

Press release

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URMA MX boronite – Milling with precision and efficiency High-precision quick-change system for milling cast iron and hardened steel

URMA AG is expanding its range of precision tools with the MX boronite CBN face milling cutter, which has been specially developed for machining cast materials and hardened steel. Here too, URMA AG relies on its proven quick-change system, which is known for optimum handling and maximum precision.

URMA AG, a Swiss company with over 60 years of expertise in the field of precision tools, has established itself as a leading expert in precision machining. Under the guiding principle "Innovation is Our Tool", the family-owned company based in Rapperswil (Switzerland) develops and produces state-of-the-art precision tool systems. These are used worldwide in industries such as machine building, the automotive industry, the hydraulic sector, and aviation.

Following the launch of the innovative "MX diamond" PCD face milling cutter, there was great demand for a face milling cutter for other materials. URMA AG fulfilled the customers' wishes and used its many years of expertise in product development. The result is MX boronite, a modular cutting tool that offers the proven and exact RX interchangeable interface to ensure perfect axial run-out without readjustment when changing cutting edges. URMA thus relies on the same technology as the MX diamond.

The cutting edges of the solid carbide cutting body are equipped with up to 10 CBN tips (cubic boron nitride) and are ideal for machining hard and abrasive metals. CBN is the second hardest material after diamond. Tools made of CBN are much more wear-resistant than other cutting materials. This not only enables greater shape and dimensional accuracy, but also the reliable machining of hard materials (steel of over 60 HRC).

MX boronite belongs to the latest generation of face milling tools and guarantees lean production processes and automated production. With a feed rate of 0.05 to 0.3 mm per tooth and a cutting speed of up to 3,000 m/min, the MX boronite is ideal for mass production. Various geometries are available to meet individual requirements.

Advantages of MX boronite at a glance

- **Quick-change system for easy handling**

Thanks to the precise change accuracy of <0.005 mm radial run-out and <0.008 mm axial run-out, time-consuming adjustment of the axial run-out is unnecessary for the user. The cutting edge can be replaced in less than three minutes, which saves up to one hour of downtime compared to similar face milling cutters.

- **High-hardness CBN cutting material**

The use of CBN (cubic boron nitride) guarantees first-class tool life, surface quality, and process reliability.

- **Processing of cast materials and hardened steel**

As CBN cutting materials do not react chemically with carbon or other alloys, MX boronite is ideally suited for machining powder metal, hardened steels and cast materials.

- **High rigidity due to carbide cutting ring**

The carbide cutting ring equipped with CBN has a very high tool rigidity and thus prevents vibrations and micro-chipping at high speeds. This increases the tool life and the quality of the workpieces.

- **High cutting speed with high feed rate**

Thanks to its high cutting speed and generous feed rate, MX boronite is ideal for high-speed milling and meets the highest requirements for surface quality and precision.

- **Best surface finishes**

The high-precision axial run-out guarantees a perfect surface finish, even at high tooth feed rates.

Key Facts

Diameter	50 / 63 / 80 / 100 / 125 mm
Concentricity	< 0.005 mm
Axial runout	< 0.008 mm
Cutting speed	3'000 m/min
Feed rate	0.05 – 0.3 mm per tooth
Number of teeth	5 / 6 / 8 / 9 / 10
ap	up to 4 mm
Metals to be machined	Cast iron, powder metallurgical materials, hardened steel
Delivery time	Standard from stock

More information: www.urma.ch/en/tools/milling/MX-boronite

About URMA AG

URMA AG develops and manufactures precision tool systems. The family-owned company has had its headquarters and production facility in Switzerland since 1962. URMA also has subsidiaries in Germany, Spain, China and the USA and maintains OEM partnerships with Paul Horn (Germany) and Sumitomo (Japan).

The precision tools are used worldwide for drilling and milling work in the mechanical engineering, automotive, hydraulics and aerospace industries. With its high-precision tool systems, URMA increases process reliability for customers and contributes to increased efficiency. URMA supports manufacturing companies with standard and special tools in the development of individual solutions and innovations. Thanks to the optimal infrastructure, test procedures are carried out in the company's own test center for prototypes, new coatings, geometries, chip formers, the influence of various coolants and special tools for specific customer applications. The Test Center also provides training and further education for customers.

In Switzerland and Liechtenstein, URMA exclusively distributes and maintains machine tools from HAAS, EMCO and ZORN. In addition to 3D printing systems from EOS and Markforged, URMA also offers the broad machine portfolio from DyeMansion for the finishing of plastic components and Solukon depowdering systems for metal components. The extensive range of 3D printing products also includes 3D scanners from Creaform, software from Hexagon and Materialise as well as AMCM custom-made products.

More information: urma-group.com/en

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Photos and captions



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mx-milling-family

URMA AG presents: MX boronite face milling cutter!
Source: URMA AG

URMA AG is expanding its milling range with MX boronite – for precise and efficient machining of cast materials, hardened steel, and powder metallurgical materials. Source: URMA AG

The modular MX boronite cutting tool with the proven URMA interchangeable head system guarantees easy handling of the interface change without additional adjustment effort. Source: URMA AG

MX boronite impresses with a cutting speed of up to 3,000 m/min and a feed rate of 0.05 – 0.3 mm per tooth. Source: URMA AG

The URMA MX family offers a versatile milling portfolio for different materials: MX diamond for machining light metals and MX boronite for hard material machining. Source: URMA AG

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