

# Bolt anchor FWB

The traditional shield anchor widely used in non-cracked concrete



Ventilation ducts



Metal construction

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## Applications

- Hand-rails
- Ventilation ducts
- Pipework
- Suspended ceilings
- Metal constructions
- Metal profiles
- Also suitable for temporary fixings such as wall shuttering

## Advantages

- The segmented steel expansion shield is pre-assembled ready for use.
- Versatile: The internal metric thread makes this wallbolt suitable for a number of different head types.
- The three piece shield distributes and even load when installed.

- Surface flush which allows the fixture to be removed.
- Traditional design widely accepted by end users.

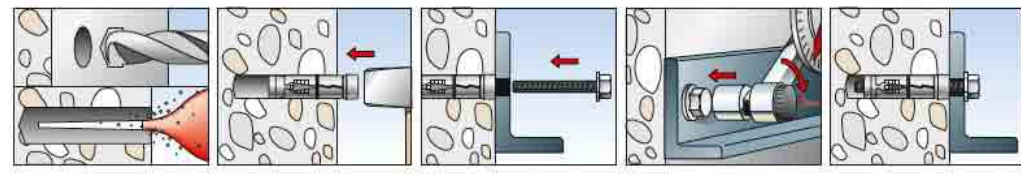
## Building materials

- Concrete >C12/15, non-cracked
- Dense natural stone
- Dense solid stone
- Good quality masonry

## Functioning

- For pre-positioned and flush fixings.
- The wallbolt works by torque controlled, friction locking expansion.
- When the screw or hex nut is tightened the cone is pulled up into the expansion shield and pushes the segments against the drill hole wall.
- For best results ensure the drill hole is dust free.

## Installation FWB



## Technical data

### Bolt anchor FWB

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FWB P - Projecting bolt (threaded rod, washer & nut)



FWB L - Loosebolt with hex head screw

Item	Zinc-plated steel	Drill hole diameter	Min. drill hole depth for through fixings	Anchor length	Max. fixture thickness	Thread	Sales unit
	Item No.	$d_0$ [mm]	$h_2$ [mm]	$l$ [mm]	$t_{fix}$ [mm]	$\emptyset$ [mm]	[pcs]
FWB 6/60 P	563666	12	50	115	60	6	25
FWB 8/60 P	563671	14	55	125	60	8	25
FWB 10/60 P	563661	16	65	135	60	10	25
FWB 12/75 P	563664	20	90	170	75	12	25
FWB 6/10 L	563665	12	50	55	10	6	25
FWB 8/10 L	563667	14	55	60	10	8	25
FWB 8/25 L	563668	14	55	85	25	8	25
FWB 8/40 L	563670	14	55	90	40	8	25
FWB 10/10 L	563658	16	65	70	10	10	25
FWB 10/25 L	563659	16	65	85	25	10	25
FWB 10/50 L	563660	16	65	110	50	10	25
FWB 10/75 L	563662	16	65	135	75	10	25
FWB 12/25 L	563663	20	90	100	25	12	25

## Loads

### Wedge Anchor FWB

Recommended loads of a single anchor in non-cracked concrete of strength class C20/25.

Type	Material / surface	Effective anchorage depth $h_{ef \geq}$ [mm]	Minimum member thickness $h_{min}$ [mm]	Drill hole diameter $d_0$ [mm]	Drill hole diameter in fixture <sup>2)</sup> $d_f$ [mm]	Installation torque $T_{inst}$ [Nm]	Non-cracked concrete			
							Recommended tension ( $N_{rec}$ ) [kN]	shear loads ( $V_{rec}$ ) [kN]	minimum spacing ( $s_{min}$ ) [mm]	edge distances ( $c_{min}$ ) [mm]
FWB 6	gvz	35	100	12	7	10	1.5	1.3	110	55
FWB 8	gvz	40	100	14	9	25	2.0	2.0	120	60
FWB 10	gvz	50	100	16	12	40	4.0	4.0	150	75
FWB 12	gvz	60	120	20	14	75	6.0	6.0	180	90

All values apply for non-cracked concrete C20/25 with normal reinforcement or not reinforced without edge or spacing influences. Recommended loads: material safety factor  $\gamma_M$  and safety factor for load  $\gamma_L = 1.4$  are included.

As recommended loads are given in the table, combinations of tensile and shear loads, bending moments and reduced edge and axial spacings (anchor groups) can not be carried out.