Declaration of Performance

According to Annex III of the Regulation (EU) Nr.305/2011
(Construction Products Regulation).

Walraven Drop-in Anchor WDI2L

DoP No. 22/0629-WDI2L

1. **Unique identification code of the product-type:**
   Walraven Drop-in Anchor WDI2L, Item numbers: 6103310625, 6103310830, 6103311040, 6103311250, 6103311665

2. **Intended use/es:**
   Metal anchors for use in concrete (light-duty type): for use in redundant systems for fixing and/or supporting to concrete elements, such as lightweight suspended ceilings, as well as installations.

3. **Manufacturer:**
   J. van Walraven Holding B.V., Industrieweg 5, 3641 RK Mijdrecht, The Netherlands

4. **System/s of AVCP:**
   System 2+

5. **European Assessment Document:** EAD 330747-00-0601 "Fasteners for use in concrete for redundant non-structural systems", May 2018.
   European Technical Assessment: ETA - 22/0629 (30/01/2025).
   Technical Assessment Body: Instituto de Ciencias de la Construcción Eduardo Torroja
   Notified body: 1219.

6. **Declared performance/s:**

Essential Characteristic	Performance	Harmonized Technical Specification
Safety in use (BWR 4)		
Characteristic resistance for all load directions	See Annex C4 and C5, ETA-22/0629	EAD 330747-00-0601
Edge and spacing	See Annex C1, ETA-22/0629	EAD 330747-00-0601
Safety in case of fire (BWR 2)		
Resistance to fire	See Annex C7, ETA-22/0629	EOTA TR020
Reaction to Fire	Anchors satisfy requirements for Class A1	EN 13501-1

7. **Appropriate Technical Documentation and/or Specific Technical Documentation:**
   N/A

8. **The performance of the product identified above is in conformity with the set of declared performance/s. This declaration of performance is issued, in accordance with Regulation (EU) No 305/2011, under the sole responsibility of the manufacturer identified above.**

Signed for and on behalf of the manufacturer by:

Frank Nijdam
Co-CEO
J. van Walraven Holding B.V.

Signature

Date 01-04-2025
Place: Mijdrecht

Table C3: Essential characteristics in concrete to loads of design method B according to EN 1992-4 for WDI2, WDI2L, WDI2R anchor

Essential characteristics of resistance to loads of design method B			Performances						
			M6	M8	M10	M12	M12D	M16	M20
Any load direction									
WDI2, WDI2L									
F^0_{Rk}	Characteristic resistance in C12/15 concrete:	[kN]	1.5	3.0	4.0	6.0	--	9.0	16.0
F^0_{Rk}	Characteristic resistance in C20/25 to C50/60 concrete:	[kN]	2.0	3.0	5.0	7.5	6.0	12.0	20.0
γ_{ins}	Installation safety factor:	[-]	1.2	1.2	1.4	1.4	1.4	1.4	1.4
s_{cr}	Critical spacing:	[mm]	75	90	120	150	200	195	240
c_{cr}	Critical edge distance:	[mm]	40	45	60	75	150	100	120
WDI2R									
F^0_{Rk}	Characteristic resistance in C20/25 to C50/60 concrete:	[kN]	--	2.5	4.0	4.0	--	--	--
γ_{ins}	Installation safety factor:	[-]	--	1.2	1.2	1.2	--	--	--
s_{cr}	Critical spacing:	[mm]	--	120	120	120	--	--	--
c_{cr}	Critical edge distance:	[mm]	--	60	60	60	--	--	--
Shear loads: steel failure with lever arm									
$M^0_{Rk,s}$	Characteristic bending moment, steel class 4.6	[Nm]	6.1	15.0	29.9	52.4	52.4	133.3	259.8
γ_{Ms} 1)	Partial safety factor:	[-]	1.67						
$M^0_{Rk,s}$	Characteristic bending moment, steel class 4.8	[Nm]	6.1	15.0	29.9	52.4	52.4	133.3	259.8
γ_{Ms} 1)	Partial safety factor:	[-]	1.25						
$M^0_{Rk,s}$	Characteristic bending moment, steel class 5.6	[Nm]	7.6	18.8	37.4	65.5	65.5	166.6	324.8
γ_{Ms} 1)	Partial safety factor:	[-]	1.67						
$M^0_{Rk,s}$	Characteristic bending moment, steel class 5.8	[Nm]	7.6	18.8	37.4	65.5	65.5	166.6	324.8
γ_{Ms} 1)	Partial safety factor:	[-]	1.25						
$M^0_{Rk,s}$	Characteristic bending moment, steel class 6.8	[Nm]	9.2	22.5	44.9	78.7	78.7	199.9	389.7
γ_{Ms} 1)	Partial safety factor:	[-]	1.25						
$M^0_{Rk,s}$	Characteristic bending moment, steel class 8.8	[Nm]	12.2	30.0	59.9	104.9	104.9	266.6	519.7
γ_{Ms} 1)	Partial safety factor:	[-]	1.25						

1) In absence of other national regulations

WDI2, WDI2L, WDI2R anchor	**Annex C4**
Performances Essential characteristics in concrete	

Table C4: Essential characteristics in concrete to loads of design method B according to EN 1992-4 for WDI2 SSt, WDI2L SSt anchor

Essential characteristic of resistance to loads of design method B			Performances					
			M6	M8	M10	M12	M16	M20
All load direction								
F^0_{Rk}	Characteristic resistance in C20/25 to C50/60 concrete:	[kN]	2.5	3.5	3.5	6.5	12.5	16.5
γ_{ins}	Installation safety factor:	[-]	1.4					
s_{cr}	Critical spacing:	[mm]	200	200	200	200	260	320
c_{cr}	Critical edge distance:	[mm]	150	150	150	150	195	240
Shear loads: steel failure with lever arm								
$M^0_{Rk,s}$	Characteristic bending moment, steel class A4-50	[Nm]	7.6	18.8	37.4	65.6	166.6	324.8
γ_{Ms} [1)]	Partial safety factor:	[-]	2.38					
$M^0_{Rk,s}$	Characteristic bending moment, steel class A4-70	[Nm]	10.6	6.3	52.4	91.8	233.1	454.7
γ_{Ms} [1)]	Partial safety factor:	[-]	1.56					
$M^0_{Rk,s}$	Characteristic bending moment, steel class A4-80	[Nm]	12.2	30.0	59.9	104.9	266.6	519.7
γ_{Ms} [1)]	Partial safety factor:	[-]	1.34					

1) In absence of other national regulations

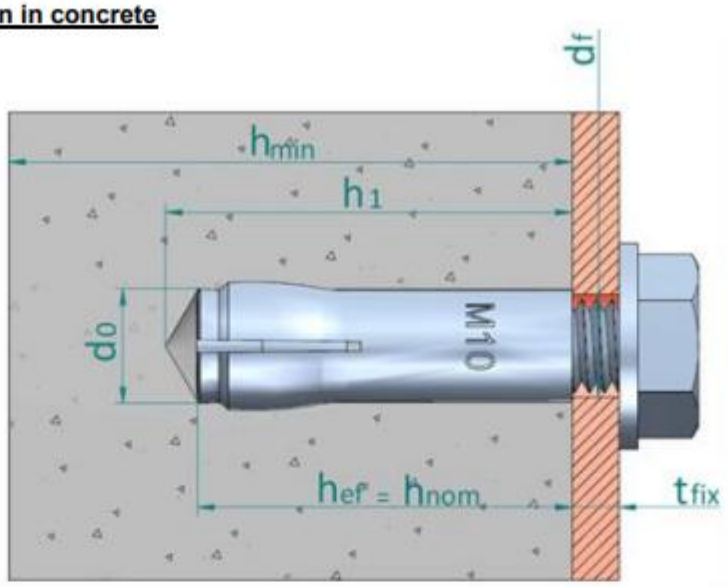
WDI2 SSt, WDI2L SSt anchor	**Annex C5**
Performances Essential characteristic in concrete	

Table C1: Installation parameters in concrete for WDI2, WDI2L, WDI2R, WDI2 SSt, WDI2L SSt anchor

Installation parameters			Performances						
			M6	M8	M10	M12	M12D	M16	M20
d_0	Nominal diameter of drill bit:	[mm]	8	10	12	15	16	20	25
D	Thread diameter:	[mm]	M6	M8	M10	M12	M12	M16	M20
d_f	Fixture clearance hole diameter ≤	[mm]	7	9	12	14	14	18	22
T_{inst}	Maximum installation torque:	[Nm]	4	11	17	38	38	60	100
WDI2, WDI2L			**M6 x 25 ϕ8**	**M8 x 30 ϕ10**	**M10 x 40 ϕ12**	**M12 x 50 ϕ15**	**M12 x 50 ϕ16**	**M16 x 65 ϕ20**	**M20 x 80 ϕ25**
$\ell_{s,min}$	Minimum screwing depth:	[mm]	6	8	10	12	12	16	20
$\ell_{s,max}$	Maximum screwing depth:	[mm]	10	13	17	21	21	27	34
h_1	Depth of drilled hole:	[mm]	27	33	43	54	54	70	86
h_{nom}	Overall anchor embedment depth:	[mm]	25	30	40	50	50	65	80
h_{ef}	Effective anchorage depth:	[mm]	25	30	40	50	50	65	80
h_{min}	Minimum thickness of concrete member:	[mm]	100	100	100	100	100	130	160
s_{min}	Minimum allowable spacing:	[mm]	60	60	80	100	100	130	160
c_{min}	Minimum allowable distance:	[mm]	105	105	140	175	130	230	280
WDI2R			**-**	**M8 x 25 ϕ10**	**M10 x 25 ϕ12**	**M12 x 25 ϕ15**	**-**	**-**	**-**
$\ell_{s,min}$	Minimum screwing depth:	[mm]	--	7	8	10	--	--	--
$\ell_{s,max}$	Maximum screwing depth:	[mm]	--	12	13	13	--	--	--
h_1	Depth of drilled hole:	[mm]	--	28	28	29	--	--	--
h_{nom}	Overall anchor embedment depth:	[mm]	--	25	25	25	--	--	--
h_{ef}	Effective anchorage depth:	[mm]	--	25	25	25	--	--	--
h_{min}	Minimum thickness of concrete member:	[mm]	--	80	80	80	--	--	--
s_{min}	Minimum allowable spacing:	[mm]	--	75	75	75	--	--	--
c_{min}	Minimum allowable distance:	[mm]	--	60	60	60	--	--	--
WDI2 SSt, WDI2L SSt			**M6 x 25 ϕ8**	**M8 x 30 ϕ10**	**M10 x 40 ϕ12**	**M12 x 50 ϕ15**	**--**	**16 x 65 ϕ20**	**M20 x 80 ϕ25**
$\ell_{s,min}$	Minimum screwing depth:	[mm]	6	8	10	12	--	16	20
$\ell_{s,max}$	Maximum screwing depth:	[mm]	10	13	17	21	--	27	34
h_1	Depth of drilled hole:	[mm]	27	33	43	54	--	70	86
h_{nom}	Overall anchor embedment depth:	[mm]	25	30	40	50	--	65	80
h_{ef}	Effective anchorage depth:	[mm]	25	30	40	50	--	65	80
h_{min}	Minimum thickness of concrete member:	[mm]	80	80	80	100	--	130	160
s_{min}	Minimum allowable spacing:	[mm]	60	60	100	100	--	130	160
c_{min}	Minimum allowable distance:	[mm]	65	80	100	130	--	175	210

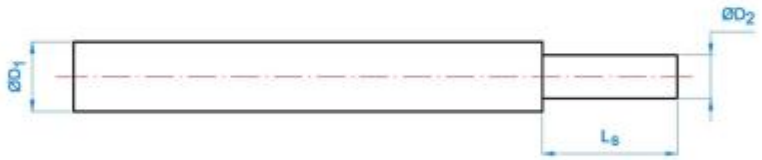
WDI2, WDI2L, WDI2R, WDI2 SSt, WDI2L SSt anchor	
Performances Installation parameters in concrete	**Annex C1**

Installed condition in concrete



h_{ef}:	Effective anchorage depth
h_1:	Depth of drilled hole
h_{nom}:	Overall anchor embedment depth in the concrete
h_{min}:	Minimum thickness of concrete member
t_{fix}:	Thickness of fixture
d_0:	Nominal diameter of drill bit
d_f:	Fixture clearance hole diameter

Setting tool



Setting tool can be assembled with a plastic handle for hand protection purposes

Table A3: Setting tool dimensions

Setting tool dimensions		M6	M8	M10	M12	M16	M20
WDI2, WDI2L, WDI2 SSt, WDI2L SSt							
Ø D_1	[mm]	8.0	10.0	12.0	15.0	20.0	25.0
Ø D_2	[mm]	4.9	6.4	8.2	10.0	13.5	17.0
L_s	[mm]	15.0	18.0	21.0	30.0	36.0	48.0
WDI2R							
Ø D_1	[mm]	--	10.0	12.0	15.0	--	--
Ø D_2	[mm]	--	6,4	8,2	10,0	--	--
L_s	[mm]	--	15.0	16.0	10.4	--	--

WDI2, WDI2L, WDI2R, WDI2 SSt, WDI2L SSt anchor	**Annex A2**
Product description Installed condition in concrete and setting tool	

Table C6: Essential characteristics under fire exposure in concrete C20/25 to C50/50 in any load direction according to EN 1992-4 for WDI2, WDI2L anchor

Essential characteristics under fire exposure in concrete C20/25 to C50/60 in any load direction				Performaces						
				M6	M8	M10	M12	M12D	M16	M20
R30	Characteristic resistance:	$F^0_{Rk,fi30}$ [1]	[kN]	0.2	0.4	0.9	1.7	1,7	3.1	4.9
R60	Characteristic resistance:	$F^0_{Rk,fi60}$ [1]	[kN]	0.2	0.3	0.8	1.3	1,3	2.4	3.7
R90	Characteristic resistance:	$F^0_{Rk,fi90}$ [1]	[kN]	0.1	0.3	0.6	1.1	1,1	2.0	3.2
R120	Characteristic resistance:	$F^0_{Rk,fi120}$ [1]	[kN]	0.1	0.2	0.5	0.8	0,8	1.6	2.5
R30 to R120	Spacing	$s_{cr,fi}$	[mm]	4 x h_{ef}						
	Edge distance	$c_{cr,fi}$	[mm]	2 x hef						

[1] in absence of other national regulations the partial safety factor for resistance under fire exposure $\gamma_{M,fi}$ =1.0 is is recommended
If fire attack is from more than one side, the design method may be taken if edge distance of the anchor is c ≥ 300 mm

Table C7: Essential characteristics under fire exposure in concrete C20/25 to C50/50 in any load direction according to EN 1992-4 for WDI2R anchor

Essential characteristics under fire exposure in concrete C20/25 to C50/60 in any load direction				Performances					
				M6	M8	M10	M12	M16	M20
R30	Characteristic resistance:	$F^0_{Rk,fi30}$ [1]	[kN]	--	0.54	0.54	0.54	--	--
R60	Characteristic resistance:	$F^0_{Rk,fi60}$ [1]	[kN]	--	0.54	0.54	0.54	--	--
R90	Characteristic resistance:	$F^0_{Rk,fi90}$ [1]	[kN]	--	0.44	0.54	0.54	--	--
R120	Characteristic resistance:	$F^0_{Rk,fi120}$ [1]	[kN]	--	0.37	0.43	0.43	--	--
R30 to R120	Spacing	$s_{cr,fi}$	[mm]	--	4 x h_{ef}			--	--
	Edge distance	$c_{cr,fi}$	[mm]	--	2 x hef			--	--

[1] in absence of other national regulations the partial safety factor for resistance under fire exposure $\gamma_{M,fi}$ =1.0 is is recommended
If fire attack is from more than one side, the design method may be taken if edge distance of the anchor is c ≥ 300 mm

Table C8: Essential characteristics under fire exposure in concrete C20/25 to C50/50 in any load direction according to EN 1992-4 for WDI2 SSt, WDI2L SSt anchor

Essential characteristics under fire exposure in concrete C20/25 to C50/60 in any load direction				Performances					
				M6	M8	M10	M12	M16	M20
R30	Characteristic resistance:	$F^0_{Rk,fi30}$ [1]	[kN]	0.20	0.73	0.87	1.63	3.19	4.12
R60	Characteristic resistance:	$F^0_{Rk,fi60}$ [1]	[kN]	0.18	0.59	0.87	1.63	3.19	4.12
R90	Characteristic resistance:	$F^0_{Rk,fi90}$ [1]	[kN]	0.14	0.44	0.87	1.63	3.14	4.12
R120	Characteristic resistance:	$F^0_{Rk,fi120}$ [1]	[kN]	0.10	0.37	0.69	1.30	2.51	3.30
R30 to R120	Spacing	$s_{cr,fi}$	[mm]	4 x h_{ef}					
	Edge distance	$c_{cr,fi}$	[mm]	2 x hef					

[1] in absence of other national regulations the partial safety factor for resistance under fire exposure $\gamma_{M,fi}$ =1.0 is is recommended
If fire attack is from more than one side, the design method may be taken if edge distance of the anchor is c ≥ 300 mm

WDI2, WDI2L, WDI2R, WDI2 SSt, WDI2L SSt anchor	
Performances Essential characteristics under fire exposure	**Annex C7**