



Declaration of Performance No. 0756-CPR-0215

Heavy Duty Anchor (Torque controlled expansion anchor made of zinc coated steel)
 JCP Construction Products,
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Intended use or uses of the products according to EAD 330232-00-0601	
Generic type	Torque controlled expansion anchor
Base material	Cracked and 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, fire and seismic
Fire Resistance	120mins
Fire Reaction	EAD 330232-00-0601
ETA 07/0331 issued by	DIBt
On the basis of	ETAG 001
Certificate of Conformity 0756-CPD-0215 issued by	Technische Universitat Darmstadt
Under system	1

Declared performances according to EAD 330232-00-0601								
Essential Characteristics			Performance					
			M6	M8	M10	M12	M16	M20
Installation parameters								
d_o	Nominal diameter of drill bit	[mm]	10	12	15	18	24	28
d_f	Fixture clearance hole	[mm]	12	14	17	20	26	31
h_{ef}	Effective anchorage depth	[mm]	50	60	71	80	100	125
h_1	Depth of drill hole to deepest point	[mm]	65	80	95	105	130	160
h_{min}	Minimum thickness of concrete member	[mm]	100	120	140	160	200	250
T_{inst}	Nominal torque moment	[mm]	15(10)	30(25)	50(55)	80(70)	160	280
Figures (-) are for SLSK anchors								
S_{min}	Minimum spacing	[mm]	50	60	70	80	100	125
for $C \geq$	Edge distance	[mm]	80	100	120	160	180	300
C_{min}	Minimum edged distance	[mm]	50	60	70	80	100	180
for $S \geq$	Anchor spacing	[mm]	100	120	175	200	220	540
Tensile Steel failure								
$N_{Rk,s}$	Characteristic tensile steel failure	[kN]	16	29	46	67	126	196
$\gamma_{M,s}$	Partial safety factor	[-]	1.5					
Pull-out failure								
$NR_{k,p,cr}$	Characteristic tensile resistance in cracked concrete C20/25	[kN]	5	12	16	25	36	50
$NR_{k,p,ucr}$	Characteristic tensile resistance in non-cracked concrete C20/25	[kN]	18	20	30	35	50	72
$\gamma_{M,p}$	Partial safety factor (Includes γ_2)	[-]	1.5					
$\Psi_{c30/37}$	Increasing factor for concrete C30/37	[-]	1.22					
$\Psi_{c40/50}$	Increasing factor for concrete C40/50	[-]	1.41					
$\Psi_{c50/60}$	Increasing factor for concrete C50/60	[-]	1.55					
Splitting failure (The highest resistance of Case 1 and Case 2 may be used)								
Case 1								
$N^oR_{k,sp}$	Characteristic Resistance in C20/25 concrete	[kN]	9	12	20	30	40	(1)
$S_{cr,sp}$	Critical spacing (Splitting)	[mm]	150	180	213	240	300	375
$C_{cr,sp}$	Critical edge distance (Splitting)	[mm]	75	90	106.5	120	150	188
Case 2								
$S_{cr,sp}$	Critical spacing (Splitting)	[mm]	250	300	355	400	500	625
$C_{cr,sp}$	Critical edge distance (Splitting)	[mm]	125	150	177.5	200	250	313

Concrete cone failure								
h_{ef}	Effective anchorage depth	[mm]	46	60	70	85	100	115
$S_{cr,N}$	Critical spacing	[mm]	138	180	210	255	300	345
$C_{cr,N}$	Critical edge distance	[mm]	69	90	105	127.5	150	172.5
$\gamma_{M,s}$	Partial safety factor	[-]	1.5					
Displacement under tensile loading								
N_{cr}	Service tensile loads in cracked concrete	[kN]	2.4	5.7	7.6	12.3	17.1	24.0
$\delta N_{0,cr}$	Short term displacement under tensile loads	[mm]	0.5	0.5	0.5	0.7	0.8	0.9
$\delta N_{\infty,cr}$	Long term displacement under tensile loads	[mm]	2.0	2.0	1.3	1.3	1.3	1.4
$N_{u,cr}$	Service tensile loads in non-cracked concrete	[kN]	8.5	9.5	14.3	17.2	24.0	34.0
$\delta N_{0,u,cr}$	Short term displacement under tensile loads	[mm]	0.8	1	1.1	1.1	1.1	0.3
$\delta N_{\infty,u,cr}$	Long term displacement under tensile loads	[mm]	3.4	3.4	1.7	1.7	1.7	1.4
Shear steel failure JHD								
$V_{f,Rk,s}$	Characteristic shear steel failure without lever arm	[kN]	16	25	36	63	91	122
$M^0_{Rk,s}$	Characteristic shear steel failure with lever arm	[Nm]	12	30	60	105	266	519
$\gamma_{m,sV}$	Partial safety factor	[-]	1.25					
Shear steel failure NHD and SLSK								
$V_{f,Rk,s}$	Characteristic shear steel failure without lever arm	[kN]	18	30	48	73	126	150
$M^0_{Rk,s}$	Characteristic shear steel failure with lever arm	[Nm]	12	30	60	105	266	519
$\gamma_{m,sV}$	Partial safety factor	[-]	1.25					
Concrete pryout failure								
k	Factor in equation 95.6) ETAG 001 Annex C §5.2.3.3	[-]	1.8	2.0				
$\gamma_{M,cp}$	Partial safety factor	[-]	1.5					
Shear concrete edge failure								
l_{ef}	Effective anchorage length	[mm]	50	60	71	80	100	125
Displacement on shear load JHD								
V	Service shear load in cracked and non-cracked concrete	[kN]	9.1	14.0	20.7	35.1	52.1	77.0
δ_{V0}	Short term displacement under shear load	[mm]	2.5	2.1	2.7	3.0	5.1	4.3
δV_{∞}	Long term displacement under shear load	[mm]	3.8	3.1	4.1	4.5	7.6	6.5
Displacement on shear load NHD and SLSK								
V	Service shear load in cracked and non-cracked concrete	[kN]	10.1	17.1	27.5	41.5	72.0	77.0
δ_{V0}	Short term displacement under shear load	[mm]	2.9	2.5	3.6	3.5	7.0	4.3
δV_{∞}	Long term displacement under shear load	[mm]	4.4	3.8	5.4	5.3	10.5	6.5
Characteristic tensile fire resistance								
$N_{Rk,fi30}$	Fire resistance duration = 30 minutes	[kN]	1.0	1.9	4.3	6.3	8.8	15.9
$N_{Rk,fi60}$	Fire resistance duration = 60 minutes	[kN]	0.8	1.5	3.2	4.6	8.6	13.5
$N_{Rk,fi90}$	Fire resistance duration = 90 minutes	[kN]	0.6	1.0	2.1	3.0	5.0	7.7
$N_{Rk,fi120}$	Fire resistance duration = 120 minutes	[kN]	0.4	0.8	1.5	2.0	3.1	4.9
Characteristic shear fire resistance without lever arm								
$V_{Rk,fi30}$	Fire resistance duration = 30 minutes	[kN]	1.0	1.9	4.3	6.3	11.6	18.3
$V_{Rk,fi60}$	Fire resistance duration = 60 minutes	[kN]	0.8	1.5	3.2	4.6	8.6	13.5
$V_{Rk,fi90}$	Fire resistance duration = 90 minutes	[kN]	0.6	1.0	2.1	3.0	5.0	7.7
$V_{Rk,fi120}$	Fire resistance duration = 120 minutes	[kN]	0.4	0.8	1.5	2.0	3.1	4.9
Characteristic shear fire resistance with lever arm								
$V_{Rk,fi30}$	Fire resistance duration = 30 minutes	[kN]	0.8	2.0	5.6	9.7	24.8	42.4
$V_{Rk,fi60}$	Fire resistance duration = 60 minutes	[kN]	0.6	1.5	4.1	7.2	18.3	29.8
$V_{Rk,fi90}$	Fire resistance duration = 90 minutes	[kN]	0.4	1.0	2.7	4.7	11.9	17.1
$V_{Rk,fi120}$	Fire resistance duration = 120 minutes	[kN]	0.3	0.8	1.9	3.1	6.6	10.7

The previous performance data relates to the following product codes

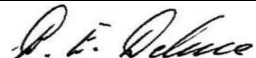
d	Marking	t_{fix} [mm]	Product Code		
			JHD	NHD	SLSK
M6	SZM6/10-10	10	JHD0610		SLSK10/10
	SZM6/10-25	25			SLSK10/25
	SZM6/10-30	30	JHD0630		
	SZM6/10-45	45			SLSK10/45
	SZM6/10-50	50	JHD0650		
M8	SZM8/12-10	10	JHD0810	NHD0810	SLSK12/10
	SZM8/12-25	25			SLSK12/25
	SZM8/12-30	30	JHD0830	NHD0830	
	SZM8/12-50	50	JHD0850	NHD0850	SLSK12/50
M10	SZM10/15-10	10			SLSK15/10
	SZM10/15-15	15	JHD1015	NHD1015	
	SZM10/15-25	25	JHD1025	NHD1025	SLSK15/25
	SZM10/15-45	45	JHD1045	NHD1045	
	SZM10/15-50	50			SLSK15/50
M12	SZM12/18-10	10	JHD1210	NHD1210	
	SZM12/18-20	20	JHD1220	NHD1220	SLSK18/20
	SZM12/18-40	40	JHD1240	NHD1240	SLSK18/40
	SZM12/18-70	70	JHD1270	NHD1270	
M16	SZM16/24-10	10	JHD1610		
	SZM16/24-20	20	JHD1620	NHD1620	
	SZM16/24-25	25	JHD1625		
	SZM16/24-50	50	JHD1650	NHD1650	
M20	SZM20/28-25	25	JHD2030		
	SZM20/28-50	50	JHD2060		

Amendments		
[1]	CPD changed to CPR	03/11/2017
[2]	ETAG changed to EAD	04/11/2017
[3]	CPD Range changed	05/11/2017
[4]	ETA changed	06/11/2017

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	03/11/2017	