Media Release

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New CAM software version for Laser machines increases design possibilities while reducing machining times

On 22 September 2022, GF Machining Solutions released version 1.12.5 of its CAM software for texturing, engraving and micromachining Laser machines. This release includes two major new features: 3DCurves™ and FlexiBlast™, incorporated in LaserDesign™.

The first new functionality of this release called 3DCurves™ allows users to significantly increase design capabilities while eliminating potential undesirable optical effects on laser engraved parts. 3DCurves™ enables a novel approach when creating fine line patterns and textures. Users no longer need to go through a classical hatching process based on a grayscale bitmap, but thanks to 3Dcurves™ can engrave directly with a single continuous laser path following each individual polyline.

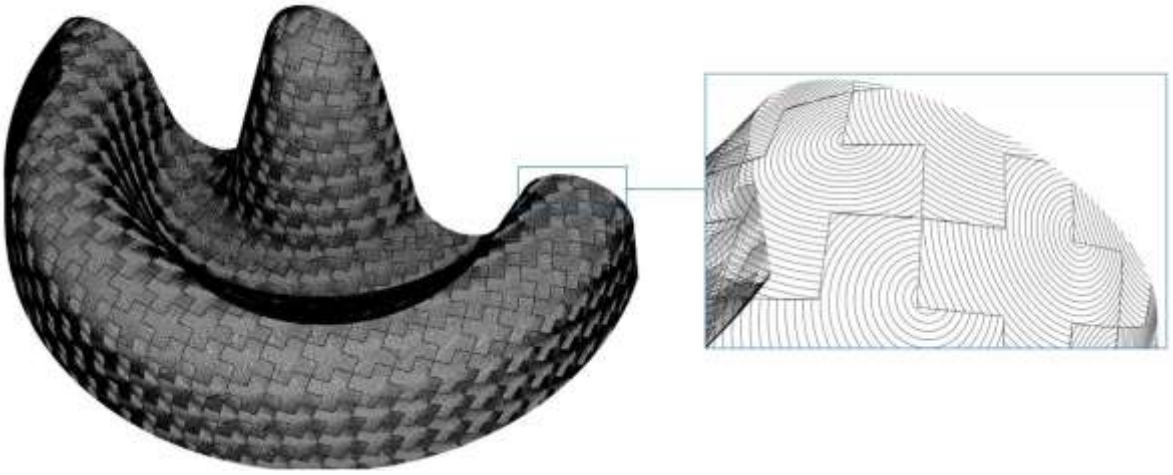
This new technology is of great interest for the production of textures with lines requiring high precision, for example for plastic parts used in the ICT or the automotive industries, or for directly engraved parts in the watchmaking or jewelry industries. 3DCurves™ allows designers to create unprecedented designs applied in 2D with GF Machining Solutions' LASER P range of machines. It also offers the possibility to create curves virtually on complex 3D parts and molds with the LASER S range of machines. The technology uses polylines and not images, which are limited by their bitmap resolution, to orientate the Laser vectors in the local coordinate system.

FlexiBlast™ builds on GF Machining Solutions' signature blasting capabilities by combining them with a grayscale image, allowing controlling its intensity. For each individual pixel, 2^{16} shades of gray can be applied, each corresponding to a specific blasting intensity. This feature offers the possibility to render high-definition photo-realistic images on any material. Moreover, it gives users the ability to increase the depth perception with very shallow textures, which allows reducing production time drastically without any hardware modification. Fading textures and morphing can be achieved without altering the surface geometry. FlexiBlast™ can be used to apply a finishing layer to complement LaserDesign™ textures.

FlexiBlast™ offers advantages such as high definition with photo-realistic rendering, the creation of very fine textures with a significant rendering of depth and shallower textures for easier plastic demolding and faster machining times. The mold cleaning after the plastic injection becomes effortless since less plastic remains on the mold after the injection process. Therefore, there is a significant gain in productivity.

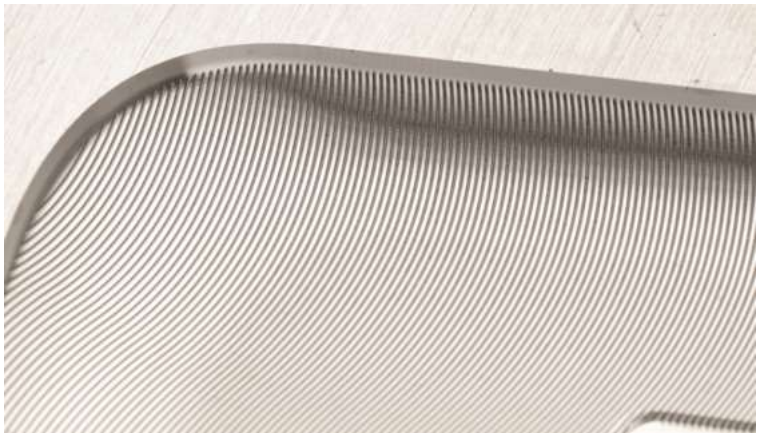
GF Machining Solutions' new software version offers customers a new perspective on the laser toolpath and the definition of their machining strategy and allows them to use optical properties to create textures, instead of carving out material. Ultimately, gains in productivity and texture uniformity can be achieved. Upgrading from the software version

1.11.X or 1.12.0 to software version 1.12.5 is free of charge for customers.

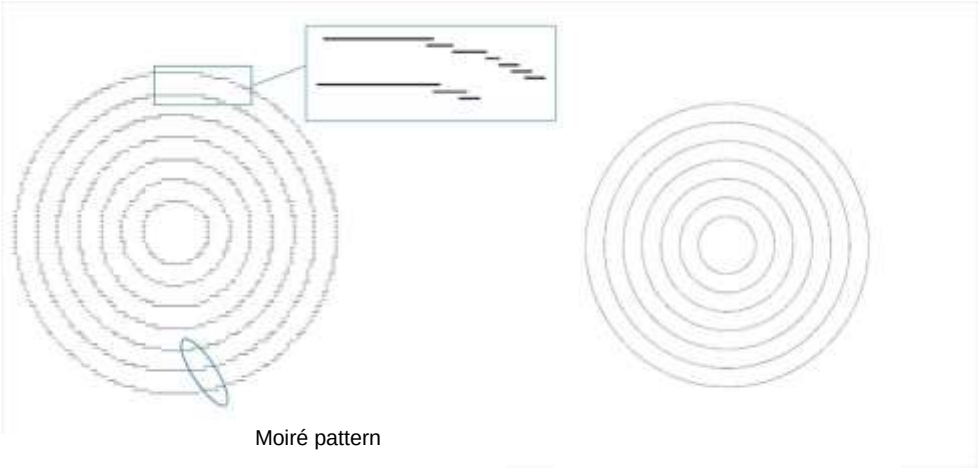


3DCurves™ enables the creation of polylines on complex 3D geometries.

FlexiBlast™ can increase the design capabilities on watch parts with a better display of details.



There is a trend towards fine continuous curves on three-dimensional surfaces in the ICT industry.



Moiré pattern

Without 3DCurves™ With 3DCurves™

3DCurves™ has a significant impact when creating Moiré patterns.

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Thanks to FlexiBlast™, photo-realistic images can be rendered on any material.

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Profile of GF Machining Solutions
GF Machining Solutions is one of the world's leading providers of complete solutions for precision components and tools manufacturers and the mold-making industry. The portfolio includes milling, EDM, laser texturing, laser micromachining, and additive manufacturing machines. Additionally, the division offers spindles, automation, tooling, and digitalized solutions backed by unrivaled customer services and support. With its solutions, the division advances energy-efficient and clean manufacturing. GF Machining Solutions is a globally acting Division of the Georg Fischer Group (Switzerland) and maintains a presence at 50 locations worldwide. Its 3,282 employees generated sales of CHF 873 million in 2021. More information can be found at www.gfms.com.