

Hybrid Bonds

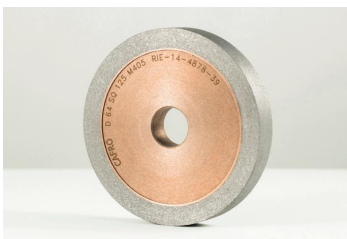
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Made by a mix of two different bonds that create a double connected system, where an amazing removal rate is added to an impressive profile stability, the best characteristics for operations where a big depth of cut is forecasted, mainly for the construction of tungsten carbide rotating tools, on CNC grinding machines, with filtered oil coolant.

Taking in consideration this operation, CAFRO has studied and developed an hybrid bonded family designed to satisfy the needs about construction and re-sharpening concerning carbide drills or end mills.

CAFRO hybrid bonds

	BOND NAME	MAIN OPERATION	WHEEL SPEED VC
↑ CUTTING ABILITY ↓ HARDNESS	M 403	Flute grinding on the most fragile profiles Flute grinding with the biggest depth of cut Faster wheel speed compared to the next bonds	16÷19 m/s
	M 405	Standard bond about flute grinding Rough grinding of profiled inserts Low wheel speed is recommended	12÷16 m/s
	M 413	Small diameter (up to Ø 6) flute grinding Gashing operation with shape 12V9 & 1V1 Wheel speed balanced to the operation	16÷22 m/s
	M 414	External and frontal grinding with shapes 11V9 & 11V5 1A1 & 1V1 with narrow diamond layer or edge retention Wheel speed balanced to the operation	20÷28 m/s
	M 415	External and frontal grinding with corner stability Small Ø flute grinding with high number of teeth Wheel speed balanced to the operation	20÷28 m/s



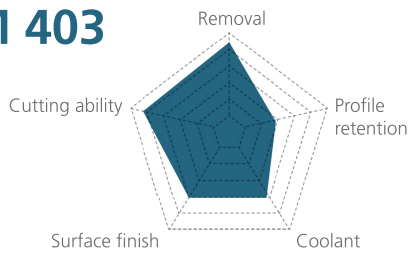
Wheel body

Our hybrid bonded wheels body is made of a metallic alloy sintered together with the diamond layer, in order to obtain a better resistance to mechanical and thermal stresses, the connection between body and diamond layer allows to fully use the diamond wheel until the neutral part.

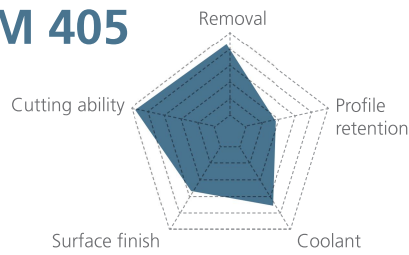
Special applications

The same bonds has been successfully used for machining different materials, like HSS steel (with CBN wheels), ceramics, special optic glasses, composite materials. Our technical department is available for any specific inquiry.

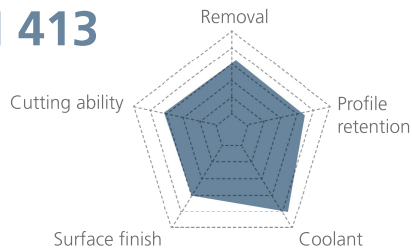
M 403



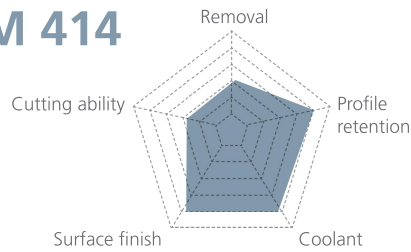
M 405



M 413



M 414



M 415

