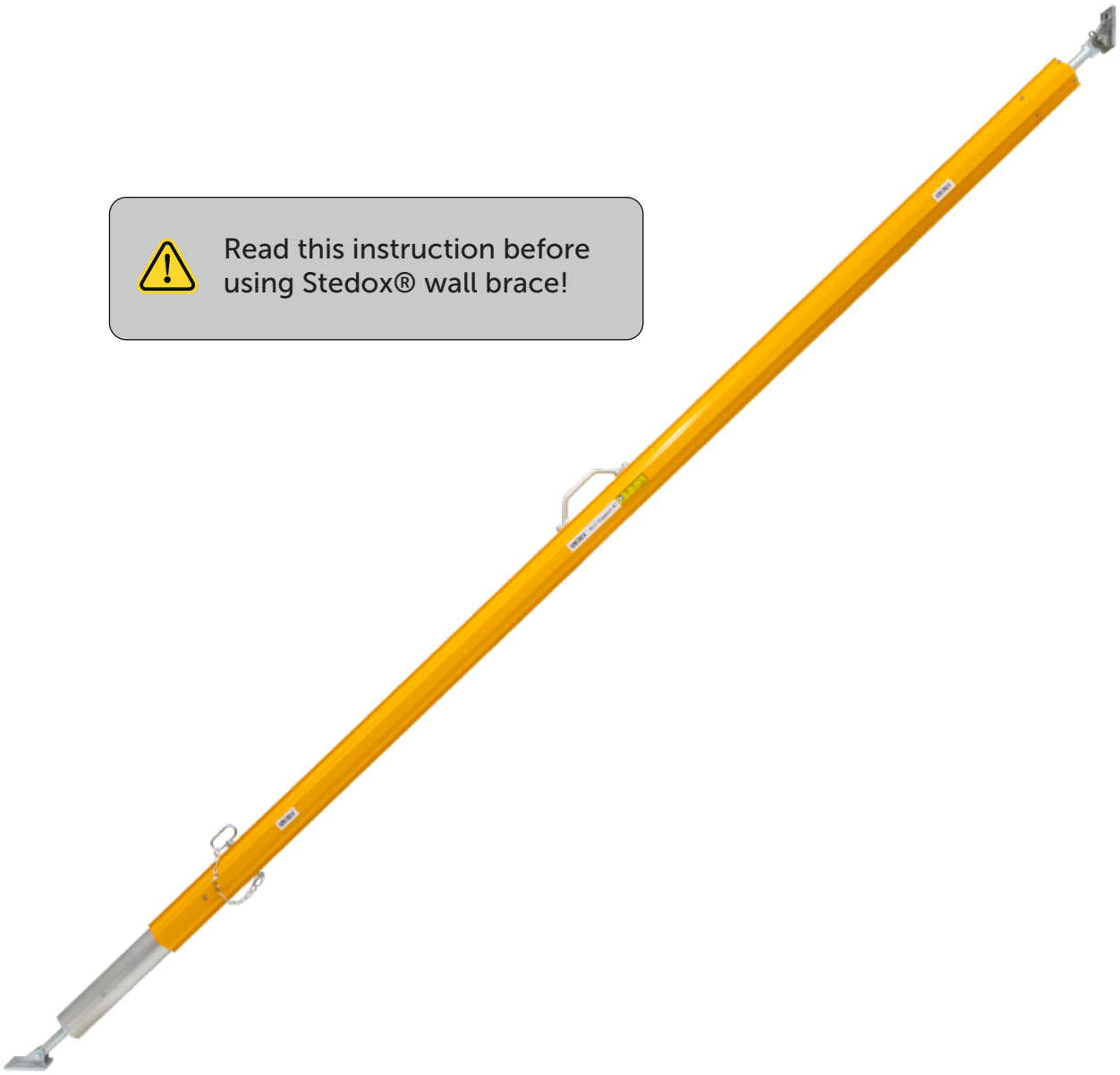
STEDOX®
ALU-SUPPORT

OPERATING INSTRUCTIONS



⚠ Read this instruction before using Stedox® wall brace!

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1. Stedox®

Stedox® is a brand owned by the Finnish company Stedox Ab Oy, Stedox® develops, manufactures and sells products for safe and easy installation work. Stedox® ALU-Support (hereinafter "Wall brace") is used to erect and install prefabricated elements, panels and columns.

2. About the product

Stedox® ALU-Support is a wall brace specifically designed for precast and timber structures, but it can also be tailored to adapt to formwork. Noticing the lack of safe, durable, and user-friendly options on the market, the founders of Stedox® set out to develop a lightweight and robust wall brace from the ground up. Today, Stedox® wall braces are trusted and widely used across Europe and North America.

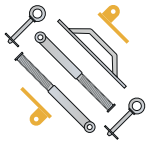
To use the wall brace, follow these steps:

1. Extend the brace to the desired length using its telescopic function in 100 mm increments.
2. Lock the brace in place using the locking pin.
3. Before attaching the end brackets, make sure both threaded adjusters are extended equally.
   A. Each adjuster has a fine-adjustment span of 128 mm, giving a total of 256 mm for the full brace.
   B. Equal extension ensures full adjustment range and prevents damage. Attach the brace to both the wall and floor securely.
4. Utilize the fine adjusting function by rotating the brace.

Benefits that Stedox® guarantees



Protected threads ensure outstanding performance through years of hard use



Replaceable parts for extended equipment lifespan and minimized waste



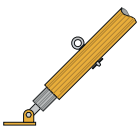
Affordable service and maintenance costs



Durable, lightweight, user-friendly: making work enjoyable and efficient



Coated in Stedox® bright yellow paint for high visibility and safety

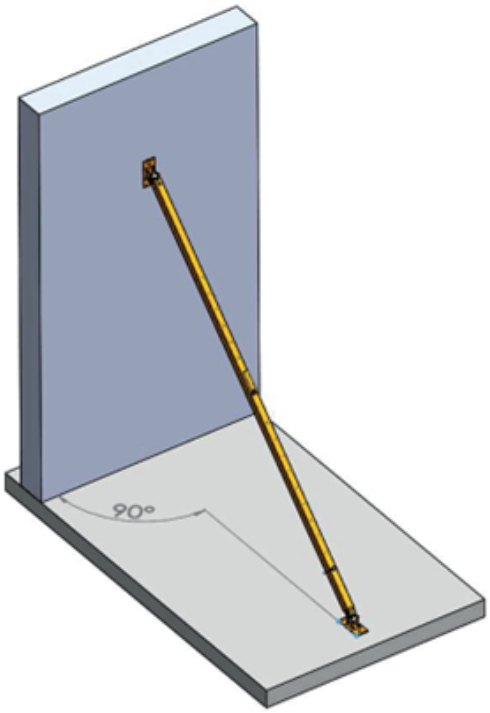


Quick rough adjustment with 100 mm increments + 250 mm fine adjustment

3. General

This operating instruction contains important information on how Stedox® ALU-Support can be used safely. It is therefore crucial that the instructions are read prior to use of the wall brace. The operating instructions are always to be held at hand on the construction site. Stedox® products are intended to be used only by qualified professionals.

Stedox® reserves the right to make technical changes to the operating instructions. This ensures that work can be performed safely with current legislation, regulations and other safety guidelines. The responsible person must ensure that the building and its construction remain stable throughout the construction phase. This also includes the erection, dismantling, and handling of the wall braces. The building in its entirety is to be inspected after both erection and dismantling of the wall braces.



4. Safety and operating instructions

4.1 Symbols

This symbol is used in conjunction with the instructions to place special attention to matters essential from a safety point of view:

Always obey the safety instructions to avoid personal injuries and property damage.

4.2 Risk assessment

A risk assessment must always be carried out by the responsible person, covering the risks associated with the work to be performed. Always work in accordance with the instructions produced from the risk assessment.

4.3 Installation instructions

The responsible person must ensure that all necessary documentation regarding the use of the wall braces is always available, regardless of how the wall brace is used or in which application. Appropriate documentation includes this operating instruction and suitable drawings and instructions for the job.

Always use at least two wall braces per element

The wall brace is to be attached above the center of gravity of the element! For tall elements where this is not possible, it is crucial to support them in other ways so the element cannot under any circumstance topple over.

The locking pin must be in place before the wall brace is to be loaded! The wall brace may not be used without a locking pin!

Always attach the wall brace perpendicular to the supported element!

4.4 Use

The wall braces are intended for professional use only. They may only be used by professionals under the supervision of qualified persons. The operating instructions are part of the wall brace and must always be followed.

Any addition, exception or deviation from these instructions (for example using other wall braces or methods) is a potential risk for which the responsible person remains solely accountable for any damages.

The use of other braces or procedures must always be planned appropriately. The responsible person is also accountable for all necessary supplementary planning and documentation.



Always ensure that permissible loads are not exceeded, and where and how the wall braces can be securely fastened.

4.5 Information on the construction site

The responsible person must ensure that the operating instructions are always available on the construction site. Personnel are to be informed about the contents of the instructions and where they are stored, before using the wall braces.

4.6 Illustrations

The operating instructions show parts of a construction under assembly and are therefore not complete from an occupational safety point of view. Always follow the given safety instructions even if they are not shown here.

4.7 Checking the wall brace

Check the wall brace before each use. Stedox® Support may not be modified or changed in any way. A broken or damaged wall brace may not be used.

Checkpoints

- Permanent deformations, e.g.:
  - Elongated or stretched holes
  - Dents or visible damage
  - Straightness of tubes and end brackets
  - Condition of weld seams on end brackets and adjusters* *(*Inspect the weld seam connecting the threaded rod/or tube to the end bracket. The weld must be intact and free from cracks, separation, or visible damage.*
- Condition of the threads
- Missing or loose parts
- Locking pin, undamaged and straight
- Tubes move without resistance
- Allowable loads decals

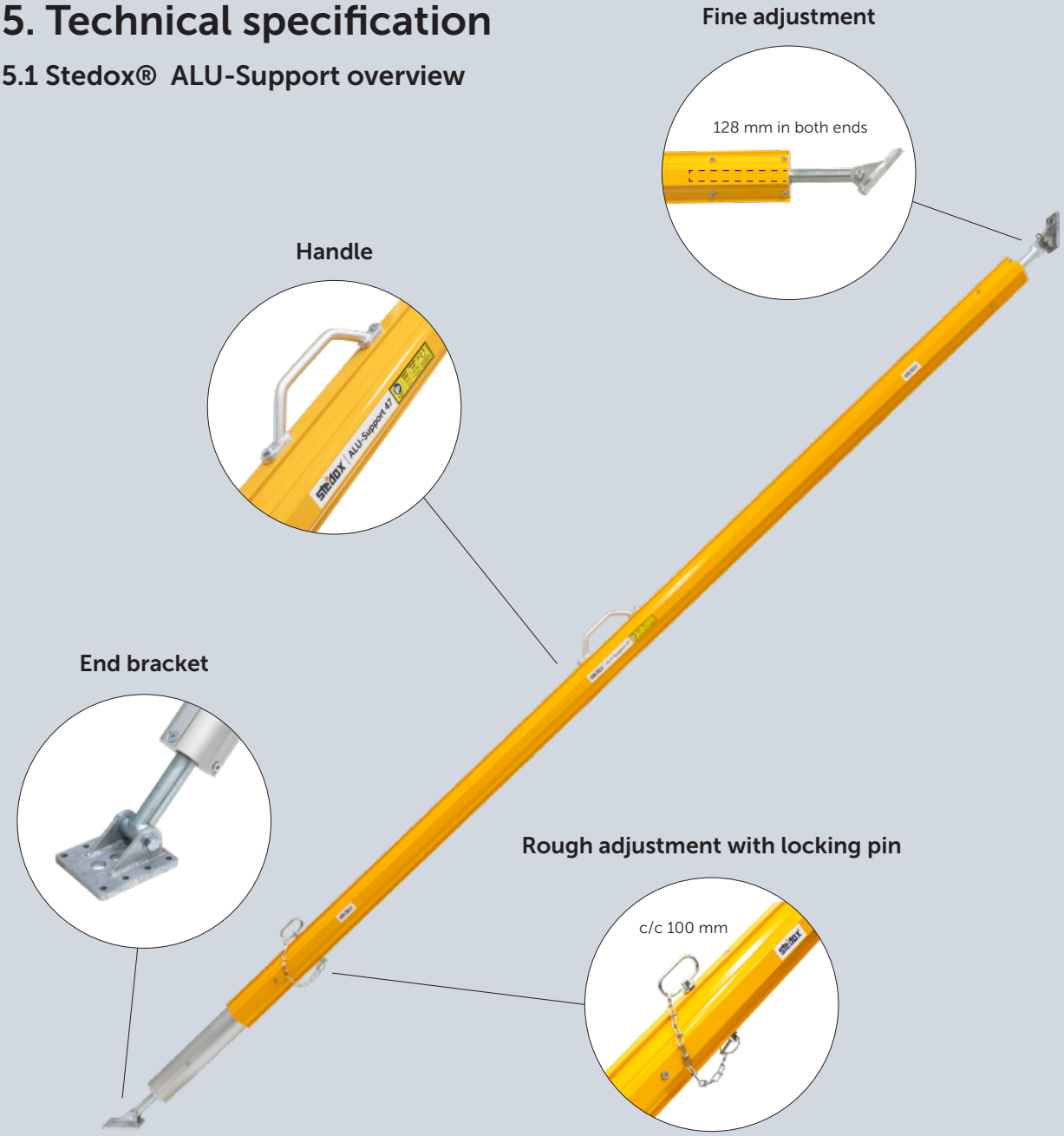
Contact customer service if you need support, spare parts or advice.
If the product is damaged or broken, stop using it immediately. Repair, replace or dispose of it immediately before resuming work.

4.8 Use of other products

The use of other manufacturer's products is always associated with a certain risk. The risk assessment is to evaluate each case individually. The situation may require several and/or separate instructions to be compiled.

5. Technical specification

5.1 Stedox® ALU-Support overview



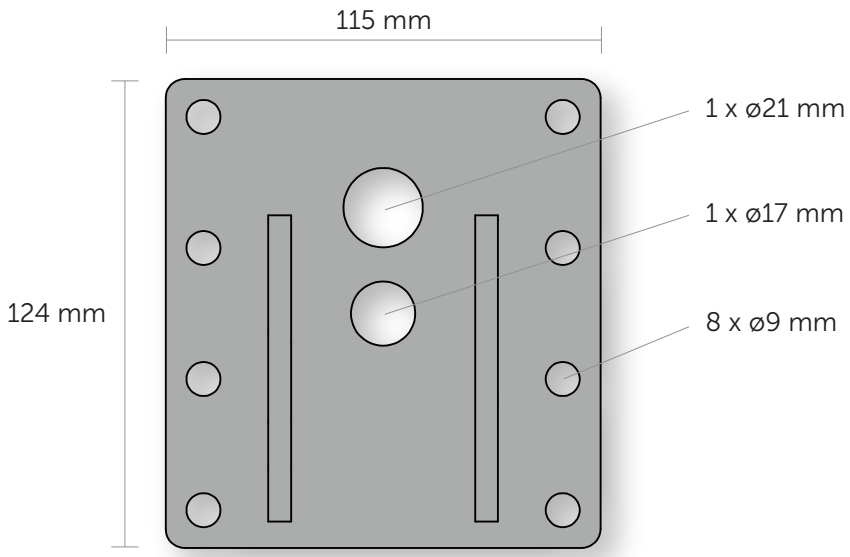
Detailed end bracket specifications on page 8

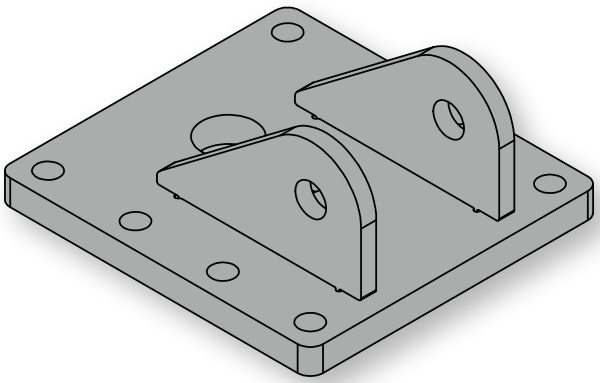
	Stedox® ALU-Support 47
Minimum length (mm)	3920
Maximum length (mm)[1)]	6970
Rough adjustment (mm)	c/c 100
Fine adjustment (mm)	256
Weight (kg)	33,0
Corrosion protection	Anodized, hot-dip galvanized, zinc-plated, powder-coated

1) Minimum and maximum lengths are rounded values measured from the absolute longest/shortest point, with both end brackets turned 90° perpendicular to the wall brace.

5.2 End bracket geometry

Bottom plate thickness	10 mm





6. Structural values

6.1 Load tables and charts

Load tables and charts are derived from theoretical calculations according to Eurocode standards and validated by physical testing performed under realistic working conditions.

Exceeding the maximum permissible load

Exceeding the specified load capacity may cause locking pin hole deformation or brace buckling, which can result in serious injury or death.

Before use:

- All loads to be supported by the wall braces must be calculated by a qualified engineer.
- Each load value should be verified and double-checked prior to installation.

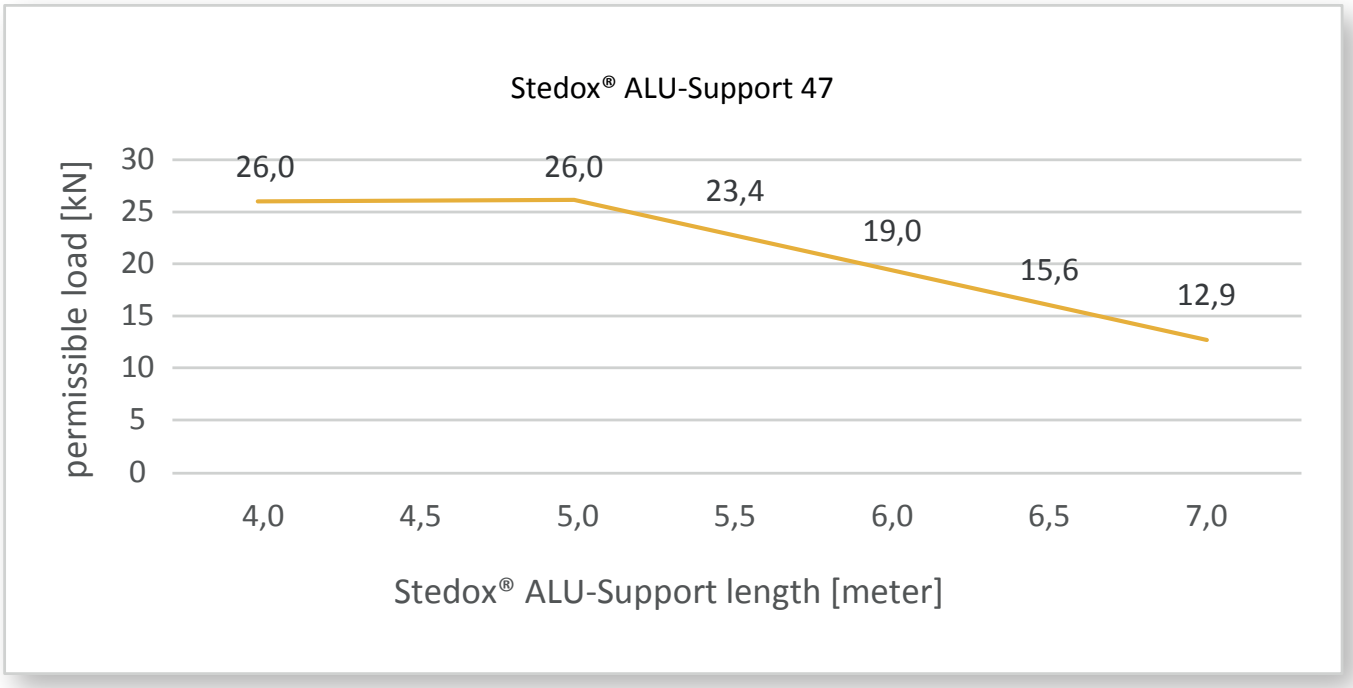


Under no circumstances, the maximum permissible load should be exceeded!

Stedox® ALU-Support 47

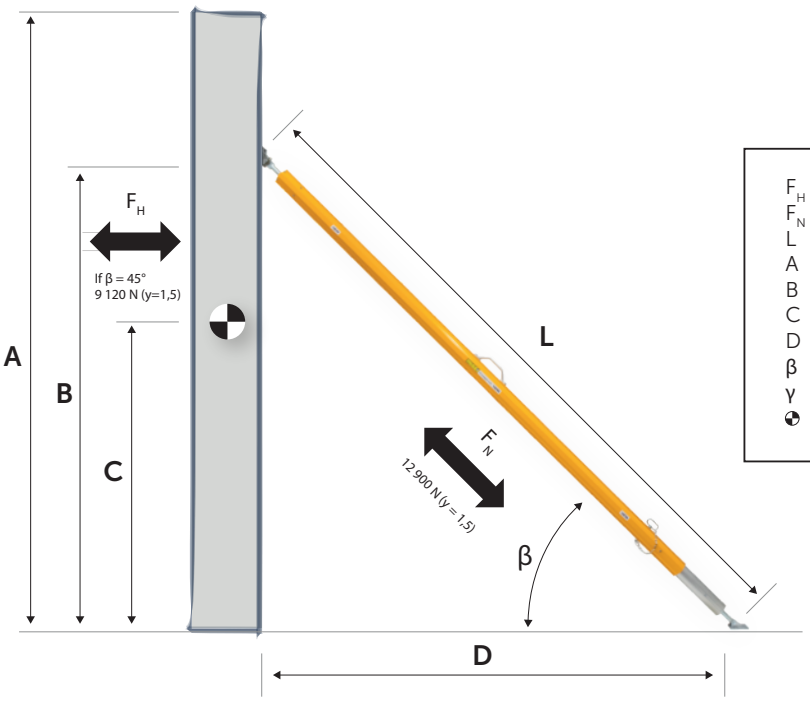
Stedox® ALU-Support length **[meter]**	4,0	4,5	5,0	5,5	6,0	6,5	7,0
Permissible load* **[kN]**	26,0	26,0	26,0	23,4	19,0	15,6	12,9

1) Permissible loads include a safety factor of 1,5
2) The permissible tensile load is 26,0 kN for all lengths



1) Permissible loads include a safety factor of 1,5

6.2 Example: Load and force calculation — Stedox® ALU-Support 47 at 7 meters



F_H	= Horizontal force from the element	[N]
F_N	= Axial force in the wall brace	[N]
L	= Length of the wall brace	[mm]
A	= Height of the element	[mm]
B	= Mounting height of the wall brace	[mm]
C	= Center of gravity for the element	[mm]
D	= Support point from the element	[mm]
β	= Support angle from horizontal	[°]
γ	= Factor of safety	
◓	= Center of gravity for the element	

NOTE! The force F_N can be tensile or compressive.

Angle β [°]	cos(β)	Using permissible axial load (includes safety factor γ = 1.5)	
		Supporting force FH [N]	Axial force in the wall brace at 7 meters FN [N]
30	0,866	11 171	12 900
35	0,819	10 565	
40	0,766	9 881	
45	0,707	9 120	
50	0,643	8 295	
55	0,574	7 405	
60	0,5	6 450	

The wall brace angle β from horizontal, must be: $30° \leq \beta \leq 60°$

The wall brace fastening height B must be higher than the center of gravity C. $B \geq C$

Recommended that the center of gravity C is at most 2/3 of the fastening height B: $B \geq 1{,}5C$

The axial load of the wall brace is always to be less than the maximum permissible force including safety factor: $FN \leq \pm 12\,900$ N

If the element is homogeneous the height of its center of gravity can be calculated: $C = A / 2$

The angle from horizontal of the wall brace can be calculated from: $\beta = \arctan (B / D)$

The maximum permissible load in horizontal direction is: $F_H = F_N \cdot \cos(\beta)$

It is the responsibility of a qualified engineer to verify all loads and confirm that the wall brace is securely fastened for the intended application.

7. Note

When the threads at both ends bottom out, extend the wall brace by moving the locking pin to the next hole. Before use, ensure the threads are equally extended on both ends to reach maximum length without causing damage. Each thread can be extended up to ~128 mm.

Never remove the locking pin unless the element is properly supported by a crane or another suitable support method.

8. Service and spare parts

Only original Stedox® spare parts may be used, and maintenance must be performed by qualified personnel.

To ensure safe operation and long service life of the ALU-Support 47, the wall brace shall be kept in good condition by regular cleaning and proper storage.

Always inspect the product before use and in accordance with the inspection criteria described in Chapter 4.7.

Only use original spare parts!

9. Handling

To minimize weight, the wall thickness in the product is thin. It can therefore be dented if handled carelessly.

A broken or damaged product must be replaced or repaired immediately.

10. Storage

Maximum longevity is achieved by storing the product clean and protected from moisture. If the wall brace is subjected to moisture it is reasonable to store it standing so moisture can be drained.

During prolonged storage the product is to be protected from corrosion.

11. In case of an accident

In the event of an accident when using Stedox® Support, do the following in this order:

- Prevent personal injuries
- Prevent property damage
- Inform the person in charge on site



Have questions about Stedox® wall braces?

→ Contact Stedox® Product Developer, Dennis, and he'll be happy to help you!

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