HTZ

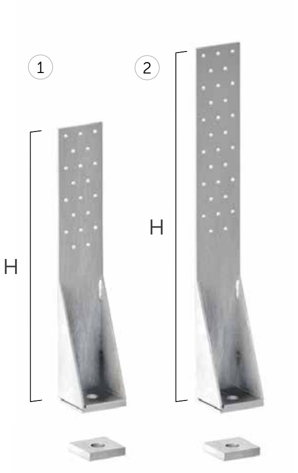
ETA-11/0086

HOLD DOWN FOR HIGH TENSILE FORCES

- Hold-down with high tensile strength, for CLT or frame buildings
- Available in 4 sizes to be combined with 3 washers to meet all static performance requirements
- Large rod bore allows for optimum use of concrete fastening

S355

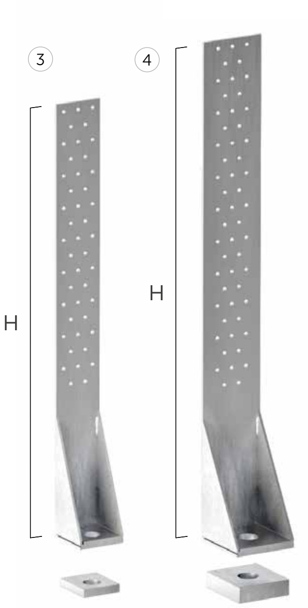
Zn ELECTRO PLATED



CODE		H [mm]	Ø [mm]	s [mm]	n_V Ø5	pcs
HTZ340	1	340	17	3	20	10
HTZ440	2	440	17	3	30	10

WASHER FOR HTZ340 AND HTZ440 ANGLE BRACKET

CODE	Ø [mm]	s [mm]	HTZ340	HTZ440	pcs
HTZULS10	18	10	●	●	10

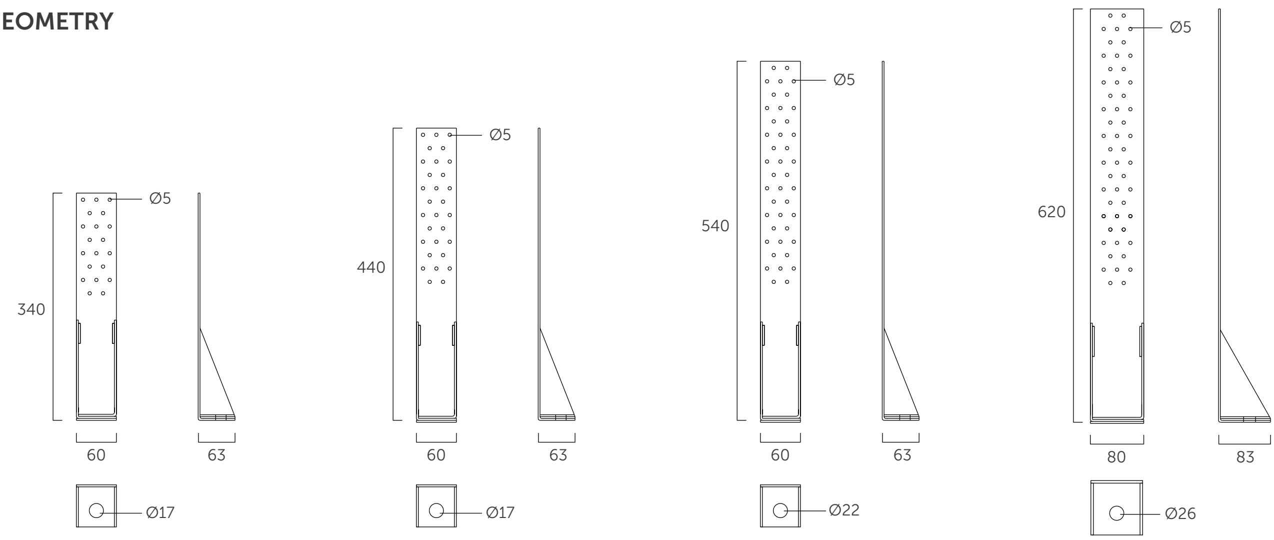


CODE		H [mm]	Ø [mm]	s [mm]	n_V Ø5	pcs
WHT540	3	540	22	3	45	10
WHT620	4	620	26	3	55	10

WASHER FOR WHT540 AND WHT620 ANGLE BRACKET

CODE	Ø [mm]	s [mm]	WHT540	WHT620	pcs
WHTW50L	22	10	●	-	1
WHTW70L	26	20	-	●	1

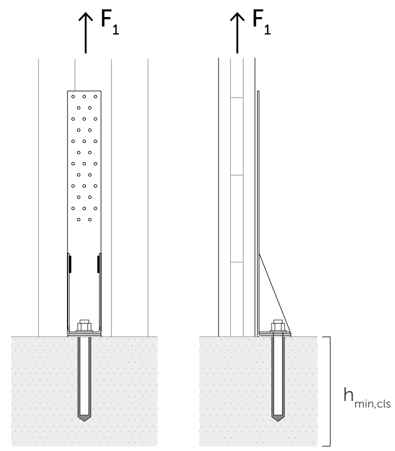
GEOMETRY



HTZ340 HTZ440 WHT540 WHT620

STRUCTURAL VALUES

TENSILE JOINT | TIMBER-TO-CONCRETE



CODE	$R_{1,k}$ TIMBER: holes fastening Ø5 Ø x L [mm]	n_v [pcs]	$R_{1,k\ timber}$ [kN]	$R_{1,k}$ STEEL: $R_{1,k\ steel}$ [kN]	γ_{steel}	$R_{1,d}$ UNCRACKED CONCRETE: V-NEX Ø x L [mm]	$R_{1,d\ concrete}$ [kN]	$h_{min,concrete}$ [mm]
HTZ340	Anker nails LBA Ø4 x 60 LBS screws Ø5 x 50	20	**38,6**	**42,0**	γ_{M0}	M16 x 160 - cl. 5.8	**30,7**	200
HTZ440 + HTZULS10		30	**57,9**	**63,4**	γ_{M2}	M16 x 195 - cl. 5.8	**36,5**	200
WHT540 + WHTW50L		45	**86,9**	**63,4**	γ_{M2}	M20 x 245 - cl. 5.8	**58,0**	240
WHT620 + WHTW70L		55	**106,2**	**85,2**	γ_{M2}	M24 x 330 - cl. 5.8	**97,5**	320

GENERAL PRINCIPLES

- Characteristic values are consistent with EN 1995-1-1 and in accordance with ETA-11/0086. The design values of the anchors for concrete are calculated in accordance with the respective European Technical Assessments.
- The connection design strength value is obtained from the values on the table as follows:

$$R_d = min \begin{cases} \dfrac{R_{k,timber} \cdot k_{mod}}{\gamma_M} \\ \dfrac{R_{k,steel}}{\gamma_{steel}} \\ R_{d,concrete} \end{cases}$$

The coefficients k_{mod}, γ_M and γ_{steel} should be taken according to the current regulations used for the calculation.
- The calculation process used a timber characteristic density of ρ_k = 350 kg/m³ and a C25/30 concrete strength class with a thin reinforcing layer, where there is no edge-distance and minimum thickness indicated in the tables.
- Dimensioning and verification of timber and concrete elements must be carried out separately.
- For applications on CLT (Cross Laminated Timber) it is recommended to use nails/screws of adequate length to ensure that the fixing depth involves a sufficient timber thickness to prevent fragile failure for group effects.
- The strength values of the connection system are valid under the calculation hypotheses listed in the table.
- Chemical anchor V-NEX according to ETA-20/0363 with threaded rods (type INA) in minimum steel class 5.8.