

55650.0000

3-part galvanized, fine adjustment via left/right thread, tube 45 x 45 mm.

Thread

M20

Adjustment range (mm)

1600 - 4200

Weight (Kg)

12,5

ASSEMBLY INSTRUCTIONS:

1. Determination of the wind load effect

Before starting installation, the wind load effects at the installation site must be determined. This is the only way to calculate the required number of wall supports.

2. Telescopic length adjustment:

First position the wall support in a horizontal position. Set the length by adjusting between tube 45/45 and tube 40/40. If necessary, then adjust the length between the 40/40 tube and the 35/35 tube.

3. Security check

After adjusting the length, check that the magnetic locking bolts are correctly seated to ensure that the pipes are securely connected.

4. Lean against the component

Lean the wall support against the component at a recommended angle of 45° (30° to 60°) to ensure optimum stability.

5. Attachment to the wooden wall / wooden ceiling

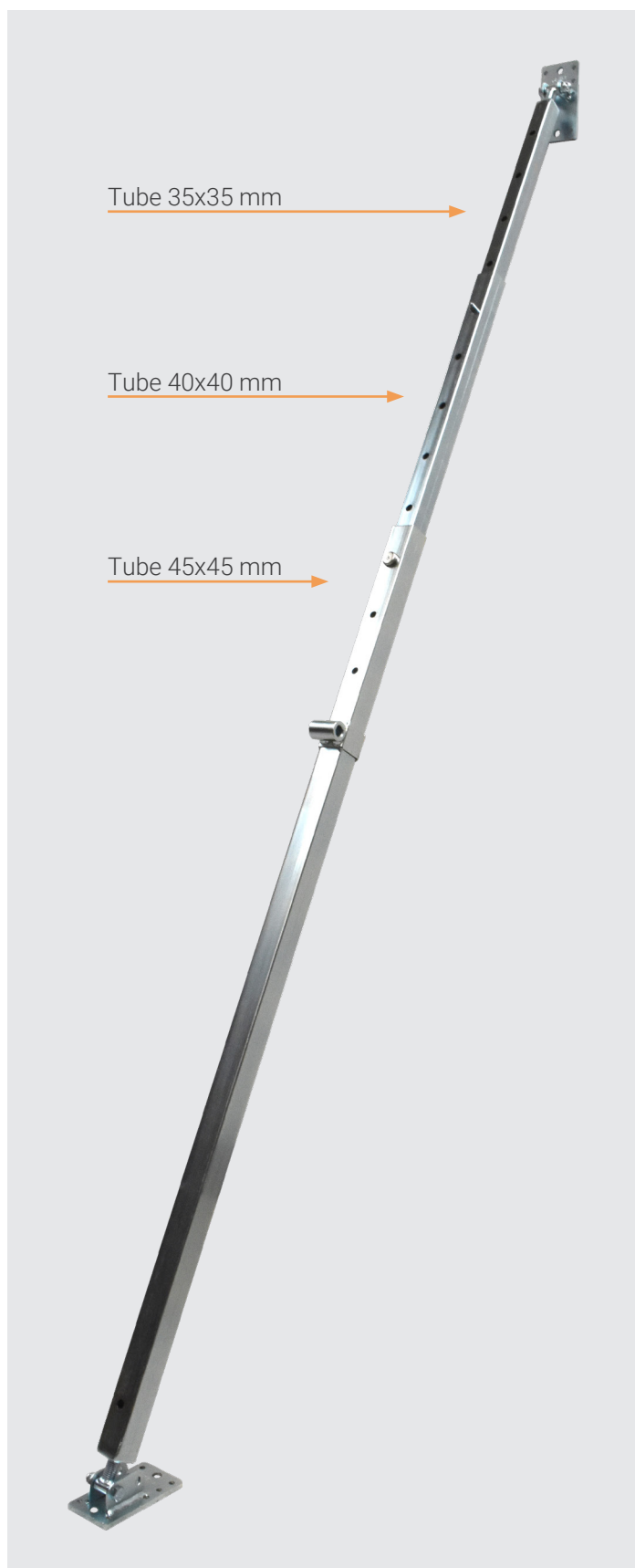
Fasten the wall support with the calculated number of plate head screws (6 x 60 mm). A maximum of eight fasteners are possible.

6. Fastening to the foundation/concrete

Up to three 12 mm diameter concrete anchors can be used for fastening to concrete. Dimensioning according to the anchor manufacturer's specifications.

7. Fine adjustment

Fine adjustment of the wall support is carried out using the right/left thread to achieve the exact position.



IMPORTANT:

A dimensioning tool for determining the required number of wall supports is available online free of charge:
<https://www.pitzl-connectors.com/downloads>

CALCULATION EXAMPLES:

Geometry of the wall:

$$A = L \times H = 12,0\text{m} \times 2,8\text{m} = 33,6\text{m}^2$$

Assumptions: Wind load zone 1, terrain category II,
building height < 7m, straight wall, degree of fullness 1.0.

Wind load according to Eurocode 1991-1-4

v_b Base velocity (according to national wind zone map)

$q_{b,0}$ Base velocity pressure

$q_{p(z)}$ Gust velocity pressure

$C_{p,net}$ for free-standing walls in area B with $l/h = 4.28$

W_{Ed} Effect on the wall (design wind load)

$W_{Ed,ges}$ Total wind load on the wall

$h_{Wandstütze}$ Wall support Height of the fastening

$a_{Wandstütze}$ Wall support Distance of the fastening

$\alpha_{Wandstütze}$ Wall support Inclination of the wall support

$l_{Wandstütze}$ Wall support Resulting length of the wall support (here)

N_{Ed} Design load-bearing capacity of wall support according to structural analysis (interpolated)

Required number of wall supports

Action on individual wall support

Verification of individual wall support

Verification of the fasteners:

Fastening to wall and floor with 6x60mm plate head fully threaded screws.

Characteristic strengths per fastener:

Shear strength (for thick sheet steel):

Thread pull-out resistance:

Combined fastener verification:

Resulting load on the fixing plate (shear and pull-out)

--> Selected 3 fasteners

Design shear strength $F_{V,Rd}$

Design thread pull-out resistance $F_{ax,Rd}$

Verification wall and floor:

Load-bearing capacity in relation
to the wall support length:

L_{Str} [m]	R_D [kN]
2,00	18,70
2,50	13,40
3,00	8,10
3,50	5,70
4,00	4,75

$$1,5 \cdot q_{b,0} = 22,5\text{m/s} \\ = 0,32\text{kN/m}^2 \\ = 0,48\text{kN/m}^2 \\ 1,8$$

$$Y_Q \cdot q_{p(z)} \cdot C_{p,net} = 1,296\text{kN/m}^2 \\ W_{Ed} \cdot A = 43,55\text{kN}$$

$$2,2\text{m} \\ 2,2\text{m} \\ 45^\circ \\ 3,10\text{m} \\ 7,62\text{kN}$$

$$6\text{pcs.}$$

$$7,26\text{kN}$$

$$7,26\text{kN}/7,62\text{kN} = 0,95 < 1,0 \text{ fulfilled!}$$

$$F_{Platte} = 7,26\text{kN}/\text{Root (2)} = 5,13\text{kN}$$

$$3 \cdot 3,2\text{kN} \cdot 1,0/1,3 = 7,38\text{kN}$$

$$3 \cdot 0,9 \cdot 3,8\text{kN} \cdot 1,0/1,3$$

$$7,8 = 5\text{kN}$$

$$(F_{Platte} / F_{V,Rd})^2 + (F_{Platte} / F_{ax,Rd})^2 = 0,91 < 1,0 \text{ fulfilled!}$$

The above calculation is only valid as an example. Changes to the load assumptions, inclination, length of the wall support, etc. must be taken into account in the calculations.