

LOADS

ZYKON undercut anchor FZA-I (screw quality 8.8)
Highest permissible loads for a single anchor¹⁾ in concrete C20/25⁴⁾
For the design the complete approval ETA - 98/0004 has to be considered.

| | | | | Cracked concrete | | | | Non-cracked concrete | | | |
|--------------------|--|---|--|--|--|--|--|--|--|--|--|
| Type | Effective anchorage depth h _{ef} [mm] | Min. member thickness h _{min} [mm] | Installation torque T _{inst} [Nm] | Permissible tensile load N _{zul} ³⁾ [kN] | Permissible shear load V _{zul} ³⁾ [kN] | Min. spacing s _{min} ²⁾ [mm] | Min. edge distance c _{min} ²⁾ [mm] | Permissible tensile load N _{zul} ³⁾ [kN] | Permissible shear load V _{zul} ³⁾ [kN] | Min. spacing s _{min} ²⁾ [mm] | Min. edge distance c _{min} ²⁾ [mm] |
| FZA 12 x 40 M6 I | 40 | 100 | 8,5 | 2,4 | 4,1 | 40 | 35 | 3,6 | 4,1 | 40 | 35 |
| FZA 12 x 50 M6 I | 50 | 110 | 8,5 | 4,3 | 4,1 | 50 | 45 | 5,7 | 4,1 | 50 | 45 |
| FZA 14 x 60 M8 I | 60 | 130 | 15,0 | 5,7 | 5,4 | 60 | 55 | 9,5 | 5,4 | 60 | 55 |
| FZA 18 x 80 M10 I | 80 | 160 | 30,0 | 9,5 | 5,6 | 80 | 70 | 9,6 | 5,6 | 80 | 70 |
| FZA 22 x 100 M12 I | 100 | 200 | 60,0 | 17,1 | 13,2 | 100 | 100 | 19,0 | 13,2 | 100 | 100 |
| FZA 22 x 125 M12 I | 125 | 250 | 60,0 | 19,0 | 13,2 | 125 | 125 | 19,0 | 13,2 | 125 | 125 |

¹⁾ The partial safety factors for material resistance as regulated in the approval as well as a partial safety factor for load actions of $\gamma_L = 1,4$ are considered. As an single anchor counts e.g. an anchor with a spacing $s \geq 3 \times h_{ef}$ and an edge distance $c \geq 1,5 \times h_{ef}$. Accurate data see approval.

²⁾ Minimum possible axial spacings resp. edge distance while reducing the permissible load.

³⁾ For combinations of tensile loads, shear loads, bending moments as well as reduced edge distances or spacings (anchor groups) see approval.

⁴⁾ For higher concrete strength classes up to C50/60 higher permissible loads may be possible.

LOADS

ZYKON undercut anchor FZA-I A4 (screw quality A4-70)
Highest permissible loads for a single anchor¹⁾ in concrete C20/25⁴⁾
For the design the complete approval ETA - 98/0004 has to be considered.

| | | | | Cracked concrete | | | | Non-cracked concrete | | | |
|-----------------------|--|---|--|---|---|--|--|---|---|--|--|
| Type | Effective anchorage depth h _{ef} [mm] | Min. member thickness h _{min} [mm] | Installation torque T _{inst} [Nm] | Permissible tensile load N _{perm} ³⁾ [kN] | Permissible shear load V _{perm} ³⁾ [kN] | Min. spacing s _{min} ²⁾ [mm] | Min. edge distance c _{min} ²⁾ [mm] | Permissible tensile load N _{perm} ³⁾ [kN] | Permissible shear load V _{perm} ³⁾ [kN] | Min. spacing s _{min} ²⁾ [mm] | Min. edge distance c _{min} ²⁾ [mm] |
| FZA 12 x 40 M6 I A4 | 40 | 100 | 8,5 | 2,4 | 3,2 | 40 | 35 | 3,6 | 3,2 | 40 | 35 |
| FZA 12 x 50 M6 I A4 | 50 | 110 | 8,5 | 4,3 | 3,2 | 50 | 45 | 5,4 | 3,2 | 50 | 45 |
| FZA 14 x 60 M8 I A4 | 60 | 130 | 15,0 | 5,7 | 4,3 | 60 | 55 | 7,1 | 4,3 | 60 | 55 |
| FZA 18 x 80 M10 I A4 | 80 | 160 | 30,0 | 9,0 | 5,4 | 80 | 70 | 9,0 | 5,4 | 80 | 70 |
| FZA 22 x 100 M12 I A4 | 100 | 200 | 60,0 | 17,1 | 12,7 | 100 | 100 | 19,0 | 12,7 | 100 | 100 |
| FZA 22 x 125 M12 I A4 | 125 | 250 | 60,0 | 19,0 | 12,7 | 125 | 125 | 19,0 | 12,7 | 125 | 125 |

¹⁾ The partial safety factors for material resistance as regulated in the approval as well as a partial safety factor for load actions of $\gamma_L = 1,4$ are considered. As an single anchor counts e.g. an anchor with a spacing $s \geq 3 \times h_{ef}$ and an edge distance $c \geq 1,5 \times h_{ef}$. Accurate data see approval.

²⁾ Minimum possible axial spacings resp. edge distance while reducing the permissible load.

³⁾ For combinations of tensile loads, shear loads, bending moments as well as reduced edge distances or spacings (anchor groups) see approval.

⁴⁾ For higher concrete strength classes up to C50/60 higher permissible loads may be possible.