



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
- Enables tailored customer solutions

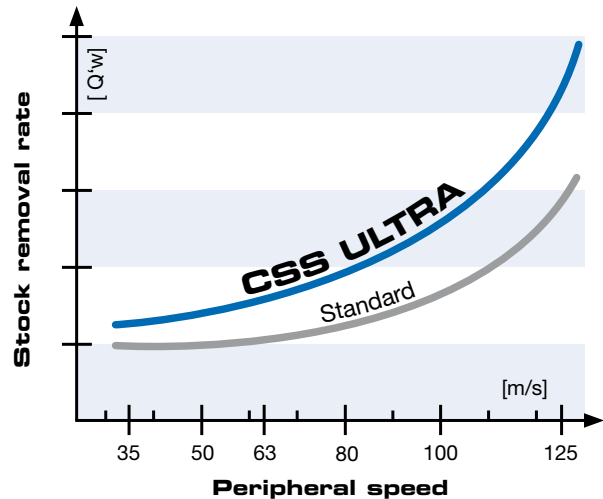
TYROLIT

CSS ULTRA

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**.



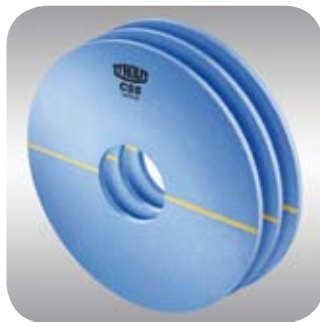
PRODUCT BENEFITS

- Less wear
- Optimum profile retention
- Cooler ground section (no burning)
- High product quality
- Can be used universally
- High cutting ability

APPLICATION BENEFITS

- Higher productivity / efficiency
- Shorter grinding time
- Reduced dressing requirements
- Lower grinding costs
- Quiet, even grinding process
- Highest process stability

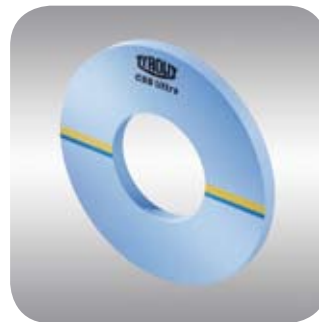
MAIN APPLICATION AREAS



- Crankshafts
- Camshafts



- CV joints
- Drive shafts



- Track inner rings
- Flange inner rings



- Nozzle pins
- Cylindrical rollers

DRESSING

High performance grinding wheels increase demands on dressing tools. As a system supplier, TYROLIT offers a complete range of stationary and rotary dressing tools.

SERVICE

Our technical field sales team and our application engineers are glad to help you make the most of your grinding process.

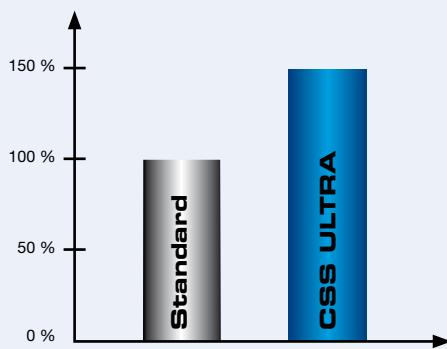
EXAMPLES OF APPLICATIONS



CRANKSHAFT THRUST BEARINGS

Material:	C38MOD
Hardness:	58 to 62 HRC
Machine:	Naxos
Peripheral speed:	50 m/s
Cooling lubricant:	Emulsion
Dressing amount:	0.04 mm
Dressing cycle bearings:	2
Shape & dimensions:	1KN-1065x40x305 mm
CSS ULTRA:	CS33A 541 KK6 VB1

RESULTS



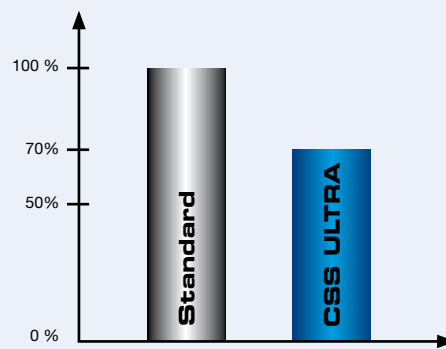
Increase in output by 50%



INNER RING BALL BEARINGS

Material:	100Cr6
Hardness:	58 to 62 HRC
Machine:	Special purpose
Peripheral speed:	80 m/s
Cooling lubricant:	Emulsion
Dressing amount:	0.008 mm
Dressing cycle:	30
Shape & dimensions:	1LB-610x25x304.8 mm
CSS ULTRA:	CS66A 120 HH3 VB1

RESULTS



Reduction in grinding time by 30%

CBN and CSS ULTRA

CSS ULTRA is the optimum tool, which allows a combination with vitrified- or electroplated CBN grinding wheels.

PROCESS OPTIMISATION

- Optimising productivity and costs
- Implementing the latest technology
- Process analysis and system design
- Improving your market position





ISO 9001:2000
VDA 6.4
ISO 14001

Nr. 265/1
Nr. 004/1
Nr. 162/1

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