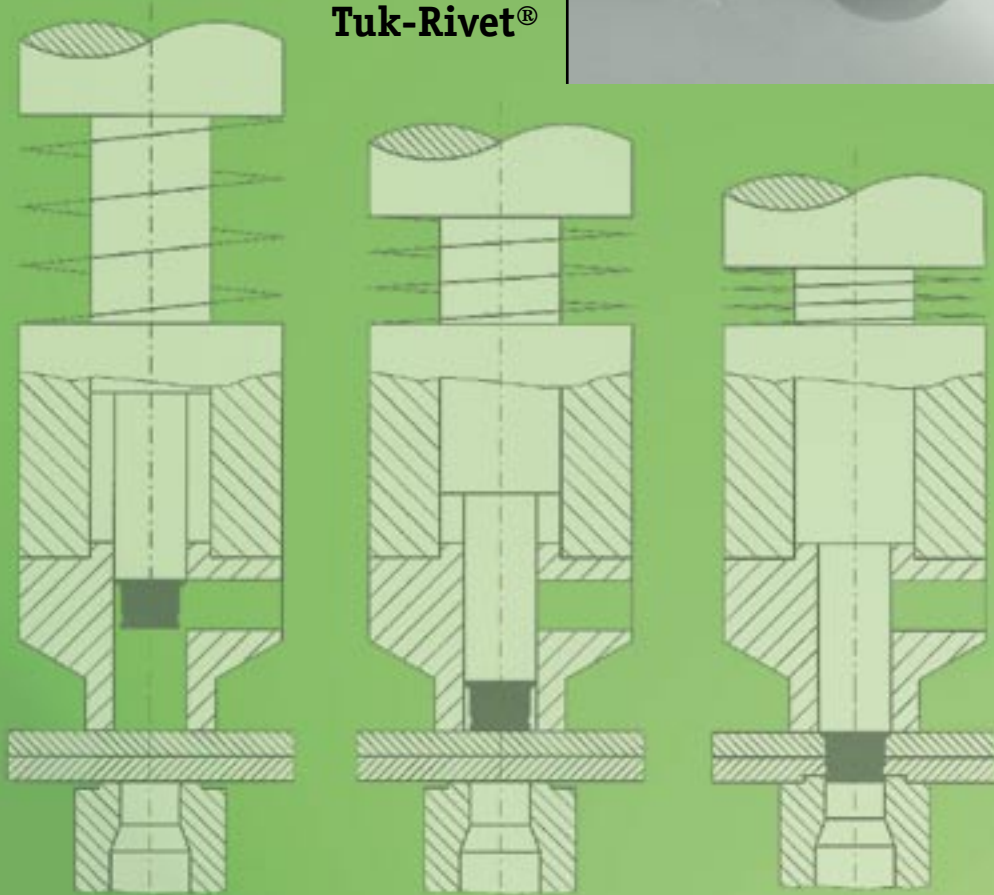


# Punched Rivet System for thin metal components



Tuk-Rivet®



## **Safety For our customers...**

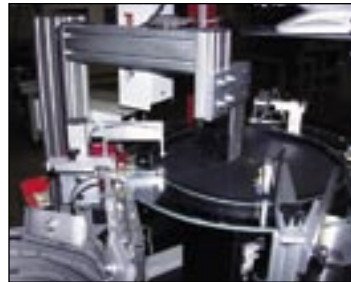
Punched rivets from KerbKonus are produced in large piece numbers. Despite their small size, these components can often be vital to safeguarding personal safety.

This is why the tests and checks we perform on our products comply to the most stringent requirements and directives. In the case of particularly critical applications, we check every individual part using state-of-the-art testing facilities. Only once they have passed these rigorous tests are products sent out to our customers.

Our flexibility is reflected particularly in our rapid response to customer requirements. We take responsibility for logistical organization. And when the need arises, even in the event of supply bottlenecks we are able to respond quickly and reliably to ensure delivery capability for our customers.

Our many years of experience as a supplier to the automobile industry have clearly illustrated the need for an interdisciplinary approach to finding solutions to fastening problems.

With its know-how and its comprehensive range of products and services, KerbKonus is a sound, dependable partner when it comes to "technologies for a reliable hold".





Fastening technology from KerbKonus is used today in wide-ranging sectors of industry around the world.

State-of-the art production facilities ensure optimum quality and supply availability. Our own research and development department works to implement demanding fastening solutions for widely differing applications.

Close international cooperation and exchange of experience guarantee an outstanding standard of engineering excellence.

With a widespread network of independent branches and representatives around the world, we are a sound, reliable partner when it comes to technologies for a reliable hold.

### ... our products and services

Alongside its renowned threaded inserts, the name KerbKonus also stands for wide-ranging services and products relating to the field of fastening technology. KerbKonus offers a reliable contract coating service for the refinement of threads to address wide-ranging different requirements:

- Thread locking
- Thread sealing
- Insulating plastic coating

Threaded inserts from KerbKonus look back on many years of versatile and successful application, and are used today to ensure a reliable hold for an ever greater number and variety of different connections. Depending on the method of anchorage in the material, KerbKonus offers wide-ranging different threaded insert versions and finishes.

- Self-tapping threaded inserts for metals, wood and plastics
- Threaded inserts for cold embedding
- Threaded inserts for hot or ultrasound embedding
- Threaded inserts for screwing into a nut thread
- Threaded inserts for riveting

For reliable, cost-effective fastening of thin mouldings and parts made of aluminium and magnesium, KerbKonus offers:

- Tuk-Rivet, the complete punched rivet system for thin-walled mouldings

Are you faced with a special problem relating to the topic of fastening technology? With its KerbKonus know-how and wide range of products, KerbKonus can supply the solution you are looking for.

Technical details of KerbKonus products are provided on our website:

[www.kerbkonus.com](http://www.kerbkonus.com)

## Punched rivet ...



| Description | Application range | Materials | Technical data | Detailed description |
|-------------|-------------------|-----------|----------------|----------------------|
|-------------|-------------------|-----------|----------------|----------------------|

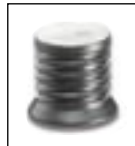
### Punched rivet from KerbKonus ...

|                |        |
|----------------|--------|
| Tested quality | Page 3 |
| Safety         | Page 4 |



#### Tuk-Rivet®

|                                   |   |  |                        |              |
|-----------------------------------|---|--|------------------------|--------------|
| Punched rivet self-riveting<br>*) | High loading capacity rivet connections | Rustproof, acid-proof steel,<br>Free cutting steel, hardened | Works standard 492/493 | Page 5 bis 7 |
|-----------------------------------|---|--|------------------------|--------------|



#### Tuk-Rivet®

|  |   |  |                      |              |
|--|---|--|----------------------|--------------|
| Punched rivet/ Multi-zone rivet Self-riveting<br>**) | High loading capacity rivet connections | Rustproof, acid-proof steel, Aluminium, heat-treated | Works standard 492 1 | Page 5 bis 7 |
|--|---|--|----------------------|--------------|



### Processing devices

|                         |        |
|-------------------------|--------|
| Machines and processing | Page 8 |
|-------------------------|--------|

### Checklist

|                              |        |
|------------------------------|--------|
| Data sheet for Fax enquiries | Page 9 |
|------------------------------|--------|



### Other products for thin-walled mouldings

|  |         |
|--|---------|
| Other products for connection and fastening of thin-walled mouldings | Page 11 |
|--|---------|

\*) EU Pat EP 1 013 945  
US Pat 6,244,808  
CAN Pat Anm 2,291,948

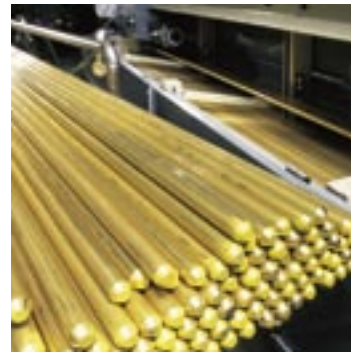
\*\*\*) D GM DE 299 08 828 U  
EU Pat Anm EP 1 054 169  
US Pat 6,527,490  
CAN Pat Anm 2,308,916

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**internet** [www.kerbkonus.com](http://www.kerbkonus.com)



At our parent plant in Amberg, we produce threaded inserts using efficient production methods. A team of qualified and highly motivated staff guarantees a consistent, high standard of production.

The number of products manufactured over the company's history reaches into the billions. State-of-the-art automation lines manufacture around the clock in a precise and high standard of quality. The efficient and low-cost production of large-scale product series is one of the strengths on which we have based our success.

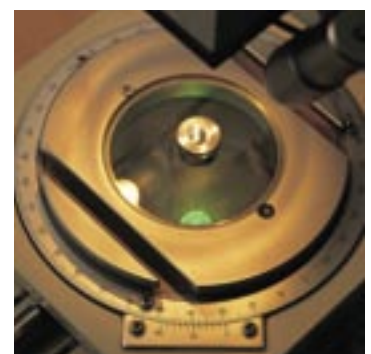
But our high-volume production output in no way compromises flexibility. We are able to quickly and efficiently produce even small batches of non-standard items.

Our state of the art stock control system permits the reliable, prompt delivery of standard products, keeping your production running to schedule at all times and helping to minimize your warehousing costs.

We are particularly proud of a cost-to-performance ratio which ensures satisfied customers the world over. This has made KerbKonus a reputable and respected partner to industry in the global marketplace.

Quality is a top priority issue at KerbKonus. Quality consciousness is a continuous thread running through every aspect of the company's work and all its products and services. Quality is lived and breathed at KerbKonus.

All the most important certifications and approvals are always kept consistently up to date, and our company is audited regularly for compliance with the most important international standards.



## What really counts: tested quality.



Quality System  
DQS Certificate in accordance with  
DIN EN ISO 9001 Reg. no. 1743  
ISO/TS 16949 Reg. no. 64443

# Tuk-Rivet® Punched rivet system



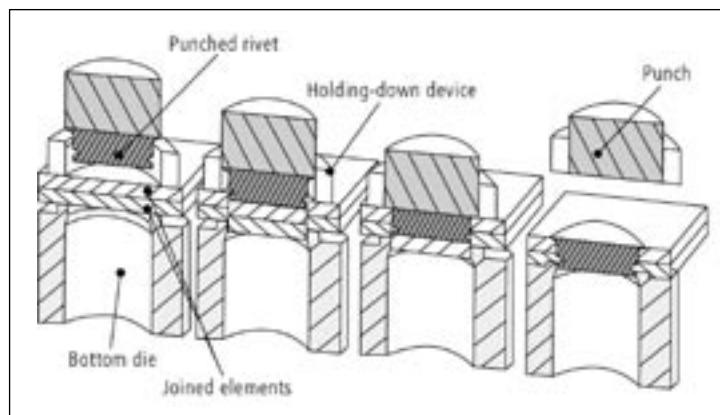
## The process

Punch riveting with a solid rivet permits one or more joined elements such as semi-finished product types, sheet, profile and cast components to be fastened together.

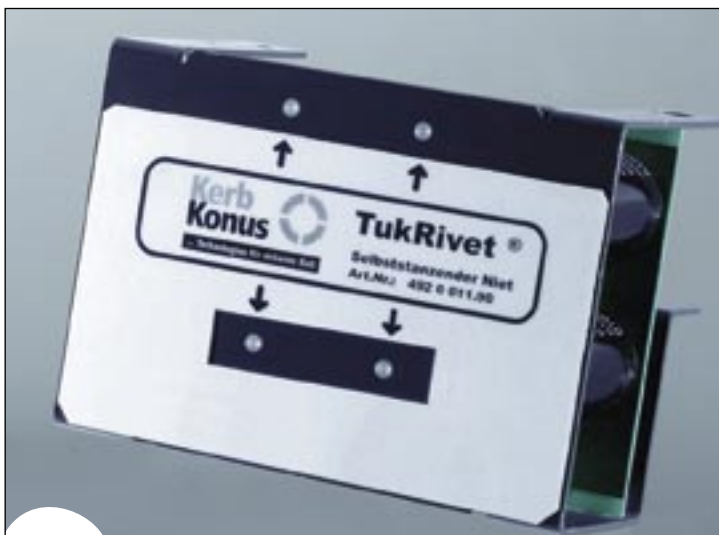
During this process, the workpieces are clamped to the bottom die by the hold-down device. They are then punched by the solid Tuk-Rivet that acts at the same time as the blanking die. When the stop-point is reached both the hold-down device and rivet punch are flush with the workpiece surface.

As a result of the compressive force applied by the rivet punch and the hold-down device the shape of the bottom die forces material into the peripheral shank groove in the Tuk-Rivet.

This acts against the flow of material generated by the rivet punch and hold-down device.



Schematic sequence diagram



\*)

\*\*)

\*)

EU Pat EP 1 013 945  
US Pat 6,244,808  
CAN Pat Anm 2,291,948

\*\*)

D GM DE 299 08 828 U  
EU Pat Anm EP 1 054 169  
US Pat 6,527,490  
CAN Pat Anm 2,308,916

## Field of application

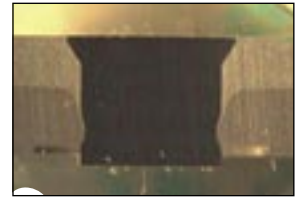
Wherever connections of thin metal mouldings with a high loading capacity have to be produced quickly, the Tuk rivet is the ideal fastening element.

- For joining workpieces made of aluminium to steel as well as rustproof and acid proof sheet steels.
- For joining thin-walled components made of aluminium to sheet steels.
- For joining thick and thin sheets, whereby the lower sheet should have a minimum thickness of 0.9 mm.

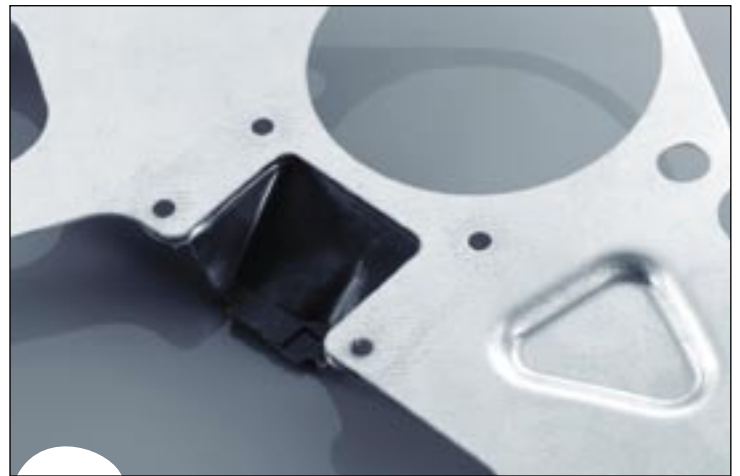
## Product characteristics

- Largely flush finish on both sides
- Self-punching, no hole punching problems, reduced installation costs
- High-strength connection
- Ideal for plastic-coated or surface-treated parts
- Suitable for steel, stainless steel and light alloy sheet
- Replaces spot welding, no environmental pollution
- Integration possible in production lines, no separate workplace required
- The rivet head is covered by painting, no additional work stage required
- Hybrid construction possible
- Greater material thickness difference can be processed with multi-zone rivet

## Punched rivets in application ...



Cover sheet in galvanized steel  
connecting the transmission and  
engine in automobiles.



Heat shield sheet in stainless steel  
for car exhaust systems.

Guide rails in aluminium for electric  
windows.



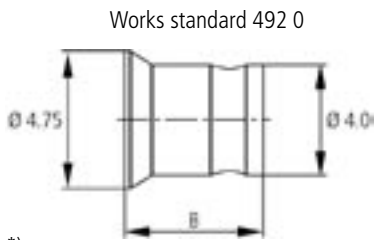


**Punched rivet  
Multi-zone punched rivet  
Self-riveting**

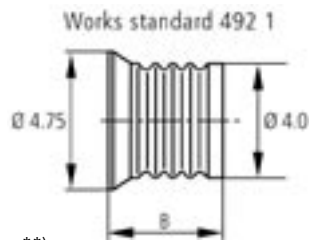
**Tuk-Rivet®**  
Works standard  
492 / 492 1 / 493

**Application**

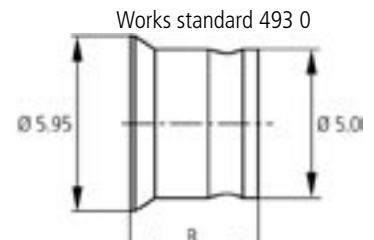
Tuk-Rivet is a punched rivet made of rust and acid proof material or steel for the manufacture of highly load resistant riveted joints in thin section components.



\*)



\*\*)



\*)

| Article-number | For total sheet thickness | Length B |
|----------------|---------------------------|----------|
| 49.000.001 ... | 1,8 mm – 2,1 mm           | 2,1      |
| 49.000.002 ... | 2,2 mm – 2,4 mm           | 2,4      |
| 49.000.003 ... | 2,5 mm – 2,7 mm           | 2,7      |
| 49.000.004 ... | 2,8 mm – 3,0 mm           | 3,0      |
| 49.000.005 ... | 3,1 mm – 3,3 mm           | 3,3      |
| 49.000.006 ... | 3,4 mm – 3,6 mm           | 3,6      |
| 49.000.007 ... | 3,7 mm – 3,9 mm           | 3,9      |
| 49.000.008 ... | 4,0 mm – 4,2 mm           | 4,2      |
| 49.000.009 ... | 4,3 mm – 4,5 mm           | 4,5      |
| 49.000.010 ... | 4,6 mm – 4,8 mm           | 4,8      |
| 49.000.011 ... | 4,9 mm – 5,1 mm           | 5,1      |
| 49.000.012 ... | 5,2 mm – 5,4 mm           | 5,4      |
| 49.000.013 ... | 5,5 mm – 5,7 mm           | 5,7      |
| 49.000.014 ... | 5,8 mm – 6,0 mm           | 6,0      |
| 49.000.015 ... | 6,1 mm – 6,3 mm           | 6,3      |
| 49.000.016 ... | 6,4 mm – 6,6 mm           | 6,6      |
| 49.000.017 ... | 6,7 mm – 6,9 mm           | 6,9      |
| 49.000.018 ... | 7,1 mm – 7,2 mm           | 7,2      |
| 49.000.019 ... | 7,3 mm – 7,5 mm           | 7,5      |

\*) EU Pat EP 1 013 945  
US Pat 6,244,808  
CAN Pat Anm 2,291,948

\*\*) D GM DE 299 08 828 U  
EU Pat Anm EP 1 054 169  
US Pat 6,527,490  
CAN Pat Anm 2,308,916

Minimum thickness for lower sheet: ≥ 0,9 mm

**Example for locating the article number**

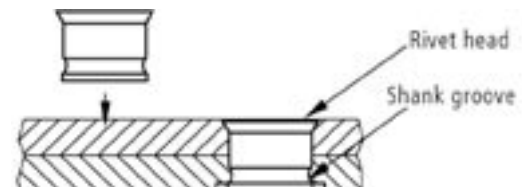
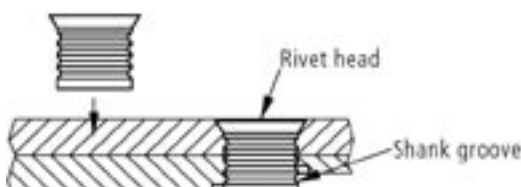
Stainless steel Tuk-Rivet for 3.0 mm total sheet thickness, works standard 492 0:  
Tuk-Rivet 492 000 004.900

**Material**

Rust and acid-proof steel, hardened X 46 Cr 13 + S(1.4034) Article no.. ... .. 900  
Free cutting steel, hardened, zinc-nickel, sealed 11 SMnPb 30 + C(1.0718) Article no.. ... .. 140  
Other finishes on request

**Tolerances**

mean as per ISO 2768



## Processing machines ...



### Machines and know-how

Even the best individual product is as good as useless without the benefit of matured mechanical processes to ensure its efficient application.

This is why KerbKonus developed a range of economical solutions engineered to a high technical standard for processing its punched rivet system Tuk-Rivet.

The machines and processing devices on offer are tailored to the respective field of application.

Professional installation and instruction by KerbKonus specialists are included as part of our service package.

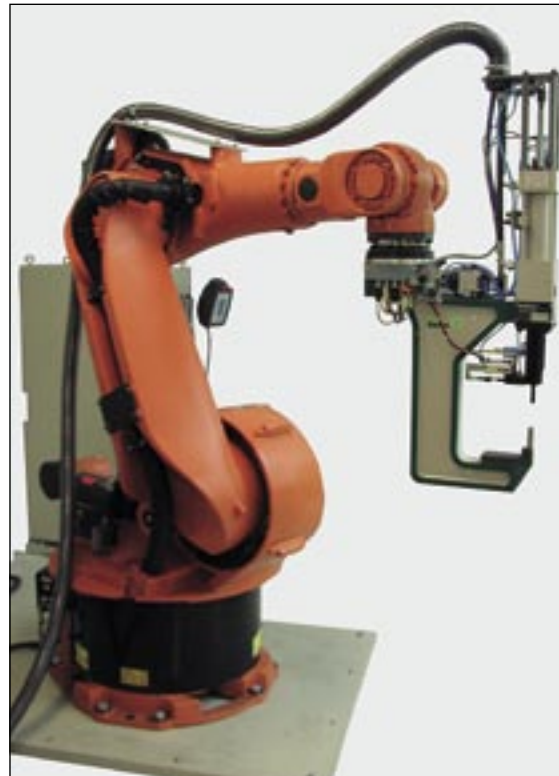
### Processing

Tuk-Rivet is installed in seconds using an automatic special riveting machine.

The rivet punches its own retaining hole. The rivet head holds the upper sheet, the material of the lower sheet is pressed into the shank groove.

Rustproof sheet steel can also be riveted using Tuk-Rivet.

**In borderline cases, please send us samples to permit more precise examination of whether Tuk-Rivet can be used. Different surface treatments can be supplied on request.**



Patents and Trademarks for

rivet pin  
clamping plate  
pressure control  
punching and stamping tool

German registered design No. 297 13 346.2  
German registered design No. 297 16 441.4  
German Patent application No. 198 08 016.6  
European Patent EP 0 893 178  
US-Patent 6,041,493  
CAN-Patent application 2,243,922

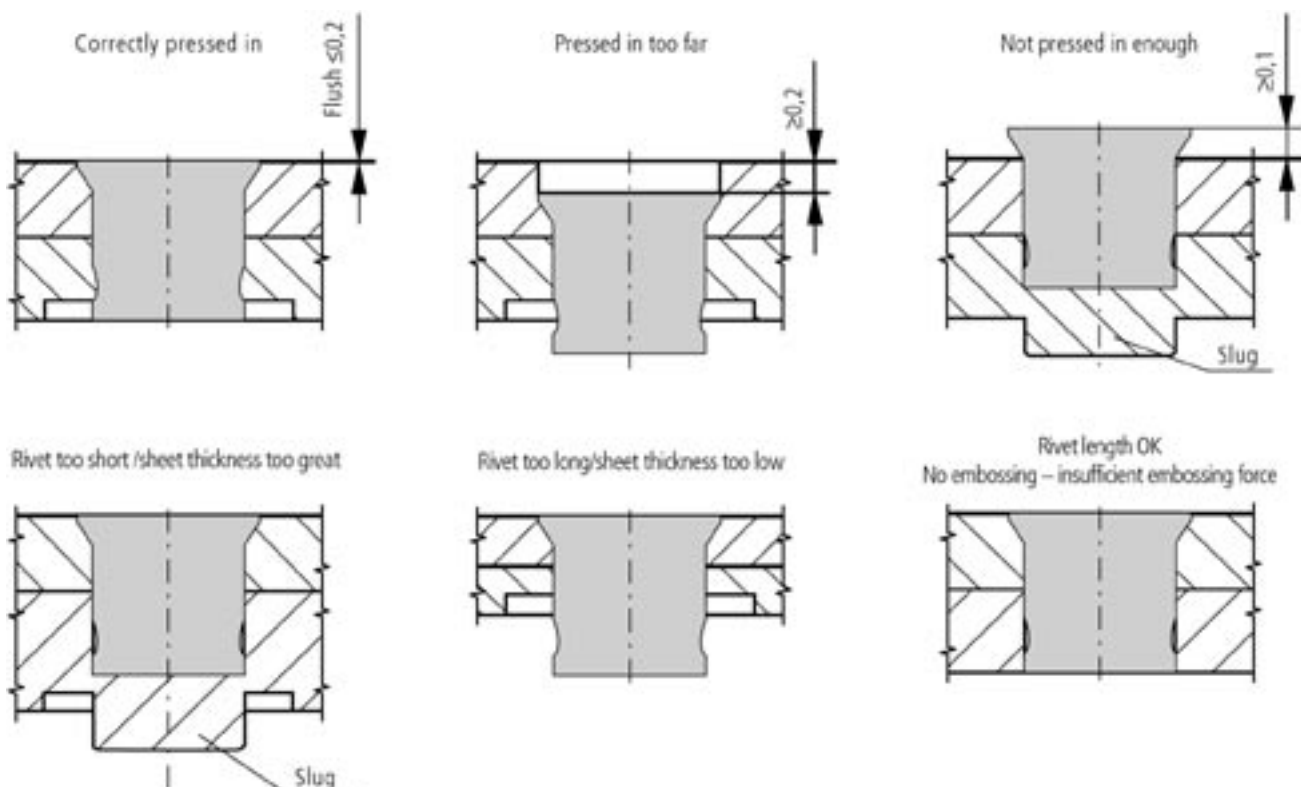


## ... Strength values for Data sheet enquiry

Strength values

| Material         | Thickness above [mm] | Thickness below [mm] | Shear tension [kN] | Cross tension [kN] | Peel tension [kN] |
|------------------|----------------------|----------------------|--------------------|--------------------|-------------------|
| 1,4016           | 1,5                  | 1,5                  | 5,4                | 2,5                | 1,3               |
| 1,4301           | 1,5                  | 1,5                  | 6,0                | 2,8                | 1,5               |
| 1,4003           | 2,0                  | 2,0                  | 6,8                | 3,7                | 2,2               |
| 1,4301           | 2,0                  | 2,0                  | 7,0                | 3,2                | 2,0               |
| ZStE 260 P       | 1,5                  | 1,5                  | 3,5                |                    | 1,2               |
| ZStE 420         | 1,5                  | 1,5                  | 4,8                |                    | 1,7               |
| ZStE 340         | 2,0                  | 2,0                  | 5,8                |                    | 2,1               |
| ZStE 420         | 2,5                  | 2,5                  | 7,5                |                    | 2,8               |
| AlMg 3 / Al - DG | 2,0                  | 2,2                  | 2,7                |                    |                   |
| Al Mg 3          | 2,0                  | 2,0                  | 2,6                |                    |                   |
| Bondal 1.4301    | 1,5                  | 2,5                  | 5,0                | 2,4                |                   |
| ZStE 300         | 1,5                  | 1,5                  | 4,6                | 1,6                | 1,4               |
| DC 04            | 1,5                  | 1,5                  | 3,5                | 1,4                | 1,1               |
| AlMg5Mn          | 1,5                  | 1,5                  | 2,7                | 1,2                | 0,8               |
| AC 120           | 1,5                  | 1,5                  | 2,6                | 1,2                | 0,8               |

## ... Instantly recognisable setting guide for optimum Tuk-Rivet connections



## ... Other products for joining and fastening thin section components



### **Anchor® - serrated rivet bushing**

Alongside the punched rivet system Tuk Rivet, KerbKonus also offers a number of other matured solutions for fastening thin moulded components.

The Anchor product family is a rivet bushing made of steel or rustproof materials, brass or light alloy. The shank is countersunk and serrated.

Anchor is riveted into thin-walled moulded parts with pre-punched receiving holes. During this process, the riveted serrations of the shank cut into the side wall, creating an absolutely secure fastening.

Anchor rivet bushings enjoy universal application, offering a wide variety of design possibilities: for hardwearing screw connections in the automotive industry, for reliable fixture of highly sensitive electronic parts etc.



### **Clifa® - press-in nut/stud**

Clifa press-in nuts and Clifa studs are threaded inserts made of steel with a specially formed shank or head.

Clifa press-in nuts and Clifa studs can also be supplied in rust-proof material, and the nuts additionally in light alloy.

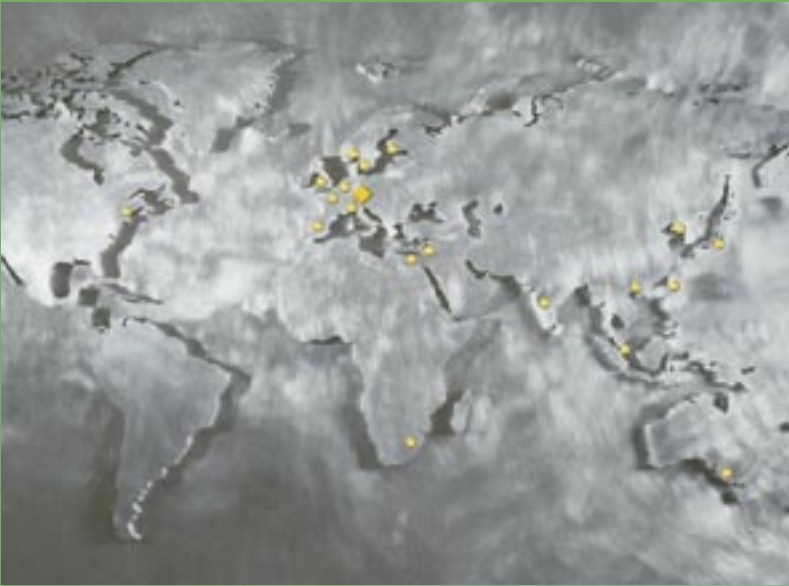
Clifa threaded inserts are pressed into moulded components with pre-punched receiving holes. During this process, the material flows out of the area of the hole wall into the gear ring / the annular grooves of the Clifa threaded inserts. A permanent connection is formed.

Several Clifa inserts can be installed in a single work process. The fastening screw is always screwed in from the opposite side.

Clifa press-in nuts and Clifa studs are used to fasten all different types of appliance components, as spacers pins and bushings for plastics, e.g. circuit boards etc.

**For detailed information on Anchor and Clifa, refer to our publication 40.**

**Order your copy by phoning +49 9621 679-0 or by email: [kkv-amberg@kerbkonus.de](mailto:kkv-amberg@kerbkonus.de)**



# KerbKonus – Close to its customers. Around the world. Across every sector of industry.

First and foremost, for you customer proximity means a rapid response to your requirements and the fast, efficient realisation of the right fastening solution for you.

For us, customer proximity is far more than just another watchword – it is an important strategic instrument. Our technical sales consultants are available locally to talk to you around the world, ready to offer sound advice when it comes to the reliable, economical application of modern fastening technology. Advisory activities are coordinated through the headquarters in Amberg.

Why not simply call us to arrange an appointment?

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92206 AMBERG  
GERMANY

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**e-mail** KKV-Amberg@kerbkonus.de

**internet** [www.kerbkonus.com](http://www.kerbkonus.com)

## ... in Germany

### Amberg Headquarters

Kerb-Konus-Vertriebs-GmbH  
Werner-von-Braun-Straße 7  
92224 Amberg  
GERMANY

### Production plant Hadamar

## ... and around the world.

**Kerb-Konus Fasteners Pvt. Ltd.**  
Kolhapur/India

**KKV Corp.**  
Osaka/Japan

**KKV AG**  
Sattel/Switzerland

**Precision Fasteners Inc.**  
Flanders, New Jersey/USA

**Kerb-Konus Italia s.r.l.**  
Mulazzano/Italy

**c UK**  
Telford/Shropshire  
UK

**Kerb Konus Espanola S. A.**  
Alcorcon/Madrid  
Spain

**KKV Belgium**  
Gooik/Belgium

**Sofrafix**  
Savigny-le-Temple  
France

**Rudolph-KerbKonus Ltda.**  
Timbó/SC, Brazil

Other foreign agents in a wide number of countries.  
Addresses on request or under [www.kerbkonus.com](http://www.kerbkonus.com)

