

Clifa® press-in nut/stud ...

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

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

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

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



Fields of application

Clifa® press-in elements serve as a screw point mainly on moulded parts of steel or light metal. They may also be used as spacers.

Product features

- Clifa® is torque-proof, capable of withstanding high loads.
- It has minimal outside dimensions for space and weight-saving
- The thread is wear-resistant, clean and true to gauge
- Mounting in drilled, punched or lasered receiving holes
- Do not countersink drill holes in the component
- Can be used in surface-treated, galvanized or unweldable materials
- Clifa® is not pressed out during the screwing process.
- The component material must be softer than the Clifa® element

Specifications

Works Standard sheets Clifa® Pages 14 to 27.

High-performance installation equipment for short cycle times in largescale production on request.

Fields of application for the Clifa® nut

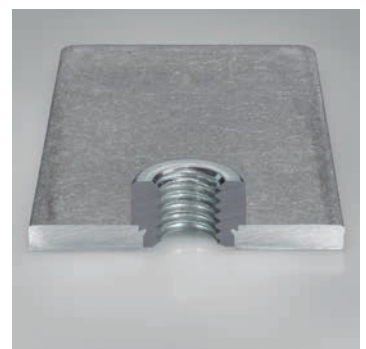
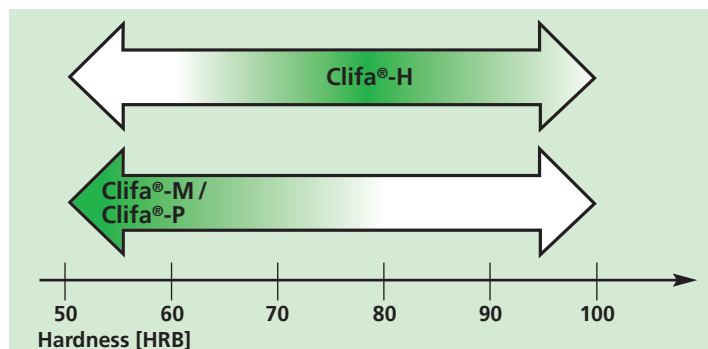


Fig. 6

Figure 6 shows in green which nut type can be used for which moulded part hardness. These are guide values which must be confirmed through practical tests.

Clifa® installation ...

Installation

The receiving hole is punched, lasered or drilled **but not deburred or countersunk**.

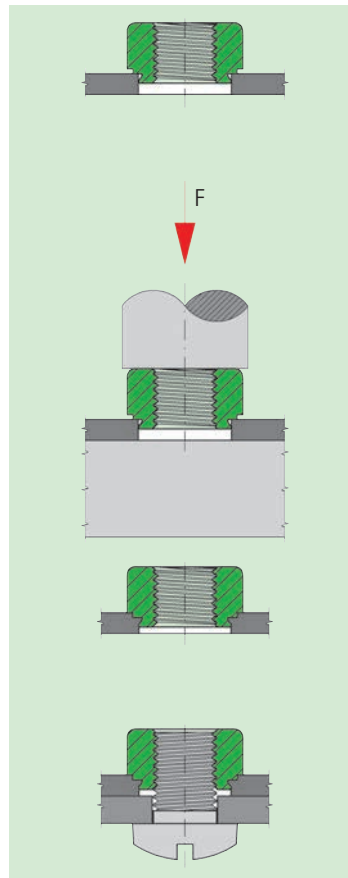
Care must be taken with punched holes, make sure that the hole diameter of the press-in side the specified one hole diameter corresponds. The press-in process takes place on a plane parallel basis using a customary press with adjustable pressure level, until the surface of the shoulder in the Clifa® pressin nut comes to rest flat against the surface of the sheet metal.

In the case of the Clifa®-SP/SPD and SPS stud, the head must be fully pressed in and come to rest flush with the surface of the sheet metal.

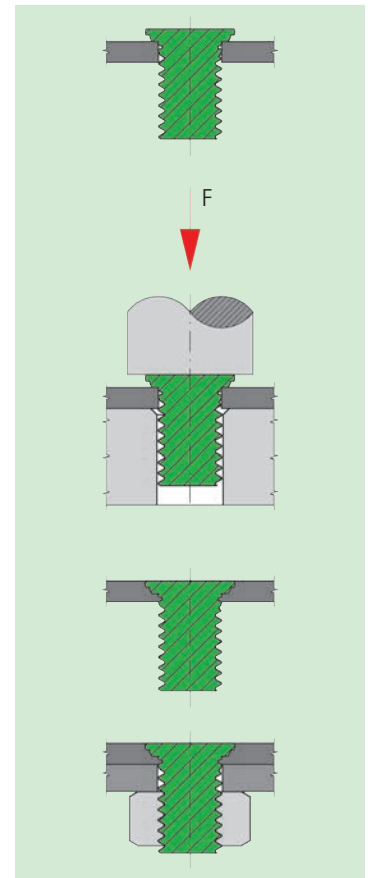
Pressure which is too high or applied only on one side as well as inclined support surfaces must be avoided wherever possible.



Examples for mounting



Press-in nut Clifa®



Press-in stud Clifa®-SP

Fig. 7

Fig. 8

Special request

Press-in nut, fastening on thin-walled moulded part

Such as Clifa-M, only for other feeding systems

Press-in nut, fastening on high-strength moulded part

Press-in nut, standoff bushings on thin-walled moulded part

Press-in nut, standoff bushings for FRP-Composites

Press-in nut, flush surface on the press-in side of the nut element

Press-in stud, flush with surface with quick-fastening thread

Press-in stud, flush with surface

Press-in stud, flush with surface for thin sheet thicknesses

Press-in stud, for high load values

Press-in stud, for high load values and thin sheet thicknesses

We recommend

Clifa®-M Page 14 and page 15

Clifa®-P Page 17

Clifa®-H Page 16

Clifa®-AM Page 18

Clifa®-AL Page 19 and page 20

Clifa®-ABO/-ABG Page 21 and page 22

Clifa®-SPS Page 23

Clifa®-SP Page 24

Clifa®-SPD Page 25

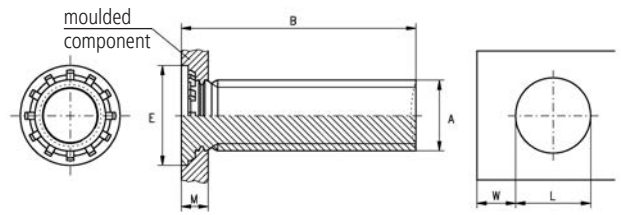
Clifa®-SA Page 26

Clifa®-SAD Page 27

Application

Clifa®-SP press-in grub screws are processed flush with the surface – see diagram –, and are used to manufacture wear-resistant, highly resilient screw connections in thin-walled moulded parts made of:

- Steel
- Stainless steel
- Brass
- Copper
- Light metal, etc.



Dimensions in mm

Article number	Internal thread A	for sheet metal thickness ≥ M	External diameter E	Hole diameter L +0,05	Minimum spacing ≥ W	Tightening torque of the nut (guideline values for sheet metal) ≤ Nm
5.. 000 025 ...	M 2,5	1,0	4,0	2,5	3,5	0,7
5.. 000 030 ...	M 3	1,0	4,6	3,0	4,0	1,5
5.. 000 040 ...	M 4	1,0	5,9	4,0	5,0	2,9
5.. 000 050 ...	M 5	1,0	6,5	5,0	5,0	6,0
5.. 000 060 ...	M 6	1,3	8,5	6,0	5,0	10,0
5.. 000 080 ...	M 8	1,5	10,0	8,0	6,0	20,0

Article number first group of digits (selection series)	Length B*) ±0,2	Available					
		M 2,5	M 3	M 4	M 5	M 6	M 8
506 000	6,0	X	X	X	X		
508 000	8,0	X	X	X	X	X	
510 000	10,0	X	X	X	X	X	X
515 000	15,0	X	X	X	X	X	X
520 000	20,0	X	X	X	X	X	X
525 000	25,0	X	X	X	X	X	X
530 000	30,0			X	X	X	X
534 000	34,0			X	X	X	X

Example for finding the article number

Press-in stud Clifa®-SP, M3, 10 mm long, tempered, zinc plated, transparent thick film passivated, with serrations at the head for sheet metal thickness 1,2 mm: Clifa®-SP 510 000 030.112

Materials

Steel tempered, zinc plated, blue passivated ** Article no. (fourth group of digits) ... 110
 Steel tempered, zinc plated, transparent thick film passivated ** Article no. (fourth group of digits) ... 112
 Steel tempered, zinc-nickel plated, transparent passivated ** Article no. (fourth group of digits) ... 143
 Stainless steel Article no. (fourth group of digits) ... 500

Further dimensions on request.

Threaded ends

Press-in grub screws with differing threaded ends on request, see data sheet, page 29.

Tolerances

ISO 2768-m

Thread

Stud thread A: as per ISO 6g, imperial thread available in all customary sizes.

Press-in force

Guideline values for press-in force, see page 28.

***) Length B**

available up to 60 mm

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Press-in stud in tempered steel, available in customary strength classes.



Press-in stud
Press-fit geometrie flush fit processed

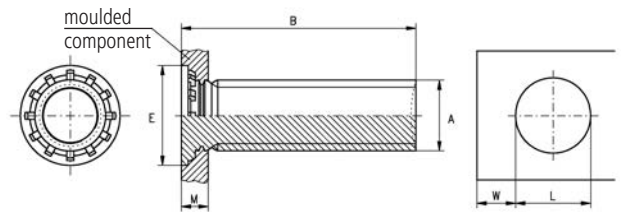
Clifa®-SPD
Works Standard
506 2 to 534 2

Application

Clifa®-SPD press-in grub screws are processed flush with the surface – see diagram –, and are used to manufacture wear-resistant, highly resilient screw connections in thin-walled moulded parts made of:

- Steel
- Stainless steel
- Brass
- Copper
- Light metal, etc.

Due to the low height of the serrations, Clifa®-SPD is suitable for use in lower moulding strengths than necessary with Clifa®-SP.



Dimensions in mm

Article number	Internal thread A	for sheet metal thickness ≥ M	External diameter E	Hole diameter L +0,05	Minimum spacing ≥ W	Tightening torque of the nut (guideline values for sheet metal) ≤ Nm
5.. 200 025 ...	M 2,5	0,8	4,0	2,5	3,5	0,7
5.. 200 030 ...	M 3	0,8	4,6	3,0	4,0	1,5
5.. 200 040 ...	M 4	0,8	5,9	4,0	5,0	2,9
5.. 200 050 ...	M 5	0,8	6,5	5,0	5,0	6,0
5.. 200 060 ...	M 6	0,8	8,5	6,0	5,0	10,0

Article number first group of digits (selection series)	Length B* ±0,2	Available				
		M 2,5	M 3	M 4	M 5	M 6
506 200	6,0	X	X	X	X	
508 200	8,0	X	X	X	X	X
510 200	10,0	X	X	X	X	X
515 200	15,0	X	X	X	X	X
520 200	20,0	X	X	X	X	X
525 200	25,0	X	X	X	X	X
530 200	30,0			X	X	X
534 200	34,0			X	X	X

Example for finding the article number

Press-in stud Clifa®-SPD, M3, 10 mm long, tempered, zinc plated, transparent thick film passivated, with serrations at the head for sheet metal thickness 0,8 mm: Clifa®-SPD 510 200 030.112

Materials

- Steel tempered, zinc plated, blue passivated ** Article no. (fourth group of digits) 110
- Steel tempered, zinc plated, transparent thick film passivated ** Article no. (fourth group of digits) 112
- Steel tempered, zinc-nickel plated, transparent passivated ** Article no. (fourth group of digits) 143
- Stainless steel Article no. (fourth group of digits) 500

Further dimensions on request.

Threaded ends

Press-in grub screws with differing threaded ends on request, see data sheet, page 29.

Tolerances

ISO 2768-m

Thread

Stud thread A: as per ISO 6g, imperial thread available in all customary sizes.

Press-in force

Guideline values for press-in force, see page 28.

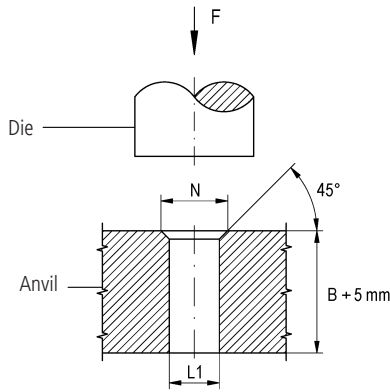
***) Length B**

available up to 60 mm

****)**

Press-in stud in tempered steel, available in customary strength classes.

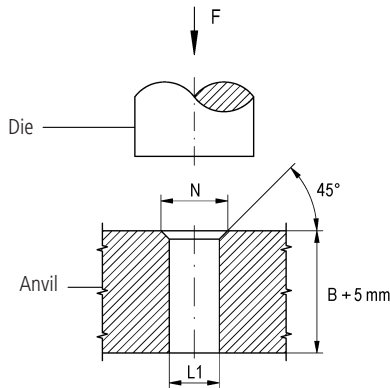
Dimensions in mm



Anvil for: Clifa®	Hole L1 +0,1	Countersink for serrations N +0,1	Press-in force kN
M 2,5	2,6	3,4	8,9 to 12
M 3	3,1	4,0	10,5 to 19
M 4	4,1	5,2	16 to 25
M 5	5,1	6,4	29 to 35
M 6	6,1	7,6	30 to 50
M 8	8,1	10,2	30 to 60

The press-in force F is dependent on the Clifa® dimension, the material and the thickness of the shaped component and also the type of serration at the head. The Clifa® head must be fully embedded and must come to rest flush with the surface of the sheet metal. Excessive force must be avoided.

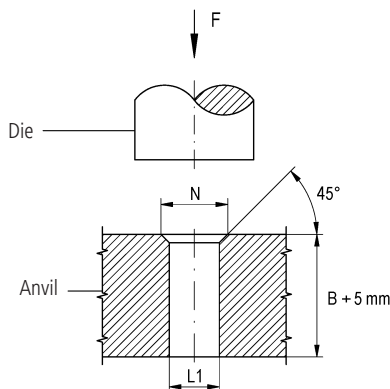
Dimensions in mm



Anvil for: Clifa®	Hole L1 +0,1	Countersink for serrations N +0,1	Press-in force kN
Ø 5,0	5,1	6,4	29 to 35

The press-in force F is dependent on the Clifa® dimension, the material and the thickness of the shaped component and also the type of serration at the head. The Clifa® head must be fully embedded and must come to rest flush with the surface of the sheet metal. Excessive force must be avoided.

Dimensions in mm



Anvil for: Clifa®	Hole L1 +0,1	Countersink for serrations N +0,1	Press-in force kN
M 3	3,1	4,0	9,0 to 15,0
M 4	4,1	5,2	14,5 to 38
M 5	5,1	6,4	21 to 42
M 6	6,1	7,6	21 to 50
M 8	8,1	10,2	21 to 60
M 10	10,1	12,2	32 to 84

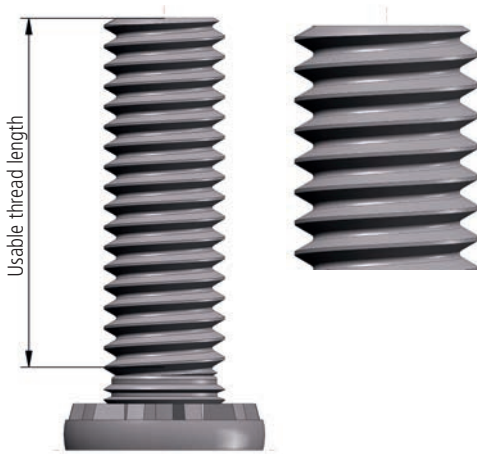
The press-in force F is dependent on the Clifa® dimension, the material and the thickness of the shaped component and also the type of serration at the head. Excessive force must be avoided.

Application

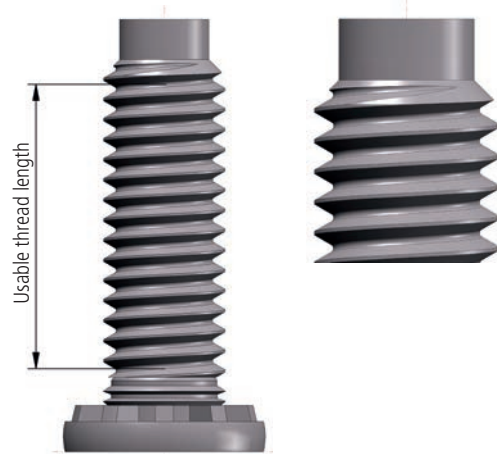
Depending on the demands placed on the Clifa® press-in grub screws, we offer a variety of threaded ends. Further threaded ends on request.

Sub-function	Type of threaded end			
	KKV	KK	PN	KK-MAG
Protection of start of thread	↘	↗	↗	↗
Larger displacement when fastening	↘	→	↗	↗
Prevention of tilting when fastening	↘	→	→	↗
Usable thread length (Version for components of the same length)	↗	→	→	↘

Type of threaded end: **KKV**
DIN EN ISO 4753 (RL)



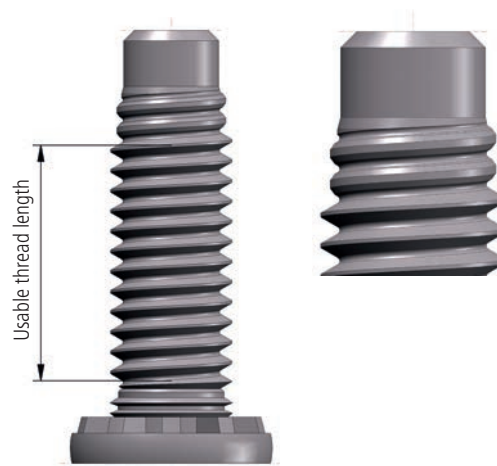
Type of threaded end: **KK**



Type of threaded end: **PN**



Type of threaded end: **KK-MAG**



Fasteners for special applications ...

Press-in stud with special part-end



Rivet bushing with Double riveting contour



Press-in nut with Three cross-holes



Press-in stud with segmented head



Rivet bushing with fine thread on outer diameter



Rivet bushing with special sealing contour



Bolt with t-groove for fixing/locking of screw-in elements



Press-in nut with hexagonal head



Press-in nut with three knurls on outer diameter

