

CELO

**Insulation
fixings**



Insulation plug IPL

Advantages



IPL 60



IPL 95



Fast, easy-to-use and durable



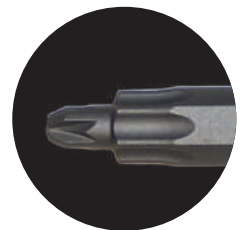
No predrilling thanks to the **sharp cutting tip** even through hard plaster (≤ 7 mm)



Ageing, weather-, and UV-resistant **nylon**



Mounting of IPL 60 with Duo-Bit: no bit change necessary, **saves time and money**



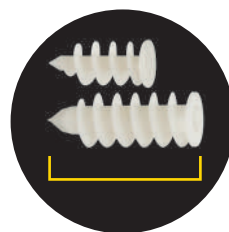
Duo-Bit for IPL 60:
PZ2/TX40
TX20/TX40
TX25/TX40



Colour: semi-transparent
good appearance,
paintable



High
load values



Total length 58 and 95 mm
suitable for **most insulation
thicknesses**



IPL 95 incl.
1 screw M8x30
as **setting tool**

Suitable building materials

Very suitable



- External Thermal Insulation Composite Systems (ETICS)
- Polystyrene boards
- Hard foam boards
- Heraklith boards
- Wood fibre insulation boards (pre-drilling: 8 mm for IPL60, 13 mm for IPL95, HSS-drill or wood drill recommended)

Approvals and certificates



IPL

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 _{fix}	25	300
IPL 95	995IPL	95	SW 13	8 / 10 / M8	40 + t _{fix}	25	200

IPL 60: Head-Ø 25 mm

IPL 95: Head-Ø 32 mm, **incl. 1x screw M8 x 30 as setting tool**



Blister IPL

Type	Art-No	L _d [mm]	Recess	d _s [mm]	L _s [mm]	[pcs]	[Blister]
IPL 60	560IPL4	58	TX 40	4,5 - 5,0	30 + t _{fix}	4	10
IPL 95	595IPL2	95	SW 13	8 / 10 / M8	40 + t _{fix}	2	10

IPL 60: Head-Ø 25 mm

IPL 95: Head-Ø 32 mm, **incl. 1x screw M8 x 30 as setting tool**



Blister IPL incl. screw PZ2

Type	Art-No	L _d [mm]	Recess	d _s x L _s [mm]	Type of screw	[pcs]	[Blister]
IPL 60	560IPLPZ4	58	TX 40	4,5 x 40		4	10



Duo-Bit TX20/TX40, TX25/TX40



Duo-Bit PZ2/TX40

Duo-Bit for IPL 60

Type	Art-No	Dimensions	For use with	[pcs]	[Blister]
TX20/TX40	7DTX20TX40	1/4" x 43 mm	IPL60 and TX20 screw	2	10
TX25/TX40	7DTX25TX40	1/4" x 43 mm	IPL60 and TX25 screw	2	10
PZ2/TX40	7DPZ2TX40	1/4" x 43 mm	IPL60 and PZ2 screw	2	10

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

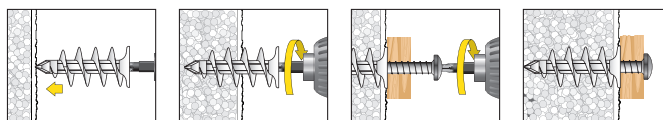
Loads and dimensions

Type	Applications in Polystyrene EPS (PS15, PS20) F _{rec} [kN]	Applications in Polystyrene XPS F _{rec} [kN]	For use with	Screw insertion depth	
				min. [mm]	max. [mm]
IPL 60	0,07	0,14	Chipboard screws Ø 4,5 - 5,0	30	50
IPL 95	0,14	0,28	Hanger bolts Ø8, Ø10 and M8 Screws	40	80

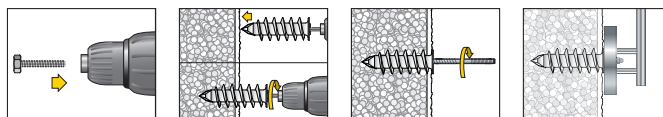
F_{rec}: Recommended load in all directions incl. safety factor of 5

Mounting

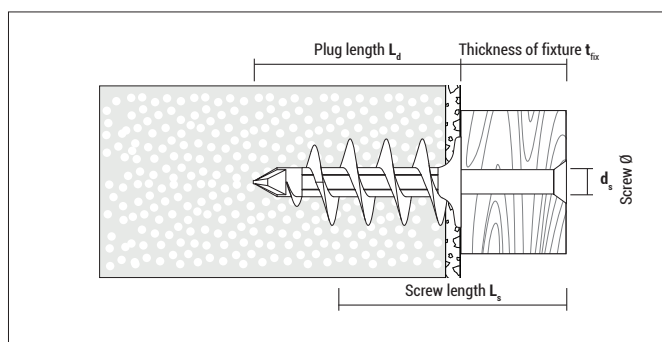
Mounting IPL 60



Mounting IPL 95



Recommendation: Seal plug collar after setting with silicone/acryl to prevent the entry of water into the insulation material.
Use **CELO StickFX CL**



Insulation plug IPL 95DS

Advantages



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



Distance to the wall adjustable,
wide adjustment of 25 mm



No predrilling thanks to the **sharp cutting tip** even through hard plaster [≤ 7 mm]



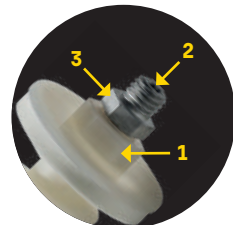
Threaded stud M8/ M10 zinc flake coating or **stainless steel A2**, high corrosion resistance



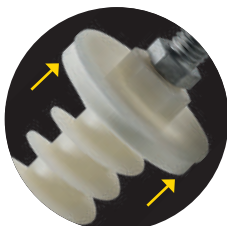
Length 95 mm, usable in almost all **insulated facades** [≥ 100 mm]



Colour: semi-transparent
good appearance,
paintable



Many mounting options
1 Outer hexagon [SW17]
2 TX25-drive
3 Outer hexagon [SW13]



Foamed EPDM sealing ring,
UV-resistant,
Permanent sealing



Pre-mounted special threaded stud, **no losable parts**,
extremely fast mounting



Material: hard polyamide,
for perfect drilling through the plaster, **very ageing resistant**

Suitable building materials

Very suitable



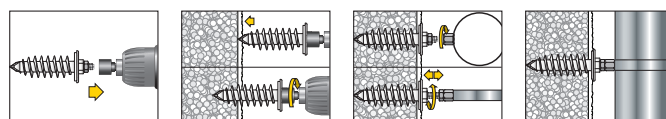
- External Thermal Insulation Composite Systems (ETICS)
- Hard foam boards
- Polystyrene boards
- Heraklith boards
- Wood fibre insulation boards (pre-drilling: 13 mm, HSS-drill or wood drill recommended)

Approvals and certificates

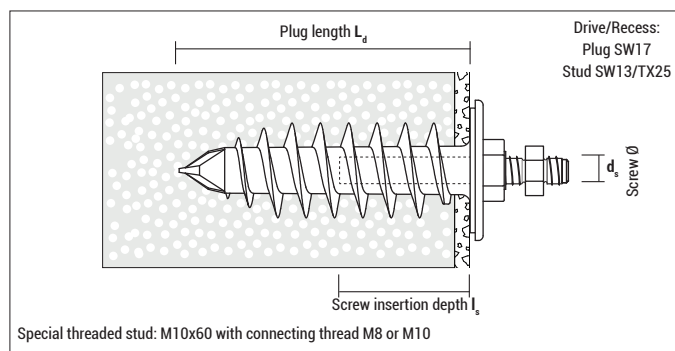


Tested for driving rain tightness by the Prüfbüro für Bauelemente

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.



IPL 95DS, zinc flake coated sealing cap Ø = 44,5 mm

Type	Art-No	L _d [mm]	Internal thread d _s	Connecting thread	Material threaded stud	[pcs]	[pcs]
IPL 95DS M8	ZG895IPLDS4	95	M10	M8	Zinc flake coating	4	80
IPL 95DS	ZG95IPLDS4	95	M10	M10	Zinc flake coating	4	80

Packed by 4 pcs incl. installation instruction in a bag



IPL 95DS, stainless steel A2 sealing cap Ø = 44,5 mm

Type	Art-No	L _d [mm]	Internal thread d _s	Connecting thread	Material threaded stud	[pcs]	[pcs]
IPL 95DS M8 A2	X895IPLDS4	95	M10	M8	Stainless steel A2	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 sealing cap Ø = 44,5 mm

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	Applications in Polystyrene EPS [PS15, PS20] F _{rec} [kN]	Applications in Polystyrene XPS F _{rec} [kN]	Special threaded stud	Screw insertion depth l _s	
				min [mm]	max [mm]
IPL 95DS / IPL 95D	0,14	0,28	Total length 60 mm Thread inside the plug: 50 mm	20	50

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

Insulation screw IPS

Advantages



Special screw for direct fastening into [ETICS] – extremely fast and without thermal bridges!



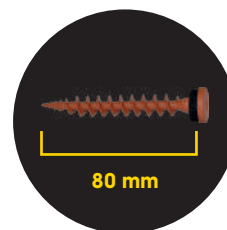
Extremely fast direct mounting of wall connection profiles



Made out of **glass fibre reinforced nylon**, ageing, weather and UV-resistant



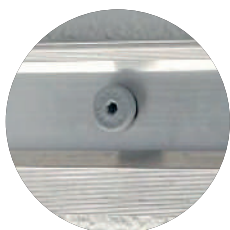
Flat head with EPDM-sealing, permanent sealing



Length 80 mm, suitable for nearly all insulated facades [from 80 mm]



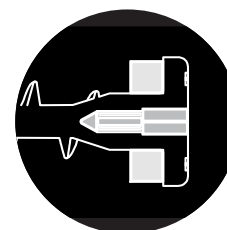
7 colours, matching the most common sheet colours



Fits through **holes ≥ 8 mm** [common for wall connection profiles or metal sheets]



TX25-drive for a fast and easy installation



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

Suitable building materials

Very suitable



- External Thermal Insulation Composite Systems (ETICS)
- Styrofoam boards
- Hard foam boards
- Polystyrene boards
- Wood fibre boards (IPS-H is recommended)

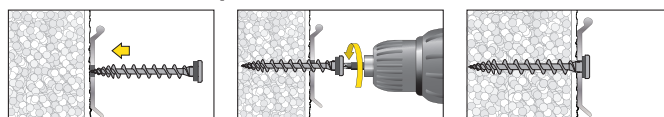
Approvals and certificates



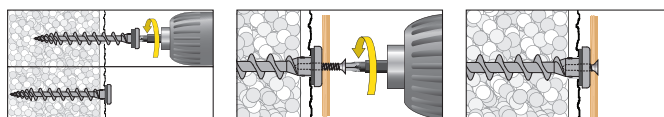
Tested for driving rain tightness by the Prüfzentrum für Bauelemente

Mounting

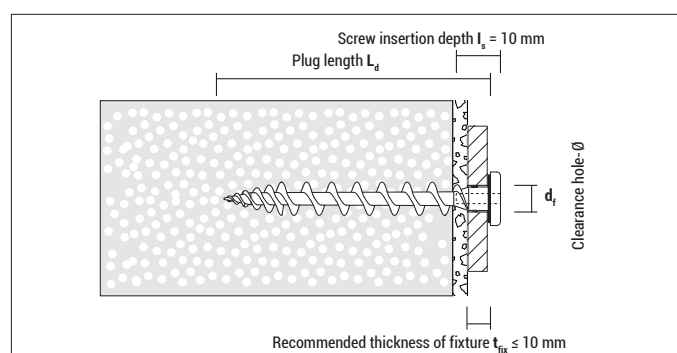
Wall connection profiles



Light duty fixings with screw



Usable with: Screw Ø 3,5 mm;
Screw length $L_s = 10 \text{ mm} + \text{Thickness of fixture}$



IPS 80 with EPDM sealing, head Ø = 16,0 mm

Type	Art-No	RAL-Code	L_d [mm]	Drive	d_f [mm]	[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



Blister IPS 80 incl. screws made of stainless steel A2, PH2



A2
STAINLESS
STEEL

Type	Art-No	L_d [mm]	Plug Recess	d_f [mm]	$d_s \times L_s$ [mm]	Type of screw	[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	Applications in Polystyrene EPS (PS15, PS20) unplastered F_{rec} [kN]	Applications in Polystyrene EPS (PS15, PS20) plastered F_{rec} [kN]	Application in Rockwool, Coverrock Plus unplastered ¹⁾ F_{rec} [kN]	Applications in Polystyrene XPS [perimeter insulation] F_{rec} [kN]	Thickness of insulation material ≥ [mm]
IPS 80	0,04	ca. 0,06*	0,02	0,09*	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

¹⁾ Avoid impact loads

Insulation screw plug IPSD

Advantages



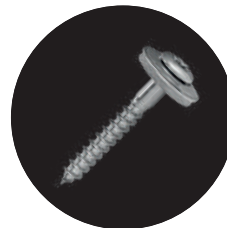
Fast and flexible direct mounting without thermal bridges in ETICS!



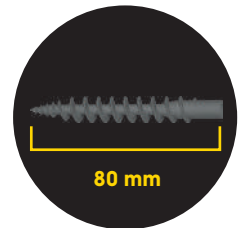
Extremely fast direct mounting of wall connection profiles



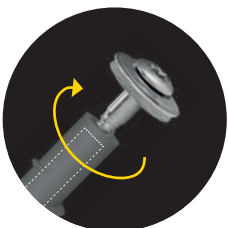
Made out of **glass fibre reinforced nylon**, ageing, weather and UV-resistant



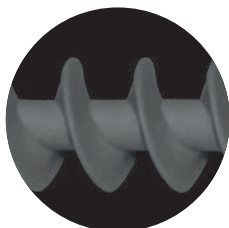
Perfect combination with **plumber screws 4,5x25 mm**



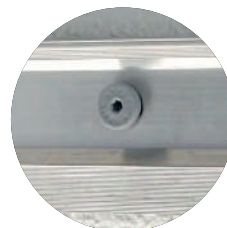
Length 80 mm, suitable for nearly all insulated facades (from 80 mm)



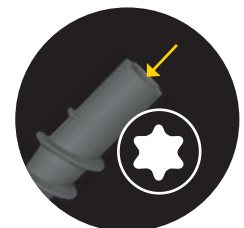
Perfectly matched internal geometry allows easy screwing in of the plumber screw



Very distinctive thread ensures good hold in insulation boards



Fits through **holes ≥ 8 mm** [common for wall connection profiles or metal sheets]



TX25 drive for fast mounting without changing bits

Suitable building materials

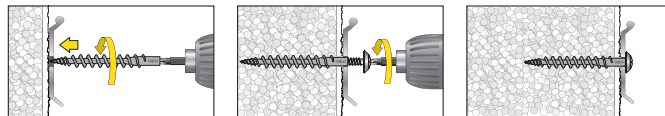
Very suitable



- External Thermal Insulation Composite Systems (ETICS)
- Styrofoam boards
- Hard foam boards
- Polystyrene boards
- Wood fibre boards (IPSD-H is recommended)

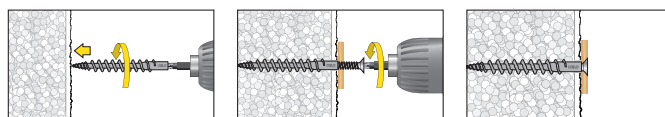
Mounting

Wall connection profiles



Recommended plumber screw: 4,5x25 mm

Light duty fixings with screw

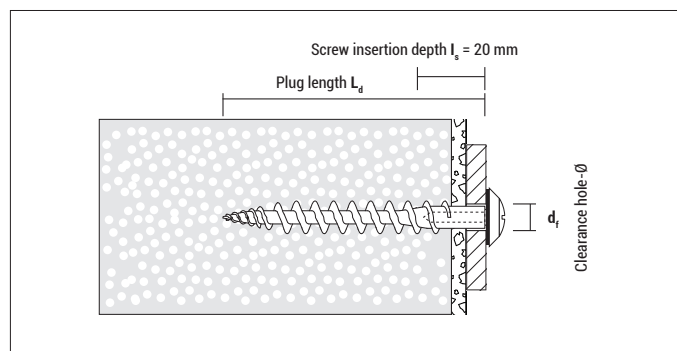


The IPSD 80 can be installed using a TX25 bit.
Usable with screw Ø 4,0 mm;
Screw length $L_s = 15 - 20 \text{ mm} + \text{Thickness of fixture}$

Approvals and certificates



Tested for driving rain tightness by the Prüfzentrum für Bauelemente



IPSD 80

Type	Art-No	L_d [mm]	Drive	d_i [mm]	[pcs]	[pcs]
IPSD 80	9GR80IPSD	80	TX 25	min. 8	50	1.350



Plumber screw PLS TX sealing washer Ø = 15,0 mm

A2
STAINLESS
STEEL

Type $d_0 \times L_s$	Art-No	Material	d_0 [mm]	L_s [mm]	Drive	[pcs]	[pcs]
4,5 x 25	9X4525PLST	stainless steel A2	4,5	25	TX 25	50	1.200
4,5 x 25	9XCO4525PLST	stainless steel A2, copper plated	4,5	25	TX 25	50	1.200

Loads and dimensions

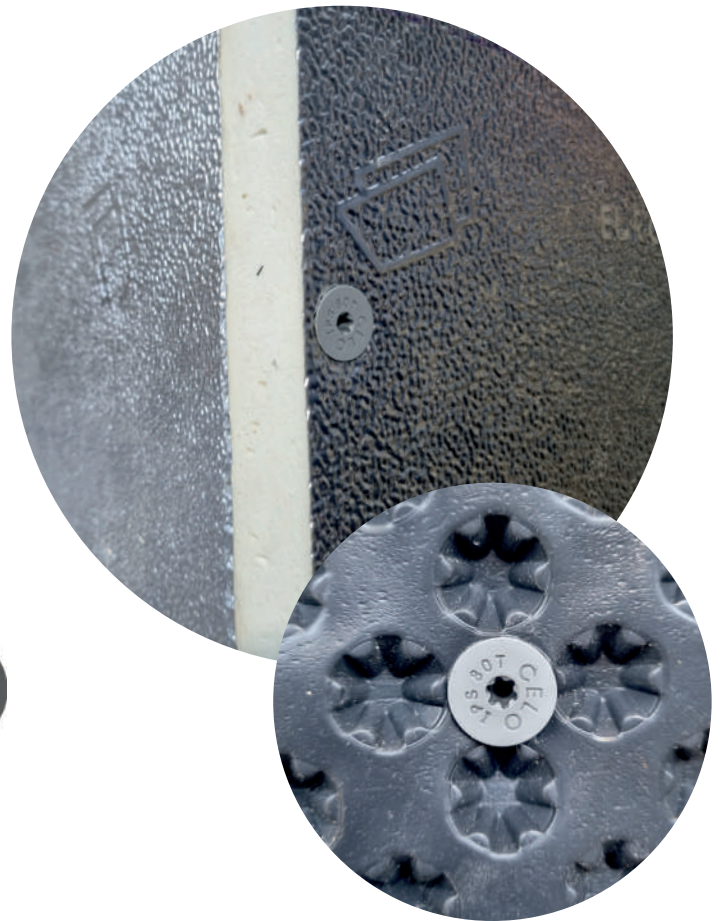
Type	Applications in Polystyrene EPS (PS15, PS20) unplastered F_{rec} [kN]	Applications in Polystyrene EPS (PS15, PS20) plastered F_{rec} [kN]	Application in Rockwool, Coverrock Plus unplastered F_{rec} [kN]	Applications in Polystyrene XPS [perimeter insulation] F_{rec} [kN]	Thickness of insulation material ≥ [mm]
IPSD 80	0,04	ca. 0,06*	0,02	0,09*	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

Insulation screw IPS 80T

Advantages



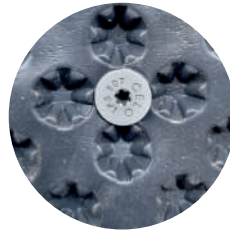
Special screw with trumpet head for direct fastening into external thermal insulation composite systems [ETICS] - fast and without thermal bridges



Fast mounting **without thermal bridges!**



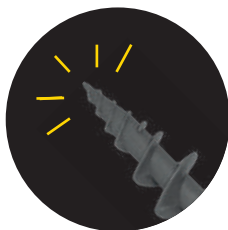
Perfectly suitable for **joining two insulation boards** such as PU rigid foam boards



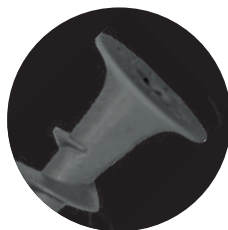
For fastening **foils** or for the **sheathing/insulation of ventilation ducts**



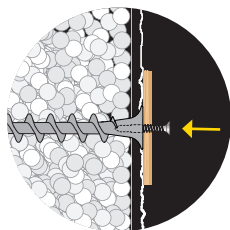
Guarantees high **sound insulation** in production facilities and appliance construction



No need to pre-drill into plaster (≤ 7 mm) due to **sharp drilling tip**



Functional trumpet head for **flush countersinking**



Suitable for light fixings with a screw \varnothing 3.5 mm due to **head hole**



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

Suitable building materials

Very suitable



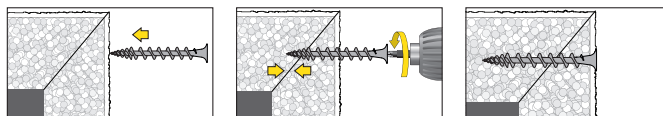
- External Thermal Insulation Composite Systems (ETICS)
- Styrofoam boards
- Hard foam boards
- Polystyrene boards
- Wood fibre boards (also see IPS-H)

Approvals and certificates

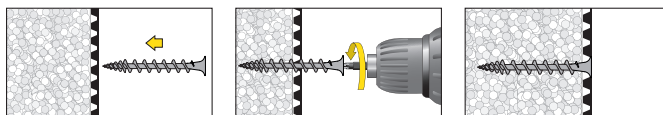


Mounting

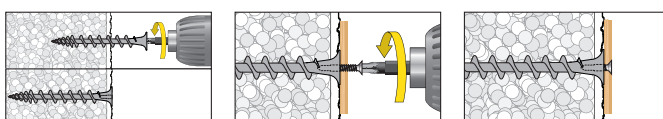
Example: Joining two insulation boards



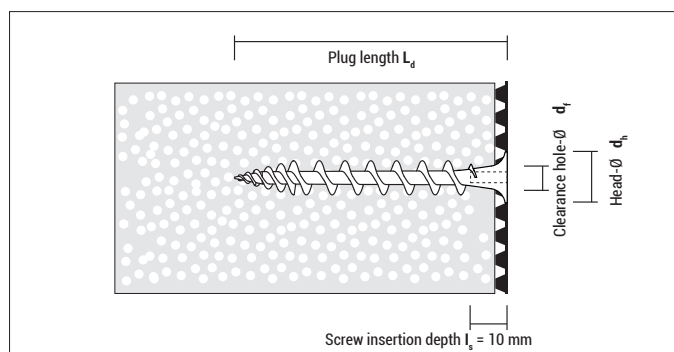
Example: Fastening insulation foil



Lightweight fastening with screw



Can be used with: screw \varnothing 3,5 mm;
Screw length $L_s = 10 \text{ mm} + \text{thickness of fixture}$



IPS 80T, Head- \varnothing = 16,0 mm

Type	Art-No	RAL-Code	L_d [mm]	Drive	d_f [mm]	[pcs]	[pcs]
IPS 80T Telegrey	GGR80IPST	RAL 7045	80	TX 25	8 – 10	1.500	–

In bulk, delivery on order

Loads and dimensions

Type	Applications in Polystyrene EPS [PS15, PS20] unplastered F_{rec} [kN]	Applications in Polystyrene EPS [PS15, PS20] plastered F_{rec} [kN]	Application in Rockwool, Coverrock Plus unplastered ¹⁾ F_{rec} [kN]	Applications in Polystyrene XPS (perimeter insulation) F_{rec} [kN]	Thickness of insulation material \geq [mm]
IPS 80T	0,04	ca. 0,06*	0,02	0,09*	80

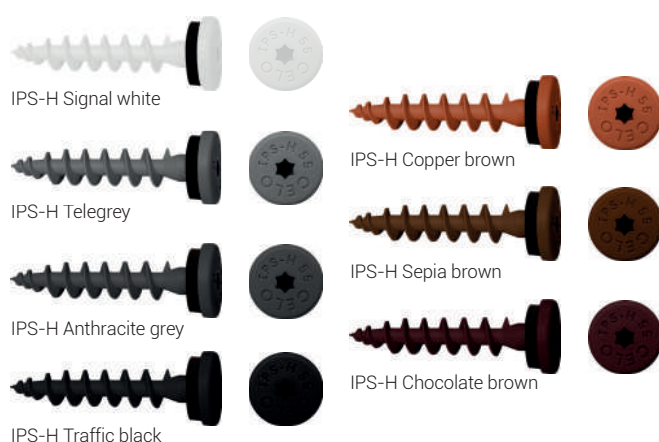
F_{rec} : Recommended load in all directions incl. safety factor of 5

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

¹⁾ Avoid impact loads

Insulation screw IPS-H

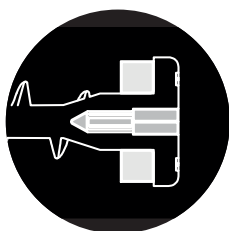
Advantages



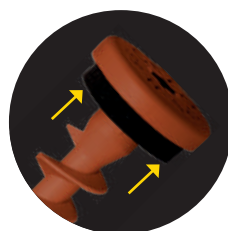
**Direct fastening into wood fibre insulation boards
and perimeter insulation panels
– extremely fast and without thermal bridges**



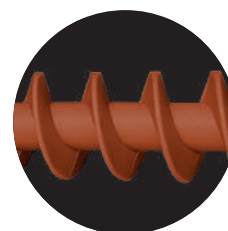
Extremely fast direct mounting of wall connection profiles



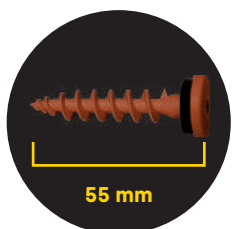
Head hole allows light duty fixings in combination with a screw Ø 3,5 mm



Flat head with EPDM-sealing, permanent sealing



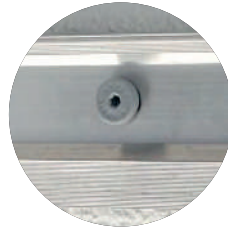
Very distinctive thread ensures good hold in wood fibre insulation boards



Length of only 55 mm, especially developed for wood fibre insulation boards (from 60 mm)



TX25-drive for a fast and easy installation



Fits through **holes ≥ 8 mm** [common for wall connection profiles or metal sheets]



Made out of **glass fibre reinforced nylon**, ageing, weather and UV-resistant

Suitable building materials

Very suitable



- Wood fibre boards
- Perimeter insulation panels

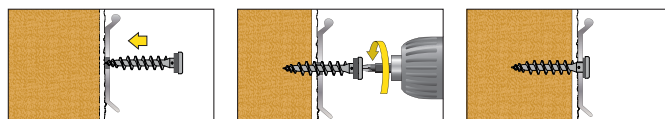
Approvals and certificates



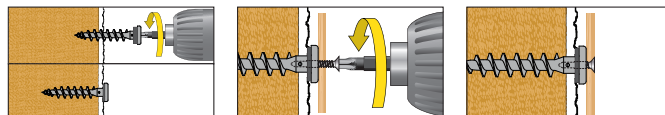
Tested for driving rain tightness by the Prüfzentrum für Bauelemente

Mounting

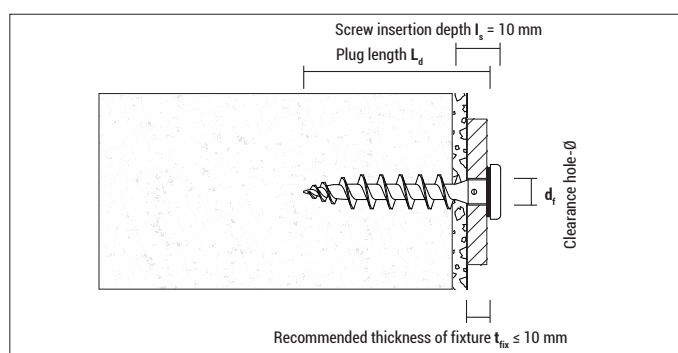
Wall connection profiles



Light duty fixings with screw



Usable with: Screw Ø 3,5 mm;
Screw length $L_s = 10 \text{ mm} + \text{Thickness of fixture}$



IPS-H 55 with EPDM sealing, head-Ø = 16,0 mm

Type	Art-No	RAL-Code	L_d [mm]	Drive	d_f [mm]	[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	Applications in wood fibre insulation boards unplastered F_{rec} [kN]	Applications in wood fibre insulation boards plastered F_{rec} [kN]	Applications in Polystyrene XPS (perimeter insulation) F_{rec} [kN]	Thickness of insulation material \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

Insulation screw plug IPSD-H

Advantages



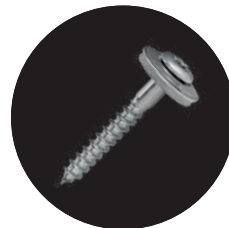
Direct fastening into wood fibre insulation boards – extremely fast and without thermal bridges



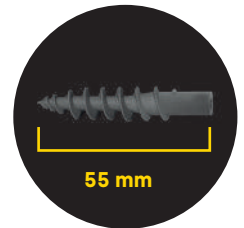
Extremely fast direct mounting of wall connection profiles



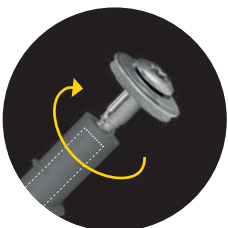
Made out of **glass fibre reinforced nylon**, ageing, weather and UV-resistant



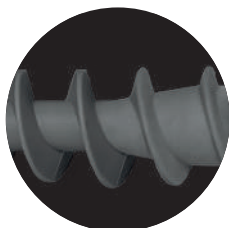
Perfect combination with **plumber screws 4,5x25 mm**



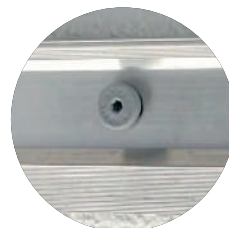
Length of only 55 mm, especially developed for wood fibre insulation boards (from 60 mm)



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



Very distinctive thread ensures good hold in wood fibre insulation boards



Fits through **holes ≥ 8 mm** [common for wall connection profiles or metal sheets]



TX25 drive for fast mounting without changing bits

Suitable building materials

Very suitable



- Wood fibre boards
- Perimeter insulation panels

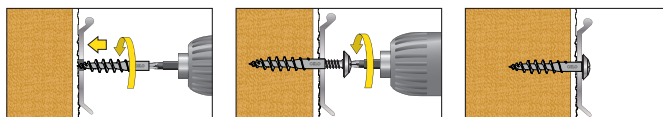
Approvals and certificates



Tested for driving rain tightness by the Prüfzentrum für Bauelemente

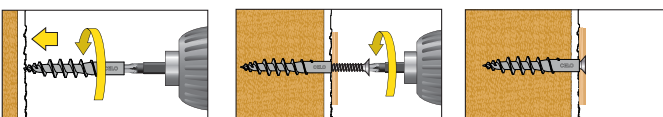
Mounting

Wall connection profiles

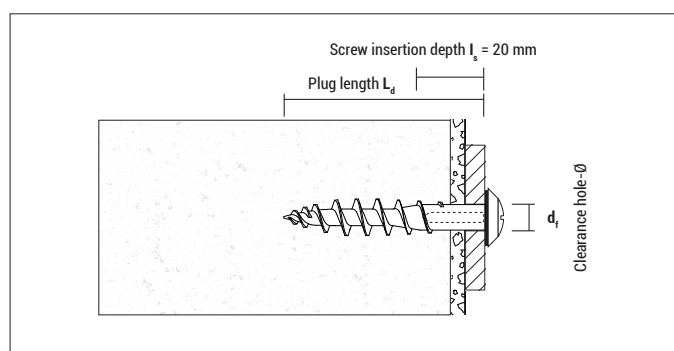


Recommended plumber screw: 4,5x25 mm

Light duty fixings with screw



Usable with: Screw Ø 3,5 mm;
Screw length $L_s = 10 \text{ mm} + \text{Thickness of fixture}$



IPSD-H 55

Type	Art-No	L_d [mm]	Drive	d_t [mm]	[pcs]	[pcs]
IPSD-H	9GR55IPSDH	55	TX 25	min. 8	50	1.350



Plumber screw PLS TX sealing washer Ø = 15,0 mm

A2
STAINLESS
STEEL

Type $d_0 \times L_s$	Art-No	Material	d_0 [mm]	L_s [mm]	Drive	[pcs]	[pcs]
4,5 x 25	9X4525PLST	Stainless steel A2	4,5	25	TX 25	50	1.200
4,5 x 25	9XC04525PLST	Stainless steel A2, copper plated	4,5	25	TX 25	50	1.200

Loads and dimensions

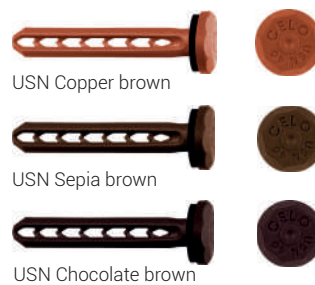
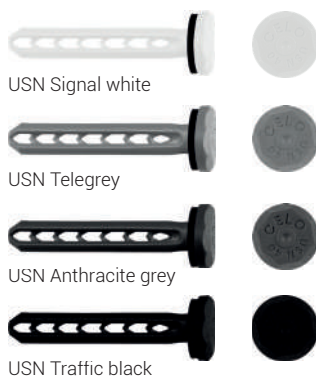
Type	Applications in wood fibre insulation boards unplastered F_{rec} [kN]	Applications in wood fibre insulation boards plastered F_{rec} [kN]	Applications in Polystyrene XPS (perimeter insulation) F_{rec} [kN]	Thickness of insulation material \geq [mm]
IPSD-H	0,1*	ca. 0,12*	0,07*	60

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

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

Universal Spreading Nail USN

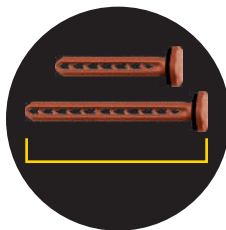
Advantages



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



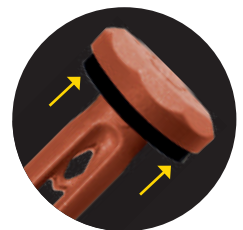
Extremely fast mounting of wall connection profiles



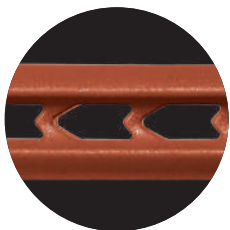
Lengths 40 and 60 mm for clamping thicknesses from 5-25 mm or install deeper for higher load values



Made out of **glass fibre reinforced nylon**, ageing, weather and UV-resistant



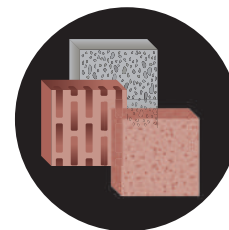
Visually attractive head with **high quality EPDM sealing ring** for optimal sealing and adaption to the ground



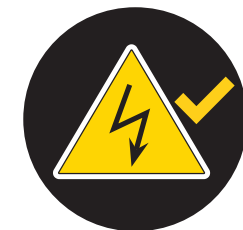
Elastic V-shaped spring elements ensures a high spreading force



Fits through **holes ≥ 8 mm** [common for wall connection profiles or metal sheets]



Good pull-out values in almost all common building materials like **concrete, solid bricks and perforated bricks**



Electrical contact protection for various applications in the electrical sector

Suitable building materials

Very suitable

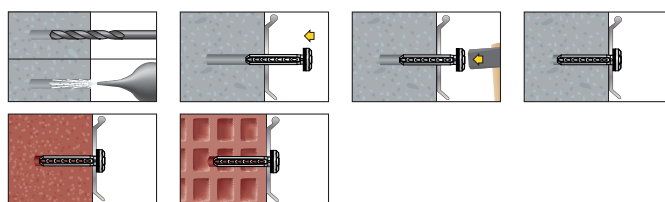


- Concrete
- Natural stone
- Solid brick
- Solid sand-lime brick
- Lightweight solid concrete blocks
- Aerated concrete (only AAC6)
- Hollow brick
- Hollow sand-lime brick
- Lightweight hollow concrete blocks

Approvals and certificates

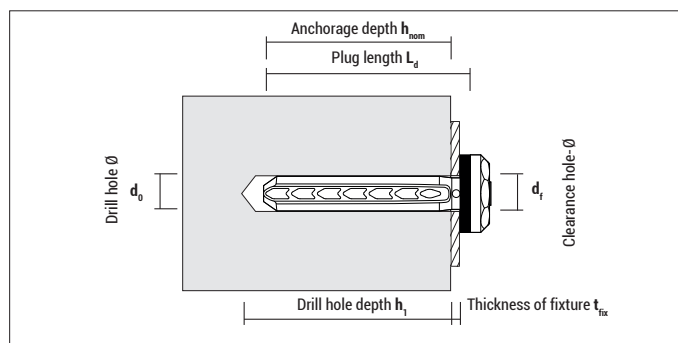


Mounting



The USN can be removed in two ways:

- Knock off the head** using a chisel or a screwdriver.
- 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).



USN 6-40

USN 40 with EPDM sealing, head Ø = 15,0 mm

Type	Art-No	RAL-Code	d ₀ [mm]	L _d [mm]	h ₁ ≥ [mm]	h _{nom} ≥ [mm]	t _{fix} ≤ [mm]	d _f [mm]	[pcs]	[pcs]
USN 40 Signal white	9140USN	RAL 9003	6	40	40	35	5	8 - 10	100	1.800
USN 40 Telegrey	9GR40USN	RAL 7045	6	40	40	35	5	8 - 10	100	1.800
USN 40 Anthracite grey	9AN40USN	RAL 7016	6	40	40	35	5	8 - 10	100	1.800
USN 40 Traffic black	9440USN	RAL 9017	6	40	40	35	5	8 - 10	100	1.800
USN 40 Copper brown	9CO40USN	RAL 8004	6	40	40	35	5	8 - 10	100	1.800
USN 40 Sepia brown	9M40USN	RAL 8014	6	40	40	35	5	8 - 10	100	1.800
USN 40 Chocolate brown	9MO40USN	RAL 8017	6	40	40	35	5	8 - 10	100	1.800



USN 6-60

USN 60 with EPDM sealing, head Ø = 15,0 mm

Type	Art-No	RAL-Code	d ₀ [mm]	L _d [mm]	h ₁ ≥ [mm]	h _{nom} ≥ [mm]	t _{fix} ≤ [mm]	d _f [mm]	[pcs]	[pcs]
USN 60 Signal white	9160USN	RAL 9003	6	60	40	35	25	8 - 10	75	1.350
USN 60 Telegrey	9GR60USN	RAL 7045	6	60	40	35	25	8 - 10	75	1.350
USN 60 Anthracite grey	9AN60USN	RAL 7016	6	60	40	35	25	8 - 10	75	1.350
USN 60 Traffic black	9460USN	RAL 9017	6	60	40	35	25	8 - 10	75	1.350
USN 60 Copper brown	9CO60USN	RAL 8004	6	60	40	35	25	8 - 10	75	1.350
USN 60 Sepia brown	9M60USN	RAL 8014	6	60	40	35	25	8 - 10	75	1.350
USN 60 Chocolate brown	9MO60USN	RAL 8017	6	60	40	35	25	8 - 10	75	1.350

Loads and dimensions F_{rec}

Type	h _{nom} [mm]	Concrete		Hollow brick HLz 12 ¹⁾		Poroton T10 ¹⁾		Poroton T8 ¹⁾		Aerated concrete AAC6 ¹⁾²⁾	
		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	0,13	0,93	0,08	0,55	0,03	0,20	0,08	0,60	0,04	0,32
USN 60	55	0,15	1,09	0,08	0,55	0,04	0,30	0,08	0,60	0,06	0,38

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

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

¹⁾ Drill without impact

²⁾ Recommendation: drill with Ø5 drill bit



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Small Things Matter

Überreicht durch: