Declaration of Performance 1404-CPR-3064

Injection System WIT 200 (**Bonded anchor)**

WURTH
Vana-Tartu mnt85, Rae vald, Harjumaa, Eastonia

Intended use or uses of the construction product according to EAD 15-33-0499-06.01	
Generic type	Bonded anchor for anchorage of threaded rod and rebar.
Base material	cracked and un-cracked concrete C20/25 to C50/60 acc. to ENV 206:2000-12 Cracked: M12 and M16 un-cracked M8 to M24, Rebar 8mm to 25mm
Material	a) Carbon galvanized steel class 5.8, 8.8 and 10.9 according to EN ISO 898-1 for dry internal conditions. b) Stainless steel A4-70 and A4-80 according to EN ISO 3506 for dry internal conditions, external atmospheric exposure (including industrial and marine environment) or exposure in permanently damp internal conditions if no particular aggressive conditions exist. c) High resistant corrosion stainless steel 1.4529, 1.4565 to EN 10088 d) Post-installed reinforcing bars may be used as anchor designed in accordance with the EOTA Technical Report TR 029 and in un-cracked concrete only. Such applications are e.g. concrete overlay or shear dowel connections or the connections of a wall predominantly loaded by shear and compression forces with the foundation, where the reinforcing bars act as dowels to take up shear forces. Connections with post-installed reinforcing bars in concrete structures designed in accordance with EN1992-1-1: 2004 are not covered by this European Technical Approval.
Durability	50 years
Loading	static, quasi-static
Service temperature range	a) -40°C to +40°C (max. short term temperature +40°C and max. long term temperature +24°C), b) -40°C to +80°C (max. short term temperature +80°C and max. long term temperature +50°C).
Use category	Category 1: dry and wet concrete.
Fire Resistance	NPD
Fire Reaction	A1
ETA - 12/0251 issued by	CSTB Paris dated 04/06/2018
On the basis of	EAD 15-33-0499-06.01

Declared performances according to ETAG 001 parts 1 and 5								
Essential Characteristics			**Performance**					
			M8	**M10**	**M12**	**M16**	**M20**	**M24**
Installation parameters								
d	Diameter of anchor bolt or thread diameter	[mm]	8	10	12	16	20	24
d_0	Nominal diameter of drill bit	[mm]	10	12	14	18	24	28
d_{fix}	Diameter of clearance hole in the fixture	[mm]	9	12	14	18	22	26
h_{eff}	Minimum effective anchorage depth	[mm]	60	60	70	80	90	100
	Maximum effective anchorage depth	[mm]	160	200	240	320	400	480
h_1	Depth of the drilling hole	[mm]	80	90	110	125	170	210
h_{min}	Minimum thickness of the concrete member	[mm]	hef + 30mm ≥ 100mm			hef + 2do		
T_{inst}	Nominal torque moment	[Nm]	10	20	30	60	90	140
t_{fix}	Thickness to be fixed	[mm]						
s_{min}	Minimum spacing	[mm]	40	50	60	80	100	120
for c ≥	Edge distance	[mm]						
c_{min}	Minimum edge distance	[mm]	40	50	60	80	100	120
for s ≥	Anchor spacing	[mm]						
Pull-out failure mode								
$\tau_{Rk,ucr}$	Characteristic bond resistance in un-cracked concrete class C20/25 temperature range a)	[MPa]	10.0	9.5	9.0	8.0	7.5	7.5
	Characteristic bond resistance in un-cracked concrete class C20/25 temperature range b)	[MPa]	9.0	8.0	7.5	7.0	6.5	6.0
$\tau_{Rk,cr}$	Characteristic bond resistance in cracked concrete class C20/25 temperature range a)	[MPa]	-	-	3.5	3.5	-	-
	Characteristic bond resistance in cracked concrete class C20/25 temperature range b)	[MPa]	-	-	3.0	3.0	-	-
γ_2	Partial safety factor	[-]	1.5	1.5	1.5	1.5	1.5	1.5
$\psi_{c,ucr}$ C30/37	Increasing factor for un-cracked concrete C30/37	[-]	1.12					
$\psi_{c,ucr}$ C40/50	Increasing factor for un-cracked concrete C40/50	[-]	1.23					
$\psi_{c,ucr}$ C50/60	Increasing factor for un-cracked concrete C50/60	[-]	1.30					
$\psi_{c,cr}$ C30/37	Increasing factor for cracked concrete C30/37	[-]	1.04					
$\psi_{c,cr}$ C40/50	Increasing factor for cracked concrete C40/50	[-]	1.07					
$\psi_{c,cr}$ C50/60	Increasing factor for cracked concrete C50/60	[-]	1.09					
Resistance for splitting failure								
$s_{cr,sp}$	Critical spacing (splitting)	[mm]	2 ccr,sp					
$c_{cr,sp}$	Critical edge distance(splitting)	[mm]	For: $h / h_{ef} \geq 2,0 = 1,0\ h_{ef}$ • $2,0 > h / h_{ef} > 1,3 = 4,6\ h_{ef} - 1,8\ h$ • $h / h_{ef} \leq 1,3 = \leq 1,3$					

Declared performances according to ETAG 001 part 5 - Rebar									
Essential Characteristics			**Performance**						
			Ø 8	**Ø 10**	**Ø 12**	**Ø 14**	**Ø 16**	**Ø 20**	**Ø 25**
Installation parameters									
d	Diameter of anchor bolt or thread diameter	[mm]	8	10	12	14	16	20	25
d_0	Nominal diameter of drill bit	[mm]	12	14	16	18	20	25	32
h_{eff}	Minimum effective anchorage depth	[mm]	60	60	70	75	80	90	100
	Maximum effective anchorage depth	[mm]	160	200	240	280	320	400	500
h_{min}	Minimum thickness of the concrete member	[mm]	hef + 30mm ≥ 100mm			hef + 2do			
s_{min}	Minimum spacing	[mm]	40	50	60	70	80	100	125
c_{min}	Minimum edge distance	[mm]	40	50	60	70	80	100	125
Pull-out failure mode									
$\tau_{Rk,ucr}$	Characteristic bond resistance in un-cracked concrete class C20/25 temperature range a)	[MPa]	7.0	7.5	7.0	7.0	6.5	6.5	6.0
	Characteristic bond resistance in un-cracked concrete class C20/25 temperature range b)	[MPa]	6.5	6.5	6.0	6.0	6.0	5.5	5.5
$\tau_{Rk,\,cr}$	Characteristic bond resistance in cracked concrete class C20/25 temperature range a)	[MPa]	-	-	-	-	-	-	-
	Characteristic bond resistance in cracked concrete class C20/25 temperature range b)	[MPa]	-	-	-	-	-	-	-
γ_2	Partial safety factor	[-]	1.8						
$\psi_{c,ucr}$ C30/37	Increasing factor for un-cracked concrete C30/37	[-]	1.12						
$\psi_{c,ucr}$ C40/50	Increasing factor for un-cracked concrete C40/50	[-]	1.23						
$\psi_{c,ucr}$ C50/60	Increasing factor for un-cracked concrete C50/60	[-]	1.30						
$\psi_{c,cr}$ C30/37	Increasing factor for cracked concrete C30/37	[-]	-						
$\psi_{c,cr}$ C40/50	Increasing factor for cracked concrete C40/50	[-]	-						
$\psi_{c,cr}$ C50/60	Increasing factor for cracked concrete C50/60	[-]	-						
Resistance for splitting failure									
$s_{cr,sp}$	Critical spacing (splitting)	[mm]	2 Ccr,sp						
$c_{cr,sp}$	Critical edge distance(splitting)	[mm]	For: h / h_{ef} ≥ 2,0 = 1,0 h_{ef} • 2,0 > h / h_{ef} > 1,3 = 4,6 h_{ef} - 1,8 h • h / h_{ef} ≤ 1,3 = ≤ 1,3						

The performances of the product identified by the above identification code are in conformity with the declared performance.
This declaration of performance is issued under the sole responsibility of WURTH.
Signed for and behalf of the manufacturer by:

Name and functions	Place and date of issue	Signature
Rainer Raidma Product department manager	Assaku 14.12.2018