



Optimised weld seam preparation in metal processing:

Combination of GERIMA FasRapid machines and 3M™ Cubitron™ 3 abrasive belts in practical use

The requirements for weld seam preparation have increased significantly in many areas of plant, vehicle and steel construction. There is demand for replicable, precise bevels, high removal rates and at the same time, efficient use of materials. One approach that meets these requirements is the combination of GERIMA's automated FasRapid bevelling machines with the newly developed 3M™ Cubitron™ 3 Cloth Belts 1184F.

Wide range of applications and a high degree of flexibility

In 1996, GERIMA invented and developed the FasRapid machines, which used 3M™ Cubitron™ belts. Since then, there have been considerable technological advancements in both the 3M™ Cubitron™ belts and GERIMA's machine technology.

GERIMA's FasRapid machines are designed to produce precise bevels on straight panel edges with thicknesses from 4 to 100 mm. Today, the spectrum ranges from small parts clamped together to large components that can be guided through the machines in several clamping operations. "Our machines produce precise bevels in the angle range from 0 to 85° – for steel, stainless steel and high-strength steels", explains Dipl.-Ing. Stephen Rieth (graduate engineer and welding engineer), Managing Director of GERIMA GmbH. The machines are used in areas such as construction machinery manufacturing, bridge construction, apparatus construction, crane construction, pipe and container production and rail vehicle construction.

The special feature of GERIMA machines lies in the grinding process itself. Unlike conventional processes such as laser, plasma or flame cutting, grinding enables a very smooth, bright metallic surface without the introduction of heat affecting the quality. "Our customers benefit from high removal rates, long service life and stable machine construction," says Dipl.-Ing. Rieth.



"Lower costs and shorter delivery times."

Iwan Antonow, Precision Bevel

Up to 80%
higher removal rates

High-performance abrasive belts are a key component

A central aspect for the efficiency of these machines is the abrasive belt that is used. GERIMA uses the latest generation of 3M™ Cubitron™ 3 belts. The 1184F fabric belts were specially developed for demanding applications with high stock removal and they rely on precision-shaped grains. “GERIMA strives to help its customers achieve the highest possible productivity compared to their competitors. This productivity is achieved through the combination of the best belts currently on the market with the best GERIMA bevelling machine,” says Dipl.-Ing. Stephan Rieth.

The 3M™ Cubitron™ 3 1184F Cloth Belts not only enable shorter processing times, but also have a significantly extended service life. According to Rieth, these advantages can be quantified: “With the 3M belts, we achieve 30 to 80 percent higher stock removal rates and up to 100 percent longer service life on the GERIMA machines compared to other belts.”

Practical example from the USA: Precision Bevel

Precision Bevel, a company in the USA specialising in weld seam preparation, offers an illustrative insight into industrial practice. The first FasRapid LGA 3000 has been in operation there since autumn 2019 and the second machine was installed in April 2025. The GERIMA machines are used almost exclusively with the 3M™ Cubitron™ 3 belts.

“The new 3M™ Cubitron™ 3 Cloth Belts 1184F are an ideal complement to the GERIMA FasRapid machines. The conceptual advantages of the FasRapid are even more evident with the new belts,” says Iwan Antonow, Managing Director of Precision Bevel. In close coordination with 3M, the company has already started testing of the new generation of belts ahead of the official market launch.

The combination of material independence and efficient processing is particularly convincing. The machines can process both individual and series parts. “Customers primarily benefit from the increased productivity of the 3M™ Cubitron™ 3 belts. This can be passed on to the customer in the form of lower costs and shorter delivery times,” says Iwan Antonow.

“3M and GERIMA – this is a great match!”

Stephan Rieth, Managing Director
of GERIMA GmbH



Up to 100%
longer service life
and 80% higher removal rate

Conclusion

The combination of powerful machines with advanced abrasives is an example of how technological co-operation can create concrete advantages for users. In weld seam preparation, this means higher material throughput, reduced downtimes and replicable quality even with complex requirements in the area of bevel processing.



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