WDI1 Drop-in Anchors

Standard drop-in anchor for multiple use for non-structural applications

Anchor types

	WDI1 6x25 WDI1 12x50 WDI1 16x65	■ The **WDI1** drop-in anchors are easy to install and versatile deformation-controlled anchors for medium loads. They are approved for multiple use for non-structural applications in cracked and non-cracked concrete
	WDI1L 6x25 WDI1L 10x40 WDI1L 12x50 WDI1L 16x65	■ The **WDI1L** lipped drop-in anchors feature a collar with a lip for flush anchor setting at any hole depth
	WDI1 SSt 8x30 WDI1 SSt 10x40 WDI1 SSt 12x50 WDI1 SSt 16x65	■ The **WDI1 SSt** drop-in anchors are made of stainless steel for use in external atmospheric environment

Features and benefits

- ETA according to EAD 330747-00-0601 for multiple use for non-structural applications
- No collar for anchor setting at greater hole depth
- Simple and quick installation procedure
- Medium load capacity
- Complies with VdS CEA 4001: 2024-01 (08) for applications with sprinkler systems in concrete elements (M8-M12)
- Fire resistance class R30-R120 for design of anchorages under exposure to fire

Approvals and certificates

■ European Technical Assessment	ETA-16/0783, 28 November 2025
■ Fire Test Report	ETA-16/0783, 28 November 2025

Suitable base materials

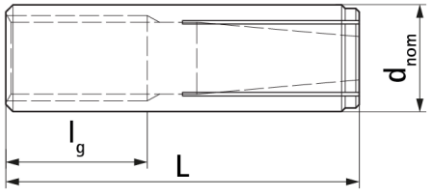
- Reinforced or unreinforced, cracked or non-cracked normal weight concrete of strength class C12/15 at minimum to C50/60 at maximum according to EN 206
- Solid concrete elements

Typical applications

- Pipe systems
- Suspended rail installations
- Ventilation systems and ducts

Product details

Article	Description	Size	Length	External diameter	Inner thread length
		[-]	[mm]	d_{nom} [mm]	l_g [mm]
6103006	WDI1 6x25	M6	25	8	11
6103012	WDI1 12x50	M12	50	15	20
6103016	WDI1 16x65	M16	65	20	25
6103106	WDI1L 6x25	M6	25	8	11
6103110	WDI1L 10x40	M10	40	12	15
6103112	WDI1L 12x50	M12	50	15	20
6103116	WDI1L 16x65	M16	65	20	25
6103708	WDI1 SSt 8x30	M8	25	10	11
6103710	WDI1 SSt 10x40	M10	30	12	13
6103712	WDI1 SSt 12x50	M12	40	15	15
6103716	WDI1 SSt 16x65	M16	50	20	20



Packaging details

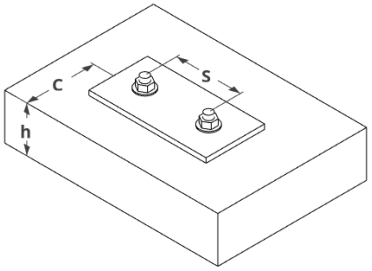
Article	Description	Pack 1		Pack 2	
		[pcs]	EAN13	[pcs]	EAN13
6103006	WDI1 6x25	100	8712993027071	2400	8712993172610
6103012	WDI1 12x50	50	8712993036042	300	8712993172665
6103016	WDI1 16x65	25	8712993950287	200	8712993872381
6103106	WDI1L 6x25	100	8712993985180	600	8712993172696
6103110	WDI1L 10x40	50	8712993144082	500	8712993172733
6103112	WDI1L 12x50	50	8712993985210	300	8712993172757
6103116	WDI1L 16x65	25	8712993486779	150	8712993172771
6103708	WDI1 SSt 8x30	100	8712993156207	600	8712993156368
6103710	WDI1 SSt 10x40	100	8712993156214	500	8712993156375
6103712	WDI1 SSt 12x50	50	8712993156221	300	8712993156382
6103716	WDI1 SSt 16x65	50	8712993156238	200	8712993156399

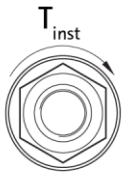
Mechanical properties

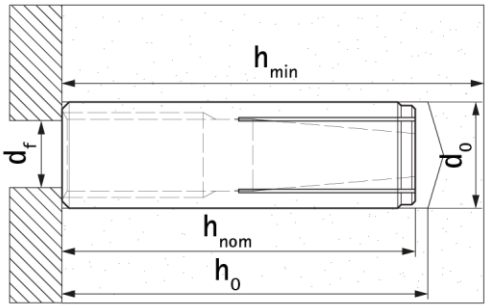
Anchor Type	WDI1, WDI1L	WDI1 SSt
Material	Steel in accordance with ASTM A510, SAE 1008 or SAE 1010; thickness of galvanizing > 5µm $f_{uk} \geq 450$ N/mm² and $f_{yk} \geq 360$ N/mm²	Stainless steel 1.4401 according to EN 10088 (AISI 316) $f_{uk} \geq 500$ N/mm² and $f_{yk} \geq 210$ N/mm²
Fastener screw or threaded rod material	Steel, property class ≥ 4.8 according to EN-ISO 898-1, thickness of galvanizing > 5µm	Stainless steel 1.4401 in accordance with EN 10088; property class ≥ 70 according to EN ISO 3506

Installation parameters

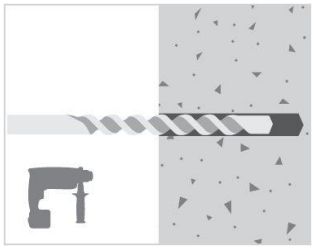
Anchor Type			WDI1, WDI1L, WDI1 SSt				
Anchor size			M6	M8	M10	M12	M16
Anchor length	L	[mm]	25	30	40	50	65
Drill hole diameter	d_0	[mm]	8	10	12	15	20
Depth of drill hole	h_0	[mm]	27	32	42	53	70
Nominal embedment depth	h_{nom}	[mm]	25	30	40	50	65
Min. concrete member thickness	h_{min}	[mm]	80	80	80	100	130
Minimum screwing depth	$l_{s,min}$	[mm]	6	8	10	12	16
Maximum screwing depth	$l_{s,max}$	[mm]	11	13	15	20	25
Installation torque	T_{inst}	[Nm]	4.5	11	22	38	98
Diameter clearance of hole in the fixture	d_f	[mm]	7	9	12	14	18
Characteristic edge distance	C_{cr}	[mm]	200	200	200	200	260
Characteristic anchor spacing	S_{cr}	[mm]	150	150	150	150	195

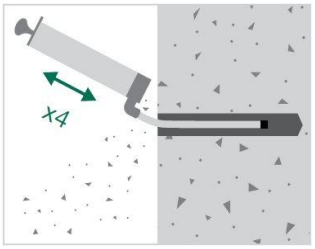


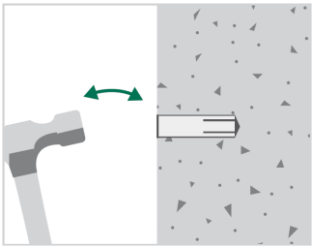


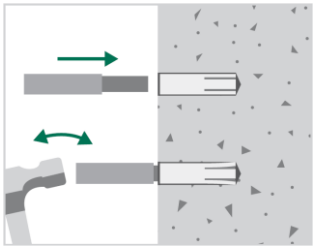


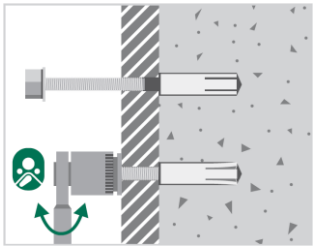
Instructions for installation in concrete











Recommended loads for multiple use for non-structural applications in C20/25 concrete for single anchors[1)]

Anchor Type			WDI1				
Anchor size			M6	M8	M10	M12	M16
Recommended load in all directions	F_{rec}	[kN]	0.59	1.19	1.78	2.38	5.15

Anchor Type			WDI1L				
Anchor size			M6	M8	M10	M12	M16
Recommended load in all directions	F_{rec}	[kN]	0.59	1.19	1.78	2.57	5.15

Anchor Type			WDI1 SSt			
Anchor size			M8	M10	M12	M16
Recommended load in all directions	F_{rec}	[kN]	0.79	1.19	1.78	3.17

1) Single anchors are anchors not affected by concrete edge and anchor spacing influence.
2) Recommended load includes partial safety factor and an overall partial safety factor for action of 1.4. The partial safety factor for action depends on the type of loading and shall be taken from national regulations. All anchor failure modes and the entire relevant product European Technical Assessment must be considered for anchor design.

Characteristic values of resistance under fire exposure in C20/25-C50/C60 concrete[1)]

Anchor Type				WDI1, WDI1L			
Anchor size				M8	M10	M12	M16
All load directions							
R30	Characteristic resistance	$F_{Rk,fi}$	[kN]	0.40	0.90	1.60	3.10
R60				0.30	0.80	1.30	2.40
R90				0.30	0.60	1.10	2.00
R120				0.20	0.50	0.80	1.60
Spacing distance		$S_{cr,fi}$	[mm]	$4 \times h_{ef}$			
Edge distance		$C_{cr,fi}$	[mm]	$2 \times h_{ef}$ [2)]			

1) In absence of other national regulations the partial safety factor for resistance under fire exposure $\gamma_{M,fi} = 1,0$ is recommended
2) If the fire attack is from more than one side, the edge distance of the anchor has to be ≥ 300 mm and ≥ 2 x h_{ef}

Anchor Type				WDI1 SSt			
Anchor size				M8	M10	M12	M16
All load directions							
R30	Characteristic resistance	$F_{Rk,fi}$	[kN]	0.50	0.80	1.10	2.10
R60				0.50	0.80	1.10	2.10
R90				0.50	0.80	1.10	2.10
R120				0.40	0.60	0.90	1.60
Spacing distance		$S_{cr,fi}$	[mm]	$4 \times h_{ef}$			
Edge distance		$C_{cr,fi}$	[mm]	$2 \times h_{ef}$ [2)]			

1) In absence of other national regulations the partial safety factor for resistance under fire exposure $\gamma_{M,fi} = 1,0$ is recommended
2) If the fire attack is from more than one side, the edge distance of the anchor has to be ≥ 300 mm and ≥ 2 x h_{ef}

The definition and requirements of multiple use for non-structural applications

The definition of multiple use according to the Member States is given in EAD 330747-00-0601 Section 1.2.1.

Minimum number of fixing points	Minimum number of anchors per fixing point	Maximum design value of actions per fixing point
[n_1]	[n_2]	[n_3]
3	1	2.0 kN
4	1	3.0 kN

The maximum design value of actions per fixing point might be increased if in the design it is shown that the requirements on the strength and stiffness of the fixture in the serviceability and ultimate states after the failure of one anchor are fulfilled.

Design method for anchorages for multiple use for non-structural applications

EN 1992-4 provides a design method for fastenings (connection of statically determinate and statically indeterminate structural elements and non-structural elements to structural components), which are used to transmit actions to the concrete.

Refer to CEN/TR 17079, which provides design guidance for post-installed fasteners for fixing statically indeterminate non-structural light weight systems with at least three fixing points. The fixing may be into normal weight concrete or precast prestressed hollow core slabs. The proposed design model assumes that load transfer to adjacent fixing points takes place when excessive slip or failure of a fastener occurs under extreme conditions (e.g. large crack width). The suitability of the fasteners should be stated in a European Technical Product Specification for at least multiple use for non-structural applications in concrete.

For example the design of the fixture may specify the number n_1 of fixing points to fasten the fixture and the number n_2 of anchors per fixing point. Furthermore by specifying the design value of actions N_{Sd} on a fixing point to a value $\leq n_3$ (kN) up to which the strength and stiffness of the fixture are fulfilled and the load transfer in the case of excessive slip or failure of one anchor need not to be taken into account in the design of the fixture.