

# SHEAR-ANCHOR CARTRIDGE SYSTEM W-VD/A4, W-VD/HCR

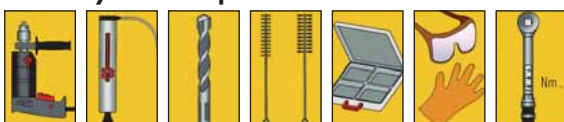
21.2

Performance data			M8	M10	M12	M16	M20	M24
<b>Anchor diameter</b>								
<b>Permissible central tensile load<sup>1)</sup></b> on a single anchor without edge influence	<b>Pressure zone</b> (uncracked concrete C20/25 M8: $s \geq 3 h_{ef}$ , $c \geq 1.5 h_{ef}$ M10-M24: $s \geq 2 h_{ef}$ , $c \geq 1 h_{ef}$ )	<b>N<sub>perm.</sub> [kN] = C20/25</b> 50°C <sup>2)</sup> /80°C <sup>3)</sup>	7.9	11.9	15.9	19.8	29.8	35.7
<b>Perm. transverse load<sup>1)</sup></b> on a single anchor without edge influence	<b>Pressure zone</b> (uncracked concrete C20/25, $c \geq 10 h_{ef}$ )	<b>V<sub>perm.</sub> [kN] = C20/25</b> 50°C <sup>2)</sup> /80°C <sup>3)</sup>	6.0	9.2	13.3	25.2	39.4	56.8
<b>Permissible bending torque</b>		<b>M<sub>perm.</sub> [Nm]</b>	11.9	23.8	42.1	106.7	207.9	359.4
<b>Fire-resistance duration</b>		<b>F30 [kN]</b>	2.3	3.64	5.26	9.79	15.28	22.01
		<b>F60 [kN]</b>	1.29	2.04	3.07	5.72	8.93	12.86
		<b>F90 [kN]</b>	0.79	1.3	2.0	3.68	5.75	8.28
		<b>F120 [kN]</b>	0.53	1.0	1.5	2.67	4.16	6.0

Characteristic values							
<b>Minimum axial spacing</b>	<b>s<sub>min</sub> [mm]</b>	40	45	55	65	85	105
<b>Axial spacing</b>	<b>s<sub>cr,N</sub> [mm]</b>	240	180	220	250	340	420
<b>Minimum edge spacing</b>	<b>c<sub>min</sub> [mm]</b>	40	45	55	65	85	105
<b>Edge spacing</b>	<b>c<sub>cr,N</sub> [mm]</b>	120	90	110	125	170	210
<b>Minimum component thickness</b>	<b>h<sub>min</sub> [mm]</b>	110	120	140	160	220	260
<b>Effective anchoring depth</b>	<b>h<sub>ef</sub> [mm]</b>	80	90	110	125	170	210
<b>Nom. drill dia.</b>	<b>d<sub>0</sub> [mm]</b>	10	12	14	18	25	28
<b>Drill cutting dia.</b>	<b>d<sub>cut</sub> ≤ [mm]</b>	10.5	12.5	14.5	18.5	25.5	28.5
<b>Drill hole depth</b>	<b>h<sub>0</sub> ≥ [mm]</b>	80	90	110	125	170	210
<b>Through-hole in the component being connected</b>	<b>d<sub>r</sub> ≤ [mm]</b>	9	12	14	18	22	26
<b>Torque while installing anchor</b>	<b>T<sub>inst</sub> = [Nm]</b>	10	20	40	80	120	180
<b>Cleaning brush dia.</b>	<b>D [mm]</b>	11	13	16	20	27	30

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## Würth System Components



<sup>1)</sup> The partial safety coefficients of the resistances regulated in the approval and a partial safety coefficient of the effects of  $\gamma_f = 1.4$  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.

<sup>2)</sup> Maximum long-term temperature

<sup>3)</sup> Maximum short-term temperature