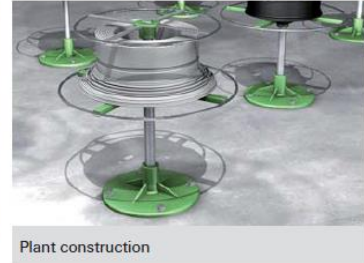


The installation-friendly internally threaded anchor for fixings in non-cracked concrete

4 High performance steel anchors



Fall protection devices



Plant construction

VERSIONS

- Zinc-plated steel

BUILDING MATERIALS

- Approved for:**
- Concrete C20/25 to C50/60, non-cracked
- Also suitable for:**
- Concrete C12/15
 - Natural stone with dense structure

CERTIFICATES



ADVANTAGES

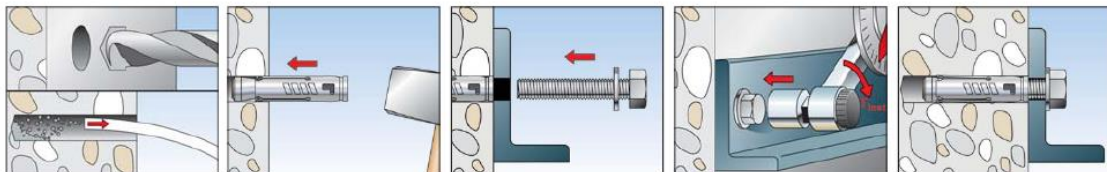
- The optimised geometry minimises setting energy and allows for use in extremely narrow spaces. This allows for user-friendly installation.
- The three-part expansion sleeve creates even load distribution, thus allowing small edge and axial spacing. Thus the TA M is extremely flexible.
- The metric internal thread allows to use standard screws or threaded rods for the ideal adaptation to suit the intended use.
- The red plastic cap protects against soiling and thus ensures free-running of the thread.

APPLICATIONS

- Steel constructions
- Handrails
- Consoles
- Ladders
- Cable trays
- Machines
- Staircases
- Gates
- Façades
- Stand-off installations

FUNCTIONING

- The TAM is suitable for pre-positioned installation.
- When applying the torque, the cone is pulled into the expansion sleeve and expands it against the drill hole wall.
- For correct installation, it must be ensured that the pre-positioned anchor TA M can be supported on the attachment, or that the threaded rod is countered.
- Determining the screw length l_s :
Screw length $l_s =$
Length of fixing
+ Thickness of fixture t_{fix}
+ Thickness of washer.

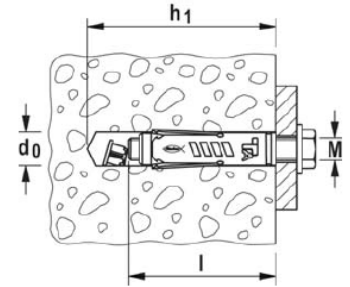


Heavy-duty anchor TA M

TECHNICAL DATA



Heavy-duty anchor TA M

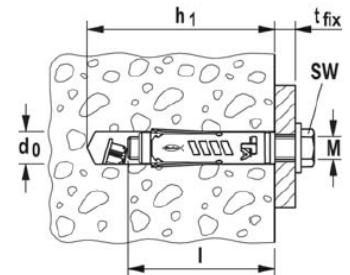


Item	Zinc-plated steel	Approval ETA	Drill hole diameter	Min. drill hole depth	Anchor length	Thread	Sales unit		
	gvz		d_0 [mm]	h_1 [mm]	l [mm]	M	[pcs]		
TA M6	090245	■	10	65	49	M 6	50		
TA M8	090246	■	12	70	56	M 8	50		
TA M10	090247	■	15	90	69	M 10	25		
TA M12	090248	■	18	105	86	M 12	25		

TECHNICAL DATA



Heavy-duty anchor TA M-S with screw



Item	Zinc-plated steel	Approval ETA	Drill hole diameter	Min. drill hole depth	Anchor length	Max. fixture thickness	Screw	Width across nut	Sales unit
	gvz		d_0 [mm]	h_1 [mm]	l [mm]	t_{fix} [mm]	\emptyset x length	\circ SW [mm]	[pcs]
TA M6 S/10	090249	■	10	65	49	10	M 6 x 60	10	50
TA M8 S/10	090250	■	12	70	56	10	M 8 x 65	13	50
TA M10 S/20	090251	■	15	90	69	20	M 10 x 90	17	25
TA M12 S/25	090252	■	18	105	86	25	M 12 x 110	19	20

LOADS

Heavy-duty anchor TA M
zinc plated steel

Permissible loads of a single anchor in non-cracked normal concrete (concrete compression zone) of strength class C20/25 (~B25) ^{1) 2) 3)}										Minimum spacings while reducing the load	
Type	Screw material resp. screw surface	Min. member thickness h_{min} [mm]	Effective anchorage depth h_{ef} [mm]	Installation torque T_{inst} [Nm]	Permissible tensile load N_{perm} ⁴⁾ [kN]	Permissible shear load V_{perm} ⁴⁾ [kN]	Required edge distance (with one edge) for		Required spacing for Max. Load s [mm]	Min. spacing s_{min} ^{5) 6)} [mm]	Min. edge distance c_{min} ^{5) 6)} [mm]
							Max. tension load c [mm]	Max. shear load c [mm]			
TA M6	8.8	100	40	10	3,6	3,3	50	55	120	80	50
TA M8	8.8	100	45	20	5,7	6,7	65	95	135	90	60
TA M10	8.8	110	55	40	9,5	11,0	160	150	165	110	70
TA M12	8.8	140	70	75	11,9	17,0	170	200	210	160	120

For the design the complete assessment ETA-04/0003 has to be considered. ⁷⁾

¹⁾ The partial safety factors for material resistance as regulated in the ETA-04/0003 as well as a partial safety factor for load actions of $\gamma_L = 1.4$ are considered. As an single anchor counts e.g. an anchor with a spacing $s \geq 3 \cdot h_{ef}$ and an edge distance $c \geq 1.5 \cdot h_{ef}$. Accurate data see ETA-04/0003.

²⁾ For higher concrete strength classes up to C50/60 higher permissible loads may be possible.

³⁾ Drill method hammer drilling.

⁴⁾ For combinations of tensile loads, shear loads, bending moments as well as reduced edge distances or spacings (anchor groups) see ETA-04/0003.

⁵⁾ Minimum possible axial spacings resp. edge distance while reducing the permissible load.

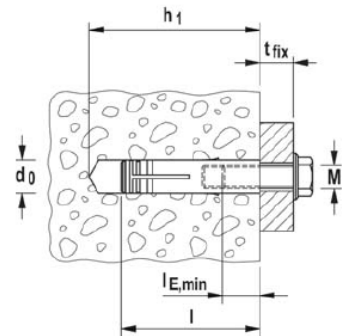
⁶⁾ Minimum possible spacing resp. edge distance while reducing the permissible load for the required minimum member thickness. The combination of minimum edge distance and minimum spacing is not possible. One of both values has to be increased acc. ETA-04/0003.

⁷⁾ The given loads refer to the European Technical Approval ETA-04/0003, issue date 11/06/2013. Design of the loads according ETAG 001, Annex C, Method A (for static resp. quasi-static loads).

TECHNICAL DATA



Heavy-duty anchor SL M



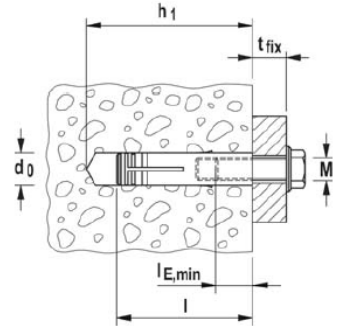
	Zinc-plated steel	Drill hole diameter	Min. drill hole depth	Anchor length	Internal thread	Min. bolt penetration	Sales unit	
	Art.-No.	d_0 [mm]	h_1 [mm]	l [mm]	A1	$l_{E,min}$ [mm]	[pcs]	
Item	gvz							
SL M 16	050556	24	110	90	M 16	90	10	
SL M 20	050557	30	130	110	M 20	110	5	
SL M 24	050558	35	150	125	M 24	125	5	

Heavy-duty anchor TA M

TECHNICAL DATA



Heavy-duty anchor **SLM-N A4**



	Stainless steel	Drill hole diameter	Min. drill hole depth	Anchor length	Internal thread	Min. bolt penetration	Sales unit	
	Art.-No.	d_0 [mm]	h_1 [mm]	l [mm]	A1	$l_{E,min}$ [mm]	[pcs]	
Item	A4							
SL M 8 N A4	050526	12	60	54	M 8	52	25	
SL M 10 N A4	050527	16	70	62	M 10	62	20	

LOADS

Heavy-duty anchor SL M

zinc plated steel / stainless steel

Recommended loads¹⁾³⁾ of a single anchor in non-cracked normal concrete (concrete compression zone) of strength class C20/25.

Type	Effective anchorage-depth	Min. member thickness	Torque-moment	Recommended load	Char. spacing	Char. edge distance	Min. spacing	Min. edge distance
	h_{ef} [mm]	h_{min} [mm]	T_{inst} [Nm]	F_{rec} ²⁾ [kN]	$s_{cr,N}$ [mm]	$c_{cr,N}$ [mm]	s_{min} ⁴⁾ [mm]	c_{min} ⁴⁾ [mm]
SL M 8 N A4	45	100	25	3,5	135	68	50	90
SL M 10 N A4	50	100	50	5,0	150	75	50	100
SL M 16 gvz	62	130	100	8,0	186	93	60	120
SL M 20 gvz	77	150	150	11,0	231	116	80	160
SL M 24 gvz	90	200	200	13,9	270	135	90	180

¹⁾ Required safety factors are considered.

²⁾ Valid for tensile load, shear load and oblique load under any angle.

³⁾ Valid for screws with grade 8.8 and A4-70

⁴⁾ Minimum possible axial spacings resp. edge distance while reducing the recommended load.