



Declaration of Performance No. 1488-CPD-0359/W

Injection Resin JFV380SF, JFV300SF & JFEA410SFW Vinylester Resin
 JCP Construction Products,
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Intended use or uses of the products according to EAD 330499-00-0601										
Generic type		Bonded Anchor								
Base material		Cracked and Non-cracked concrete C20/25 to C50/60 acc. EN 206-2:2003 The anchor may be installed in dry, wet, and flooded, holes.								
Batch number		Marked on individual tubes								
Plating finish		Steel, zinc plated $\geq 5 \mu\text{m}$ acc. to EN ISO 4042 or Steel, Hot-dip galvanized $\geq 40 \mu\text{m}$ acc. to EN ISO 1461 and EN ISO 10684								
Steel elements		1) Galvanised carbon steel Grade 5.8, 8.8 and 10.9 to EN ISO 891-1 2) Stainless Steel 1.4401, 1.4404 or 1.457 Property class 70 or 80 to EN ISO 3506 3) High corrosion resistant steel 1.4529, EN 10088-1								
Durability		1) Dry Internal conditions 2) Internal and external atmospheric exposure including industrial and marine environment, or exposure in permanently damp internal conditions, if no particularly aggressive conditions exist 3) Aggressive atmospheric conditions								
Loading		Static, quasi-static								
ETA 15/0704 issued by										
		ZUS								
On the basis of										
		330499-00-0601								
Certificate of Conformity 1020-CPR-090-034765 issued by										
		ZUS								
Under system										
		1								
Temperature range(s)		-40°C to +80°C (Max short term temperature +80°C and Max long term temperature +50°C)								
Reaction to fire		Anchorage satisfies requirements for Class A1								
Declared performances according to EAD 330499-00-0601										
Essential Characteristics					Performance					
					M08	M10	M12	M16	M20	M24
Installation parameters										
d_o	Nominal diameter of drill bit	[mm]	10	12	14	18	22	26	35	
d_f	Fixture clearance hole	[mm]	10	12	14	18	22	26	35	
d_b	Bruah diameter	[mm]	14	14	20	20	29	29	40	
h_{ef}	Effective anchorage depth	[mm]	$h_{ef, min} = 8d, h_{ef, max} = 20d$							
h_{min}	Minimum thickness of concrete member	[mm]	$h_{ef} + 30\text{mm}, \text{min } 100\text{mm}$				$h_{ef} + 2 \cdot d_o$			
T_{inst}	Nominal torque moment	[mm]	10	20	40	80	150	200	275	
S_{min}	Minimum spacing	Minimum Embedment	[mm]	35	40	50	65	80	96	120
C_{min}	Minimum edged distance		[mm]	35	40	50	65	80	96	120
S_{min}	Minimum spacing	Maximum Embedment	[mm]	80	100	120	160	200	240	300
C_{min}	Minimum edged distance		[mm]	80	100	120	160	200	240	300
Tensile Steel failure										
NRk,s	Characteristic tensile resistance steel Grade 5.8	[kN]	18	29	42	79	123	177	281	
NRk,s	Characteristic tensile resistance steel Grade 8.8	[kN]	29	46	67	126	196	282	449	
$\gamma_{M,s}$	Partial safety factor		1.5							
NRk,s	Characteristic tensile resistance stainless steel Grade A4-70	[kN]	26	41	59	110	172	247	393	
$\gamma_{M,s}$	Partial safety factor		1.9							
NRk,s	Characteristic tensile resistance stainless steel Grade A4-80	[kN]	29	46	67	126	196	282	449	
$\gamma_{M,s}$	Partial safety factor		1.6							
NRk,s	Characteristic tensile resistance stainless steel 1.4529	[kN]	26	41	59	110	172	247	393	
$\gamma_{M,s}$	Partial safety factor		1.5							

Essential Characteristics			Performance							
			M08	M10	M12	M16	M20	M24	M30	
Combined pull-out and concrete cone failure in non-cracked concrete										
	Characteristic bond resistance in non-cracked concrete C20/25									
$\tau_{Rk,ucr}$	Dry and wet concrete	[N/mm ²]	11	10	9.5	9.0	8.5	8.0	5.5	
$\gamma_{M,p}$	Partial safety factor	[-]	1.8						2.1	
$\tau_{Rk,ucr}$	Flooded concrete	[N/mm ²]	9.0	8.0	7.5	7.0	7.0	6.0	/	
$\gamma_{M,p}$	Partial safety factor	[-]	2.1						/	
$\Psi_{cC50/60}$	Factor for concrete C50/60	[-]	1.0						/	
Combined pull-out and concrete cone failure in cracked concrete										
	Characteristic bond resistance in cracked concrete C20/25									
$\tau_{Rk,cr}$	Dry and wet concrete	[N/mm ²]	/	5.0	5.0	5.0	4.5	4.5	/	
$\gamma_{M,p}$	Partial safety factor	[-]	/	1.8						/
$\tau_{Rk,cr}$	Flooded concrete	[N/mm ²]	/	5.0	5.0	5.0	4.5	4.5	/	
$\gamma_{M,p}$	Partial safety factor	[-]	/	2.1						/
	Factor for Cracked concrete									
$\Psi_{cC30/37}$	Increasing factor for concrete C30/37	[-]	/	1.12						/
$\Psi_{cC40/50}$	Increasing factor for concrete C40/50	[-]	/	1.23						/
$\Psi_{cC50/60}$	Increasing factor for concrete C50/60	[-]	/	1.30						/
Splitting failure										
$S_{cr,sp}$	Critical spacing (Splitting)	[mm]	3.0h _{ef}							
$C_{cr,sp}$	Critical edge distance (Splitting)	[mm]	1.5h _{ef}							
$\gamma_{M,p}$	Partial safety factor	[-]	1.8							
Shear steel failure without bending arm										
$V_{iRk,s}$	Characteristic shear steel failure Grade 5.8	[kN]	9	15	21	39	61	88	140	
$V_{iRk,s}$	Characteristic shear steel failure Grade 8.8	[kN]	15	23	34	63	98	141	224	
$\gamma_{m,sV}$	Partial safety factor	[-]	1.25							
$V_{iRk,s}$	Characteristic shear stainless steel failure Grade A4-70	[kN]	13	20	30	55	86	124	196	
$\gamma_{m,sV}$	Partial safety factor	[-]	1.56							
$V_{iRk,s}$	Characteristic shear stainless steel failure Grade A4-80	[kN]	15	23	34	63	98	141	224	
$\gamma_{m,sV}$	Partial safety factor	[-]	1.33							
$V_{iRk,s}$	Characteristic shear stainless steel failure 1.4529	[kN]	13	20	30	55	86	124	196	
$\gamma_{m,sV}$	Partial safety factor	[-]	1.25							
Shear steel failure with bending arm										
$M^0_{Rk,s}$	Characteristic bending moment Grade 5.8	[Nm]	19	37	66	166	325	561	1125	
$M^0_{Rk,s}$	Characteristic bending moment Grade 8.8	[Nm]	30	60	105	266	519	898	1799	
$\gamma_{m,sV}$	Partial safety factor	[-]	1.25							
$M^0_{Rk,s}$	Characteristic bending moment Grade A4-70	[Nm]	26	52	92	233	454	786	1574	
$\gamma_{m,sV}$	Partial safety factor	[-]	1.56							
$M^0_{Rk,s}$	Characteristic bending moment Grade A4-80	[Nm]	30	60	105	266	519	898	1799	
$\gamma_{m,sV}$	Partial safety factor	[-]	1.33							
$M^0_{Rk,s}$	Characteristic bending moment 1.4529	[Nm]	26	52	92	233	454	786	1574	
$\gamma_{m,sV}$	Partial safety factor	[-]	1.25							
Concrete pryout failure										
k	Factor in EAD 330499-00-0601, Para. 2.2.8, Table 2.6	[-]	2.0							
$\gamma_{M,c}$	Partial safety factor	[-]	1.5							
Shear concrete edge failure										
l_{ef}	Effective anchorage length	[mm]	Effective Embedment Depth (h _{ef})							
$\gamma_{M,c}$	Partial safety factor	[-]	1.5							

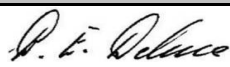
Essential Characteristics			Performance						
			M08	M10	M12	M16	M20	M24	M30
Displacement under Tensile and Shear loading									
Non_cracked concrete									
F	Tensile load	[kN]	6.3	7.9	11.9	15.9	23.8	29.8	45.6
δN_0	Short term displacement under tensile loads	[mm]	0.3	0.3	0.3	0.3	0.4	0.5	0.5
δN_∞	Long term displacement under tensile loads	[mm]	0.5	0.5	0.5	0.5	0.5	0.5	0.5
F	Shear Load	[kN]	3.1	5.0	7.2	13.5	21.0	30.3	48.0
δV_0	Short term displacement under Shear loads	[mm]	1.5	1.5	1.5	1.5	2.0	2.5	2.5
δV_∞	Long term displacement under Sheare loads	[mm]	2.3	2.3	2.3	2.3	3.0	3.8	3.8
Cracked concrete									
F	Tensile load in concrete	[kN]	/	5.1	7.4	13.1	20.5	24.6	/
δN_0	Short term displacement under shear load	[mm]	/	0.4	0.7	0.7	0.7	0.6	/

Amendments	Date
Change of ETA Number Cracked concrete added Change of issuing body M8, M20, M24 and M30 included Flooded holes included	04/01/2016
ETAG changed to EAD	19/12/2017
Platting added HCR added Reaction to fire added Minimum Spacing and Edge ammended	06/09/2018

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	06/09/2018	