W-FA/A4 & W-FA/HCR M6 FIXING ANCHORS

Performance data														
Anchor diameter [mm]			**M6**		**M8**		**M10**		**M12**		**M16**		**M20**	
Standard anchoring depth/Reduced anchoring depth		$h_{ef}/h_{ef,red}$ [mm]	40	30	44	35	48	42	65	50	80	64	100	78
Perm. centered tensile load[1] on a single anchor without edge influence	**Pressure zone** (uncracked concrete C20/25[2], $s \geq 3\ h_{ef}$, $c \geq 1{,}5\ h_{ef}$)	N_{perm} [kN] = C20/25[2]	3.6	2.9	5.7	4.3	7.6	5.7	11.6	8.5	17.9	12.3	24.0	16.5
Perm. transverse load[1] on a single anchor without edge influence	**Pressure zone** (uncracked concrete C20/25[2], $c \geq 10\ h_{ef}$)	V_{perm} [kN] = C20/25[2]	4.0	3.9	6.9	5.0	8.0	6.5	15.4	8.5	28.6	24.6	43.9	33.1
Permissible bending torque		M_{perm} [Nm]	5.7	5.7	13.7	13.7	28	28	48.6	48.6	113.7	113.7	231.6	231.6
Permissible loading under fire load (R30, R60, R90, R120) see European Technical Approval ETA-06/0162														
Fire-resistance time A4 stainless steel		**F30 [kN]**	0.9	–	2.3	–	3.6	–	5.2	–	9.7	–	15.0	–
		F60 [kN]	0.5	–	1.7	–	2.6	–	3.8	–	7.0	–	10.2	–
		F90 [kN]	0.3	–	1.4	–	2.2	–	3.2	–	6.0	–	8.2	–
		F120 [kN]	0.25	–	1.3	–	2.0	–	2.9	–	5.4	–	7.0	–

Characteristic values													
Setting depth	$h_{nom}/h_{nom,red}$ [mm]	49	39	56	47	62	56	81	66	99	83	121	99
Nom. drill dia.	d_0 [mm]	6	6	8	8	10	10	12	12	16	16	20	20
Drill cutting dia.	$d_{cut} \leq$ [mm]	6.4	6.4	8.45	8.45	10.45	10.45	12.5	12.5	16.5	16.5	20.55	20.55
Drill hole depth	$h_1/h_{1,red} \geq$ [mm]	55	45	65	55	70	65	90	75	110	95	130	110
Through-hole in the component being connected	$d_f \leq$ [mm]	7	7	9	9	12	12	14	14	18	18	22	22

Individual attachment: Uncracked concrete, Option 7 (A4 stainless steel/HCR – M6 to M20: ETA-02/0001)													
Torque while installing anchor	T_{inst} = [Nm]	6	6	15	15	25	25	50	50	100	100	160	160
Axial spacing	$s_{cr,N}$ [mm]	120	90	132	105	144	126	195	150	240	192	300	234
Edge spacing	$c_{cr,N}$ [mm]	60	45	66	53	72	63	98	75	120	96	150	117
Minimum axial spacing	s_{min} [mm] for c ≥ [mm]	35 40	35 –	35 65	60 –	45 70	55 –	60 100	100 –	80 120	110 –	100 150	140 –
Minimum edge spacing	c_{min} [mm] for s ≥ [mm]	35 60	40 –	45 110	60 –	55 80	65 –	70 100	100 –	80 140	110 –	100 180	140 –
Minimum component thickness	h_{min} [mm]	100	80	100	80	100	100	130	100	160	130	200	160

Multiple attachment: Anchoring non-load-bearing systems in concrete (A4/HCR stainless steel: ETA-06/0162)													
Torque while installing anchor	T_{inst} = [Nm]	8	8										
Axial spacing Using measurement method B	s_{cr} [mm]	370	260										
Edge spacing Using measurement method B	c_{cr} [mm]	185	130										
Minimum axial spacing	s_{min} [mm] for c ≥ [mm]	50	50										
Minimum edge spacing	c_{min} [mm] for s ≥ [mm]	50	50										
Minimum component thickness	h_{min} [mm]	80	80										

Würth System Components

[1] The part safety coefficients of the resistances regulated in the approval and a part safety coefficient of the effects of γF = 1.4 have been taken into account. For the combination of tensile and transverse loads, for edge influence and anchor groups, please refer to the Guideline for European Technical Approval (ETAG), Appendix C.

[2] The concrete has normal reinforcement. Higher values are possible for higher concrete strengths.