

Public-law institution jointly founded by the  
federal states and the Federation

European Technical Assessment Body  
for construction products



## European Technical Assessment

ETA-26/0116  
of 5 March 2026

English translation prepared by DIBt - Original version in German language

### General Part

Technical Assessment Body issuing the  
European Technical Assessment:

Deutsches Institut für Bautechnik

Trade name of the construction product

PROFIX bolt anchor PBA-GS

Product family  
to which the construction product belongs

Mechanical fasteners for use in concrete

Manufacturer

PROFIX AG  
Kanalstraße 23  
4415 LAUSEN  
SCHWEIZ

Manufacturing plant

Manufacturing plant 12

This European Technical Assessment  
contains

11 pages including 3 annexes which form an integral part  
of this assessment

This European Technical Assessment is  
issued in accordance with Article 95(4) of  
Regulation (EU) 2024/3110, on the basis of

EAD 330232-02-0601

The European Technical Assessment is issued by the Technical Assessment Body in its official language. Translations of this European Technical Assessment in other languages shall fully correspond to the original issued document and shall be identified as such.

Communication of this European Technical Assessment, including transmission by electronic means, shall be in full. However, partial reproduction may only be made with the written consent of the issuing Technical Assessment Body. Any partial reproduction shall be identified as such.

This European Technical Assessment may be withdrawn by the issuing Technical Assessment Body, in particular pursuant to information by the Commission in accordance with Article 36(3) of Regulation (EU) No 2024/3110.

## Specific Part

### 1 Technical description of the product

The PROFIX bolt anchor PBA-GS is an anchor of sizes M6, M8, M10, M12, M16 and M20 made of electroplated carbon steel which is placed into a drilled hole and anchored by torque-controlled expansion.

The product description is given in Annex A.

### 2 Specification of the intended use in accordance with the applicable European Assessment Document

The performances given in Section 3 are only valid if the anchor is used in compliance with the specifications and conditions given in Annex B.

The verifications and assessment methods on which this European Technical Assessment is based lead to the assumption of a working life of the anchor of at least 50 years. The indications given on the working life cannot be interpreted as a guarantee given by the producer, but are to be regarded only as a means for choosing the right products in relation to the expected economically reasonable working life of the works.

### 3 Performance of the product and references to the methods used for its assessment

#### 3.1 Mechanical resistance and stability (BWR 1)

Essential characteristic	Performance
Characteristic resistance to tension load (static and quasi-static loading)	See Annex B2 and C1
Characteristic resistance to shear load (static and quasi-static loading)	See Annex C2
Displacements (static and quasi-static loading)	See Annex C1 and C2
Stiffness	No performance assessed
Characteristic resistance for seismic performance categorie C1	No performance assessed
Characteristic resistance and displacements for seismic performance categorie C2	No performance assessed

#### 3.2 Safety in case of fire (BWR 2)

Essential characteristic	Performance
Reaction to fire	Class A1
Resistance to fire	No performance assessed

#### 3.3 Aspects of durability linked with the Basic Works Requirements

Essential characteristic	Performance
Durability	See Annex B1

**4 Assessment and verification of constancy of performance (AVCP) system applied, with reference to its legal base**

In accordance with European Assessment Document EAD No. 330232-02-0601 the applicable European legal act is: [96/582/EC].

The system to be applied is: 1

**5 Technical details necessary for the implementation of the AVCP system, as provided for in the applicable European Assessment Document**

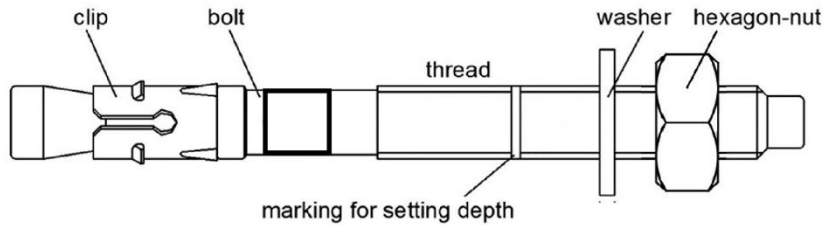
Technical details necessary for the implementation of the AVCP system are laid down in the control plan deposited at Deutsches Institut für Bautechnik.

Issued in Berlin on 5 March 2026 by Deutsches Institut für Bautechnik

Dipl.-Ing. Beatrix Wittstock  
Head of Section

*beglaubigt:*  
Tempel

**PROFIX bolt anchor PBA-GS (assembling)**



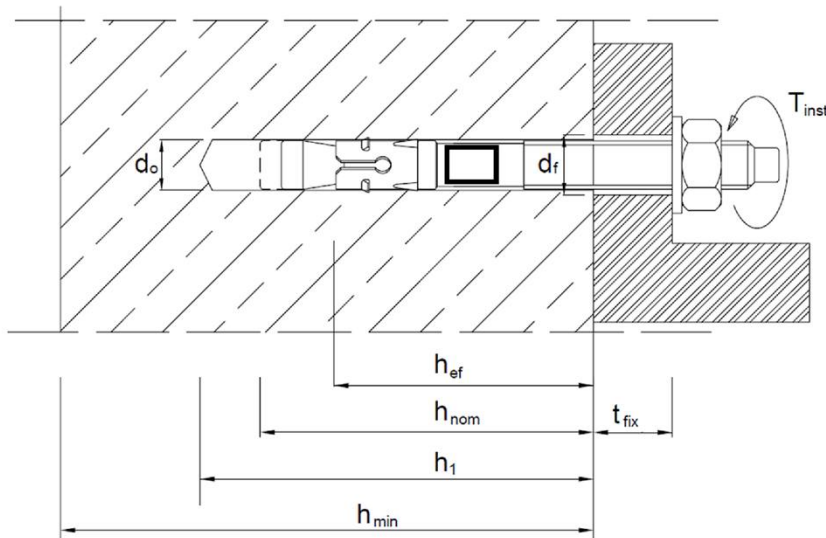
Marking: brand marking  
Type PBA-GS or BA Plus

Logo or company name  
PBA-GS or BA plus

Size M ... (e.g. M12)  
Length L (e.g. 130)  
Max. thickness of fixture  $t_{fix}$  (e.g. 30)

Examples: PBA-GS or  BA plus 12-130/30

**PROFIX bolt anchor PBA-GS (after installation)**

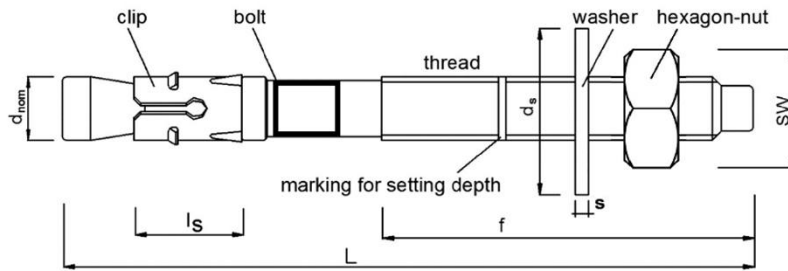


- $h_{nom}$  = setting depth
- $h_1$  = depth of drill hole (deepest point)
- $h_{min}$  = min. thickness of concrete member
- $t_{fix}$  = thickness of fixture
- $h_{ef}$  = effective anchorage depth
- $d_o$  = nominal drill hole diameter
- $d_f$  = diameter of clearance hole in the fixture

PROFIX bolt anchor PBA-GS

**Product description**  
Marking and installed condition

Annex A1



**Table 2.1: Designation and materials for carbon steel versions PBA-GS**

Designation	Material <sup>1)</sup>
Bolt	Cold formed wire rod or free cutting carbon steel
Clip	Coated cold formed carbon steel strip acc. EN 10130:2006 or stainless steel strip
Washer	Carbon steel
Nut	Carbon steel, property class 8

<sup>1)</sup> PBA-GS: all parts are electroplated and blue passivated  $\geq 5 \mu\text{m}$  acc. EN ISO 4042:2022

**Table 2.3: Dimensions**

anchor	type	size	bolt		clip	Washer		hex-nut	
			length overall	length of thread	bolt- $\phi$	length of clip	thickness	outer- $\phi$	Wrench size
			L	f	d <sub>nom</sub>	l <sub>s</sub>	s	d <sub>s</sub>	SW
			[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]
PBA-GS	M6		55 - 150	acc. drawing	6	13,3	$\geq 1,4$	$\geq 12$	10
PBA-GS	M8		65 - 365	acc. drawing	8	13,5	$\geq 1,4$	$\geq 16$	13
PBA-GS	M10		75 - 375	acc. drawing	10	20,5	$\geq 1,7$	$\geq 19$	17
PBA-GS	M12		100 - 500	acc. drawing	12	20,0	$\geq 2,2$	$\geq 23$	19
PBA-GS	M16		120 - 615	acc. drawing	16	24,0	$\geq 2,7$	$\geq 29$	24
PBA-GS	M20		160 - 640	acc. drawing	20	28,8	$\geq 2,7$	$\geq 35$	30

PROFIX bolt anchor PBA-GS

**Product description**  
Designation, materials and anchor dimensions

Annex A2

### **Specification of intended use**

#### **Anchorage subject to:**

- Static and quasi-static loads.

#### **Base materials:**

- Compacted reinforced or unreinforced normal weight concrete without fibres according to EN 206:2013 + A1:2016.
- Strength classes C20/25 to C50/60 according to EN 206:2013 + A1:2016.
- Uncracked concrete.

#### **Use conditions (Environmental conditions):**

- All PBA-GS types:  
Structures subject to dry internal conditions.

#### **Design:**

- Anchorages are designed under the responsibility of an engineer experienced in anchorages and concrete work.
- Verifiable calculation notes and drawings are prepared taking account of the loads to be anchored. The position of the anchor is indicated on the design drawings (e.g. position of the anchor relative to reinforcement or to supports, etc.).
- Anchorages under static or quasi-static actions are designed in accordance with EN 1992-4:2018 and EOTA Technical Report TR 055, Edition February 2018

#### **Installation:**

- Anchor installation carried out by appropriately qualified personal and under the supervision of the person responsible for technical matters of the site.
- Anchor installation in accordance with the manufacturer's specifications and drawings and using the appropriate tools.
- Hole drilling by hammer drilling only.
- Positioning of the drill holes without damaging the reinforcement.

PROFIX bolt anchor PBA-GS

**Intended use**  
Specification

Annex B1

**Table 3: Installation data**

PROFIX bolt anchor PBA-GS (all types)			size	size	size	size	size	size
			M6	M8	M10	M12	M16	M20
nominal driller diameter	$d_0$	[mm]	6	8	10	12	16	20
max. cutting diameter of drill bit	$d_{cut,max} \leq$	[mm]	6,40	8,45	10,45	12,50	16,50	20,55
depth of drill hole (deepest point)	$h_1 \geq$	[mm]	48	60	65	90	110	130
effective anchorage depth	$h_{ef} \geq$	[mm]	35	45	50	70	85	100
setting depth	$h_{nom} \geq$	[mm]	40	54	59	84	99	114
diameter of clearance hole in the fixture	$d_f \leq$	[mm]	7	9	12	14	18	22
thickness of fixture	$t_{fix,min...max}$	[mm]	0...100	0...300	0...300	0...400	0...500	0...500
wrench size of the nut	SW	[mm]	10	13	17	19	24	30
Required installation torque	$T_{inst}$	[Nm]	8	15	30	50	110	180

**Table 4: Minimum thickness of concrete member, min. spacing and edge distance**

PROFIX bolt anchor PBA-GS (all types)			size	size	size	size	size	size
			M6	M8	M10	M12	M16	M20
minimum thickness of concrete member	$h_{min}$	[mm]	100	100	120	160	200	200
minimum spacing	$s_{min}$	[mm]	50	50	120	70	100	160
minimum edge distance	$c_{min}$	[mm]	50	50	90	90	100	150

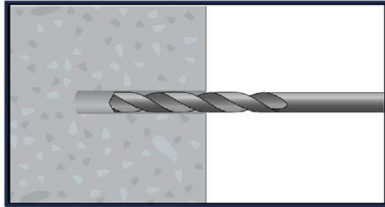
PROFIX bolt anchor PBA-GS

**Intended use**

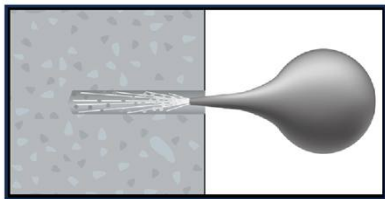
Installation data, minimum thickness, min. spacing and edge distance

Annex B2

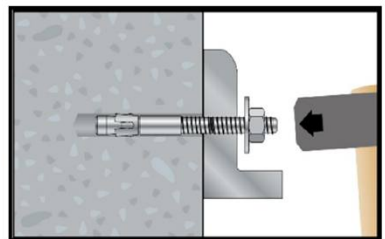
### Installation instruction of the PROFIX bolt anchor PBA-GS



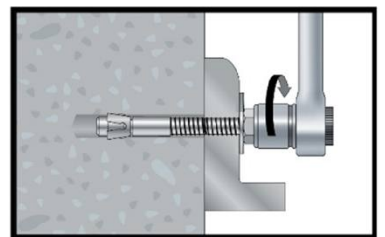
1. Drill the hole with a hammer drill



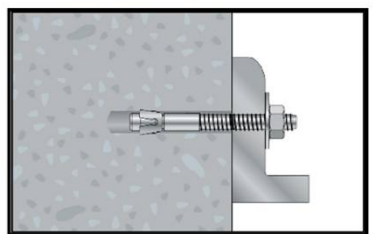
2. Clean the hole



3. Hammer in the anchor (consider the defined setting depth)



4. Apply the required installation torque  $T_{inst}$  by using a torque wrench



5. After installation

PROFIX bolt anchor PBA-GS

**Intended use**  
Installation instruction

Annex B3

**Table 5: Characteristic resistance under tension loads**

PROFIX bolt anchor PBA-GS			size	size	size	size	size	size
			M6	M8	M10	M12	M16	M20
<b>Steel failure for carbon steel (zinc plated)</b>								
characteristic resistance	$N_{Rk,s}$	[kN]	11,9	18,8	27,7	39,6	69,6	107,1
partial safety factor	$\gamma_{Ms}$	[-]	1,5					
<b>Pull out failure</b>								
characteristic resistance in uncracked concrete C20/25	$N_{Rk,p}$	[kN]	7,5	$\geq N_{Rk,c}^*$	16	24	32	50
increasing factors for $N_{Rk,p}$ $N_{Rk,p} = N_{Rk,p(C20/25)} \psi_c$	$\psi_c$	C25/30	1,10	1,10	1,10	1,08	1,10	1,10
		C30/37	1,22	1,22	1,22	1,16	1,22	1,22
		C40/50	1,41	1,41	1,41	1,28	1,41	1,41
		C50/60	1,58	1,58	1,58	1,39	1,58	1,58
installation factor	$\gamma_{inst}$	[-]	1,0				1,2	
<b>Concrete cone failure</b>								
effective anchorage depth	$h_{ef}$	[mm]	35	45	50	70	85	100
factor for uncracked concrete	$k_{ucr,N}$	[-]	11,0					
factor for cracked concrete	$k_{cr,N}$	[-]	No performance assessed					
spacing	$s_{cr,N}$	[mm]	3 $h_{ef}$					
edge distance	$c_{cr,N}$	[mm]	1,5 $h_{ef}$					
installation factor	$\gamma_{inst}$	[-]	1,0				1,2	
<b>Concrete splitting failure</b>								
Characteristic resistance in uncracked concrete C20/25	$N_{Rk,sp}^0$	[kN]	min ( $N_{Rk,p}$ ; $N_{Rk,c}^0$ )					
spacing (splitting)	$s_{cr,sp}$	[mm]	190	190	240	390	400	400
edge distance (splitting)	$c_{cr,sp}$	[mm]	95	100	120	125	160	225
installation factor	$\gamma_{inst}$	[-]	1,0				1,2	

\*  $N_{Rk,c}^0$  according to EN 1992-4:2018

**Table 6: Displacements under tension loads**

PROFIX bolt anchor PBA-GS			size	size	size	size	size	size
			M6	M8	M10	M12	M16	M20
tension load	N	[kN]	3,6	7,1	7,6	11,4	12,7	19,5
displacements	$\delta_{N0}$	[mm]	0,2	0,2	1,3	1,3	0,7	0,4
displacements	$\delta_{N\infty}$	[mm]	0,6	0,6	1,9	1,6	1,6	1,5

PROFIX bolt anchor PBA-GS

**Performances**

Characteristic values under tension load, displacement

Annex C1

**Table 7: Characteristic resistance under shear loads**

PROFIX bolt anchor PBA-GS			size	size	size	size	size	size
			M6	M8	M10	M12	M16	M20
<b>Steel failure with or without lever arm for carbon steel (zinc plated)</b>								
characteristic resistance	$V_{RK,s}^0$	[kN]	5,4	12,8	21,4	27,2	50,0	62,8
characteristic bending moment	$M_{RK,s}^0$	[Nm]	10,7	26,2	50,1	82,6	191,5	331,0
factor	$k_7$	[-]	1,0					
partial safety factor	$\gamma_{Ms}$	[-]	1,25					
<b>Concrete pryout failure</b>								
factor for pry out failure	$k_8$	[-]	1,0			2,0		
installation factor	$\gamma_{inst}$	[-]	1,0					
<b>Concrete edge failure</b>								
effective length of anchor under shear load	$l_f$	[mm]	35	45	50	70	85	100
effective external diameter of anchor	$d_{nom}$	[mm]	6	8	10	12	16	20
installation factor	$\gamma_{inst}$	[-]	1,0					

**Table 8: Displacements under shear loads**

PROFIX bolt anchor PBA-GS			size	size	size	size	size	size
			M6	M8	M10	M12	M16	M20
shear load	$V$	[kN]	3,1	7,9	12,2	15,5	28,6	36,1
displacements	$\delta_{V0}$	[mm]	1,3	1,1	1,1	1,6	1,8	1,8
displacements	$\delta_{V\infty}$	[mm]	1,9	1,6	1,7	2,3	2,7	2,7

PROFIX bolt anchor PBA-GS

**Performances**

Characteristic values under shear load, displacement

Annex C2