

Power actuated fastener DFNH Plus

Permissible loads for a single fastener¹⁾ for multiple use of redundant non-structural applications* in normal concrete C20/25 up to C50/60.
For the design the complete current assessment ETA-26/0037 of 30.07.2026 has to be considered.

Type	Material / surf ²⁾	Effective anchorage h_{ef} [mm]	Minimum member thickness h_{min} [mm]	Cracked concrete			Non-cracked concrete		
				Permissible load (F_{perm}); minimum spacing (s_{min}) and edge distances (c_{min})			Permissible load (F_{perm}); minimum spacing (s_{min}) and edge distances (c_{min})		
				$F_{perm}^{3)}$ [kN]	s_{min} [mm]	c_{min} [mm]	$F_{perm}^{3)}$ [kN]	s_{min} [mm]	c_{min} [mm]
DFNH Plus 22 NP	Zn8M(Fe)	≥ 15	80	0.05	45	80	0.1	45	80
DFNH Plus 27 NP	Zn8M(Fe)	≥ 15	80	0.05	45	80	0.1	45	80
DFNH Plus 32 NP	Zn8M(Fe)	≥ 15	80	0.05	45	80	0.1	45	80

* In addition to the load table above, the following must be considered for multiple fastening of non-structural redundant systems: A multiple fixing (redundant system) is defined according to EN 1992-4 and CEN/TR 17079. EAD 330083-04-0601 and ETA-26/0037 specify that the fastening may only be used as a multiple fixing system consisting of at least six fixing points per fixture, with at least one fastener per fixing point and a permissible design load of 0.15 kN per fixing point. Additionally, it has to be proven that the stiffness of the attached element shall be large enough to ensure that in case of excessive slip or failure of a fastener the load on this fastener or fixing point can be transferred to neighbouring fixing points without significantly violating the requirements on the attached element in the serviceability and ultimate limit state.
For further details see EN 1992-4 section 7.3 and CEN/TR 17079 and EAD 330083-04-0601

- ¹⁾ Design according to EN 1992-4:2018 (for static resp. quasi-static loads). The partial safety factors for material resistance as regulated in the ETA as well as a partial safety factor for load actions of $\gamma_F = 1.4$ are considered.
- ²⁾ For details of steel grade, variants and further concrete classes, see ETA.
- ³⁾ Valid for tensile load, shear load and oblique load under any angle. For combined tensile and shear loading, the resultant force shall be determined. In the presence of bending moments, the design shall be carried out in accordance with the complete provisions of the ETA and the design procedure specified in EN 1992-4:2018.