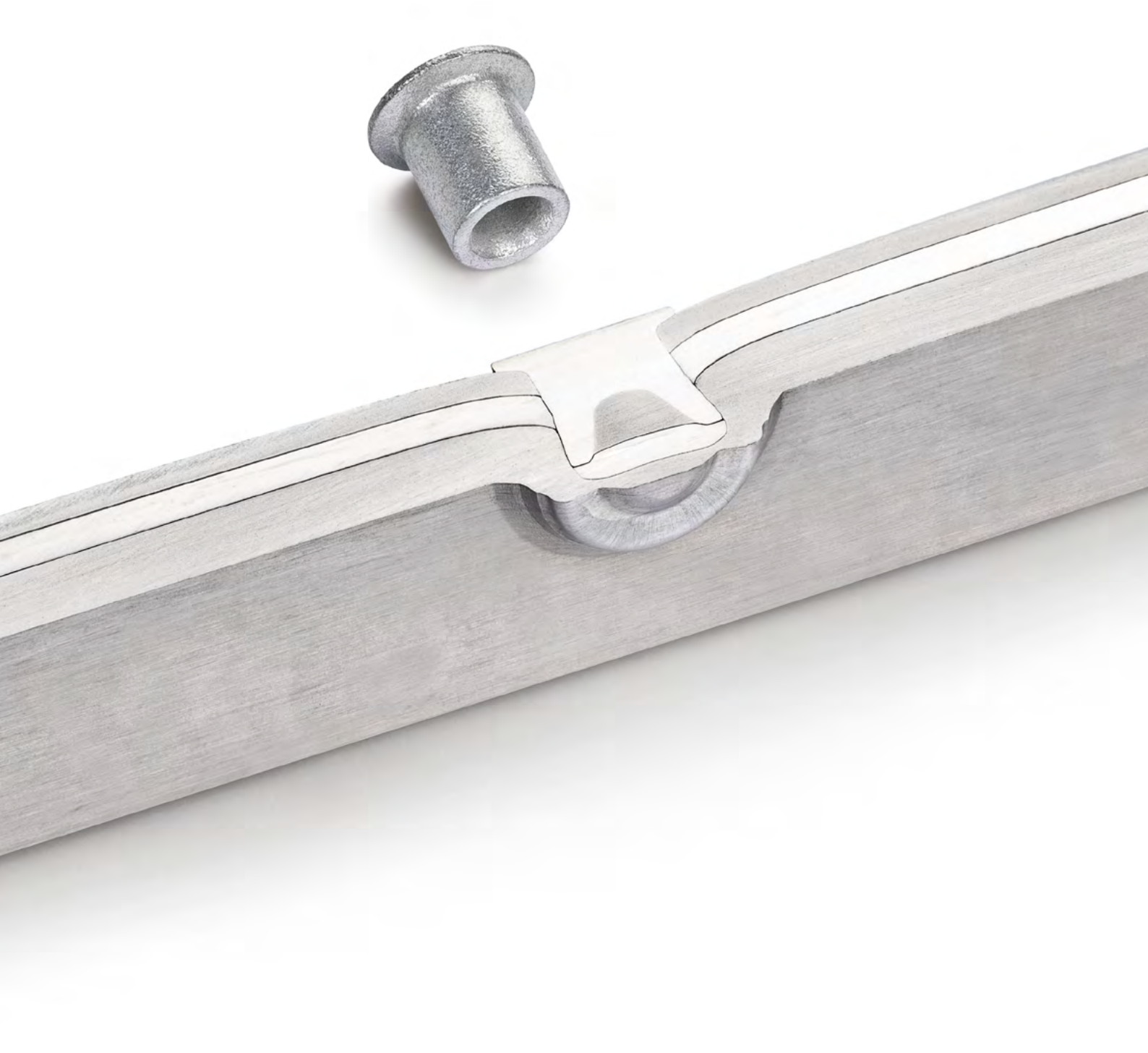
BÖLLHOFF

NEW RIVSET® HDZ

Pioneering self-pierce riveting technology
for modern material trends



Pioneering self-pierce riveting technology for modern material trends

Self-pierce riveting with semi-tubular rivets is an established mechanical joining method to create high-strength joints from similar (e.g. aluminium with aluminium) as well as dissimilar materials (e.g. steel and aluminium). Apart from the classic two-layer joints, joints with three or more layers can also be created. They stand out due to their high static and dynamic strength.

RIVSET® Self-pierce riveting technology – this is how it works

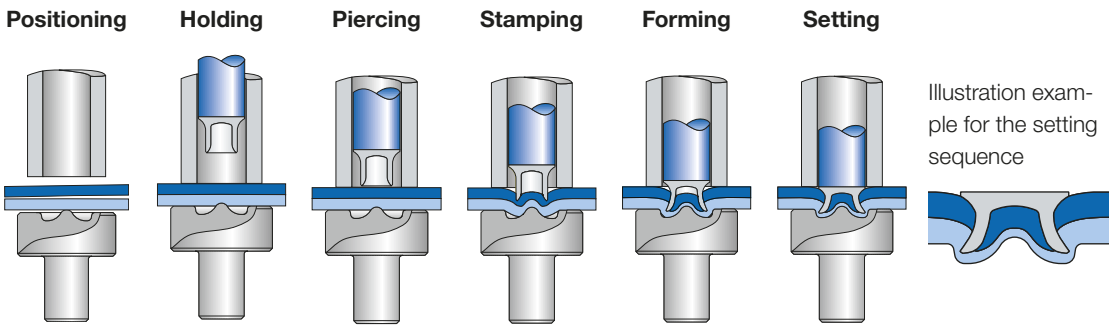


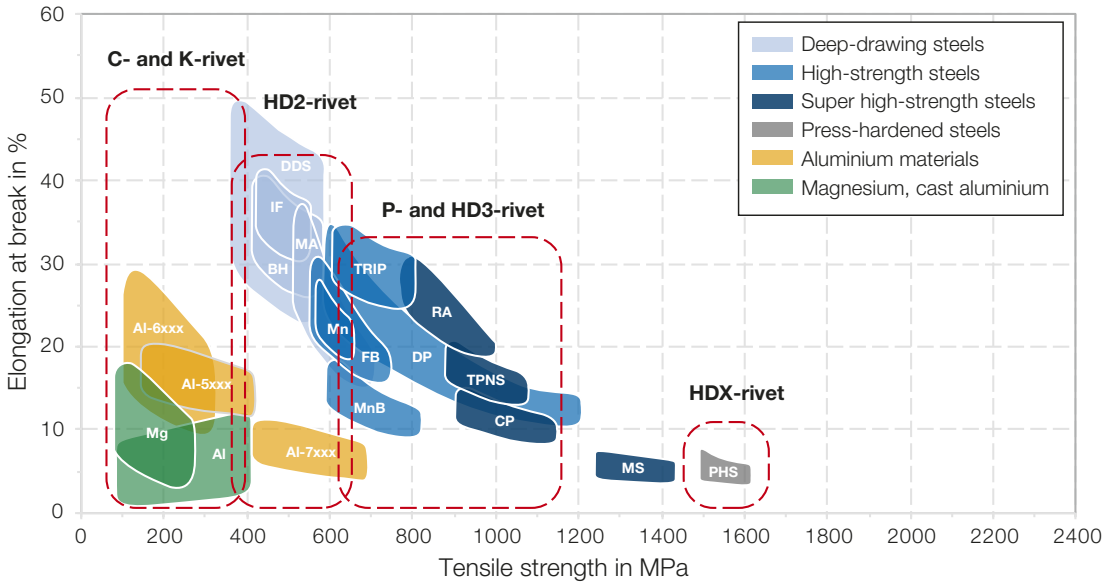
Illustration example for the setting sequence

Fast and easy:
In a single step, the semi-tubular rivet punches through the top workpiece layer(s) and forms an undercut in the bottom material layer. The resulting positive locking substantially influences the strength of the created joint.

Modern material trends

Within the context of modern lightweight construction and the related use of material ranging from aluminium to ultrahigh-strength steels, there is a growing material diversity. This leads to higher requirements for the joining technology so that a great number of rivet geometries have been developed over time.

Application ranges of the respective RIVSET® rivet geometries



This greater number of rivet variants in turn increases the complexity and reduces the flexibility. Our established self-pierce riveting technology thus had to be correspondingly developed further beyond its tried and tested technology limits.
The objective: The development of a rivet which is suited for universal use to join ultrahigh-strength steels.

Trends

- Application-oriented use of materials
- Composite designs, e.g. joining of aluminium with steel
- Use of press-hardened steels (> 1,500 MPa)

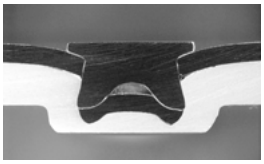
RIVSET® HDZ – The rivet.

We have risen to this challenge and now present to you our new RIVSET® HDZ rivet – an allrounder for your production.

It allows to join most diverse steel grades including ultrahigh-strength steels (>1,500 MPa) with dissimilar materials such as aluminium.

This flexibility is primarily achieved through the conical hole geometry. In combination with the hole bottom with optimised flux of force, the HDZ rivet is so highly stable that already in hardness grade H4 the joining of press-hardened steels is possible.

Moreover, the grade H6 HDZ rivet also qualifies for joining press-hardened steels with greater sheet thicknesses.



22MnB5, t = 1.2 mm
Die-cast aluminium, t = 2.7 mm
HDZ 5.5 x 5 SK H4 Almac

EN AW-5754, t = 1.0 mm
DP1000, t = 1.5 mm
Die-cast aluminium, t = 2.7 mm
HDZ 5.5 x 7 SK H4 Almac

Your advantages:

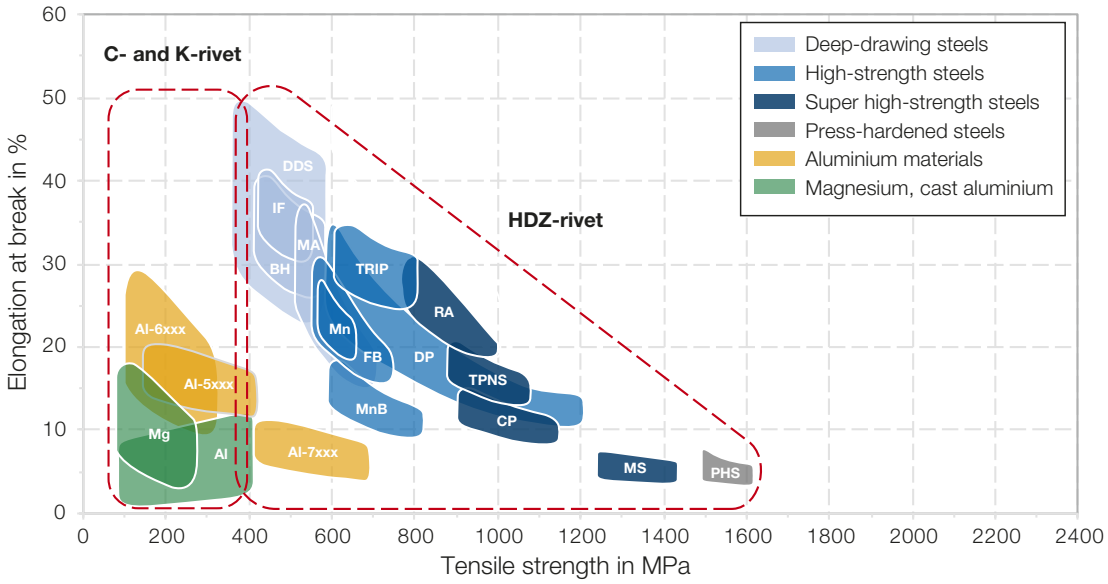
Flexible

- Wide application range with only one rivet geometry
- Creation of hybrid joints
- Realisation of two- and multiple-layer joints
- Joining similar and dissimilar materials

Efficient

- Joining without pilot hole
- One-step joining method
- High process reliability
- High joint strengths
- Short process time

RIVSET® HDZ – Application range of the HDZ rivet



Technical data – an overview

- Shank diameter: 5.5 mm
- Lengths: diverse
- Head geometry: countersunk
- Hole geometry: conical
- Hardness grades: H4, H6

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