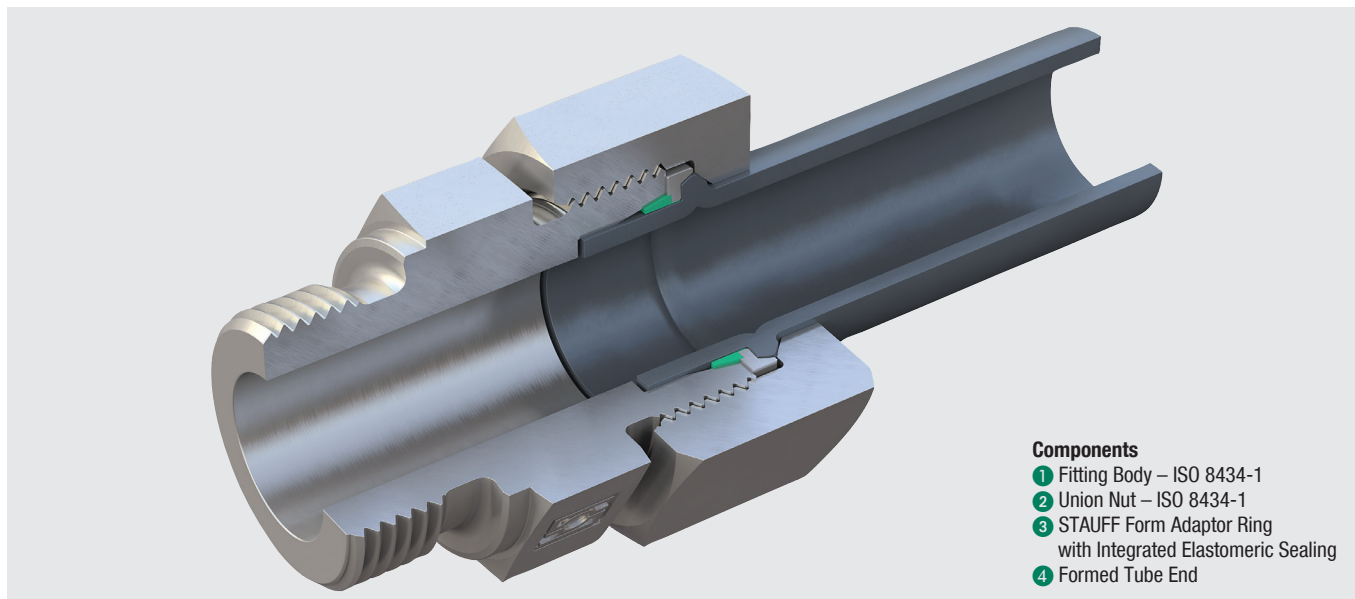


24° Tube Fittings using the STAUFF Form Tube Forming System



Components

- ① Fitting Body – ISO 8434-1
- ② Union Nut – ISO 8434-1
- ③ STAUFF Form Adaptor Ring with Integrated Elastomeric Sealing
- ④ Formed Tube End

Performance

The patented STAUFF Form tube forming system is without doubt one of the most high-performing solutions currently available on the market for connecting metric sized tubes. Apart from its simplicity, it also provides a maximum level of safety, reliability and reproducibility.

STAUFF Form has been designed as standard for seamless cold-drawn precision steel tubes as well as stainless steel tubes with dimensions between 6 x 1.5 mm and 42 x 4 mm in the Light Series and between 6 x 1.5 mm and 38 x 6 mm in the Heavy Series. Parameters for alternative materials (copper, brass, CuNiFe, Tungum etc.) can be added by the manufacturer, if required.

System Design and Components

The system is based on standard parts and consists of only four key components:

The STAUFF Form Ring with an integrated and thus undetachable elastomeric sealing is slid onto the tube end, which has previously been mechanically contoured. This creates a positive-locking connection that provides a reliable, permanent and maintenance-free seal when used with a conventional fitting body with 24° conical bore and a union nut, both according to ISO 8434-1.

Versatility and Flexibility

Users benefit from the great versatility and flexibility of the system, as well as the many combination and adaptation options offered by using standard components from the STAUFF Connect product range.

There is therefore no need to duplicate the stock-keeping of similar components with a correspondingly high likelihood of confusion, as is often the case with comparable systems. Material and logistics costs can thus be correspondingly reduced.

Materials and Surface Finishing

Like all other components in the STAUFF Connect product range, STAUFF Form Rings are designed as standard with a high-quality zinc/nickel surface coating.

With over 1,200 hours of resistance to red rust / base metal corrosion in the salt-spray chamber in accordance with DIN EN ISO 9227, the coating offers most reliable corrosion protection far beyond previously accepted market standards.

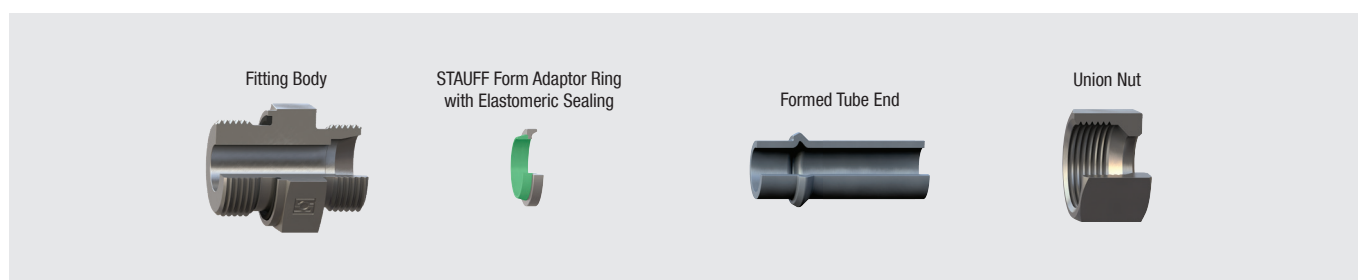
Even after shipping, handling and assembly of the components, the coating significantly exceeds the requirements for the highest corrosion protection class K5 defined in VDMA Standard Sheet 24576 for tube connectors.

Sealing

The sealing of the only possible leakage path is provided primarily by the large-volume elastomeric sealing fitted to the STAUFF Form Ring, which is specifically positioned between the surface of the tube and the 24° conical bore of the fitting body during assembly.

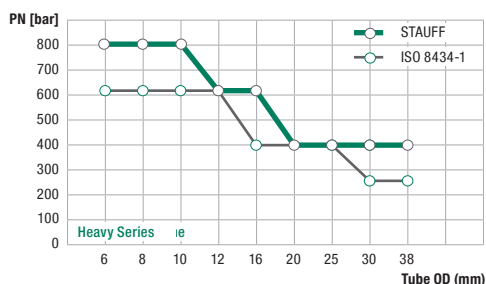
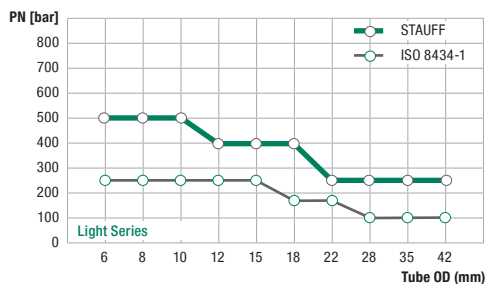
FKM (Viton®) is used as the standard sealing material and enables problem-free use of the STAUFF Form tube forming system for challenging applications involving high temperatures or aggressive media.

The unique sealing profile has a particularly large cross-section in order to provide a safe, reliable and permanent seal even in the event of unfavourable tolerances of the tube and fitting. The sealing effect is assisted by the system pressure of the hydraulic system so that the STAUFF Form tube forming system is also the perfect choice for high-pressure applications.



Main Features and Benefits

- Suitable for both **steel and stainless steel tubing** as standard – also applicable for alternative tube materials on request
- Covers all common **metric tube dimensions from 6 x 1.5 mm to 42 x 4 mm** in the Light Series and **38 x 6 mm** in the Heavy Series respectively
- **Requires only standard parts** from the STAUFF Connect range according to ISO 8434-1: No need to duplicate the stock-keeping of similar components with a correspondingly high likelihood of confusion
- High-quality zinc/nickel surface coating provides **maximum protection and corrosion resistance** – standard for all parts in the STAUFF Connect range
- **Positive-locking connection** with a **large-volume elastomeric sealing** providing a **safe, reliable and permanent seal** even in the event of unfavourable tolerances
- The use of FKM (Viton®) as the standard seal material makes the system **perfect for the most challenging applications**
- Suitable for **nominal pressures up to 800 bar** in the Heavy Series – designed with **four-fold safety** and **maximum tear-out strength**
- Incredibly **simple final assembly in the fitting body** with low assembly torques as well as short assembly paths (once the fixed point has been reached) with a **minimised risk of over-assembly**



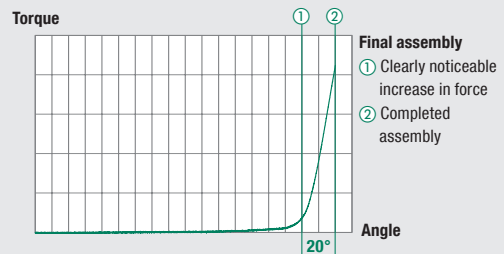
Nominal pressure levels of tube fittings

Pressure Resistance

When the STAUFF Form tube forming system is used in conjunction with genuine products from the STAUFF Connect product range, it provides pressure resistance of up to 800 bar / 11600 PSI in the Heavy Series and 500 bar / 7250 PSI in the Light Series (generally with a four-fold safety factor and depending on the series, design and size of the fitting body and taking into consideration various pressure reducing factors).

This is the result of exceptional care taken in the development of the system and the selection, handling and processing of the raw materials.

Maximum tear-out strength can be guaranteed for the system due to the contour shaped at the tube end.



Final Assembly in the Fitting Body

Final assembly is performed by tightening the union nut until the point with clearly noticeable increase in force (fixed point). The assembly is completed with another turn by approximately 15° to 20° beyond this point.

This incredibly simple assembly method has several benefits for the user:

- Considerably lower torques and short assembly paths (once the fixed point has been reached)
- Significant increase in torque to clearly indicate the end of the assembly
- Maximum safety to combat over-assembly
- No need for time-consuming and expensive training

Connections made with the STAUFF Form can be untightened as often as required and reassembled without wear, as any damaging expansion of the 24° conical bore of the fitting body is technically avoided.