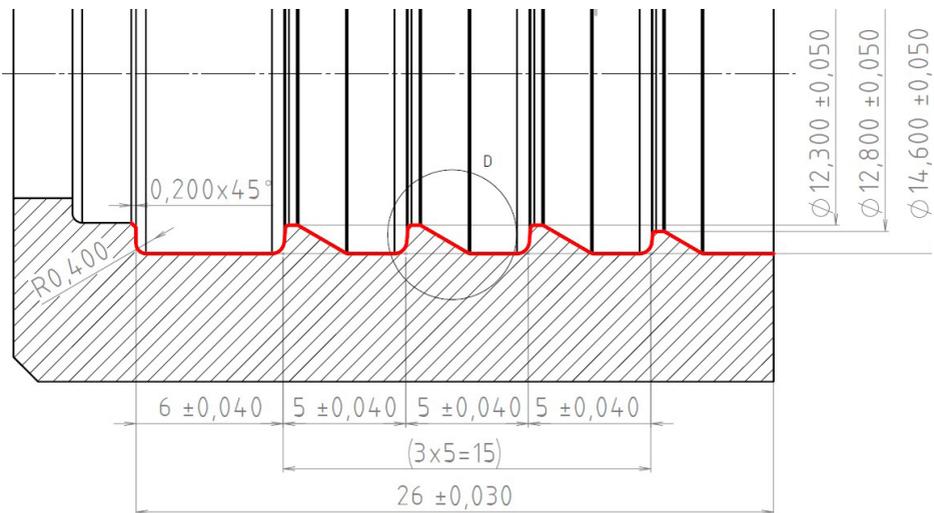
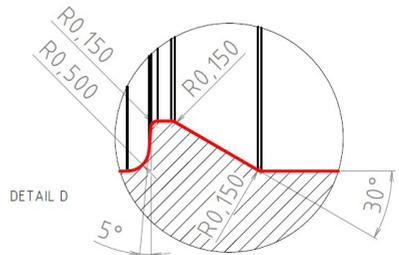
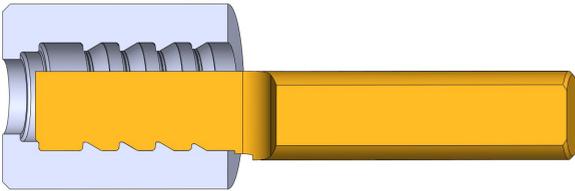
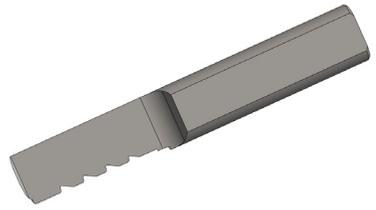
CUTTING TIME: 0,7 SEC

MATERIAL: ALUMINIUM ALLOY 3.2315 (AlMgSi1)

CUTTING SPEED  $V_c$ : 150 m/s

REVOLUTIONS PER MINUTE: 4000  $\text{min}^{-1}$

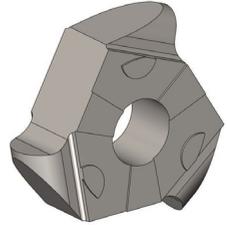
FEED  $f$ : 0,07 mm



## MULTI3 CUT - M3C

INSTEAD OF THE STANDARD SOLID CARBIDE BORING BARS OUR CUSTOM TOOL WAS USED TO ACHIVE THE BELOW SHAPE.

CUTTING TIME: 0,45 SEC

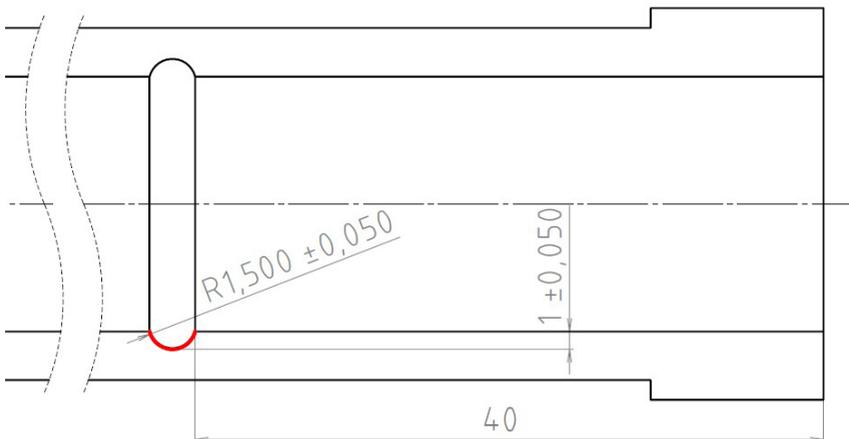
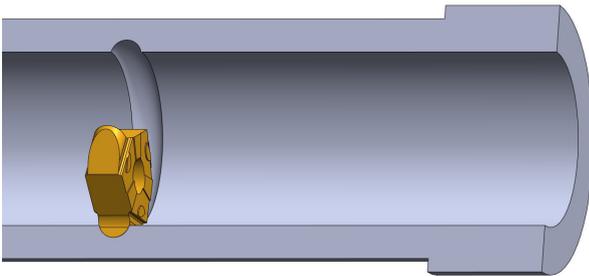


MATERIAL: STRUCTURAL STEEL 1.5919 (15CRNi6)

CUTTING SPEED  $V_c$ : 130 m/s

REVOLUTIONS PER MINUTE: 2700  $\text{MIN}^{-1}$

FEED  $f$ : 0,10 mm

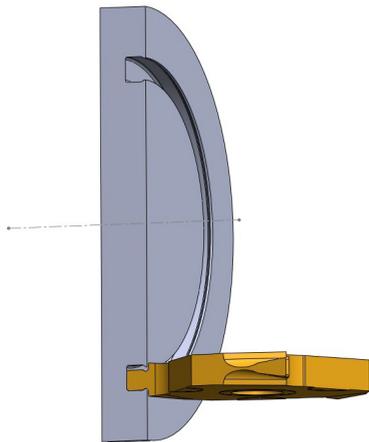
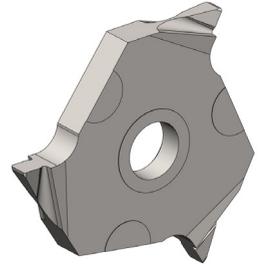


# MULTI3 CUT - M3C

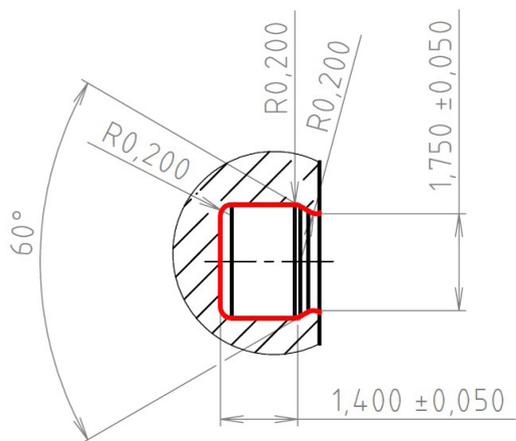
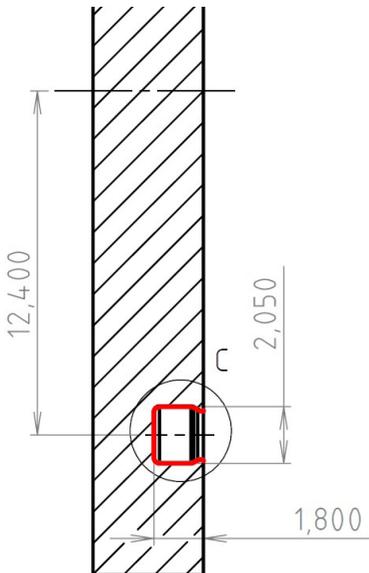
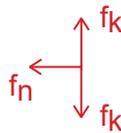
OUR CUSTOM AXIAL GROOVE INSERT WAS USED TO MAKE THE AXIAL GROOVE ON THE PART BELOW.

CUSTOM INSERT MAKES AXIAL AND RADIAL MOVEMENT.

CUTTING TIME: 1,9 SEC



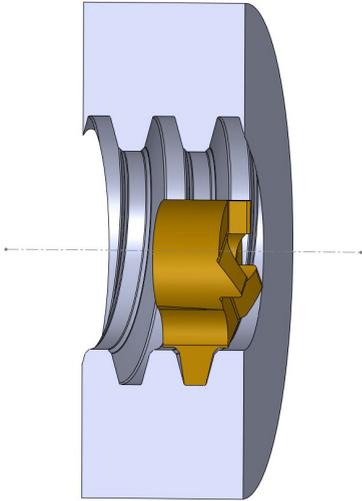
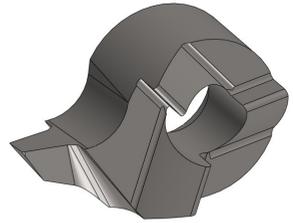
MATERIAL: CAST IRON 0.7050 (EN-GJS-500-7)  
 CUTTING SPEED  $V_c$ : 130 m/s  
 REVOLUTIONS PER MINUTE: 1700  $\text{min}^{-1}$   
 FEED  $f_n$ : 0,07 mm  
 FEED  $f_k$ : 0,04 mm



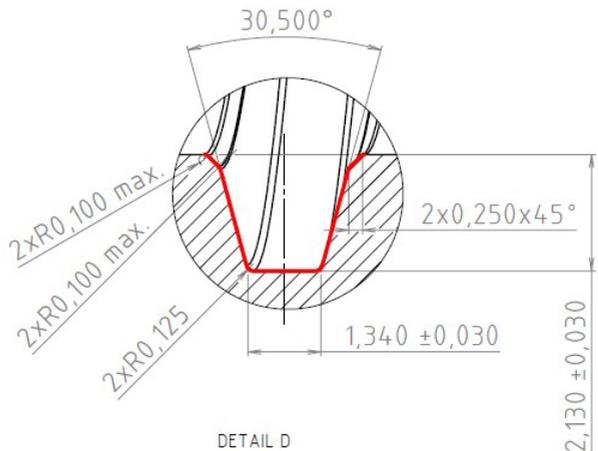
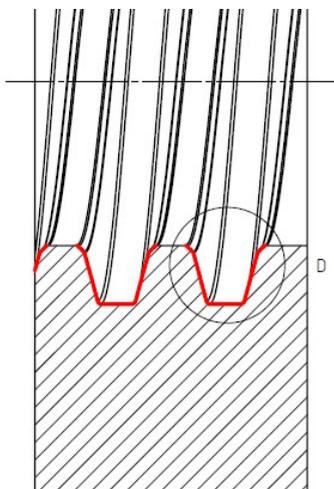
DETAIL C

# MINI MODULAR SYSTEM - MMS

WHEN A NON-STANDARD THREAD PROFILE IS NEEDED, A CUSTOM INSERT IS A GOOD SOLUTION FOR SAVING MONEY AND TIME IN COMPARISON TO A SOLID CARBIDE THREADING TOOL AS DEPICTED IN THIS CASE.



MATERIAL: STRUCTURAL STEEL 1.0060 (E355)





PRODUCER  
**KONRAD TOOLS**

Ing. Jan Konrad  
TMC CR, s.r.o.  
Masná 27/9, 602 00, Brno

[www.konradtools.com](http://www.konradtools.com)