Press Release

INTECH 2022: TRUMPF minimizes material waste in laser cutting

New “nano joints” technology allows users to nest parts right next to each other on the sheet // Process is more reliable yet requires less time and material // Tiny size of break-off tabs generally eliminates need for finishing

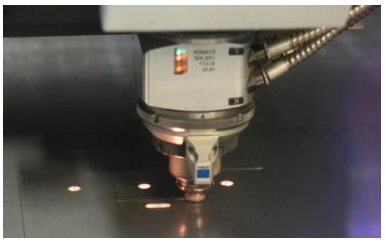
Ditzingen, March 29, 2022: TRUMPF will be showcasing a new laser-cutting technique at its INTECH in-house trade show, which will be held from May 17 to 20, 2022. Offering improved efficiency and even more reliable processing, the “nano joint” method holds parts in place using tiny supporting tabs that are created at points where the laser does not cut all the way through the sheet. These tiny tabs, or nano joints, prevent the metal from shifting or tipping while the laser is cutting parts. “By using our nano joint technology, users can improve the reliability of their laser-cutting process and make several of the steps in the process more efficient. It’s a great example of how TRUMPF’s expertise covers the entire sheet-metal process chain. Whatever your needs, TRUMPF has the solutions to make your production even more efficient!” says TRUMPF product manager Patrick Schüle. Nano joints reduce costs and material usage by allowing users to nest parts closer together and minimize how much metal remains in the skeleton. Depending on the shape of the specific parts, users may even be able to nest parts in a way that eliminates raw material waste completely. Nano joints also make it quicker and easier for workers to break parts out of the nest. TRUMPF offers nano joint technology on its TruLaser 5000 fiber, TruLaser 3000 fiber and TruLaser 1000 fiber series machines. The technology can be retrofitted to existing machines by means of a software update.

Higher process speed, less post-processing

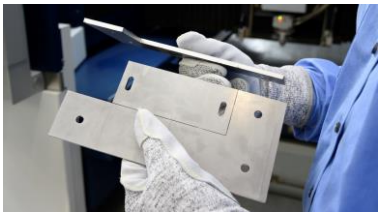
Currently, fabricators typically hold cut parts in place during laser cutting using tabs known as “micro joints”. Workers then break these tabs when they remove the parts from the nest. TRUMPF’s nano joints have many advantages over conventional micro joints. They speed up the process because it is so much faster to produce tiny retaining points rather than conventional micro tabs during cutting. They also allow the operator to break parts free from the nest with much

less effort. This saves time and makes life easier for workers. In most cases, nano joints also completely eliminate the need for finishing work, since the mark they leave when the parts are broken free from the nest is barely visible. In contrast, micro joints leave much more obvious contour damage which subsequently has to be manually corrected by production staff.

Easy part removal
TRUMPF's nano joint technology makes it quick and easy to break parts free from the nest. This saves time and makes life easier for workers. (Source: TRUMPF)



Reduced process time
Nano joints can be produced much faster than conventional micro joints. This makes for a quicker process overall. (Source: TRUMPF)



Minimal finishing work
Nano joints leave a barely noticeable fracture mark when parts are broken free from the nest. This generally eliminates the need for finishing. (Source: TRUMPF)

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About TRUMPF

TRUMPF is a high-tech company offering manufacturing solutions in the fields of machine tools and laser technology. The Company drives digital connectivity in the manufacturing through consulting, platform products and software. TRUMPF is a technology and market leader in highly versatile machine tools for sheet metal processing and in the field of industrial lasers.
In 2020/21, the company employed some 14,800 people and generated sales of about 3.5 billion euros. With over 80 subsidiaries, the TRUMPF Group is represented in nearly every European country as well as in North America, South America and Asia. The company has production facilities in Germany, France, the United Kingdom, Italy, Austria, Switzerland, Poland, the Czech Republic, the United States, Mexico and China.

Find out more about TRUMPF at www.trumpf.com

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