# 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.

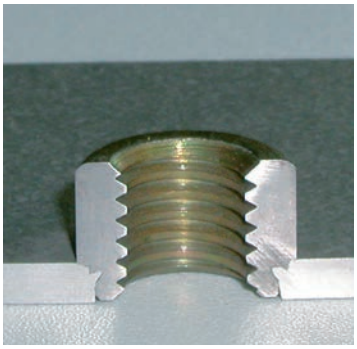
Several Clifa® inserts can be installed in a single work process. The fastening screw is always screwed in from the opposite side.

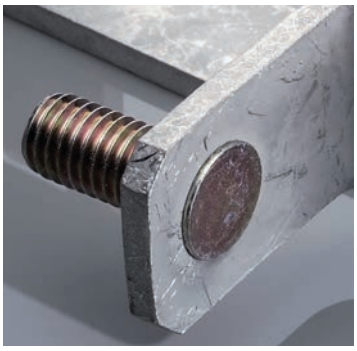
## Fields of application

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 11 to 20

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

# Clifa® installation ...

## Installation

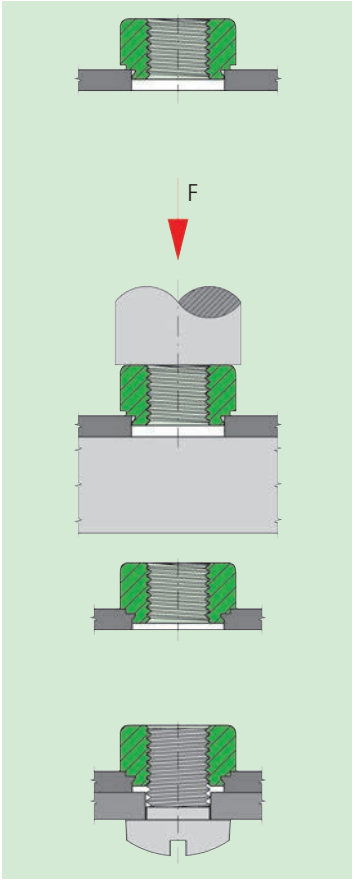
The receiving hole is punched, lasered or drilled **but not deburred or countersunk.**

With punched holes, Clifa® is pressed in from the punching burr side. 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.

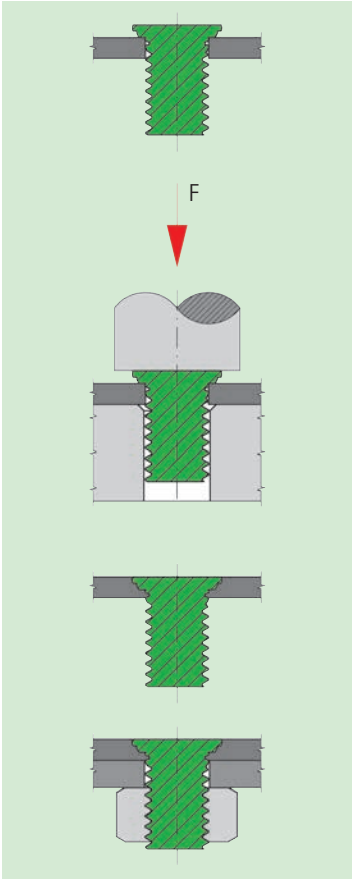
In the case of the Clifa®-SP/SPD/SPS stud, the head must be fully pressed in and come to rest flush with the surface of the sheet metal.

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

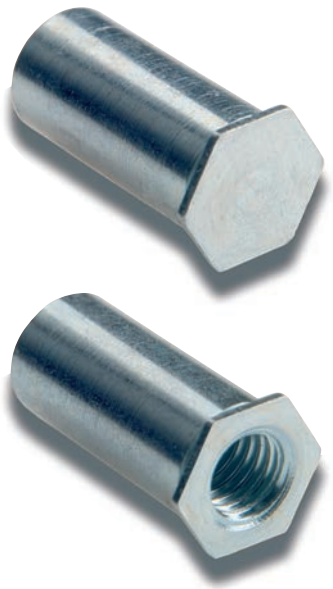
## Examples for mounting




Press-in nut Clifa® Fig. 7




Press-in stud Clifa®-SP Fig. 8



## Special request

| |
|---|
| short length |
| standoff bushings for metals |
| standoff bushings for plastics threaded press-in stud |
| Flush surface on the press-in side of the nut element ( /- thread closed on one side) |
| Grub screw for thin sheet thicknesses |
| Grub screw for high load values |
| threaded press-in stud for lower press-in force |

## We recommend

| | |
|---|---|
| Clifa®-M | (Works Standard 500 0 to 503 0) |
| Clifa®-AM | (Works Standard 503 8 to 525 8) |
| Clifa®-AL | (Works Standard 503 6 to 525 6) |
| Clifa®-ABO/-ABG | (Works Standard 570 0 to 571 0) |
| Clifa®-SPD | (Works Standard 5.. 2) |
| Clifa®-SA | (Works Standard 515 4 to 534 4) |
| Clifa®-SAD | (Works Standard 515 9 to 534 9) |

Kerb Konus

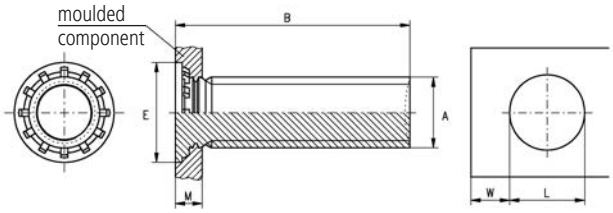
# Press-in stud
Press-fit geometrie flush fit processed

**Clifa®-SP**
Works Standard
506 0 to 534 0

## 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<br>A | Workpiece thickness<br>≥ M | External diameter<br>E | Hole diameter<br>L +0,05 | Minimum spacing<br>≥ W | Tightening torque of the nut (guidline values for sheet metal)<br>≤ 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 | 1,5 | 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 <u>first group</u> of digits (selection series) | Length<br>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 tempered, zinc plated and blue passivated steel, 10 mm long, with serrations at the head for sheet metal thickness 1,2 mm: Clifa®-SP 510 000 030.110

**Materials**

| | |
|---|---|
| Steel tempered, zinc plated, blue passivated ** | Article no. (**fourth** group of digits) ... ... ... 110 |
| 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 25.**

**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 24**

***) Length B**
**available up to 60 mm**

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

Kerb Konus

# Press-in stud
Press-fit geometrie flush fit processed

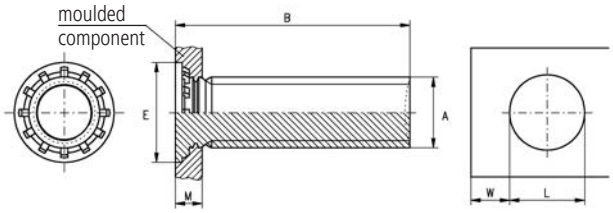
**Clifa®-SPD**
Works Standard
506 2 to 534 2

## 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<br>A | Workpiece thickness<br>≥ M | External diameter<br>E | Hole diameter<br>L +0,05 | Minimum spacing<br>≥ W | Tightening torque of the nut (guidline values for sheet metal)<br>≤ 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 |
| 5.. 200 080 ... | M 8 | 0,8 | 10,0 | 8,0 | 6,0 | 20,0 |

| Article number first group of digits (selection series) | Length<br>B*) ±0,2 | Available | | | | | |
|---|---|---|---|---|---|---|---|
| | | M 2,5 | M 3 | M 4 | M 5 | M 6 | M 8 |
| 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 | X |
| 515 200 ... ... | 15,0 | X | X | X | X | X | X |
| 520 200 ... ... | 20,0 | X | X | X | X | X | X |
| 525 200 ... ... | 25,0 | X | X | X | X | X | X |
| 530 200 ... ... | 30,0 | | | X | X | X | X |
| 534 200 ... ... | 34,0 | | | X | X | X | X |

**Example for finding the article number**

Press-in stud Clifa®-SPD, M3 tempered, zinc plated and blue passivated steel, 10 mm long, with serrations at the head for sheet metal thickness 0,8 mm: Clifa®-SPD 510 200 030.110

**Materials**

| | |
|---|---|
| Steel tempered, zinc plated, blue passivated ** | Article no. (**fourth** group of digits) ... ... ... 110 |
| 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 25.**

**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 24**

***) Length B**

**available up to 60 mm**

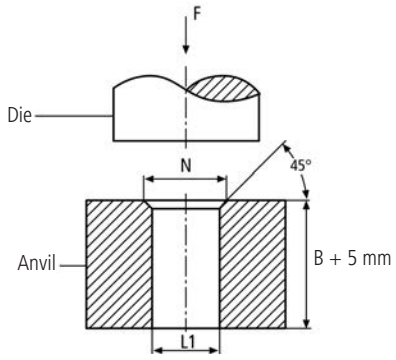
****)**

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

## Press-in stud
Press-in forces

## Clifa®-SP/SPD

Dimensions in mm



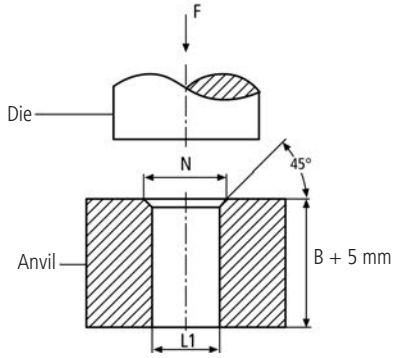

| Anvil for: Clifa® | Hole L1 +0,1 | Countersink for serrations N +0,1 | Press-in force kN |
|---|---|---|---|
| M 2,5 | 2,6 | 3,4 | 8,9 to 12 |
| M 3 | 3,1 | 4,0 | 10,5 to 19 |
| M 4 | 4,1 | 5,2 | 16 to 25 |
| M 5 | 5,1 | 6,4 | 29 to 35 |
| M 6 | 6,1 | 7,6 | 30 to 50 |
| M 8 | 8,1 | 10,2 | 30 to 60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

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. The hole diameter of the part to be screwed on ≈ A +0,6 mm.

## Press-in stud
Press-in forces

## Clifa®-SPS

Dimensions in mm



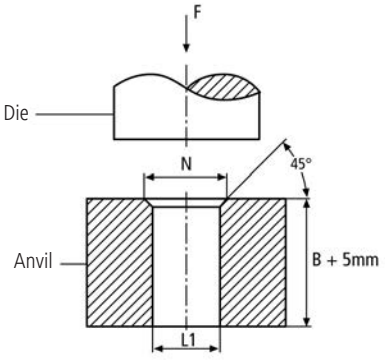

| Anvil for: Clifa® | Hole L1 +0,1 | Countersink for serrations N +0,1 | Press-in force kN |
|---|---|---|---|
| Ø 5,0 | 5,1 | 6,4 | 29 to 35 |

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. The hole diameter of the part to be screwed on ≈ A +0,6 mm.

## Press-in stud
Press-in forces

## Clifa®-SA/SAD

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. The hole diameter of the part to be screwed on ≈ A +0,6 mm.

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# Threaded ends for press-in grub screws

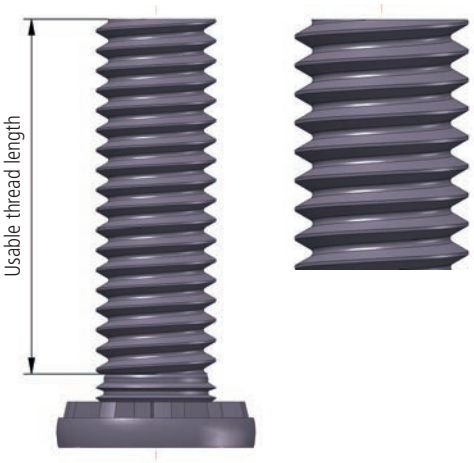
## Clifa®-SP/-SPD
## Clifa®-SA/-SAD

### Application

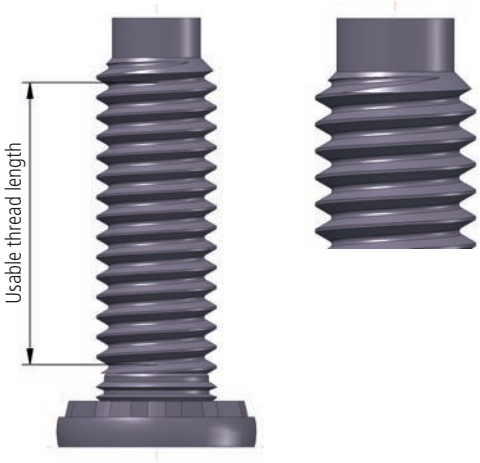
Depending on the demands placed on the Clifa® press-in grub screws, we offer a variety of threaded ends. Further threaded ends on request.

| 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**