

3M™ Cubitron™ II Vitrified wheels for inner diameter grinding

Inner diameter grinding provides perfect functional surfaces for components that have to establish a precise connection with a pivot or shaft.

Application examples:

- Toothed gears
- Steering systems
- Injection systems
- Bearing industry
- Hollow shafts



The advantages at a glance:

- Up to 2–6 times higher material removal rate Q_w
- Up to 2–4 times longer service life between two dressing cycles
- Up to 50 % faster cycle time per part
- Dressing amount reduced up to 5 times
- Perfect surfaces at maximum material removal capacity
- Minimal risk of burning

Recommended operating parameters

Cutting speed (v_c) 35–50 m/s

Material removal rate 3–6 mm³/mm/s

Examples for frequently used specifications

Please get a recommendation as to the appropriate specification for your application from our local sales office.

	Applications	Product Code	Specifications
Main specifications	Bores > 20mm, stainless steels, cast iron	92VC	93DA80/80 H15VPMF601W
	Bore < 20mm, case hardening steels, heat-treated steels		93DA80/80 J7V601W
Special specifications	Roughing, stainless steels		93DA60/60 H15VPMF601W
	Finishing/precision grinding		93DA120/120 H15VPMF601W
	Roughing		93DA60/60 J7V601W
	Finishing		93DA120/120 J7V601W
	Soft materials < 20mm		99DA80/80 J7V901W
	Soft materials > 20mm, heavy roughing operations		93VD

Investment appraisal bore grinding of a planet gear

Operating Parameters	Competitors	3M™ Cubitron™ II 92VC
Grinding wheel dimension in mm	300×96×127	300×96×127
Grinding wheel price in EUR	200	500
Machine-hour rate in EUR	100	100

Performance Results	Competitors	3M™ Cubitron™ II 92VC
Maximum material removal rate in mm ³ /mm/s	3.1	6.3
Number of dressing cycles per wheel	8×0.02 mm	3×0.01 mm
Total grinding time in seconds	56	24
Number of machined workpieces per grinding wheel	1	1
Total wear of the grinding wheel per component	0.16 mm	0.03 mm
Number of planet gears per grinding wheel	375	2,000

Productivity Result	Competitors	3M™ Cubitron™ II 92VC
Grinding costs per workpiece in EUR	0.53	0.25 (53 % savings)
Dressing costs per planet gear		63%
Total costs machine-hour rate in EUR	1.56	0.67 (57 % savings)

For more information, or to make an appointment, please contact us at the address or telephone number below.



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PGF-054-EN