Masterfix Closed end rivets

Masterfix Closed end rivets have been specially developed to combine a strong fixing with a water- or air-proof sealing.

Advantages

During setting, the rivet body expands to fill the hole enabling the rivet to withstand pressures up to 35 bar (3500 kPa)

After setting, the mandrel head is 100% retained, providing high resistance to vibration

Air- and waterproof

Higher tensile and shear strengths

Applications

Coach work

Containers

HVAC applications

Shipbuilding industry

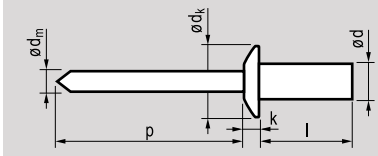
Cladding

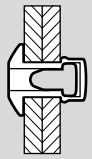
Note: to ensure an optimum setting, a correct size of the pre-drilled hole is important with closed end rivets.

MFX 1201

Aluminium [AlMg5]
Polished

Steel
Phosphated





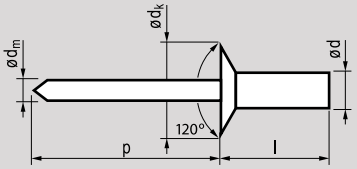
closed end | dome head

Ø d	l [+1/-0,2]		Item nr.	Ø d_k	k	Ø d_m	p		
[mm]	[mm]	[mm]		[mm]	[mm]	[mm]	[mm]	[N]	[N]
3,2	6,5	0,5-2,0	**12013206**						
[+/-0,08]	8,0	2,0-3,5	**3208**						
	9,5	3,5-5,0	**3209**	6,0 [+/-0,24]	≤1,4	~1,70	≥27	1.250	1.070
Ø 3,3	10,7	5,0-6,5	**3210**						
	12,7	6,5-8,0	**3212**						
4,0	8,0	0,5-3,5	**12014008**						
[+/-0,08]	9,5	3,5-4,5	**4009**						
	11,0	4,5-6,5	**4011**	8,0 [+/-0,29]	≤1,7	~2,18	≥27	2.240	1.700
Ø 4,1	12,7	6,5-8,0	**4012**						
	15,0	8,0-10,5	**4015**						
4,8	8,0	1,0-3,0	**12014808**						
[+/-0,08]	9,5	3,0-4,5	**4809**						
	11,0	4,5-6,0	**4811**						
Ø 4,9	12,5	6,0-7,5	**4812**						
	14,0	7,5-9,0	**4814**	9,5 [+/-0,29]	≤2,0	~2,63	≥27	3.100	2.200
	16,0	9,0-11,0	**4816**						
	18,0	11,0-13,0	**4818**						
	21,0	13,0-16,0	**4821**						
	25,0	16,0-20,0	**4825**						
6,4	12,5	1,5-6,0	**12016412**	12,7 [+/-0,35]	≤2,5	~3,70	≥31	4.900	3.950
[+/-0,11]	16,0	6,0-8,0	**6416**						
Ø 6,5									

MFX 1204

Aluminium [AlMg5]
Polished

Steel
Phosphated



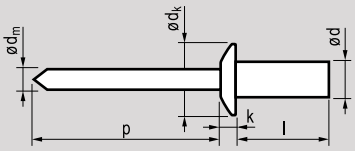
closed end | countersunk head

Ø d	l [+1/-0,2]		Item nr.	Ø d_k	k	Ø d_m	p		
[mm]	[mm]	[mm]		[mm]	[mm]	[mm]	[mm]	[N]	[N]
3,2	7,5	1,5-3,5	**12043207**	6,0 [+0/-0,4]	-	~1,70	≥27	1.245	1.070
[+/-0,08]	9,0	3,0-5,0	**3209**						
	10,5	4,5-6,5	**3210**						
Ø 3,3									
4,0	9,5	3,0-5,0	**12044009**	7,9 [+/-0,3]	-	~2,20	≥27	2.240	1.710
[+/-0,08]	11,0	4,5-6,5	**4011**						
	12,5	6,0-8,0	**4012**						
Ø 4,1									
4,8	9,5	2,5-4,5	**12044809**	9,5 [+/-0,4]	-	~2,65	≥27	3.070	2.230
[+/-0,08]	11,0	4,0-6,0	**4811**						
	12,5	5,5-7,5	**4812**						
Ø 4,9	14,0	7,0-9,0	**4814**						
	15,5	8,5-10,5	**4815**						
	19,0	12,0-14,0	**4819**						

MFX 1211

Aluminium [Al99,5]
Polished

Aluminium
Polished



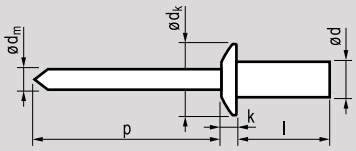
closed end | dome head

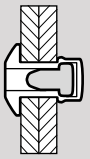
Ø d	l [+1/-0,2]		Item nr.	Ø d_k	k	Ø d_m	p		
[mm]	[mm]	[mm]		[mm]	[mm]	[mm]	[mm]	[N]	[N]
3,2	8,0	0,5-3,5	**12113208**	6,0 [+/-0,24]	≤1,4	~1,80	≥27	490	450
[+/-0,08]	9,5	3,5-5,5	**3209**						
Ø 3,3									
4,0	9,5	0,5-5,0	**12114009**	8,0 [+/-0,29]	≤1,7	~2,20	≥27	820	580
[+/-0,08]	12,5	5,0-8,0	**4012**						
Ø 4,1									
4,8	9,5	1,0-4,5	**12114809**	9,5 [+/-0,29]	≤2,0	~2,65	≥27	1.120	900
[+/-0,08]	11,5	4,5-6,5	**4811**						
	14,5	6,5-9,5	**4814**						
Ø 4,9	18,0	9,5-13,0	**4818**						

MFX 1231

Aluminium [AlMg5]
Polished

Stainless steel [A2]
Polished





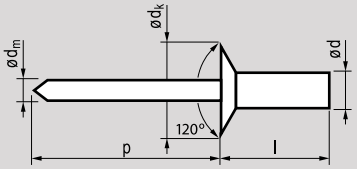
closed end | dome head

Ø d	l [+1/-0,2]		Item nr.	Ø d_k	k	Ø d_m	p		
[mm]	[mm]	[mm]		[mm]	[mm]	[mm]	[mm]	[N]	[N]
3,2	6,5	0,5-2,0	**12313206**						
[+/-0,08]	8,0	2,0-3,5	**3208**						
	9,5	3,5-5,0	**3209**	6,0 [+/-0,24]	≤1,4	~1,70	≥27	1.250	1.070
Ø 3,3	11,0	5,0-6,5	**3211**						
	12,7	6,5-8,0	**3212**						
4,0	8,0	0,5-3,5	**12314008**						
[+/-0,08]	9,5	3,5-4,5	**4009**	8,0 [+/-0,29]	≤1,7	~2,18	≥27	2.240	1.700
	11,0	4,5-6,5	**4011**						
Ø 4,1	12,7	6,5-8,0	**4012**						
4,8	8,0	1,0-,3,0	**12314808**						
[+/-0,08]	9,5	3,0-4,5	**4809**						
	11,0	4,5-6,0	**4811**						
Ø 4,9	12,5	6,0-7,5	**4812**	9,5 [+/-0,29]	≤2,0	~2,63	≥27	3.100	2.200
	14,0	7,5-9,0	**4814**						
	16,0	9,0-11,0	**4816**						
	18,0	11,0-13,0	**4818**						
	21,0	13,0-16,0	**4821**						

MFX 1234

Aluminium [AlMg5]
Polished

Stainless steel [A2]
Polished



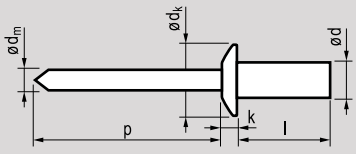
closed end | countersunk head

Ø d	l [+1/-0,2]		Item nr.	Ø d_k	k	Ø d_m	p		
[mm]	[mm]	[mm]		[mm]	[mm]	[mm]	[mm]	[N]	[N]
3,2	9,0	3,0-5,0	**12343209**	6,0 [+0/-0,4]	-	~1,70	≥27	1.245	1.070
[+/-0,08]									
Ø 3,3									
4,0	9,5	3,0-5,0	**12344009**	7,9 [+/-0,3]	-	~2,20	≥27	2.240	1.710
[+/-0,08]	11,0	4,5-6,5	**4011**						
Ø 4,1									
4,8	11,0	4,0-6,0	**12344811**	9,5 [+/-0,4]	-	~2,63	≥27	3.070	2.230
[+/-0,08]	14,0	7,0-9,0	**4814**						
Ø 4,9	18,0	11,0-13,0	**4818**						

MFX 1241

Steel
Zinc plated

Steel
Zinc plated



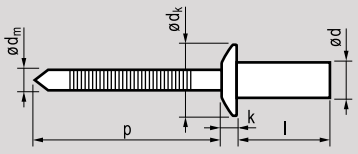
closed end | dome head

Ø d	l [+1/-0,2]		Item nr.	Ø d_k	k	Ø d_m	p		
[mm]	[mm]	[mm]		[mm]	[mm]	[mm]	[mm]	[N]	[N]
3,2	6,0	0,5-1,5	12413206						
[+0,08/-0,10]	8,0	1,5-3,0	3208	6,0 [+/-0,24]	1,0 [+/- 0,3]	~1,90	≥27	2.200	1.600
	9,5	3,0-5,0	3209						
ø 3,3	12,0	5,0-7,0	3212						
4,0	6,0	0,5-1,5	12414006						
[+0,08/-0,10]	8,0	1,5-3,0	4008						
	10,0	3,0-5,0	4010	8,0 [+/-0,29]	1,4 [+/- 0,3]	~2,30	≥27	2.500	2.300
ø 4,1	12,0	5,0-6,5	4012						
	15,0	6,5-10,5	4015						
4,8	8,0	1,0-3,0	12414808						
[+0,08/-0,10]	9,5	3,0-5,0	4809						
	12,0	5,0-6,5	4812	9,5 [+/-0,29]	1,7 [+/- 0,3]	~2,90	≥27	3.800	2.900
ø 4,9	16,0	6,5-10,5	4816						

MFX 1261

Stainless steel [A2]
Polished

Stainless steel
Polished



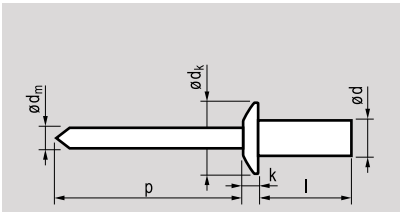
closed end | dome head

Ø d	l [+1/-0,2]		Item nr.	Ø d_k	k	Ø d_m	p		
[mm]	[mm]	[mm]		[mm]	[mm]	[mm]	[mm]	[N]	[N]
3,2	6,0	0,5-1,5	**12613206**	6,0 [+/-0,24]	≤1,4	~1,90	≥27	2.500	2.000
[+0,08/-0,10]	8,0	1,5-3,0	**3208**						
	9,5	3,0-5,0	**3209**						
Ø 3,3	12,0	5,0-7,0	**3212**						
4,0	6,0	0,5-1,5	**12614006**	8,0 [+/-0,29]	≤1,7	~2,30	≥27	4.000	3.000
[+0,08/-0,10]	8,0	1,5-3,0	**4008**						
	9,5	3,0-5,0	**4009**						
Ø 4,1	12,0	5,0-6,5	**4012**						
	16,0	6,5-10,5	**4016**						
4,8	8,0	1,0-3,0	**12614808**	9,5 [+/-0,29]	≤2,0	~2,90	≥27	5.500	4.500
[+0,08/-0,10]	9,5	3,0-5,0	**4809**						
	12,0	5,0-6,5	**4812**						
Ø 4,9	16,0	6,5-10,5	**4816**						
	20,0	10,5-14,0	**4820**						

MFX 1251

Copper
Polished

Steel
Protection layer



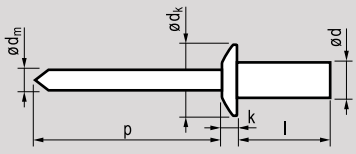
closed end | dome head

Ø d	l [+1/-0,2]		Item nr.	Ø d_k	k	Ø d_m	p		
[mm]	[mm]	[mm]		[mm]	[mm]	[mm]	[mm]	[N]	[N]
3,2	6,5	0,5-2,0	**12513206**	6,0 [+/-0,24]	≤1,4	~1,70	≥27	1.300	850
[+0,08/-0,10]	8,0	1,0-3,5	**3208**						
	9,5	2,5-5,0	**3209**						
Ø 3,3	12,5	5,0-8,0	**3212**						
4,0	8,0	0,5-3,5	**12514008**	8,0 [+/-0,29]	≤1,7	~2,18	≥27	2.000	1.350
[+0,08/-0,10]	10,0	3,5-5,0	**4010**						
Ø 4,1									
4,8	9,5	3,5-5,0	**12514809**	9,5 [+/-0,29]	≤2,0	~2,63	≥27	2.800	1.950
[+0,08/-0,10]	11,5	5,0-6,5	**4811**						
Ø 4,9									

MFX 1281

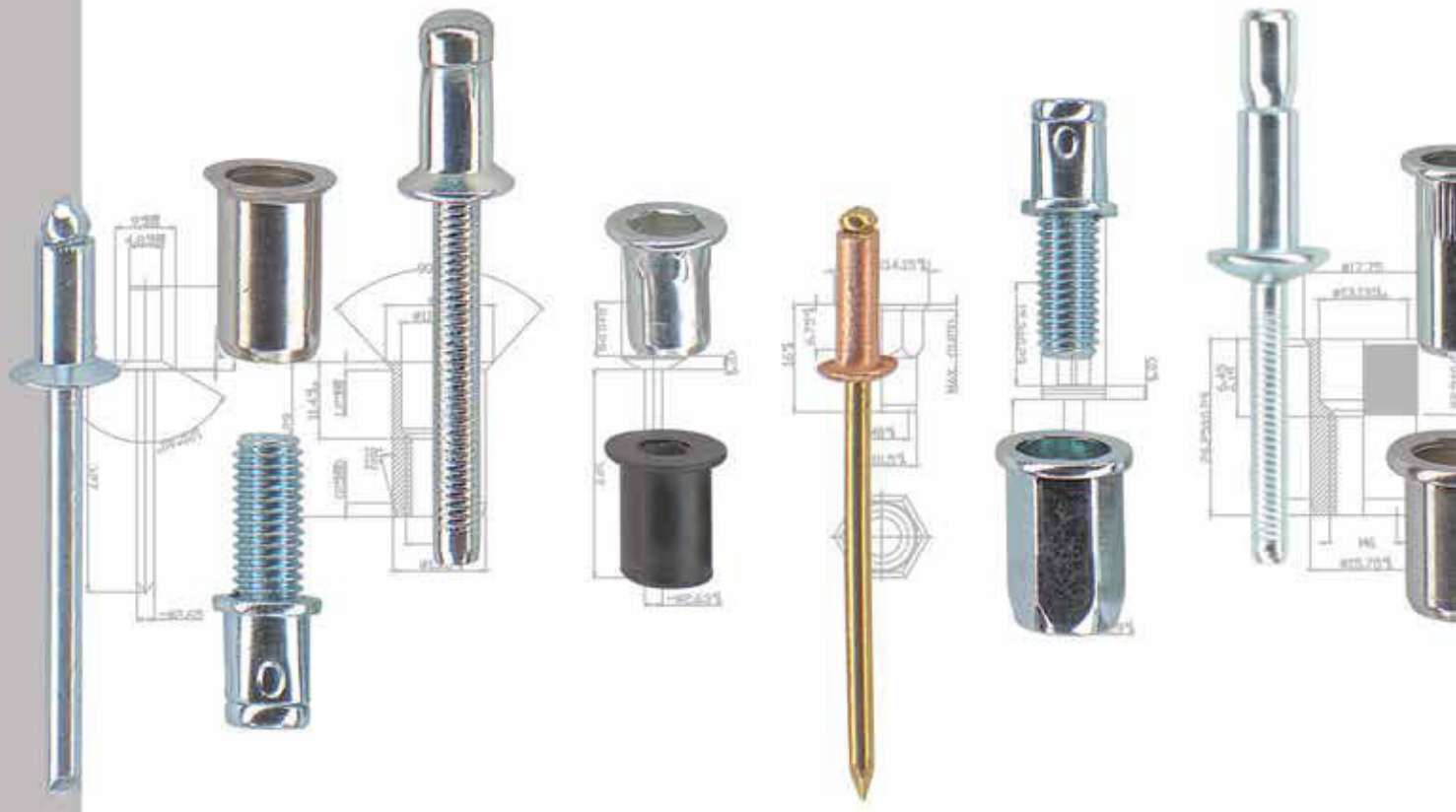
Copper
Polished

Stainless steel [A2]
Polished



closed end | dome head

Ø d	l [+1/-0,2]		Item nr.	Ø d_k	k	Ø d_m	p		
[mm]	[mm]	[mm]		[mm]	[mm]	[mm]	[mm]	[N]	[N]
3,2	6,5	0,5-1,5	**12813206**	6,0 [+/-0,24]	≤1,4	~1,70	≥27	1.300	850
[+0,08/-0,10]	8,0	1,0-3,0	**3208**						
	9,5	2,5-4,5	**3209**						
Ø 3,3	12,5	5,5-7,5	**3212**						
4,0	8,0	0,5-3,0	**12814008**	8,0 [+/-0,29]	≤1,7	~2,18	≥27	2.000	1.350
[+0,08/-0,10]	10,0	3,0-5,0	**4010**						
Ø 4,1									

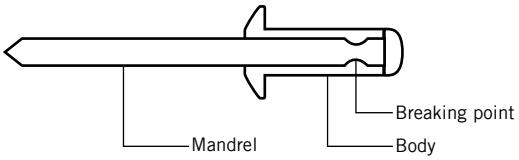


Technical info

MASTERFIX®

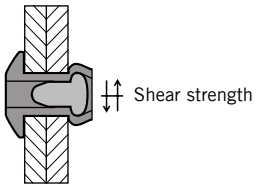
Blind rivet breaking point

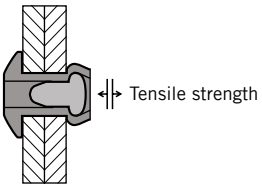
The rivet is made of two parts namely, the body and the mandrel. The body is deformed when the rivet is set and it is this part which clamps the materials together. The function of the mandrel is to deform the body of the rivet. The mandrel is therefore always stronger than the body. The mandrel breaks off at its specific breaking point. The breaking point ensures that the mandrel breaks off at the right moment so that the body is correctly deformed. The breaking load can be adjusted so that the mandrel breaks at a sooner or a later point of time.



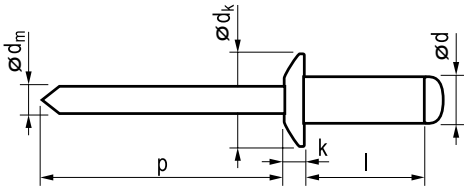
Tensile and shear strength

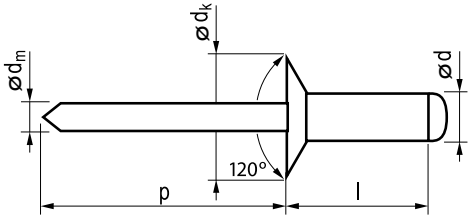
The tensile strength is the maximum force the rivet, rivet nut or rivet bolt can bear lengthways (see arrows) before it gives out. The tensile strength is obtained through tests and is always the smallest average value. The shear strength is the maximum force the rivet, rivet nut or rivet bolt can bear vertical to its length (see arrows) before it gives out. The shear strength is obtained through tests and is always the smallest average value. By changing the breaking point, the shear strength will be increased or decreased. Both tensile and shear strength are expressed in Newton (1 kg = 10 N).





Dimensioning rivets

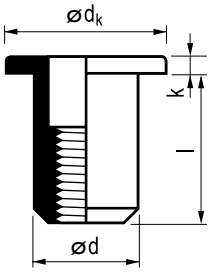


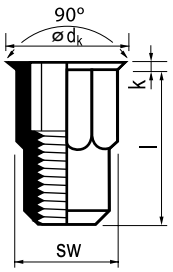


Standard rivet (all sizes in mm)

Ø d = Rivet body diameter
Ø d_k = Head diameter
Ø d_m = Mandrel diameter
k = Head height
l = Rivet body length
p = Mandrel length

Dimensioning rivet nuts



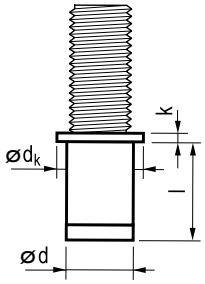


Standard rivet nut (all sizes in mm)

Ø d = Rivet nut body diameter
Ø d_k = Head diameter
k = Head height
l = Rivet nut body length
sw = Key size

Technical details

Dimensioning rivet bolts



Standard rivet bolt (all sizes in mm)

Ø d = Rivet nut body diameter

Ø d_k = Head diameter

k = Head height

l = Rivet nut body length

Technical details

Aluminium AL 99,5

Low weight

Easy to deform

Highly electrical and warmth conductive

Aluminium alloys AlMg

Solid and strong - easy to polish

If the degree of Mg increases, the strength of the rivet increases and the deformability decreases

Steel

Suitable for heavy constructions

Easy to deform

Easy to coat (e.g. with anti-corrosion coating)

Stainless steel

Highly resistant to corrosion

Suitable for heavy constructions

A4 has a higher resistance to acids than A2

Copper

Highly electrical and warmth conductive

Easy to deform

Suitable for soldering

Material features

Contact corrosion

When different metals come in contact with each other, contact corrosion will arise. The table below shows how the different materials combine.

Material rivet body	Material to be connected			
	Aluminium	Copper	Steel	Stainl.steel
Aluminium	++	--	+	+
Copper	--	++	--	+
Steel	+	--	++	++
Stainl. steel	+	+	++	++
i Monell"	--	+	++	+

++ very good I + good I - moderate I -- bad

Coatings

Corrosion can never be reduced to 0%. However, coatings can help to reduce the chance of corrosion or delay corrosion:

Painting

2-Components painting is possible in many colors. All RAL-colours can be delivered on request.

Zinc plating

This is a coating obtained through electrolysis and consists of a Zinc-iron alloy. This coating is characterized by a high resistance to wear and tear.

STANLEY
Engineered Fastening

Edition September 2015