CENTURIA SM-G

Diamond grinding tools for surface grinding of aluminium and bimetallic engine blocks and cylinder heads

Premium grinding tools since 1919
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TYROLIT

CENTURIA SM-G

With the CENTURIA SM-G product line, TYROLIT offers an economical grinding solution for end-face machining of engine blocks and cylinder heads.

The big challenge is achieving a stable surface quality over the entire lifetime of the tool and thereby minimising the scrap rate. Conventional milling tools can cause problems with chip transport as well as surface flaws in the soft aluminium base alloy. With bimetallic blocks, the problem is further exacerbated by the much harder alloy of the cylinder liner. CENTURIA SM-G tools significantly reduce set-up costs due to the elimination of time-consuming assembly work on the milling tool (cutting inserts). They can also be replated multiple times, making them an economical alternative to conventional milling tools.

Application:
CENTURIA SM-G grinding tool face grinding a cylinder block

+ **Stable process:** The patented design of the grinding tool guarantees a stable process, which significantly reduces scrap due to surface flaws. Internal cooling as well as cooling slots in the grinding layer ensure an optimum grinding result.

+ **Flexibility:** CENTURIA SM-G tools can be used on all common machining centres. The dimensions, weight and mounting (HSK, SK, CAPTO, etc.) can be tailored to the customer's requirements.

+ **Increased quality:** Using CENTURIA SM-G tools increases the quality of the end face with respect to micropo-rosity. Smear up the pores optimises the porosity and increases the sealing characteristic of the end face.

+ **Wide range of specifications:** In order to achieve an optimum machining result, the specification is tailored to the customer's require-ment. Different diamond qualities in grit sizes from 91 µm to 301 µm, specially tailored to aluminium applications, are available for this tool.

Application example
Face grinding of a 4-cylinder car engine block

Tool:	CENTURIA SM-G	**Surface finish:**	Ra < 0,5µm
Material:	Engine block $AlSi_6CU_3$ T6 with cast iron cylinder liners	**Evenness:**	< 10µm
		Lifetime:	3.000 to 4.000 Engines
Machine:	MAG Specht 600		

Scrap rate due to surface flaws reduced from **2% to 0.1%**

CENTURIA SM-G **0.1 %**

COMPETITOR/ MILLING PROCESS 2 %

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