

# Blind rivet nut

## Rivet heads

The plane head is the most common head type, and is usually used in applications where the shape of the head does not have to follow the contour of the workpiece.

The countersunk head is used in materials where you don't want a column of air between the details. The countersink angle 90° at countersunk blind rivet nut, and it means that the head should be 0,1 mm above the surface. This prevents rotation of the nut at when assembling.

The low profile head is used where you punch holes and the insert's head can be pressed into the material.

## Open or closed blind rivet nut

When there is a demand for absolute tight assembly, and when the screw must be protected from chemical or mechanical damage, e.g. in pipes or tanks, the closed insert is used.

When there is less demand for tight assembly, e.g. in sheet metal or profiles, an open blind rivet nut is used, which also permits a certain independence of the screw's length.

Source: C. Edgren.

## Function and advantages:

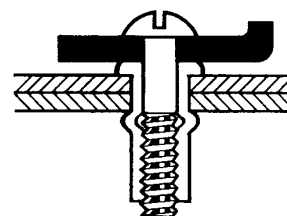
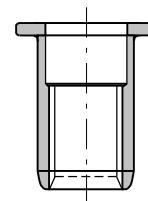
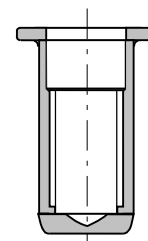
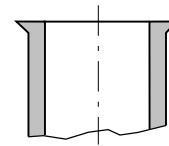
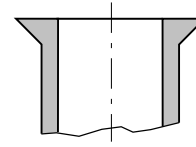
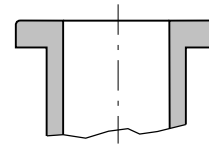
POP® NUT is assembled in drilled or punched holes with normal tolerance. The blind rivet nut is assembled onto the assembly tools mandrel manually or automatically, depending on the type of tool used. When the mandrel is pressed backwards the unthreaded part expands radially and the blind rivet nut is fastened in the material. The mandrel is unscrewed and the blind rivet nut is secured firm enough for it not to rotate when the screw is fastened.

The blind rivet nut thread has at least six turns. This results in very strong joints. It is the ideal solution for pipes and profiles of metal and plastic. But the blind rivet nut is just as often used in joints that do not require blind rivet nut assembling, simply because of the advantages gained when assembling. One of these is that the assembly always can be performed at the correct stage of production and without risk of damaging any surface treatments.

## For assembly:

One important advantage of this fastener system is the tools. They are robust and easy to handle. The mouthpiece and mandrel can easily be replaced. One single tool can therefore be used with several insert sizes. There is everything from simple handheld tools to advanced air tools with hydraulics and automatic screwing functions of the mandrel.

Source: Emhart Teknik.



## General information:

A simple and ideal solution to obtain strong threads in thin materials. It is assembled from one side and is then permanently attached. Suits all material thicknesses between 0,25 and 8,0 mm. It is available in a uncompromised assortment in steel, aluminium and stainless, from M3 to M12.

- |                         |  |
|-------------------------|--|
| <b>Unigrip:</b>         | Flexible gripping area (fewer variants, better economy).                                     |
| <b>Smallgrip:</b>       | Shorter grip length with optimal function for very thin materials and when space is limited. |
| <b>Hexagon:</b>         | Hexagon shape for the best torsional strength.   |
| <b>Stainless:</b>       | A2-quality for environment class 4.  |
| <b>Grooved Unigrip:</b> | For higher torsional safety.   |

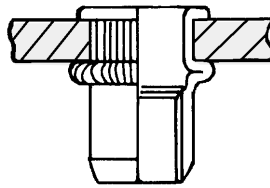
# Different performances of blind rivet nuts

## Eurosert

### General information:

EUROSERT is a blind rivet nut developed for European standard and designed to simplify assembly. A large plane head copes with axial forces.

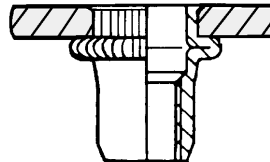
EUROSERT is available with SPLINES to increase torsional resistance.



## Nutsert

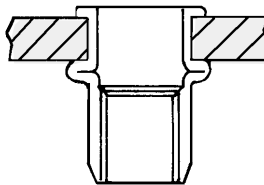
### General information:

NUTSERT - Thin is especially developed to be assembled in very thin materials. At assembly a considerable edge is shaped on the lower side which gives the joint strength. The self-countersinking head gives a flat surface which simplifies the attachment of other details.



### General information:

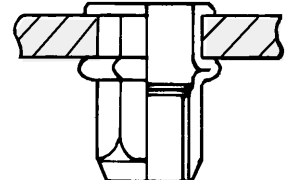
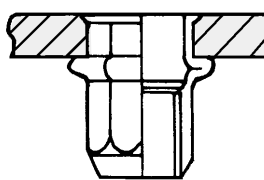
NUTSERT - Flat head TSN is, since it is made of aluminium, very appropriate to use in light metal constructions. The main shape handles high axial forces and provides a strong and stable joint.



## Hexsert

### General information:

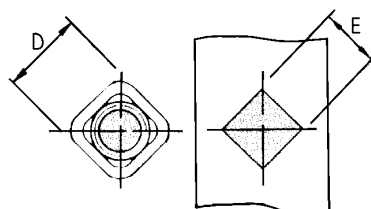
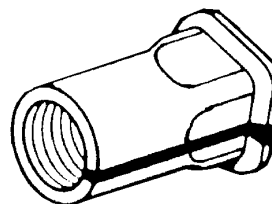
HEXSERT hexagon shape guarantees a very torsionally strong joint. The self-countersinking head gives a plane surface that facilitates the fastening of other details. It is also available with flat head.



## Squaresert

### General information:

SQUARESERT is assembled in a square punched hole and provides the same torsional strength as a hexagon insert.



Source: Ejot & Avdel System.

## Faster assembly and larger field of application of blind rivet nuts.

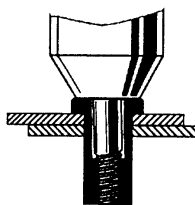
The assembling of blind rivet nuts is fast and simple. Lately special tools have been developed - the technique has been further rationalized.

Screwing and unscrewing can nowadays be made easier with a new assembly tool, which automatically changes direction of rotation at the different phases of the assembly.

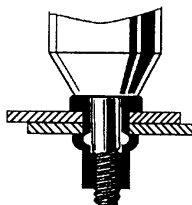
The preparatory work has also been simplified. When assembling hexagon blind rivet nut, there is for instance a hole converter which punches hexagon holes from circular drill holes, which means that hexagon blind rivet nuts now can be used everywhere - where you can reach with an ordinary hand-drilling machine.

Source: C. Edgren.

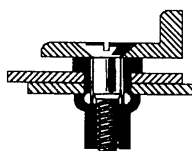
### Assembly:



The blind rivet nut is threaded onto the assembly tools mandrel and is placed in the assembly hole to be fastened.

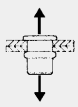
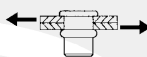



When fastened, the rivet expands towards the lower side of the workpiece.



The assembly tool is unscrewed and the screw joint is ready to be screwed on.

**Table 151**

d	 Tensile strength kg/rivet (N/rivet)								 Shearing force kg/rivet (N/rivet)								 Max tightening torque				TYPE
	Aluminium		Steel		Stainless		Brass		Aluminium		Steel		Stainless		Brass		Alum	Steel	Stainl	Brass	
	kg	N	kg	N	kg	N	kg	N	kg	N	kg	N	kg	N	kg	N	kgm Nm	kgm Nm	kgm Nm	kgm Nm	
<b>M3</b>	193	1900	397	3900	540	5300			65	640	112	1100	183	1800			0,07	0,1	0,15		<b>FTT FTSC FTTC</b>
																	0,7	1	1,5		
<b>M4</b>	407	4000	692	6800	672	6600			122	1200	213	2100	315	3100			0,25	0,4	0,8		
																	2,5	4	8		
<b>M5</b>	662	6500	1171	11500	1283	12600	1080	10600	193	1900	264	2600	580	5700	285	2800	0,5	0,8	1,4	0,6	<b>FTR FTS FTTC</b>
																	5	8	14	6	
<b>M6</b>	794	7800	1681	16500	1793	17600	1579	15500	275	2700	387	3800	672	6600	417	4100	0,8	1,5	2,4	1	
																	8	15	24	10	
<b>M8</b>	1253	12300	2547	25000	3260	32000	2302	22600	397	3900	550	5400	978	9600	580	5700	2	2,6	3,8	2,2	<b>FTT FTS FTTC</b>
																	20	26	38	22	
<b>M10</b>	1783	17500	3260	32000	4279	42000			427	4200	703	6900	1019	10000			2,5	4,5	5,5		
																	25	45	55		
<b>M12</b>			3464	34000							764	7500						7			<b>FTT FTS FTTC</b>
																	70				


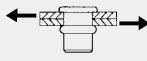

Source: Far.



**MATTSSONS**

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**Table I52**

d	 Tensile strength kg/rivet (N/rivet)								 Shearing force kg/rivet (N/rivet)								 Max. tightening torque				TYPE
	Aluminium		Steel		Stainless		Brass		Aluminium		Steel		Stainless		Brass		Alum	Steel	Stainl	Brass	
	kg	N	kg	N	kg	N	kg	N	kg	N	kg	N	kg	N	kg	N	kgm Nm	kgm Nm	kgm Nm	kgm Nm	
<b>M4</b>			713	7000							224	2200						0,5			<b>FTTE - ER</b>
																		4,9			
<b>M5</b>			1202	11800							366	3600						0,9			
																		8,8			
<b>M6</b>			1711	16800							489	4800						1,6			
																		15,7			
<b>M8</b>			2567	25200							580	5700						2,7			<b>FTRE</b>
																		26,5			
<b>M10</b>			3617	35500							703	6900						4,6			
																		45			
<b>M4</b>			438	4300							152	1500						0,3			
																		2,9			
<b>M5</b>			891	8750							203	2000						0,6			<b>FTRE</b>
																		5,88			
<b>M6</b>			1019	10000							254	2500						1,2			
																		11,7			
<b>M8</b>			1222	12000							326	3200						2,4			<b>PR</b>
																		23,5			
<b>M3</b>			387	3800							91	900						0,1			
																		1			
<b>M4</b>			703	6910							193	1900						0,3			
																		2,9			
<b>M5</b>			1314	12900							203	2000						0,6			
																		5,88			
<b>M6</b>			1783	17500							295	2900						1,2			
																		11,7			
<b>M8</b>			2088	20500							326	3200						2,4			
																		23,5			

When assembling and choosing a rivet nut it is important to choose the right nut for the material thickness in the application.

Source: Far.