



HPD

METAL LIGHT DUTY

Technical Datasheet

Update: Jan-23



HPD Light duty metal anchors

Aerated concrete anchor

Anchor version



HPD
(M6-M10)

Benefits

- Anchor for autoclaved aerated concrete
- Maximum use of base material capacity
- Setting without drilling

Base material



Autoclaved
aerated
concrete

Load conditions



Fire
resistance

Other information



Sprinkler
approved

Approvals / certificates

Description	Authority / Laboratory	No. / date of issue
Allgemeine bauaufsichtliche Zulassung (national approval in Germany) ^{a)}	DIBt, Berlin	Z-21.1-1729 / 2021-06-02
Fire test report	IBMB, Braunschweig	UB 3077/3602-Nau- / 2002-02-05
Assessment report (fire)	warringtonfire	WF 327804/A / 2013-07-10
Sprinkler	VdS, Cologne	G 4981083 / 2008-01-01

Basic loading data

All data in this section applies to:

- Correct setting (See setting instruction)
- No edge distance and spacing influence
- Autoclaved aerated concrete (AAC)
- Load data given in the tables is independent of load direction
- Minimum base material thickness

Anchorage depth

Anchor size		M6	M8	M10
Effective anchorage depth	h_{ef} [mm]	62	62	62

Recommended loads for a single anchor

Anchor size			M6	M8	M10
Non-cracked AAC^{a)}					
AAC blocks	AAC 2	F_{Rec} [kN]	0,4	0,4	0,6
	AAC 4, AAC 6	F_{Rec} [kN]	0,8	0,8	1,2
AAC wall members	P 3,3	F_{Rec} [kN]	0,6	0,6	0,8
	P 4,4	F_{Rec} [kN]	0,8	0,8	1,2
Cracked AAC					
AAC ceiling members	P 3,3	F_{Rec} [kN]	0,6	0,6	0,8
	P 4,4	F_{Rec} [kN]	0,8	0,8	1,2

a) In case of small sized AAC blocks ($\leq 250\text{mm} \times 500\text{mm} \times \text{thickness}$) the recommended load has to be reduced with a factor 0,6.

Recommended loads for a group of two anchor with a spacing $100\text{mm} \leq s \leq 200\text{mm}$

Anchor size			M6	M8	M10
Non-cracked AAC^{a)}					
AAC blocks	AAC 2	F_{Rec} [kN]	0,4	0,4	0,6
	AAC 4, AAC 6	F_{Rec} [kN]	0,8	0,8	1,2
AAC wall members	P 3,3	F_{Rec} [kN]	0,6	0,6	0,8
	P 4,4	F_{Rec} [kN]	0,8	0,8	1,2
Cracked AAC					
AAC ceiling members	P 3,3	F_{Rec} [kN]	0,6	0,6	0,8
	P 4,4	F_{Rec} [kN]	0,8	0,8	1,2

a) In case of small sized AAC blocks ($\leq 250\text{mm} \times 500\text{mm} \times \text{thickness}$) the recommended load has to be reduced with a factor 0,6.

Recommended loads for a group of two anchor with a spacing $s \geq 200\text{mm}$

Anchor size			M6	M8	M10
Non-cracked AAC^{a)}					
AAC blocks	AAC 2	F_{Rec} [kN]	0,6	0,6	0,8
	AAC 4, AAC 6	F_{Rec} [kN]	1,1	1,1	1,7
AAC wall members	P 3,3	F_{Rec} [kN]	0,8	0,8	1,1
	P 4,4	F_{Rec} [kN]	1,1	1,1	1,7
Cracked AAC					
AAC ceiling members	P 3,3	F_{Rec} [kN]	0,8	0,8	1,1
	P 4,4	F_{Rec} [kN]	1,1	1,1	1,7

a) In case of small sized AAC blocks ($\leq 250\text{mm} \times 500\text{mm} \times \text{thickness}$) the recommended load has to be reduced with a factor 0,6.

Materials

Mechanical properties

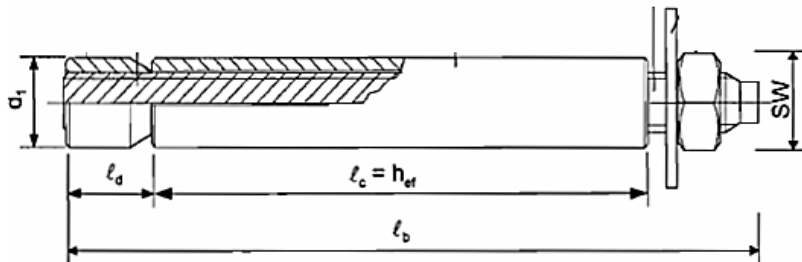
Anchor size				M6	M8	M10
Nominal tensile strength	Carbon steel	f_{uk}	[N/mm ²]	800	500	500
	Stainless steel			750	565	565
Yield strength	Carbon steel	f_{yk}	[N/mm ²]	-	-	-
	Stainless steel			-	-	-
Stressed cross-section		A_s	[mm ²]	20,1	36,6	58
Moment of resistance		W	[mm ³]	12,7	31,2	62,3
Characteristic bending resistance for rod or bolt	Carbon steel	$M^{0}_{Rk,s}$	[Nm]	12	19	37
	Stainless steel			11	21	42

Material quality

Part	Material	
All parts	HPD	Carbon steel, galvanised to min. 5 µm
	HPD (stainless steel)	Stainless steel

Anchor dimension

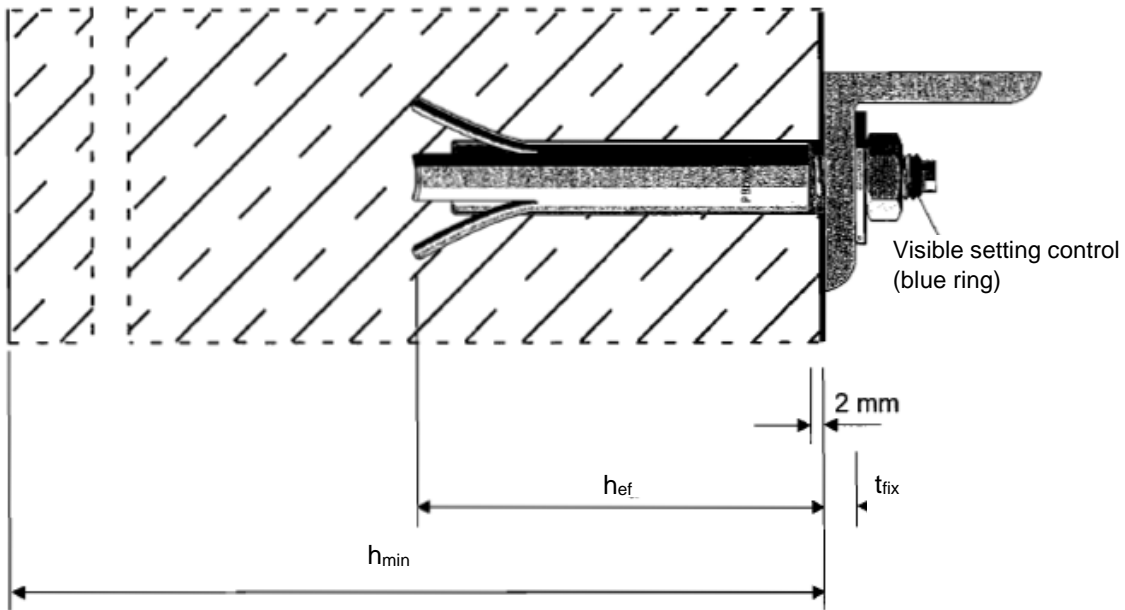
Anchor size			M6	M8	M10
Minimum thickness of fixture	$t_{fix,min}$	[mm]	0	0	0
Maximum thickness of fixture	$t_{fix,max}$	[mm]	30	20	30
Anchor diameter	d_1	[mm]	9,8	11,8	13,8
Length of the expansion sleeve	l_c	[mm]	70		
Length of the cone	l_d	[mm]	12		



Setting information

Setting details

Anchor size			M6	M8	M10
Diameter of clearance hole in the fixture	$d_f \leq$	[mm]	7	9	12
Effective anchorage depth	h_{ef}	[mm]	62	62	62
Torque moment	T_{inst}	[Nm]	3	5	8
Width across	SW	[mm]	10	13	17

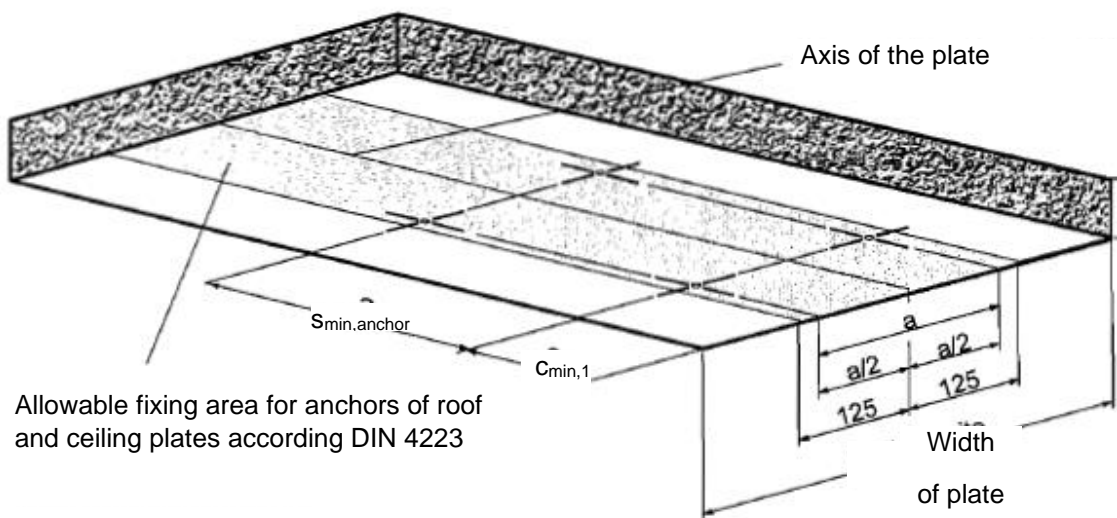
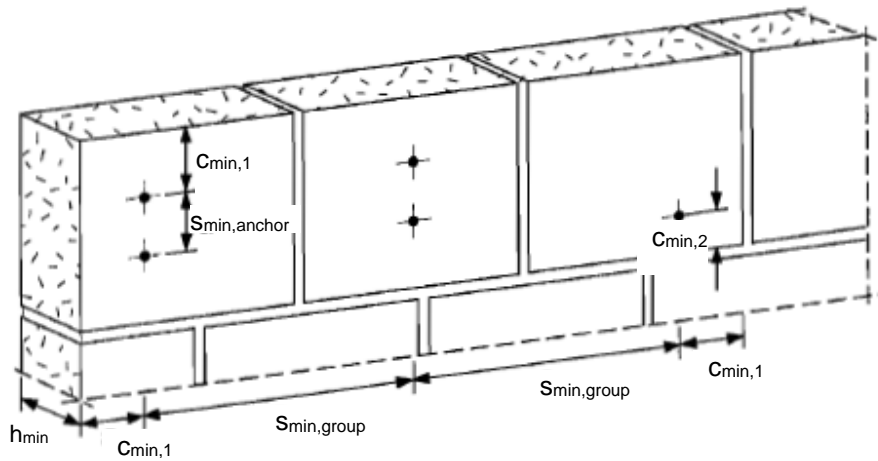


Installation equipment

Anchor size		M6/10	M6/30	M8/10	M8/20	M10/10	M10/30
Setting tool	Manual setting tool (to be used with a hammer)	HPE-G 6/10	HPE-G 6/30	HPE-G 8/10	HPE-G 8/20	-	-
	Machine setting (to be used with a rotary hammer in pure hammering mode)	-	-	-	-	HPE-M 10/10	HPE-M 10/30

Setting parameters

Anchor size				M6	M8	M10
Minimum base material thickness		h_{min}	[mm]	175		
Minimum spacing	Of anchors in a group	$s_{min,anchor}$	[mm]	100 / 200		
	Of anchor groups	$s_{min,group}$	[mm]	600		
Minimum edge distance	to member edge and to vertical joints	$c_{min,1}$	[mm]	150	150	150
	to horizontal joints	$c_{min,2}$	[mm]	50	50	50



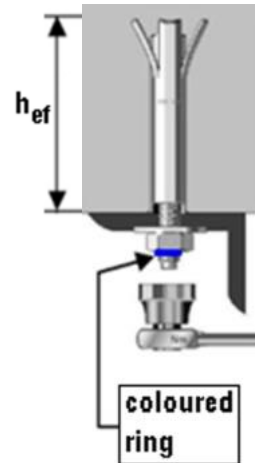
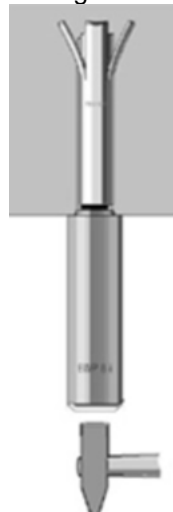
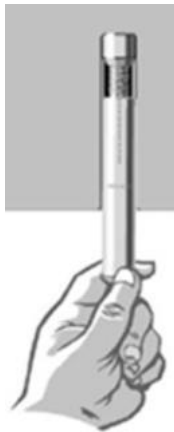
Allowable fixing area for anchors of roof and ceiling plates according DIN 4223

Setting instruction

*For detailed information on installation see instruction for use given with the package of the product.

Setting instruction

1. Insert the cone bolt by hammering it in, until setting tool touches surface.
2. Insert the expansion sleeve over the threaded rod.
3. Drive in the sleeve by hammering or with the machine setting tool.
4. Tighten the nut until the blue ring becomes visible.



coloured ring