Declaration of Performance DoP-21-1020-CPR-0721

Throughbolt AWA (Torque controlled expansion anchor made of zinc coated steel)
JCP Construction Products,
Unit 14 Teddington Business Park, Station Rd, Teddington, Middlesex TW11 9BQ
Telephone +44 (0)208 943 1800

Intended use or uses of the products according to EAD 330232-00-0601	
Generic type	Torque controlled expansion anchor
Base material	Non-cracked concrete C20/25 to C50/60 acc. EN 206
Batch number	Marked on individual boxes
Material	Zinc plated carbon steel
Durability	Dry internal conditions
Loading	Static, quasi-static
ETA 19/0786 issued by	TZUS (TECHNICKÝ A ZKUŠEBNÍ ÚSTAV STAVEBNÍ PRAHA, S.P.)
On the basis of	EAD 330232-00-0601
Certificate of Conformity 1020-CPR-XXXX issued by	TZUS (TECHNICKÝ A ZKUŠEBNÍ ÚSTAV STAVEBNÍ PRAHA, S.P.)
Under system	1

Declared performances according to EAD 330232-00-0601									
Essential Characteristics			Performance						
			M06	M08	M10	M12	M16	M20	M24
Installation parameters (Standard Embedment depth)									
d_o	Nominal diameter of drill bit	[mm]	6	8	10	12	16	20	24
d_f	Fixture clearance hole	[mm]	7	9	12	14	18	22	26
h_{ef}	Effective anchorage depth	[mm]	40	50	55	65	85	105	120
h_{nom}	Minimum installation depth	[mm]	48	60	67	77	105	125	143
h_1	Depth of drill hole to deepest point	[mm]	55	65	75	85	115	135	155
h_{min}	Minimum thickness of concrete member	[mm]	100	100	110	130	170	210	240
T_{inst}	Nominal torque moment	[mm]	7	20	35	55	100	150	280
S_{min}	Minimum spacing	[mm]	50	65	70	85	110	135	155
for C≥	Edge distance	[mm]	50	65	70	85	110	135	155
C_{min}	Minimum edged distance	[mm]	50	65	70	85	110	135	155
for S≥	Anchor spacing	[mm]	50	65	70	85	110	135	155
Tensile steel failure									
$N_{Rk,s}$	Characteristic tensile steel failure	[kN]	5.7	10.5	16.6	24.2	45.8	70.7	102.0
γ_{Ms}	Partial safety factor	[-]	1.94					2.04	
Pull-out failure									
$N_{Rk,p,cr}$	Characteristic tensile load in cracked concrete C20/25	[kN]	n/a	n/a	n/a	n/a	n/a	n/a	n/a
$N_{Rk,p,ucr}$	Characteristic tensile load in non-cracked concrete C20/25	[kN]	-	-	-	24	36	42	55
γ_{Mp}	Partial safety factor (Includes γ_{inst}=1.0)	[-]	1.5						
$S_{cr,N}$	Critical spacing ($3\times h_{ef}$)	[mm]	120	150	165	195	255	315	360
$C_{cr,N}$	Critical edge distance ($1.5\times h_{ef}$)	[mm]	60	75	82.5	97.5	127.5	157.5	180
Ψc C30/37	Increasing factor for concrete C30/37	[-]	1.0	1.08			1.12		
Ψc C40/50	Increasing factor for concrete C40/50	[-]	1.0	1.15			1.23		
Ψc C50/60	Increasing factor for concrete C50/60	[-]	1.0	1.19			1.30		
Splitting failure									
$S_{cr,sp}$	Critical spacing (Splitting)	[mm]	160	200	220	260	340	420	480
$C_{cr,sp}$	Critical edge distance (Splitting)	[mm]	80	100	110	130	170	210	240
Displacement under tensile loading									
N_{cr}	Service tensile loads in cracked concrete	[kN]	n/a	n/a	n/a	n/a	n/a	n/a	n/a
$\delta_{N0,cr}$	Short term displacement under tensile loads	[mm]	n/a	n/a	n/a	n/a	n/a	n/a	n/a
$\delta N_{\infty,cr}$	Long term displacement under tensile loads	[mm]	n/a	n/a	n/a	n/a	n/a	n/a	n/a
N_{ucr}	Service tensile loads in non-cracked concrete	[kN]	2.6	5.2	9.0	11.4	17.1	20.0	26.2
$\delta N0_{,ucr}$	Short term displacement under tensile loads	[mm]	0.7	0.25	1.05	1.9	2.13	1.54	1.37
$\delta N_{\infty,ucr}$	Long term displacement under tensile loads	[mm]	2.41	2.41	2.41	2.41	2.41	2.41	2.41

Shear steel failure									
$V^0_{Rk,s}$	Characteristic shear steel failure	[kN]	3.2	5.8	9.1	13.3	24.7	38.6	55.6
$M^0_{Rk,s}$	Characteristic bending moment	[Nm]	4.8	11.8	23.6	41.3	104.9	204.5	353.6
γ_{Ms}	Partial safety factor	[-]	1.62					1.7	
Concrete pryout resistance									
k	Concrete pry-out failure factor	[-]	1.0	1.0	1.0	2.0	2.0	2.0	2.0
γ_{Mc}	Partial safety factor (Includes γ_{inst}=1.0)	[-]	1.5						
Shear concrete edge failure									
l_{ef}	Effective anchorage length	[mm]	40	50	55	65	85	105	120
Displacement under shear load									
V	Service shear load in concrete	[kN]	1.5	2.7	4.4	6.3	11.8	18.4	26.5
δ_{V0}	Short term displacement under shear load	[mm]	0.57	0.57	0.56	1.19	2.02	3.58	4.29
$\delta V\infty$	Long term displacement under shear load	[mm]	0.85	0.85	0.84	1.78	3.03	5.38	6.43

The performance data above relates to the following product codes

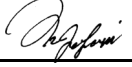
Thread size	Marking	L	$t_{fix,std}$	$t_{fix,red}$	Product Code
[d]	[d×L]	[mm]	[mm]	[mm]	-
M6	M6x60	60	3	-	AWA06060
	M6x80	80	23	-	AWA06080
M8	M8x65	65	-	8	AWA08065*
	M8x75	75	3	18	AWA08075*
	M8x90	90	18	33	AWA08090*
	M8x100	100	28	43	AWA08100*
	M8x115	115	43	58	AWA08115*
	M8x130	130	58	73	AWA08130*
M10	M10x75	75	-	8	AWA10075
	M10x90	90	8	23	AWA10090
	M10x100	100	18	33	AWA10100
	M10x120	120	38	53	AWA10120
	M10x150	150	68	83	AWA10150
M12	M12x90	90	-	10	AWA12090
	M12x100	100	5	20	AWA12100
	M12x110	110	15	30	AWA12110
	M12x120	120	25	40	AWA12120
	M12x140	140	45	60	AWA12140
	M12x160	160	65	80	AWA12160
	M12x180	180	85	100	AWA12180
	M12x200	200	105	120	AWA12200
M16	M16x125	125	-	11	AWA16125
	M16x145	145	16	31	AWA16145
	M16x170	170	41	56	AWA16170
	M16x220	220	91	106	AWA16220
M20	M20x130	130	-	5	AWA20130
	M20x170	170	20	45	AWA20170
	M20x215	215	65	90	AWA20215
M24	M24x180	180	5	33	AWA24180
	M24x260	260	85	113	AWA24260

*: Reduced embedment depths use restricted to the anchoring of structural components which are statically indeterminate.

The performances of the product identified by the above product codes are in conformity with the declared performance

This Declaration of performance is issued under the sole responsibility of JCP Construction Products

Signed for and on behalf of the manufacturers

Name and function	Place and date of issue	Signature
Reza Jafari	Teddington	
Technical Manager	December 2021	