



INSTYTUT TECHNIKI BUDOWLANEJ



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European Technical Assessment

**ETA-16/0783
of 28/11/2025**



General Part

Technical Assessment Body issuing the European Technical Assessment

Instytut Techniki Budowlanej

Trade name of the construction product

WDI1 DROP IN ANCHOR, WDI1 SSSt DROP IN ANCHOR and WDI1L DROP IN ANCHOR LIPPED

Product family to which the construction product belongs

Fasteners for use in concrete for redundant non-structural applications

Manufacturer

J. van Walraven Holding B.V.
Industrieweg 5
3641 RK Mijdrecht
Netherlands

Manufacturing plant

Walraven Factory A2

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

European Assessment Document (EAD)
330747-00-0601 "Fasteners for use in concrete for redundant non-structural systems"

This version replaces

ETA-16/0783 issued on 26/09/2016

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Specific Part

1 Technical description of the product

The WDI1 DROP IN ANCHOR, WDI1 SSSt DROP IN ANCHOR and WDI1L DROP IN ANCHOR LIPPED are deformation-controlled expansion anchors in sizes of M6, M8, M10, M12, M16 and M20. The anchors WDI1 DROP IN ANCHOR and WDI1L DROP IN ANCHOR LIPPED are made of galvanized steel and WDI1 SSSt DROP IN ANCHOR are made of stainless steel.

The anchor is installed in a drilled hole and anchored by deformation-controlled expansion.

The description of the products is given in Annex A.

2 Specification of the intended use in accordance with the applicable European Assessment Document (EAD)

The performances given in clause 3 are only valid if the anchors are used in the compliance with the specifications and conditions given in Annex B.

The provisions made in this European Technical Assessment are based on an assumed working life of the anchor of 50 years. The indications given on the working life cannot be interpreted as a guarantee given by the producer or the Technical Assessment Body, 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 Performance of the product

3.1.1 Safety in case of fire (BWR 2)

Essential characteristic	Performance
Reaction to fire	Class A1
Resistance to fire	Annex C4

3.1.2 Safety and accessibility in use (BWR 4)

Essential characteristic	Performance
Characteristic resistance for all load directions	Annex C1 – C3
Durability	Annex A1, A2, B1

3.2 Methods used for the assessment

The assessment has been made in accordance with EAD 330747-00-0601.

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

According to Decision 97/161/EC of the European Commission the system 2+ of assessment and verification of constancy of performance applies (see Annex V to regulation (EU) No 305/2011).

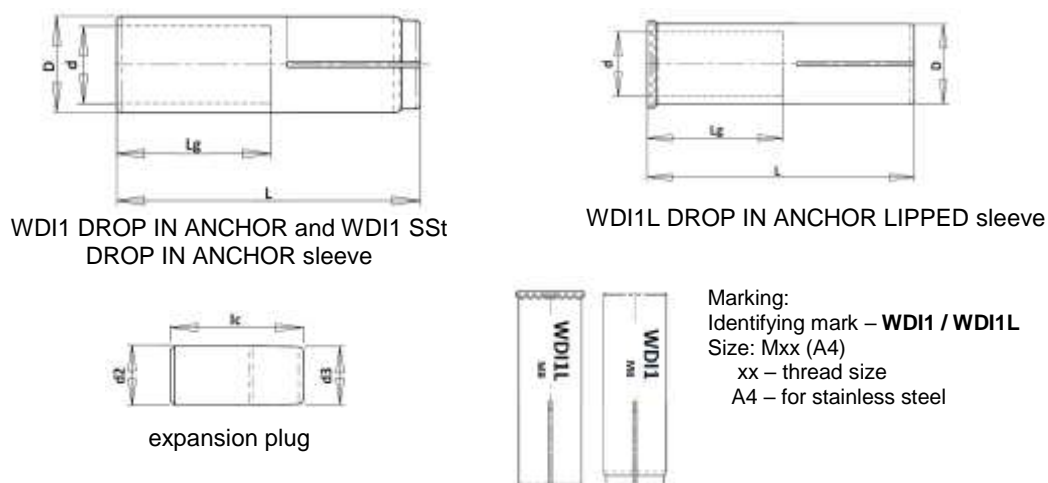
5 Technical details necessary for the implementation of the AVCP system, as provided in the applicable European Assessment Document (EAD)

Technical details necessary for the implementation of the AVCP system are laid down in the control plan deposited in Instytut Techniki Budowlanej.

For type testing the results of the tests performed as part of the assessment for the European Technical Assessment shall be used unless there are changes in the production line or plant. In such cases the necessary type testing has to be agreed between Instytut Techniki Budowlanej and the notified body.

Issued in Warsaw on 28/11/2025 by Instytut Techniki Budowlanej

Anna Panek, MSc
Deputy Director of ITB


Table A1. Anchors WDI1 DROP IN ANCHOR – materials and dimensions

WDI1 DROP IN ANCHOR		M6/25	M8/30	M10/40	M12/50	M16/65	M20/80
Anchor length L	[mm]	25	30	40	50	65	80
Inner diameter d	[mm]	6	8	10	12	16	20
External diameter D	[mm]	8	10	12	15	20	25
Thread length Lg	[mm]	11	14	19	25	28	38
Anchor material	Steel in accordance with ASTM A510, SAE 1008 or SAE 1010; zinc coating > 5 µm $f_{uk} \geq 450 \text{ N/mm}^2$ and $f_{yk} \geq 360 \text{ N/mm}^2$						
Fastening screw or threaded rod material	Steel, property class ≥ 4.8 according to EN ISO 898-1; zinc coating > 5 µm						

Table A2. Anchor WDI1 SS DROP IN ANCHOR – materials and dimensions

WDI1 SS DROP IN ANCHOR		M6/25	M8/30	M10/40	M12/50	M16/65
Anchor length L	[mm]	25	30	40	50	65
Inner diameter d	[mm]	6	8	10	12	16
External diameter D	[mm]	8	10	12	15	20
Thread length Lg	[mm]	11	14	19	25	28
Anchor material	Stainless steel 1.4401 according to EN 10088 (AISI 316) $f_{uk} \geq 500 \text{ N/mm}^2$ and $f_{yk} \geq 210 \text{ N/mm}^2$					
Fastening screw or threaded rod material	Stainless steel 1.4401 in accordance with EN 10088; property class ≥ 70 according to EN ISO 3506					

**WDI1 DROP IN ANCHOR, WDI1 SS DROP IN ANCHOR
and WDI1L DROP IN ANCHOR LIPPED**

Product description
Characteristic of the product

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Table A3. Anchors WDI1L DROP IN ANCHOR LIPPED – materials and dimensions

WDI1L DROP IN ANCHOR LIPPED		M6/25	M8/30	M10/30	M10/40	M12/50	M16/65	M20/80
Anchor length L	[mm]	25	30	30	40	50	65	80
Inner diameter d	[mm]	6	8	10	10	12	16	20
External diameter D	[mm]	8	10	12	12	15	20	25
Thread length L _g	[mm]	11	14	15	19	25	28	38
Anchor material	Steel in accordance with ASTM A510, SAE 1008 or SAE 1010; zinc coating > 5 µm $f_{uk} \geq 450 \text{ N/mm}^2$ and $f_{yk} \geq 360 \text{ N/mm}^2$							
Fastening screw or threaded rod material	Steel, property class ≥ 4.8 according to EN ISO 898-1, zinc coating > 5 µm, for anchoring in solid concrete elements Steel, property class ≥ 4.6 according to EN-ISO 898-1, zinc coating > 5 µm, for anchoring in precast hollow core slabs							

Table A4. Expansion plug – materials and dimensions

		M6/25	M8/30	M10/30	M10/40	M12/50	M16/65	M20/80
Expansion plug		M6	M8	M10	M10	M12	M16	M20
Rear diameter d ₂	[mm]	4,90	6,40	7,80	8,00	10,30	13,55	16,55
Front diameter d ₃	[mm]	4,15	5,10	6,70	6,80	7,80	12,20	14,95
Length l _c	[mm]	9,40	11,40	13,60	16,00	20,75	25,40	30,00
Expansion plug material	Steel in accordance with JISG3505, SWRM8K or SWRM10K; zinc coating > 5 µm or stainless steel 1.4401 according to EN 10088 (AISI 316)							

**WDI1 DROP IN ANCHOR, WDI1 SS_t DROP IN ANCHOR
and WDI1L DROP IN ANCHOR LIPPED**

Product description
Characteristic of the product

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Specification of intended use

Anchorage subject to:

- Multiple use for non-structural applications: sizes from M6 to M20 (WDI1 DROP IN ANCHOR and WDI1L DROP IN ANCHOR LIPPED) and sizes from M6 to M16 (WDI1 SSt DROP IN ANCHOR).
- Static and quasi-static loads: sizes from M6 to M20 (WDI1 DROP IN ANCHOR and WDI1L DROP IN ANCHOR LIPPED) and sizes from M6 to M16 (WDI1 SSt DROP IN ANCHOR).
- Anchorage with requirements related to resistance to fire: sizes from M8 to M20 (WDI1 DROP IN ANCHOR and WDI1L DROP IN ANCHOR LIPPED) and sizes from M8 to M16 (WDI1 SSt DROP IN ANCHOR), in solid concrete elements of strength class C20/25 to C50/60 according to EN 206.

Base material:

- Reinforced or unreinforced, cracked or uncracked normal weight concrete of strength class C12/15 at minimum to C50/60 at maximum according to EN 206.
- Solid concrete elements: sizes from M6 to M20 (WDI1 DROP IN ANCHOR, WDI1L DROP IN ANCHOR LIPPED) and M6 to M16 (WDI1 SSt DROP IN ANCHOR).
- Precast prestressed hollow core slabs (with $w/e \leq 4,2$) strength class C40/50 to C50/60 according to EN 206: sizes from M6 to M12 (WDI1L DROP IN ANCHOR LIPPED).

Use conditions (environmental conditions):

- WDI1 DROP IN ANCHOR, WDI1L DROP IN ANCHOR LIPPED all sizes (galvanized steel) and WDI1 SSt DROP IN ANCHOR size M6 (stainless steel): structures subject to dry internal conditions.
- WDI1 SSt DROP IN ANCHOR sizes from M8 to M16 (stainless steel): structures subject to dry internal conditions and also in concrete subject to external atmospheric exposure (including industrial and marine environment) or exposure in permanently damp internal conditions if no particular aggressive conditions exist. Such 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:

- Anchorage 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 transmitted. The position of the anchor is indicated on the design drawings (e.g. position of the anchor relative to reinforcement or to supports, etc.).
- Anchorage under static and quasi-static loads are designed in accordance with EN 1992-4:2018; the anchors WDI1 DROP IN ANCHOR, WDI1 SSt DROP IN ANCHOR and WDI1L DROP IN ANCHOR LIPPED anchored in solid concrete elements according to design method C, the anchors WDI1L DROP IN ANCHOR LIPPED anchored in precast, prestressed hollow core slabs according to design method B.
- The design of anchorages under fire exposure has to consider the conditions given in the EOTA Technical Report TR 020.
- Fasteners are only to be used for multiple use for non-structural applications acc. to EAD 330747-00-0601.

Installation:

- Anchor installation carried out by appropriately qualified personnel and under the supervision of the person responsible for technical matters of the site.
- Use of the anchor only as supplied by the manufacturer without exchanging any component of the anchor.
- Anchor installation in accordance with the manufacturer's specifications and drawings and using the appropriate tools.
- Check of concrete being well compacted, e.g. without significant voids.
- Positioning of the drill holes without damaging the reinforcement.
- In case of aborted hole: new drilling at a minimum distance away of twice the depth of the aborted hole or smaller distance if the aborted drill hole is filled with high strength mortar and if under shear or oblique tension load it is not in the direction of load application.
- Anchor installation such that the effective anchorage depth is complied with.
- Anchor expansion by impact on the cone (expansion plug) of the anchor.

**WDI1 DROP IN ANCHOR, WDI1 SSt DROP IN ANCHOR
and WDI1L DROP IN ANCHOR LIPPED**

**Intended use
Specification**

**Annex B1
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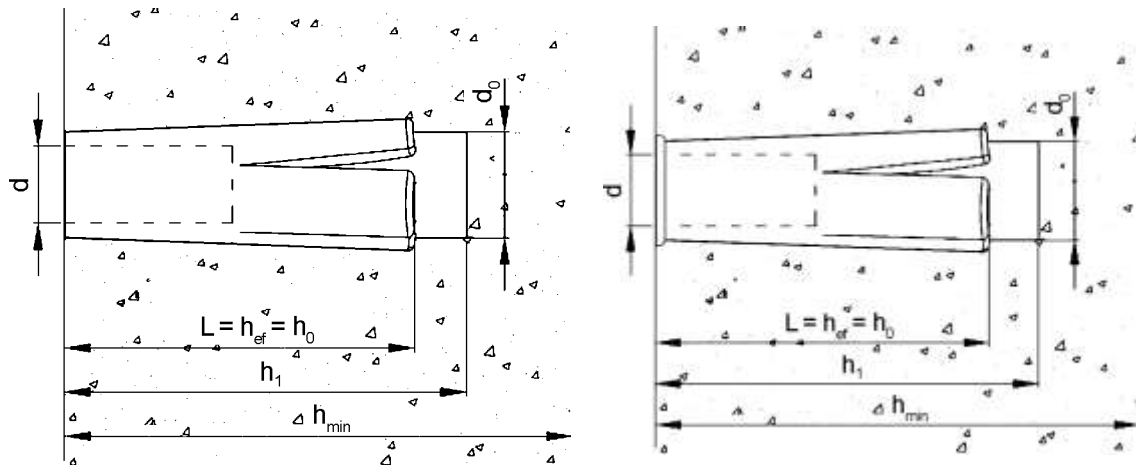


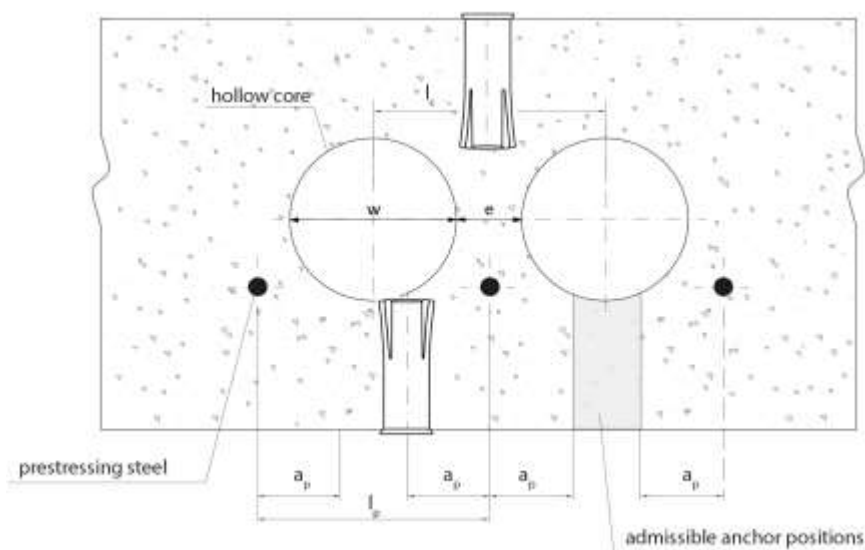
Table B1: Installation parameters of WDI1 DROP IN ANCHOR, WDI1 SSd DROP IN ANCHOR and WDI1L DROP IN ANCHOR LIPPED anchors in solid concrete elements

Anchor size	Drill hole diameter	Drill hole depth	Effective anchorage depth	Torque (max)	Thickness of concrete member (min)	Screwing depth (min)	Screwing depth (max)	Diameter of clearance hole in the fixture
	[mm]	[mm]	[mm]	[Nm]	[mm]	[mm]	[mm]	[mm]
	d_0	h_1	$h_{ef} = h_0$	$\max T_{inst}$	h_{min}	$l_{s, min}$	$l_{s, max}$	d_f
M6/25	8	27	25	4,5	80	6	11	7
M8/30	10	32	30	11	80	8	13	9
M10/30	12	32	30	22	80	10	13	12
M10/40	12	42	40	22	80	10	15	12
M12/50	15	52	50	38	100	12	25	14
M16/65	20	67	65	98	130	16	25	18
M20/80	25	82	80	130	160	20	35	22

**WDI1 DROP IN ANCHOR, WDI1 SSd DROP IN ANCHOR
and WDI1L DROP IN ANCHOR LIPPED**

Intended use
Installation parameters – solid concrete elements

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Core width / Web thickness; w / e	$\leq 4,2$
Core distance	$l_c \geq 100 \text{ mm}$
Prestressing steel	$l_p \geq 100 \text{ mm}$
Distance between anchor position and prestressing steel	$a_p \geq 50 \text{ mm}$

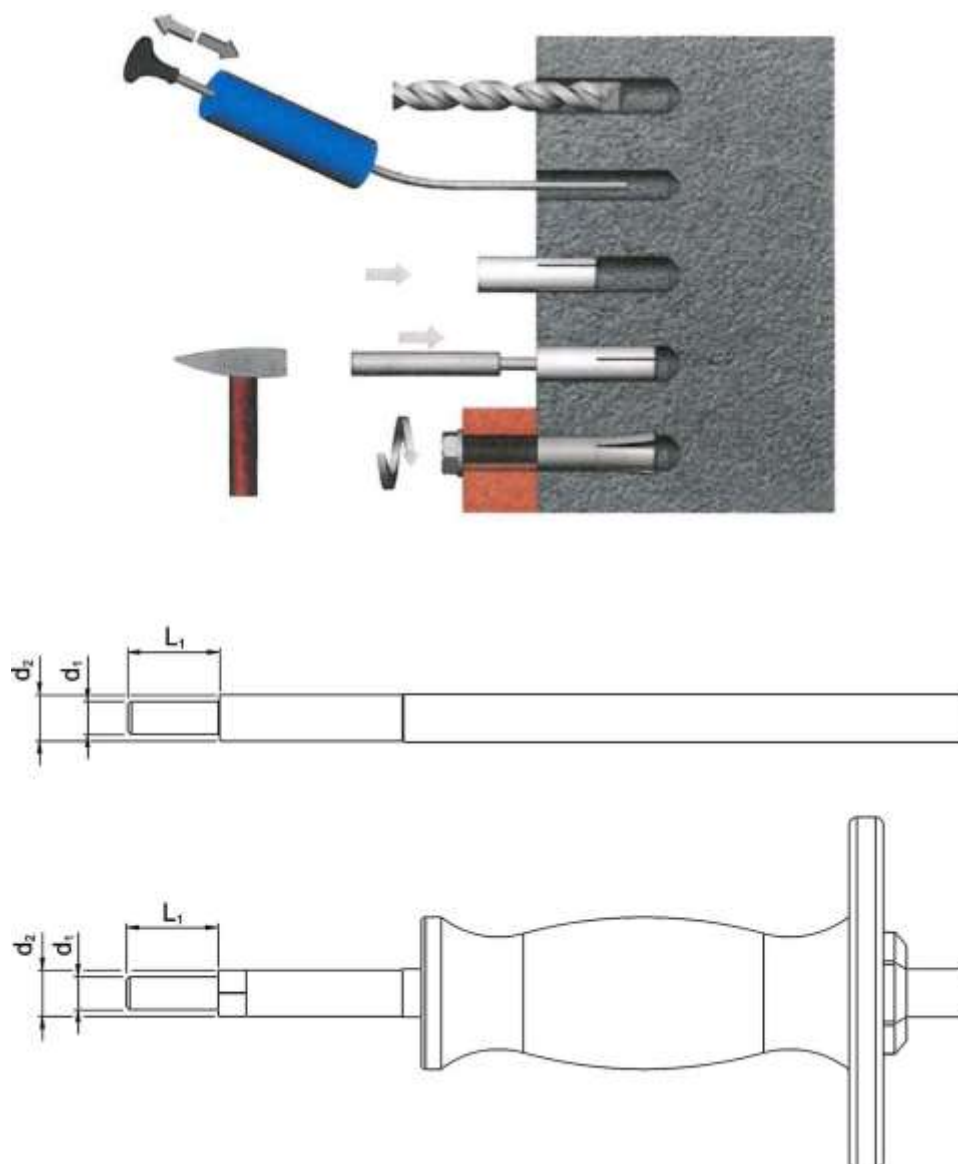
Table B2: Installation parameters of WDI1L DROP IN ANCHOR LIPPED anchors in precast, prestressed hollow core slabs

Anchor size	Drill hole diameter	Drill hole depth	Effective anchorage depth	Torque (max)	Screwing depth (min)	Screwing depth (max)	Diameter of clearance hole in the fixture
	[mm]	[mm]	[mm]	[Nm]	[mm]	[mm]	[mm]
	d_0	h_0	h_{ef}	$\max T_{inst}$	$l_{s, min}$	$l_{s, max}$	d_f
M6/25	8	25	25	4,5	6	11	7
M8/30	10	32	30	11	8	13	9
M10/30	12	32	30	22	10	13	12
M10/40	12	42	40	22	10	15	12
M12/50	15	52	50	38	12	25	14

WDI1 DROP IN ANCHOR, WDI1 SSd DROP IN ANCHOR and WDI1L DROP IN ANCHOR LIPPED

Intended use
Installation parameters – precast, prestressed hollow core slabs

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**Table B3:** Installation tools

Installation tools		M6/25	M8/30	M10/30	M10/40	M12/50	M16/65	M20/80
Diameter d_1	mm	5,0	6,6	8,3	8,3	10,2	13,5	16,8
Diameter d_2	mm	7,5	9,5	11,5	11,5	14,5	19,5	24,5
Length L_1	mm	14,8	18,0	18	23,0	28,0	33,0	47,0

**WDI1 DROP IN ANCHOR, WDI1 SSd DROP IN ANCHOR
and WDI1L DROP IN ANCHOR LIPPED**

Intended use
Installation instruction – general

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Drill a hole of required diameter and depth.

Clear the hole of drilling dust and debris (using blow pump).

Insert the anchor (slotted end first).

Use the setting tool to drive the internal wedge into the anchor.

Insert screw or threaded rod through fixture and tighten, not pass over the maximum torque.

After installation.

**WDI1 DROP IN ANCHOR, WDI1 SSSt DROP IN ANCHOR
and WDI1L DROP IN ANCHOR LIPPED**

Intended use

Installation instruction – WDI1 DROP IN ANCHOR and WDI1 SSSt DROP IN ANCHOR in solid concrete element

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Drill a hole of required diameter and depth.

Clear the hole of drilling dust and debris (using blow pump).

Insert the anchor (slotted end first).

Use the setting tool to drive the internal wedge into the anchor.

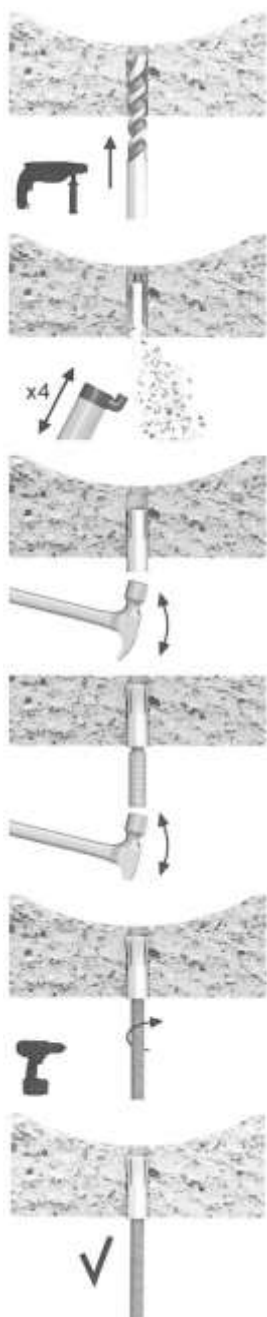
Insert screw or threaded rod through fixture and tighten, not pass over the maximum torque.

After Installation.

**WDI1 DROP IN ANCHOR, WDI1 SSd DROP IN ANCHOR
and WDI1L DROP IN ANCHOR LIPPED**

Intended use
Installation instruction – WDI1L DROP IN ANCHOR LIPPED
in solid concrete element

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Drill a hole of required diameter and depth.

Clear the hole of drilling dust and debris (using blow pump).

Insert the anchor (slotted end first).

Use the setting tool to drive the internal wedge into the anchor.

Insert screw or threaded rod through fixture and tighten, not pass over the maximum torque.

After installation.

WDI1 DROP IN ANCHOR, WDI1 SSt DROP IN ANCHOR and WDI1L DROP IN ANCHOR LIPPED

Intended use

Installation instruction – WDI1L DROP IN ANCHOR LIPPED in precast, prestressed hollow core slabs

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Table C1: Characteristic resistance – WDI1 DROP IN ANCHOR – in solid concrete elements

WDI1 DROP IN ANCHOR			Property class	M6/25	M8/30	M10/40	M12/50	M16/65	M20/80	
All load directions (fastening screw or threaded rod property class ≥ 4.8)										
Characteristic resistance in cracked and uncracked concrete C12/15	F _{Rk}	[kN]	≥ 4.8	1,2	2	3,5	5	10	13	
Characteristic resistance in cracked and uncracked concrete C20/25 to C50/60	F _{Rk}	[kN]	≥ 4.8	1,5	3	4,5	6	13	17	
Partial safety factor	γ ₂ ⁽¹⁾	[–]	–	1,2						
Spacing	s _{cr}	[mm]		200					260	320
Edge distance	c _{cr}	[mm]		150					195	240
Shear load with lever arm										
Characteristic bending resistance	M ⁰ _{Rk,s}	[Nm]	4.8	6	15	30	52	133	260	
Characteristic bending resistance	M ⁰ _{Rk,s}	[Nm]	5.8	8	19	37	66	167	325	
Characteristic bending resistance	M ⁰ _{Rk,s}	[Nm]	6.8	9	23	45	79	200	390	
Characteristic bending resistance	M ⁰ _{Rk,s}	[Nm]	8.8	12	30	60	105	267	520	
Partial safety factor	γ _{Ms} ⁽¹⁾	[–]	–	1,25						
(1) in the absence of other national regulations										

Table C2: Characteristic resistance – WDI1 SSSt DROP IN ANCHOR – in solid concrete elements

WDI1 SSt DROP IN ANCHOR			Property class	M6/25	M8/30	M10/40	M12/50	M16/65	
All load directions (fastening screw or threaded rod property class A4-70)									
Characteristic resistance in cracked and uncracked concrete C12/15	F _{Rk}	[kN]	A4-70	0,75	1,5	2,5	3,5	6,5	
Characteristic resistance in cracked and uncracked concrete C20/25 to C50/60	F _{Rk}	[kN]	A4-70	1,0	2,0	3,0	4,5	8,0	
Partial safety factor	γ ₂ ⁽¹⁾	[–]	–	1,2					
Spacing	s _{cr}	[mm]		200					260
Edge distance	c _{cr}	[mm]		150					195
Shear load with lever arm									
Characteristic bending resistance	M ⁰ _{Rk,s}	[Nm]	A4-70	11	26	52	92	233	
Partial safety factor	γ _{Ms} ⁽¹⁾	[–]	–	1,25					
(1) in the absence of other national regulations									

**WDI1 DROP IN ANCHOR, WDI1 SSSt DROP IN ANCHOR
and WDI1L DROP IN ANCHOR LIPPED**

Performances
Characteristic resistance

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Table C3: Characteristic resistance – WDI1L DROP IN ANCHOR LIPPED – in solid concrete elements

WDI1L DROP IN ANCHOR LIPPED			Property class	M6/25	M8/30	M10/40	M12/50	M16/ 65	M20/ 80	
All load directions (fastening screw or threaded rod property class ≥ 4.8)										
Characteristic resistance in cracked and uncracked concrete class C12/15	F _{Rk}	[kN]	≥ 4.8	1,2	2	3,5	5	10	13	
Characteristic resistance in cracked and uncracked concrete class C20/25 to C50/60	F _{Rk}	[kN]	≥ 4.8	1,5	3	4,5	6,5	13	17	
Partial safety factor	γ ₂ ⁽¹⁾	[–]	–	1,2						
Spacing	s _{cr}	[mm]		200					260	320
Edge distance	c _{cr}	[mm]		150					195	240
Shear load with lever arm										
Characteristic bending resistance	M ⁰ _{Rk,s}	[Nm]	4.8	6	15	30	52	133	260	
Characteristic bending resistance	M ⁰ _{Rk,s}	[Nm]	5.8	8	19	37	66	167	325	
Characteristic bending resistance	M ⁰ _{Rk,s}	[Nm]	6.8	9	23	45	79	200	390	
Characteristic bending resistance	M ⁰ _{Rk,s}	[Nm]	8.8	12	30	60	105	267	520	
Partial safety factor	γ _{Ms} ⁽¹⁾	[–]	–	1,25						
(1) in the absence of other national regulations										

**WDI1 DROP IN ANCHOR, WDI1 SSd DROP IN ANCHOR
and WDI1L DROP IN ANCHOR LIPPED**

Performances
Characteristic resistance

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Table C4: Characteristic resistance – WDI1L DROP IN ANCHOR LIPPED – in precast, prestressed hollow core slabs

WDI1L DROP IN ANCHOR LIPPED			Property class	M6/25	M8/30	M10/30	M10/40	M12/50	
All load directions (fastening screw or threaded rod property class ≥ 4.6)									
Bottom flange thickness	d _b	[mm]	–	30	30	40	30	30	
Characteristic resistance in hollow concrete slabs class C40/50 to C50/60	F _{Rk}	[kN]	≥ 4.6	3,5	4,0	12	14	16	
Partial safety factor	γ _{inst}	[–]	–	1,4	1,4	1,0	1,4	1,2	
Spacing	s _{cr}	[mm]		200					
Edge distance	c _{cr}	[mm]		300					
Shear load with lever arm									
Characteristic bending resistance	M ⁰ _{Rk,s}	[Nm]	4,6	6	15	30	30	52	
Characteristic bending resistance	M ⁰ _{Rk,s}	[Nm]	4.8	6	15	30	30	52	
Characteristic bending resistance	M ⁰ _{Rk,s}	[Nm]	5.8	8	19	37	37	66	
Characteristic bending resistance	M ⁰ _{Rk,s}	[Nm]	6.8	9	23	45	45	79	
Characteristic bending resistance	M ⁰ _{Rk,s}	[Nm]	8.8	12	30	60	60	105	
Partial safety factor	γ _{Ms} ⁽¹⁾	[–]	–	1,25					
(1) in the absence of other national regulations									

**WDI1 DROP IN ANCHOR, WDI1 SSd DROP IN ANCHOR
and WDI1L DROP IN ANCHOR LIPPED**

Performances
Characteristic resistance

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Table C5: Characteristic resistance under fire exposure in solid concrete elements of strength class C20/25 to C50/60 – WDI1 DROP IN ANCHOR and WDI1L DROP IN ANCHOR LIPPED

Fire resistance class	WDI1 DROP IN ANCHOR and WDI1L DROP IN ANCHOR LIPPED		M8/30	M10/40	M12/50	M16/65	M20/80
All load directions							
R30	Characteristic resistance $F_{Rk,fi}^{(1),(2)}$	[kN]	0,4	0,9	1,6	3,1	4,3
R60		[kN]	0,3	0,8	1,3	2,4	3,7
R90		[kN]	0,3	0,6	1,1	2,0	3,2
R120		[kN]	0,2	0,5	0,8	1,6	2,5
Spacing	$s_{cr,fi}$	[mm]	4 x h_{ef}				
Edge distance	$c_{cr,fi}$	[mm]	2 x h_{ef}				
The design method covers anchors with a fire attack from one side only. In case of fire attack from more than one side, the edge distance shall be ≥ 300 mm.							
(1) in the absence of other national regulations a partial safety factor $\gamma_{m,fi} = 1,0$ is recommended							
(2) fastening screw or threaded rod property class not less than 4.8							

Table C6: Characteristic resistance under fire exposure in solid concrete elements of strength class C20/25 to C50/60 – WDI1 SSt DROP IN ANCHOR

Fire resistance class	WDI1 SSt DROP IN ANCHOR		M8/30	M10/40	M12/50	M16/65
All load directions						
R30	Characteristic resistance $F_{Rk,fi}^{(1),(2)}$	[kN]	0,5	0,8	1,1	2,1
R60		[kN]	0,5	0,8	1,1	2,1
R90		[kN]	0,5	0,8	1,1	2,1
R120		[kN]	0,4	0,6	0,9	1,6
Spacing	$s_{cr,fi}$	[mm]	4 x h_{ef}			
Edge distance	$c_{cr,fi}$	[mm]	2 x h_{ef}			
The design method covers anchors with a fire attack from one side only. In case of fire attack from more than one side, the edge distance shall be ≥ 300 mm.						
(1) in the absence of other national regulations a partial safety factor $\gamma_{m,fi} = 1,0$ is recommended						
(2) fastening screw or threaded rod property class not less than A4-70						

WDI1 DROP IN ANCHOR, WDI1 SSt DROP IN ANCHOR and WDI1L DROP IN ANCHOR LIPPED

Performances
Characteristic resistance under fire exposure

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