Declaration of Performance No. 1219-CPR-0020(1)

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 ETAG 001 Parts 1 and 2	
Generic type	Torque controlled expansion anchor
Base material	Non-cracked concrete C20/25 to C50/60 acc. EN 206-2:2003
Batch number	Marked on individual boxes
Material	Zinc plated carbon steel
Durability	Dry internal conditions
Loading	Static, quasi-static
ETA 08/0169 issued by	CSIC
On the basis of	ETAG 001
Certificate of Conformity 1219-CPD-0020 issued by	CSIC
Under system	1

Declared performances according to ETAG 001 Parts 1 and 2									
Essential Characteristics			Performance						
			M06	M08	M10	M12	M16	M20	
Installation parameters									
d_o	Nominal diameter of drill bit	[mm]	6	8	10	12	16	20	
d_f	Fixture clearance hole	[mm]	7	9	12	14	18	22	
h_{ef}	Effective anchorage depth	[mm]	40	48	55	65	84	103	
h_{nom}	Minimum installation depth	[mm]	49.5	59.5	66.5	77	103.5	125	
h_1	Depth of drill hole to deepest point	[mm]	55	65	75	85	110	135	
h_{min}	Minimum thickness of concrete member	[mm]	100	100	110	130	168	206	
T_{inst}	Nominal torque moment	[mm]	7	20	35	60	120	240	
S_{min}	Minimum spacing	[mm]	50	65	70	85	110	135	
for C≥	Edge distance	[mm]	50	65	70	85	110	135	
C_{min}	Minimum edged distance	[mm]	50	65	70	85	110	135	
for S≥	Anchor spacing	[mm]	50	65	70	85	110	135	
Tensile steel failure									
$N_{Rk,s}$	Characteristic tensile steel failure	[kN]	7.7	16.4	25.6	35.4	51.7	104.4	
$\gamma M,s$	Partial safety factor	[-]	1.40	1.40	1.40	1.43	1.43	1.47	
Pull-out failure									
NRk,p,cr	Characteristic tensile load in cracked concrete C20/25	[kN]	n/a	n/a	n/a	n/a	n/a	n/a	
NRk,p,ucr	Characteristic tensile load in non-cracked concrete C20/25	[kN]	-	12	16	25	35	50	
$\gamma M,p$	Partial safety factor (Includes $\gamma 2$)	[-]	-	1.5	1.8	1.8	1.8	1.8	
$S_{cr,N}$	Critical spacing	[mm]	120	144	165	195	252	309	
$C_{,cr,N}$	Critical edge distance	[mm]	60	72	83	98	126	155	
ΨcC30/37	Increasing factor for concrete C30/37	[-]	1.22						
ΨcC40/50	Increasing factor for concrete C40/50	[-]	1.41						
ΨcC50/60	Increasing factor for concrete C50/60	[-]	1.55						
Splitting failure									
$S_{cr,sp}$	Critical spacing (Splitting)	[mm]	160	192	220	260	336	412	
$C_{cr,sp}$	Critical edge distance (Splitting)	[mm]	80	96	110	130	168	206	
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	
$\delta N0_{,cr}$	Short term displacement under tensile loads	[mm]	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_{ucr}	Service tensile loads in non-cracked concrete	[kN]	2.8	5.0	6.0	9.3	16.0	17.0	
$\delta N0_{,ucr}$	Short term displacement under tensile loads	[mm]	0.7	1.12	1.07	1.32	2.38	3.56	
$\delta N\infty_{,ucr}$	Long term displacement under tensile loads	[mm]	1.47	2.34	2.24	2.77	4.99	7.47	

Shear steel failure									
$V_{,Rk,s}$	Characteristic shear steel failure	[kN]	5.1	9.3	14.7	20.6	38.4	56.3	
$M^0_{Rk,s}$	Characteristic bending moment	[Nm]	7.7	19.1	38.1	64.1	163.1	298.5	
$\gamma m,sV$	Partial safety factor	[-]	1.25						
Concrete pryout resistance									
k	Factor in equation (5.6) of ETAG 001 Annex C §5.2.3.3	[-]	1.0	1.0	1.0	2.0	2.0	2.0	
$\gamma m,c$	Partial safety factor	[-]	1.5						
Shear concrete edge failure									
l_{ef}	Effective anchorage length	[mm]	40	48	55	65	84	103	
Displacement under shear load									
V	Service shear load in concrete	[kN]	2.9	5.3	8.4	11.8	21.9	32.1	
δ_{v0}	Short term displacement under shear load	[mm]	0.65	2.8	1.75	2.45	3.53	4.13	
$\delta V\infty$	Long term displacement under shear load	[mm]	0.98	4.2	2.63	3.68	5.29	6.19	

The performance data above relates to the following product codes

d	Marking d_o/L	L [mm]	t_{fix} [mm]	Product Code
M6	MTHM6x60	60	2	AWA06060
	MTHM6x80	80	22	AWA06080
M8	MTH8x75	75	5	AWA08075
	MTH8x90	90	20	AWA08090
	MTH8x115	115	45	AWA08115
	MTH8x130	130	60	AWA08130
M10	MTH10x90	90	10	AWA10090
	MTH10x120	120	40	AWA10120
	MTH10x150	150	70	AWA10150
M12	MTH12x110	110	18	AWA12110
	MTH12x140	140	48	AWA12140
	MTH12x160	160	68	AWA12160
	MTH12x180	180	88	AWA12180
M16	MTH16x125	125	5	AWA16125
	MTH16x145	145	25	AWA16145
	MTH16x170	170	48	AWA16170
M20	MTH20x170	170	23	AWA20170

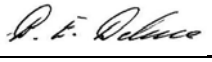
Ammendments

(1) CPD Changed to CPR 27/11/2014

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
Brian Deluce	Teddington	
Technical Manager	27th November 2014	