

Fastening Technology / Threaded Inserts

RIV-TI[®]

Blind Rivet Nuts



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RIV-TI® blind rivet nuts



Secure fasteners

More and more users are coming round to and using the significant benefits of blind rivet nut technology. Unlike welded joints, which cause the material to warp, RIV-TI® fasteners can be quickly installed on one side and with little heat. Even on hollow profiles and pipes, the joints are guaranteed to fit perfectly and maintain their dimensional accuracy.

As a combined rivet/screw fastener, RIV-TI® offers numerous engineering benefits.

Fast installation as well as diverse applications are two of the standout features of this system: other components can be attached at the same time as the blind rivet nuts are installed. Once installed, the blind rivet nut offers a highly-durable internal thread for additional fastening options.

What's more, RIV-TI® is gentle on materials and surfaces: even on enamel or varnished surfaces, RIV-TI® does not leave any traces or marks and is twist and warp resistant when fitted.





RIV-TI® is rational

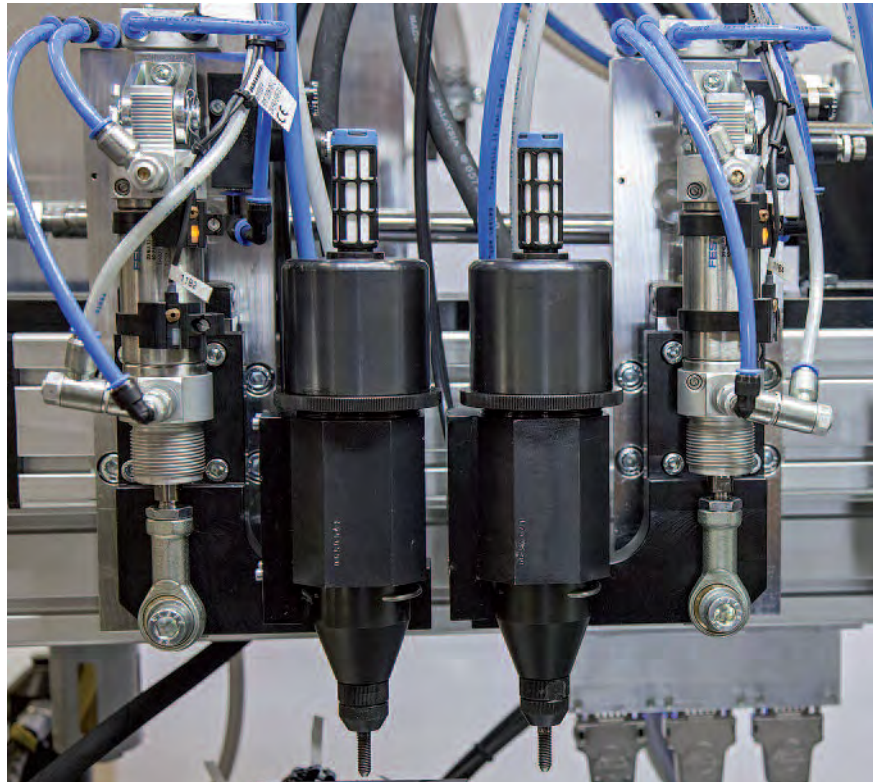
As they install from one side, these blind rivet nuts are ideal for use on components that can only be accessed from one side, such as cavities, profiles or pipes.

The bevelled end of the shank also speeds up the installation process.

RIV-TI® comes in many shapes and sizes

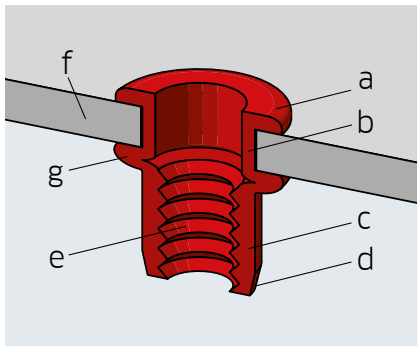
Made of aluminium, steel or stainless steel.

As a flat head, countersunk head or small countersunk head, with a round body, knurled round body, hex or part hex body with an open or close ended shank. Other components can be attached while the blind rivet nuts are being installed. Once installed, the blind rivet nut offers a highly-durable internal thread for additional fastening options. Standard commercially available screws are all that is required.





Composition of a blind rivet nut



- a: Setting head
- b: Chamber
- c: Shank
- d: Tapered end
- e: Thread
- f: Substrate
- g: Blind-side footprint

Head types



Flat head

- Versatile, with large bearing surface



Countersunk head

- For pre-drilled countersunk holes
- The pre-drilled hole should be countersunk far enough down so that the countersunk head protrudes very minimally after installation (~0.1mm)



Small countersunk head

- When inserted, the small countersunk head is virtually flush with the substrate surface
- Though no countersinking is needed, the following should be taken into account:
Pre-drilled hole tolerances must be observed at all times. The material retaining the blind rivet nut must not be easily malleable as otherwise the fastener may pop out. The screw should not be subjected to oblique tension loads.



Shank types



Round body

- Suitable for numerous applications, especially when hex bodies cannot be inserted into the substrate. The substrate must be dry and free from grease.



Round body, knurled

- The knurled design offers enhanced twist-resistant performance in soft substrates.



Hex/Part hex body

- The hexagonal shape of the shank provides the highest twist resistance of any blind rivet nut in all its applications. Ideal for applications involving dynamic loads.

Open end

- The open end of the shank has the most compact design of any blind rivet nut and the widest range of options in terms of screw length. To ensure maximum strength and stability, the screw should cover the entire length of the thread.

Closed end

- This design prevents any leaks on the blind side. Pressure-tight applications require an additional seal under the head or shank.

Materials and finishes



Aluminium

- Low in weight, high in corrosion resistance



Galvanised steel

- Ideal for standard applications
- Steel blind rivet nuts display quality characteristics at high temperatures
- Our standard finish involves a 5-8µm CrVI-free passivated zinc-plated coat
- RoHS-compatible
- Other finishes are available on request depending on the level of corrosion protection required



A2 stainless steel

- Corrosion and temperature-resistant

Thread sizes/Thread tolerances

- M3 - M16
- ISO metric thread: 6H



Installation notes

Drilling

The mounting hole must be drilled square into the substrate. The snap head side of the hole must be completely deburred and the blind side as free from burr as possible. Dry and grease-free surfaces are recommended for round drilled holes.

Grip range

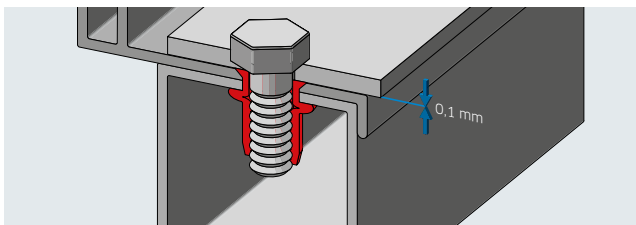
The minimum and maximum values provided by the manufacturer must not be undercut or exceeded.

Installation space

Pipes or hollow profiles must offer sufficient space (length) for the blind rivet nut to be fully inserted. The snap head must rest fully on the component.

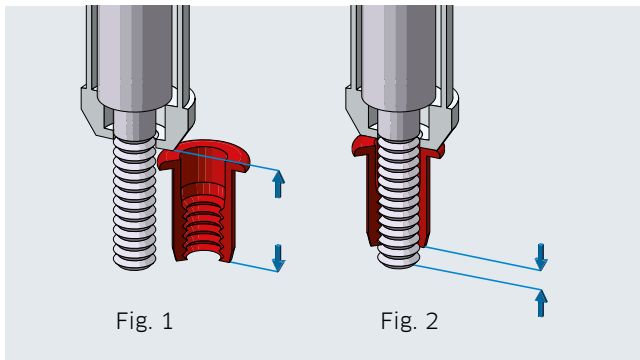
Tool position

The installation tool must be positioned square to the component. The blind rivet nut can be installed using hand, battery-driven or hydropneumatic tools. A wide variety of tools are available which can be easily retooled for different thread sizes by changing the threaded mandrel and nose piece.



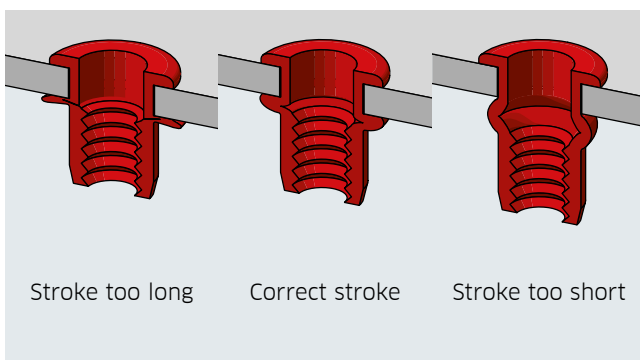
Countersinking

Mounting holes prepared for flat head or small countersunk blind rivet nuts do not need to be countersunk. If countersunk versions are used, the head should protrude by at least 0.1 mm.



Installation

The threaded mandrel and installation tool must cover the entire length of the blind rivet nut to ensure that the internal thread does not deform during the installation process. Fig. 1 shows the correct length of adjustment that the threaded mandrel must have compared to the length of the rivet shank. The tip of the threaded mandrel should then protrude from the blind rivet nut (Fig. 2).



Stroke settings

To ensure that the RIV-TI® is properly installed, the installation tool must be set to the correct stroke. Having the right stroke setting is essential and a series of trial installations should be performed first before beginning with the actual installation run. The right installation tool stroke setting varies depending on which blind rivet nut is to be installed and on the thickness of the material. A pear-shaped upset should form on the blind side of the blind rivet nut. Our operating instructions (supplied with each tool) provide full details on how to set the stroke.

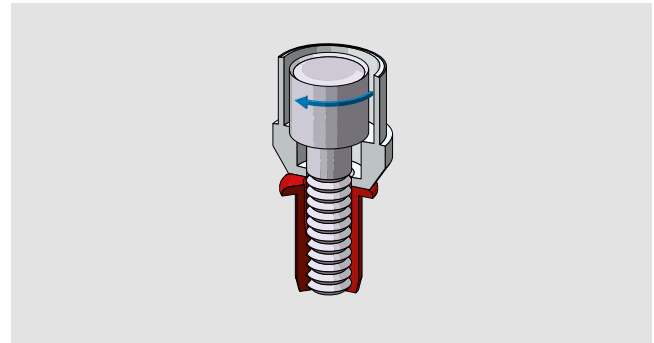
Ideal connection

If the fastener has been properly installed, the fastened component will rest on the snap head.

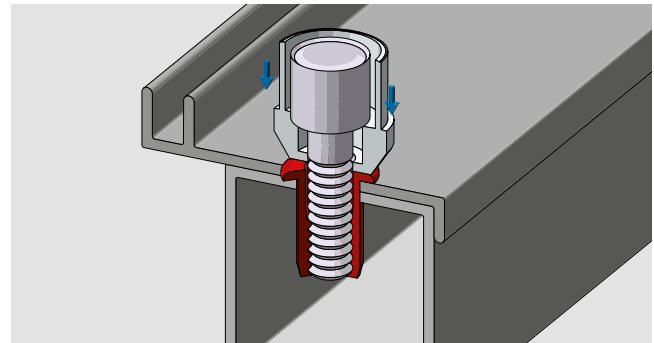


Installation steps

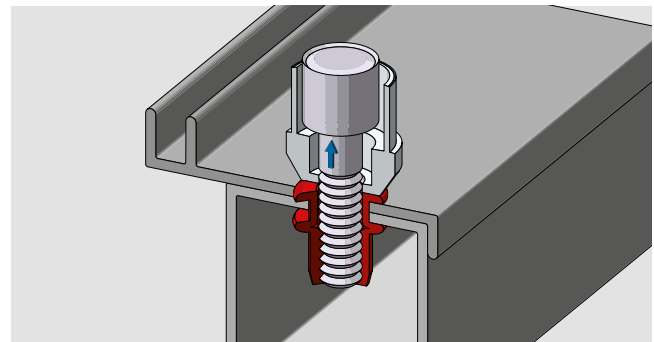
Rotate the RIV-TI® blind rivet nut onto the threaded mandrel on the installation tool.



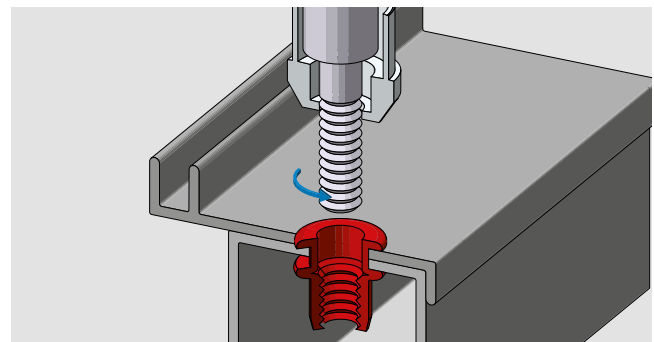
Insert the RIV-TI® blind rivet nut into the pre-drilled hole.



The installation tool will withdraw the threaded mandrel, causing the rivet shank to be upset and install firmly.



Drill the threaded mandrel out of the installed RIV-TI® blind rivet nut.



The RIV-TI® is now ready to be used as a support for further fasteners using commercially available standard screws.

