

Highbond anchor dynamic FHB dyn

Design values for cyclic fatigue loading¹⁾ of a single anchor normal concrete of strength class C20/25²⁾.
For the design the complete current approval Z-21.3-1748 has to be considered.

Type	Material/surface	Effective anchorage depth h_{ef} [mm]	Minimum member thickness h_{min} [mm]	Installation torque T_{inst} [Nm]	Cracked and non-cracked concrete			
					Design values of tension ($\Delta N_{Ed,max}$) and shear loads ($\Delta V_{Ed,max}$); minimum spacing (s_{min}) and edge distances (c_{min}) with reduced loads			
					$\Delta N_{Ed,max}$ ³⁾ [kN]	$\Delta V_{Ed,max}$ ^{3,4)} [kN]	s_{min} ⁴⁾ [mm]	c_{min} ⁴⁾ [mm]
FHB dyn 12 x 100	gvz	100	130	40	14.1	6.7	100	200 ⁵⁾
	gvz	100	200	40	14.1	6.7	100	100 ⁵⁾
	HCR / 1.4529	100	130	40	11.3	4.4	100	200 ⁵⁾
	HCR / 1.4529	100	200	40	11.3	4.4	100	100 ⁵⁾
FHB dyn 12 x 100 V	gvz	105	130	40	14.1	9.6	100	200 ⁵⁾
	gvz	105	200	40	14.1	9.6	100	100
FHB dyn 16 x 125	gvz	125	160	60	23.0	11.9	100	200 ⁵⁾
	gvz	125	250	60	23.0	11.9	100	100
	HCR / 1.4529	125	160	60	15.6	11.9	100	200 ⁵⁾
	HCR / 1.4529	125	250	60	15.6	11.9	100	100 ⁵⁾
FHB dyn 16 x 125 V	gvz	130	160	60	23.0	17.0	100	200 ⁵⁾
	gvz	130	250	60	23.0	17.0	100	100
FHB dyn 20 x 170	gvz	170	220	100	28.4	17.0	80	80
FHB dyn 24 x 220	gvz	220	440	120	28.9	22.2	180	180 ⁵⁾

¹⁾ The design values of the cyclic fatigue loading apply for load cycles $\geq 5 \times 10^6$ in accordance with design method I - for unknown static lower load. If the static lower load is known and / or for lower number of load cycles higher load values are possible. The partial safety factors as regulated in the design standard are considered. As a single anchor counts e.g. an anchor with a spacing $s \geq 3 \times h_{ef}$. The given load values apply for anchorages in dry and wet concrete and temperatures in the base material up to 50 °C (resp. short-term up to 80 °C) and drill hole cleaning acc. to approval.

²⁾ For higher concrete strength classes up to C50/60 higher permissible loads may be possible, see approval. The concrete is assumed to be standard-reinforced.

³⁾ In the case of combinations of tensile loads, shear loads, bending moments with reduced or minimum spacing and edge distances (anchor groups) the design must be carried out in accordance with the provisions of the complete approval.

⁴⁾ Valid for pulsating loads. For alternating loads see approval.

⁵⁾ Without reduction of the tension and shear load. For details see approval.