

Declaration of Performance

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

Walraven Throughbolt Anchor WT7

DoP No. 21/0366-WT7

1. Unique identification code of the product-type:

Walraven Throughbolt Anchor WT7, Item numbers: 608108075, 608108100, 608110100, 608110120, 608110140, 608112100, 608112120

2. Intended use/es:

Metal anchors for use in concrete: for fixing and/or supporting to concrete, structural elements (which contributes to the stability of the works) or heavy units.

3. Manufacturer:

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

4. System/s of AVCP:

System 1

5. European Assessment Document: EAD 330232-00-0601 "Mechanical Fasteners for use in concrete ", October 2016.

European Technical Assessment: ETA - 21/0366 (23/04/2021).

Technical Assessment Body: Instituto de Ciencias de la Construcción Eduardo Torroja (IETcc).

Notified body: 1219.

6. Declared performance/s:

Essential Characteristic	Performance	Harmonized Technical Specification
WT7 product performance for static or quasi static actions	See Annex C, ETA-21/0366	EAD 330232-00-0601
WT7 SST/A2 and WT7 SST/A4 product performance for static or quasi static actions	See Annex D, ETA-21/0366	EAD 330232-00-0601
Resistance to fire	No performance determined	EOTA TRO20
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.

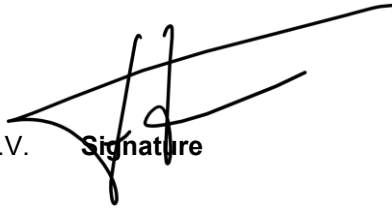
Signed for and on behalf of the manufacturer by:

Frank Nijdam

CCO

J. van Walraven Holding B.V.

Signature

A handwritten signature in black ink, consisting of a stylized 'F' and 'N' combined into a single fluid stroke.

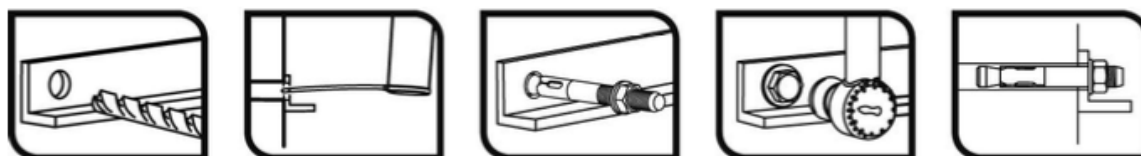
Date 21-10-2025

Place: Mijdrecht

Table C1: Installation parameters for WT7 anchor

WT7: GALVANISED ANCHOR Installation parameters			Performances						
			M6	M8	M10	M12	M14	M16	M20
d ₀	Nominal diameter of drill bit:	[mm]	6	8	10	12	14	16	20
d _f	Fixture clearance hole diameter:	[mm]	7	9	12	14	16	18	22
T _{inst}	Nominal installation torque:	[Nm]	7	20	35	60	90	120	240
Standard embedment depth									
L _{min}	Minimum length of the bolt:	[mm]	60	75	85	100	115	125	160
h _{min}	Minimum thickness of concrete member:	[mm]	100	100	110	130	150	168	206
h ₁	Depth of drilled hole ≥	[mm]	55	65	75	85	100	110	135
h _{nom}	Overall anchor embed depth in concrete:	[mm]	49.5	59.5	66.5	77	91	103.5	125
h _{ef,std}	Effective anchorage depth:	[mm]	40	48	55	65	75	84	103
t _{fix}	Thickness of fixture for DIN 125 washer ≤	[mm]	L-58	L-70	L-80	L-92	L-108	L-122	L-147
t _{fix}	Thickness of fixture for DIN 9021 or DIN 440 washer ≤	[mm]	L-58	L-71	L-80	L-94	L-108	L-124	L-149
s _{min}	Minimum allowable spacing:	[mm]	35	40	50	70	80	90	135
c _{min}	Minimum allowable distance:	[mm]	35	40	50	70	80	90	135
Reduced embedment depth									
L _{min}	Minimum length of the bolt:	[mm]	--	60	70	80	--	110	130
h _{min}	Minimum thickness of concrete member:	[mm]	--	100	100	100	--	130	150
h ₁	Depth of drilled hole:	[mm]	--	50	60	70	--	90	107
h _{nom}	Overall anchor embed depth in concrete:	[mm]	--	46.5	53.5	62	--	84.5	97
h _{ef,red}	Effective anchorage depth:	[mm]	--	35	42	50	--	65	75
t _{fix}	Thickness of fixture for DIN 125 washer ≤	[mm]	--	L-57	L-67	L-77	--	L-103	L-121
t _{fix}	Thickness of fixture for DIN 9021 or DIN 440 washer ≤	[mm]	--	L-58	L-67	L-79	--	L-105	L-123
s _{min}	Minimum allowable spacing:	[mm]	--	40	50	70	--	90	135
c _{min}	Minimum allowable distance:	[mm]	--	40	50	70	--	90	135

Installation process



WT7 anchor

Performances

Installation parameters and installation procedure

Annex C1

Table C2: Characteristic resistance values to tension loads of design method A according to EN 1992-4 for WT7 anchor

WT7: GALVANISED ANCHOR			Performances							
			M6	M8	M10	M12	M14	M16	M20	
STEEL FAILURE										
$N_{Rk,s}$	Characteristic resistance:	[kN]	7.4	13.0	23.7	33.3	49.1	60.1	99.5	
$\gamma_{M,s}$	Partial safety factor:	[-]	1.40	1.40	1.40	1.40	1.40	1.40	1.40	
PULL OUT FAILURE										
Standard embedment depth										
$N_{Rk,p}$	Characteristic resistance in C20/25 uncracked concrete:	[kN]	-- ¹⁾	-- ¹⁾	19.0	-- ¹⁾	-- ¹⁾	-- ¹⁾	-- ¹⁾	
γ_{ins}	Installation safety factor:	[-]	1.0							
Ψ_c	Increasing factors for $N^0_{Rk,p}$:	C30/37	1.22							
		C40/50	1.41							
		C50/60	1.58							
Reduced embedment depth										
$N_{Rk,p}$	Characteristic resistance in C20/25 uncracked concrete:	[kN]	--	10	-- ¹⁾	-- ¹⁾	--	-- ¹⁾	-- ¹⁾	
γ_{ins}	Installation safety factor:	[-]	--	1.0			--	1.0		
Ψ_c	Increasing factors for $N^0_{Rk,p}$:	C30/37	--	1.22			--	1.22		
		C40/50	--	1.41			--	1.41		
		C50/60	--	1.58			--	1.58		
CONCRETE CONE FAILURE AND SPLITTING FAILURE										
Standard embedment depth										
$h_{ef, std}$	Effective anchorage depth:	[mm]	40	48	55	65	75	84	103	
$k_{ucr, N}$	Factor for uncracked concrete:	[-]	11.0							
γ_{ins}	Installation safety factor:	[-]	1.0							
$s_{cr, N}$	Concrete cone failure:	[mm]	$3 \times h_{ef}$							
$c_{cr, N}$		[mm]	$1.5 \times h_{ef}$							
$s_{cr, sp}$	Splitting failure:	[mm]	160	192	220	260	300	280	360	
$c_{cr, sp}$		[mm]	80	96	110	130	150	140	180	
Reduced embedment depth										
$h_{ef, std}$	Effective anchorage depth:	[mm]	--	35	42	50	--	65	75	
$k_{ucr, N}$	Factor for uncracked concrete:	[-]	--	11.0			--	11.0		
γ_{ins}	Installation safety factor:	[-]	--	1.0			--	1.0		
$s_{cr, N}$	Concrete cone failure	[mm]	--	$3 \times h_{ef}$			--	$3 \times h_{ef}$		
$c_{cr, N}$		[mm]	--	$1.5 \times h_{ef}$			--	$1.5 \times h_{ef}$		
$s_{cr, sp}$	Splitting failure:	[mm]	--	140	168	200	--	260	300	
$c_{cr, sp}$		[mm]	--	70	84	100	--	130	150	

¹⁾ Pull out failure is not decisive

WT7 anchor

Performances

Characteristic values for tension loads

Annex C2

Table C3: Characteristic resistance values to shear loads of design method A according to EN 1992-4 for WT7 anchor

WT7: GALVANISED ANCHOR			Performances						
			M6	M8	M10	M12	M14	M16	M20
STEEL FAILURE WITHOUT LEVER ARM									
$V_{Rk,s}$	Characteristic resistance:	[kN]	5.1	9.3	14.7	20.6	28.1	38.4	56.3
k_7	Ductility factor:	[-]	1.0						
$\gamma_{M,s}$	Partial safety factor:	[-]	1.25						
STEEL FAILURE WITH LEVER ARM									
$M^0_{Rk,s}$	Characteristic bending moment:	[Nm]	7.7	19.1	38.1	64.1	102.2	163.1	298.5
$\gamma_{M,s}$	Partial safety factor:	[-]	1.25						
CONCRETE PRYOUT FAILURE									
k_8	k factor:	for $h_{ef,std}$	[-]	1.0	1.0	1.0	2.0	2.0	2.0
		for $h_{ef,red}$	[-]	--	1.0	1.0	1.0	--	2.0
γ_{ins}	Installation safety factor:	[-]	1.0						
CONCRETE EDGE FAILURE									
l_r	Effective length of anchor:	for $h_{ef,std}$	[mm]	40	48	55	65	75	84
		for $h_{ef,red}$	[mm]	--	35	42	50	--	65
d_{nom}	Outside diameter of anchor:	[mm]	6	8	10	12	14	16	20
γ_{ins}	Installation safety factor:	[-]	1.0						

Table C4: Displacements under tension loads for WT7

WT7: GALVANISED ANCHOR			Performances						
			M6	M8	M10	M12	M14	M16	M20
Standard embedment depth									
Tension load in non cracked concrete:		[kN]	3.8	6.6	9.0	12.6	15.6	18.5	25.1
δ_{N0}	Displacement:	[mm]	0.4	0.7	1.0	1.2	1.3	1.9	2.2
$\delta_{N=}$		[mm]	1.8	2.1	2.4	2.6	2.7	3.3	3.8
Reduced embedment depth									
Tension load in non cracked concrete:		[kN]	--	4.8	6.5	8.5	--	12.6	15.6
δ_{N0}	Displacement:	[mm]	--	0.3	0.6	1.0	--	1.6	1.9
$\delta_{N=}$		[mm]	--	1.4	1.7	2.1	--	2.7	3.0

Table C5: Displacements under shear loads for WT7

WT7: GALVANISED ANCHOR			Performances						
			M6	M8	M10	M12	M14	M16	M20
Standard embedment depth									
Shear load in non cracked concrete:		[kN]	2.9	5.3	8.4	11.8	16.0	21.9	32.1
δ_{V0}	Displacement:	[mm]	0.65	2.80	1.75	2.45	2.78	3.53	4.13
$\delta_{V=}$		[mm]	0.98	4.20	2.63	3.68	4.16	5.29	6.19
Reduced embedment depth									
Shear load in non cracked concrete:		[kN]	--	5.3	8.4	11.8	--	21.9	32.1
δ_{V0}	Displacement:	[mm]	--	0.59	1.22	1.10	--	3.10	3.40
$\delta_{V=}$		[mm]	--	0.89	1.83	1.65	--	4.60	5.10

WT7 anchor

Performances

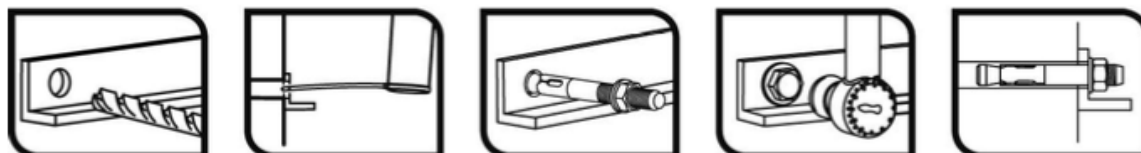
Characteristic values for shear loads
Displacements under tension and shear loads

Annex C3

Table D1: Installation parameters for WT7 SST/A2, WT7 SST/A4 anchor

WT7 SST/A2, WT7 SST/A4: STAINLESS STEEL ANCHOR Installation parameters		Performances					
		M6	M8	M10	M12	M16	M20
d_0	Nominal diameter of drill bit: [mm]	6	8	10	12	16	20
d_f	Fixture clearance hole diameter: [mm]	7	9	12	14	18	22
T_{inst}	Nominal installation torque: [Nm]	7	20	35	60	120	240
Standard embedment depth							
L_{min}	Minimum length of the bolt: [mm]	60	75	85	100	125	160
h_{min}	Minimum thickness of concrete member: [mm]	100	100	110	130	168	206
h_1	Depth of drilled hole $\geq$ [mm]	55	65	75	85	110	135
h_{nom}	Overall anchor embed depth in concrete: [mm]	49.5	59.5	66.5	77	103.5	125
$h_{ef, std}$	Effective anchorage depth: [mm]	40	48	55	65	84	103
t_{fix}	Thickness of fixture for DIN 125 washer $\leq$ [mm]	L-58	L-70	L-80	L-92	L-122	L-147
t_{fix}	Thickness of fixture for DIN 9021 or DIN 440 washer $\leq$ [mm]	L-58	L-71	L-80	L-94	L-124	L-149
s_{min}	Minimum allowable spacing: [mm]	50	65	70	85	110	135
c_{min}	Minimum allowable distance: [mm]	50	65	70	85	110	135
Reduced embedment depth							
L_{min}	Minimum length of the bolt: [mm]	--	60	70	80	--	--
h_{min}	Minimum thickness of concrete member: [mm]	--	100	100	100	--	--
h_1	Depth of drilled hole: [mm]	--	50	60	70	--	--
h_{nom}	Overall anchor embed depth in concrete: [mm]	--	46.5	53.5	62	--	--
$h_{ef, red}$	Effective anchorage depth: [mm]	--	35	42	50	--	--
t_{fix}	Thickness of fixture for DIN 125 washer $\leq$ [mm]	--	L-57	L-67	L-77	--	--
t_{fix}	Thickness of fixture for DIN 9021 or DIN 440 washer $\leq$ [mm]	--	L-58	L-67	L-79	--	--
s_{min}	Minimum allowable spacing: [mm]	--	65	70	85	--	--
c_{min}	Minimum allowable distance: [mm]	--	65	70	85	--	--

Installation process



WT7 SST/A2, WT7 SST/A4 anchor

Performances

Installation parameters and installation procedure

Annex D1

Table D2: Characteristic resistance values to tension loads of design method A according to EN 1992-4 for WT7 SST/A2, WT7 SST/A4 anchor

WT7 SST/A2, WT7 SST/A4: STAINLESS STEEL ANCHOR			Performances					
			M6	M8	M10	M12	M16	M20
STEEL FAILURE								
$N_{Rk,s}$	Characteristic resistance:	[kN]	10.1	19.1	34.3	49.6	85.9	140.7
$\gamma_{M,s}$	Partial safety factor:	[-]	1.68					
PULL OUT FAILURE								
Standard embedment depth								
$N_{Rk,p}$	Characteristic resistance in C20/25 uncracked concrete:	[kN]	-- ¹⁾	12	16	25	35	50
γ_{ins}	Installation safety factor:	[-]	--	1.0	1.2			
Reduced embedment depth								
$N_{Rk,p}$	Characteristic resistance in C20/25 uncracked concrete:	[kN]	--	9	12	16	--	--
γ_{ins}	Installation safety factor:	[-]	--	1.2			--	--
Ψ_c	Increasing factors for $N^0_{Rk,p}$:	C30/37	1.22					
		C40/50	1.41					
		C50/60	1.58					
CONCRETE CONE FAILURE AND SPLITTING FAILURE								
Standard embedment depth								
$h_{ef,std}$	Effective anchorage depth:	[mm]	40	48	55	65	84	103
$k_{ucr,N}$	Factor for uncracked concrete:	[-]	11.0					
γ_{ins}	Installation safety factor:	[-]	1.0		1.2			
Scr,N	Concrete cone failure:	[mm]	3 x h_{ef}					
Ccr,N		[mm]	1.5 x h_{ef}					
Scr,sp	Splitting failure:	[mm]	160	192	220	260	336	412
Ccr,sp		[mm]	80	96	110	130	168	206
Reduced embedment depth								
$h_{ef,std}$	Effective anchorage depth:	[mm]	--	35	42	50	--	--
$k_{ucr,N}$	Factor for uncracked concrete:	[-]	11.0					
γ_{ins}	Installation safety factor:	[-]	--	1.2			--	--
Scr,N	Concrete cone failure:	[mm]	--	3 x h_{ef}			--	--
Ccr,N		[mm]	--	1.5 x h_{ef}			--	--
Scr,sp	Splitting failure:	[mm]	--	140	168	200	--	--
Ccr,sp		[mm]	--	70	84	100	--	-

¹⁾ Pull out failure is not decisive

WT7 SST/A2, WT7 SST/A4 anchor

Performances

Characteristic values for tension loads

Annex D2

Table D3: Characteristic resistance values to shear loads of design method A according to EN 1992-4 for WT7 SST/A2, WT7 SST/A4 anchor

WT7 SST/A2, WT7 SST/A4: STAINLESS STEEL ANCHOR				Performances					
				M6	M8	M10	M12	M16	M20
STEEL FAILURE WITHOUT LEVER ARM									
$V_{Rk,s}$	Characteristic resistance:	[kN]		6.0	10.9	17.4	25.2	47.1	73.5
k_7	Ductility factor:	[-]		1.0					
$\gamma_{M,s}$	Partial safety factor	[-]		1.52					
STEEL FAILURE WITH LEVER ARM									
$M^0_{Rk,s}$	Characteristic bending moment:	[Nm]		9.2	22.5	44.9	78.6	200	389
$\gamma_{M,s}$	Partial safety factor:	[-]		1.52					
CONCRETE PRYOUT FAILURE									
k_8	k factor:	for $h_{ef,std}$	[-]	1.0	1.0	1.0	2.0	2.0	2.0
		for $h_{ef,red}$	[-]	--	1.0	1.0	1.0	--	--
γ_{ins}	Installation safety factor:	[-]		1.0					
CONCRETE EDGE FAILURE									
l_r	Effective length of anchor under shear loads:	for $h_{ef,std}$	[mm]	40	48	55	65	84	103
		for $h_{ef,red}$	[mm]	--	35	42	50	--	--
d_{nom}	Outside diameter of anchor:	[mm]		6	8	10	12	16	20
γ_{ins}	Installation safety factor:	[-]		1.0					

Table D4: Displacements under tension loads for WT7 SST/A2, WT7 SST/A4

WT7 SST/A2, WT7 SST/A4: STAINLESS STEEL ANCHOR			Performances					
			M6	M8	M10	M12	M16	M20
Standard embedment depth								
Tension load in non cracked concrete:		[kN]	4.3	5.7	6.3	9.9	13,8	19.8
δ_{N0}	Displacement:	[mm]	0.42	0.22	0.17	0.19	0.19	0.11
$\delta_{N\infty}$		[mm]	1.33	1.33	1.33	1.33	1.33	1.33
Reduced embedment depth								
Tension load in non cracked concrete:		[kN]	--	4.2	5.7	7.6	--	--
δ_{N0}	Displacement:	[mm]	--	0.07	0.04	0.32	--	--
$\delta_{N\infty}$		[mm]	--	0.60	0.60	0.60	--	--

Table D5: Displacements under shear loads for WT7 SST/A2, WT7 SST/A4

WT7 SST/A2, WT7 SST/A4: STAINLESS STEEL ANCHOR			Performances					
			M6	M8	M10	M12	M16	M20
Standard embedment depth								
Shear load in non cracked concrete:		[kN]	2.8	5.1	8.1	11.8	22.1	34.5
δ_{V0}	Displacement:	[mm]	1.66	1.79	3.83	4.13	5.75	6.59
$\delta_{V\infty}$		[mm]	2.49	2.68	5.74	6.19	8.62	9.88
Reduced embedment depth								
Shear load in non cracked concrete:		[kN]	--	5.1	8.1	11.8	--	--
δ_{V0}	Displacement:	[mm]	--	0.60	3.83	4.13	--	--
$\delta_{V\infty}$		[mm]	--	0.90	5.74	6.19	--	--

WT7 SST/A2, WT7 SST/A4 anchor

Performances

Characteristic values for shear loads
Displacements under tension and shears

Annex D3