

LASER TEXTURING SOLUTIONS

The future of texturing today

Our LASER solutions bring the future to you

Differentiation and expertise are competitive advantages in today's fast-moving, global marketplace. GF AgieCharmilles' high-precision Laser texturing solutions easily and with infinite repeatability make your distinct mark on 3D geometries in a wide of industries, including automotive and consumer electronics, packaging, tool and mold making, and lifestyle products like shoes, sporting and luxury goods.

GF AgieCharmilles offers a full range of Laser texturing expertise to help you make your distinctive mark: our unparalleled machine fleet, design support, a library of textures and our Laser products' revolutionary vision system, Automation solutions and a continuum of Customer Services to trigger your excellence.

The future of texturing-today

Forward-thinking manufacturers recognize the benefits of GF AgieCharmilles' Laser technology using high-powered ytterbium pulsed fiber lasers, with a fine beam down to 30 μm . The technology offers a 30,000-hour work life without any maintenance—no calibration or power control is necessary to produce stunning results—to precisely remove solid material with infinite repeatability, based on a digitized process.

Our 3 to 5 axis LASER machines easily texture a wide variety of materials including steel, aluminum, carbide, brass, graphite, copper and ceramic.



LASER 600



LASER 1000



LASER 1200 5Ax

Technical Data		LASER 600	LASER 1000	LASER 1200	LASER 4000
Axis		3 or 5	3 or 5	5	5
Ytterbium pulsed fibre laser	W	20 (50**)	20 (50**)	20 (50**)	50
Focal length	mm	100/160/254	100/160/254	100/160/254	160/254/330/420
	in.	3.94/6.30/10	3.94/6.30/10	3.94/6.30/10	6.30/10/13/16.53
X, Y, Z travel	mm	580 x 405 x 825	995 x 550 x 845	1200 x 900 x 1200	4000 x 3000 x 1500
	in.	22.83 x 15.94 x 32.48	39.17 x 21.65 x 33.27	47.24 x 35.43 x 47.24	157.48 x 118.10 x 59.05
Max. workpiece dimensions 5Ax* (with FL 254)	mm	150 x 150 x 150	300 x 300 x 300	700 x 700 x 700	2500 x 1500 x 900 (with FL 420)
	in.	5.9 x 5.9 x 5.9	11.8 x 11.8 x 11.8	27.56 x 27.56 x 27.56	98.42 x 59.05 x 35.43 (with FL 420)
Max. workpiece weight (3-axis)	kg (lbs)	350 (770)	750 (1650)	–	–
Max. workpiece weight (5-axis)	kg (lbs)	75 (165)	150 (330)	1700 (3748)	>20000 (44092)
Laser tilting axis A	°/s, °	180, 210	180, 210	180, 210	180, 270
B axis max. speed	°/s, °	180	180	90	180, 370
B axis table diameter	mm (in.)	180 (7.08)	380 (15)	800 (31.5)	–
Machine dimensions*	mm	2050 x 2280 x 2770	2240 x 2605 x 2845	2240 x 3395 x 2930	7000 x 10000 x 5250
	in.	80.7 x 89.75 x 109.05	88.19 x 102.56 x 112	88.19 x 133.66 x 115.35	275.59 x 393.70 x 206.69
Approx. machine weight installed	kg (lbs)	5000 (11023)	6500 (14330)	8700 (19180)	32000 (70548)
Max. power consumption	kW	4	4	4	16

** Option

* Width x depth x height



LASER 4000 5Ax

To support
your creativity

Versatile texturing solution

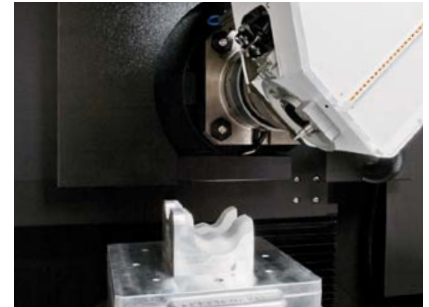
Expert support for your creative process

Our Laser texturing process starts with a digital bitmap/grayscale file created in-house or derived from a natural surface by reverse engineering via 3D scanner. Our software eliminates the guesswork, allowing our LASER products to create your distinct designs on large and complex surfaces with overlapping focal ranges.



You choose the lens you need

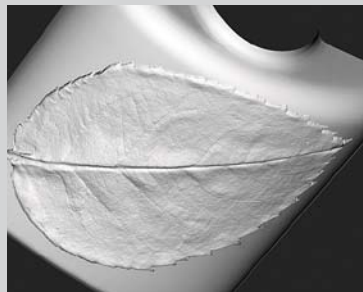
Our Laser solution allows you to select the specific lens needed to realize your particular application (with F-Theta from 160 up to 420 mm). Our calibration tool kit includes a self-focusing lens, making our laser solutions easy for any operator to use. So, you are assured of quality, precision, repeatability and long-term accuracy.



All-in-One® Laser Head

What you see is what you get

GF AgieCharmilles' Laser design software provides a very large variety of textures and an all-in-one concept: CAD/CAM and graphic design, transition-free patching, UV mapping for applying texture and 3D simulation. What you see is what you get.



Unique GF AgieCharmilles solution

All of our LASER machines have a unique capability for undercuts related to master molds. We make it easy to machine from underneath the workpiece.

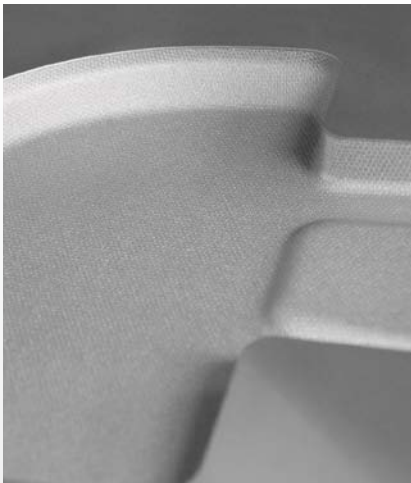
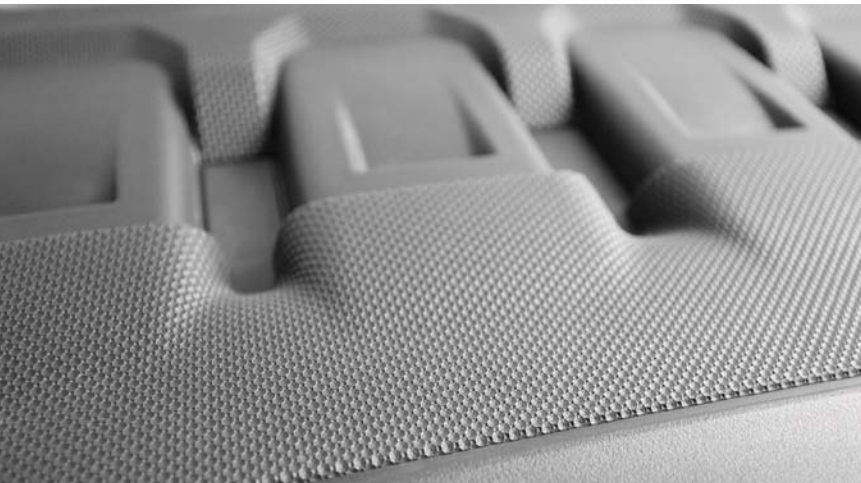
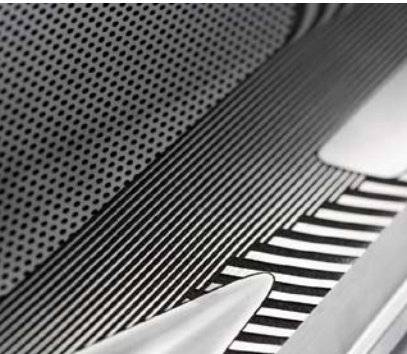
Easy texturing of a wide range of pieces

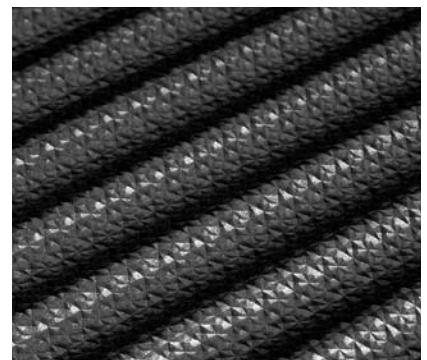
We take the complications out of texturing any kind of mold with tiny radii and many surface constraints, giving you the confidence to make your distinct mark.



To support
your process

100% digital process chain





Fully digitized process for infinite repeatability

GF AgieCharmilles Laser technology uses a fully digital process for 5 axis texturing and engraving. Our smart mapping solution manages random and overlapped textures to yield continuity of your design when it is applied to the end product.

Fast, accurate surface calculation

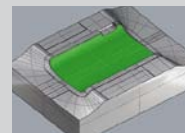
Fast, accurate and easy surface calculation is built into our LASER solutions, saving your time and increasing your productivity.



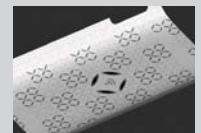
0. 5-axis milling of the mold



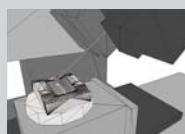
1. Pattern of texture: bitmap in 8 bits



2. 3D CAD file of the mold (IGES, STP)



3. UV mapping and texture application



4. 3D simulation of machine program



5. 5-axis laser texturing

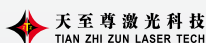


6. Finished textured mold



7. Finished part

Some partners

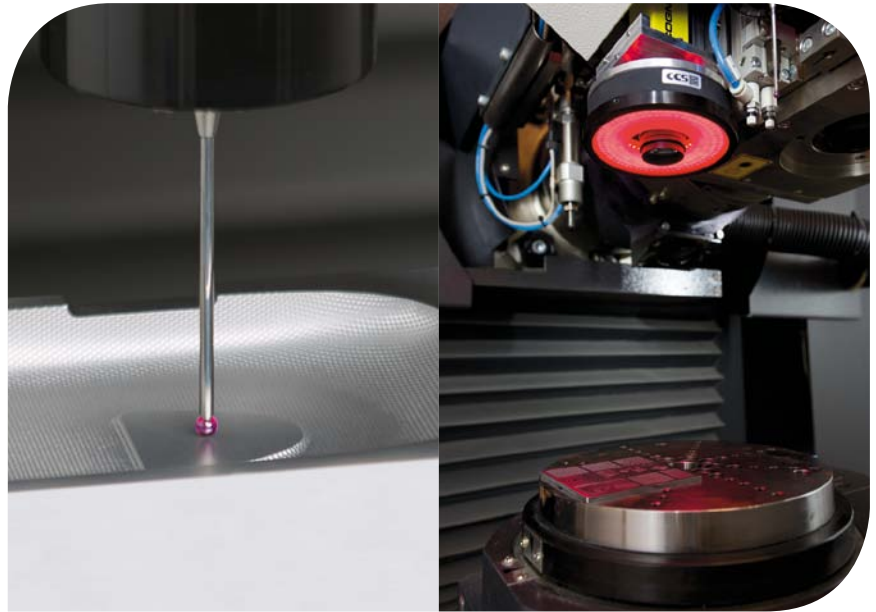


To support
your productivity

Ease of use – Automation solutions

**Accurate, fast positioning,
measurement**

Renishaw touch probe and fully integrable Cognex In-Sight HR vision system guarantee high positioning accuracy and fast, accurate tool measurement, even on pieces with extremely limited access.



New levels of flexibility, autonomy

For best flexibility and autonomy, our integrable WPC4 or System 3R's flexible WPT1+ compact part changing solution take Laser texturing to new heights by easily managing part handling and the data around those processes.



Unique Customer Services

In today's truly global market outperforming the competition means maximizing productivity. Your success depends on achieving consistent and reliable operation with every piece of equipment in your process to accelerate your flexibility, throughput time and cost efficiency. Our Customer Services is a global expertise network, which provides you with optimal and personalized solutions.



At a glance

Achieve more

We commit to a promise.
That promise is "Achieve more".
It's a commitment to create the
right conditions for our customers
to obtain competitive results.
When our customers win, we win.

GF AgieCharmilles

We enable our customers to run their
businesses efficiently and effectively
by offering innovative Milling, EDM,
Laser and Automation solutions.
A comprehensive package of Customer
Services completes our proposition.

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AgieCharmilles

Achieve more...