Deutsches Institut für Bautechnik

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

European Technical Assessment Body for construction products

Member of EOTA
www.eota.eu

Designated according to Article 29 of Regulation (EU) No 305/2011 and member of EOTA (European Organisation for Technical Assessment)

European Technical Assessment

ETA-13/1068 of 9 July 2025

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	SPIT B-LONG
Product family to which the construction product belongs	Plastic anchor for redundant non-structural systems in concrete and masonry
Manufacturer	ITW Construction Products Italy S.r.l. V.le Regione Veneto, 5 35127 PADOVA (PD) ITALIEN
Manufacturing plant	ITW Construction Products Italy S.r.l. V.le Regione Veneto, 5 35127 PADOVA (PD) ITALY
This European Technical Assessment contains	17 pages including 3 annexes which form an integral part of this assessment
This European Technical Assessment is issued in accordance with Regulation (EU) No 305/2011, on the basis of	EAD 330284-00-0604, edition 12/2020
This version replaces	ETA-13/1068 issued on 28 February 2014

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This European Technical Assessment may be withdrawn by the issuing Technical Assessment Body, in particular pursuant to information by the Commission in accordance with Article 25(3) of Regulation (EU) No 305/2011.

Specific Part

1 Technical description of the product

The frame anchor SPIT B-LONG is a plastic anchor consisting of a plastic sleeve made of polyamide and an accompanying specific screw of galvanised steel or of stainless steel.

The plastic sleeve is expanded by screwing in the specific screw which presses the sleeve against the wall of the drilled hole.

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 anchors 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 Safety in case of fire (BWR 2)

Essential characteristic	Performance
Reaction to fire	Class A1
Resistance to fire	See Annex C 1

3.2 Mechanical resistance and stability (BWR 4)

Essential characteristic	Performance
Resistance to steel failure under tension loading	See Annex C 1
Resistance to steel failure under shear loading	See Annex C 1
Resistance to pull-out or concrete failure under tension loading (base material group a)	See Annex C 1
Resistance in any load direction without lever arm (base material group b, c, d)	See Annexes C 2 - C 5
Edge distance and spacing (base material group a)	See Annex B 3
Edge distance and spacing (base material group b, c, d)	See Annex B 4
Displacements under short-term and long-term loading	See Annex C 1 and C 5
Durability	See Annex B 1

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

In accordance with European Assessment Document EAD 330284-00-0604 the applicable European legal act is: 97/463/EC.

The system to be applied is: 2+

5 Technical details necessary for the implementation of the AVCP system, as provided for in the applicable EAD

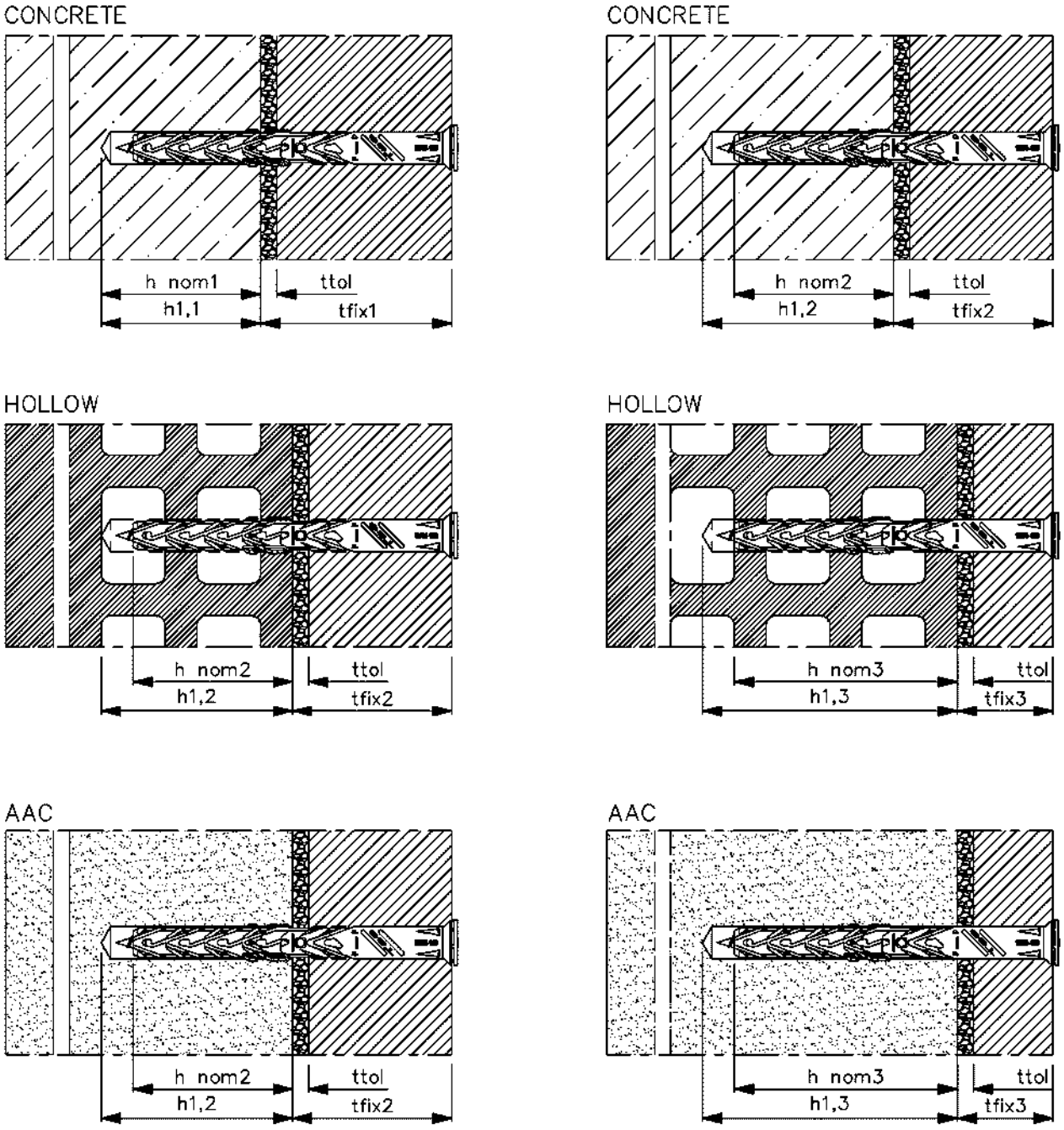
Technical details necessary for the implementation of the AVCP system are laid down in the control plan deposited with Deutsches Institut für Bautechnik.

Issued in Berlin on 9 July 2025 by Deutsches Institut für Bautechnik

Dipl.-Ing. Beatrix Wittstock
Head of Section

beglaubigt:
Ziegler

Deutsches Institut für Bautechnik DIBt



Legend:

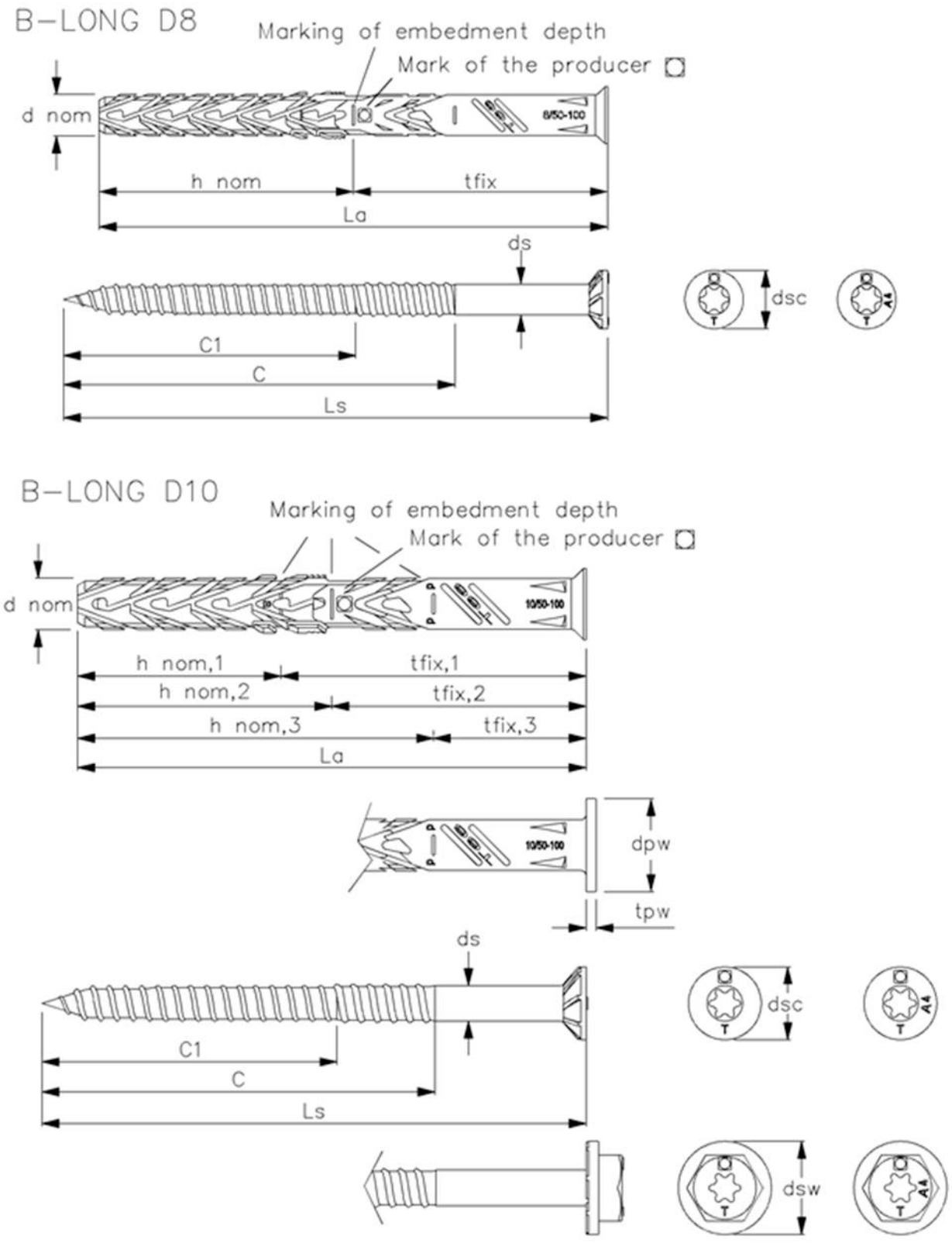
$h_{nom,1}$, $h_{nom,2}$, $h_{nom,3}$	= overall plastic anchor embedment depth in the base material
$h_{1,1}$, $h_{1,2}$, $h_{1,3}$	= depth of drilled hole to deepest point
t_{fix1} , t_{fix2} , t_{fix3}	= t_{tol} + thickness of fixture
t_{tol}	= thickness of equalizing layer or non-load bearing coating
AAC	= autoclaved aerated concrete

SPIT B-LONG

Product description
Installed condition

Annex A 1

Deutsches Institut für Bautechnik DIBt



SPIT B-LONG

Annex A 2

Product description
Anchor types, screw, marking

Table A1: Dimensions [mm]

Anchor Type	Anchor sleeve						Special screw			
	d_{nom}	$h_{nom,1}$	$h_{nom,2}$	$h_{nom,3}$	min L_a	max L_a	d_s	c_1	c	Ls
B-LONG 8	8	-	50	-	60	150	6	57	77 [1)]	67-157
B-LONG 10	10	40	50	70	60	300	7	57	77 [1)]	67-307

[1)] not valid for Ls = 67 mm

Table A2: Materials

Designation	Material
Anchor sleeve	polyamide, colour: grey
Special screw	steel, zinc coated (electro galvanized) ≥ 5 µm according EN ISO 4042:2022 $f_{yk} \geq 480$ N/mm² ; $f_{uk} \geq 600$ N/mm²
	stainless steel "A4" according to ISO 3506-1:2020 (material number 1.4401 / 1.4404 / 1.4571 / 1.4578 according to EN 10088-3:2014) of corrosion resistance class CRC III according to EN 1993-1-4:2006 + A1:2015 $f_{yk} \geq 600$ N/mm² ; $f_{uk} \geq 800$ N/mm²

SPIT B-LONG

Product description
Dimensions and materials

Annex A 3

Specifications of intended use

Anchorages subject to:

- Static and quasi-static loads
- Redundant non-structural systems

Base materials:

- Reinforced or unreinforced compacted normal weight concrete without fibres with strength classes ≥ C12/15 (base material group a) according to EN 206:2013 + A1:2016, Annex C 1.
- Solid brick masonry (base material group b) according to Annex C 2.
  Note: The characteristic resistance is also valid for larger brick sizes and higher compressive strength of the masonry unit.
- Hollow brick masonry (base material group c) according to Annex B 2, C 3, C 4 and C 5.
- Autoclaved aerated concrete (base material group d), according to Annex C 6.
- Mortar strength class of the masonry ≥ M2,5 according to EN 998-2:2016.
- For other base materials of the base material group a, b, c or d (only B-LONG Ø10) the characteristic resistance of the anchor may be determined by job site tests according to EOTA TR 051:2018-04.

Temperature Range:

- c: -40°C to +50°C (max. short term temperature +50°C and max. long term temperature +30°C).
- b: -40°C to +80°C (max. short term temperature +80°C and max. long term temperature +50°C).

Use conditions (Environmental conditions):

- Structures subject to dry internal conditions: screw made of zinc coated steel or of stainless steel
- The specific screw made of galvanised steel may also be used in structures to external atmospheric exposure, if the area of the head of the screw is protected against moisture and driving rain after mounting of the fixing unit in this way, that intrusion of moisture into the anchor shaft is prevented. Therefore, there shall be an external cladding or a ventilated rainscreen mounted in front of the head of the screw and the head of the screw itself shall be coated with a soft plastic, permanently elastic bitumen-oil-combination coating (e. g. undercoating or body cavity protection for cars)
- Structures subject to external atmospheric exposure (including industrial and marine environment) and to permanently damp internal condition, if no particular aggressive conditions exist (screw made of stainless steel of corrosion resistance class CRC III).
  Note: Particular aggressive conditions are e.g. permanent, alternating immersion in seawater or the splash zone of seawater, chloride atmosphere of indoor swimming pools or atmosphere with extreme chemical pollution (e.g. in desulphurization plants or road tunnels where de-icing materials are used).

Design:

- The anchorages are to be designed in accordance with EOTA TR 064:2018-05 under the responsibility of an engineer experienced in anchorages and masonry work.
- Verifiable calculation notes and drawings shall be prepared taking account of the loads to be anchored, the nature and strength of the base materials and the dimensions of the anchorage members as well as of the relevant tolerances. The position of the anchor is indicated on the design drawings.

Installation:

- Hole drilling by the drill modes according to Annex C 1 - C 8 for base material group a, b, c and d
- Anchor installation carried out by appropriately qualified personnel and under the supervision of the person responsible for technical matters of the site
- Installation temperature from -5°C to + 40°C
- Exposure to UV due to solar radiation of the anchor not protected ≤ 6 weeks
- No ingress of water in the core hole < 0°C

SPIT B-LONG	Annex B 1
Intended use Specifications	

Deutsches Institut für Bautechnik DIBt

Table B1: Geometry and dimensions of hollow or perforated brick

Figure 1

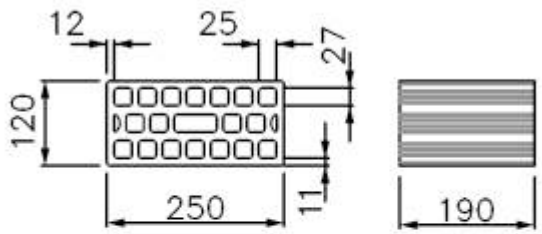


Figure 2

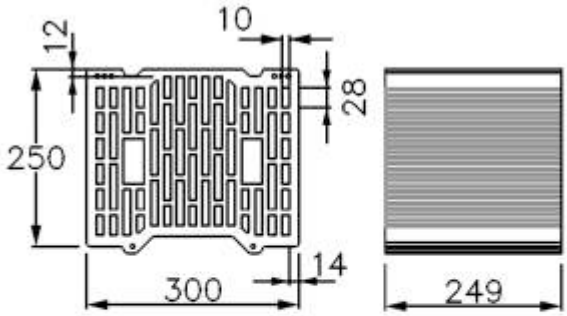


Figure 3

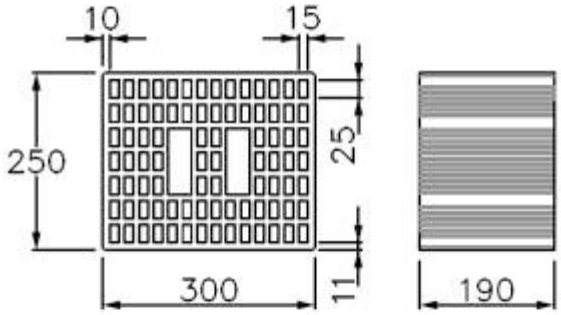


Figure 4

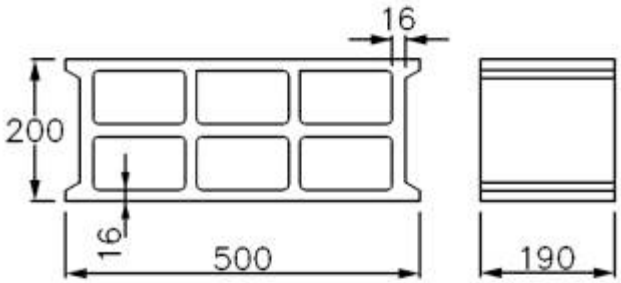
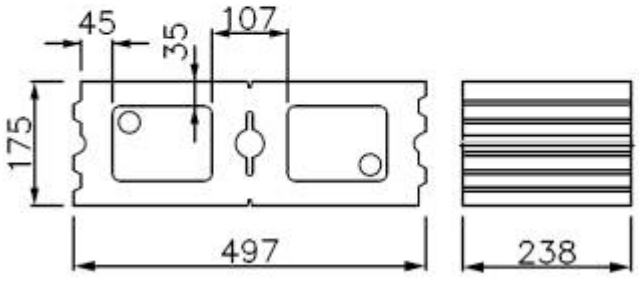


Figure 5



SPIT B-LONG	Annex B 2
Intended use Geometry and dimensions of hollow or perforated brick	

Deutsches Institut für Bautechnik DIBt

Table B2: Installation parameters

Anchor type				B-LONG 8	B-LONG 10		
Base material group				a,b,c	a	b	c[1],d
Drilling hole diameter	d_0	[mm]	=	8	10		
Cutting diameter of drill bit	d_{cut}	[mm]	≤	8,45	10,45		
Depth of drilled hole to deepest point $h_{1,1}$	$h_{1,1}$	[mm]	≥	-	50	-	-
Overall plastic anchor embedment depth in the base material $h_{nom,1}$	$h_{nom,1}$	[mm]	≥	-	40	-	-
Depth of drilled hole to deepest point $h_{1,2}$	$h_{1,2}$	[mm]	≥	60	60	60	60
Overall plastic anchor embedment depth in the base material $h_{nom,2}$	$h_{nom,2}$	[mm]	≥	50	50	50	50
Depth of drilled hole to deepest point $h_{1,3}$	$h_{1,3}$	[mm]	≥	-	-	-	80
Overall plastic anchor embedment depth in the base material $h_{nom,3}$	$h_{nom,3}$	[mm]	≥	-	-	-	70
Diameter of the clearance hole in the fixture	d_f	[mm]	≤	8,5	10,5		

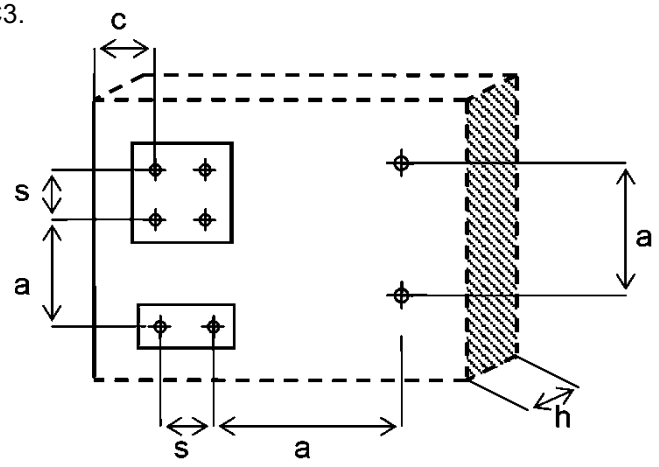
[1] For hollow or perforated masonry the influence of h_{nom} > 50 mm has to be detected by job side tests according to EOTA TR 051:2018-04.

Table B3: Minimum thickness of member, edge distance and spacing in concrete

Anchor type		Minimum thickness of member h_{min} [mm]	Characteristic edge distance $c_{cr,N}$ [mm]	Characteristic spacing $s_{cr,N}$ [mm]	Minimum spacing and edge distances [mm]
B-LONG 8 (h_{nom}=50 mm)	concrete ≥C16/20	100	50	60	s_{min}= 50 for c_{min}= 50
	concrete C12/15		70	55	s_{min}= 70 for c_{min}= 70
B-LONG 10 (h_{nom}=40 mm)	concrete ≥C16/20		80	65	s_{min}= 60 for c_{min}= 50
	concrete C12/15		110	60	s_{min}= 85 for c_{min}= 70
B-LONG 10 (h_{nom}=50 mm)	concrete ≥C16/20		100	90	s_{min}= 70 for c_{min}= 60
	concrete C12/15		140	85	s_{min}= 100 for c_{min}= 85

Fixing points with a spacing a ≤ $s_{cr,N}$ are considered as a group with a maximum characteristic resistance $N_{Rk,p}$ according to Table C3. For a spacing a > $s_{cr,N}$ the anchors are considered as single anchors, each with a characteristic resistance $N_{Rk,p}$ according to Table C3.

Scheme of distances and spacings in concrete



SPIT B-LONG

Intended use
Installation parameters, edge distances and spacings for use in concrete

Annex B 3

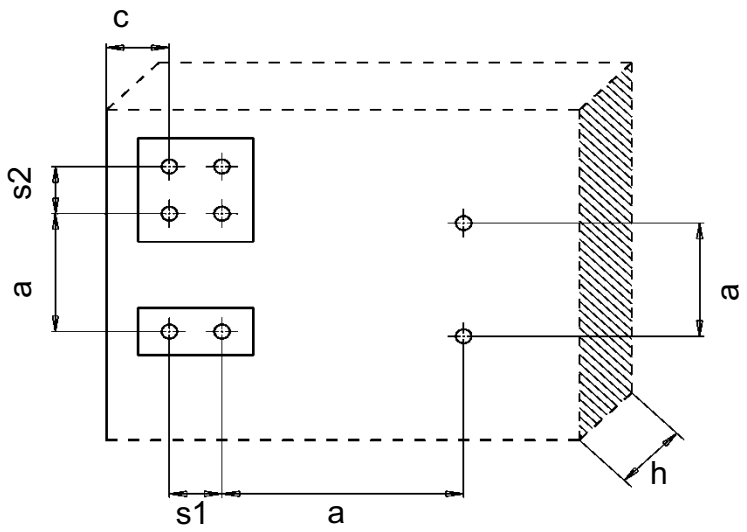
Table B4: Minimum distances and dimensions in masonry

Anchor type			B-LONG 8	B-LONG 10
Minimum thickness of member	h_{min}	[mm]	110	110
Single anchor				
Minimum spacing	a_{min}	[mm]	250	250
Minimum edge distance	c_{min}	[mm]	100	100
Anchor group				
Minimum spacing perpendicular to free edge	$s_{1,min}$	[mm]	200	200
Minimum spacing parallel to free edge	$s_{2,min}$	[mm]	400	400
Minimum edge distance	c_{min}	[mm]	100	100

Table B5: Minimum distances and dimensions in autoclaved aerated concrete

Anchor type			B-LONG 10
Minimum thickness of member	h_{min}	[mm]	110
Single anchor			
Minimum spacing	a_{min}	[mm]	250
Minimum edge distance	c_{min}	[mm]	100
Anchor group			
Minimum spacing perpendicular to free edge	$s_{1,min}$	[mm]	200
Minimum spacing parallel to free edge	$s_{2,min}$	[mm]	400
Minimum edge distance	c_{min}	[mm]	100

Scheme of distances and spacings in masonry and autoclaved aerated concrete



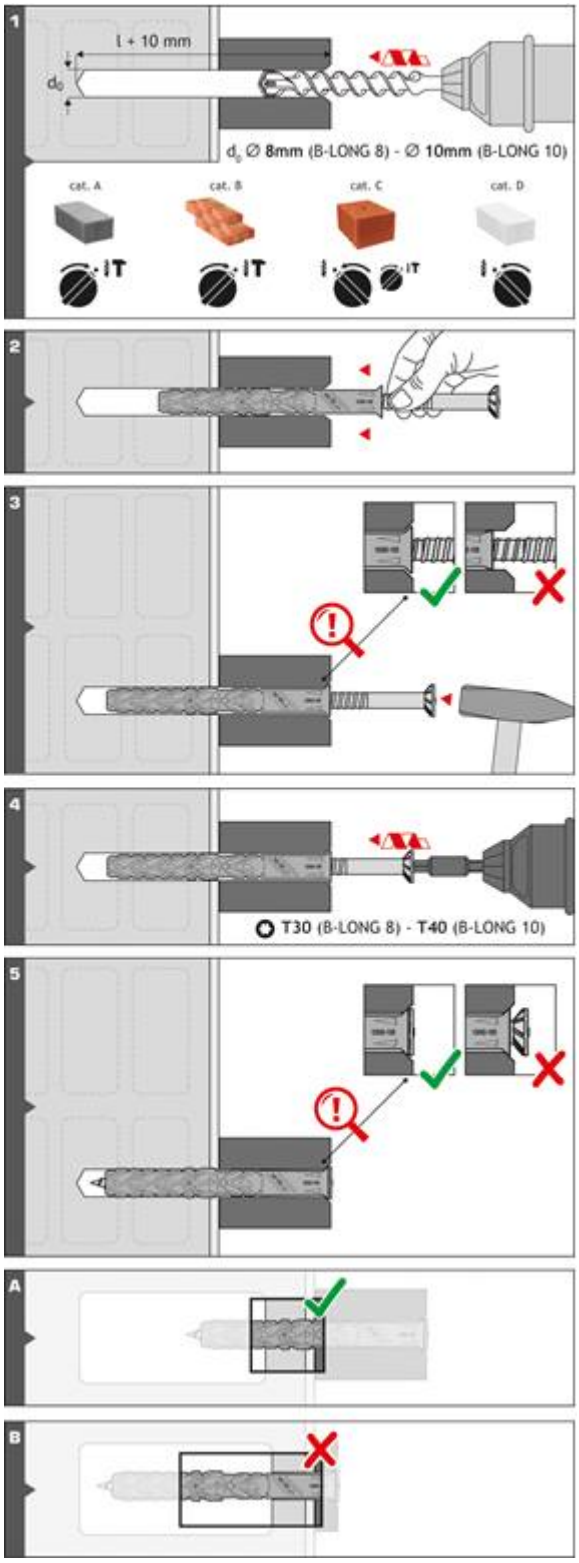
SPIT B-LONG

Intended use
Edge distances and spacings for use in masonry and autoclaved aerated concrete

Annex B 4

Deutsches Institut für Bautechnik DIBt

Installation instructions
Example for B-LONG 8 and B-LONG 10 with h_{nom} = 50 mm



1) Drill the hole considering the drilling method.
Holes to be cleaned of drilling dust.

2) + 3) The plastic sleeve is inserted through the fixture by slight hammer blows.

4) + 5) The special screw is screwed in until the head of the
screw touches the sleeve. The anchor is correct mounted, if there is no turn-through of the plastic sleeve in the drill hole and if slightly move on turning of the screw is impossible after the complete turn-in of the screw.

A) + B) Observation of the overall plastic anchor embedment depth.

SPIT B-LONG	Annex B 5
Intended use Installation instructions	

Table C1: Characteristic bending resistance of the screw

Anchor type		B-LONG 8		B-LONG 10	
		galvanised steel	stainless steel	galvanised steel	stainless steel
Characteristic bending resistance	$M_{Rk,s}$ [Nm]	11,13	14,84	16,85	22,46

Table C2: Characteristic resistance of the screw

Failure of expansion element (special screw)		B-LONG 8		B-LONG 10	
		galvanised steel	stainless steel	galvanised steel	stainless steel
Characteristic tension resistance	$N_{Rk,s}$ [kN]	13,74	18,32	18,11	24,15
Characteristic shear resistance	$V_{Rk,s}$ [kN]	6,87	9,16	9,06	12,08

Table C3: Characteristic resistance for use in concrete (hammer drilling)

Pull-out failure (plastic sleeve)		B-LONG 8		B-LONG 10		B-LONG 10	
		h_{nom} = 50 mm		$h_{nom,1}$ = 40 mm		$h_{nom,2}$ = 50 mm	
Temperature range		30/50°C	50/80°C	30/50°C	50/80°C	30/50°C	50/80°C
Concrete C12/15							
Characteristic tension resistance	$N_{Rk,p}$ [kN]	2,0	2,0	2,5	2,0	4,0	3,0
Concrete ≥ C20/25							
Characteristic tension resistance	$N_{Rk,p}$ [kN]	3,0	2,5	3,5	3,0	5,5	4,0

Table C4: Values under fire exposure in concrete C20/25 to C50/60 in any load direction, no permanent centric tension load and without lever arm, fastening of facade systems

Anchor type	Fire resistance class	$F_{Rk,fi,90}$	$\gamma_{M,fi}$ [1)]
B-LONG 10 with $h_{nom,2}$ = 50 mm	R 90	0,8 kN	1,0

1) In absence of other national regulations.

Table C5: Displacements under tension and shear loading in concrete and masonry

Anchor type		Tension load			Shear load		
	h_{nom} [mm]	F [kN]	δ_{N0} [mm]	$\delta_{N\infty}$ [mm]	F [kN]	δ_{V0} [mm]	$\delta_{V\infty}$ [mm]
concrete							
B-LONG 8	50	1,0	0,14	0,14	1,7	0,94	1,41
B-LONG 10	40	1,2	0,21	0,07	2,0	0,55	0,83
B-LONG 10	50	2,2	0,12	0,19	3,1	1,08	1,62
solid masonry							
B-LONG 8	50	1,0	0,12	0,24	1,0	0,83	1,25
B-LONG 10	50	1,0	0,39	0,77	1,0	0,83	1,25
hollow or perforated masonry							
B-LONG 8	50	0,26	0,57	1,14	0,34	0,29	0,43
B-LONG 10	50	0,34	0,55	1,10	0,34	0,29	0,43
B-LONG 10	70	0,26	0,09	0,18	0,34	0,29	0,43

SPIT B-LONG

Annex C 1

Performances
Characteristic resistance of the screw, characteristic resistance for use in concrete, values under fire, displacements under tension and shear in concrete and masonry

Table C6: B-LONG 8 - characteristic resistance F_{Rk} in [kN] in solid masonry (base material group "b")

Base Material [Supplier / Title]	minimum size (L x W x H) [mm]	Bulk density ρ [kg/dm³]	Mean compressive strength according EN 771 [N/mm²]	Drill method	Thickness of the wall h [mm]	Characteristic resistance F_{Rk} [kN] h_{nom} = 50 mm 30/50°C	50/80°C
Clay brick according to EN 771-1:2011+A1:2015 e.g. Danesi HD brick	237x110x54	≥ 1,6	20	hammer	110	3,0	3,0
					240	3,5	3,5
			10		110	2,0	2,0
					240	2,5	2,5
Clay brick according to EN 771-1:2011+A1:2015 e.g. Wienerberger Poroton MZ-NF	240x115x71	≥ 1,8	20	hammer	110	3,0	3,0
					240	3,5	3,5
			10		110	2,0	2,0
					240	2,5	2,5

Table C7: B-LONG 10 - characteristic resistance F_{Rk} in [kN] in solid masonry (base material group "b")

Base Material [Supplier / Title]	minimum size (L x W x H) [mm]	Bulk density ρ [kg/dm³]	Mean compressive strength according EN 771 [N/mm²]	Drill method	Thickness of the wall h [mm]	Characteristic resistance F_{Rk} [kN] h_{nom} = 50 mm 30/50°C	50/80°C
Clay brick according to EN 771-1:2011+A1:2015 e.g. Danesi HD brick	237x110x54	≥ 1,6	20	hammer	110	3,0	3,0
					240	3,5	3,5
			10		110	2,0	2,0
					240	2,5	2,5
Clay brick according to EN 771-1:2011+A1:2015 e.g. Wienerberger Poroton MZ-NF	240x115x71	≥ 1,8	20	hammer	110	3,0	3,0
					240	3,5	3,5
			10		110	2,0	2,0
					240	2,5	2,5

SPIT B-LONG

Performances
Characteristic resistance for use in solid masonry

Annex C 2

Table C8: B-LONG 8 - characteristic resistance F_{Rk} in [kN] in hollow or perforated masonry (base material group "c") with $h_{nom,2}$ = 50 mm

Base Material [Supplier / Title]	minimum size (L x W x H) [mm]	Bulk density ρ [kg/dm³]	Mean compressive strength according EN 771 [N/mm²]	Drill method	Characteristic resistance F_{Rk} [kN] $h_{nom,2}$ = 50 mm	
					30/50°C	50/80°C
Vertically perforated clay brick EN 771-1:2011+A1:2015 e.g. Dosson Doppio Uni see Annex B 2; Figure 1	250x120x190	≥ 0,9	20	rotary	1,5	0,9
Vertically perforated clay brick EN 771-1:2011+A1:2015 e.g. Wienerberger Porotherm Bioplan see Annex B 2; Figure 2	300x250x249	≥ 0,8	12	rotary	2,0	1,5
Vertically perforated clay brick EN 771-1:2011+A1:2015 e.g. Dosson Alveolater see Annex B 2; Figure 3	300x250x190	≥ 0,8	12	rotary	1,2	0,9
Concrete hollow block EN 771-3:2011+A1:2015 e.g. Fabemi Creux B40 see Annex B 2; Figure 4	500x200x190	≥ 0,9	4	rotary	1,5	0,9
Concrete hollow block EN 771-3:2011+A1:2015 e.g. KLB Plan Hohlblock see Annex B 2; Figure 5	497x238x175	≥ 1,0	5	rotary	1,5	1,2

SPIT B-LONG

Performances
Characteristic resistance for use in hollow or perforated masonry

Annex C 3

Table C9: B-LONG 10 - characteristic resistance F_{Rk} in [kN] in hollow or perforated masonry (base material group "c") with $h_{nom,2}$ = 50 mm

Base Material [Supplier / Title]	minimum size (L x W x H) [mm]	Bulk density ρ [kg/dm³]	Mean compressive strength according EN 771 [N/mm²]	Drill method	Characteristic resistance F_{Rk} [kN] $h_{nom,2}$ = 50 mm	
					30/50°C	50/80°C
Vertically perforated clay brick EN 771-1:2011+A1:2015 e.g. Dosson Doppio Uni see Annex B 2; Figure 1	250x120x190	≥ 0,9	20	rotary	1,5	1,2
Vertically perforated clay brick EN 771-1:2011+A1:2015 e.g. Wienerberger Porotherm Bioplan see Annex B 2; Figure 2	300x250x249	≥ 0,8	12	rotary	2,0	1,5
Vertically perforated clay brick EN 771-1:2011+A1:2015 e.g. Dosson Alveolater see Annex B 2; Figure 3	300x250x190	≥ 0,8	12	rotary	1,2	0,9
Concrete hollow block EN 771-3:2011+A1:2015 e.g. Fabemi Creux B40 see Annex B 2; Figure 4	500x200x190	≥ 0,9	4	rotary	1,2	0,9
Concrete hollow block EN 771-3:2011+A1:2015 e.g. KLB Plan Hohlblock see Annex B 2; Figure 5	497x238x175	≥ 1,0	5	rotary	1,5	1,2

Table C10: B-LONG 10 - characteristic resistance F_{Rk} in [kN] in hollow or perforated masonry (base material group "c") with $h_{nom,3}$ = 70 mm

Base Material [Supplier / Title]	minimum size (L x W x H) [mm]	Bulk density ρ [kg/dm³]	Mean compressive strength according EN 771 [N/mm²]	Drill method	Characteristic resistance F_{Rk} [kN] $h_{nom,3}$ = 70 mm	
					30/50°C	50/80°C
Vertically perforated clay brick EN 771-1:2011+A1:2015 e.g. Dosson Alveolater see Annex B 2; Figure 3	300x250x190	≥ 0,8	12	rotary	1,2	0,9

Table C11: B-LONG 10 characteristic resistance F_{Rk} in [kN] in unreinforced autoclaved aerated concrete (base material group "d")

Base material	Bulk density ρ [kg/m³]	Mean compressive strength according to EN 771-4:2011 +A1:2015 $f_{cm,decl}$ [N/mm²]	Drill method	Characteristic resistance F_{Rk} [kN] B-LONG 10 $h_{nom,2}$ = 50 mm		Characteristic resistance F_{Rk} [kN] B-LONG 10 $h_{nom,3}$ = 70 mm	
				30/50°C	50/80°C	30/50°C	50/80°C
Low strength autoclaved aerated concrete e.g. YTONG "clima" block EN 771-4:2011+A1:2015 minimum size [cm] 62,5x25x24	≥ 350	2	rotary	0,6	0,3	0,6	0,5
High strength autoclaved aerated concrete e.g. YTONG "sismico" block EN 771-4:2011+A1:2015 minimum size [cm] 62,5x25x24	≥ 500	4	rotary	1,5	1,2	2,0	1,5

Table C12: Displacements under tension and shear loading in unreinforced autoclaved aerated concrete (base material group "d")

Anchor type B-LONG 10	Tension load			Shear load		
	F [kN]	δ_{N0} [mm]	$\delta_{N\infty}$ [mm]	F [kN]	δ_{V0} [mm]	$\delta_{V\infty}$ [mm]
Low strength autoclaved aerated concrete e.g. YTONG "clima" block EN 771-4:2011+A1:2015 minimum size [cm] 62,5x25x24	0,2	0,08	0,16	0,2	0,43	0,64
High strength autoclaved aerated concrete e.g. YTONG "sismico" block EN 771-4:2011+A1:2015 minimum size [cm] 62,5x25x24	0,5	0,46	0,92	0,5	1,43	2,14

SPIT B-LONG

Performances
Characteristic resistance and displacements for use in autoclaved aerated concrete

Annex C 5