2307/19-V1-02

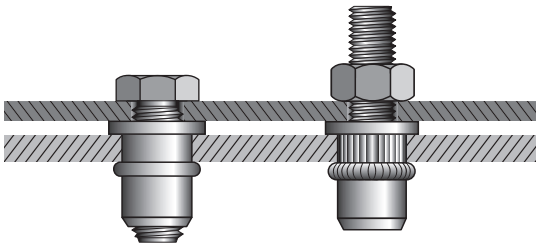
RIVKLE®

Blind rivet nuts and studs

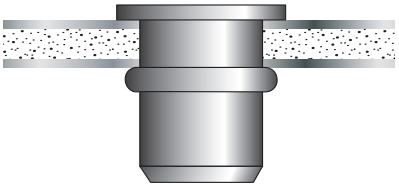
BÖLLHOFF

RIVKLE® – Functions

RIVKLE® blind rivet nuts and studs are the most versatile solution for adding a strong reusable internal or external thread to thin-walled work pieces, with aesthetic appearance.



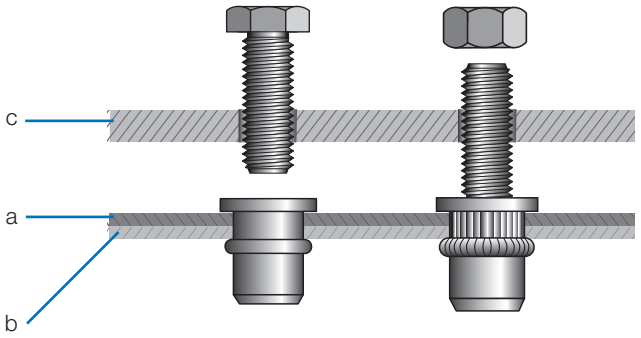
Compatible with all substrates
(steel, magnesium, aluminum, plastics, composites etc.).



Corrosion protected
No additional finishing is required after setting, even with coated or painted components.

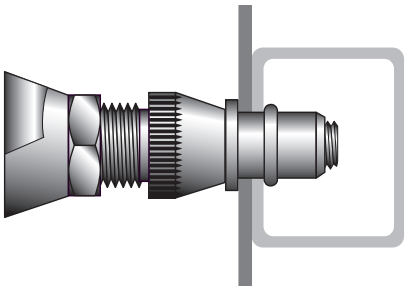
Provides 2 funtions:

- Rivet: enables two or more sheets (a & b) of dissimilar materials (plastic & metal…) to be joined
- Thread: enables an additional component (c) to be assembled and reused, if required.

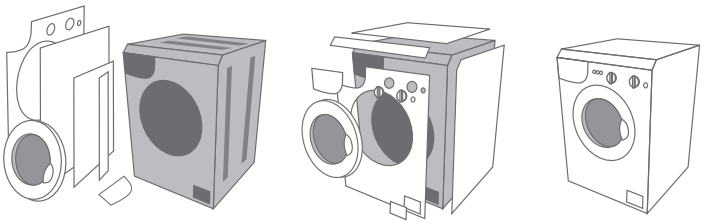


RIVKLE® – Process

RIVKLE® is installed using a single-sided setting technique.
Often the only fastening solution for hollow sections, housings or where access is limited to only one side of a component.
This simplifies the design avoiding any need for a dedicated access hole in the rear panel.



RIVKLE® blind rivet nuts and studs **can be fitted at any stage** so bringing extreme flexibility to your production process.
RIVKLE® is a captive system.



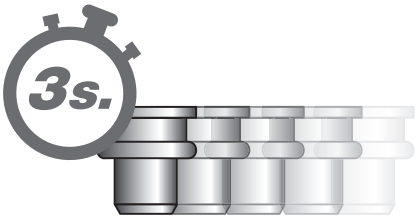
Easy and simple solution.

- Can be installed without operator training
- Several levels of installation process control are available to enhance quality management
- Easy and non destructive testing of installed RIVKLE®

Safe and ecologic solution:

- No fumes (no exhaust needed)
- No heat (no protection needed)
  => no heat impact on application (surface treatment, deformation, material resistance…)
- No pollution
- No risk to the operator

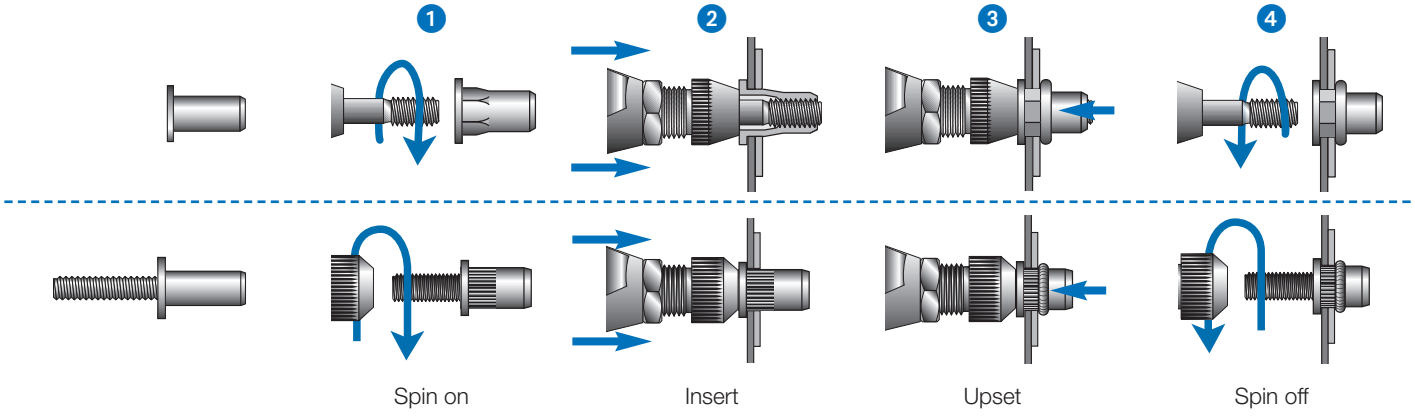
- Fast, reliable, repeatable and cost competitive process (total emplace cost)
- Optimized installation possible in under 3 seconds
- Quick tooling exchange and adjustment operation (for example: M6 to M8)
- Entire range of setting equipment, from manual to full automatic process is available



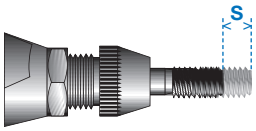
The BÖLLHOFF recommended installation is the “pull method”.
RIVKLE® can also be installed using the “press method”.

1 - Pull methods

The “pull method” comprises Spin on 1, Insert 2, Upset 3 and Spin off 4 cycles.

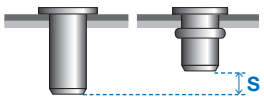


2 - Pull setting methods



2.1 Stroke setting method: control of the assembly tool displacement distance

The operator sets the stroke on the setting tool in accordance with the values shown in the RIVKLE® catalogue tables. The setting tool exerts the maximum pressure and automatically stops when the preset stroke is reached (mechanical stop).

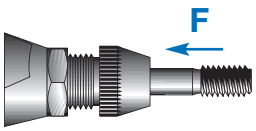


This represents the original way to install a RIVKLE® and remains the best choice today for stainless steel inserts.

Advantages:

- Fast and simple process
- Ideal for assemblies with no variation in sheet thickness

2.2 Pressure setting method: force controlled installation



In the stroke setting method, the tool delivers maximum and constant force over the full stroke of the mandrel. Where there is a wide variation in thickness of the workpiece there is a definite risk that a blind rivet nut may not set properly, or become damaged due to the setting mandrel damaging the RIVKLE® thread. In this situation there will be premature wear of the mandrel.
This phenomenon is eliminated with the pressure setting method as the setting force is controlled irrespective of the thickness of the workpiece.

This setting principle is particularly well suited to workpieces with variable thickness (plastic parts, various layers…) and provides consistent setting quality.

Advantages:

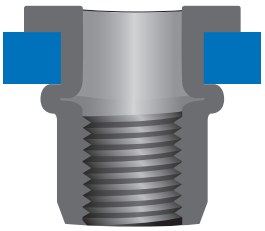
- Optimised setting into panels with thickness variations
- Possibility to set the same RIVKLE® more than once
- Permits quality control (force indicator…)
- Extended mandrel life
- Can also set different types of RIVKLE® with one tool and one single setup

YouTube RIVKLE blind rivet nut

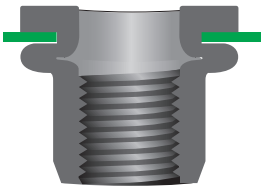
3 - Installation force value

The recommended setting force is dependent upon a combination of information coming from RIVKLE® parameters (force to obtain a good installation) and screwing parameters (tensile strength after assembly and during service).

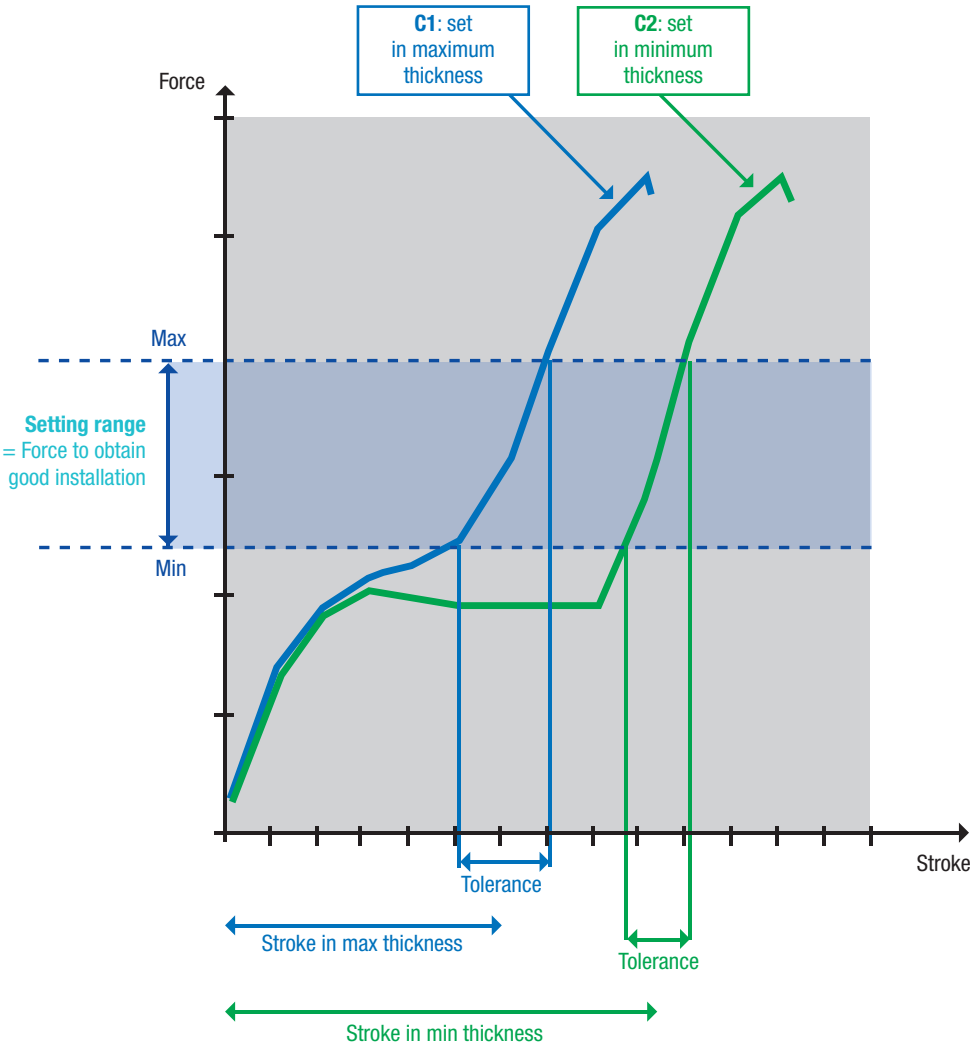
3-1 RIVKLE® parameters:



Maximum thickness
(**C1**)

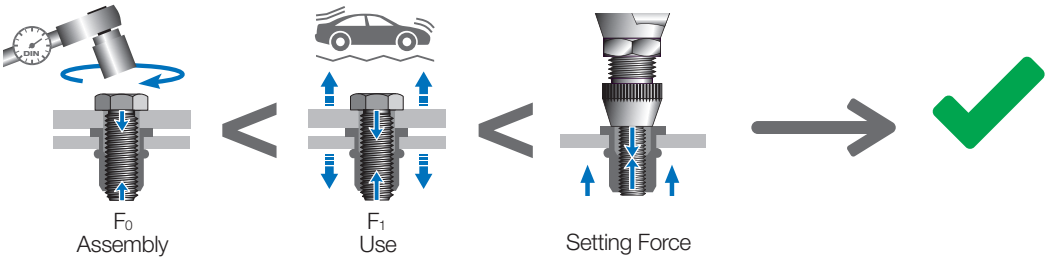


Minimum thickness
(**C2**)



3-2 SCREW parameters :

When a assembly is in use, external influences generally increase the tensile strength in the screw ($F_1 > F_0$).



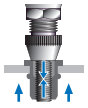
With correct installation, RIVKLE® exhibits the same behaviour as a standard nut.

Consequences:

1. BÖLLHOFF recommends a setting force higher than the mating screw clamp load, in order to ensure that no re-setting occurs during the life of the RIVKLE®.

2. BÖLLHOFF does not recommend the use of mechanical screw-drivers for installing RIVKLE®.

Installation force range per diameter & RIVKLE® material



	Steel Force in kN	Stainless steel Force in kN	Stainless steel A4 Force in kN	Aluminium Force in kN
M3	3,5	3,5	-	1,9
M4	5,5	5,5	9,5	3,0
M5	8,0	8,0	12,0	3,8
M6	12,0	13,0	15,0	5,5
M8	18,0	20,0	20,0	10,0
M10	21,0	22,0	-	12,0
M12	23,0	28,0	-	15,0
M14	50,0	-	-	-

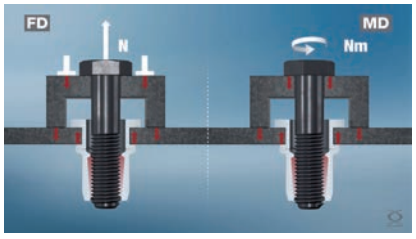
RIVKLE® – Additional services

CAD

Free-of-charge download of 3D drawings from our ranges HELICOIL®, AMTEC®, SEAL LOCK®, KOBSERT and RIVKLE®. Integrate them directly into your design software.

Laboratory testing

BÖLLHOFF offers the services of our own certified laboratory to assess and report on the performance of our products when installed into your components.



YouTube RIVKLE Test

RIVKLE® Plus 24H

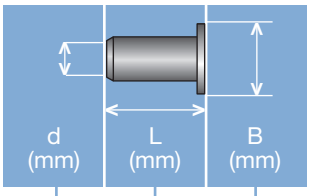
This is the core RIVKLE® range. These items are shipped within 24 hours of your order being accepted. You can rest assured that your order will be delivered without delay.

RIVKLE® Plus 24H

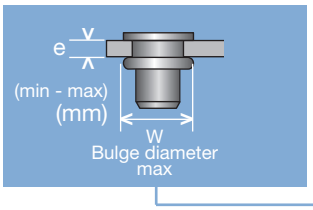
Training

From our certified training centre, BÖLLHOFF imparts expertise to your Team (production, maintenance, process) to improve your experience when using either our components or tools (theory & practice).

RIVKLE® – Legend

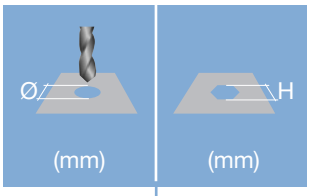


Head diameter
Overall length
Thread size

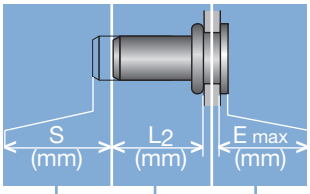


Grip range
Defines the range of total thickness of the customers part (even if it consists of more than one layer)

d (mm)	W
M3	6,8 mm
M4	8,6 mm
M5	10,1 mm
M6	13,0 mm
M8	15,0 mm
M10	18,0 mm
M12	22,4 mm



Hole geometry
If round –> diameter
If hexagonal –> wigth across flats

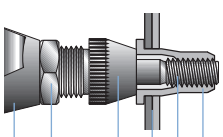


Head projection after setting
Variable according to the application (setting load, material substrate, etc.)

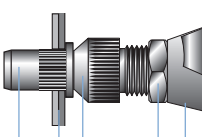
Blind side projection after installation
Defines the clearance needed on the blind side (cannot be used for quality control)

Setting stroke
Difference of total length before and after installation

RIVKLE® Nut



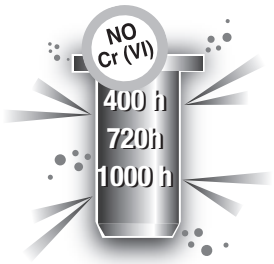
RIVKLE® Stud



RIVKLE®
Mandrel*
Customers part
Anvil*
Counter nut
Setting tool

in accordance to chosen RIVKLE®

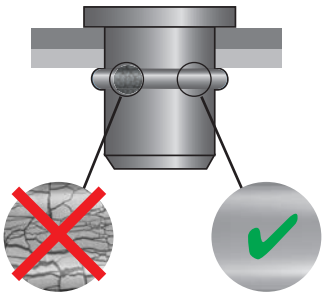
RIVKLE® – Material and surface treatment



	EN Description	EN Num.	USA
Steel	C10C	1.0214	C1010
	C4C	1.0303	C1005
	11SMnPb30	1.0718	12L13
	20MnB5	1.5530	10B22
Stainless steel	X6CrNiCu18-9-2	1.4570 (A1)	AISI 303K
	X3CrNiCu18-9-4	1.4567 (A2)	AISI 302 HQ
	X3CrNiCuMo17-11-3-2	1.4578 (A4)	AISI 316 Cu
	X6Cr17*	1.4016*	AISI 430*
Aluminium	AW-AlMg2,5	AW-5052	5052
	EN AW-Al Mg1SiBi/EN	AW-60604	A/6064

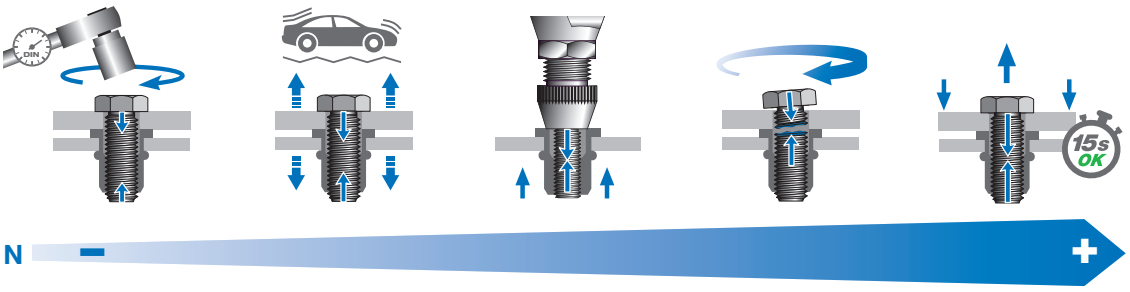
*RIVKLE® PN

Our standard surface treatment, Zn 8K+; 8 to 15 µm; provides the highest corrosion resistance in the standard market (400 hours to Red Rust according to ISO9227). For the most demanding applications, ZnNi8A/Fe; 8 to 15 µm, can be supplemented with either a lubricant and/or reinforcement to reach 720 or even 1000 hours to Red Rust.

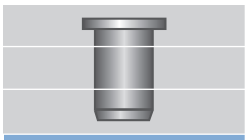


RIVKLE® – A real nut

A standard nut, when used with it's equivalent screw grade (ex: 8.8 class screw with class 8 nut), must provide strength characteristics as dictated by recognised standards (ISO 898; ISO 16047; NFE 25-030, VDI2230). For example: In the case of over-tightening the joint then the screw must fail first leaving a re-usable nut. RIVKLE® blind rivet nuts have been designed to adhere strictly to these rules.



RIVKLE® blind rivet nuts and studs



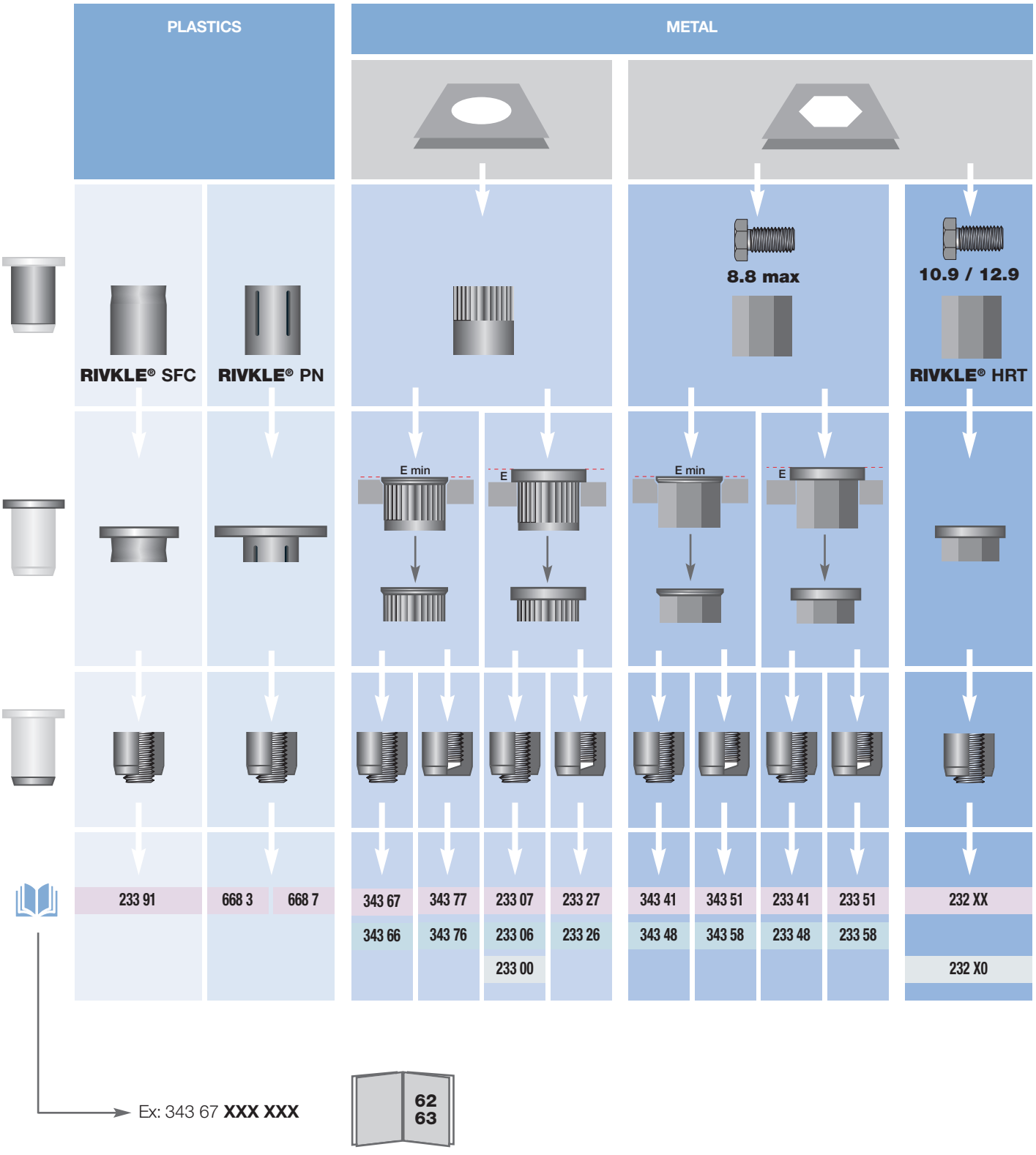
Head

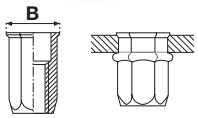
Body

Body end

		flat	thin	counter-sunk	plain	knurled	hexagonal	half-hex	slotted	open	closed	hole	
STEEL			•				•			M3 - M12	M4 - M10	⬡	14
		•						•		M4 - M8		⬡	15
			•					•		M4 - M8		⬡	15
		•					•			M4 - M12	M4 - M10	⬡	16
			•			•				M3 - M12	M3 - M12	●	17
		•				•				M3 - M10	M4 - M10	●	18
				•		•				M3 - M10	M4 - M10	●	19
		•			•					M3 - M14	M3 - M12	●	20-21
			•		•					M3 - M8		●	21
				•	•					M3 - M12	M3 - M12	●	22
	HRT	•					•			M7 - M12		⬡	35
	SFC	•			•					M5 - M8		●	37
	PN	•							•	M4 - M10		●	39
STAINLESS STEEL			•					•		M3 - M12	M3 - M12	⬡	24
		•						•		M3 - M12	M3 - M12	⬡	25
			•			•				M3 - M12	M3 - M12	●	26
		•				•				M3 - M12	M3 - M12	●	27
				•		•				M3 - M12	M3 - M12	●	28
				•	•					M4 - M10		●	29
			•		•					M3 - M8		●	29
		•			•					M4 - M10		●	29
	316L / A4	•			•					M4 - M8	M4 - M8	●	30
	316L / A4		•		•					M5 - M8	M4 - M8	●	30-31
	316L / A4	•						•		M4 - M8		⬡	31
	316L / A4		•					•		M4 - M8		⬡	31
	SFC	•			•					M6		●	37
	PN	•							•	M4 - M10		●	39
ALU		•			•					M3 - M10	M3 - M10	●	32
				•	•					M3 - M10	M3 - M10	●	33
	HRT	•					•			M5 - M8		⬡	35
Studs													
STEEL		•				•					M5 - M8	●	43
			•			•					M6 - M8	●	43
		•					•				M6 - M8	⬡	44
			•				•				M8	⬡	44
	SFC	•				•					M6	●	45
		•				•					D5 - D6	●	45
SST			•				•				M5 - M6	⬡	45

RIVKLE® – Choice

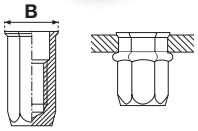




RIVKLE® Plus 24H

Steel | Thin head | Hexagonal | Open

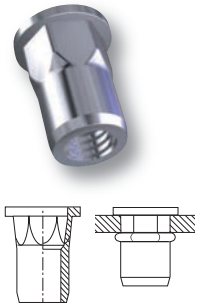
d (mm)	L (mm)	B (mm)	e (min - max) (mm)	H +0,1/0 (mm)	S (mm)	L2 (mm)	E max (mm)	
M3	10,25	5,0	1,5 - 2,5	5,0	S=3,8-e	6,0	0,3	**343 41** 030 025
M4	10,8	6,5	0,5 - 3,0	6,0	S=4,5-e	6,2	0,4	**343 41** 040 030
	13,5		3,0 - 5,5		S=7,2-e			**343 41** 040 055
M5	13,8	7,85	0,5 - 3,0	7,0	S=4,5-e	9,0	0,45	24H **343 41** 050 030
	16,5		3,0 - 5,5		S=7,2-e			**343 41** 050 055
M6	16,2	9,95	0,5 - 3,5	9,0	S=5,5-e	10,2	0,45	24H **343 41** 060 030
	19,25		3,5 - 6,0		S=8,5-e			24H **343 41** 060 060
M8	17,8	11,75	0,5 - 3,5	11,0	S=5,5-e	12,5	0,4	24H **343 41** 080 030
	20,8		3,5 - 6,0		S=8,5-e		0,5	24H **343 41** 080 060
M10	22,0	14,1	1,0 - 3,5	13,0	S=6,0-e	16,0	0,5	24H **343 41** 100 035
	25,0		3,0 - 6,0		S=8,6-e			24H **343 41** 100 060
M12	24,8	17,6	1,0 - 4,0	16,0	S=7,8-e		0,85	**343 41** 120 040
	27,7		4,0 - 8,0		S=13,5-e	14,0		**343 41** 120 080



RIVKLE® Plus 24H

Steel | Thin head | Hexagonal | Closed

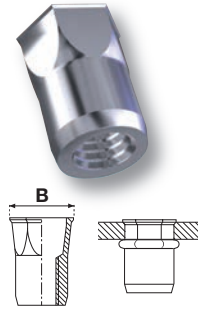
d (mm)	L (mm)	B (mm)	e (min - max) (mm)	H +0,1/0 (mm)	S (mm)	L2 (mm)	E max (mm)	
M4	17,8	6,5	0,5 - 3,0	6,0	S=4,5-e	13,0	0,4	24H **343 51** 040 030
M5	20,2	7,85	0,5 - 3,0	7,0	S=4,5-e	15,0	0,45	24H **343 51** 050 030
M6	23,2	9,95	0,5 - 3,5	9,0	S=5,8-e	17,2	0,45	24H **343 51** 060 030
M8	28,3	11,75	0,5 - 3,5	11,0	S=5,8-e	22,5	0,5	24H **343 51** 080 030
	30,5	11,75	3,5 - 6,0		S=8,5-e	22,0		**343 51** 080 060
M10	35,05	14,1	3,0 - 6,0	13,0	S=8,2-e	27,0	0,55	**343 51** 100 060



RIVKLE® Plus 24H

Steel | Flat head | Semi-hexagonal | Open

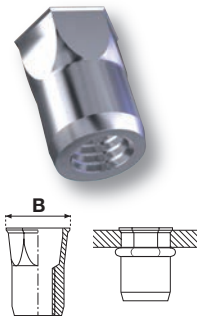
d (mm)	L (mm)	B (mm)	e (min - max) (mm)	H +0,1/0 (mm)	S (mm)	L2 (mm)	E (mm)		
M4	11,0	9,0	0,5 - 3,0	6,0	S=4,3-e	5,8	1,0	24H	**233 41** 040 230
M5	13,0	10,0	0,5 - 3,0	7,0	S=4,7-e	7,3	1,0	24H	**233 41** 050 230
M6	14,25	13,0	0,5 - 3,0	9,0	S=5,0-e	8,0	1,5	24H	**233 41** 060 230
M8	18,0	16,0	0,5 - 3,0	11,0	S=5,3-e	11,2	1,5	24H	**233 41** 080 230



RIVKLE® Plus 24H

Steel | Thin head | Semi-hexagonal | Open

d (mm)	L (mm)	B (mm)	e (min - max) (mm)	H +0,1/0 (mm)	S (mm)	L2 (mm)	E max (mm)		
M4	10,7	6,7	0,5 - 3,0	6,0	S=4,5-e	6,0	0,3	24H	**343 41** 040 230
M5	13,0	7,9	0,5 - 3,0	7,0	S=5,2-e	7,5	0,3	24H	**343 41** 050 230
M6	13,75	9,8	0,5 - 3,0	9,0	S=5,3-e	8,3	0,4	24H	**343 41** 060 230
M8	17,25	12,0	0,5 - 3,0	11,0	S=5,8-e	11,3	0,4	24H	**343 41** 080 230

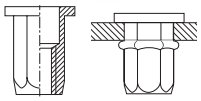


RIVKLE® Plus 24H

Steel | Thin head | Semi-hexagonal | Open

d (mm)	L (mm)	B (mm)	e (min - max) (mm)	H +0,1/0 (mm)	S (mm)	L2 (mm)	E max (mm)		
M4	10,3	6,9	0,5 - 2,0	6,4	S=3,0-e	6,8	0,5	24H	**343 21** 040 020
M5	11,45	8,1	0,5 - 3,0	7,3	S=4,8-e	7,0	0,45	24H	**343 21** 050 030
M6	14,35	10,6	0,7 - 3,0	9,7	S=4,8-e	9,0	0,6	24H	**343 21** 060 030
M8	15,8	11,55	0,9 - 3,3	10,7	S=5,9-e	10,2	0,7	24H	**343 21** 080 033

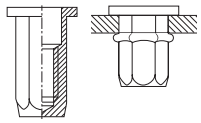
inch For holes with imperial dimensions



RIVKLE® Plus 24H

Steel | Flat head | Hexagonal | Open

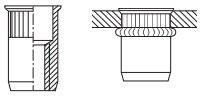
d (mm)	L (mm)	B (mm)	e (min - max) (mm)	H +0,1/0 (mm)	S (mm)	L2 (mm)	E (mm)	
M4	9,8	9,0	0,5 - 2,0	6,0	S=3,5-e	5,8	1,0	24H **233 41** 040 020
M5	13,7	10,0	0,5 - 3,0	7,0	S=5,0-e	8,0	1,0	24H **233 41** 050 030
	14,3		2,5 - 4,5		S=6,6-e	6,7		**233 41** 050 045
M6	15,7	12,9	0,5 - 3,0	9,0	S=4,5-e	10,0	1,5	24H **233 41** 060 030
	18,7		3,0 - 5,5		S=7,5-e			24H **233 41** 060 055
M8	17,75	16,0	0,5 - 3,0	11,0	S=5,5-e	11,0	1,5	24H **233 41** 080 030
	20,75		3,0 - 5,5		S=8,5-e			24H **233 41** 080 055
M10	22,8	19,0	1,0 - 3,5	13,0	S=6,0-e	15,0	2,0	24H **233 41** 100 035
	25,45		3,5 - 6,0		S=8,7-e			24H **233 41** 100 060
M12	26,8	23,0	1,0 - 4,0	16,0	S=7,7-e	17,0	2,0	24H **233 41** 120 030



RIVKLE® Plus 24H

Steel | Flat head | Hexagonal | Closed

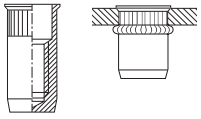
d (mm)	L (mm)	B (mm)	e (min - max) (mm)	H +0,1/0 (mm)	S (mm)	L2 (mm)	E (mm)	
M4	14,8	9,0	0,5 - 2,0	6,0	S=4,0-e	10,0	1,0	**233 51** 040 020
M5	19,7	10,0	0,5 - 3,0	7,0	S=5,0-e	14,0	1,0	**233 51** 050 030
M6	22,8	12,9	0,5 - 3,0	9,0	S=5,2-e	17,0	1,5	24H **233 51** 060 030
M8	25,8	16,0	0,5 - 3,0	11,0	S=5,5-e	19,0	1,5	**233 51** 080 030
	28,7		3,0 - 5,5		S=8,3-e			**233 51** 080 055
M10	32,75	19,0	1,0 - 3,5	13,0	S=6,0-e	25,0	2,0	**233 51** 100 035



RIVKLE® Plus 24H

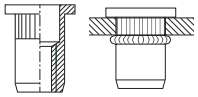
Steel | Thin head | Knurled | Open

d (mm)	L (mm)	B (mm)	e (min - max) (mm)	Ø +0,1/0 (mm)	S (mm)	L2 (mm)	E max (mm)	
M3	9,0	5,7	0,5 - 2,0	5,0	S=3,6-e	5,5	0,4	**343 67** 030 020
	9,8	5,75	1,5 - 3,0		S=3,6-e	5,7		**343 67** 030 030
M4	10,7	6,6	0,5 - 3,0	6,0	S=4,9-e	5,8	0,3	**343 67** 040 230
	11,9		2,5 - 4,0		S=5,6-e	5,9	0,4	**343 67** 040 040
M5	12,75	8,0	0,5 - 3,0	7,0	S=5,3-e	7,4	0,3	**343 67** 050 230
	13,8	7,6	2,5 - 4,0		S=5,8-e	7,6	0,4	**343 67** 050 040
M6	13,8	10,0	0,5 - 3,0	9,0	S=5,1-e	8,5	0,4	**343 67** 060 230
	15,3	9,6	3,0 - 4,5		S=6,6-e		0,3	**343 67** 060 045
	16,9		4,5 - 6,0		S=8,2-e			**343 67** 060 060
M8	17,25	12,0	0,5 - 3,0	11,0	S=6,0-e	11,1	0,4	**343 67** 080 230
	18,9	11,8	3,0 - 4,5		S=6,7-e	11,8		**343 67** 080 045
	20,5		4,5 - 6,0		S=8,3-e			**343 67** 080 060
M10	20,75	14,0	0,7 - 3,5	13,0	S=6,5-e	14,0	0,5	**343 67** 100 235
	21,9	13,8	3,0 - 4,5		S=7,5-e		0,4	**343 67** 100 045
	23,5		4,5 - 6,0		S=9,1-e			**343 67** 100 060
M12	25,8	17,0	3,0 - 4,5	16,0	S=7,5-e	17,8	0,5	**343 67** 120 045
	27,4		4,5 - 6,0		S=9,1-e			**343 67** 120 060



Steel | Thin head | Knurled | Closed

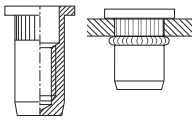
d (mm)	L (mm)	B (mm)	e (min - max) (mm)	Ø +0,1/0 (mm)	S (mm)	L2 (mm)	E max (mm)	
M3	12,6	5,8	0,7 - 1,5	5,0	S=2,0-e	10,2	0,3	**343 77** 030 015
	14,2		1,5 - 3,0		S=3,6-e			**343 77** 030 030
M4	17,7	6,7	0,5 - 3,0	6,0	S=4,9-e	12,8	0,3	**343 77** 040 030
	16,9	6,6	2,5 - 4,0		S=5,7-e	10,9		**343 77** 040 040
M5	19,85	8,0	0,5 - 3,0	7,0	S=5,3-e	14,5	0,3	**343 77** 050 030
	19,8	7,6	2,5 - 4,0		S=6,0-e	13,5		**343 77** 050 040
M6	21,3	10,0	0,5 - 3,0	9,0	S=5,0-e	16,0	0,6	**343 77** 060 031
	20,3	9,6	3,0 - 4,5		S=6,6-e	13,5	0,3	**343 77** 060 045
	21,9		4,5 - 6,0		S=7,3-e	13,6		**343 77** 060 060
M8	23,3	11,8	0,8 - 3,0	11,0	S=4,8-e	18,0	0,4	**343 77** 080 030
	26,3	12,0	1,0 - 4,0		S=7,4-e	19,0	0,8	**343 77** 080 040
	24,9	11,8	3,0 - 4,5		S=6,7-e	17,8	0,4	**343 77** 080 045
	26,5		4,5 - 6,0		S=8,3-e			**343 77** 080 060
M10	28,3	13,8	0,8 - 3,0	13,0	S=5,5-e	22,3	0,5	**343 77** 100 030
	29,9		3,0 - 4,5		S=7,1-e			**343 77** 100 045
	31,5		4,5 - 6,0		S=8,7-e			**343 77** 100 060
M12	33,2	16,8	0,8 - 3,0	16,0	S=11,5-e	21,1	0,5	**343 77** 120 030
	34,8	17,0	3,0 - 4,5		S=7,9-e	26,4		**343 77** 120 045
	36,4		4,5 - 6,0		S=9,6-e			**343 77** 120 060



RIVKLE® Plus 24H

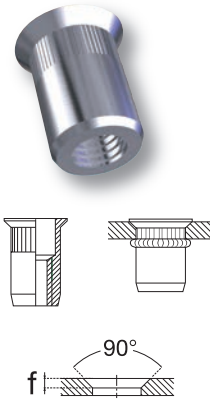
Steel | Flat head | Knurled | Open

d (mm)	L (mm)	B (mm)	e (min - max) (mm)	Ø +0,1/0 (mm)	S (mm)	L2 (mm)	E (mm)	
M3	8,8	7,0	0,50 - 1,00	5,0	S=2,0-e	5,8	1,0	**233 07** 030 100
	9,6		1,00 - 1,75		S=2,8-e	6,0		**233 07** 030 175
	10,4		1,75 - 2,50		S=3,4-e			**233 07** 030 250
	11,2		2,50 - 3,25		S=4,1-e	6,1		**233 07** 030 325
M4	11,0	9,0	0,50 - 3,00	6,0	S=4,3-e	5,8	1,0	24H **233 07** 040 230
	11,6	8,0	2,50 - 3,25		S=4,6-e	6,0		**233 07** 040 325
M5	12,75	10,0	0,50 - 3,00	7,0	S=4,7-e	7,3	1,0	24H **233 07** 050 230
	14,7		3,00 - 4,00		S=6,0-e	8,0		**233 07** 050 040
M6	14,3	13,0	0,50 - 3,00	9,0	S=5,0-e	8,0	1,5	24H **233 07** 060 230
	16,9		3,00 - 5,50		S=7,5-e	8,2		24H **233 07** 060 255
M8	17,7	16,0	0,50 - 3,00	11,0	S=5,5-e	11,0	1,5	24H **233 07** 080 230
	20,4		3,00 - 5,50		S=8,1-e			24H **233 07** 080 255
M10	21,8	19,0	0,70 - 3,50	13,0	S=6,1-e	13,9	2,0	24H **233 07** 100 235
	24,0	16,0	3,00 - 4,50		S=7,4-e	14,6		**233 07** 100 450
	25,6		4,50 - 6,00		S=8,9-e	14,5		**233 07** 100 600



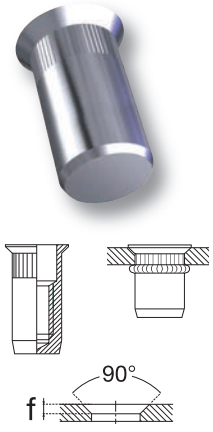
Steel | Flat head | Knurled | Closed

d (mm)	L (mm)	B (mm)	e (min - max) (mm)	Ø +0,1/0 (mm)	S (mm)	L2 (mm)	E (mm)	
M4	15,0	8,0	1,00 - 1,75	6,0	S=3,0-e	11,0	1,0	**233 27** 040 175
	15,8		1,75 - 2,50		S=3,5-e	11,3		**233 27** 040 250
	16,6		2,50 - 3,25		S=4,6-e	11,0		**233 27** 040 325
M5	17,6	9,0	0,50 - 1,00	7,0	S=2,0-e	14,6	1,0	**233 27** 050 100
	18,7		1,00 - 2,00		S=3,1-e			**233 27** 050 200
	19,8		2,00 - 3,00		S=4,2-e			**233 27** 050 300
	21,0		3,00 - 4,00		S=5,3-e	14,7		**233 27** 050 400
M6	21,5	13,0	0,50 - 3,00	9,1	S=4,5-e	15,0	1,5	**233 27** 060 030
	25,2	11,0	3,00 - 4,50	9,0	S=5,3-e	18,4		**233 27** 060 450
M8	26,5	14,0	2,00 - 3,50	11,0	S=5,5-e	19,5	1,5	**233 27** 080 350
	27,8		3,50 - 5,00		S=7,6-e	18,7		**233 27** 080 500
M10	30,8	16,0	1,00 - 1,50	13,0	S=4,5-e	25,0	2,0	**233 27** 100 150
	32,3		1,50 - 3,00		S=6,0-e			**233 27** 100 300
	37,5		4,50 - 6,00		S=9,0-e			**233 27** 100 600



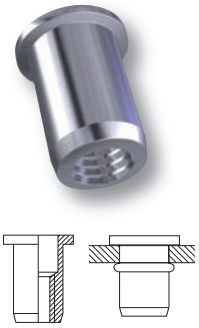
Steel | Countersunk head | Knurled | Open

d (mm)	L (mm)	B (mm)	e (min - max) (mm)	Ø +0,1/0 (mm)	f (mm)	S (mm)	L2 (mm)	E max (mm)	
M3	8,8	6,6	1,00 - 1,75	5,0	1,0	S=2,8-e	5,9	0,1	**233 17** 030 175
	9,6	7,0	1,75 - 2,50		1,2	S=3,5-e	6,0		**233 17** 030 250
	10,4		2,50 - 3,25			S=4,3-e			**233 17** 030 325
M4	9,2	8,0	1,00 - 1,75	6,0	1,0	S=2,8-e	6,3	0,1	**233 17** 040 175
	10,0		1,75 - 2,50		1,2	S=3,6-e			**233 17** 040 250
	10,8		2,50 - 3,25			S=4,3-e	6,4		**233 17** 040 325
M5	11,6	8,5	1,00 - 2,00	7,0	1,0	S=3,8-e	8,5	0,1	**233 17** 050 200
	12,7	9,0	1,50 - 3,00		1,4	S=3,8-e			**233 17** 050 300
	13,8		3,00 - 4,00			S=5,2-e			**233 17** 050 400
	14,9		4,00 - 5,00			S=6,3-e			**233 17** 050 500
M6	15,0	10,6	1,50 - 3,00	9,0	1,2	S=5,0-e	10,0	0,1	**233 17** 060 300
	16,6		3,00 - 4,50		1,5	S=6,5-e			**233 17** 060 450
	18,2		4,50 - 6,00			S=8,0-e			**233 17** 060 600
	19,8	11,0	6,00 - 7,50			S=9,4-e	10,3		**233 17** 060 750
M8	16,5	12,6	1,50 - 3,00	11,0	1,4	S=6,0-e	11,5	0,1	**233 17** 080 300
	18,1	13,6	3,00 - 4,50		2,0	S=7,5-e			**233 17** 080 450
	19,7	14,0	4,50 - 6,00			S=8,6-e	11,0		**233 17** 080 600
	21,3		6,00 - 7,50			S=10,5-e	11,5		**233 17** 080 750
M10	20,4	15,0	1,50 - 3,00	13,0	1,4	S=5,7-e	14,6	0,1	**233 17** 100 300
	22,0	16,0	3,00 - 4,50		2,0	S=7,3-e			**233 17** 100 450
	23,6		4,50 - 6,00			S=8,9-e			**233 17** 100 600



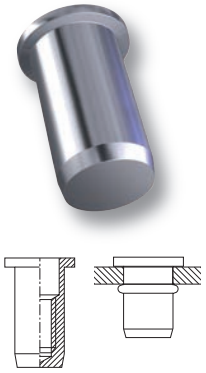
Steel | Countersunk head | Knurled | Closed

d (mm)	L (mm)	B (mm)	e (min - max) (mm)	Ø +0,1/0 (mm)	f (mm)	S (mm)	L2 (mm)	E max (mm)	
M4	14,2	8,0	1,00 - 1,75	6,0	1,0	S=2,8-e	11,3	0,1	**233 37** 040 175
	15,0		1,75 - 2,50		1,2	S=3,6-e			**233 37** 040 250
	15,8		2,50 - 3,25			S=4,7-e	11,5		**233 37** 040 325
M5	17,7	8,5	1,00 - 2,00	7,0	1,0	S=3,0-e	14,6	0,1	**233 37** 050 200
	18,8	9,0	2,00 - 3,00		1,4	S=4,1-e			**233 37** 050 300
	19,9		3,00 - 4,00		0,9	S=6,0-e			**233 37** 050 400
	21,0		3,00 - 5,00		1,4	S=6,3-e			**233 37** 050 500
M6	22,0	11,0	1,50 - 3,00	9,0	1,2	S=4,6-e	17,3	0,1	**233 37** 060 300
	23,6		3,00 - 4,50		1,5	S=6,2-e			**233 37** 060 450
	25,2		4,50 - 6,00			S=7,8-e			**233 37** 060 600
	26,8		6,00 - 7,50			S=9,4-e			**233 37** 060 750
M8	24,8	12,6	1,50 - 3,00	11,0	1,4	S=6,0-e	19,8	0,1	**233 37** 080 300
	26,4	14,0	3,00 - 4,50		2,0	S=7,0-e	19,3		**233 37** 080 450
	28,0		4,50 - 6,00			S=8,6-e			**233 37** 080 600
	29,6		6,00 - 7,50			S=10,2-e			**233 37** 080 750
M10	30,3	15,0	1,50 - 3,00	13,0	1,4	S=4,3-e	24,5	0,1	**233 37** 100 300
	31,9	16,0	3,00 - 4,50		2,0	S=5,3-e			**233 37** 100 450
	33,5		4,50 - 6,00			S=8,9-e			**233 37** 100 600



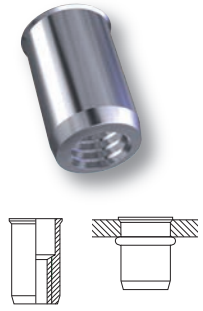
Steel | Flat head | Plain | Open

d (mm)	L (mm)	B (mm)	e (min - max) (mm)	Ø $^{+0,1}/_{0}$ (mm)	S (mm)	L_2 (mm)	E (mm)	
M3	8,3	7,5	0,5 - 1,0	5,0	S=2,1-e	5,2	1,0	**233 01** 030 010
	8,7		1,0 - 1,5		S=3,2-e	4,8		**233 01** 030 015
	9,7		1,5 - 3,0		S=4,2-e			**233 01** 030 030
	11,2		3,0 - 4,5		S=5,8-e	4,4		**233 01** 030 045
	12,9	7,4	4,5 - 6,0		S=7,2-e	4,7		**233 01** 030 060
M4	9,7	9,0	0,5 - 1,0	6,0	S=2,6-e	5,4	1,0	**233 01** 040 010
	10,2		1,0 - 2,0		S=3,6-e			**233 01** 040 020
	11,8		2,0 - 4,0		S=5,6-e	5,6		**233 01** 040 040
	13,8		4,0 - 6,0		S=7,5-e	5,3		**233 01** 040 060
M5	13,75	10,0	0,5 - 3,0	7,0	S=5,0-e	8,0	1,0	**233 01** 050 030
	16,7		3,0 - 5,5		S=7,5-e			**233 01** 050 055
	19,8		5,5 - 8,0		S=9,7-e	9,1		**233 01** 050 080
M6	15,8	13,0	0,5 - 3,0	9,0	S=5,2-e	10,0	1,5	**233 01** 060 030
	18,7		3,0 - 5,5		S=7,9-e	9,3		**233 01** 060 055
	21,7		5,5 - 8,0		S=10,2-e	10,0		**233 01** 060 080
M8	17,8	16,0	0,5 - 3,0	11,0	S=5,7-e	11,0	1,5	**233 01** 080 030
	20,8		3,0 - 5,5		S=8,2-e			**233 01** 080 055
	23,8		5,5 - 8,0		S=10,6-e	11,7		**233 01** 080 080
	26,8		8,0 - 10,5		S=13,5-e	11,8		**233 01** 080 105
M10	22,75	19,0	1,0 - 3,5	13,0	S=6,5-e	15,0	2,0	**233 01** 100 035
	25,75		3,5 - 6,0		S=9,0-e			**233 01** 100 060
	27,75		6,0 - 8,5		S=11,5-e			**233 01** 100 085
	31,8		8,5 - 11,0		S=14,0-e			**233 01** 100 110
M12	26,7	23,0	1,0 - 4,0	16,0	S=7,7-e	17,1	2,0	**233 01** 120 040
	29,7		4,0 - 7,0		S=10,7-e	17,5		**233 01** 120 070
	34,8		7,0 - 10,0		S=13,7-e			**233 01** 120 100
M14	35,5	24,0	4,5 - 6,0	18,0	S=9,8-e	23,2	2,5	**233 01** 140 600



Steel | Flat head | Plain | Closed

d (mm)	L (mm)	B (mm)	e (min - max) (mm)	Ø +0,1/0 (mm)	S (mm)	L2 (mm)	E (mm)	
M3	12,6	7,5	1,0 - 1,5	5,0	S=3,3-e	8,8	1,0	**233 21** 030 015
	14,3		1,5 - 3,0		S=4,1-e	9,2		**233 21** 030 030
	15,5		3,0 - 4,5		S=5,3-e			**233 21** 030 045
M4	15,25	9,0	1,0 - 2,0	6,0	S=5,2-e	10,4	1,0	**233 21** 040 020
	16,75		2,0 - 4,0		S=5,6-e			**233 21** 040 040
	18,8		4,0 - 6,0		S=7,6-e	10,3		**233 21** 040 060
M5	19,7	10,0	0,5 - 3,0	7,0	S=5,0-e	14,0	1,0	**233 21** 050 030
	22,7		3,0 - 5,5		S=7,5-e			**233 21** 050 055
	25,7		5,5 - 8,0		S=9,6-e	15,1		**233 21** 050 080
M6	22,7	13,0	0,5 - 3,0	9,0	S=4,9-e	16,3	1,5	**233 21** 060 030
	25,7		3,0 - 5,5		S=7,7-e	17,0		**233 21** 060 055
	28,7		5,5 - 8,0		S=10,2-e			**233 21** 060 080
M8	25,7	16,0	0,5 - 3,0	11,0	S=5,7-e	19,0	1,5	**233 21** 080 030
	28,7		3,0 - 5,5		S=8,2-e			**233 21** 080 055
	31,7		5,5 - 8,0		S=10,7-e			**233 21** 080 080
	34,8		8,0 - 10,5		S=12,9-e	20,4		**233 21** 080 105
M10	32,7	19,0	1,0 - 3,5	13,0	S=6,5-e	25,0	2,0	**233 21** 100 035
	35,8		3,5 - 6,0		S=8,4-e	25,4		**233 21** 100 060
	38,8		6,0 - 8,5		S=11,2-e	25,6		**233 21** 100 085
M12	38,8	23,0	1,0 - 4,0	16,0	S=7,2-e	29,6	2,0	**233 21** 120 040
	41,8		4,0 - 7,0		S=10,4-e	29,4		**233 21** 120 070

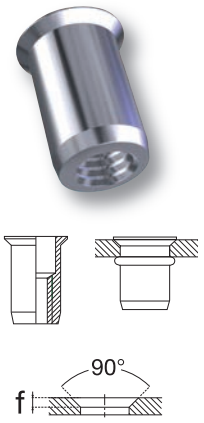


RIVKLE® Plus 24H

Steel | Thin head | Plain | Open

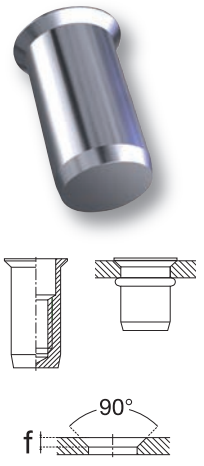
d (mm)	L (mm)	B (mm)	e (min - max) (mm)	Ø +0,1/0 (mm)	S (mm)	L2 (mm)	E max (mm)	
M3	8,4	5,2	0,5 - 1,5	4,7	S=2,8-e	5,5	0,4	**343 01** 030 150
M4	10,2	6,9	0,5 - 2,0	6,4	S=3,5-e	7,3	0,5	**343 01** 040 150
M5	11,25	7,6	0,5 - 3,0	7,1	S=4,5-e	7,3	0,6	**343 01** 050 150
M6	14,95	10,35	0,7 - 3,0	9,5	S=5,5-e	9,3	0,6	**343 01** 060 200
M8	16,6	11,5	0,8 - 4,5	10,5	S=7,5-e	9,6	0,7	**343 01** 080 450

inch For holes with imperial dimensions



Steel | Countersunk head | Plain | Open

d (mm)	L (mm)	B (mm)	e (min - max) (mm)	Ø +0,1/0 (mm)	f (mm)	S (mm)	L2 (mm)	E max (mm)	
M3	8,3	6,6	1,0 - 1,5	5,0	0,9	S=2,8-e	5,4	1,0	**233 11** 030 015
	8,8		1,5 - 3,0		1,3	S=4,3-e	4,8	1,4	**233 11** 030 030
	10,3		0,5 - 3,0			S=4,9-e	4,7		**233 11** 030 045
	11,9	7,0	1,0 - 1,5		1,4	S=6,3-e	4,8		**233 11** 030 060
M4	9,8	7,2	1,0 - 2,0	6,0	0,9	S=3,7-e	5,4	0,1	**233 11** 040 020
	10,4	7,8	2,0 - 3,0		1,3	S=4,7-e			**233 11** 040 030
	11,8		3,0 - 5,0			S=6,6-e			**233 11** 040 050
	13,8	8,0	5,0 - 7,0			S=8,4-e	5,3		**233 11** 040 070
M5	13,7	9,2	1,5 - 4,0	7,0	1,5	S=6,5-e	8,0	0,1	**233 11** 050 040
	16,7	9,6	4,0 - 6,5			S=8,1e	8,6		**233 11** 050 065
	19,8		6,5 - 9,0			S=10,7-e	9,0		**233 11** 050 090
M6	17,3	11,3	1,5 - 4,0	9,0	1,5	S=6,2-e	10,0	0,1	**233 11** 060 040
	20,3		4,0 - 6,5			S=8,7-e			**233 11** 060 065
	21,8	11,7	6,5 - 9,0			S=10,4-e	11,4		**233 11** 060 090
M8	17,8	13,1	1,5 - 4,0	11,0	1,5	S=7,0-e	11,0	0,1	**233 11** 080 040
	20,8		4,0 - 6,5			S=9,5-e			**233 11** 080 065
	23,75		6,5 - 9,0			S=12,0-e			**233 11** 080 090
M10	21,8	15,1	1,5 - 4,0	13,0	1,5	S=8,4-e	15,0	0,1	**233 11** 100 040
	24,75		4,0 - 6,5			S=8,4-e			**233 11** 100 065
	28,0	15,5	6,5 - 9,0			S=11,5-e	14,8		**233 11** 100 090
M12	25,9	19,0	1,7 - 4,5	16,0	1,7	S=8,2-e	17,5	0,1	**233 11** 120 045
	30,8		4,5 - 7,5			S=9,7-e			**233 11** 120 075
	31,8		7,5 - 10,5			S=13,7-e	18,0		**233 11** 120 105



Steel | Countersunk head | Plain | Closed

d (mm)	L (mm)	B (mm)	e (min - max) (mm)	Ø +0,1/0 (mm)	f (mm)	S (mm)	L2 (mm)	E max (mm)	
M3	13,5	6,6	1,0 - 1,5	5,0	0,9	S=2,8-e	10,0	0,1	**233 31** 030 015
	14,2	6,6	1,5 - 3,0		1,3	S=4,3-e	8,8		**233 31** 030 030
	14,3	7,0	3,0 - 4,5			S=5,8-e			**233 31** 030 045
	15,9		3,0 - 4,5		0,9	S=5,8-e	7,8		**233 31** 030 060
M4	15,8	7,5	1,0 - 2,0	6,0	0,9	S=2,8-e	11,9	0,1	**233 31** 040 020
	16,7	7,8	2,0 - 3,0		1,3	S=4,7-e	10,1		**233 31** 040 030
	18,2	8,0	3,0 - 5,0			S=6,3-e	10,4		**233 31** 040 050
	20,2		5,0 - 7,0			S=8,4-e	10,3		**233 31** 040 070
M5	21,3	9,2	1,5 - 4,0	7,0	1,5	S=6,5-e	14,0	0,1	**233 31** 050 040
	24,4	9,6	4,0 - 6,5			S=8,1-e	14,6		**233 31** 050 065
	25,9		6,5 - 9,0			S=10,7-e	15,1		**233 31** 050 090
M6	22,7	11,3	1,5 - 4,0	9,0	1,5	S=6,2-e	17,0	0,1	**233 31** 060 040
	27,3		4,0 - 6,5			S=8,7-e			**233 31** 060 065
	28,8	11,7	6,5 - 9,0			S=10,5-e	19,4		**233 31** 060 090
M8	25,7	13,1	1,5 - 4,0	11,0	1,5	S=7,0-e	19,0	0,1	**233 31** 080 040
	28,8		4,0 - 6,5			S=7,0-e			**233 31** 080 065
	31,8	13,5	6,5 - 9,0			S=11,3-e	20,4		**233 31** 080 090
M10	31,8	15,5	1,5 - 4,0	13,0	1,5	S=6,3-e	25,4	0,1	**233 31** 100 040
	34,0		4,0 - 6,5			S=8,9-e	25,8		**233 31** 100 065
	38,0		6,5 - 9,0			S=12,3-e			**233 31** 100 090
M12	37,8	19,0	1,7 - 4,5	16,0	1,7	S=7,2-e	30,5	0,1	**233 31** 120 045
	40,8		4,5 - 7,5			S=10,4e	30,3		**233 31** 120 075
	43,8		7,5 - 10,5			S=13,4-e			**233 31** 120 105

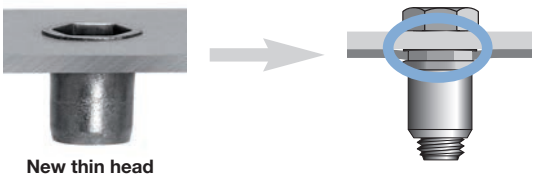
RIVKLE® – Stainless steel range

Introduction

Industrial markets are constantly changing, bringing new applications and new customer needs. Sealed or optimized product designs are more and more requested.
In order to support our customers and answer at best to their needs, BÖLLHOFF has renewed and developed a dedicated stainless steel range.

RIVKLE® Stainless steel - New thin head design

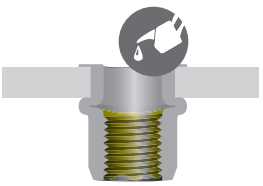
This new head design has been optimized to provide a minimum head projection and to reduce the gap between the 2 assembled parts.
See references page 24.



New thin head

RIVKLE® Stainless steel - Lubricated range

The lubricated range is based on standard products on which a lubricant has been applied to limit galling issues.
Customers don't need anymore to add manually any lubricant product (paste, spray, oil…).
See references pages 24, 25 and 27.



RIVKLE® Stainless steel - Studs

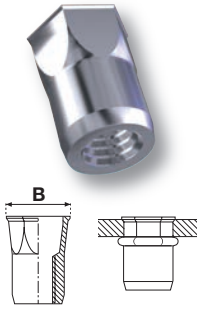
RIVKLE® stainless steel studs are already lubricated and provide additional functions:
- Alignment
- Pre-adjustment
- Screwing (nut) with one hand for the operator

See references page 45.

RIVKLE® Stainless steel - Plusnut

In order to diversify the Plusnut offer, dedicated stainless steel products have been designed. These blind rivet nuts increase the clamping area and reduce radial stresses during installation.
See page 39.

RIVKLE® – Blind rivet nuts - Stainless steel

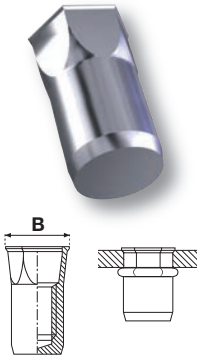


RIVKLE® Plus 24H

Stainless steel | Thin head | Semi-hexagonal | Open

d (mm)	L (mm)	B (mm)	e (min - max) (mm)	H +0,1/0 (mm)	S (mm)	L2 (mm)	E max (mm)		
M3	8,6	5,8	1,0 - 2,3	5,0	S=3,8-e	4,5	0,4	**343 98** 030 590	
	9,5		2,3 - 3,2		S=4,7-e			**343 98** 030 591	
M4	10,4	6,7	0,5 - 2,0	6,0	S=3,1-e	6,8	0,4	24H **343 48** 040 020*	**343 49** 040 506*
	11,5		0,8 - 3,0		S=4,2-e			**343 48** 040 030*	**343 49** 040 507*
	11,7	7,0	3,0 - 4,2		S=5,8-e	6,0		**343 98** 040 629*	
M5	12,0	7,8	0,5 - 3,0	7,0	S=4,4-e	7,0	0,45	24H **343 48** 050 020*	**343 49** 050 538*
	12,8	8,9	3,0 - 4,5		S=6,5-e	6,5	0,4	**343 98** 050 629	
M6	14,5	10,2	0,5 - 3,0	9,0	S=4,2-e	9,7	0,45	24H **343 48** 060 025	
	14,3	9,7					0,3	**343 98** 060 624*	**343 98** 060 637*
	16,5	10,2	3,0 - 5,5		S=7,4-e	8,7	0,45	**343 48** 060 055*	
	16,0	11,1	4,0 - 5,5		S=8,0-e	8,5	0,5	**343 98** 060 630	
M8	15,8	12,5	0,5 - 3,0	11,0	S=4,7-e	10,4		24H **343 48** 080 030*	**343 98** 080 631*
	17,6		1,5 - 5,0		S=7,0-e	10,2	0,3	**343 98** 080 625*	
M10	19,4	14,2	1,0 - 3,5	13,0	S=7,0-e	12,0	0,7	**343 48** 100 035	**343 49** 100 501
	21,5	14,4	2,5 - 5,5		S=9,1-e	12,5	0,65	**343 98** 100 691	
M12	23,5	17,4	1,0 - 4,5	16,0	S=8,5-e	15,0	0,7	**343 98** 120 501	

*New thin head design

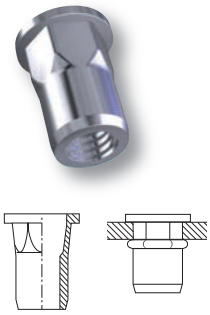


Stainless steel | Thin head | Semi-hexagonal | Closed

d (mm)	L (mm)	B (mm)	e (min - max) (mm)	H +0,1/0 (mm)	S (mm)	L2 (mm)	E max (mm)		
M3	13,3	5,8	1,0 - 2,3	5,0	S=3,8-e	9,0	0,4	**343 98** 030 592	
	14,2		2,3 - 3,2		S=4,7-e			**343 98** 030 593	
M4	15,4	6,7	0,5 - 2,5	6,0	S=3,8-e	11,5	0,4	**343 58** 040 025*	**343 59** 040 505*
	17,3	7,8	3,0 - 4,2		S=5,8-e			**343 98** 040 630	
M5	17,4	7,8	0,5 - 3,0	7,0	S=4,4-e	12,5	0,45	**343 58** 050 020*	**343 59** 050 505*
	20,3		3,0 - 4,5		S=6,5-e	13,4	0,5	**343 98** 050 683	
M6	20,5	9,8	0,5 - 3,0	9,0	S=4,1-e	15,0	0,6	**343 58** 060 030	
	22,5	10,2	1,0 - 3,5		S=4,8-e		0,3	**343 98** 060 628*	**343 98** 060 638*
	23,0		3,0 - 5,5		S=7,4-e	15,2	0,45	**343 58** 060 055*	
M8	26,6	12,5	1,5 - 5,0	11,0	S=7,0-e	19,0	0,3	**343 98** 080 629	
M10	29,3	15,6	1,0 - 3,5	13,0	S=7,0-e	22,0	0,65	**343 98** 100 692	
	31,3		2,5 - 5,5		S=9,0-e			**343 98** 100 693	
M12	34,0	18,9	1,0 - 4,5	16,0	S=8,5-e	26,4	0,7	**343 98** 120 502	

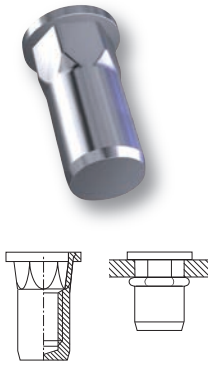
*New thin head design

Stainless steel | Flat head | Semi-hexagonal | Open

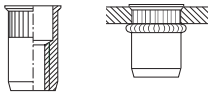


d (mm)	L (mm)	B (mm)	e (min - max) (mm)	H $^{+0,1}/_{0}$ (mm)	S (mm)	L_2 (mm)	E (mm)		
M3	9,0	7,0	1,0 - 2,3	5,0	S=3,1-e	5,0	0,7	**233 48** 030 023	
	9,7		2,3 - 3,0		S=4,5-e			**233 48** 030 030	
M4	12,0	9,0	0,5 - 2,0	6,0	S=3,5-e	5,4	1,0	**233 48** 040 020	
	12,1	8,0	2,0 - 3,5		S=5,5-e	6,0	0,7	**233 48** 040 040	
M5	12,5	10,0	0,5 - 3,0	7,0	S=4,7-e	5,4	1,0	**233 48** 050 030	**233 49** 050 531
	14,0	9,0	2,0 - 4,0		S=4,8-e	7,5		**233 48** 050 040	
M6	15,8	12,0	0,5 - 3,0	9,0	S=4,0-e	9,7	1,5	**233 48** 060 001	**233 49** 060 509
	16,0	11,0	3,0 - 4,5		S=7,1-e	9,0	1,4	**233 48** 060 045	
M8	16,5	14,0	0,5 - 3,0	11,0	S=5,4-e	9,6	1,5	**233 48** 080 001	**233 49** 080 546
	18,5		3,0 - 5,5		S=7,4-e			**233 48** 080 002	
M10	21,0	17,0	1,0 - 3,5	13,1	S=6,5-e	13,7	2,0	**233 48** 100 035	
	22,7	16,0	3,5 - 5,5	13,0	S=9,4-e	12,0	1,8	**233 48** 100 055	
M12	24,2	20,0	1,0 - 4,5	16,0	S=8,5-e	15,0	1,8	**233 48** 120 045	

Stainless steel | Flat head | Semi-hexagonal | Closed



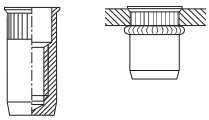
d (mm)	L (mm)	B (mm)	e (min - max) (mm)	H $^{+0,1}/_{0}$ (mm)	S (mm)	L_2 (mm)	E (mm)	
M3	12,7	7,0	1,1 - 2,3	5,0	S=3,8-e	9,2	0,7	**233 58** 030 023
	14,3		2,3 - 3,0		S=4,5-e	9,5		**233 58** 030 030
M4	15,5	8,0	0,5 - 2,0	6,0	S=3,8-e	11,5	0,8	**233 58** 040 020
	17,5		2,0 - 3,5		S=5,6-e			**233 58** 040 040
M5	19,6	9,0	0,5 - 3,0	7,0	S=5,0-e	12,5	1,0	**233 58** 050 001
	20,0		2,0 - 4,0		S=6,1-e	13,5	0,8	**233 58** 050 040
M6	22,3	12,0	0,5 - 3,0	9,1	S=4,0-e	15,5	1,5	**233 58** 060 030
	23,7	11,0	3,0 - 4,5	9,0	S=7,1-e		1,4	**233 58** 060 045
M8	26,1	14,0	0,8 - 3,0	11,0	S=5,3-e	19,5	1,5	**233 58** 080 001
	27,0		3,0 - 5,5		S=8,2-e	18,0	1,4	**233 58** 080 055
M10	31,5	16,0	1,0 - 3,5	13,0	S=7,4-e	27,5	1,8	**233 58** 100 035
	33,5		3,5 - 5,5		S=9,4-e			**233 58** 100 055
M12	35,0	20,0	1,0 - 4,5	16,0	S=8,5-e	29,5	1,8	**233 58** 120 045



RIVKLE® Plus 24H

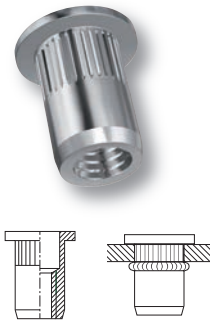
Stainless steel | Thin head | Knurled | Open

d (mm)	L (mm)	B (mm)	e (min - max) (mm)	Ø +0,1/0 (mm)	S (mm)	L2 (mm)	E max (mm)	
M3	8,7	6,0	0,7 - 1,5	5,0	S=2,4-e	5,9	0,3	**343 66** 030 015
	7,9		1,5 - 2,5		S=3,5-e			**343 66** 030 025
	10,5		2,0 - 3,2		S=4,6-e			**343 66** 030 032
M4	11,6	7,0	0,7 - 3,0	6,0	S=4,0-e	7,5	0,5	**343 66** 040 230
	12,5		2,5 - 4,2		S=4,6-e	6,6	0,3	**343 66** 040 042
M5	12,3	8,0	0,7 - 3,3	7,0	S=4,4-e	8,0	0,5	**343 66** 050 233
	14,5		3,3 - 4,5		S=6,3-e	8,2	0,3	**343 66** 050 045
M6	14,5	10,0	0,7 - 3,3	9,0	S=5,7-e	8,6	0,6	**343 66** 060 233
	17,5		3,0 - 5,5		S=7,5-e	9,6	0,45	**343 66** 060 055
	17,0		4,5 - 6,0		S=7,9-e	8,7	0,4	**343 66** 060 060
M8	16,1	12,0	0,7 - 3,3	11,0	S=6,5-e	9,5	0,6	**343 66** 080 233
	18,6		3,3 - 5,5		S=9,0-e	10,0		**343 66** 080 255
	19,1		4,5 - 6,0		S=7,9-e	10,7	0,4	**343 66** 080 060
M10	18,3	14,0	0,8 - 1,5	13,0	S=3,9-e	13,9	0,4	**343 66** 100 015
	19,9		1,5 - 3,0		S=5,5-e			**343 66** 100 030
	21,5		3,0 - 4,5		S=7,1-e			**343 66** 100 045
	23,1		4,5 - 6,0		S=8,7-e			**343 66** 100 060
M12	21,5	17,0	0,8 - 1,5	16,0	S=3,8-e	17,2	0,4	**343 66** 120 015
	23,1	17,5	1,5 - 3,0		S=5,4-e			**343 66** 120 030
	24,7		3,0 - 4,5		S=7,0-e			**343 66** 120 045
	26,3		4,5 - 6,0		S=8,6-e			**343 66** 120 060



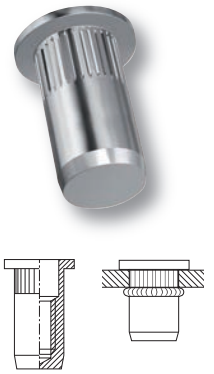
Stainless steel | Thin head | Knurled | Closed

d (mm)	L (mm)	B (mm)	e (min - max) (mm)	Ø +0,1/0 (mm)	S (mm)	L2 (mm)	E max (mm)	
M3	13,0	6,0	0,7 - 1,5	5,0	S=2,4-e	10,2	0,3	**343 76** 030 015
	14,1		1,5 - 2,5		S=3,5-e			**343 76** 030 025
	14,8		2,0 - 3,2		S=4,6-e			**343 76** 030 032
M4	15,7	7,0	0,7 - 3,0	6,0	S=3,8-e	12,0	0,5	**343 76** 040 030
	16,7		2,5 - 3,5		S=4,0-e	11,9	0,3	**343 76** 040 035
	17,5		2,5 - 4,2		S=4,7-e			**343 76** 040 042
M5	17,8	8,0	0,8 - 2,0	7,0	S=3,2-e	14,2	0,3	**343 76** 050 020
	18,9		2,0 - 3,0		S=4,3-e			**343 76** 050 030
	20,5		3,0 - 4,5		S=5,4-e			**343 76** 050 045
M6	17,3	10,0	0,8 - 1,5	9,0	S=3,1-e	13,7	0,4	**343 76** 060 015
	18,8		1,5 - 3,0		S=4,7-e	13,6		**343 76** 060 030
	20,4		3,0 - 4,5		S=6,3-e			**343 76** 060 045
	22,0		4,5 - 6,0		S=7,9-e			**343 76** 060 060
M8	20,3	12,0	1,5 - 3,0	11,0	S=3,1-e	16,7	0,4	**343 76** 080 015
	21,9		1,5 - 3,0		S=4,7-e			**343 76** 080 030
	23,5		3,0 - 4,5		S=6,3-e			**343 76** 080 045
	25,1		4,5 - 6,0		S=7,9-e			**343 76** 080 060
M10	26,3	14,0	0,8 - 1,5	13,0	S=3,9-e	21,9	0,4	**343 76** 100 015
	27,9		1,5 - 3,0		S=5,5-e			**343 76** 100 030
	29,5		3,0 - 4,5		S=7,1-e			**343 76** 100 045
	31,1		4,5 - 6,0		S=8,7-e			**343 76** 100 060
M12	30,5	17,0	0,8 - 1,5	16,0	S=3,8-e	26,2	0,4	**343 76** 120 015
	32,1	17,5	1,5 - 3,0		S=3,8-e			**343 76** 120 030
	33,7		3,0 - 4,5		S=7,0-e			**343 76** 120 045
	35,3		4,5 - 6,0		S=8,6-e			**343 76** 120 060



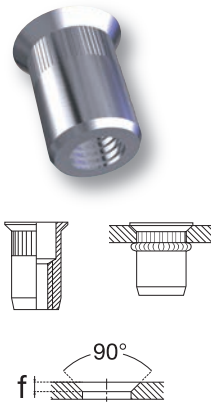
Stainless steel | Flat head | Knurled | Open

d (mm)	L (mm)	B (mm)	e (min - max) (mm)	Ø +0,1/0 (mm)	S (mm)	L2 (mm)	E (mm)		
M3	9,3	7,0	0,7 - 1,5	5,0	S=2,4-e	5,9	1,0	**233 06** 030 015	
	10,4		1,5 - 2,5		S=3,5-e			**233 06** 030 025	
	11,0		2,0 - 3,2		S=4,4-e			**233 06** 030 032	
M4	11,9	8,0	0,7 - 3,0	6,0	S=4,0-e	6,5	1,0	**233 06** 040 230	
	12,4		2,5 - 4,2		S=4,7-e	6,0		**233 06** 040 042	
M5	12,7	9,0	0,7 - 3,3	7,0	S=5,3-e	7,2	1,0	**233 06** 050 233	**233 09** 050 501
	14,9		2,5 - 4,5		S=5,4-e	7,8		**233 06** 050 045	
M6	15,2	12,0	0,7 - 3,3	9,0	S=5,7-e	8,6	1,5	**233 06** 060 233	**233 09** 060 501
	16,4	11,0	3,0 - 4,5		S=6,3-e			**233 06** 060 045	
	18,2		4,5 - 6,0		S=7,9-e			**233 06** 060 060	
M8	16,9	14,0	0,7 - 3,3	11,0	S=6,5-e	9,5	1,5	**233 06** 080 233	**233 09** 080 501
	19,0		3,0 - 5,5		S=8,5-e			**233 06** 080 255	
	20,0		4,5 - 6,0		S=7,9-e	10,6		**233 06** 080 060	
M10	19,8	16,0	0,8 - 1,5	13,0	S=3,9-e	13,9	2,0	**233 06** 100 015	
	21,4		1,5 - 3,0		S=5,5-e			**233 06** 100 030	
	23,0		3,0 - 4,5		S=7,1-e			**233 06** 100 045	
	24,6		4,5 - 6,0		S=8,7-e			**233 06** 100 060	
M12	23,0	20,0	0,8 - 1,5	16,0	S=3,8-e	17,2	2,0	**233 06** 120 015	
	24,6		1,5 - 3,0		S=5,4-e			**233 06** 120 030	
	26,2		3,0 - 4,5		S=7,0-e			**233 06** 120 045	
	27,8		4,5 - 6,0		S=8,6-e			**233 06** 120 060	



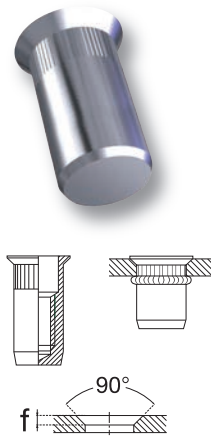
Stainless steel | Flat head | Knurled | Closed

d (mm)	L (mm)	B (mm)	e (min - max) (mm)	Ø +0,1/0 (mm)	S (mm)	L2 (mm)	E (mm)	
M3	13,6	7,0	0,7 - 1,5	5,0	S=2,4-e	10,2	1,0	**233 26** 030 015
	14,7		1,5 - 2,5		S=3,5-e			**233 26** 030 025
	15,4		2,3 - 3,2		S=4,4-e	10,1		**233 26** 030 032
M4	14,8	8,0	0,7 - 1,5	6,0	S=2,6-e	11,2	1,0	**233 26** 040 015
	16,2		0,7 - 3,0		S=4,8-e			**233 26** 040 030
	16,7		2,5 - 3,5		S=4,7-e			**233 26** 040 035
	17,5		2,5 - 4,2		S=5,5-e			**233 26** 040 042
M5	17,8	9,0	0,7 - 1,5	7,0	S=2,8-e	14,0	1,0	**233 26** 050 015
	19,3		1,5 - 3,0		S=4,5-e			**233 26** 050 030
	20,4		3,0 - 4,0		S=5,6-e	13,8		**233 26** 050 040
M6	18,3	11,0	0,8 - 1,5	9,0	S=3,1-e	13,7	1,5	**233 26** 060 015
	19,8		1,5 - 3,0		S=4,7-e			**233 26** 060 030
	21,4		3,0 - 4,5		S=6,3-e			**233 26** 060 045
	23,2		4,5 - 6,0		S=7,9-e			**233 26** 060 060
M8	21,3	14,0	0,8 - 1,5	11,0	S=3,2-e	16,6	1,5	**233 26** 080 015
	22,8		1,5 - 3,0		S=4,7-e			**233 26** 080 030
	24,4		3,0 - 4,5		S=6,3-e			**233 26** 080 045
	26,0		4,5 - 6,0		S=7,9-e			**233 26** 080 060
M10	27,8	16,0	0,8 - 1,5	13,0	S=3,9-e	21,9	2,0	**233 26** 100 015
	29,4		1,5 - 3,0		S=5,5-e			**233 26** 100 030
	31,0		3,0 - 4,5		S=7,1-e			**233 26** 100 045
	32,6		4,5 - 6,0		S=8,7-e			**233 26** 100 060
M12	32,0	20,0	0,8 - 1,5	16,0	S=3,8-e	26,2	2,0	**233 26** 120 015
	33,6		1,5 - 3,0		S=5,4-e			**233 26** 120 030
	35,2		3,0 - 4,5		S=7,0-e			**233 26** 120 045
	36,8		4,5 - 6,0		S=8,6-e			**233 26** 120 060



Stainless steel | Countersunk head | Knurled | Open

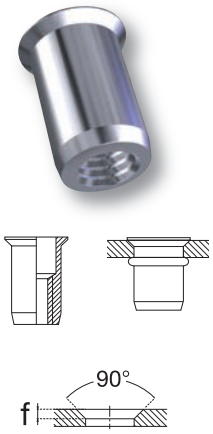
d (mm)	L (mm)	B (mm)	e (min - max) (mm)	Ø +0,1/0 (mm)	f (mm)	S (mm)	L2 (mm)	E max (mm)	
M3	8,8	7,0	1,3 - 2,0	5,0	0,9	S=2,9-e	5,9	0,1	**233 16** 030 020
	9,9		2,0 - 3,0			S=4,0-e			**233 16** 030 030
M4	9,3	8,0	1,3 - 2,0	6,0	0,9	S=3,1-e	6,2	0,1	**233 16** 040 020
	10,3		2,0 - 3,0			S=4,1-e			**233 16** 040 030
	11,4		3,0 - 4,0			S=6,5-e			**233 16** 040 040
M5	11,3	9,0	1,5 - 2,0	7,0	0,9	S=3,4-e	7,8	0,1	**233 16** 050 020
	12,3		2,0 - 3,0			S=4,5-e			**233 16** 050 030
	13,4		3,0 - 4,0			S=5,6-e			**233 16** 050 040
M6	14,3	10,6	1,5 - 4,0	9,0	0,9	S=4,7-e	8,6	0,1	**233 16** 060 400
	15,4	11,0	4,0 - 5,0			S=6,9-e			**233 16** 060 050
	16,5		5,0 - 6,0			S=8,0-e			**233 16** 060 060
M8	15,3	14,0	1,5 - 3,0	11,0	1,4	S=4,7-e	10,6	0,1	**233 16** 080 030
	16,3		3,0 - 4,0			S=5,8-e			**233 16** 080 040
	17,4		4,0 - 5,0			S=6,9-e			**233 16** 080 050
	18,5		5,0 - 6,0			S=8,0-e			**233 16** 080 060
M10	19,4	16,0	1,5 - 3,0	13,0	1,4	S=5,5-e	13,9	0,1	**233 16** 100 030
	21,0		3,0 - 4,5			S=7,1-e			**233 16** 100 045
	22,6		4,5 - 6,0			S=8,7-e			**233 16** 100 060
M12	22,6	19,0	1,5 - 3,0	16,0	1,4	S=5,4-e	17,2	0,1	**233 16** 120 030
	24,2		3,0 - 4,5			S=7,0-e			**233 16** 120 045
	25,8		4,5 - 6,0			S=8,6-e			**233 16** 120 060



Stainless steel | Countersunk head | Knurled | Closed

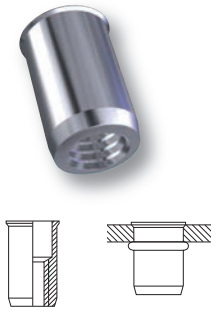
d (mm)	L (mm)	B (mm)	e (min - max) (mm)	Ø +0,1/0 (mm)	f (mm)	S (mm)	L2 (mm)	E max (mm)	
M3	13,1	7,0	1,3 - 2,0	5,0	0,9	S=2,9-e	10,2	0,1	**233 36** 030 020
	14,2		2,0 - 3,0			S=4,0-e			**233 36** 030 030
M4	14,3	8,0	1,3 - 2,0	6,0	0,9	S=3,1-e	11,2	0,1	**233 36** 040 020
	15,3		2,0 - 3,0			S=4,1-e			**233 36** 040 030
	16,4		3,0 - 4,0			S=6,5-e			**233 36** 040 040
M5	17,3	9,0	1,5 - 2,0	7,0	0,9	S=3,4-e	13,9	0,1	**233 36** 050 020
	18,3		2,0 - 3,0			S=4,5-e			**233 36** 050 030
	19,4		3,0 - 4,0			S=5,6-e			**233 36** 050 040
M6	18,3	11,0	1,5 - 3,0	9,0	0,9	S=4,7-e	13,6	0,1	**233 36** 060 030
	19,3		3,0 - 4,0			S=5,8-e			**233 36** 060 040
	20,4		4,0 - 5,0			S=6,9-e			**233 36** 060 050
	21,5		5,0 - 6,0			S=8,0-e			**233 36** 060 060
M8	21,3	14,0	1,5 - 3,0	11,0	1,4	S=4,8-e	16,5	0,1	**233 36** 080 030
	22,3		3,0 - 4,0			S=5,8-e			**233 36** 080 040
	23,4		4,0 - 5,0			S=6,9-e			**233 36** 080 050
	24,5		5,0 - 6,0			S=8,0-e			**233 36** 080 060
M10	27,4	16,0	1,5 - 3,0	13,0	1,4	S=5,5-e	21,9	0,1	**233 36** 100 030
	29,0		3,0 - 4,5			S=7,1-e			**233 36** 100 045
	30,6		4,5 - 6,0			S=8,7-e			**233 36** 100 060
M12	31,6	19,0	1,5 - 3,0	16,0	1,4	S=5,4-e	26,2	0,1	**233 36** 120 030
	33,2		3,0 - 4,5			S=7,0-e			**233 36** 120 045
	34,8		4,5 - 6,0			S=7,0-e			**233 36** 120 060

Stainless steel | Countersunk head | Plain | Open



d (mm)	L (mm)	B (mm)	e (min - max) (mm)	Ø +0,1/0 (mm)	f (mm)	S (mm)	L2 (mm)	E max (mm)	
M4	11,3	7,6	1,30 - 2,50	6,0	1,3	S=4,4-e	6,8	0,1	**233 18** 040 250
	10,8	8,0	1,75 - 3,25			S=5,3-e	5,4		**233 18** 040 325
M5	12,5	9,2	1,50 - 3,00	7,0	1,5	S=4,0-e	8,5	0,1	**233 18** 050 300
	13,8	9,6	3,00 - 4,00			S=5,4-e	8,4		**233 18** 050 400
M6	14,8	11,3	1,50 - 3,00	9,0	1,5	S=4,9-e	9,5	0,1	**233 18** 060 300
	16,6	11,5	3,00 - 4,50			S=7,1-e	9,4		**233 18** 060 450
	18,0		4,50 - 6,00			S=5,4-e	11,2		**233 18** 060 600
M8	16,3	13,1	1,50 - 3,00	11,0	1,5	S=5,0-e	10,5	0,1	**233 18** 080 300
	18,1	13,5	3,00 - 4,50			S=5,9-e	11,1		**233 18** 080 450
	19,7		4,50 - 6,00			S=8,2-e	11,4		**233 18** 080 600
M10	20,2	15,5	1,50 - 3,00	13,0	1,5	S=5,2-e	14,7	0,1	**233 18** 100 300
	21,8		3,00 - 4,50			S=7,1-e			**233 18** 100 450
	23,4		4,50 - 6,00			S=8,7-e			**233 18** 100 600

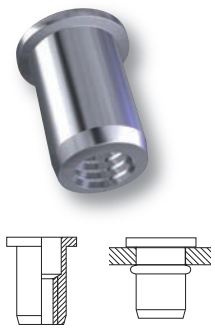
Stainless steel | Thin head | Plain | Open



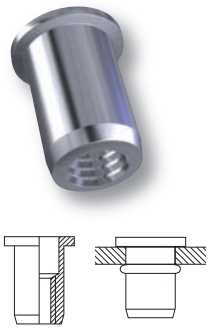
d (mm)	L (mm)	B (mm)	e (min - max) (mm)	Ø +0,1/0 (mm)	S (mm)	L2 (mm)	E max (mm)	
M3	8,8	5,3	0,5 - 1,5	4,7	S=2,8-e	5,5	0,4	**343 08** 030 150
M4	10,4	7,0	0,5 - 2,0	6,4	S=3,5-e	7,3	0,5	**343 08** 040 200
M5	11,6	7,7	0,5 - 3,0	7,1	S=5,0-e	7,3	0,6	**343 08** 050 300
M6	14,3	10,2	0,7 - 3,0	9,5	S=5,5-e	9,3	0,6	**343 08** 060 300
M8	16,35	11,3	0,7 - 3,0	10,5	S=6,1-e	10,5	0,7	**343 08** 080 300

inch For holes with imperial dimensions

Stainless steel | Flat head | Plain | Open

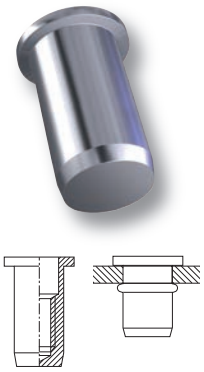


d (mm)	L (mm)	B (mm)	e (min - max) (mm)	Ø +0,1/0 (mm)	S (mm)	L2 (mm)	E (mm)	
M4	12,0	9,0	0,5 - 2,0	6,0	S=3,5-e	7,8	1,0	**233 08** 040 020
	13,5		2,0 - 3,5		S=5,2-e			**233 08** 040 035
M5	12,5	10,0	0,5 - 3,0	7,0	S=4,7-e		1,0	**233 08** 050 030
	14,3	9,0	3,0 - 4,0		S=5,6-e	7,7		**233 08** 050 400
M6	16,0	12,0	0,5 - 3,0	9,0	S=6,0-e	10,0	1,5	**233 08** 060 300
	18,0		3,0 - 5,0		S=7,75-e	7,8		**233 08** 060 450
M8	16,5	14,0	0,8 - 3,0	11,0	S=4,7-e	9,5	1,5	**233 08** 080 300
	19,4		3,0 - 4,5		S=7,0-e	10,9		**233 08** 080 450
M10	22,4	16,0	1,0 - 3,0	13,0	S=5,6-e	14,9	2,0	**233 08** 100 300
	24,0		3,0 - 4,5		S=7,2-e	15,1		**233 08** 100 450
	25,6		4,5 - 6,0		S=8,8-e	14,9		**233 08** 100 600



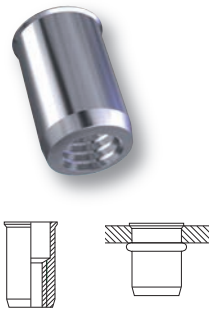
Stainless steel A4 | Flat head | Plain | Open

D (mm)	L (mm)	B (mm)	e (min - max) (mm)	Ø +0,1/0 (mm)	(N)	L2 max (mm)	E (mm)	
M4	12,0	9,0	0,5 - 2,0	6,0	9 500	7,5	1,0	**233 04** 040 020
M5	12,5	10,0	0,5 - 3,0	7,0	12 000	7,5		**233 04** 050 030
M6	16,0	12,0		9,0	15 000	10,0	1,5	**233 04** 060 030
M8	17,5	15,0		11,0	20 000	11,2		**233 04** 080 030



Stainless steel A4 | Flat head | Plain | Closed

D (mm)	L (mm)	B (mm)	e (min - max) (mm)	Ø +0,1/0 (mm)	(N)	L2 max (mm)	E (mm)	
M4	16,0	9,0	0,5 - 2,0	6,0	9 500	11,5	1,0	**233 24** 040 020
M5	18,5	10,0	0,5 - 3,0	7,0	12 000	13,2		**233 24** 050 030
M6	23,0	12,0		9,0	15 000	17,0	1,5	**233 24** 060 030
M8	25,0	15,0		11,0	20 000	18,7		**233 24** 080 030

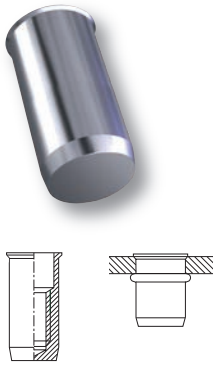


Stainless steel A4 | Thin head | Plain | Open

D (mm)	L (mm)	B (mm)	e (min - max) (mm)	Ø +0,1/0 (mm)	(N)	L2 max (mm)	E max (mm)	
M5	12,0	7,5	0,5 - 3,0	7,0	12 000	7,2	0,4	**343 64** 050 030
M6	14,5	9,5		9,0	15 000	9,4		**343 64** 060 030
M8	16,0	11,5		11,0	20 000	11,2		**343 64** 080 030

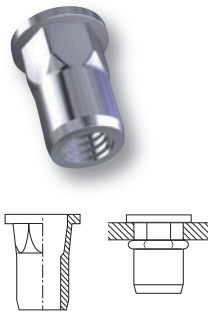
Range dedicated to industry use. In case of non metalic support, please contact us

Stainless steel A4 | Thin head | Plain | Closed



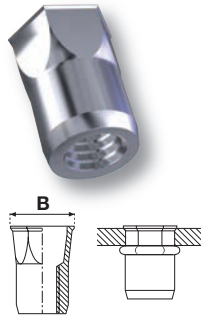
D (mm)	L (mm)	B (mm)	e (min - max) (mm)	Ø +0,1/0 (mm)	(N)	L2 max (mm)	E max (mm)	
M4	15,5	6,5	0,5 - 2,0	6,0	9 500	11,6	0,5	**343 74** 040 020
M5	18,0	7,5	0,5 - 3,0	7,0	12 000	13,2		**343 74** 050 030
M6	21,5	9,5		9,0	15 000	16,7		**343 74** 060 030
M8	24,0	11,5		11,0	20 000	19,2		**343 74** 080 030

Stainless steel A4 | Flat head | Semi-hexagonal | Open



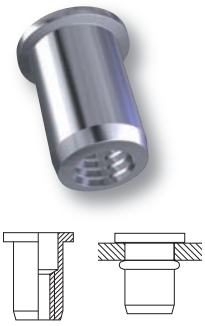
D (mm)	L (mm)	B (mm)	e (min - max) (mm)	H +0,1/0 (mm)	(N)	L2 max (mm)	E (mm)	
M4	11,0	9,0	0,5 - 2,0	6,0	9 500	7,5	1,0	**233 44** 040 020
M5	12,5	10,0	0,5 - 3,0	7,0	12 000	7,2		**233 44** 050 030
M6	16,0	12,0		9,0	15 000	9,3	1,5	**233 44** 060 030
M8	17,5	15,0		11,0	20 000	11,0		**233 44** 080 030

Stainless steel A4 | Thin head | Semi-hexagonal | Open



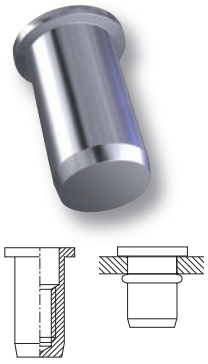
D (mm)	L (mm)	B (mm)	e (min - max) (mm)	H +0,1/0 (mm)	(N)	L2 max (mm)	E max (mm)	
M4	11,0	6,5	0,5 - 2,0	6,0	9 500	7,5	0,5	**343 44** 040 020
M5	12,0	7,5	0,5 - 3,0	7,0	12 000	7,2		**343 44** 050 030
M6	14,5	9,5		9,0	15 000	9,3		**343 44** 060 030
M8	16,0	11,5		11,0	20 000	11,0		**343 44** 080 030

Range dedicated to industry use. In case of non metalic support, please contact us



Aluminium | Flat head | Plain | Open

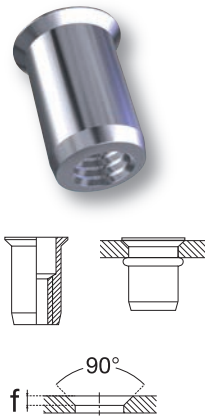
d (mm)	L (mm)	B (mm)	e (min - max) (mm)	Ø +0,1/0 (mm)	S (mm)	L2 (mm)	E (mm)	
M3	10,5	8,0	0,50 - 2,00	5,0	S=3,2-e	5,4	0,75	**233 00** 030 020
	10,75	7,5	2,00 - 3,50		S=4,3-e		1,0	**233 00** 030 035
M4	11,0	9,0	0,25 - 2,50	6,0	S=4,1-e	6,3	1,0	**233 00** 040 025
	13,0	10,0	3,00 - 4,50		S=5,9-e	6,4	0,75	**233 00** 040 046
M5	13,6	10,0	0,50 - 3,00	7,0	S=4,5-e	7,8	1,0	**233 00** 050 030
	16,0	11,0	3,00 - 5,50		S=6,7-e	8,3		**233 00** 050 056
M6	16,6	13,0	0,50 - 3,00	9,0	S=5,0-e	10,4	1,5	**233 00** 060 030
	18,0		3,00 - 5,50		S=6,8-e	9,7		**233 00** 060 056
M8	20,0	16,0	0,50 - 3,00	11,0	S=5,8-e	12,7	1,5	**233 00** 080 030
	20,0		3,00 - 5,50		S=7,2-e	11,3		**233 00** 080 056
M10	25,0	19,0	0,80 - 3,50	13,0	S=6,2-e	16,8	2,0	**233 00** 100 035
	27,7		3,50 - 6,00		S=8,7-e	17,0		**233 00** 100 060



Aluminium | Flat head | Plain | Closed

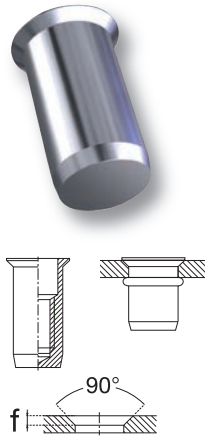
d (mm)	L (mm)	B (mm)	e (min - max) (mm)	Ø +0,1/0 (mm)	S (mm)	L2 (mm)	E (mm)	
M3	13,5	7,5	0,25 - 2,00	5,0	S=3,0-e	9,3	1,0	**233 20** 030 020
	15,1		2,00 - 3,50		S=4,3-e	9,8		**233 20** 030 035
M4	15,5	10,0	0,50 - 3,00	6,0	S=4,0-e	10,8	0,75	**233 20** 040 030
	18,1	9,0	2,50 - 4,50		S=5,6-e	11,5	1,0	**233 20** 040 045
M5	19,0	11,0	0,50 - 3,00	7,0	S=4,5-e	13,5	1,0	**233 20** 050 031
	21,9	10,0	3,00 - 5,50		S=6,9-e	14,0		**233 20** 050 055
M6	23,0	13,0	0,50 - 3,00	9,0	S=4,5-e	17,3	1,5	**233 20** 060 031
	26,3		3,00 - 5,50		S=7,7-e	17,1		**233 20** 060 055
M8	24,0	16,0	0,50 - 3,00	11,0	S=4,5-e	18,0	1,5	**233 20** 080 031
	31,0		3,00 - 5,50		S=8,5-e	21,0		**233 20** 080 055
M10	37,5	19,0	3,50 - 6,00	13,0	S=9,0-e	26,5	2,0	**233 20** 100 060

Aluminium | Countersunk head | Plain | Open



d (mm)	L (mm)	B (mm)	e (min - max) (mm)	Ø +0,1/0 (mm)	f (mm)	S (mm)	L2 (mm)	E max (mm)	
M3	10,2	7,2	1,3 - 3,5	5,0	1,3	S=4,0-e	6,1	0,1	**233 10** 030 035
	11,8		3,5 - 5,0			S=6,0-e	5,7		**233 10** 030 050
M4	11,5	9,0	1,7 - 3,5	6,0	1,5	S=4,4-e	6,7	0,1	**233 10** 040 036
	12,8	8,2	3,5 - 5,0		1,3	S=6,0-e			**233 10** 040 050
M5	13,0	10,0	1,0 - 4,0	7,0	0,9	S=5,5-e	7,8	0,1	**233 10** 050 040
	16,3	9,6	4,0 - 6,5		1,5	S=7,7-e	8,5		**233 10** 050 065
M6	17,0	12,0	1,7 - 4,5	9,0	1,5	S=6,3-e	10,4	0,1	**233 10** 060 046
	18,7	11,7	4,5 - 6,5			S=8,7-e	9,9		**233 10** 060 065
M8	19,0	14,0	1,7 - 4,5	11,0	1,5	S=7,5-e	12,7	0,1	**233 10** 080 046
	22,2	13,5	4,5 - 6,5			S=9,3-e	12,8		**233 10** 080 065
M10	21,0	15,4	1,7 - 4,5	12,5	1,5	S=7,5-e	13,2	0,1	**233 10** 100 046
	26,1	15,5	4,5 - 6,5	13,0		S=10,4-e	17,0		**233 10** 100 065

Aluminium | Countersunk head | Plain | Closed

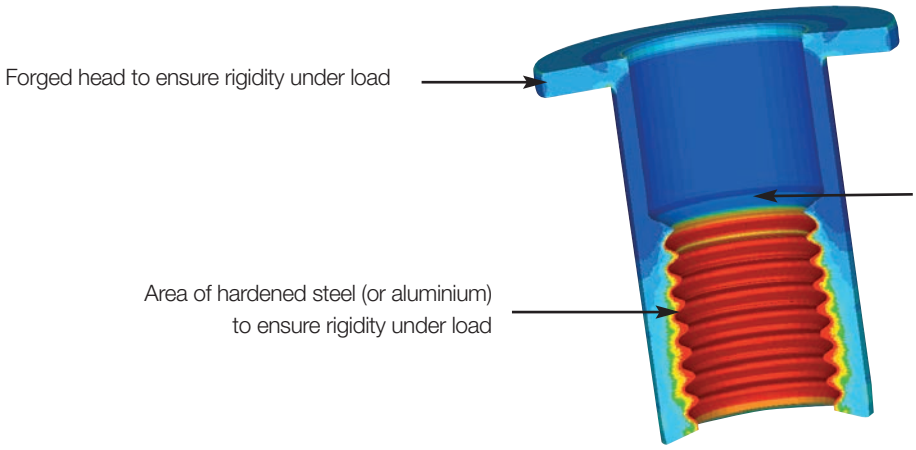


d (mm)	L (mm)	B (mm)	e (min - max) (mm)	Ø +0,1/0 (mm)	f (mm)	S (mm)	L2 (mm)	E max (mm)	
M3	14,1	7,2	1,5 - 3,5	5,0	1,3	S=4,0-e	10,0	0,1	**233 30** 030 035
	15,7		3,5 - 5,0			S=6,0-e	9,5		**233 30** 030 050
M4	17,7	8,2	1,5 - 3,5	6,0	1,3	S=4,6-e	11,6	0,1	**233 30** 040 035
	19,3		3,5 - 5,0			S=6,0-e	11,8		**233 30** 040 050
M5	19,4	9,6	1,5 - 4,5	7,0	1,5	S=5,7-e	13,6	0,1	**233 30** 050 045
M6	25,2	11,7	1,5 - 4,5	9,0	1,5	S=6,5-e	17,0	0,1	**233 30** 060 045
	27,3		4,5 - 6,5			S=8,6-e			**233 30** 060 065
M8	30,0	13,5	1,5 - 4,5	11,0	1,5	S=6,9-e	21,4	0,1	**233 30** 080 045
	32,1		4,5 - 6,5			S=9,1-e	21,3		**233 30** 080 065
M10	33,9	15,5	1,5 - 4,5	13,0	1,5	S=7,5-e	26,5	0,1	**233 30** 100 045
	36,0		4,5 - 6,5			S=9,5-e			**233 30** 100 065

RIVKLE® HRT – High Resistance Thread

Advantages:

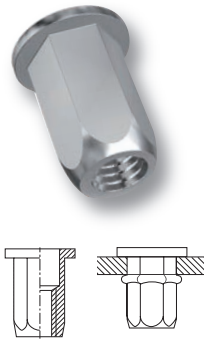
- Increased tightening torque enables increased preload in the joint
- Allows the use of smaller diameter thread
- Weight saving
- Corrosion resistance (for aluminium versions)
- Ability to completely recycle products (for aluminium versions)



	Ø				HRT
		10.9 (ISO 898-1)	10 (ISO 898-2)		
Steel 10.9	**M6**	16 700 N	20 900 N	◀▶	20 900 N
	M8	30 400 N	38 100 N	◀▶	38 100 N
	M10	48 100 N	60 300 N	◀▶	60 300 N
	M12	70 000 N	88 500 N	◀▶	88 500 N
		12.9 (ISO 898-1)	12 (ISO 898-2)		
Steel 12.9	**M6**	19 500 N	23 100 N	◀▶	23 100 N
	M8	35 500 N	42 500 N	◀▶	42 500 N
	M10	56 300 N	67 300 N	◀▶	67 300 N
	M12	81 800 N	100 300 N	◀▶	100 300 N
		8.8 (ISO 898-1)	8 (ISO 898-2)		
Aluminium	**M5**	8 230 N	12 140 N	◀▶	12 140 N
	M6	11 600 N	17 200 N	◀▶	17 200 N
	M8	21 200 N	31 800 N	◀▶	31 800 N

The required setting force is dependent upon the screw assembly method (elastic or over elastic).
In order to avoid any setting of the RIVKLE® HRT during screw assembly, we recommend to apply a setting load in accordance to the preload of the screw.
Please ask Böllhoff in case you need any assistance.

RIVKLE® HRT - Steel



Steel HRT | Flat head | Hexagonal | Open

d (mm)	L (mm)	B (mm)	e (min - max) (mm)	H +0,1/0 (mm)	S (mm)	L2 (mm)	E (mm)		10.9	12.9
M6	20,0	14,0	1,0 - 3,0	9,0	S=6,5-e	13,0	1,5	**232 91** 060 502	✓	-
M8	23,6	17,0	1,0 - 3,0	11,0	S=6,3-e	16,0	1,5	**232 91** 080 504	✓	-
	26,6		3,0 - 6,0		S=9,6-e			**232 49** 080 502	✓	✓
M10	27,0	20,0	1,0 - 3,5	13,0	S=8,7-e	17,5	2,0	**232 91** 100 503	✓	✓
	28,5	24,0	2,0 - 5,0		S=9,5-e	18,0		**232 91** 100 501	✓	✓
M12x1,5	33,0	27,0	1,0 - 4,0	16,0	S=10,5-e	22,0	2,0	**232 91** 124 501	✓	✓

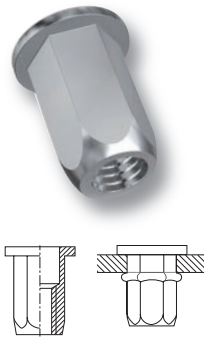
A wide range of plating finishes are available. Other configurations are available upon request.

Setting forces

		10.9	12.9
M6	**232 91** 060 502	14 000	–
M8	**232 91** 080 504	24 000	–
	232 49 080 502	24 000	27 000
M10	**232 91** 100 503	38 000	42 000
	232 91 100 501	38 000	42 000
M12x1,5	**232 91** 124 501	55 000	61 000

According to assembly conditions, these setting forces can be reduced. Please contact BÖLLHOFF.

RIVKLE® HRT - Aluminum



Aluminium HRT | Flat head | Hexagonal | Open

D (mm)	L (mm)	B (mm)	e (min - max) (mm)	H +0,1/0 (mm)	S (mm)	L2 max (mm)	E max (mm)		8.8
M5	18,1	14,0	0,5 - 3,0	9,0	S=6,5-e	11,0	1,0	**232 90** 050 501	✓
M6	18,6	14,0	0,5 - 3,0	9,0	S=6,8-e	11,5	1,5	**232 40** 060 030	✓
M8	23,6	17,0	0,5 - 3,5	11,0	S=7,0-e	15,5	1,5	**232 40** 080 030	✓

Optimized for aluminium and magnesium workpieces.
Weight saving and corrosion resistant solutions for external applications.

Setting forces

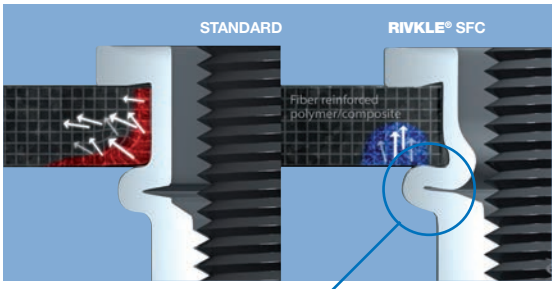
		8.8
M5	**232 90** 050 501	12 000
M6	**232 40** 060 030	12 000
M8	**232 40** 080 030	18 000

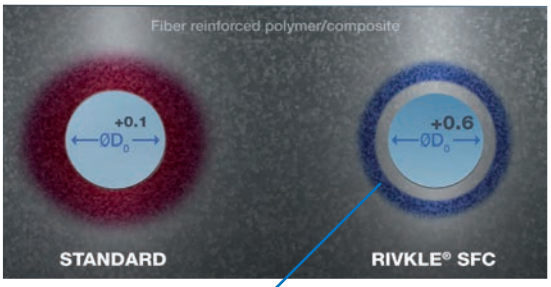
According to assembly conditions, these setting forces can be reduced. Please contact BÖLLHOFF.

RIVKLE® SFC – Smart For Composite

Advantages:

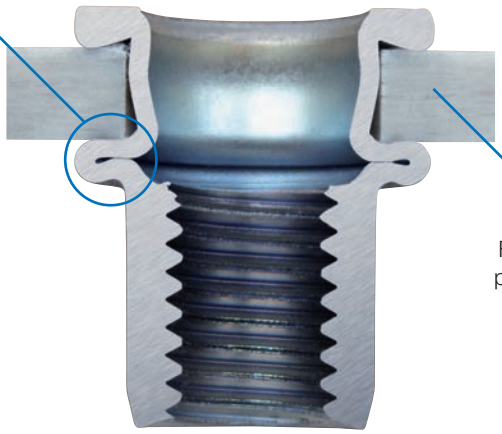
- No delamination risks (due to the fastener)
- Reduction of crack risk at injection welding line
- Possible reduction of distance to edge
- Larger hole tolerance
- Allows off axis setting





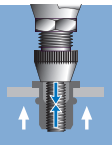
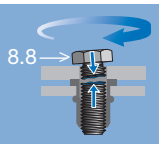
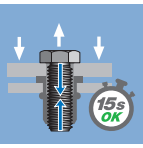
Unique buldge

Clamp load is uniformly distributed around the hole



Fiber-reinforced polymer material

RIVKLE® SFC sectional view

Ø			
M6	12 000 N	RIVKLE® reusable*	15 000 N
M8	18 000 N	RIVKLE® reusable*	27 000 N
Similar performance to standard RIVKLE®			

*__RIVKLE®__ is more resistant than screw property class 8.8

RIVKLE® SFC - Steel

Steel

D (mm)	L (mm)	B (mm)	e (min - max) (mm)	Ø -0,1/+0,5 (mm)	(N)	L2 max (mm)	E (mm)	
M5	16,1	16,0	2,0 - 3,5	8,1	8 000	8,0	1,0	**233 91** 050 795
	17,6		3,5 - 5,0					**233 91** 050 796
M6	20,7	13,0	2,0 - 3,5	9,1	12 000	11,0	1,5	**233 91** 060 968
	22,2	13,0	3,5 - 5,0					**233 91** 060 971
	20,7	18,0	2,0 - 3,5					**233 91** 060 969
	22,2	18,0	3,5 - 5,0					**233 91** 060 970
M8	22,0	20,0	2,0 - 3,5	11,1	18 000	12,0		**233 91** 080 848
	23,5		3,5 - 5,0					**233 91** 080 849

Steel Elliptic head

D (mm)	L (mm)	B1 - B2 (mm)	e (min - max) (mm)	Ø ±0,15 (mm)	(N)	L2 max (mm)	E (mm)	
M6	20,9	17 13	2,2 - 3,7	9,2	12 000	11,5	1,7	**233 91** 060 995

RIVKLE® SFC - Stainless steel

Stainless steel A4

D (mm)	L (mm)	B (mm)	e (min - max) (mm)	Ø -0,1/+0,3 (mm)	(N)	L2 max (mm)	E (mm)	
M6	26,6	H12	1,5 - 3,0	9,3	14 000	17,5	1,5	**233 94** 060 598

We recommend to use the specific mandrel **236 91** 306 523

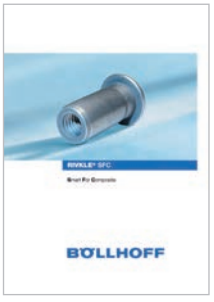
RIVKLE® SFC is fully compatible with the whole Böllhoff **RIVKLE®** setting tool range (including fully automatic installation for mass production).

See RIVKLE® SFC stud page 45

Available in alternative configurations upon request (stud, underhead seal, etc.). Grip range could be increased in certain specific conditions when associated with substrate material in these cases a prototype validation will be necessary (Please contact us).

YouTube RIVKLE SFC

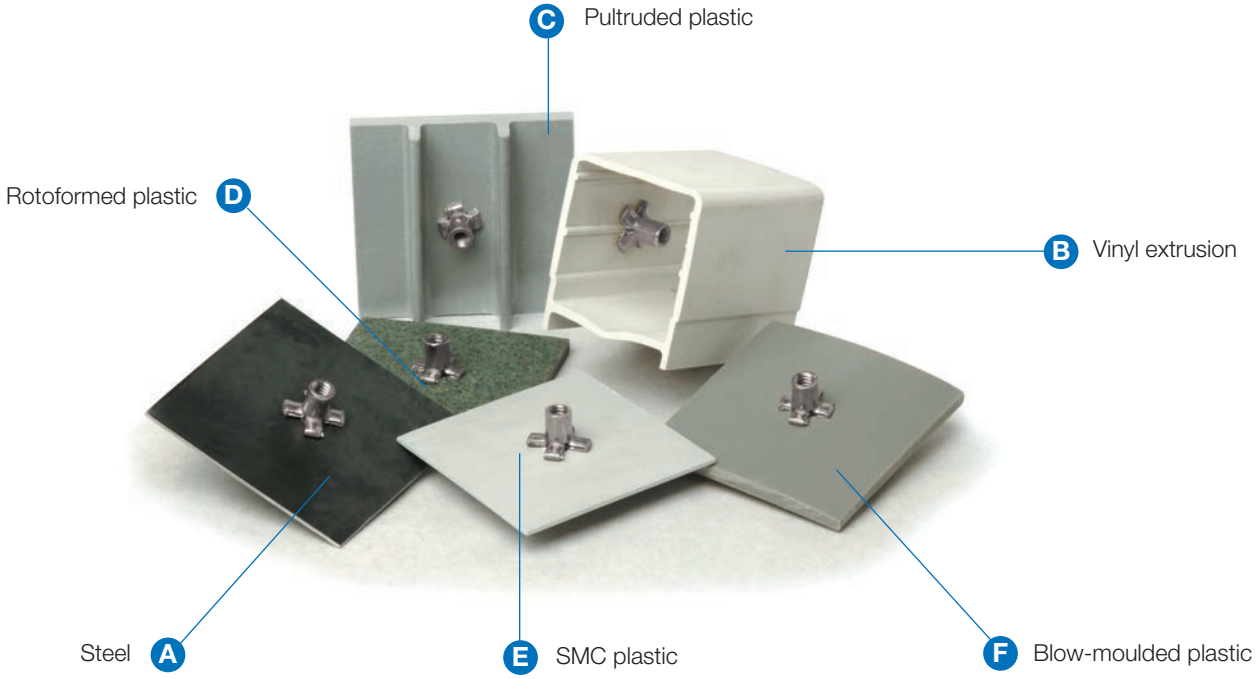
A dedicated brochure has been created for this product. Available upon request.



RIVKLE® PN – Ultimate pull out force

Advantages:

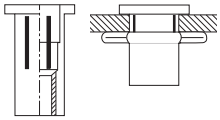
- Large clamping area for higher pull out resistance (soft and/or thin materials)
- Large bearing surface to reinforce the workpiece
- Minimal radial stresses during installation to reduce the risk of breakage in soft or fragile materials
- Available in steel (aluminium and stainless steel on request) in thread sizes M4 to M10



	A e = 0,76 mm	B e = 2,92 mm	C e = 6,29 mm	D e = 3,04 mm	E e = 1,65 mm	F e = 4,69 mm
RIVKLE® M6	2 130 N	900 N	6 760 N	100 N	600 N	1 250 N
RIVKLE® PN M6	5 400 N	2 750 N	8 400 N	700 N	1 620 N	3 220 N

Test according to BÖLLHOFF specifications.

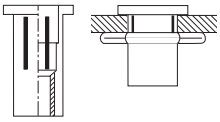
RIVKLE® PNP



Steel | Flat head | Slotted | Open

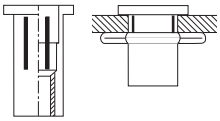
d (mm)	L (mm)	B (mm)	e (min - max) (mm)	D (mm)	MIN (mm)	MAX (mm)	L_2 (mm)	E (mm)	
M5	22,0	12,7	0,5 - 3,0	7,47	7,48	7,62	9,9	1,0	**668 70** 511 030
M6	26,9	15,9	0,5 - 5,0	8,79	8,80	8,93	12,8	1,5	**668 70** 611 050
M8	30,5	19,0	0,5 - 5,0	11,10	11,11	11,50	14,5	1,5	**668 70** 811 050

RIVKLE® PNC - Extended Grip Range



Steel | Flat head | Slotted | Open

d (mm)	L (mm)	B (mm)	e (min - max) (mm)	D (mm)	MIN (mm)	MAX (mm)	L_2 (mm)	E (mm)	
M4	17,6	11,15	0,50 - 3,80	6,12	6,13	6,25	8,6	0,95	**668 30** 411 038
M5	21,95	12,7	0,50 - 4,45	7,47	7,48	7,58	9,9	0,95	**668 30** 511 044
	23,8		4,45 - 8,10	7,97					**668 30** 511 081
M6	26,9	15,9	0,50 - 7,10	8,79	8,80	8,90	12,8	1,50	**668 30** 611 071
	32,8		7,10 - 12,7						**668 30** 611 127
M8	30,5	19,0	0,50 - 7,10	11,10	11,11	11,50	14,5	1,57	**668 30** 811 071
M10	33,2	22,25	0,50 - 7,10	13,06	13,07	13,26	15,8	2,25	**668 31** 011 071



Stainless steel | Flat head | Slotted | Open

d (mm)	L (mm)	B (mm)	e (min - max) (mm)	D (mm)	MIN (mm)	MAX (mm)	L_2 (mm)	E (mm)	
M4	17,6	11,1	0,50 - 3,80	6,12	6,13	6,25	8,6	0,96	**668 30** 488 038
M5	22,0	12,7	0,50 - 4,45	7,47	7,48	7,58	9,9	0,95	**668 30** 588 044
	23,8		4,45 - 8,10	7,97					**668 30** 588 081*
M6	26,9	15,9	0,50 - 7,10	8,79	8,80	8,90	12,8	1,50	**668 30** 688 071
	32,8		7,10 - 12,7						**668 30** 688 127*
M8	30,5	19,0	0,50 - 7,10	11,10	11,11	11,50	14,5	1,50	**668 30** 888 071
M10	33,2	22,2	0,50 - 7,10	13,06	13,07	13,26	15,8	2,24	**668 31** 088 071*

*Item not in stock – please contact BÖLLHOFF for availability

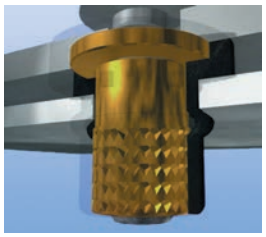
RIVKLE® PN - Tooling

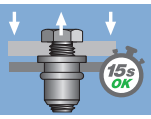
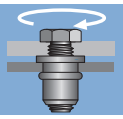
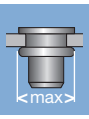
Please use dedicated tooling, see page 58.

RIVKLE® Elastic – Vibration damping characteristics

Advantages:

- Vibration and noise damping
- Electrical and thermal insulation
- Tolerancecompensation – Stress reduction
  - Stresses caused by tolerance statck-up (on component to be fastened)
  - Thermal expansion
  - Dynamic fastener
- Simple-to-fit. Setting (bulge clamping) takes place during assembly
- Easy to disassemble and re-use.
- Permits flexibility in design thanks to dimensional variability

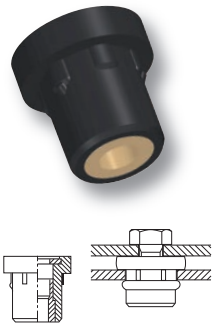


Ø			
M4	150 N	2,0 Nm	15,0 mm
M5	150 N	2,0 Nm	15,0 mm
M6	250 N	4,5 Nm	15,5 mm
M8	400 N	7,0 Nm	20,5 mm

The "RIVKLE® Elastic" female thread is manufactured to standard commercial tolerances (6H as per ISO 68-1) and can also be manufactured with Imperial threads.

RIVKLE® Elastic - With washer

Flat head | With washer | Open

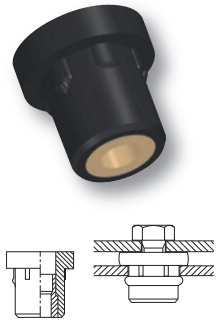


d (mm)	L (mm)	B (mm)	e (min - max) (mm)	Ø (mm)	L_2 (mm)	E (mm)	
M4	17,7	15,0	0,5 - 3,0	10,3 + 0,2	9,0	3,7	**243 10** 040 300
M5	17,7	15,0	0,5 - 3,0	10,3 + 0,2	9,0	3,7	**243 10** 050 300
M6	19,3	18,0	0,5 - 3,0	13,0 + 0,2	10,0	4,3	**243 10** 060 300

For components made from plastic, aluminum and steel with a slotted hole

RIVKLE® Elastic - Without washer

Flat head | Without washer | Open



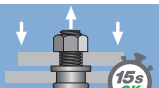
d (mm)	L (mm)	B (mm)	e (min - max) (mm)	Ø (mm)	L_2 (mm)	E (mm)	
M5	15,5	15,0	0,5 - 3,0	10,3 + 0,2	9,0	1,5	**243 00** 050 300
M6	17,0	18,0	0,5 - 3,0	13,0 + 0,2	10,0	2,0	**243 00** 060 300
M8	19,0	22,0	0,5 - 3,0	16,0 + 0,2	11,0	3,0	**243 00** 080 300

For components made from steel with a pilot hole (DIN ISO 273 standard)

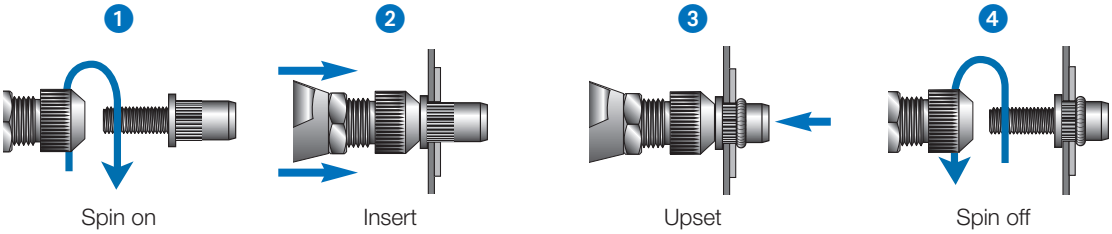
RIVKLE® – Standard blind rivet Studs

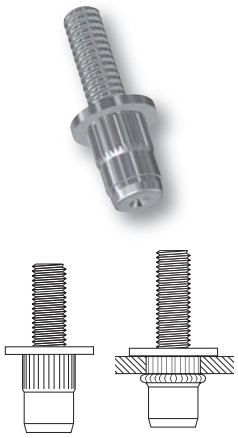
Advantages:

- Easily pre-position mating parts prior to tightening (useful for heavy or large components or where the mountings are hidden)
- Create a reusable stud thread equivalent to class 8.8 screw
- Offers all the advantages of the RIVKLE® range, i.e. ease and economy of installation, flexibility and environmental sustainability

	Ø			
Steel	**M5**	8 000 N	6,0 Nm	10,1 mm
	M6	11 000 N	10,0 Nm	13,0 mm
	M8	21 000 N	24,0 Nm	15,0 mm

Setting



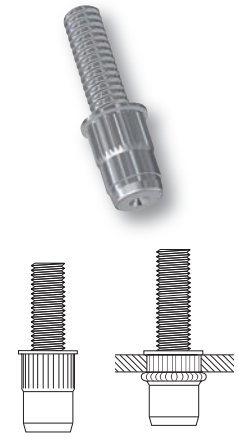


Steel | Flat head | Knurled

d (mm)	B (mm)	L_1 (mm)	e min - max (mm)	Ø $^{+0.1}/_{0}$ (mm)	S (mm)	L_2 (mm)	E (mm)	L (mm)		Coating 1	Coating 2
M5	10,0	11,2	0,5 - 3,0	7,0	S=5,0-e	5,0	1,0	7,5 - 12,0	**372 27** 050 110	✓	
								12,5 - 17,0	**372 27** 050 115[s]	✓	
								17,5 - 22,0	**372 27** 050 120[s]	✓	
								22,5 - 27,0	**372 27** 050 125	✓	
M6	13,0	14,2	0,5 - 3,0	9,0	S=5,2-e	8,5	1,5	14,0 - 18,5	**372 27** 060 115[s]	✓	
		16,9	3,0 - 5,5		S=7,7-e			14,0 - 18,5	**372 29** 060 504		✓
		14,2	0,5 - 3,0		S=5,2-e			19,0 - 23,5	**372 27** 060 120[s]	✓	
		14,2	0,5 - 3,0		S=5,2-e			24,0 - 28,5	**372 27** 060 125	✓	
M8	16,0	15,6	0,5 - 3,0	11,0	S=5,7-e	8,5	1,5	13,5 - 18,0	**372 27** 080 115	✓	
		15,6	0,5 - 3,0		S=5,7-e	8,5		18,5 - 23,0	**372 27** 080 120	✓	
		18,3	3,0 - 5,5		S=7,6-e	9,0		18,0 - 22,5	**372 29** 080 506[s]		✓
		15,6	0,5 - 3,0		S=5,7-e	8,5		23,5 - 28,0	**372 27** 080 125	✓	

s: parts available from stock, package quantity 500 pieces.

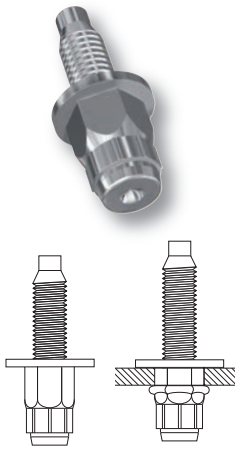
Coating: 1 = Zn8K+/Fe - 2 = ZnNi8A/Fe



Steel | Thin head | Knurled

d (mm)	B (mm)	L_1 (mm)	e min - max (mm)	Ø $^{+0.1}/_{0}$ (mm)	S (mm)	L_2 (mm)	E (mm)	L (mm)		1	2
M6	10,0	15,3	1,0 - 4,0	9,0	S=5,7-e	8,95	0,6	15,4 - 20,4	**372 97** 060 518		✓
								11,4 - 16,4	**372 97** 060 519		✓
M8	12,0	17,5	1,0 - 4,0	11,0	S=7,0-e	9,5	0,6	14,5 - 19,5	**372 97** 080 505		✓
								22,0 - 27,0	**372 97** 080 507		✓
								22,4 - 27,4	**372 97** 080 510		✓

Coating: 1 = Zn8K+/Fe - 2 = ZnNi8A/Fe

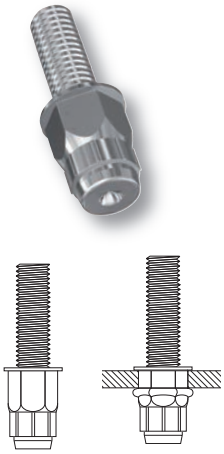


Steel | Flat head | Hexagonal

d (mm)	B (mm)	L1 (mm)	e min - max (mm)	H +0,1/0 (mm)	S (mm)	L2 (mm)	E (mm)	L (mm)		1	2
M5	10,0	12,0	0,5 - 3,0	7,0	S=4,4-e	7,0	1,0	11,5 - 16,0	**372 59** 050 501*		✓
M6	13,0	12,8	0,5 - 3,0	9,0	S=4,8-e	8,0	1,5	15,0 - 21,0	**372 91** 060 506		✓
		14,3						12,5 - 17,0	**372 91** 060 517*		✓
								18,5 - 23,0	**372 91** 060 509		✓
					S=5,8-e			27,5 - 32,0	**372 91** 060 502		✓
M8	16,0	15,5	0,5 - 3,0	11,0	S=5,8-e	9,0	1,5	19,0 - 23,5	**372 91** 080 502		✓
								28,5 - 33,0	**372 91** 080 507		✓
	21,0	22,3	3,0 - 5,5		S=8,5-e	11,6	2,2	37,2 - 41,6	**372 91** 080 510	✓	

* references without dog point

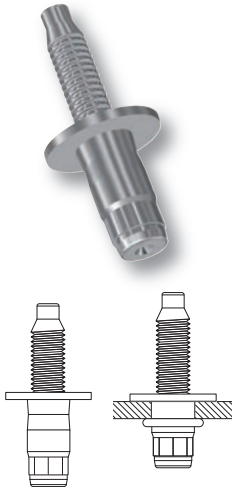
Coating: 1 = Zn8K+/Fe ; 2 = ZnNi8A/Fe



Steel | Thin head | Hexagonal

d (mm)	B (mm)	L1 (mm)	e min - max (mm)	H +0,1/0 (mm)	S (mm)	L2 (mm)	E (mm)	L (mm)	
M8	13,5	20,2	3,0 - 5,5	11,0	S=8,0-e	11,7	0,5	28,0 - 32,0	**372 91** 080 504

SFC

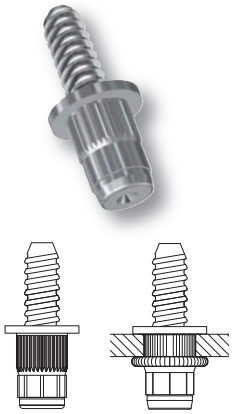


Steel | Flat head | Knurled

d (mm)	B (mm)	L1 (mm)	e min - max (mm)	Ø +0,5/-0,1 (mm)	(N)	L2 (mm)	E (mm)	L (mm)		1	2
M6	18,0	19,8	2,0 - 3,5	9,1	11 600	13,0	1,5	25,0 - 28,0	**372 91** 060 522		✓
		18,3						16,5 - 19,5	**372 91** 060 525		✓

Coating: 1 = Zn8K+/Fe ; 2 = ZnNi8A/Fe

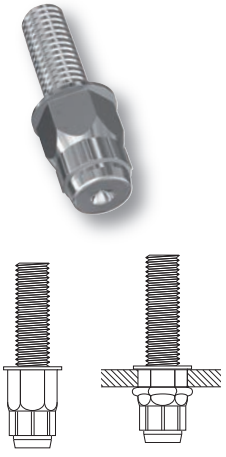
Fir Tree studs



Steel | Flat head | Fir Tree studs

d (mm)	B (mm)	L1 (mm)	e min - max (mm)	Ø +0,5/-0,1 (mm)	S (mm)	L2 (mm)	E (mm)	L (mm)		1	2
D5	10,0	10,2	0,5 - 3,0	7,0	S=4,8-e	5,5	1,0	12,0 - 16,5	**372 97** 059 505		✓
		10,2	0,5 - 3,0		S=4,8-e	5,5		14,5 - 19,0	**372 97** 059 507		✓
		11,6	1,5 - 4,0		S=5,7-e	6,0		14,0 - 18,5	**372 97** 059 508		✓
D6	13,0	12,7	0,5 - 3,0	9,0	S=4,8-e	8,0	1,5	19,0 - 23,5	**372 97** 069 501		✓
		12,7	0,5 - 3,0		S=4,8-e			14,0 - 18,5	**372 97** 069 502		✓
		12,7	0,5 - 3,0		S=4,8-e			11,5 - 16,0	**372 97** 069 503		✓
		12,7	0,5 - 3,0		S=4,8-e			21,5 - 26,0	**372 97** 069 507		✓
		15,4	3,0 - 5,5		S=7,7-e			11,5 - 16,0	**372 97** 069 504		✓
		15,4	3,0 - 5,5		S=7,7-e			14,0 - 18,5	**372 97** 069 505		✓
		15,4	3,0 - 5,5		S=7,7-e			19,0 - 23,5	**372 97** 069 506		✓

Coating: 1 = Zn8K+/Fe ; 2 = ZnNi8A/Fe



Stainless steel | Thin head | Hexagonal

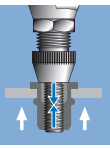
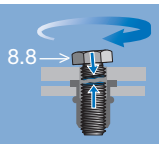
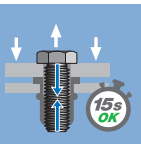
d (mm)	B (mm)	L1 (mm)	e min - max (mm)	H +0,1/0 (mm)	S (mm)	L2 (mm)	E (mm)	L (mm)	
M5	10,0	13,35	0,5 - 3,0	7,0	S=4,4-e	8,5	0,5	15,5 - 18,0	**372 98** 050 502
								20,5 - 23,0	**372 98** 050 503
								25,5 - 28,0	**372 98** 050 504
M6	13,0	15,65	0,5 - 3,0	9,0	S=4,4-e	10,8	0,5	15,5 - 18,0	**372 98** 060 506
								20,5 - 23,0	**372 98** 060 507
								25,5 - 28,0	**372 98** 060 508

All RIVKLE® stainless steel studs are lubricated.

RIVKLE® – Waterproof

Advantages:

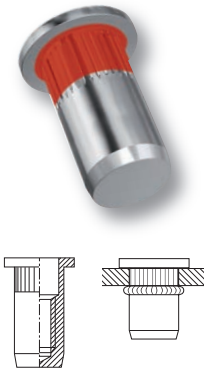
- Integrated sealing function
- Pre-applied seal
- Stable tensile strength in the mating screw

Ø			
M5	8 000 N	RIVKLE® reusable*	10 000 N
M6	12 000 N	RIVKLE® reusable*	15 000 N
M8	18 000 N	RIVKLE® reusable*	27 000 N
Same performance as standard RIVKLE®			

*__RIVKLE®__ is more resistant than screw property class 8.8

	Process type	Temperature (T°C Max)	Water resistance	Head: Flat	Head: Thin	Head: Countersunk	Setting range influence	Automation capability	Oversize hole
O-Ring 	Addition of an under head o-ring	240°C	IPX7 (EN 60529)	+++			No	Yes	No
Injected polyamide ring 	Over-moulding	210°C	IPX7 (EN 60529)	 E > 2,0mm			No	Yes	No
Injected plastic joint 	Over-moulding	180°C	IPX7 (EN 60529)	+++  E > 2,5mm			No	Yes	No
Sealcote Pre-applied sealing 	Coating and heating	150°C	IPX4 / IPX7* (EN 60529)	+++	++	++	Yes	No	Yes

* tests should be undertaken in actual application conditions

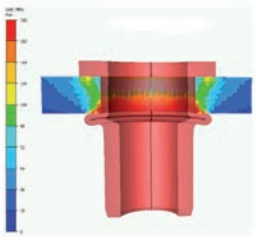


Stainless steel

d (mm)	L (mm)	B (mm)	e (min - max) (mm)	Ø +0,1/0 (mm)	S (mm)	L2 (mm)	E (mm)	
M5	17,8	9,0	0,7 - 1,5	7,1	S=2,8-e	14,0	1,0	**233 96** 050 503
	19,3		1,5 - 3,0		S=4,5-e			**233 96** 050 504
M6	18,3	11,0	0,7 - 1,5	9,1	S=2,4-e	13,7	1,5	**233 96** 060 508
	19,8		1,5 - 3,0		S=4,7-e			**233 96** 060 509
M8	21,3	14,0	0,8 - 1,5	11,1	S=3,2-e	16,6	1,5	**233 96** 080 503
	22,8		1,5 - 3,0		S=4,7-e			**233 96** 080 504

RIVKLE® - Shouldered

Specific design to avoid radial deformation and ensure that bulge is generated outside the part and comes into contact with the under-side of panel.



Ø	e (min - max) (mm)*	Material		
M6	2,6 - 5,4	Steel	ZnNi8A/Fe	**233 91** 060 936
M6	3,6 - 3,9			**233 97** 060 727

* grip min is unique grip if polymer on bulge side

RIVKLE® - Knurled shank and under-head ribs

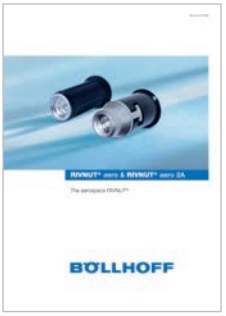
2 anti-turn functions. The sharp edges (knurled) behaviour is linked to grip range. Ribs under head give the best results but should be avoided on fragile materials (Eg: Thermoset) due to risk of cracking.

Ø	e (min - max) (mm)*	Material		
M6	2,4 - 4,5	Steel	ZnNi8A/Fe	**233 97** 060 707
M8	4,0 - 6,5			**233 97** 080 705

RIVNUT® Aero - RIVNUT® Aero 2A

Designed to provide high strength, self locking blind rivet nuts in carbon reinforced composite. RIVNUT® Aero retains it's locking function over time (even after several re-uses) and can be installed from one side (no access hole necessary).

A dedicated brochure has been created for this product, please contact Böllhoff.

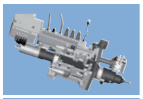


RIVKLE® - Other concepts

RIVKLE® Elliptic Head
Efficient anti-turn function for soft substrates
See reference page 39

RIVKLE® Star Head
Flush finish with anti-turn - Ideal for wood

RIVKLE® – Assembly tools

			M3	M4	M5	M6	M8	M10	M12	M14	
Manual tools	RIVKLE® BRK 01		■	■	■	■					51
	RIVKLE® M2007				■ *	■ *	■ *	■ *	■ *		51
	RIVKLE® BRK 10				■	■	■	■			52
	RIVKLE® ES 51					■	■	■	■	■	52
	RIVKLE® OPTEX				■	■	■				52
Power tools	RIVKLE® P2005		■	■	■	■	■	■	■		54
	RIVKLE® P1007		■	■	■	■					54
	RIVKLE® P2007			■	■	■	■	■			55
	RIVKLE® B2007		■	■	■	■	■	■			55
	RIVKLE® P3007						■	■	■	■	56
	RIVKLE® P2007 PN			■ **	■ **	■ **	■ **				56
	RIVKLE® P3007 PN						■ **	■ **			56
	RIVKLE® EPX009		■	■	■	■	■	■	■	■	57
Semi-automated tools	RIVKLE® EPK C			■	■	■	■	■			61
	RIVKLE® EPK HP						■	■	■	■	61
Automated tools	RIVKLE® HSA 2.0			■	■	■	■	■			61
	RIVKLE® ESA 2.0				■	■	■				61

* RIVKLE® PN
** RIVKLE® & RIVKLE® PN

RIVKLE® – Hand operated assembly tools

RIVKLE® BRK 01 - Manual assembly tool

	ø RIVKLE®							
	M3	M4	M5	M6	M8	M10	M12	M14
Steel	▬	▬	▬	▬				
Stainless steel	▬	▬	▬					
Aluminium	▬	▬	▬	▬				

Tooling included (M3 - M6) | Kg 600 g | **235 119** 00000

RIVKLE® BRK01 Kit

RIVKLE® Plus 24H

		M3	M4	M5	M6	M8	M10	M4	M5	M6	M8	M10
235 119 00501	x1	x50	x50	x50	x50							
235 119 00502	x1							x50	x50	x50		

RIVKLE® M2007 - Manual assembly tool

	ø RIVKLE®							
	M3	M4	M5	M6	M8	M10	M12	M14
Steel			▬	▬	▬	▬	▬	
Stainless steel			▬	▬	▬	▬	▬	
Aluminium			▬	▬	▬	▬	▬	

Tooling included (M5 - M12) | Kg 1200 g | **235 302** 01000

RIVKLE® M2007 Kit

RIVKLE® Plus 24H

		M5	M6	M8	M10	M12	M6	M8	M10	M6	M8	M10
235 302 01000	x1	x1	x1	x1	x1	x1						
235 302 01001	x1		x1	x1	x1					x50	x25	x25
235 302 01002	x1		x1	x1	x1		x50	x25	x25			

		UNC			UNF		
		10-24	1/4-20	5/16-18	10-32	1/4-28	5/16-24
235 302 01003	x1	x1	x1	x1	x1	x1	x1

RIVKLE® BRK 10 - Lever type assembly tool

	ø RIVKLE®							
	M3	M4	M5	M6	M8	M10	M12	M14
Steel			▬	▬	▬	▬		
Stainless steel			▬	▬	▬			
Aluminium			▬	▬	▬	▬		

Tooling included (M5 - M10) Kg 1900 g **235 120** 00 000

RIVKLE® ES 51 - Hydraulic manual assembly tool

	ø RIVKLE®							
	M3	M4	M5	M6	M8	M10	M12	M14
Steel				▬	▬	▬	▬	▬
Stainless steel				▬	▬	▬	▬	▬
Aluminium				▬	▬	▬	▬	▬

Tooling not included Kg 2700 g **235 118** 00 000

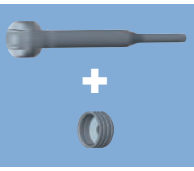
RIVKLE® OPTEX - Hexagonal punching and assembly tool

		ø RIVKLE®		
		M5	M6	M8
Steel	0,5 - 2,5 mm	▬	▬	▬
Aluminium		▬	▬	▬

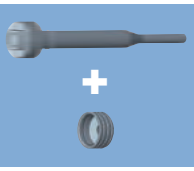
Tooling included (M5 - M8) Kg 2100 g **235 110** 00 000

Tooling equipment

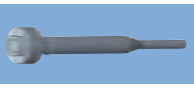
RIVKLE® BRK 01

				ø RIVKLE®			
				M3	M4	M5	M6
	Mandrel + Anvil		**235 119** XX 001	03	04	05	06

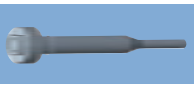
RIVKLE® BRK 10

				ø RIVKLE®			
				M5	M6	M8	M10
	Mandrel + Anvil		**235 120** XX 001	05	06	08	10

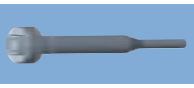
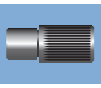
RIVKLE® M2007

				ø RIVKLE®				
				M5	M6	M8	M10	M12
	Mandrel		**235 302** XX 020	05	06	08	10	12
	Anvil		**235 302** XX 030	05	06	08	10	12

RIVKLE® ES 51

				ø RIVKLE®				
				M6	M8	M10	M12	M14
	Mandrel		**235 108** XX 020	06	08	10	12	14
	Anvil		**235 108** XX 030	06	08	10	12	14

RIVKLE® OPTEX

			ø RIVKLE®		
			M5	M6	M8
	Mandrel		05	06	08
	Nut		✓	✓	✓
	Anvil		05	06	08
	Punch		05	06	08
	Matrix		05	06	08

Stroke controlled installation equipment

RIVKLE® P2005

	ø RIVKLE®							
	M3	M4	M5	M6	M8	M10	M12	M14
Steel	▬	▬	▬	▬	▬	▬	▬	
Stainless steel	▬	▬	▬	▬	▬	▬		
Aluminium	▬	▬	▬	▬	▬	▬	▬	

Fmax = 21 000 N*

*Up to 26 000 N
with 6,5 bar input

Kg 2600 g

236 155 01 000

Tooling not included
(see page 58)

Pressure controlled installation equipment

RIVKLE® P1007 - Lightweight tool for speed and accessibility

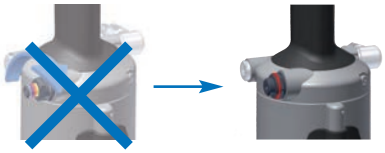
	ø RIVKLE®							
	M3	M4	M5	M6	M8	M10	M12	M14
Steel	▬	▬	▬	▬				
Stainless steel	▬	▬	▬	▬				
Aluminium	▬	▬	▬	▬	▬			

F = 3 500 N => 13 000 N

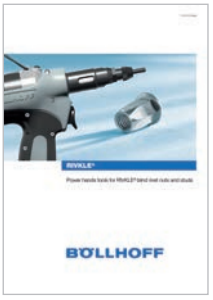
Kg 1800 g

236 157 01 000

Tooling not included
(see page 58)



Generic code for a tool with unique force cartridge: **282 520** 00 005
It is also possible to get mono cartridge alone. Please contact Böllhoff.



A dedicated brochure has been created for this product, please contact Böllhoff.

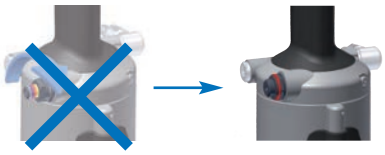
Pressure controlled installation equipment

RIVKLE® P2007 - Flexible and versatile

	ø RIVKLE®							
	M3	M4	M5	M6	M8	M10	M12	M14
Steel		■	■	■	■	■		
Stainless steel	■	■	■	■	■			
Aluminium			■	■	■	■	■	

F = 3 500 N => 21 000 N Kg 2200 g **236 156** 01 000

Tooling not included (see page 58)



Generic code for a tool with unique force cartridge: **282 520** 00 005
It is also possible to get mono cartridge alone. Please contact Böllhoff.

RIVKLE® B2007 - Battery tool

	ø RIVKLE®							
	M3	M4	M5	M6	M8	M10	M12	M14
Steel	■	■	■	■	■	■		
Stainless steel	■	■	■	■	■	■		
Aluminium		■	■	■	■	■		

F = 3 000 N => 22 000 N Kg 2490 g

Package with 1 battery **236 166** 01000
Package with 2 batteries **236 167** 01000

Tooling not included (see page 58)

Comparable weight to the RIVKLE® P2007 when fitted with hose

RIVKLE® B2007 	Tool + Tooling + Battery	Total weight
	2,12 + 0,07 + 0,30	**2,49 kg**
RIVKLE® P2007  Pneumatic	Tool + Tooling + Pneumatic	Total weight
	2,20 + 0,07 + 0,33	**2,60 kg**

YouTube RIVKLE B2007

WEB www.rivkle-b2007.com

A dedicated brochure has been created for this product, please contact Böllhoff.

Pressure controlled installation equipment

RIVKLE® P3007 - Powerfull and robust construction

	ø RIVKLE®							
	M4	M5	M6	M8	M10	M12	M14	M16
Steel				▬	▬	▬	▬	
Stainless steel				▬	▬	▬		
Aluminium				▬	▬	▬	▬	▬

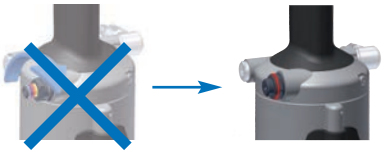
F = 24 000 N => 40 000 N

Kg 3400 g

236 159 01000

Adapted for RIVKLE® HRT from M6

Tooling not included (see page 58)



Generic code for a tool with unique force cartridge: **282 520** 00 005
It is also possible to get mono cartridge alone. Please contact Böllhoff.

RIVKLE® P2007 PN

	ø RIVKLE® PN							
	M3	M4	M5	M6	M8	M10	M12	M14
Steel		▬	▬	▬	▬			

Fmax = 14 500 N

Kg 2400 g

236 158 01000

Tooling not included (see page 58)

RIVKLE® P3007 PN

	ø RIVKLE® PN							
	M3	M4	M5	M6	M8	M10	M12	M14
Steel					▬	▬		

Fmax = 25 000 N

Kg 3100 g

236 160 01000

Tooling not included (see page 58)

RIVKLE® EPX009 Process Control

			ø RIVKLE®							
			M3	M4	M5	M6	M8	M10	M12	M14
RIVKLE® EP1009	**282 522** 15 000	2 050 g	■	■	■	■				
RIVKLE® EP2009	**282 522** 16 000	2 450 g		■	■	■	■	■		
RIVKLE® EP3009	**282 522** 17 000	3 320 g					■	■	■	■
RIVKLE® EP2009 PN	**282 522** 18 000	2 450 g		■	■	■	■			
RIVKLE® EP3009 PN	**282 522** 19 000	3 320 g					■	■		

Tooling not included (see page 58)

- Association of a force hydraulic/pneumatic assembly tool with a setting stroke control process
- Constant warranty of perfect setting

Options

Acknowledgement by key

Acknowledgement by button

Acknowledgement by RFID

Stack light repeater

Multi-energy hose

- 5 m (standard deliverd)
- 10 m
- 15 m

The generic code of a RIVKLE® EPX009 configured with options is: **282 520** 00001. Contact us for more information.

A dedicated brochure has been created for this product, please contact Böllhoff.

RIVKLE® FC340 - FORCE CONTROLLER

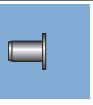
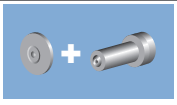
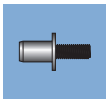
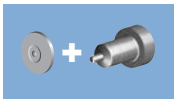
F = 0 N => 40 000 N (+/-3%)

Available with and without certification

Tooling kit not included

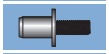
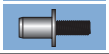
YouTube RIVKLE FC340

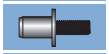
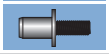
	282 522 14 000
	**282 522** 14 800
	**282 522** 14 900

TOOLING KIT				ø RIVKLE®								
				M3	M4	M5	M6	M8	M10	M12	M14	M16
Washer + Nut			**282 522** 14 1XX	03	04	05	06	08	10	12	14	16
			**282 522** 14 XXX	-	204	205	505	206	506	208	508	210
				-	M4	M5	D5	M6	D6	M8	D8	M10

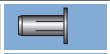
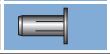
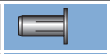
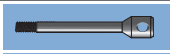
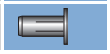
Tooling for RIVKLE® UNC and RIVKLE® UNF available on demand. Select the kit according to the diameter you use.

Tooling

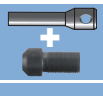
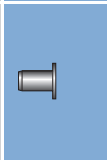
RIVKLE® P2005 / P1007 / P2007				ø RIVKLE®								
				M3	M4	M5	M6	M8	M10	M12	M14	M16
Mandrel			**236 113** XX 020	03	04	05	06	08	10	*(1)	–	–
			**376 113** XX 020	–	04	05	06	08	*(3)	–	–	–
Anvil			**236 113** XX 030	03	04	05	06	08	10	*(2)	–	–
			**376 113** XX 030	–	04	05	06	08	*(4)	–	–	–
RIVKLE® P3007												
Mandrel			**236 159** XX 020	–	–	–	–	08	10	12	14	16
Anvil			**236 159** XX 030	–	–	–	–	08	10	12	14	16

RIVKLE® B2007				3 → 18 kN					18 → 22 kN	
				M3	M4	M5	M6	M8	M8	M10
Mandrel			**236 113** XX 020	03	04	05	06	08	**236 913** 08 110	**236 913** 10 019
			**376 113** XX 020	–	04	05	06	08	–	
Anvil			**236 113** XX 030	03	04	05	06	08	08	10
			**376 113** XX 030	–	04	05	06	08	–	
Nose for studs & force >18 kN (M8 & M10)			**236 166** 00 303						✓	✓
Fork for studs & force >18 kN (M8 & M10)			**236 166** 00 304							

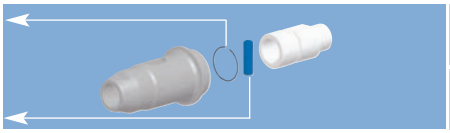
RIVKLE® P2005 / P1007 / P2007				ø RIVKLE® - UNC					ø RIVKLE® - UNF			
				4-40	6-32	8-32	10-24	1/4-20	10-32	1/4-28	7/16-20	3/8-24
Mandrel			**236 113** XX XXX	65 620	67 620	68 620	69 620	74 620	69 720	74 720	78 720	77 720
Anvil			**236 113** XX XXX	03 030	67 030	68 030	69 030	74 030	69 030	74 030	*(6)	77 030

RIVKLE® P2007 PN				ø RIVKLE®								
				M3	M4	M5	M6	M8	M10	M12	M14	M16
Mandrel			**236 913** XX XXX	–	04 094	05 094	06 127	08 101	*(5)	–	–	–
Anvil			**236 913** XX XXX	–	04 086	05 095	06 128	08 087	10 010	–	–	–
RIVKLE® P3007 PN												
Mandrel			**236 913** XX XXX	–	–	–	–	08 101	*(5)	–	–	–
Anvil			**236 913** XX XXX	–	–	–	–	08 087	10 010	–	–	–

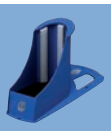
*(1) = **236 153** 12 020 *(2) = **236 153** 12 030 *(3) = **376 913** 10 020 *(4) = **376 913** 10 030 *(5) = **236 913** 10 006 *(6) = **236 923** 78 030

RIVKLE® TOOLING BOX				ø RIVKLE®								
				M3	M4	M5	M6	M8	M10	M12	M14	M16
			**236 113** 00 001	✓	✓	✓	✓	✓	✓	✓	–	–
				–	✓	✓	✓	✓	–	–	–	–
			**236 113** 00 002	✓	✓	✓	✓	✓	–	–	–	–

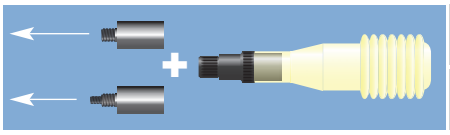
Accessories

Ring		**236 803** 00 008
Pin		**236 803** 00 009

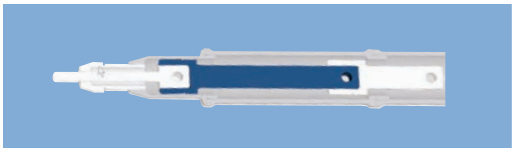
					
RIVKLE® P2005	**236 155** 00 305	**236 155** 01 001	Kg 2 - 3 Kg **282 590** 10 820	Kg 2,2 - 4 Kg **282 590** 10 665	Kg 2,2 - 4 Kg **282 590** 10 664
RIVKLE® P1007	**236 157** 00 301	**236 157** 01 001			
RIVKLE® P2007	**236 156** 00 301	**236 156** 01 001			
RIVKLE® P2007 PN		–			
RIVKLE® P3007 PN			Kg 4 - 6 Kg **282 590** 10 152	–	–
RIVKLE® P3007	**236 159** 00 301	–			

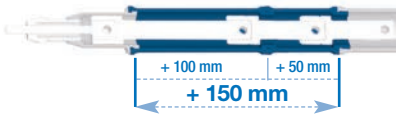
	 Battery with higher capacity 14,4V 4,0AH - Li-Ion	 Multicharger 4 positions	 Cord power supply	 Tool support	Screw kit adaptator
RIVKLE® B2007	**282 590** 30 351	**282 590** 30 354	**282 590** 30 356	**236 166** 00 308	See page 60

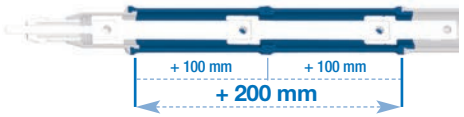
Refill & purge accessory

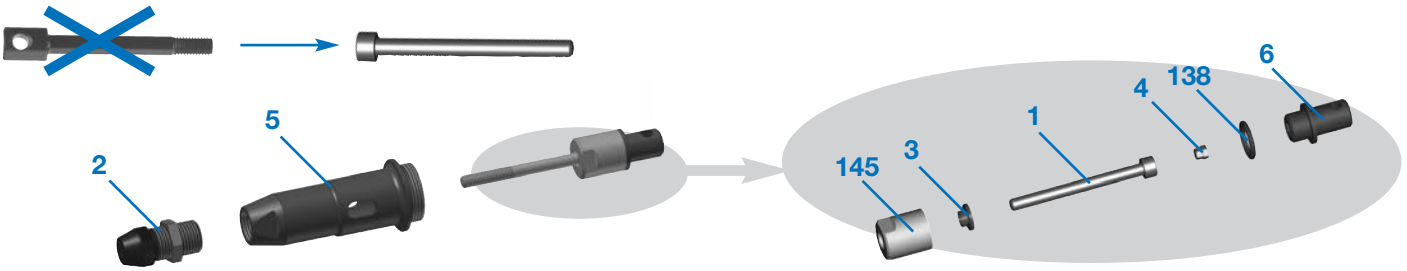
RIVKLE® P1007 / P2007 / P2005		**236 114** 00 970
RIVKLE® B2007		**236 166** 00 309

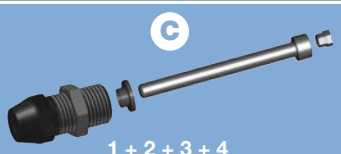
Accessories

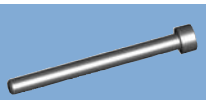
		RIVKLE® P2005	RIVKLE® P1007	RIVKLE® P2007 RIVKLE® P2007PN RIVKLE® P3007PN
	+ 50 mm		**282 590** 10 984	
	+ 100 mm		**282 590** 10 985	
	+ 150 mm		**282 590** 10 986	
	+ 50 mm	**282 590** 10 789	**282 590** 10 791	
	+ 100 mm	**282 590** 10 790	**282 590** 10 792	







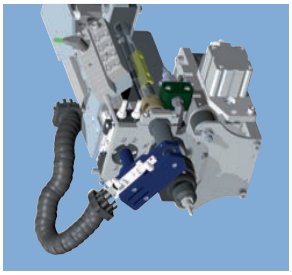
	KIT = A + B + C					
	A  5 RIVKLE® B2007 = original nose			B  145 + 138 + 6		C  1 + 2 + 3 + 4
	RIVKLE® P2005	RIVKLE® P1007	RIVKLE® P2007	PX007 + P2005	RIVKLE® B2007	
M3	**236 153** 00 043	**236 157** 00 309	**236 803** 00 005	**236 803** 00 216	**236 166** 00 300	**236 803** 03 000
M4						**236 803** 04 000
M5						**236 803** 05 000
M6						**236 803** 06 000
M8						**236 803** 08 000

	 ISO4762 DIN912	 2	 3	 4
M3	M3 x 60 **236 803** 03 020	**236 113** 03 030	**236 803** 03 040	**236 803** 03 010
M4	M4 x 60 **236 803** 04 020	**236 113** 04 030	**236 803** 04 040	**236 803** 04 010
M5	M5 x 65 **236 803** 05 020	**236 113** 05 030	**236 803** 05 040	**236 803** 05 010
M6	M6 x 65 **236 803** 06 020	**236 113** 06 030	**236 803** 06 040	**236 803** 06 010
M8	M8 x 70 **236 803** 08 020	**236 113** 08 030	-	**236 803** 08 010

RIVKLE® – Special installation machines

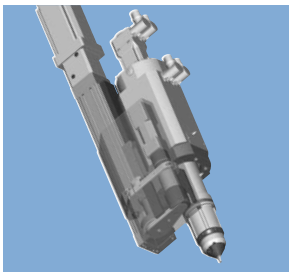
RIVKLE® EPK C / EPK HP

Hydraulic pneumatic tool with process control



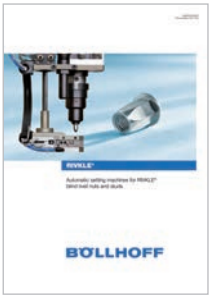
RIVKLE® HSA 2.0

Setting head with automatic loading system



RIVKLE® ESA 2.0

Electrical setting head



A dedicated brochure has been created for those products, please contact Böllhoff.

RIVKLE® – Part number index

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