COLUMBIA SA

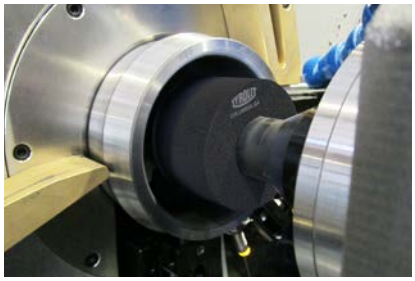
VITRIFIED BONDED CBN GRINDING TOOLS FOR INTERNAL CYLINDRICAL AND PROFILE GRINDING

A Company of the SWAROVSKI Group
www.tyrolit.com

COLUMBIA SA

With COLUMBIA SA, TYROLIT has created an innovative product line for internal cylindrical and profile grinding with CBN. The VCSA bond, which was specially developed for this purpose, further enhances the unique properties of CBN. The smaller wheel dimensions utilised within internal cylindrical grinding are particularly suitable for the economical use of CBN grinding wheels.

Application
Grinding of bores, tracks and profiles



+ **Improved cool grinding behaviour:** The extremely high adhesion strength of VCSA enables a significant reduction in bond content. Consequently, grinding and dressing forces are also reduced.

+ **Improved economic efficiency:** The excellent grinding performance reduces the costs of the grinding process. Today, the required economic efficiency of CBN is reached more quickly, so that it is possible to switch from conventional to CBN in more applications.

+ **Highest process stability:** The extremely stable production performance of the COLUMBIA SA enables high reproducibility. The CBN grinding tools guarantee consistent workpiece quality with long dressing intervals.

+ **Additionally even using emulsion based coolants:** Extremely good tool life can be achieved as the VCSA bond has an inbuilt chemical resistance to the negative influence of these coolants types.

Example application

Internal grinding of spherical ball bearing 1211 / Cooling lubricant: emulsion
Grinding wheel: TYROLIT COLUMBIA SA 1A8 45x21x16 SA85B91K4VCSA 80

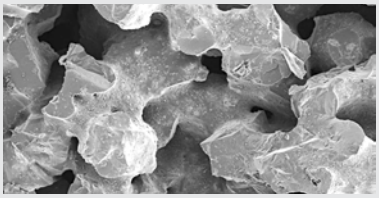
Reduction in the **specific power drawn** by the grinding spindle of 12%

COLUMBIA SA	**229 W/mm**
TYROLIT STANDARD	261 W/mm

Reduction of the **clock cycle** by 16%

COLUMBIA SA	**8.9 s**
TYROLIT STANDARD	10.6 s

Innovative VCSA bond system: The significantly reduced bond content increases the porosity of the specification. The CBN super abrasive can therefore fully exploit its performance potential.



Structure of COLUMBIA SA

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