

## GENERAL OVERVIEW

The **FABA™ A12** is a fall arrester system and part of Personal Protective Equipment (PPE) European Directive (EU 2016/425). The system is certified according to the standard EN 353-1:2018. The FABA™ A12 system is certified for a user weight (including user weight and their equipment) up to 150kg.

FABA™ enables safe use of fixed vertical ladders or manhole rungs, e.g.

- on towers, stacks, high storage tanks, bridge piers, masts, machines and operating facilities
- on high-rise racks and industrial plants, buildings and facades
- in pits, mines as well as water and wastewater basins



## TECHNICAL SPECIFICATION

FABA™ A12 system has a full range of brackets, derived from a long presence in the market and our commitment to find a solution for each layout. Hereunder there is a non-exhaustive list of brackets, intended to cover a range of situations as wider as possible. Nevertheless, there are much more devices out of the ones presented here, and new ones can be tailor-made. Please, contact TRACTEL for special applications.

## BRACKETS TO WALL

**Note:** It is considered that walls can be made of steel, concrete (cracked or non-cracked) or solid brickwork. In any case, the installer must assure that the wall is able to stand the pull-out load indicated below where the bracket is to be installed (this is particularly important for brick walls). This load does not depend on the wall material.

**Note:** For each item below, there is a recommended anchor, based on the manufacturer data at the time of issuing this document. This can be used as a guideline, but the installer must assure that the anchor is able to stand the pull-out load indicated below.

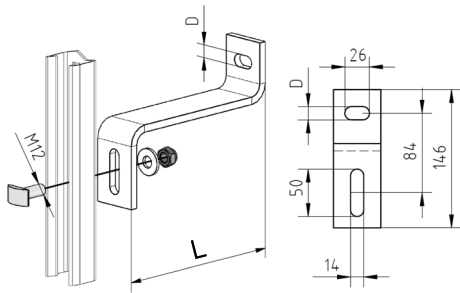
### Selection matrix <sup>(1)</sup>

Type of wall	Distance <sup>(2)</sup>						
	Short (L < 200)			Medium (200 < L < 400)		Long (400 < L < 900)	
	Z-bracket	Tubular	Adjustable	Tubular	Adjustable	Tubular	Adjustable
Concrete	505415 <a href="#">505445</a> 524185	505525 <a href="#">506945</a> 526325	272477 <a href="#">526177</a>	524125	524695	520565 524645	272587
Steel	505435 <a href="#">507487</a> 525165	505515 <a href="#">503548</a> 526335	On demand	519545 519585	On demand	On demand	
Brickwork (solid)	N/A	237445 <a href="#">237455</a>	272577 <a href="#">272837</a>	On demand		N/A	

(1) Only brackets without bolting to FABA™ ladder.

(2) For distances longer than 900 mm, TRACTEL recommends other solutions, like bended ladders.

(3) In blue, stainless steel.

**Z-brackets**


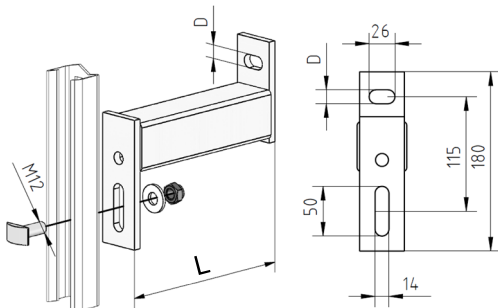
This is the standard solution for fixing a FABA™ ladder to a wall, when there is a small distance. It is a cheap bracket but requires a high pull-out resistance of the wall. Therefore, it might not be used in all cases.

**Application:**

- Short distances (constant along the ladder).
- High resistance walls, of steel and cracked and not cracked concrete.
- Anchors and bolts to wall not included.

L (mm)	Code	Material	D (mm)	Pull-out load	Type of wall
161	505415	St tZn	10.5	5700 N	Concrete
	508087 <sup>(1)</sup>	St tZn / A4			
	505435	St tZn	14		Steel
	503418 <sup>(1)</sup>	St tZn / A4			
	505445	1.4571	10.5		Concrete
	503428 <sup>(1)</sup>	1.4571 / A4			
	507487	1.4571	14		Steel
503438 <sup>(1)</sup>	1.4571 / A4				
200	524185	St tZn	10.5	7200 N	Concrete
	527947 <sup>(1)</sup>	St tZn / A4			
	525165	St tZn	14		Steel
	527957 <sup>(1)</sup>	St tZn / A4			

(1) Bolting to FABA™ ladder included.

**Tubular fix brackets**


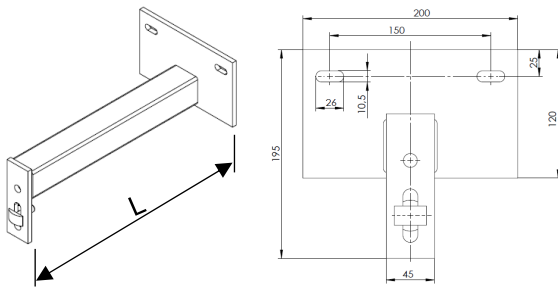
This is the standard solution for fixing a FABA™ ladder to a wall, when there is a small distance. It is a robust bracket that works with low pull-out resistance of the wall. So, it can be used in a broad range of layouts.

**Application:**

- Short and medium distances (constant along the ladder).
- Medium resistance walls, of steel and cracked and not cracked concrete.
- Anchors and bolts to wall not included.

L (mm)	Code	Material	D (mm)	Pull-out load	Type of wall
161	505525	St tZn	10.5	2900 N	Concrete
	503558 <sup>(1)</sup>	St tZn / A4			
	505515	St tZn	14		Steel
	503538 <sup>(1)</sup>	St tZn / A4			
	506955	1.4571	10.5		Concrete
	503568 <sup>(1)</sup>	1.4571 / A4			
	506945	1.4571	14		Steel
503548 <sup>(1)</sup>	1.4571 / A4				
200	526325	St tZn	10.5	3600 N	Concrete
	527967 <sup>(1)</sup>	St tZn / A4			
	526335	St tZn	14		Steel
	527977 <sup>(1)</sup>	St tZn / A4			
240	519545	St tZn	14	4500 N	Steel
	518697 <sup>(1)</sup>	St tZn / A4			
291	519585	St tZn	14	5500 N	Steel
	518737 <sup>(1)</sup>	St tZn / A4			

(1) Bolting to FABA™ ladder included.



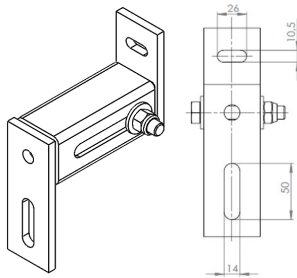
This solution is specially designed for low resistance walls, within a range of small and medium distances. This is a robust bracket although it is not intended for usage in steel structures.

**Application:**

- Short and medium distances (constant along the ladder).
- Low resistance walls, of solid brickwork and cracked and not cracked concrete.
- Anchors and bolts to wall not included.

L (mm)	Code	Material	D (mm)	Pull-out load	Type of wall
161	237445	St tZn	10.5	1210 N	Brickwork (solid)
	272797 <sup>(1)</sup>	St tZn / A4			
	237455	1.4571			
371	524125	St tZn	10.5	3000 N	Concrete
	524797 <sup>(1)</sup>	St tZn / A4			
430	520565	St tZn	10.5	3400 N	Concrete
	520177 <sup>(1)</sup>	St tZn / A4			
500	524645	St tZn	10.5	4000 N	Concrete
	525567 <sup>(1)</sup>	St tZn / A4			

(1) Bolting to FABA™ ladder included.

**Tubular adjustable brackets**


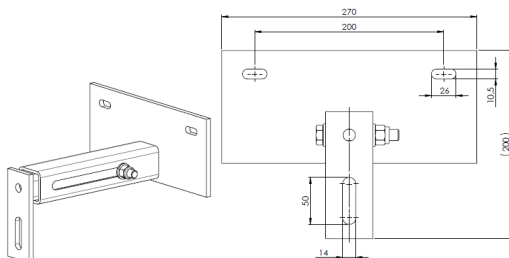
This is a versatile solution for fixing a FABA™ ladder to a wall, when the distance is not well known or not constant. This is a robust bracket although it is not intended for usage in steel structures.

**Application:**

- Short distances (variable along the ladder).
- Medium resistance walls of cracked and not cracked concrete.
- Anchors and bolts to wall not included.

L (mm)	Code	Material	D (mm)	Pull-out load	Type of wall
140 - 210	272477	St tZn	10.5	4000 N	Concrete
	272817 <sup>(1)</sup>	St tZn / A4			
	526177	1.4571			
	272827 <sup>(1)</sup>	1.4571 / A4			

(1) Bolting to FABA™ ladder included.



This is a versatile solution for fixing a FABA™ ladder to a wall, when the distance is not well known or not constant. This is a robust bracket although it is not intended for usage in steel structures.

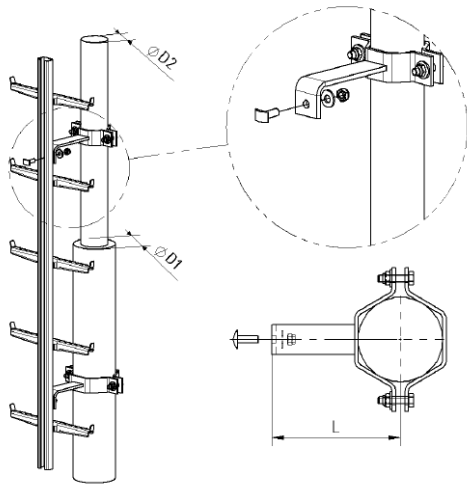
**Application:**

- Short distances (variable along the ladder).
- Medium resistance walls of cracked and not cracked concrete.
- Anchors and bolts to wall not included.

L (mm)	Code	Material	D (mm)	Pull-out load	Type of wall
140 - 210	272577	St tZn	10.5	1260 N	Brickwork (solid)
	272847 <sup>(1)</sup>	St tZn / A4			
	272837	1.4571			Concrete
	272857 <sup>(1)</sup>	1.4571 / A4			
260 - 390	524695	St tZn	10.5	3100 N	Concrete
	272867 <sup>(1)</sup>	St tZn / A4			
770 - 900	272587	St tZn	10.5	4600 N	Concrete
	272887 <sup>(1)</sup>	St tZn / A4			

(1) Bolting to FABA™ ladder included.

## BRACKETS TO MAST



This type of brackets are used in the case that a safe climbing system is requested to access to a height level on a mast. Its wide range of diameters and lengths allows to be installed on almost any situation. Brackets are made of hot-dip galvanised steel, meanwhile fittings are in stainless steel A4.

### Application:

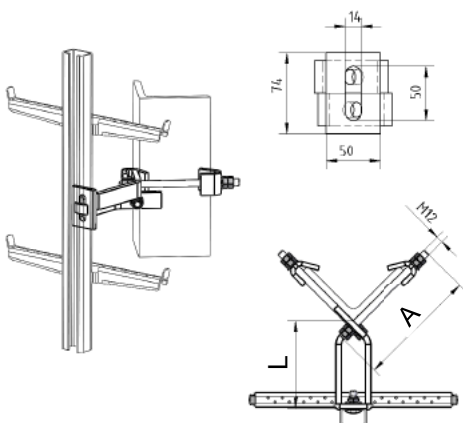
- Easy fastening of the FABA™ ladder on masts.
- Clamps must be tightened to 40 N·m (this guarantees that brackets are able to withstand a fall).
- Base structure must withstand a vertical force of 6000 N.
- Widely use on telecommunication towers.
- They cover most used ANSI B 36.9 pipe diameters.
- Several pipe diameters are allowed. In such a case, the biggest diameter (usually at the lowest section) defines the parameter "L", that must be constant along the mast.
- Bolting to FABA™ ladder included.

### Selection matrix <sup>(1)</sup>

Nominal diameter	D (mm)	Distance L (mm) <sup>(1)</sup>									
		184	190	203	213	217	230	243	255	269	312
	80.0				506575	506585					
DN80	88.9	503678	506595	506605	506615	506625	506635	503688	506645		
DN90	101.6		503698	506655	506665	506675	506685	506695	506705		
DN100	114.3			506715	503708	506725	503718	503728	503738	506735	
	139.7				503748	506745	503758	503768	503778	503788	
	159.0					506755	506765	506775	506785	506795	
DN150	168.3						503798	503808	503818	506805	528027
	193.7							503828	506815	506825	
DN200	219.1								503838	506835	528037
DN250	273.0									272897	272907
DN300	323.9									521507	528007

(1) Parts in galvanised steel. Stainless steel available on demand.

## BRACKETS TO AN L-PROFILE



This bracket can be fixed on L-profile beams, typically used for electrical or telecommunication towers.

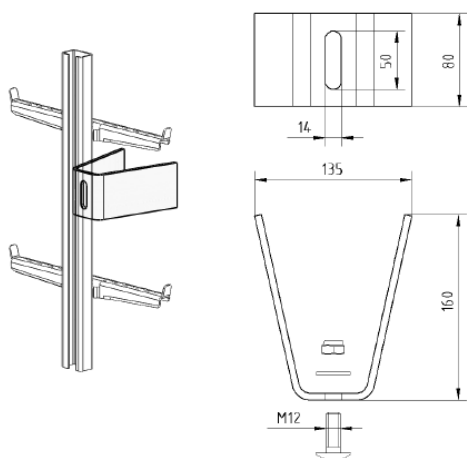
### Applications:

- Specially designed for steel structures.
- Clamps must be tightened to 60 N·m (this guarantees that brackets are able to withstand a fall).
- Base structure must withstand a vertical force of 6000 N.
- All bolts and threaded rods in stainless steel.
- Range L-profile from 130 to 250 mm.
- Bolting to FABA™ ladder included.

Distance L (mm)	L-profile side A (mm) <sup>(1)</sup>		
	70	130	160
60 – 130	529067	503648	513388
130 – 200	529077	503658	513398
200 – 250	529087	503668	513408

(1) Parts galvanised steel. Stainless steel available on demand.

## BRACKETS FOR WELDING



This bracket allows to fix a FABA™ ladder to a metallic structure (beams) where it is not possible to install a bolt, e.g. because it is not possible to access to the rear part of the beam or drilling is not advisable.

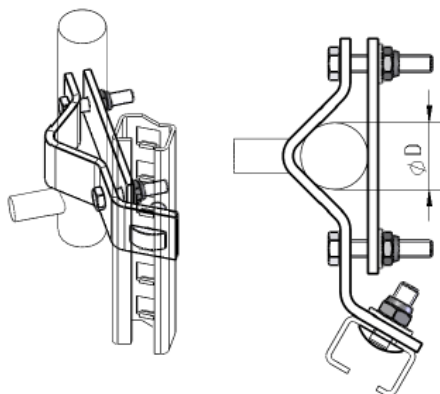
### Applications:

- Specially designed for steel structures.
- Base structure must withstand a vertical force of 6000 N.
- Welding to be done by a certified welder.
- After welding, the bracket and the welded area has to be protected against corrosion (painting).
- Several steel coatings available.
- Bolting to FABA™ ladder NOT included.

Length (mm)	Material			
	St (untreated)	St (Primed)	St tZn	1.4571
160	505455	503318	523767	503308

## BRACKETS TO AN EXISTING LADDER

### Round side rail brackets



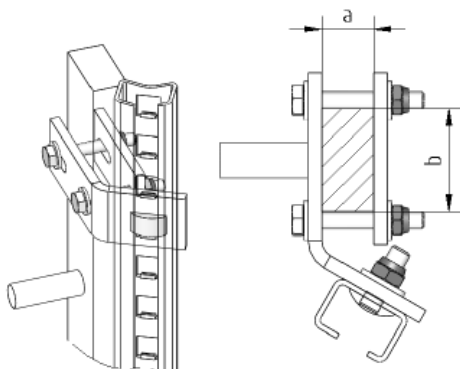
This bracket can be adapted on round side rails of an existing ladder.

### Applications:

- Used on ladders where installing on the rung is not advisable.
- It can be installed on right or left side rail.
- Side rails must withstand a vertical force of 6000 N.
- Range diameter for side rails from Ø25 to Ø80 mm.
- Bolting to FABA™ rail included.

Side rail diameter D (mm)	Material	
	St tZn / A4	1.4571 / A4
25 – 33	503368	503378
24 – 55	504008	504018
56 – 80	508637	508647

### Rectangular side rail brackets



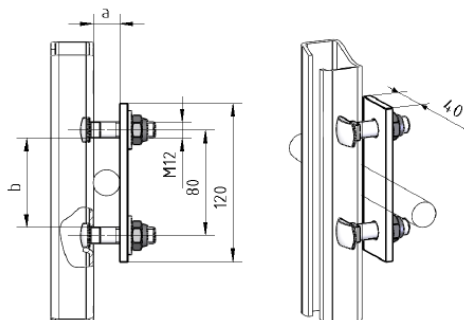
This bracket can be adapted on rectangular side rail of an existing ladder.

### Applications:

- Used on ladders where installing on the rung is not advisable.
- It can be installed on right or left side rail.
- Side rails must withstand a vertical force of 6000 N.
- Range dimensions for side rails from 6x40 to 50x100 mm.
- Bolting to FABA™ rail included.

Side rail dimension a (mm)	Side rail dimension b (mm)				
	40 – 60		61 – 80		81 – 100
	St tZn / A4	1.4571 / A4	St tZn / A4	1.4571 / A4	St tZn / A4
6 – 20	503888	503948	503918	503978	513938
21 – 30	503898	503958	503928	503988	516948
31 – 50	503908	503968	503988	503998	513958

### Round or rectangular rung brackets



This bracket is installed directly on the rung of an existing climbing facility (ladder or step irons).

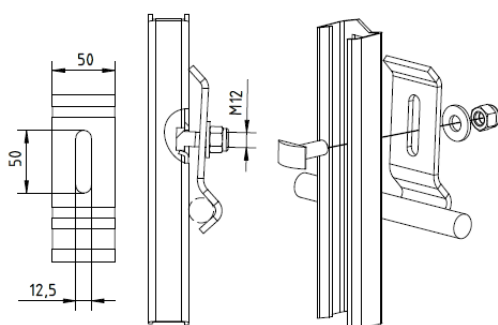
#### Applications:

- It can be adapted on round or rectangular rungs.
- Rungs must withstand a vertical force of 6000 N.
- Range dimensions for round rungs from Ø16 to Ø40 mm.
- Range dimensions for rectangular rungs from 16x16 to 40x65 mm.
- Bolting to FABA™ rail included.

Rung dimension a (mm) <sup>(1)</sup>	Material	
	St tZn / A4	1.4571 / A4
16 – 25	503398	508817
25 – 40	503408	508827

(1) For any rung dimension b up to 65 mm.

### Round rung brackets



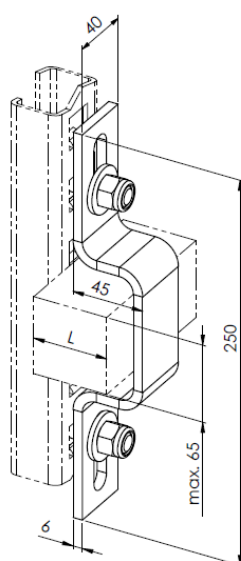
This bracket refurbishes an existing climbing facility (ladder or step irons) into a safety ladder, by installing it directly on the round profile rungs.

#### Applications:

- Specially designed for step irons.
- Rungs must withstand a vertical force of 6000 N.
- Range dimensions for round rungs from Ø15 to Ø27 mm.
- Bolting to FABA™ rail included.

Rung dimension (mm)	Material	
	St tZn / A4	1.4571 / A4
15 – 27	508327	503528

### Rectangular rung brackets



This bracket refurbishes an existing climbing facility (ladder or step irons) into a safety ladder, by installing it directly on the rectangular profile rungs.

#### Applications:

- Rungs must withstand a vertical force of 6000 N.
- Range dimensions for rectangular rungs from Ø15 to Ø27 mm.
- Maximum rung height: 65 mm.
- Bolting to FABA™ rail included.

Rung dimension L (mm)	Material	
	St tZn / A4	1.4571 / A4
41 – 47	521767	272877
48 – 62	519057	526457