CSS ULTRA
EXTERNAL CYLINDRICAL GRINDING REDEFINED

- Increases your productivity and lowers your grinding costs
- Reduces your grinding times
- High performance with cutting speeds up to 125m/s

A Company of the SWAROVSKI Group

TYROLIT

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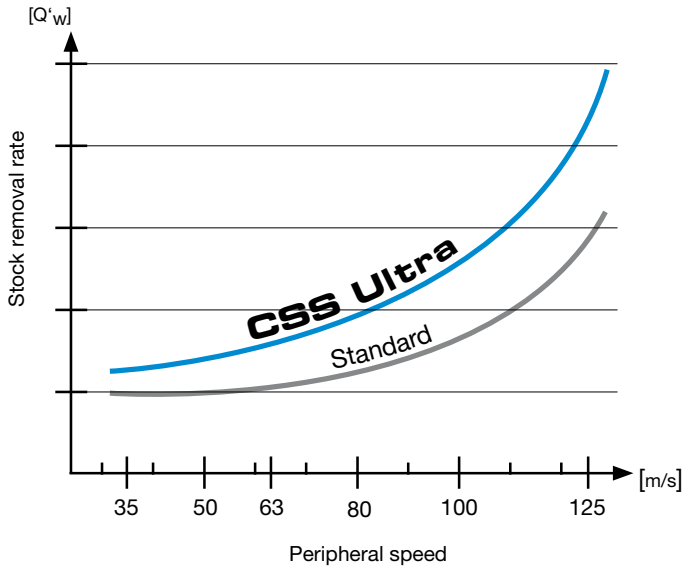
During high performance grinding processes there is a build up of heat in the grinding area. Increasing wear forces constantly weaken the grain and bond structure. Due to the increased stock removal volume, the boundary layer between both these components is heavily eroded.

With CSS ULTRA, TYROLIT improves grinding performance by restructuring the micro architecture of the grinding wheel. This has been achieved by using high quality materials together with an innovative sintering technology. This enables the abrasive grain to withstand much greater loads when in use, without breaking away prematurely.

This improvement is confirmed in practice, with the maximum profile retention combined with the lowest wear when doing external cylindrical grinding with CSS ULTRA.



Product- and Application benefits

- Less wear
- Optimum profile retention
- Cooler ground section (no burning)
- High product quality
- Can be used universally
- High cutting ability
- Higher productivity / efficiency
- Shorter grinding time
- Reduced dressing requirements
- Lower grinding costs
- Quiet, even grinding process
- Highest process stability

Main applications areas

- Crankshafts
- Camshafts

- CV joints
- Drive shafts

- Track inner rings
- Flange inner rings

- Nozzle pins
- Cylindrical rollers

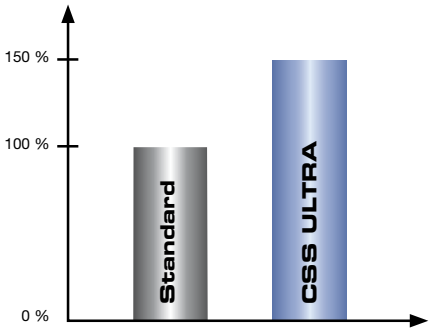
- Taps
- Cold forming taps

Combined grinding
CSS ULTRA can be used perfectly for combined grinding processes with vitrified or electroplated CBN grinding tools.

CSS ULTRA
EXAMPLES OF APPLICATIONS

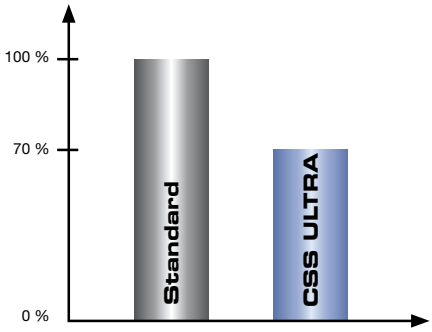
Denomination	Chrankshaft main bearing	Tap – Thread	Ball bearing – inner ring
Material	**C38MOD**	**HSS-PM M6**	**100Cr6**
Hardness	**58 till 62 HRC**	**60 till 62 HRC**	**58 till 62 HRC**
Machine	**Naxos**	**Reishauer RGB**	**Eigenbau**
Peripheral speed	**50 m/s**	**75 m/s**	**80 m/s**
Cooling lubricant	**Emulsion**	**Oil**	**Emulsion**
Dressing amount	**0,04 mm**	**0,01 mm**	**0,008 mm**
Dressing cycle bearings	**2**	**1**	**30**
Shape & dimensions	**1KN - 1065 x 40 x 305**	**1GEW - 400 x 25 x 160**	**1LB - 610 x 25 x 304,8**
Specification	**CS33A 541 KK6 VB1/50**	**CS33A 240 HH3 VB1/80**	**CS66A 120 HH3 VB1/80**

Results



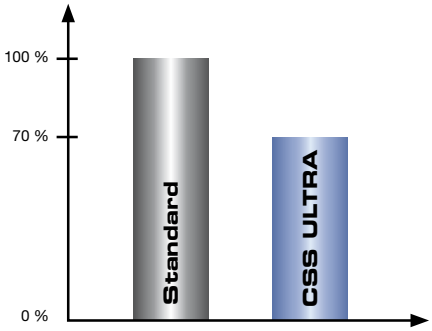
Increase in output by 50%

Results



Reduction of the dressing compensation about 30% and about 15% of grinding time

Results



Reduction in grinding time by 30%

Dressing

High performance grinding tools presuppose higher requirements on the dressing tools. As a system supplier TYROLIT offers a complete assortment of stationary and rotary dressing tools.

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