



FAST CLAMPS

Fastening solutions for special cases

Stauff is developing customised fastening solutions together with the manufacturers of hydraulic systems. The parts are quickly delivered to the user via an online platform and using 3D printing.

In actual fact, the purpose of a hose or tube clamp is relatively straightforward: it holds the line in place or guides it (with movable hose applications). However, in practice, this requires a whole host of models and series. After all, there are countless factors that need to be taken into account with the design of clamps for special machines, including vibrations, pressure resistance or pressure peaks.


The manufacturers of these fastening solutions generally meet different characteristics with their standard ranges. They also have series for special cases. For some time, Stauff has also been developing customised solutions for individual customers: its online service enables the manufacturer to offer 3D-printed prototypes and series components. Companies who require indi-

vidual clamps place printing orders with their own design details, or alternatively develop a geometry together with the provider's Engineering department.

Stauff has observed that the demand for individual consultations is growing as machines and systems are increasingly featuring differentiated designs for specific applications.

Clamps for shipbuilding and mobile machinery

Certain clamps that were originally developed for a specific application have now been incorporated into the standard range, including clamps designed for heavily vibrating applications. The manufacturer recommends



Customised tube clamps: 3D printing can be a more economical option when time is of the essence.



Source: Michael Bahr, www.sichtbahnde

Certain custom-developed clamps have been incorporated into the standard range.



Source: Michael Bahr, www.sichtbahnde

The use of individual fastening solutions can make sense when there are specific fire protection requirements.

their use for mobile machinery, as well as for stationary loading systems. Their inserts are designed to reduce vibrations and noises.

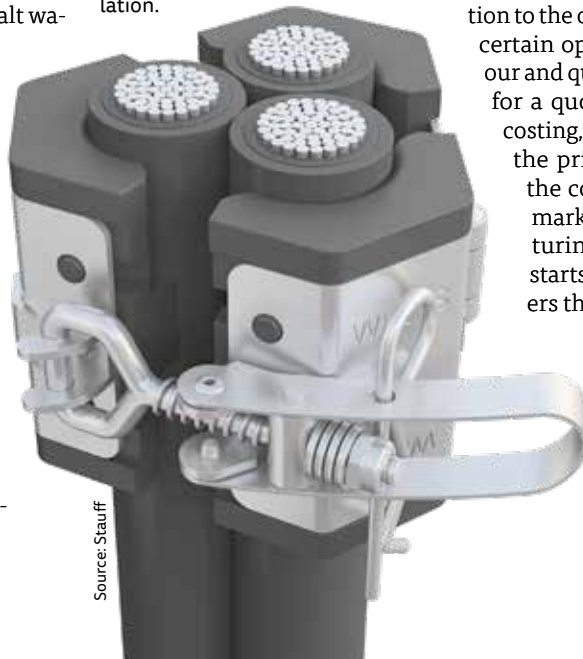
The manufacturer has also developed a series for use in corrosive environments, such as shipbuilding, some of which include special drainage channels for salt water. And if lightweight construction is an issue – again possibly in shipbuilding – the company also produces clamps with aluminium metal components in place of steel.

Special clamps speed up the installation of wind turbines

Tube and hose clamps are called for in the rail industry, which are manufactured from special, flame-retardant and certified materials. Clamps to guide electrical lines in the towers of wind turbines are just one example of supply lines being fastened outside of the hydraulic sector.

Critical properties there include simple, fast and tool-free installation with an option for sub-

The WPC system was developed for electrical lines in wind turbines and enables fast, tool-free installation.



Source: Stauff

sequent adjustment (up to 70% time savings). They also require constant retention forces within a broad temperature range, and provide protection for the cables by having soft clamping jaws made of flame-resistant UL-compliant plastic. This series meets all relevant industry requirements, among other things governing electrical safety.

More durable for trucks

Stauff has developed fastening components together with a manufacturer of special truck-trailers, which carefully guide and retain hydraulic lines and oil hoses putting minimal stress on the material. These include cylinder supply clamps and saddle / piggyback clamps, which guide multiple lubricating oil lines, sometimes offset by 90 degrees. Also special “snap-in clamps” with a safety ring to fasten corrugated cable protection hoses. These components increase the service life and fail safety of the line system in trailers. Consultation and the development of an individual solution therefore pays dividends, both for the supplier as well as for the vehicle manufacturer.

Advice on hydraulic line systems

The manufacturer also offers so-called VAVE consultations (Value Analysing, Value Engineering). A team of engineers examines the system or individual functional areas and recommends a line system with optimum guides and fastenings for the tubes and hoses from the company's in-house range. The team also analyses detachable connections in the line systems. Economic efficiency plays as important a role in this as safety, ergonomics, flow optimisation, accessibility and service life.

Users can thus check what is most cost-effective: injection moulded or 3D printed?

The question about the economic efficiency of a product is crucial in the production of small series: is it worth manufacturing in an injection moulding process, or is 3D printing more cost-effective? It should be noted that 3D printing has further benefits, namely straightforward online ordering, fast production and delivery.

So how does a customer place an order? Users upload a CAD model of the required fastening solution to the online platform and select from certain options, including material, colour and quantity. There is no need to wait for a quotation, thanks to immediate costing, known as Rapid Quoting. Once the printing order has been placed, the cooperation partner, one of the market leaders in additive manufacturing and industrial 3D printing, starts production and usually delivers the 3D printed, fully functioning, and durable clamps within a matter of days.

Customer can thus procure clamps for hydraulics, as well as for electrical and pneumatic supply lines in this way. (dm)