

Machining technology

# Serration



Machining of turned parts with serration.

## Cost Savings:

# Machining of Turned Parts with Serration.

**As the specialist for insertable form tools, let us show you how you can cut cost while machining turned parts with serration.**

It is fact that the conventional machining of serrations on turned parts requires a separate process either while milling or broaching. Before either of these finishing processes can take place the parts generally must go through a costly cleaning process.

With Schwanog's "broaching (serration) tool", manufacturer of serrated turned parts i.e. according to DIN 5480, 5481 or 5482 are able to use a completely new approach to machine these parts. I.e. the machining of a serrated part made from 1045 steel is achieved on a conventional lathe in a single operation, in just 7 seconds and eliminates the cleaning, handling, planning and controlling process.

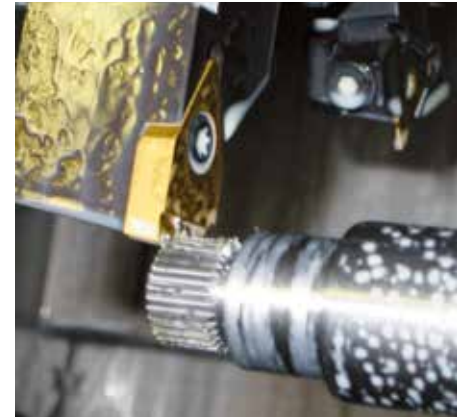
The Schwanog broaching tool carries a quarter circle geometry with 6 teeth while only the first tooth carries a complete (finish depth) profile while the remaining 5 teeth are considered roughing teeth.

The broaching of serrations is a two step process. With the first step the spindle does not move and the tool feeds three times until the first tooth is completely established. With the second step the spindle starts indexing and the 5 successive teeth are continuously machined until they are broached to finished depth.

The cost of Schwanog tools is quickly recovered due to efficiency and savings up to 30% in set up times are not uncommon. Schwanog specializes in individually ground form tools which thanks to first class consulting and state of the art production guarantee both economical and technical advantages.

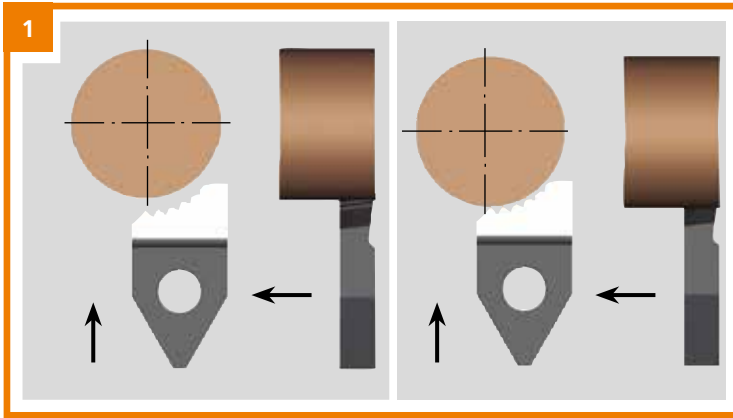
**The advantages for the user are clear to see with our smart tooling system:**

- ❑ **Significant cost savings due to set up time reduction.**
- ❑ **Reduction of part cycle time due to quicker production cycles.**

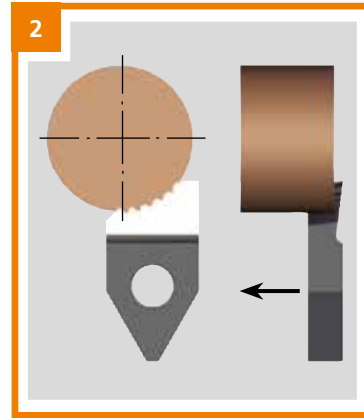


Schwanog tool and part with serration.

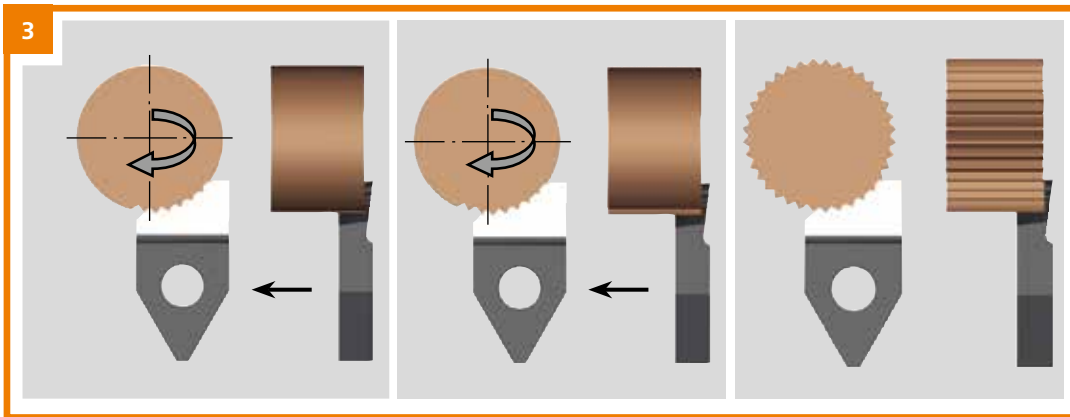
# Process



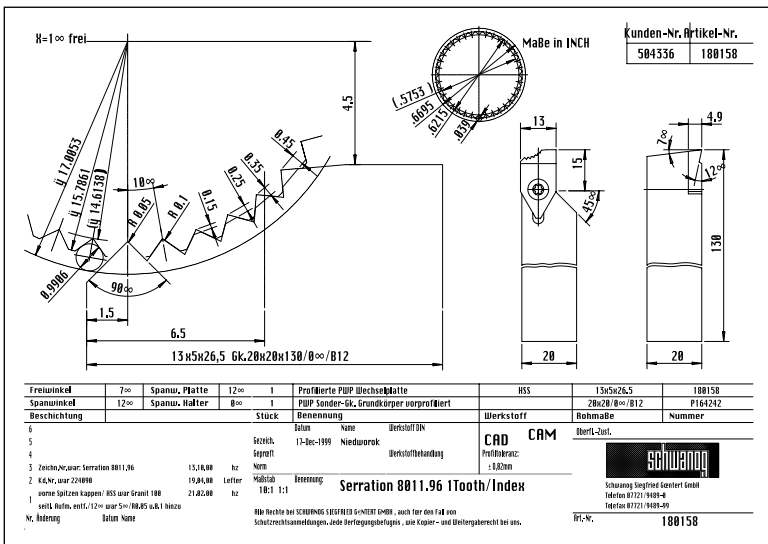
**1** **Roughing:** The C-axis does not move, feedrate in Z approx. 0.1 mm, depending on profile.



**2** Feeding until the first tooth is finished.



**3** Indexing tooth for tooth until serration is complete via rotation of the C-axis.



Take this opportunity and use our capability to lower your part costs and thus increasing your profitability. We are looking forward to show you how, just call or email us your application along with part drawing.

# Insertable tooling systems



OD Grooving



OD Grooving for rotary transfer machines



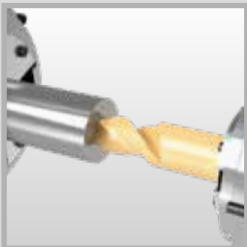
ID Grooving



ID Grooving and turning with WSI



Form drilling



Solid Carbide drills



Shave Tools



Skiving Tools



Polygon turning



Broaching of Serrations



OD Whirling



ID Whirling Tools (Thread Mills)



Parts selector



## Schwanog · Siegfried Güntert GmbH

Niedereschacher Str. 36 · D-78052 VS-Oberschach  
Tel. +49 (0) 77 21 / 94 89-0 · Fax +49 (0) 77 21 / 94 89-99  
www.schwanog.com · info@schwanog.com



## Schwanog LLC

1301 Bowes Road, Suite A · Elgin, IL 60123  
Phone: 847-289-1055 · Fax: 847-289-1056  
www.schwanog.com · info.usa@schwanog.com



## Schwanog France

ZAC des Léchères · 65 Clos de l'Ouche · F-74460 Marnaz  
Tel. +33 450 18 65 16 · Fax +33 450 18 47 75  
www.schwanog.com · info.france@schwanog.com



## Schwanog Indexable Form Tools (Kunshan) Co. Ltd

German Industry Park II · #329 Jujing Road  
215321 Kunshan, Jiangsu Province  
Phone: 0512 8788 0075  
www.schwanog.com · info.china@schwanog.com



## Schwanog · Siegfried Güntert GmbH

CZ-68201 Vyškov  
Tel./Fax: +420 517 351 740 · Mobil: +420 739 257 060  
www.schwanog.com · ludvik.sochor@schwanog.com



## Schwanog · Siegfried Güntert GmbH

PL-05-410 Józefów  
Tel: +48 606 177 025 · Fax: +48 22 610 07 45  
www.schwanog.com · lukasz.kucinski@schwanog.com



## Schwanog · Siegfried Güntert GmbH

SE-33376 Reftele  
Phone +46 734 472 100  
www.schwanog.com · jonas.lund@schwanog.com



## UBR SRL

Viale Italia 95 · 25064 Gussago (Brescia)  
Phone +39 030 2520842 · Fax +39 030 2521481  
www.ubr.it · ubr@ubr.it