LÜDECKE

Since 1930. The perfect connection.

Quality in the Connection Technology
Safety Issue: Coupling Systems

High-class couplings and fittings are the prerequisite for reliable and safe working – whether in the industry, on the construction site, in the craft sector or in other areas. In connections with matching pipelines, they often have to withstand extreme sector-specific applications and weather conditions.
Wrong application as well as using not properly certified coupling systems can lead to unnecessary security risks and major harm to people and machine.
Using specific examples, we will show you why for this components you should resort to high-class and standardised products and which risks may arise from counterfeit products.

Reasons for Safety Risks

The range of sources for errors is broad and ranges from incorrect integration methods, to missing standards to using inadequate products. Apart from lacking know-how, it is often economic reasons which lead to safety risks in everyday work.

Often cheap components are used with the intention that they will meet the same properties as certified and high-class connection elements. Sometimes these products are counterfeits which at first glance cannot be told apart from the original.

Left: original LÜDECKE coupling, right: counterfeit product

Stress marks on plug and lever

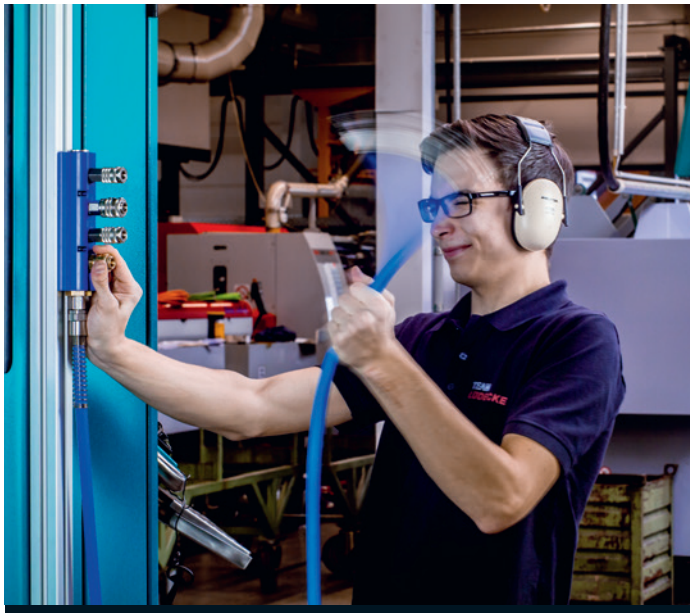
Just under close inspection as well as through thorough testing of the imitated products serious differences in quality become apparent. They have a major impact on the functionality and safety of the affected products.
This issue concerns all coupling systems whether in the pneumatics sector, for high-temperature applications or (as shown in the image) in the construction sector.

To avoid future harm to people and property and production downtimes, it is important to raise awareness for this issue among operators.
At the same time, we need to repeatedly point out the importance of high-quality and reliable materials, appropriate machining and treatment processes as well as examinations by external associations.

Safety in all Fluid Sectors

The quality comparison shown using the example of mortar couplings as well as the knowledge gained can also be transferred to the sectors and products of the pneumatics, temperature regulation and processing industry. In these areas, there are potential risks from whiplashes, high noise levels, rising temperatures and possible wrong coupling processes. Occurring leakages can lead to dangerous and expensive downtimes.

To offer operators highly reliable products for industrial continuous use, LÜDECKE developed special safety fittings for each product series. It is especially in the temperature control and processing industry where extreme temperatures are used. In these cases, material fatigue and accidental disconnection needs to be absolutely avoided. The connections used should exclusively consist of especially high-quality and certified metals (for example high resistant special brass, stainless steel). Moreover, it is recommended to resort to highly resistant sealings which reliably withstand different media. This prevents dangerous leakages during high temperature applications.



Whiplash-effect - avoided by LÜDECKE safety couplings.

Innovative Technologies

TempSecure/ TempControl-Series: Safety lock including color coding

To guarantee maximum safety, LÜDECKE developed the patented TempSecure system. This special temperature regulation quick connect coupling features an automatic safety locking mechanism which prevents unintentional disconnection and unlocking (even during strong vibrations and dynamic forces).
The colour coding on the locking sleeve clearly indicates the coupling status (brass plain = uncoupled, coloured = coupled). Due to the forced guidance of the locking sleeve, the disconnecting process requires a deliberate manual unlocking effort and makes an accidental or unintentional disconnection almost impossible.

As the coupling heats up due to the high temperatures applied, a temperature-sensitive colour coding of the locking sleeve completes the LÜDECKE tempering series (TempControl series). This means: At a temperature of more than +40°C the colour coding changes from blue to red and warns the operator from hot media as well as a high surface temperature of the coupling and reliably prevents possible injuries.

Quality Couplings as Basis

Also in the processing industry, leaking media from untight coupling systems can lead to serious consequences for the operator. For example, leakages in critical cooling cycles lead to major damage. This is why in these industry sectors, couplings and fittings made of high-quality stainless steel alloys are used.
To avoid leakages and to guarantee smooth functionality, the tolerances of the coupling and plug as well as the sealings need to fit precisely. This is the core issue when using counterfeit products: often they cannot meet such precise requirements.
Moreover, the manufacturers of these imitated products often do not have the possibility to prove the safety of the offered coupling systems using different product tests as well as external examinations/certifications.

Safety due to High-Quality and Standardised Components

In general, the distributor of pipelines and fittings can be held accountable for possible claims for compensation due to people and/or material damage as well as production downtimes. This is why only components should be distributed which comply with current standards and bear a required manufacturer's label.

Quality manufacturer supply safety data sheets, assembly manuals and often also product trainings for all products. For example, **LÜDECKE** performs product trainings for customers and suppliers on a regular basis in their designated training area.
Apart from giving a detailed introduction about the different series and their applications, we also point out various issues and offer different solutions. The aim is to equip the operators with a basic knowledge about coupling safety.

Couplings are crucial connection elements and hence always process-critical components. The pressure to cut purchase prices, must not lead to you renouncing quality and safety. The fields of application become more and more demanding due to highly efficient production methods and thus the issue described above becomes more and more important.
This is why only high-class and certified products such as coupling systems which go through continuous strong internal and external quality tests can guarantee safety and reliability during continuous use.

High-quality coupling systems as the basis for safe and reliable work

More information

Quality comparison of mortar couplings

Fracture test on claw couplings and hose clamps

Safe assembly of hose lines

Since more than 90 years, **LÜDECKE** is the leading partner for coupling systems to connect flexible fluid lines with tools, machines and industrial equipment.
Since 1949, we have been manufacturing fittings at the headquarters in Amberg for a variety of applications and media, which are distributed worldwide by the technical trade or used by the leading machine manufacturers (OEM) in their own machinery.

We are developing and producing first-class, innovative and sustainable products according to the highest quality standards. The product portfolio is comprised of a comprehensive standard range as well as individual custom item projects.
Thanks to our broad product range, our many years of know-how and our versatile range of services, we always guarantee safe and efficient solutions for your daily work.

More information at www.ludecke.com

LÜDECKE GmbH
Heinrich-Hauck-Str. 2 · D-92224 Amberg
Phone: +49 96 21 76 82 0
Fax: +49 96 21 76 82 99
www.ludecke.com