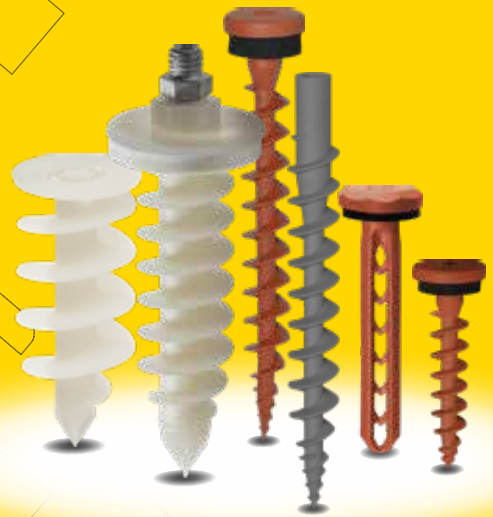


CELO

Insulation-
fixings



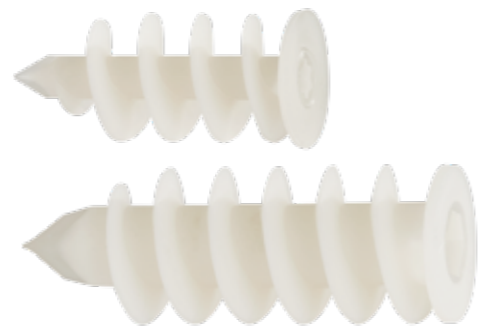


Insulation plug IPL 95DS
The perfect solution for fixing rainwater downpipes without a thermal bridge in ETICS

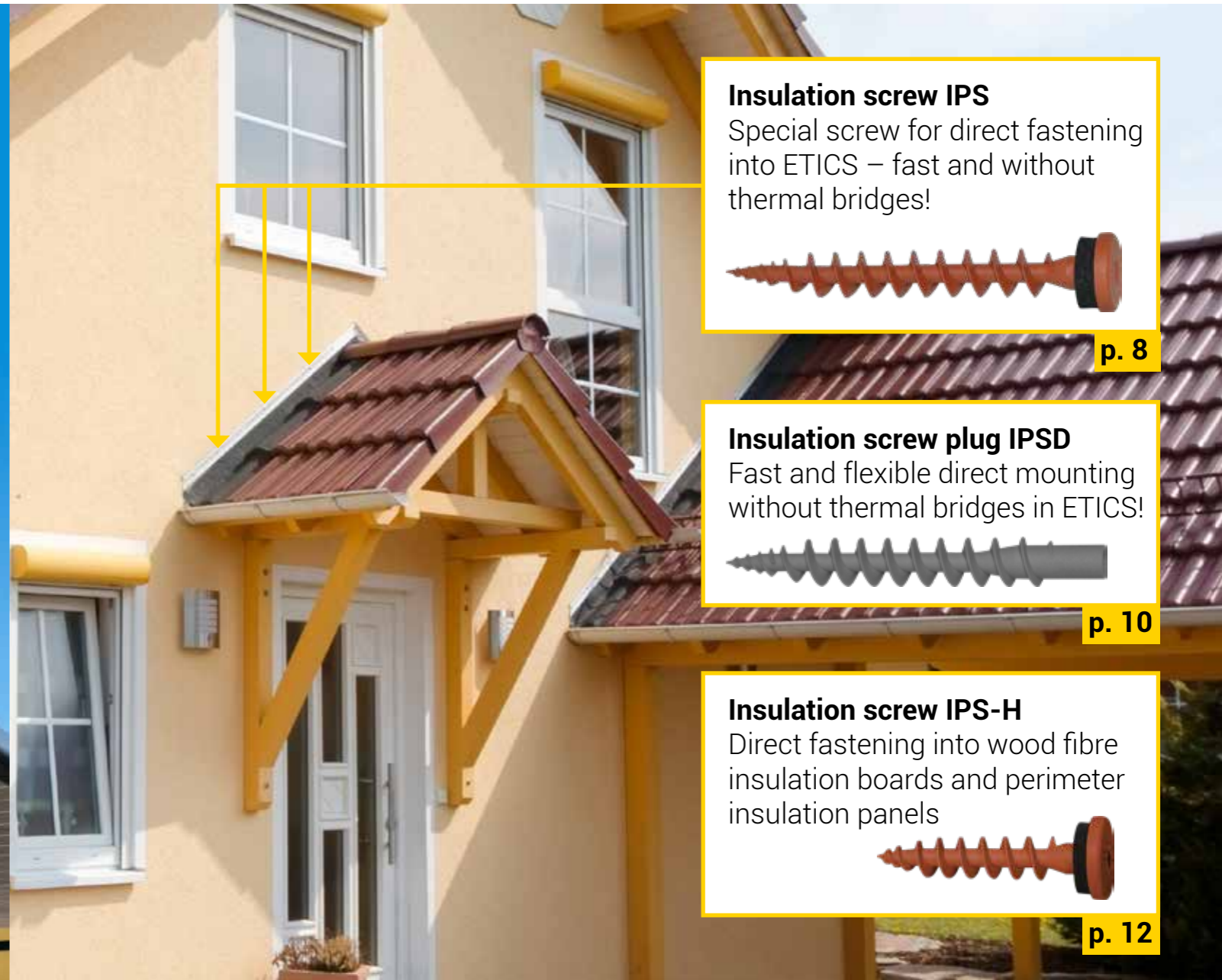


p. 6

ETICS- Insulation plug IPL – fast, practical, durable



p. 4



Insulation screw IPS
Special screw for direct fastening into ETICS – fast and without thermal bridges!



p. 8

Insulation screw plug IPSD
Fast and flexible direct mounting without thermal bridges in ETICS!



p. 10

Insulation screw IPS-H
Direct fastening into wood fibre insulation boards and perimeter insulation panels



p. 12



Universal Spreading Nail USN
Innovative fastening for wall connection profiles in concrete and masonry without insulation – simple and fast



p. 14

ETICS-Insulation plug IPL – Fast, easy-to-use and durable

Material: Nylon

- ageing, weather-, and UV-resistant
- paintable

Direct fastening
into the insulation material

- no thermal bridge

**Total length IPL 60: 58 mm
IPL 95: 95 mm**

- for high pull-out values
- suitable for most current insulation thicknesses

Sharp cutting tip and hard polyamid/nylon

- no predrilling necessary; drills reliably even through hard ETICS plaster (≤ 7 mm)
- saves time, no additional setting tool needed
- fast, with low pressure

IPL 60 installation with duo-bit

- no bit change is necessary
- saves time and money
- PZ2/TX40, TX20/TX40 and TX25/TX40

Colour white, semi-transparent

- good appearance



Application coat hook, lamp

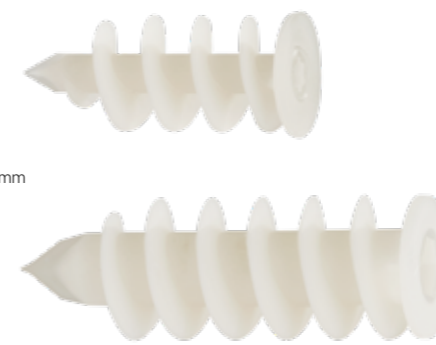


Application house number sign



Application lamp

IPL 60
Head \varnothing 25 mm



IPL 95
head \varnothing 32 mm, incl. 1x screw
M8 x 30 as setting tool

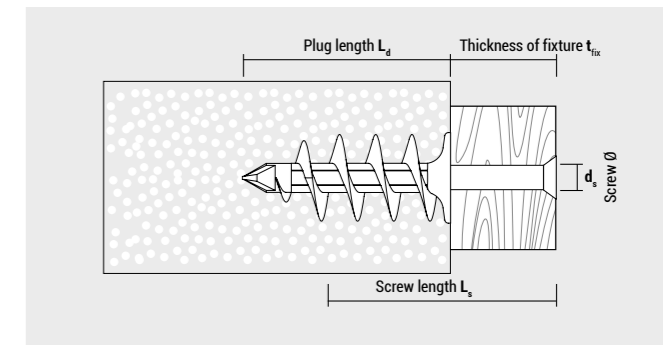
BEST
NYLON
QUALITY

Suitable building materials

- ✓ External Thermal Insulation Composite Systems (ETICS)
- ✓ Polystyrene boards
- ✓ Heraklith boards
- ✓ Hard foam boards
- ✓ Wood fibre insulation boards (Pre-drill: 8mm for IPL60, 13mm for IPL95)

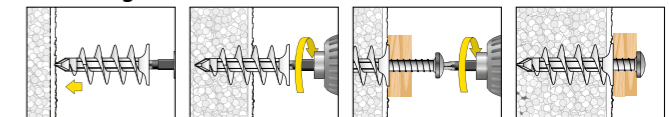
Typical applications

- ▶ Wall connection profiles
- ▶ Base protection profiles
- ▶ Cornice covers
- ▶ Lamps
- ▶ Signs, metal sheets
- ▶ Motion detectors

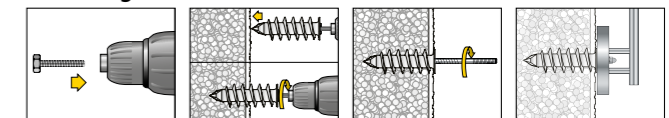


Mounting

Mounting IPL 60



Mounting IPL 95



Recommendation: Seal plug collar after setting with silicone/acryl to prevent the entry of water into the insulation material

▶ Watch video at www.celofixings.com

| IPL (in box) | | | | | | Packing | |
|--------------|--------|---------------------|--------|---------------------|----------------------|---------|-------|
| Type | Art-No | L _d [mm] | Recess | d _s [mm] | L _s [mm] | [pcs] | [pcs] |
| IPL 60 | 960IPL | 58 | TX 40 | 4,5 - 5,0 | 30 + t _{fm} | 25 | 300 |
| IPL 95 | 995IPL | 95 | SW 13 | 8 / 10 / M8 | 40 + t _{fm} | 25 | 200 |



| IPL (in blister) | | | | | | Packing | |
|---------------------------|-----------|--------|--------|---------------------|----------------------|---------|-----------|
| Type | Art-No | L [mm] | Recess | d _s [mm] | L _s [mm] | [pcs] | [blister] |
| IPL 60 Blister | 560IPL4 | 58 | TX 40 | 4,5 - 5,0 | 30 + t _{fm} | 4 | 10 |
| IPL 60 Blister with screw | 560IPLPZ4 | 58 | TX 40 | 4,5 x 40 | 30 + t _{fm} | 4 | 10 |
| IPL 95 Blister | 595IPL2 | 95 | SW 13 | 8, 10, M8 | 40 + t _{fm} | 2 | 10 |

Loads and dimensions

| Type | Applications in Polystyrene EPS (PS15, PS20) F _{rec} [kN] | Applications in Polystyrene XPS F _{rec} [kN] | Use with | Screw insertion depth | |
|--------|--|---|--|-----------------------|-----------|
| | | | | min. [mm] | max. [mm] |
| IPL 60 | 0,05 | 0,10 | chipboard screws \varnothing 4,5 - 5,0 | 30 | 50 |
| IPL 95 | 0,10 | 0,20 | hanger bolts \varnothing 8, \varnothing 10 and M8 screws | 40 | 80 |

F_{rec}: Recommended load in all directions incl. safety factor of 7



| Duo-Bit für IPL 60 | | | | Packing | |
|--------------------|------------|-------------|----------------------|---------|-----------|
| Type | Art-No | Dimensions | For use with | [pcs] | [blister] |
| TX20/TX40 | 7DTX20TX40 | 1/4" x 43mm | IPL60 and TX20 screw | 2 | 10 |
| TX25/TX40 | 7DTX25TX40 | 1/4" x 43mm | IPL60 and TX25 screw | 2 | 10 |
| PZ2/TX40 | 7DPZ2TX40 | 1/4" x 43mm | IPL60 and PZ2 screw | 2 | 10 |

Packed 2 pcs in a robust plastic box with EURO-punching



The perfect solution for fixing rainwater downpipes without a thermal bridge in ETICS

Length 95 mm

- For high pull-out and shear loads
- Usable for almost all insulated facades (≥ 100 mm)

50 mm internal metric thread M10

- Wide adjustment of 25 mm

Outer hexagon (SW17)

- Installation possibility for the plug

TX drive (TX25) and hexagon head (SW13)

- Several alternatives for installation and adjustment (outside hex-head: for firm tightening in the nut of the downpipe clamp)

Sharp drill point

- No pre-drilling required in ETICS
- Fast, less pressure needed

Material: Hard polyamide

- For perfect drilling through the plaster
- Ageing resistant

Color: Semi transparent

- Good appearance
- Paintable

Verstellbar adjustable

Foamed EPDM sealing ring, one-side glued, white

- Almost invisible
- UV-resistant
- Permanent sealing

Special threaded stud M10 or M8 (Zinc flake coating or stainless steel A2)

- Easy adjustment for perfect installation
- High corrosion resistance

The special threaded stud is pre-assembled in the plug up to the cap. The downpipe will have the usual distance from the wall of about 30 mm

- Extremely fast in installation
- No loose parts



IPL 95DS installed



Application holder for window shutters



Application downpipes



Suitable building materials

- External Thermal Insulation Composite Systems (ETICS)
- Wood fibre insulation boards (pre-drilling: 13mm)
- Hard foam boards
- Polystyrene boards
- Heraklith boards

Typical applications

- Wall connection profiles
- Base protection profiles
- Cornice covers
- Holder for window shutters
- Lamps
- Signs, metal sheets
- Motion detectors



| IPL 95DS (in bag) sealing cap $\varnothing = 44,5$ mm | | | | | | | Packing | |
|---|-------------|------------|-------------------------------|----------------------------|-------------------|------------------------|---------|-------|
| Type | Art-No | L_d [mm] | Recess | Internal thread d_s [mm] | Connecting thread | Material threaded stud | [pcs] | [pcs] |
| IPL 95DS M8 | ZG895IPLDS4 | 95 | plug: SW17 stud: SW13/TX25 | M10 | M8 | Zinc flake coating | 4 | 80 |
| IPL 95DS | ZG95IPLDS4 | 95 | | M10 | M10 | Zinc flake coating | 4 | 80 |
| IPL 95DS A2 | X95IPLDS4 | 95 | | M10 | M10 | Stainless steel A2 | 4 | 80 |

Packed by 4 pcs incl. installation instruction in a bag

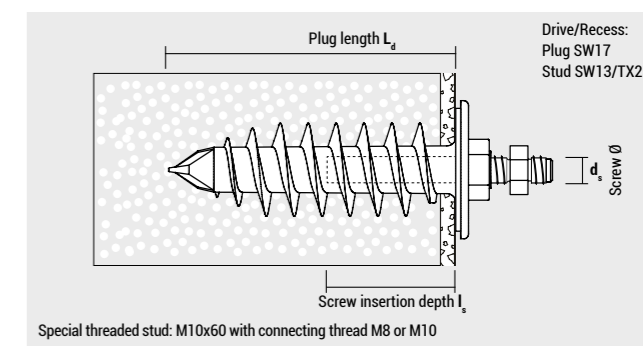


| IPL 95D (in box) sealing cap $\varnothing = 44,5$ mm | | | | | | Packing | |
|--|---------|------------|-----------------------|-------|-------|---------|--|
| Type | Art-No | L_d [mm] | Internal thread d_s | Drive | [pcs] | [pcs] | |
| IPL 95D | 995IPLD | 95 | M10 | SW17 | 20 | 160 | |

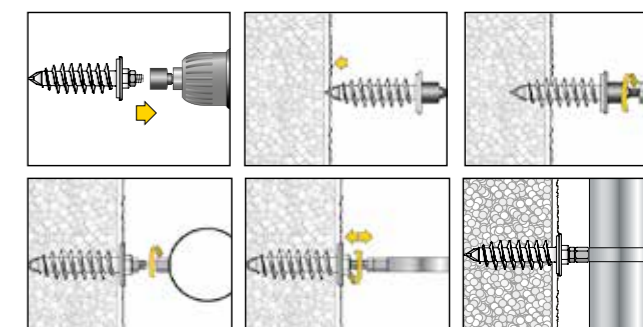
Loads and dimensions

| Type | Application in Polystyrene EPS (PS15, PS20) F_{rec} [kN] | Application in Polystyrene XPS F_{rec} [kN] | Special threaded stud | Screw insertion depth I_s | |
|----------|--|---|--|-----------------------------|----------|
| | | | | min [mm] | max [mm] |
| IPL 95DS | 0,10 | 0,20 | M10, Total length 60 mm Thread inside the plug: 50 mm | 20 | 50 |

F_{rec} : Recommended load in all directions incl. safety factor of 7



Mounting



- The IPL 95DS can be installed with a hexagon SW17 (recommended), hexagon SW13 socket or TX25 bit
- The special threaded stud can be adjusted up to 25 mm.
- Tip: If the plug should rotate, fixate it with a wrench SW17.

Watch video at www.celofixings.com



Special screw for direct fastening into external thermal insulation composite systems (ETICS) – extremely fast and without thermal bridges!

Length 80 mm
– suitable for nearly all insulated facades (from 80 mm) out of polystyrene boards etc.

Screw made out of **glass fibre-reinforced nylon**; ageing, weather and UV-resistant

Stylish flat head with EPDM sealing for optimal sealing and adaption to the ground

The IPS is available in **different colours** to match with the most common materials

TX-Drive (TX25) for a fast and easy installation

No pre-drilling in plaster (≤ 7 mm) due to **sharp drilling tip**; extremely fast mounting

A distinctive thread ensures good hold in insulation boards, furthermore the IPS fits through a $\varnothing 8$ hole

Head hole; allows light duty fixings in combination with a screw $\varnothing 3,5$ mm

Insulation screw IPS is perfectly suitable for **direct fastening into insulation materials without thermal bridges** of wall connection profiles, metal sheets, base protection profiles, cornice covers, motion detectors, lamps, signs, etc.



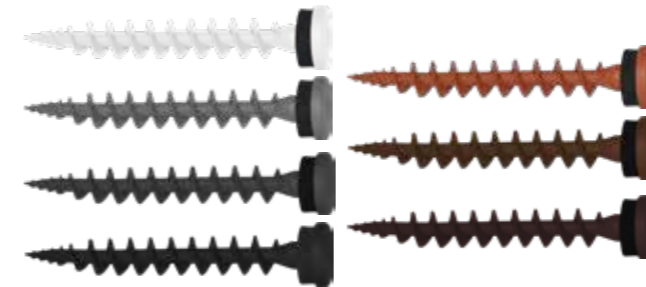
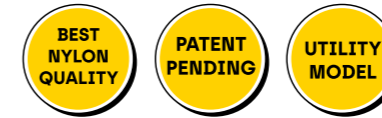
IPS installed



Application motion detector



Application wall connection profiles



Suitable building materials

- ✓ External Thermal Insulation Composite Systems (ETICS)
- ✓ Styrofoam boards
- ✓ Hard foam boards
- ✓ Polystyrene boards
- ✓ Wood fibre boards

Typical applications

- ▶ Wall connection profiles
- ▶ Base protection profiles
- ▶ Cornice covers
- ▶ Lamps
- ▶ Signs, metal sheets
- ▶ Motion detectors



IPS 80 (in box) with EPDM sealing, head $\varnothing = 16,0$ mm

| Type | Art-No | RAL-Code | L [mm] | Drive | d_f [mm] | Packing | |
|------------------------|----------|----------|--------|-------|------------|---------|-------|
| | | | | | | [pcs] | [pcs] |
| IPS 80 Signal white | 9180IPS | RAL 9003 | 80 | TX 25 | 8 – 10 | 50 | 900 |
| IPS 80 Telegrey | 9GR80IPS | RAL 7045 | 80 | TX 25 | 8 – 10 | 50 | 900 |
| IPS 80 Anthracite grey | 9AN80IPS | RAL 7016 | 80 | TX 25 | 8 – 10 | 50 | 900 |
| IPS 80 Traffic black | 9480IPS | RAL 9017 | 80 | TX 25 | 8 – 10 | 50 | 900 |
| IPS 80 Copper brown | 9CO80IPS | RAL 8004 | 80 | TX 25 | 8 – 10 | 50 | 900 |
| IPS 80 Sepia brown | 9M80IPS | RAL 8014 | 80 | TX 25 | 8 – 10 | 50 | 900 |
| IPS 80 Chocolate brown | 9MO80IPS | RAL 8017 | 80 | TX 25 | 8 – 10 | 50 | 900 |



IPS 80 (in blister) incl. stainless steel A2 screws, PH2

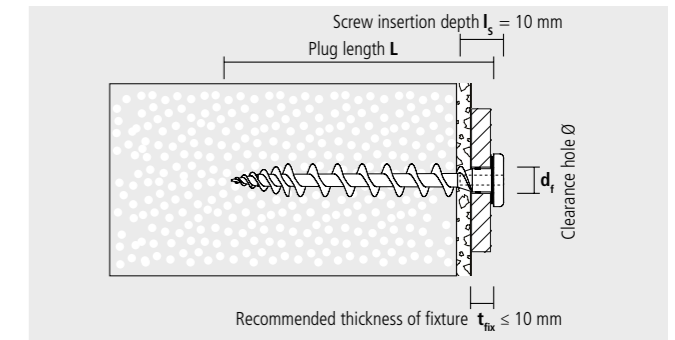
| Type | Art-No | plug length L [mm] | plug recess | clearance hole d_f [mm] | screw- \varnothing x length $d_s \times L_s$ [mm] | type of screw | Packing | |
|-----------|------------|--------------------|-------------|---------------------------|---|---------------|---------|-----------|
| | | | | | | | [pcs] | [blister] |
| IPS 80 PH | 5180IPSPH4 | 80 | TX 25 | 8 – 10 | 3,5 x 13 + 3,5 x 16 | | 4 | 10 |

Loads and dimensions

| Type | Application in Polystyrene EPS (PS15, PS20) unplastered | Application in Polystyrene EPS (PS15, PS20) plastered | Application in Rockwool, Coverrock Plus unplastered | Thickness of insulation material |
|--------|---|---|---|----------------------------------|
| IPS 80 | F_{rec} [kN] 0,04 | F_{rec} [kN] ca. 0,06* | F_{rec} [kN] 0,02 | \geq [mm] 80 |

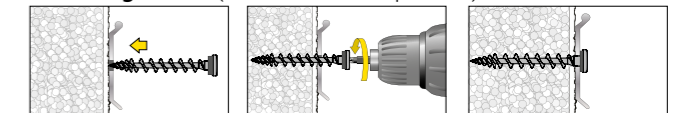
F_{rec} : Recommended load in all directions incl. safety factor of 5

* Value may differ depending on the type and thickness of the plaster

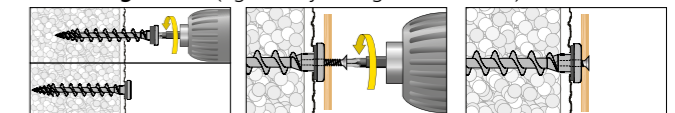


Mounting

Mounting IPS 80 (wall connection profiles):



Mounting IPS 80 (light duty fixings with screw):



Usable with: Screw- \varnothing 3,5 mm; screw length $L_s = 10$ mm + thickness of fixture

▶ Watch video at www.celofixings.com



Fast and flexible direct mounting without thermal bridges in ETICS!

Length 80 mm
– suitable for nearly all insulated ETICS facades (from 80 mm)

Plug made out of **glass fibre-reinforced nylon**; ageing and weather resistant

Perfectly matched internal geometry allows easy screwing in of the plumber screw

Can be screwed into **clearance holes $\geq \varnothing 8$ mm**

Optional: TX drive (TX25) for pre-insert mounting and for disassembly

Pre-drilling in plaster usually not necessary (≤ 7 mm) due to **sharp drilling tip**; extremely fast mounting

The distinctive thread ensures good hold in insulation boards

To be used with **plumber screws 4,5x25 mm**

The Insulation screw plug IPSD 80 is perfectly suitable for **direct fastening into insulation materials without a thermal bridge** of wall connection profiles and other light duty fixings like motion detectors.
Suitable insulation materials: Styrofoam boards, hard foam boards, polystyrene boards, wood fibre boards, suitable to a limited extent: mineral wool boards



IPSD installed with plumber screw



Application outdoor lamp



Application wall connection profile

BEST NYLON QUALITY

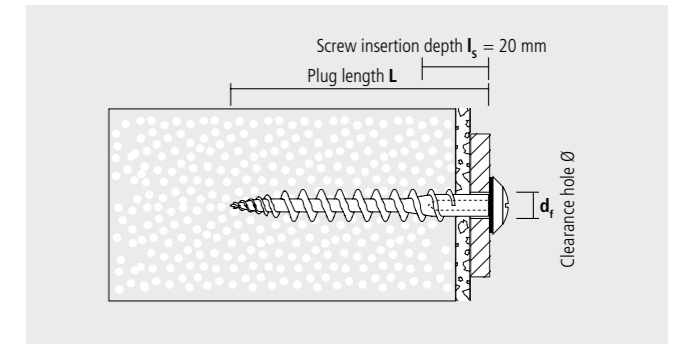


Suitable building materials

- ✓ External Thermal Insulation Composite Systems (ETICS)
- ✓ Styrofoam boards
- ✓ Hard foam boards
- ✓ Polystyrene boards
- ✓ Wood fibre boards

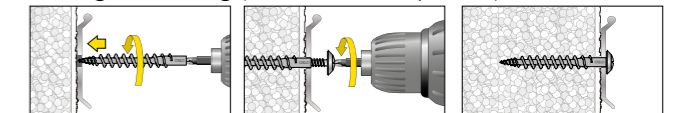
Typical applications

- ▶ Wall connection profiles
- ▶ Base protection profiles
- ▶ Cornice covers
- ▶ Small lamps
- ▶ Signs, metal sheets
- ▶ Motion detectors



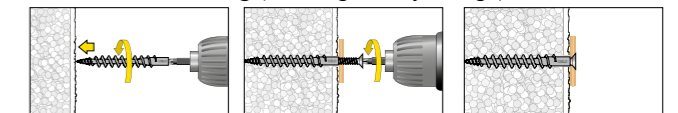
Mounting

Through mounting (wall connection profiles):



Recommended plumber screw: 4,5x25 mm

Pre-insert mounting (other light duty fixings):



The IPSD 80 can be installed using a TX25 bit.
Usable with screw $\varnothing 4,0$ mm;
Screw length $L_s = 15 - 20$ mm + thickness of fixture

IPSD 80 (in box)

| Type | Art-No | L [mm] | Drive* | d _f [mm] | Packing | |
|---------|-----------|--------|--------|---------------------|---------|-------|
| | | | | | [pcs] | [pcs] |
| IPSD 80 | 9GR80IPSD | 80 | TX 25 | min. 8 | 50 | 1.350 |

* Normally, the screw is screwed into the IPSD 80 by hand and during the setting procedure the screw screws itself into the plug. However, the IPSD 80 can also be installed or removed using a TX25 bit.

Loads and dimensions

| Type | Application in Polystyrene EPS (PS15, PS20) unplastered | Application in Polystyrene EPS (PS15, PS20) plastered | Application in Rockwool, Coverrock Plus unplastered | Thickness of insulation material |
|---------|---|---|---|----------------------------------|
| | F _{rec} [kN] | F _{rec} [kN] | F _{rec} [kN] | \geq [mm] |
| IPSD 80 | 0,04 | ca. 0,06* | 0,02 | 80 |

F_{rec}: Recommended load in all directions incl. safety factor of 5

* Value may differ depending on the type and thickness of the plaster



Direct fastening into wood fibre insulation boards and perimeter insulation panels – extremely fast and without thermal bridges

7 colours

- Matched to the most common metal colours
- Great look

Stylish flat head with EPDM sealing

- for optimal sealing and adaption to the ground

TX-Drive (TX25)

- for a fast and easy installation



No pre-drilling in plaster (≤ 7 mm) due to **sharp drilling tip**; extremely fast mounting

Sharp drilling tip

- Direct mounting in plastered insulation possible
- No Pre-drilling in plaster
- **Enormous time saving**

Very distinctive thread

Very good hold in wood fibre insulation boards

- Can be screwed into holes $\varnothing 8$ (usual hole diameter for wall connection profiles!)
- **No thermal bridge**

Head hole; allows light duty fixings in combination with a screw $\varnothing 3,5$ mm

Head hole

- additional application options with chipboard screws $\varnothing 3,5$ mm

The insulation screw IPS-H is perfectly suitable for **direct fixing without thermal bridges** in wood fibre insulation boards of wall connection profiles, protection panels, cornice covers as well as other panels such as signs (can also be fixed with a 3.5 mm screw in the head hole of the IPS-H. Screw length: $L_s = 10\text{mm} + t_{\text{fix}}$), lamps and letter boxes



IPS-H installed



Application wall connection terrace



Application wall connection profile

BEST NYLON QUALITY

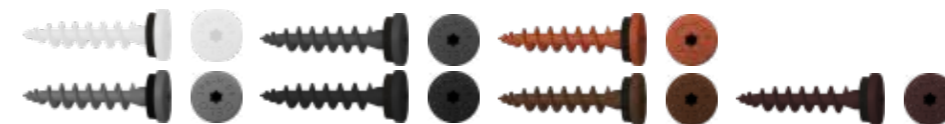


Suitable building materials

- ✓ Wood fibre insulation boards
- ✓ Perimeter insulation panels

Typical applications

- ▶ Wall connection profiles
- ▶ Base protection profiles
- ▶ Cornice covers
- ▶ Small lamps
- ▶ Signs, metal sheets
- ▶ Motion detectors
- ▶ Letterboxes



IPS-H (in box) with EPDM sealing, head $\varnothing = 16,0$ mm

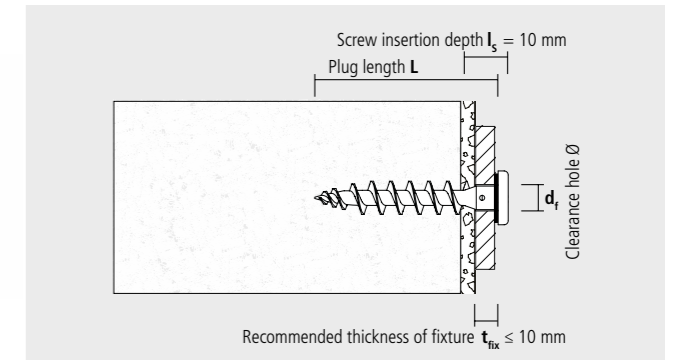
| Type | Art-No | RAL-Code | L [mm] | Drive | d_f [mm] | Packing | |
|-----------------------|-----------|----------|--------|-------|------------|---------|-------|
| | | | | | | [pcs] | [pcs] |
| IPS-H Signal white | 9155IPSH | RAL 9003 | 55 | TX 25 | 8 – 10 | 50 | 1.350 |
| IPS-H Telegrey | 9GR55IPSH | RAL 7045 | 55 | TX 25 | 8 – 10 | 50 | 1.350 |
| IPS-H Anthracite grey | 9AN55IPSH | RAL 7016 | 55 | TX 25 | 8 – 10 | 50 | 1.350 |
| IPS-H Traffic black | 9455IPSH | RAL 9017 | 55 | TX 25 | 8 – 10 | 50 | 1.350 |
| IPS-H Copper brown | 9CO55IPSH | RAL 8004 | 55 | TX 25 | 8 – 10 | 50 | 1.350 |
| IPS-H Sepia brown | 9M55IPSH | RAL 8014 | 55 | TX 25 | 8 – 10 | 50 | 1.350 |
| IPS-H Chocolate brown | 9MO55IPSH | RAL 8017 | 55 | TX 25 | 8 – 10 | 50 | 1.350 |

Loads and dimensions

| Type | Application in wood fibre insulation boards unplastered | Application in wood fibre insulation boards plastered | Application in Polystyrene EPS + XPS (perimeter insulation) | Thickness of insulation material |
|-------|---|---|---|----------------------------------|
| | F_{rec} [kN] | F_{rec} [kN] | F_{rec} [kN] | \geq [mm] |
| IPS-H | 0,10* | ca. 0,12* | 0,07* | 60 |

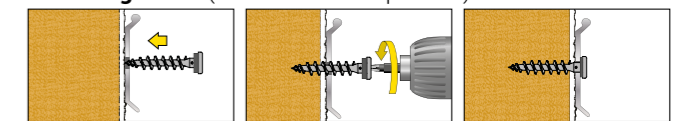
F_{rec} : Recommended load in all directions incl. safety factor of 5

* Value may differ depending on the type and thickness of the plaster

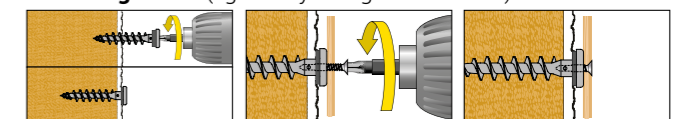


Mounting

Mounting IPS-H (wall connection profiles)



Mounting IPS-H (light duty fixings with screw)



Usable with: Screw $\varnothing 3,5$ mm
Screw length $L_s = 10$ mm + thickness of fixture



Innovative fastening for wall connection profiles in non-insulated façades – simple and quick

Available in 2 lengths (40 or 60) for clamping thicknesses from 5-25 mm or install deeper for higher load values, especially in perforated bricks

Suitable in almost all common building materials with good pull-out values; suitable for **concrete, solid bricks and perforated bricks**

Electrical contact protection through the use of plastics

Innovative **direct fastening** of wall connection profiles, metal sheets, base protection profiles, cornice covers, motion detectors, small lamps, signs, etc. **without thermal bridge**

Spreading nail made out of **glass-fibre reinforced nylon** „Made in Germany“; ageing, weather, and UV- resistant

Visually attractive head with high quality EPDM sealing ring for optimal sealing and adaption to the ground

The **patented elastic V-shaped spring elements** ensure a high spreading force

Easy disassembly by **knocking off** or **drilling out** the head

The USN is available in **different colours**



Application wall connection profile above garage

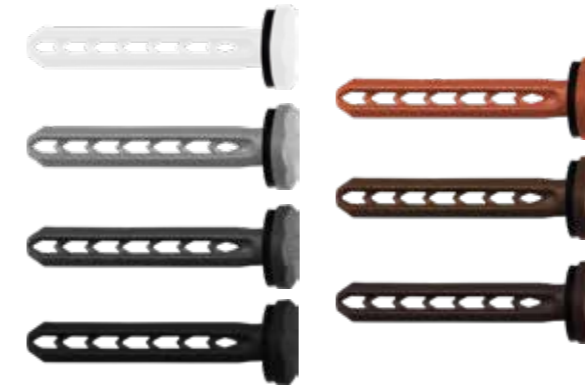


Application wall connection on canopy



Application wall connection profile

- BEST
NYLON
QUALITY
- PATENTED
- UTILITY
MODEL



Suitable building materials

- ✓ Concrete
- ✓ Aerated concrete (only P6)
- ✓ Natural stone
- ✓ Hollow brick
- ✓ Solid brick
- ✓ Hollow sand-lime brick
- ✓ Solid sand-lime brick
- ✓ Lightweight hollow concrete blocks
- ✓ Lightweight solid concrete blocks

Typical applications

- ▶ Wall connection profiles
- ▶ Signs, metal sheets
- ▶ Base protection profiles
- ▶ Motion detectors
- ▶ Cornice covers
- ▶ Other lightweight fixings
- ▶ Lamps



Profile USN with EPDM-sealing ring, head Ø = 15,0 mm

| Type | RAL-Code |
|---------------------|----------|
| USN Signal white | RAL 9003 |
| USN Telegrey | RAL 7045 |
| USN Anthracite grey | RAL 7016 |
| USN Traffic black | RAL 9017 |
| USN Copper brown | RAL 8004 |
| USN Sepia brown | RAL 8014 |
| USN Chocolate brown | RAL 8017 |

USN 40 (in box)

| Art.-No. | d ₀ - L _d [mm] | h ₁ ≥ [mm] | h _{nom} ≥ [mm] | t _{fix} ≤ [mm] | Packing | |
|----------|--------------------------------------|-----------------------|-------------------------|-------------------------|---------|---------|
| | | | | | 📦 [pcs] | 📦 [pcs] |
| 9140USN | 6-40 | 40 | 35 | 5 | 100 | 1.800 |
| 9GR40USN | 6-40 | 40 | 35 | 5 | 100 | 1.800 |
| 9AN40USN | 6-40 | 40 | 35 | 5 | 100 | 1.800 |
| 9440USN | 6-40 | 40 | 35 | 5 | 100 | 1.800 |
| 9CO40USN | 6-40 | 40 | 35 | 5 | 100 | 1.800 |
| 9M40USN | 6-40 | 40 | 35 | 5 | 100 | 1.800 |
| 9MO40USN | 6-40 | 40 | 35 | 5 | 100 | 1.800 |

USN 60 (in box)

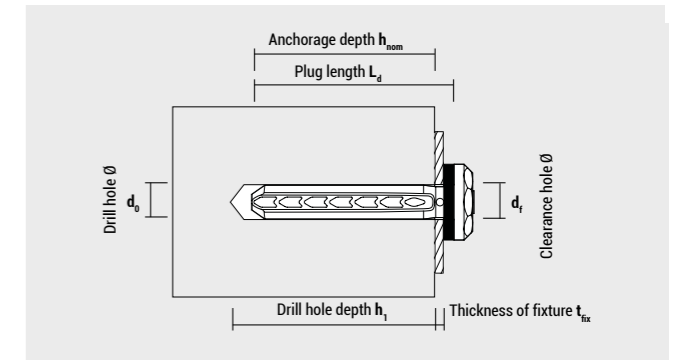
| Art.-No. | d ₀ - L _d [mm] | h ₁ ≥ [mm] | h _{nom} ≥ [mm] | t _{fix} ≤ [mm] | Packing | |
|----------|--------------------------------------|-----------------------|-------------------------|-------------------------|---------|---------|
| | | | | | 📦 [pcs] | 📦 [pcs] |
| 9160USN | 6-60 | 60 | 35 | 25 | 75 | 1.350 |
| 9GR60USN | 6-60 | 60 | 35 | 25 | 75 | 1.350 |
| 9AN60USN | 6-60 | 60 | 35 | 25 | 75 | 1.350 |
| 9460USN | 6-60 | 60 | 35 | 25 | 75 | 1.350 |
| 9CO60USN | 6-60 | 60 | 35 | 25 | 75 | 1.350 |
| 9M60USN | 6-60 | 60 | 35 | 25 | 75 | 1.350 |
| 9MO60USN | 6-60 | 60 | 35 | 25 | 75 | 1.350 |

Loads and dimensions F_{empt}

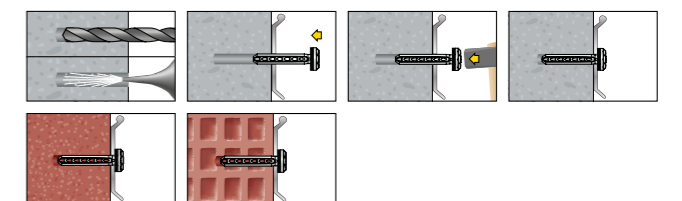
| Type | h _{nom} [mm] | Concrete | | Hollow brick HLz 12 | | Hollow brick HLz 6 (Poroton T10) | | Hollow brick HLz 6 (Poroton T8) | | Aerated concrete AAC6 | |
|--------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|----------------------------------|-----------------------|---------------------------------|-----------------------|-----------------------|-----------------------|
| | | F _{rec} [kN] | F _{eff} [kN] | F _{rec} [kN] | F _{eff} [kN] | F _{rec} [kN] | F _{eff} [kN] | F _{rec} [kN] | F _{eff} [kN] | F _{rec} [kN] | F _{eff} [kN] |
| USN 40 | 35 | 0,10 | 0,70 | 0,08 | 0,56 | 0,05 | 0,35 | 0,06 | 0,42 | 0,04 | 0,30 |
| USN 60 | 55 | 0,13 | 0,91 | 0,09 | 0,61 | 0,06 | 0,43 | 0,06 | 0,45 | 0,04 | 0,31 |

F_{rec}: Recommended loads incl. safety factor of 7

F_{eff}: Effective pull out loads excl. safety factor



Mounting



The USN can be removed in two ways:
 1. **Knock off the head** using a chisel or a screwdriver.
 2. **Drill out the head** with a drill bit that it falls apart (The USN has a small notch on the head which helps to guide a drill bit).

CELO

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