

ripple **friulsider**

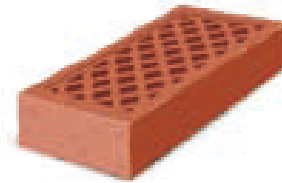


Masonry:

There is a tremendous variety of masonry bricks on the market. The different types of bricks (e.g. clay, sand-lime, or concrete bricks) are composed of different materials and are available in various shapes, sizes, bulk densities, and strength classes. They can be either solid or with cavities. As such, this base material is heterogeneous. Performance data often exists only for the shear connector for certain brick styles.



Hollow Sand-Lime Stone



Hollow Clay Brick



Clay Brick



Solid Sand-Lime Stone



Hollow Concrete

Frame Anchors

➤ FM X 5

➤ TUP 4

➤ TUP 3

➤ TUP

➤ TPF

➤ TMF

FM-X5[®]

MULTI-EXPANSION LONG PLUG

The new fixing which blocks by hand!



ETA 10/0425

MAXIMUM VERSATILITY

Tested in all base materials

CE CERTIFICATION

Guaranteed safety

ULTRA FLEXIBLE

High quality nylon

SCREW ALWAYS PREASSEMBLED

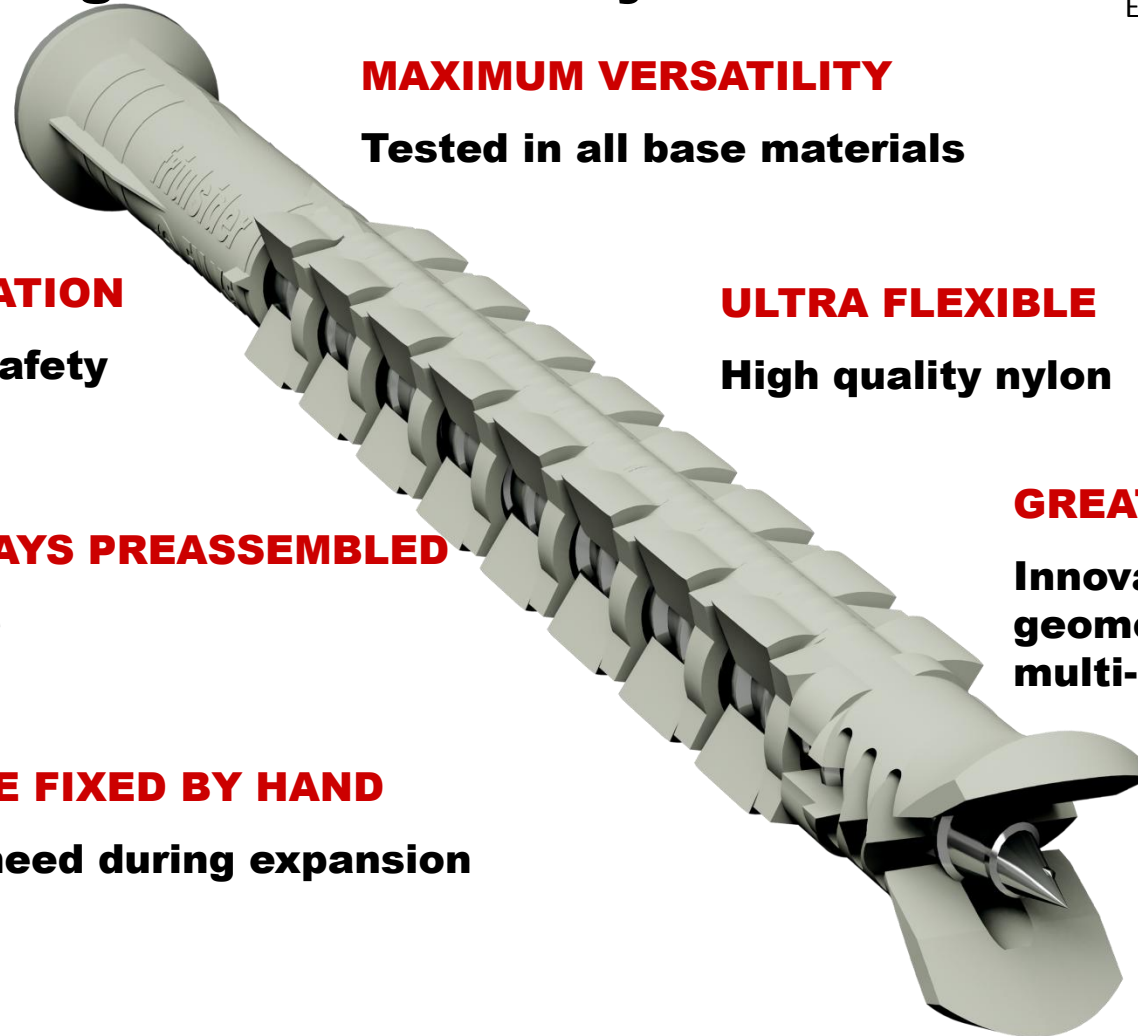
Ready to use

GREATER GRIP

**Innovative variable
geometry
multi-expansion**

CAN ALSO BE FIXED BY HAND

Low torque need during expansion



FM-X5[®]

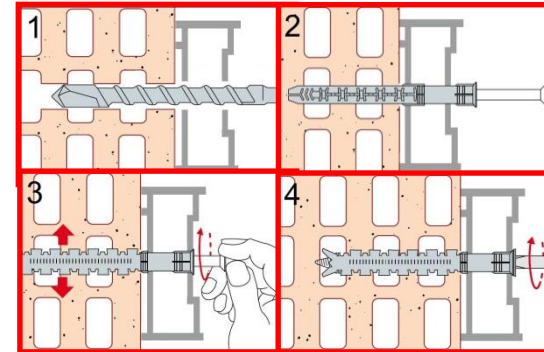
MULTI-EXPANSION LONG PLUG



THROUGH
FIXING

VERSIONS:

- White zinc plated screw/Stainless Steel A4
- MAXIMUM VERSATILITY: Tested in all base materials.
- ULTRA FLEXIBLE: High quality nylon.
- GREATER GRIP: Innovative variable geometry multi-expansion
- SCREW ALWAYS PREASSEMBLED Ready to use
- CE CERTIFICAZION Guaranteed safety.
- INITIAL INSERTION CAN ALSO BE DONE BY HAND Low torque need during expansion.



- concrete
- solid brick
- honeycomb brick
- cell like clay brick
- light weight honeycomb brick
- hollow dense aggregate block
- hollow light aggregate block
- aerated concrete
- solid stone
- honeycomb brick



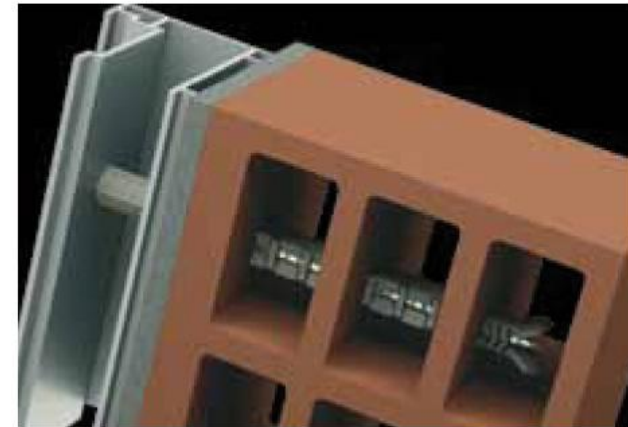
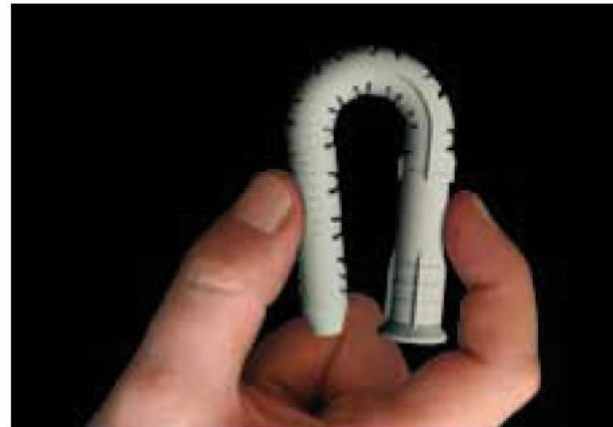
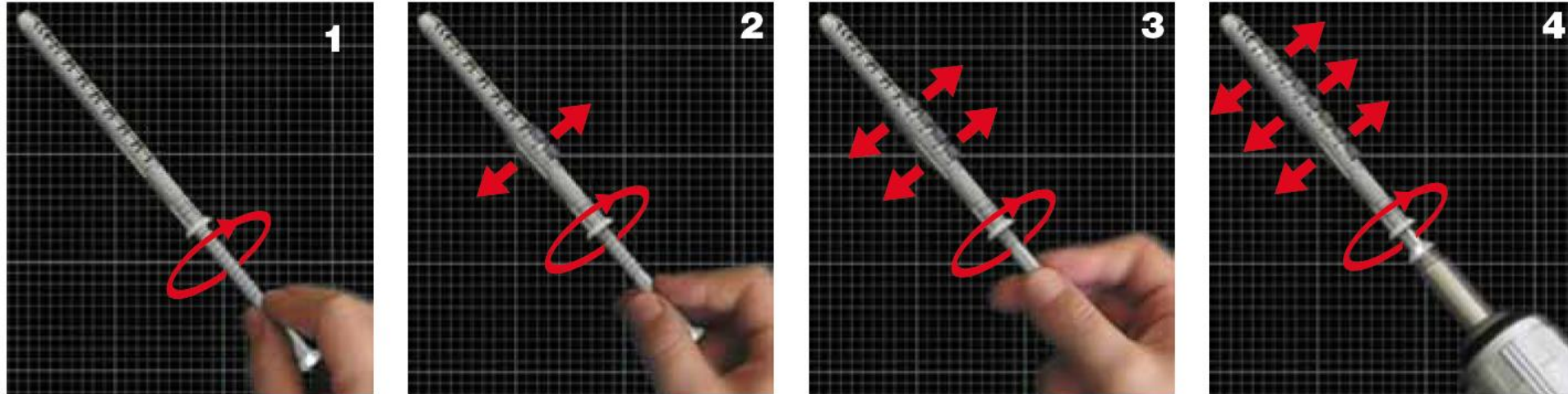
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FM-X5[®]

MULTI-EXPANSION LONG PLUG



ETA 10/0425

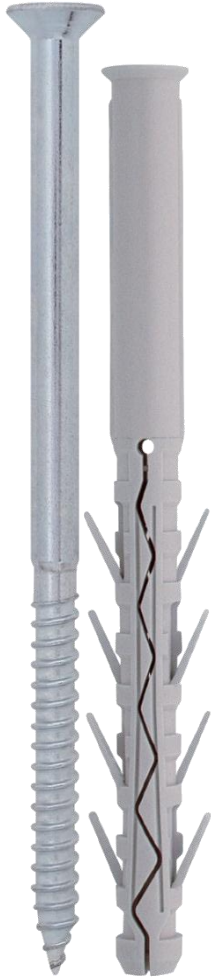


Frame Anchors

- FM X 5
- TUP 4
- TUP 3
- TUP
- TPF
- TMF

TUP 4

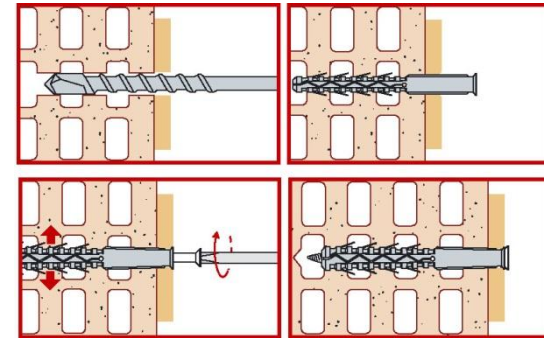
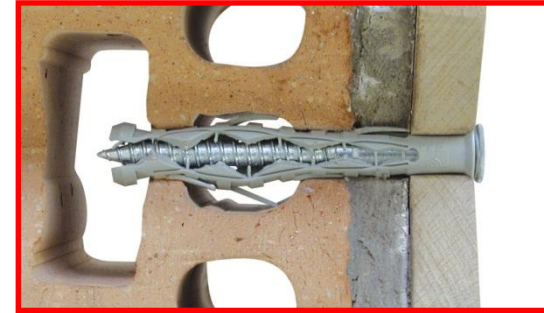
LONG NYLON HIGH EXPANSION PLUG



VERSIONS:

- white zinc plated screw / Stainless steel A4 screw;
- countersunk head screw pozidrive / torx recess;
- hex head screw
- CONTROLLED EXPANSION: during application the screw remains in the desired position due to the locating groove inside the plug.
- NON-CUTTING THREAD designed to prevent internal damage to the plug when the screw is applied
- HIGH RESISTANCE: wider screw diameter and thicker thread enhances the performance.

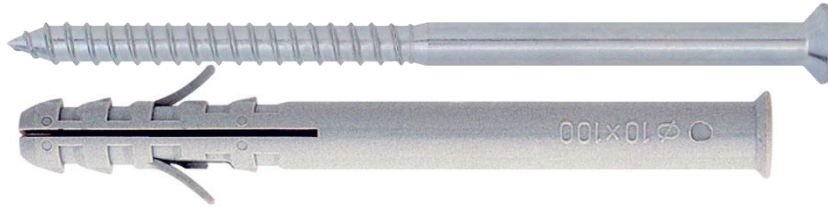
THROUGH
FIXING



- concrete
- solid brick
- honeycomb brick
- cell like clay brick
- light weight honeycomb brick
- hollow dense aggregate block
- hollow light aggregate block
- aerated concrete
- solid stone

TUP

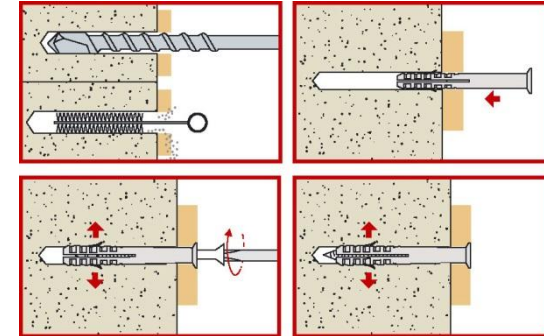
LONG NYLON COUNTERSUNK PLUG



THROUGH
FIXING

VERSIONS:

- countersunk head screw pozidrive recess;
- countersunk head Screw torx recess;
- hex head screw.
- HIGH PERFORMANCE ensured by the internal and external design of the plug.
- COUNTERSUNK RIM to avoid pull through and causing damage to the material surface when fixing thin objects.
- ANTIROTATION ensured by the external wings and correct expansion of the plug.



- concrete
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- cell like clay brick
- light weight honeycomb brick
- hollow dense aggregate block
- hollow light aggregate block
- aerated concrete
- solid stone

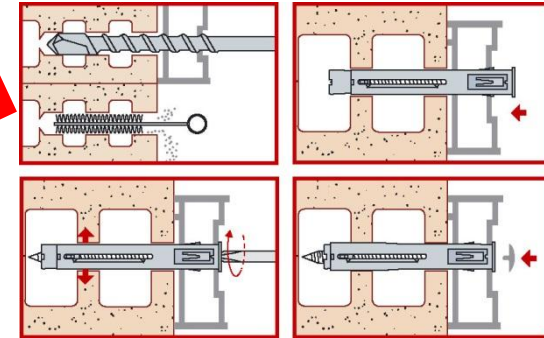
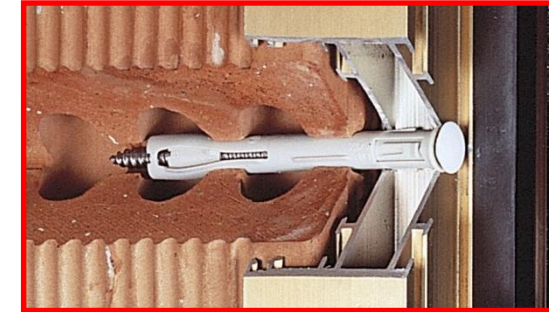
TPF

LONG NYLON FRAME ANCHOR



- LONG THROUGH NYLON ANCHOR for fixing plastic and aluminium window and door frames.
- HIGH PERFORMANCE ensured by the plug's shape and by the expansion cone granting stability of the fixing over time.
- HIGH ANTI-CORROSION PROTECTION: the steel screw is completely contained in the polyamide plug.

THROUGH
FIXING



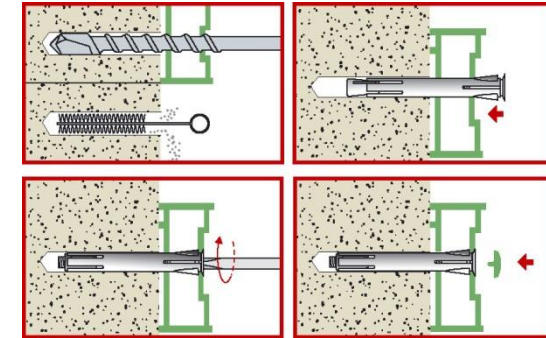
- concrete
- solid brick
- honeycomb brick
- cell like clay brick
- light weight honeycomb brick
- hollow dense aggregate block
- hollow light aggregate block
- aerated concrete
- solid stone

TMF

LONG METAL SLEEVE FRAME ANCHOR



- PREASSEMBLED THROUGH ANCHOR in sheet steel with a wide range of sizes.
- HIGH PERFORMANCE ensured by the plug's shape and by the expansion cone granting stability of the fixing over time.
- HIGH RESISTANCE TO CORROSION: due to the hot dip galvanised plating.



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- light weight honeycomb brick
- hollow dense aggregate block
- hollow light aggregate block
- aerated concrete
- solid stone

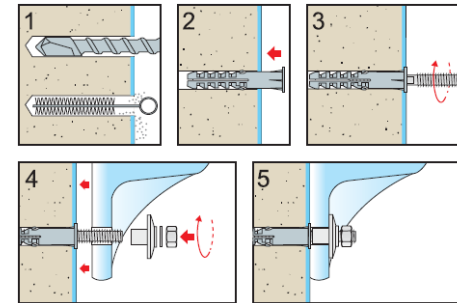
THROUGH
FIXING

FLB

WASHBASIN AND BIDET WALL FIXING



- PRESERVES THE INTEGRITY: of the sanitary ware, the nylon bush prevents contact between the metal stud screw, nut and the sanitary ware preventing pressure which could otherwise break or spoil the surface.
- EXCELLENT PERFORMANCE: of the plug on most base materials
- WIDE RANGE: of sizes for the different fixings



- concrete
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- hollow light aggregate block
- aerated concrete
- solid stone

FM-SOLAR

Photovoltaic fixing systems



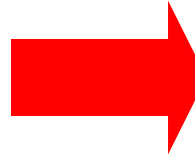
FM-SOLAR

Photovoltaic fixing systems

Photovoltaic fixing systems

Phase 1

Insertion of “basic” range
of dedicated screws



FRIULSIDER = FIXINGS LEADER
Insertion of a truly complete
range of fixing directly and
indirectly related to the world of
photovoltaic

Phase 2

insertion of complete
fastening system, with the
addition of profiles and
brackets.

FM-SOLAR

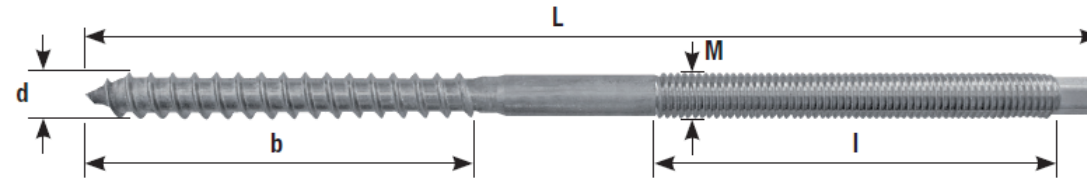
Photovoltaic fixing systems

SOLAR-V - INOX A2 - Screw for fixing profiles / Vis pour la fixation de profils



Stainless steel A2 70

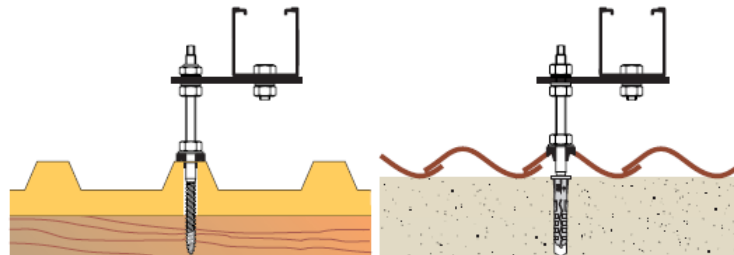
Inox A2 70



Code	d x L	b	M x l	Wrench S/plat	Box q.ty Boîte de.
01116008150 ⁽¹⁾	8x150	60	M8x70		50
01116010200	10x200	70	M10x90	7	25
01116010250	10x250	70	M10x110	7	25
01116012250	12x250	100	M12x100	9	25
01116012300	12x300	100	M12x150	9	25
01116012350	12x350	100	M12x200	9	25

⁽¹⁾ Screw without external hexagon / Vis sans clé hex extérieur.

To handle by a M8 tool or nut/lock-nut / On le manœuvre à l'aide d'un outil M8 ou écrou/contre-écrou.



FM-SOLAR

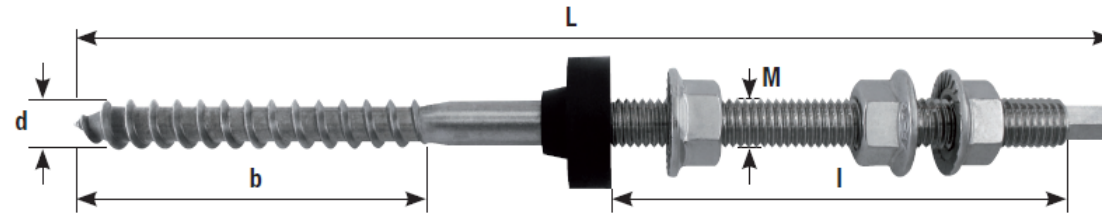
Photovoltaic fixing systems

SOLAR-V - INOX A2 - Screw and accessories for fixing profiles / Vis et accessoires pour la fixation de profils



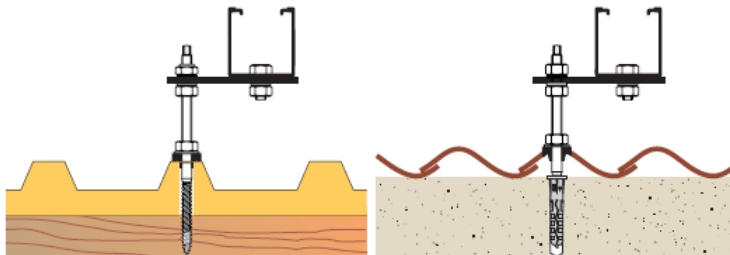
Assembled
stainless steel A2 70
stud screw, 3 hex flanged nuts
gasket in EPDM

*Monté
inox A2 70
vis double filet,
3 écrou embouti hexagonals
joint en EPDM*



Code	d x L	b	M x l	Wrench S/plat	Box q.ty Boîte de
01117008150 ⁽¹⁾	8x150	60	M8x70		50
01117010200	10x200	70	M10x90	7	25
01117010250	10x250	70	M10x110	7	25
01117012250	12x250	100	M12x100	9	25
01117012300	12x300	100	M12x150	9	25
01117012350	12x350	100	M12x200	9	25

⁽¹⁾ Screw without external hexagon / Vis sans clé hex extérieur.
To handle by a M8 tool or nut/lock-nut / On le manœuvre à l'aide d'un outil M8 ou écrou/contre-écrou.



FM-SOLAR

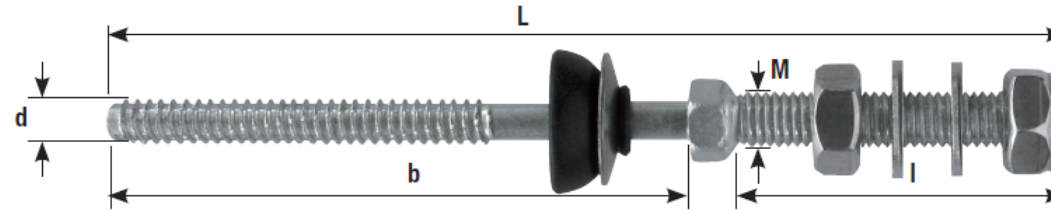
Photovoltaic fixing systems

SOLAR-VM - INOX A2 - Selftapping screw for fixing profiles with accessories / Vis autotaraudeuses pour la fixation de profils avec accessoires

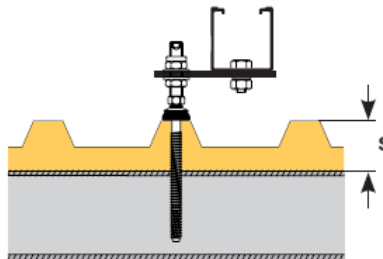


Assembled
stainless steel A2 70, studscrew
hex nut, self-locking nut
2 washers DIN 125
gasket in EPDM and stainless steel A2 washer

*Monté
inox A2 70, vis double filet
ecrou hexagonal, ecrou embouti
2 rondelles DIN 125
joint en EPDM et rondelle inox A2*



Code	d x b	M x l	L	s Roofing thickness/ Epaiss. couverture min-max	Wrench S/plat	Box q.ty Boîte de
01119010140▲	8x80	M10x50	140	10-60	5	50
01119010160▲	8x100	M10x50	160	20-80	5	25
01119010185▲	8x125	M10x50	185	55-105	5	25
01119010210▲	8x150	M10x50	210	80-130	5	25
01119010220▲	8x160	M10x50	220	90-140	5	25
01119010260▲	8x200	M10x50	260	130-180	5	25



4. Nylon (Plastic) Light Duty Anchors

a. FM XP

b. TU

c. X 1

d. TSS

e. TML

f. TAN

FM-XP®

UNIVERSAL NYLON PLUG

The convenience of one fixing for all requirements.



IDEAL FOR ALL BASE MATERIALS

Suitable for use on solid, perforated and hollow base materials

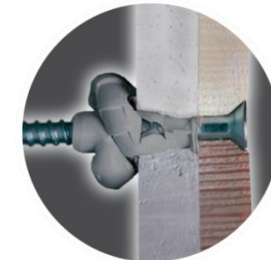


CONTROLLED EXPANSION

Due to the special design of the internal profile and locating groove

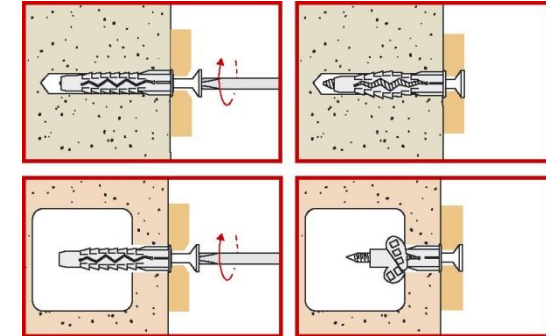
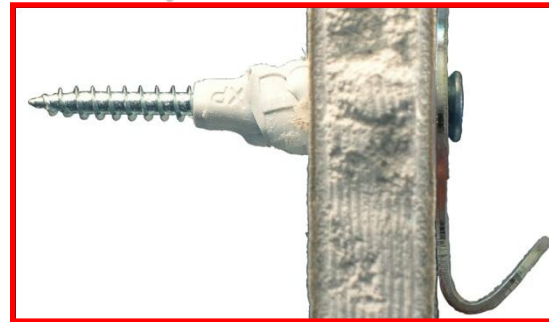
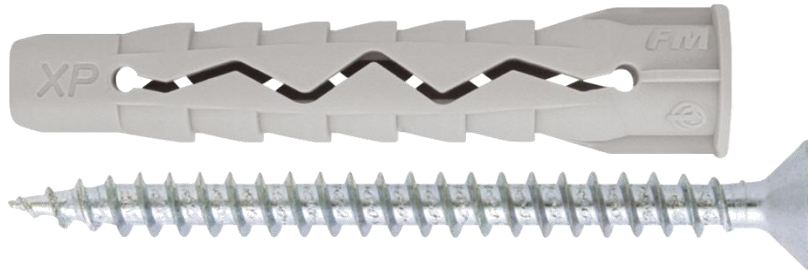
KNOT GUARANTEED ON PERFORATED AND HOLLOW BASE MATERIALS

Rapid knot formation: 100% reliable fixing



FM-XP®

UNIVERSAL NYLON PLUG



SUITABLE for use on most base materials:
solid, perforated and hollow materials

- CONTROLLED EXPANSION on solid base materials due to the internal profile and locating groove.
- KNOT FORMATION guaranteed on all perforated and hollow base materials.
- EFFECTIVE ANTIROTATION ensured by ribs.

- concrete
- solid brick
- honeycomb brick
- cell like clay brick
- light weight honeycomb brick
- hollow dense aggregate block
- hollow light aggregate block
- aerated concrete
- plasterboard
- ◐ panels and sheets
- solid stone

TU NYLON PLUG

The classic nylon plug



TOP PERFORMANCES

Excellent pull-out resistance, due to the material used and the geometry



CONTROLLED EXPANSION

Due to the special design of the internal profile and locating groove

ANTIROTATION

No rotation during installation due to the external wings

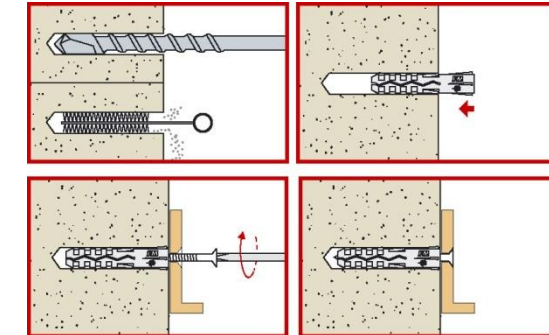


TU NYLON PLUG



VERSIONS:

- rimmed / rimless;
- with various types of screws and accessories;
- also available in polypropylene.
- UNIVERSAL PLUG suitable for most light fixing applications;
- MAXIMUM EXPANSION in the base material with the wide neck of the plug protecting the surface from damage (plaster, tile etc).

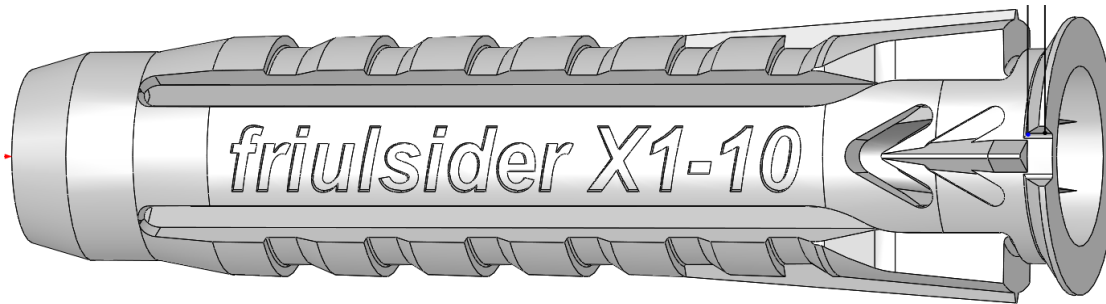


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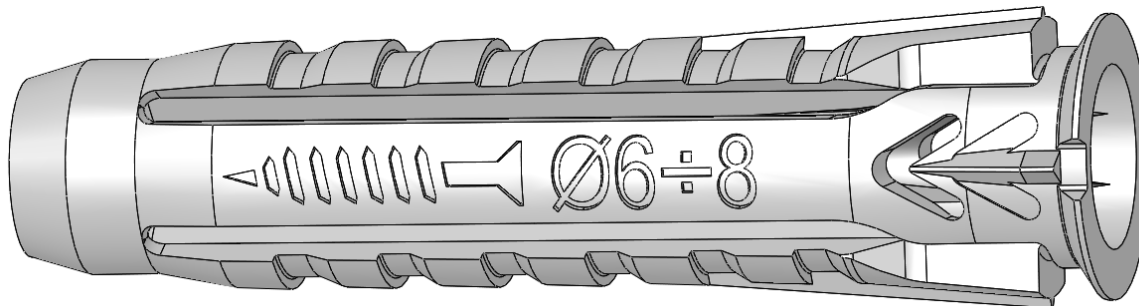


Dynamic geometry with 4 expanding sectors

Information moulded on the plug



- **Company name**
- **Commercial name**
- **Plug diameter**

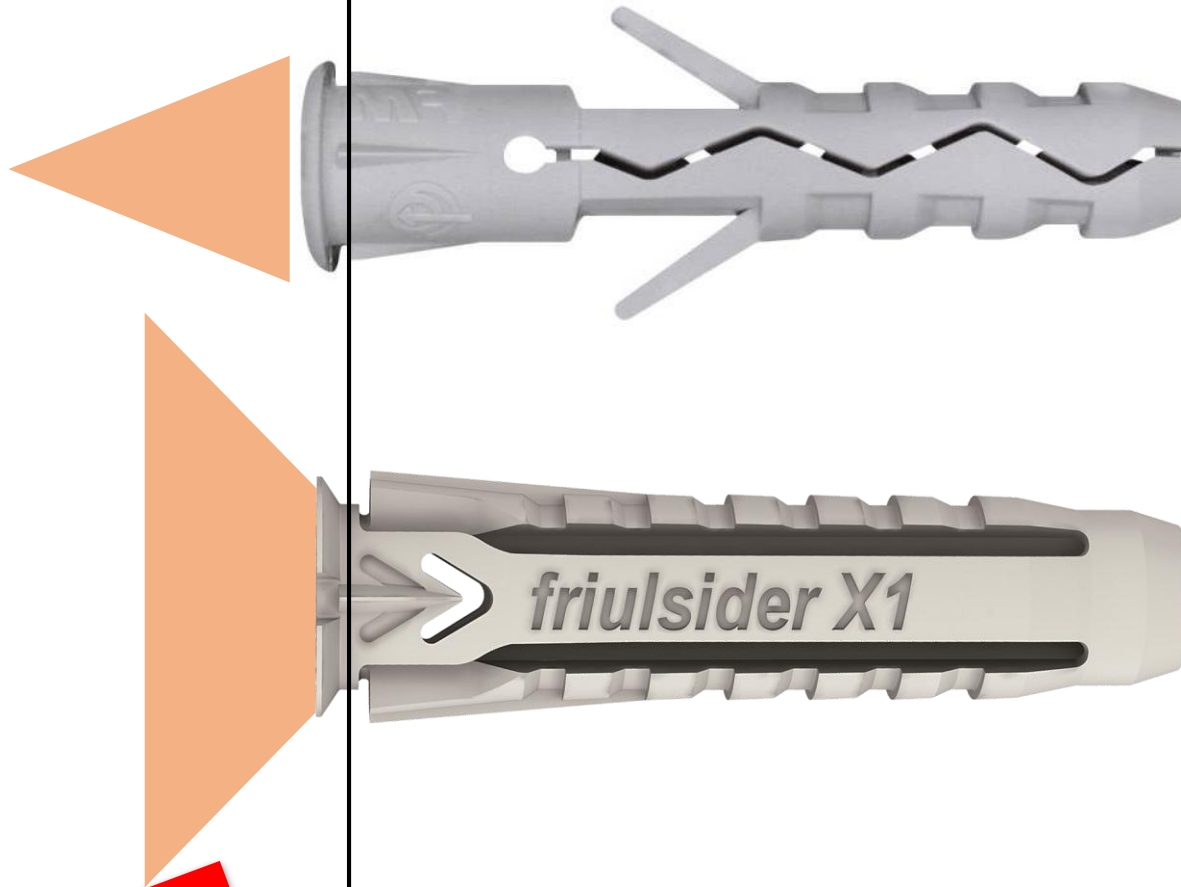


- **Range of screw diameters that can be used**



All uses – Dynamic geometry

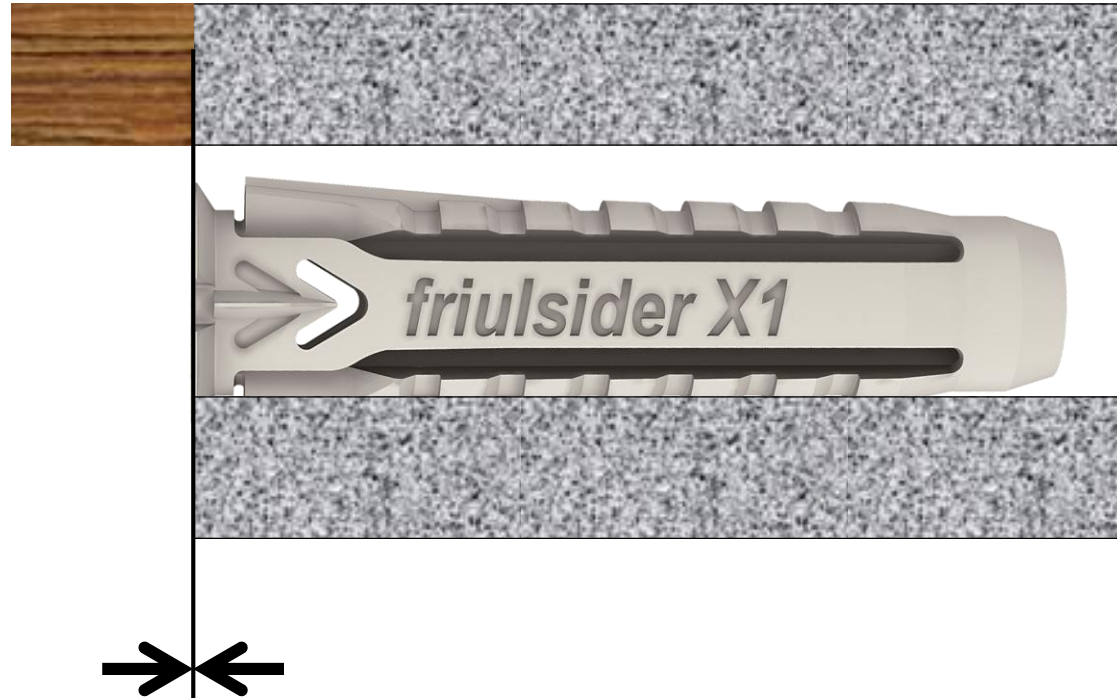
Concealed rim



Detail!

**The X1 rim is NOT rounded: it is countersunk.
It does not create thickness.**

Concealed rim

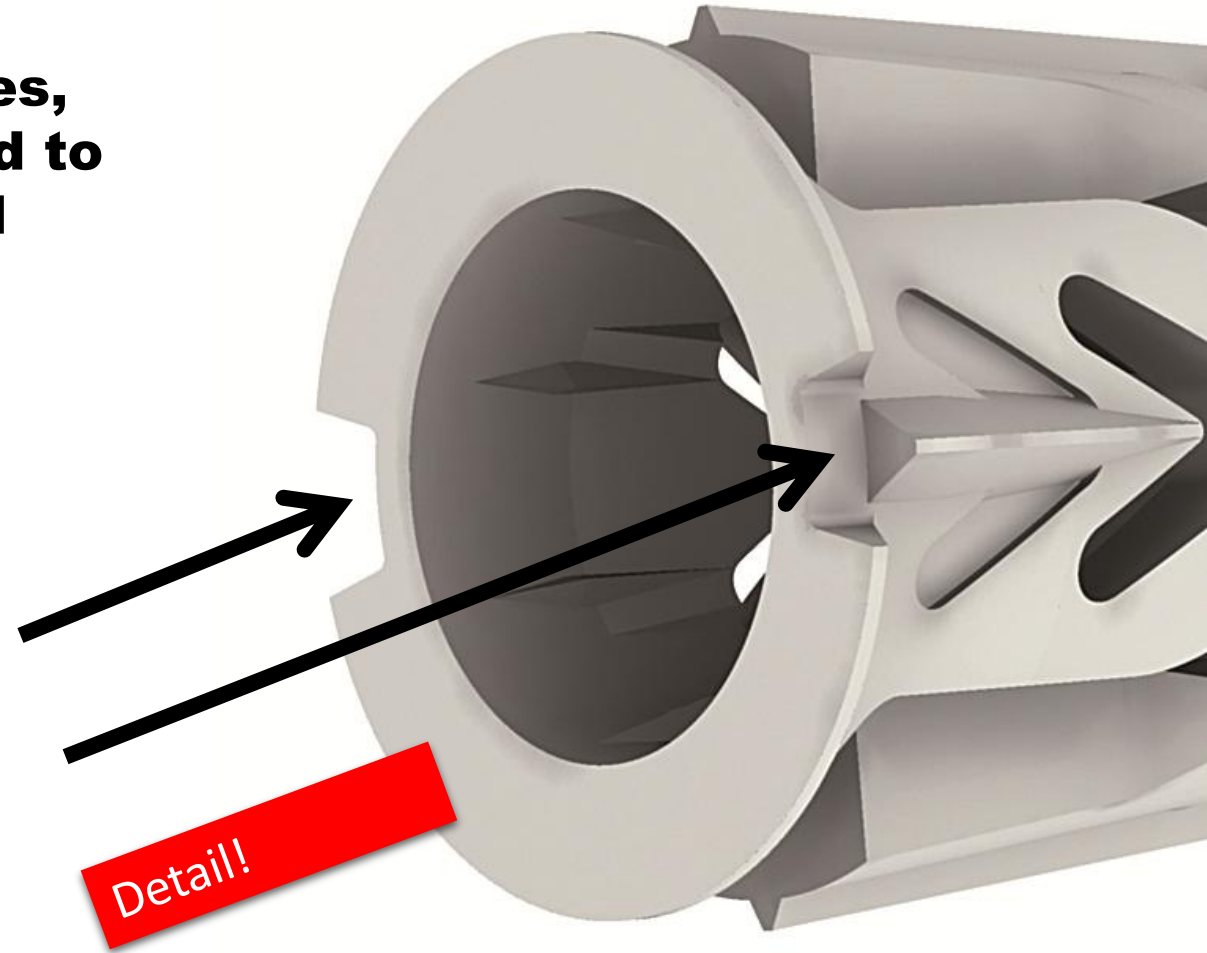


**The X1 rim does not create thickness
and
creates precise flush finishes.**

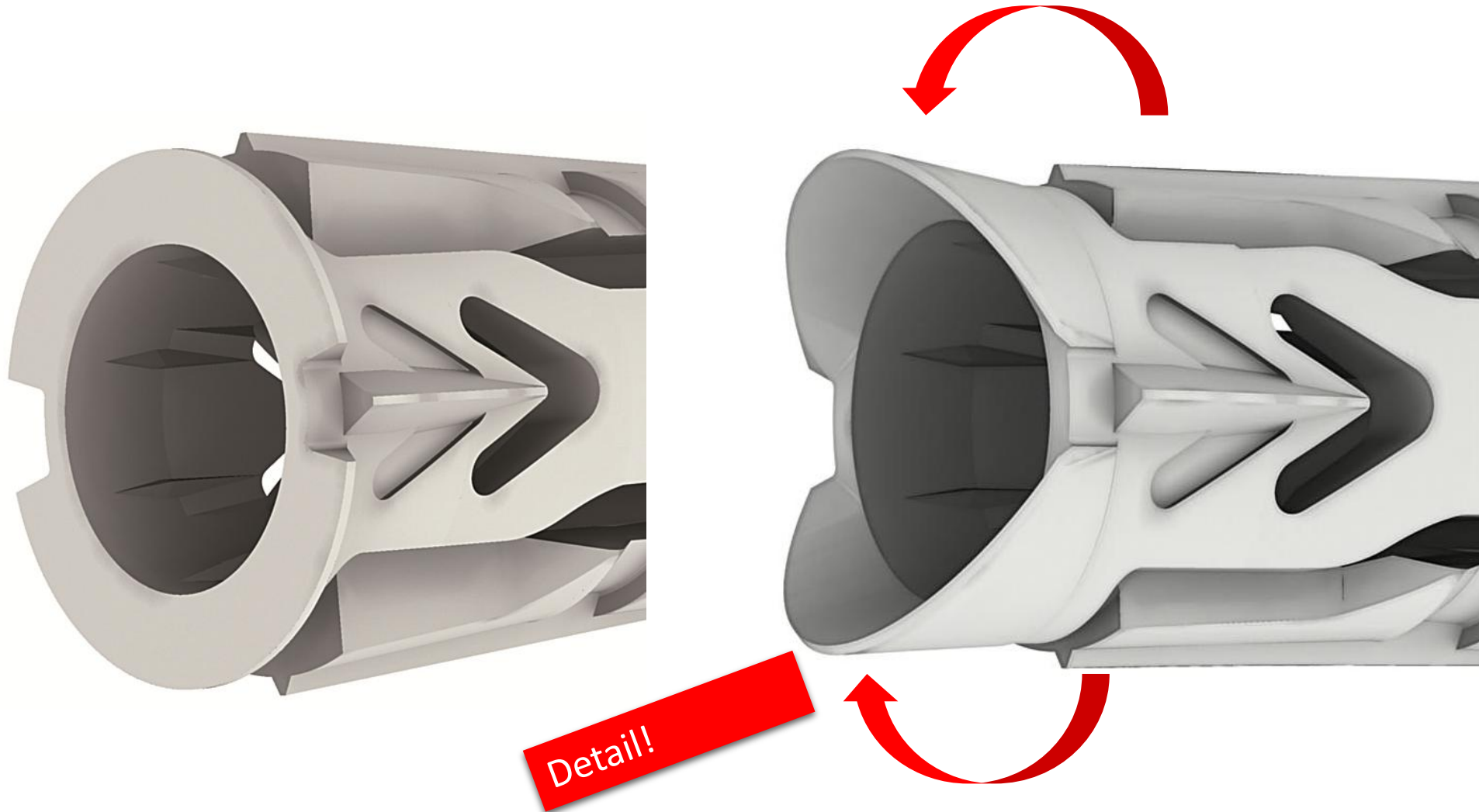


Collapsible rim

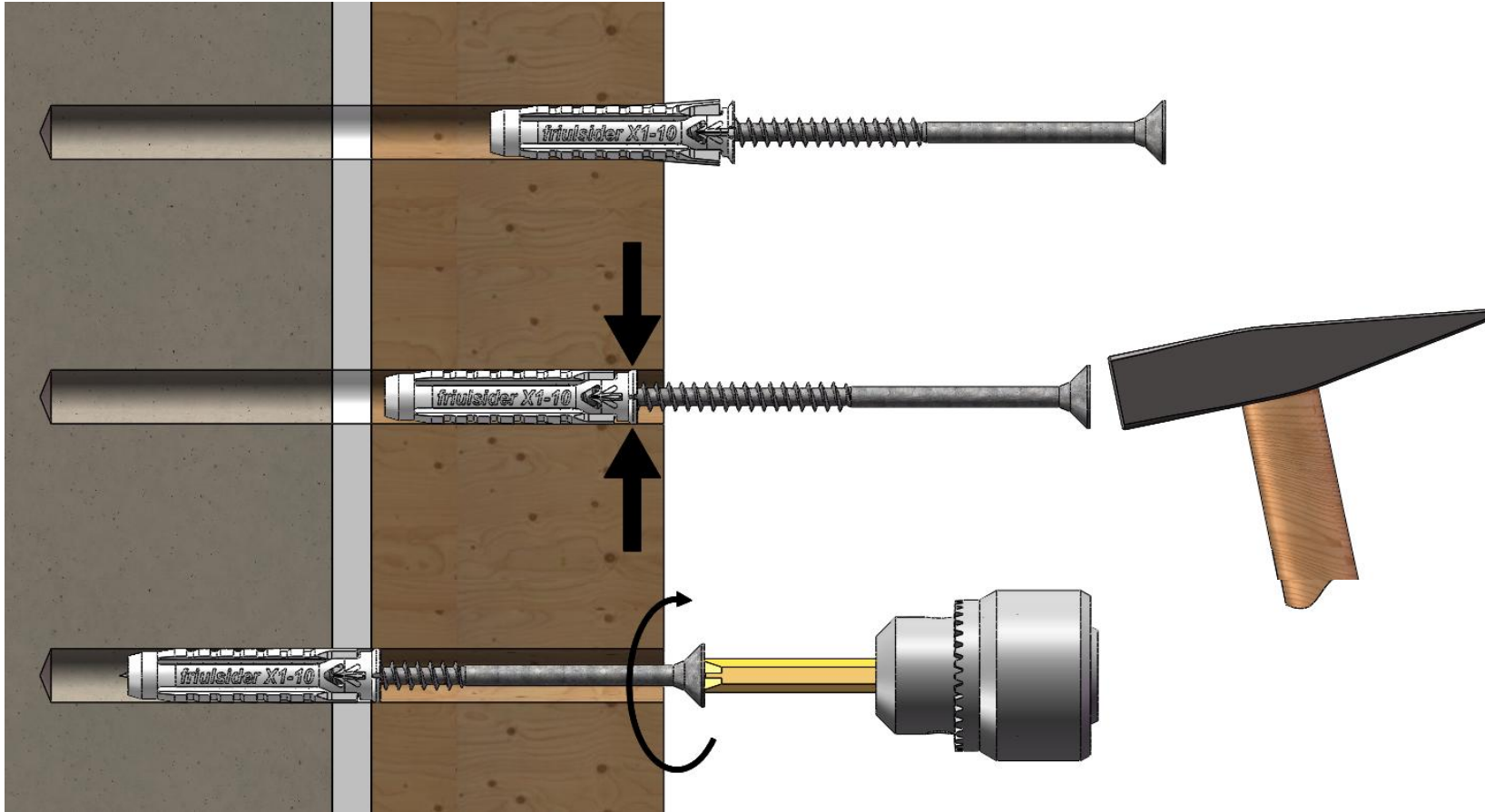
Due to the two grooves, the X1 rim is designed to fold over on itself and enter the hole.



Collapsible rim



Through fixing



This feature allows the creation of a through fixing.



All Screws

Functioning with metric screws

“Demanding” fixings with plugs Ø 12 and 14



Non heat treated coach screw



Heat treated hex head screw grade 4.8 – 8.8



Distanced fixings with threaded bars

IN THE PAST: how distanced fixings were carried out.

Studscrews



TODAY: how distanced fixings are carried out.

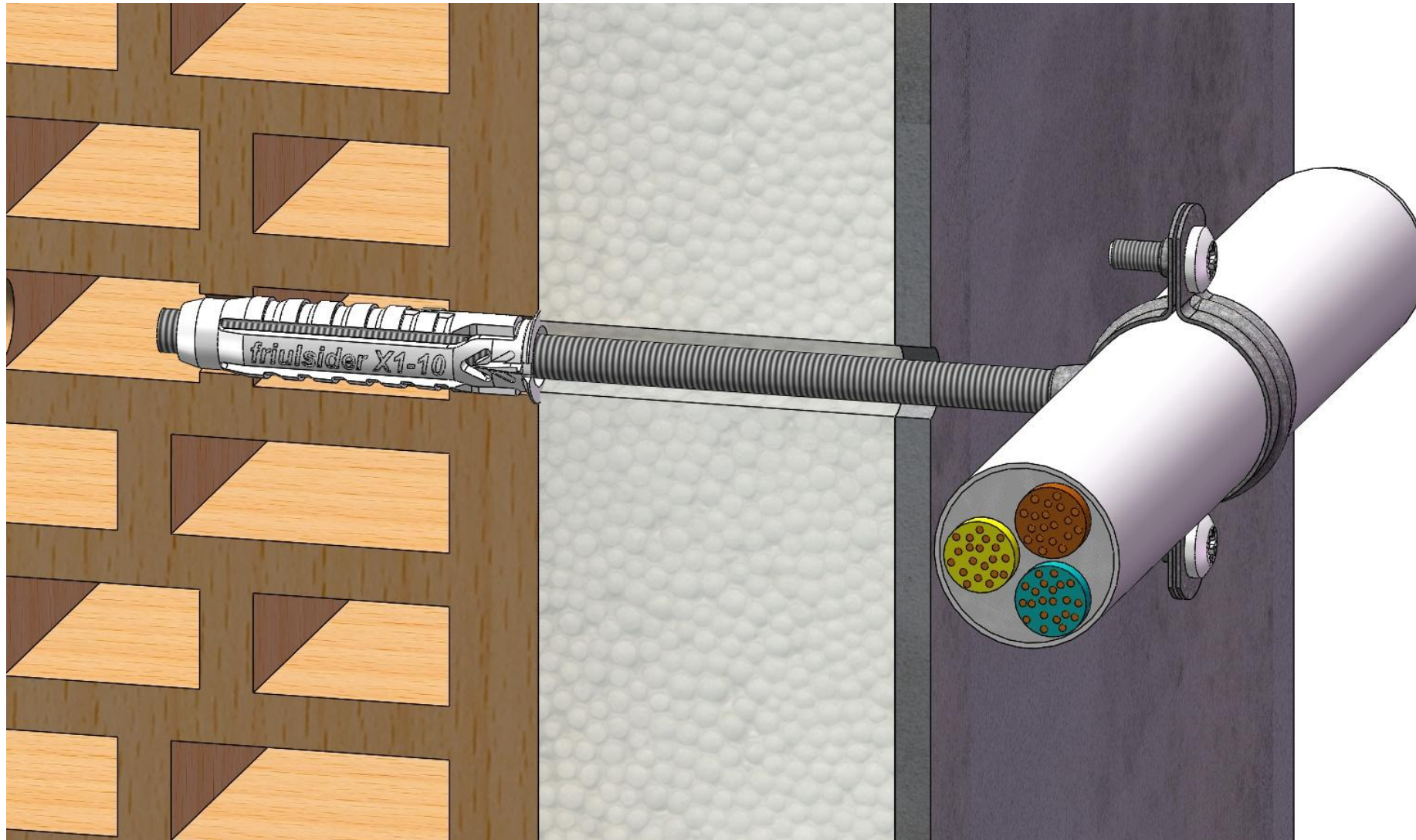


Threaded bars: No limit in length, wide choice of materials and resistance classes.



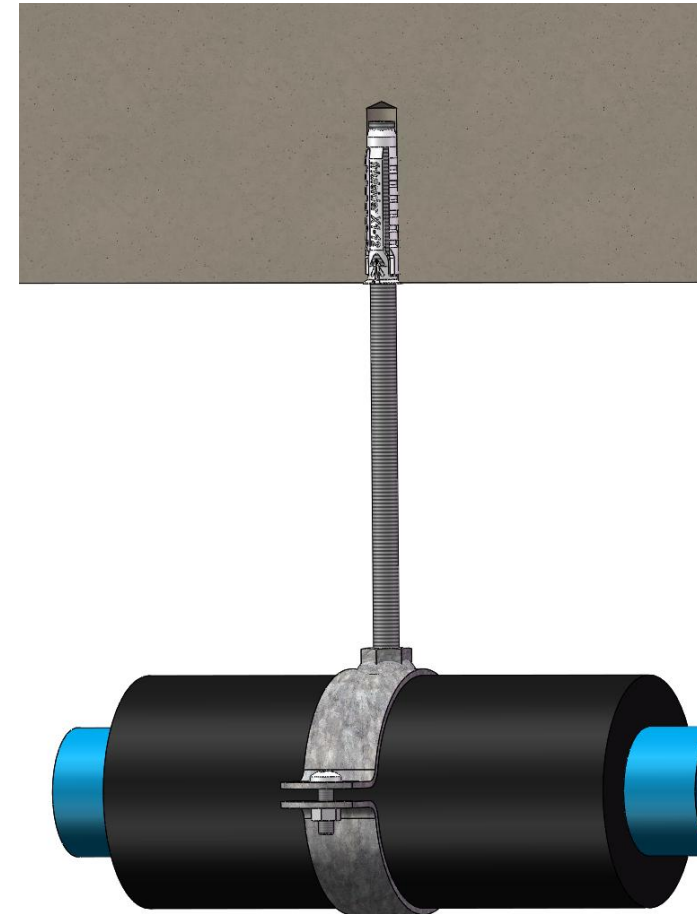
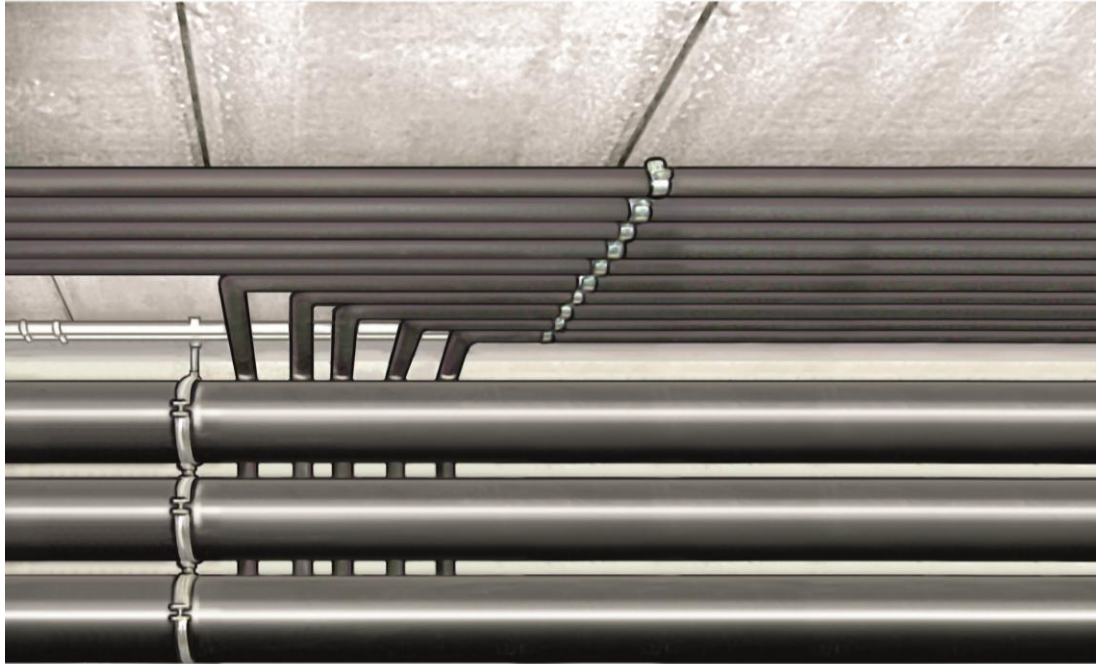
All Screws

Distanced fixings with threaded bars





Distanced fixings with threaded bars



TSS

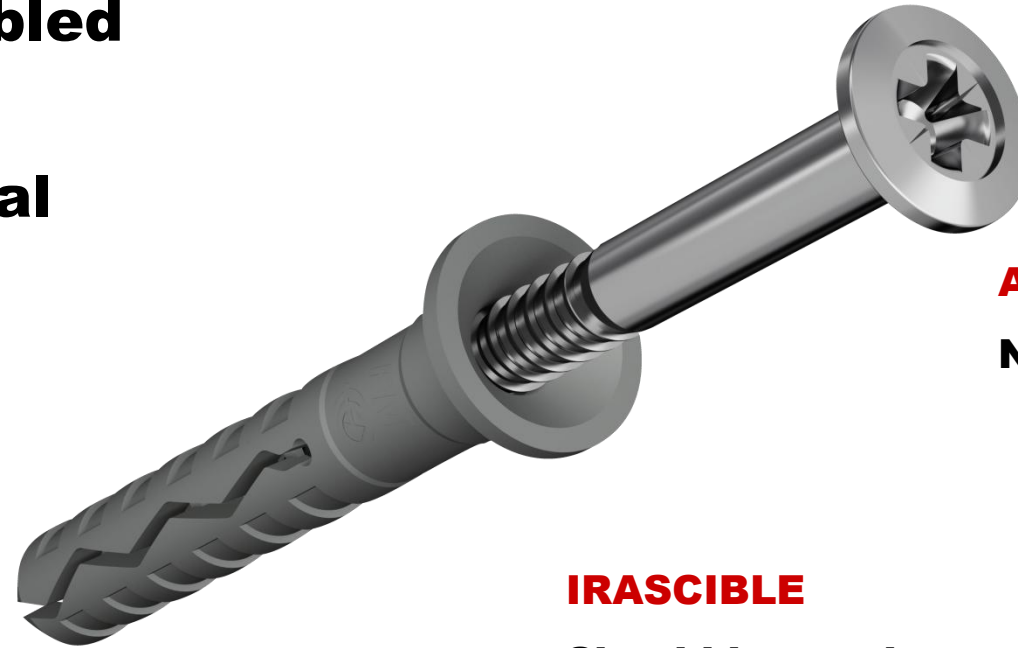
PREASSEMBLED NYLON PLUG



ETA 10/0190

**The most envied
preassembled
plug.**

**A diabolical
strength.**



AVARICIOUS

None go to waste

IRASCIBLE

Should have a hammer taken to it

PROUD

CE certified like few others

TSS

PREASSEMBLED NYLON PLUG



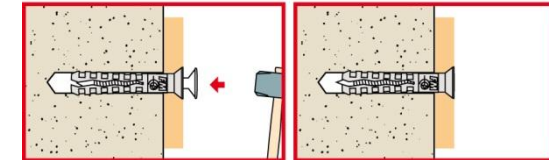
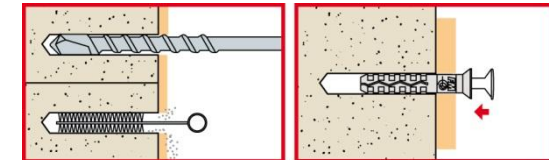
THROUGH
FIXING



ETA 10/0190

VERSIONS:

- pozidrive recess screw;
- double threaded screw.
- **FAST APPLICATION:** the preassembled nylon plug is set by hammering the nail screw into the plug creating an expansion force inside the base material.
- **NO PRE-EXPANSION:** a mechanism prevents any pre-expansion while setting the fixing.
- **REMOVABLE FIXING:** the fixing can be dismantled due to the shape of the nail screw.



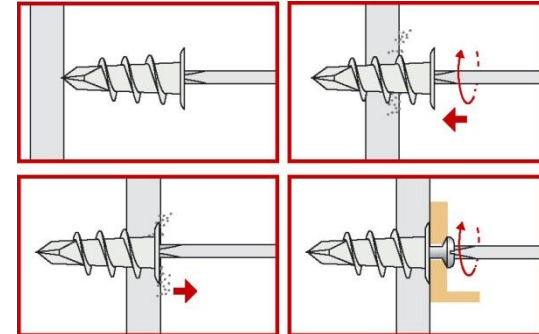
- concrete
- solid brick
- honeycomb brick
- cell like clay brick
- light weight honeycomb brick
- hollow dense aggregate block
- hollow light aggregate block
- aerated concrete
- solid stone

TAN

SELFDRILLING NYLON PLUG FOR PLASTERBOARD



- SELFDRILLING NYLON PLUG designed for fixing without the need for pre-drilling a hole on plasterboard.
- FAST, the fixing is set with a screwdriver, the shape of the plug's point gives a good drilling performance.
- SAFE, it does not create expansion stress in the plasterboard.



 plasterboard

Medium Duty Metal Anchors

- 1. TSA PATTEN – Sleeve Anchor**
- 2. TAP – Drop in Anchor**
- 3. CLK – Screw Anchor**
- 4. VF – Screw Anchor**

TSA-PATTEN®

METAL SLEEVE ANCHOR

Thin walled through fixing suitable for all medium-heavy duty applications.



VARIOUS APPLICATIONS

Wide range of applications from wall plates, garage doors, hand rails, signs etc.

UNIFORM EXPANSION

Ensured by the three expanding segments made out of a single pressed steel body.

COLLAPSE FEATURE

Special shaped slots on the three expanding segments pull down gaps between the fixture and base material

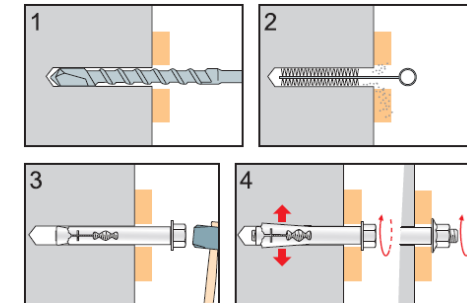
TSA-PATTEN®

METAL SLEEVE ANCHOR



VERSIONS:

- flanged nut;
- hex head screw.
- **FLANGED NUT:** threaded stud with integral cone end, expansion sleeve and flanged nut.
- **HEX HEAD SCREW CL. 8.9:** expansion sleeve with knurled threaded expander cone and washer.



- concrete
- solid brick
- solid stone

Medium Duty Metal Anchors

- 1. TSA PATTEN – Sleeve Anchor**
- 2. TAP – Drop in Anchor**
- 3. CLK – Screw Anchor**
- 4. VF – Screw Anchor**

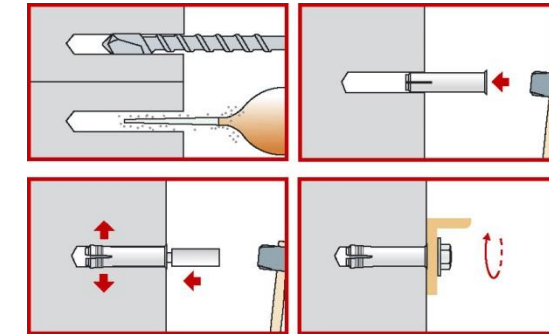
TAP

RIMMED HAMMERSET ANCHOR



VERSIONS:

- white zinc plated;
- stainless steel A4.
- ANCHOR consists of an internally threaded steel shell;
- SETTING TOOL made of hardened steel and used to expand anchor with club hammer;
- SAFE AND CONTROLLED EXPANSION due to the setting tool which controls the depth of the expansion wedge.



- concrete
- solid stone

Medium Duty Metal Anchors

- 1. TSA PATTEN – Sleeve Anchor**
- 2. TAP – Drop in Anchor**
- 3. CLK – Screw Anchor**
- 4. VF – Screw Anchor**

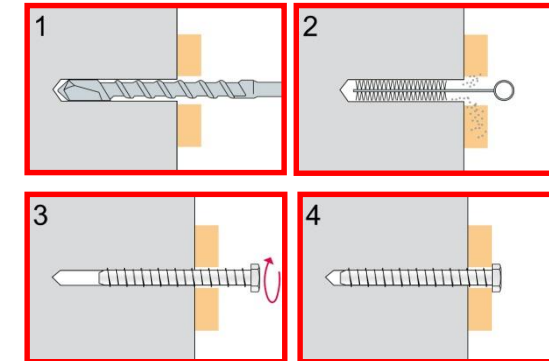
FM-CLK

HEX HEAD SCREW FOR CONCRETE - for structural fixings



VERSION:

- Hex head screw white zinc plated.
- No plug required
- High loading capacity in relation to diameter
- Correct functioning near edges
- Correct functioning with reduced spacing distances
- Re-usable



- concrete
- solid brick
- honeycomb brick
- solid stone

Medium Duty Metal Anchors

- 1. TSA PATTEN – Sleeve Anchor**
- 2. TAP – Drop in Anchor**
- 3. CLK – Screw Anchor**
- 4. VF – Screw Anchor**

VF

SELF TAPPING SCREW FOR CONCRETE

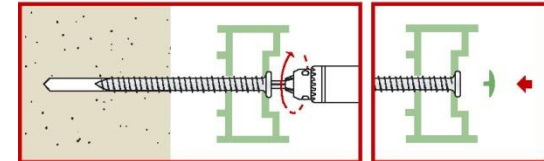
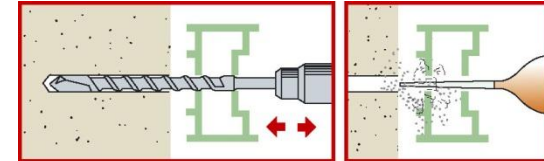
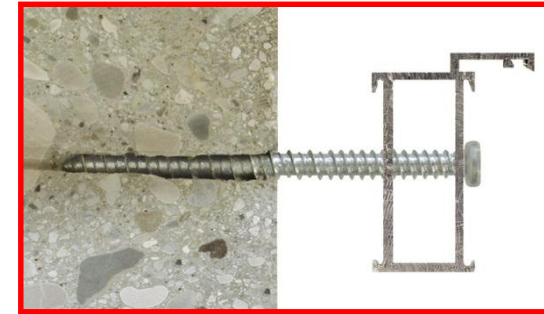


VERSIONS:

- cylindrical head;
- countersunk head.
- HIGH RESISTANCE to pull-out;
- IDEAL FOR STAND-OFF FIXINGS;
- ALLOWS FIXINGS NEAR THE EDGE;
- SMALL HOLE DIAMETER (6 mm);
- PREVENTS STRESS IN THE BASE MATERIAL;
- PREVENTS DEFORMATION OF THE FRAME.



EN 14592:2009



- concrete
- solid brick
- honeycomb brick
- light weight honeycomb brick
- aerated concrete
- solid stone
- wood

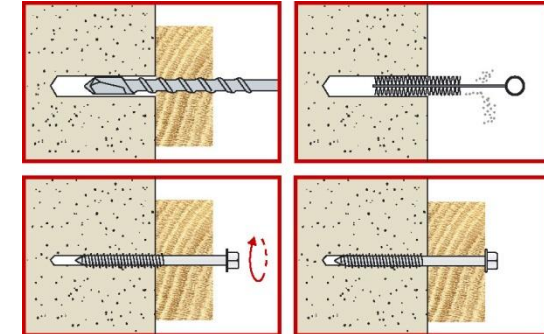
VDC

SELF TAPPING SCREW FOR CONCRETE



VERSIONS:

- hex head screw.
- HIGH RESISTANCE to pull-out;
- ALLOWS FIXINGS NEAR THE EDGE;
- SMALL HOLE DIAMETER;
- PREVENTS STRESS IN THE BASE MATERIAL.



● concrete

● solid brick

● wood

PUR

Polyurethane foam

PUR Windows

POLYURETHANE FOAM



PUR
Flexible
Window frames

PUR Windows

POLYURETHANE FOAM

Characteristics



- 750 ml
- 42 litres
- B2
- Yellow
- For gun use

PUR Windows

POLYURETHANE FOAM



Characteristics

Super flexible

- Retains elasticity even when hardened.
- No shrinkage
- Max elasticity
- Flexibility grade similar to silicone sealers

PUR Windows

POLYURETHANE FOAM



Characteristics

**High acoustic
insulation**

59 dB (DIN 717-1)

(certified data)

PUR Windows

POLYURETHANE FOAM



Characteristics

High thermal insulation

0,036 W/(m K)

PUR Windows

POLYURETHANE FOAM

Application areas



**Window frames with
wooden frame**



**Window frames without
wooden frame**

PUR Windows

POLYURETHANE FOAM

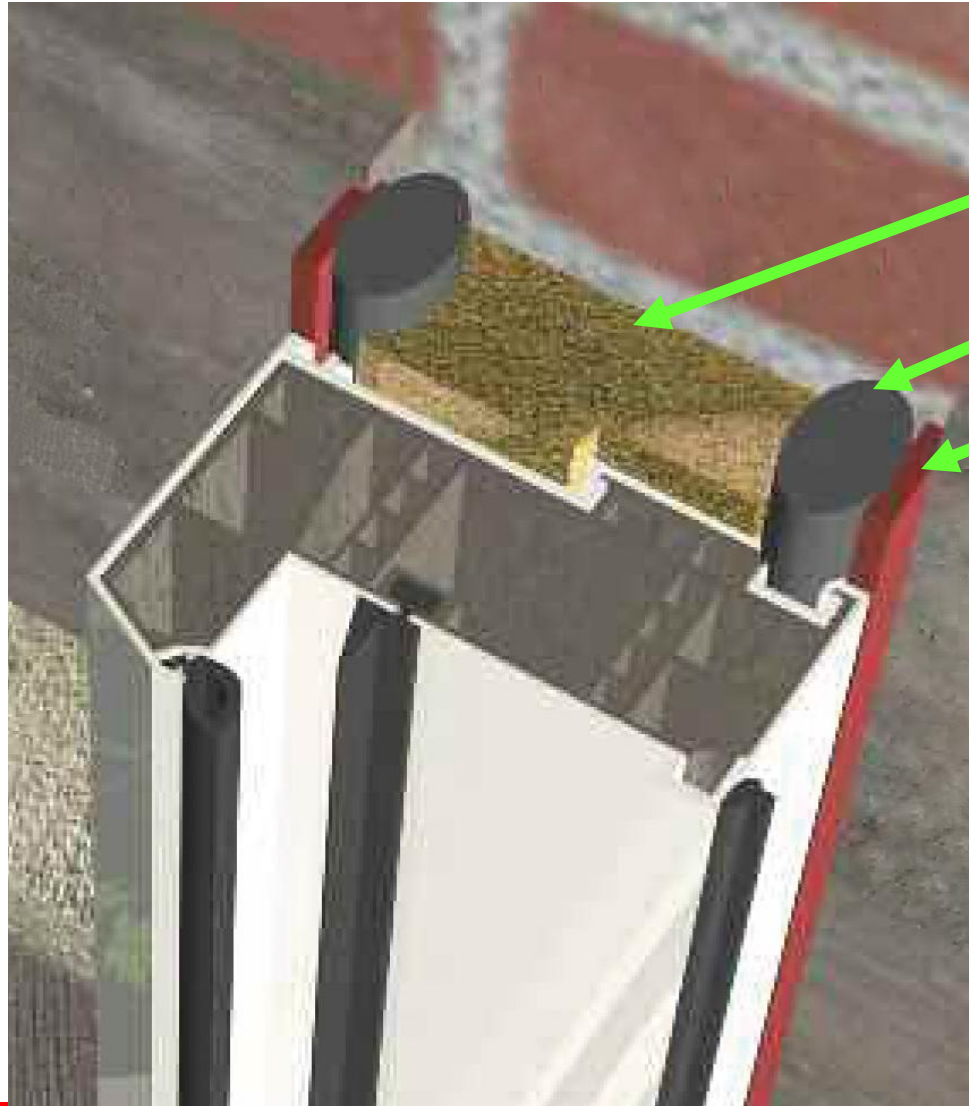
How does it work?



PUR Windows

POLYURETHANE FOAM

How does it work?



PUR WINDOWS

Rubber gasket

Sealer

The elastic gasket is important as it allows the foam and the sealant to work on 2 sides only = max flexibility