

DECLARATION OF PERFORMANCE

DoP_19-0553_05 (GB)

1. Unique identification code of the product-type:

HECO-TOPIX-plus, HECO-TOPIX-plus-T, HECO-TOPIX-plus-CC screws

2. Type, batch or serial number or any other element allowing identification of the construction product as required pursuant to Article 11(4):

Identification acc. ETA-19/0553, Annex A

3. Intended use or uses of the construction product, in accordance with the applicable harmonised technical specification, as foreseen by the manufacturer:

ETA-19/0553, chapter 1

Generic Type	HECO-TOPIX-plus, HECO-TOPIX-plus-T, HECO-TOPIX-plus-CC screws
Diameters	3,5 mm; 4,0 mm; 4,5 mm; 5,0 mm; 6,0/6,5 mm; 8,0/8,5 mm; 10,0 mm
Intendend use	self-tapping screws for use in timber construction
Loads	static or quasi-static loading
Durability	screws zinc plated service classes 1 - 2 acc. Eurocode 5
	screws made of stainless-steel service classes 3 acc. Eurocode 5

4. Name, registered trade name or registered trade mark and contact address of the manufacturer as required pursuant to Article 11(5):

HECO-Schrauben GmbH & Co. KG

Dr.-Kurt-Steim-Str. 28

78713 Schramberg (Germany)

5. System or systems of assessment and verification of constancy of performance of the construction product as set out in Annex V:

System 3

6. In case of the declaration of performance concerning a construction product for which a European Technical Assessment has been issued:

ETA-19/0553 has been issued by the ETA-Danmark A/S on the basis of **EAD 130118-01-0603**

7. Declared performance

Tabelle 1.1: HECO-TOPIX-plus, HECO-TOPIX-plus-T, HECO-TOPIX-plus-CC screws made of carbon steel without MagicClose

	Characteristic			HECO-TOPIX-plus screws							HECO-TOPIX-plus-CC		HECO-TOPIX-plus-T		
			Screws Ø	3,5	4,0	4,5	5,0	6,0	8,0	10,0	6,0/6,5	8,0/8,5	8,0	10,0	
Mechanical resistance and stability (BWR 1)															
1	$l, l_g, d_1, d, d_s, d_{head}, p$		[mm]	according to ETA-19/0553 Annex A											
2	$M_{y,k}$ $l_g > 392\text{mm}$	ETA-19/0553 chapter 3.4	[Nm]	2,3	2,8	4,5	5,9	9,5	$\frac{20,0}{20,0}$	$\frac{36,0}{38,0}$	9,5	20,0	20,0	36,0	
3	α_{bend}	ETA-19/0553 chapter 1	[°]	38,7	37,1	35,7	34,6	32,8	30,5	29,0	32,1	30,5	30,5	29,0	
4a	$f_{ax,k}$	ETA-19/0553 chapter 3.4	[N/mm²]	13,7	13,7	13,7	11,8	11,8	11,8	11,8	12,5	12,5	10,5	10,5	
4b	$f_{ax,k}$ LVL Buche, Träger BauBuche GL75	ETA-19/0553 chapter 3.4	[N/mm²]	-	-	-	35,0	35,0	35,0	30,0	-	-	-	-	
4c	$f_{ax,k}$ Particle Board, OSB	ETA-19/0553 chapter 3.4	[N/mm²]	-	10,0	10,0	10,0	10,0	-	-	-	-	-	-	
5a	$f_{head,k}$	ETA-19/0553 chapter 3.4	[N/mm²]	$f_{head,k} = 14,0 \text{ N/mm}^2$ for $d_h < 23 \text{ mm}$; $f_{head,k} = 9,4 \text{ N/mm}^2$ for $23 \text{ mm} < d_h < 35 \text{ mm}$											
5b	$f_{head,k}$ Ash, Beech, Oak $\geq 20\text{mm}$	ETA-19/0553 chapter 3.4	[N/mm²]	$f_{head,k} = 20,0 \text{ N/mm}^2$ for $d_h \leq 20 \text{ mm}$; $f_{head,k} = 15 \text{ N/mm}^2$ for $d_h > 20 \text{ mm}$											
5c	$f_{head,k}$ LVL Buche, Träger BauBuche GL75	ETA-19/0553 chapter 3.4	[N/mm²]	$f_{head,k} = 32,0 \text{ N/mm}^2$ for $d_h < 35 \text{ mm}$											
6	$f_{tens,k}$ $l_g > 392\text{mm}$	ETA-19/0553 chapter 3.1	[kN]	3,8	4,7	6,4	7,9	11,3	$\frac{20,0}{25,0}$	$\frac{30,0}{38,0}$	10,0	18,0	20,0	25,0	
7	$R_{0,2,k}$		[Nmm²]	NPD	NPD	NPD	NPD	NPD	NPD	NPD	NPD	NPD	NPD	NPD	
8	$f_{tor,k}$ $l_g > 392\text{mm}$	ETA-19/0553 chapter 3.1	[Nm]	2,2	2,9	4,5	6,5	11,0	$\frac{25,0}{30,0}$	$\frac{42,0}{55,0}$	10,0	23,0	24,0	42,0	
9	$R_{tor,mean}$	ETA-19/0553 chapter 3.1	[Nm]	1,5	1,9	3,0	4,3	7,3	16,7	28,0	6,7	15,3	16,0	28,0	
10	$a_1; a_2; a_{1,CG}; a_{2,CG}$	ETA-19/0553 Annex B	[mm]	according to ETA-19/0553 Annex B											
11	K_{ser}	ETA-19/0553 chapter 3.4	[N/mm]	Softwood: $K_{ser} = 25 \times d \times l_{ef}$; Hardwood: $K_{ser} = 30 \times d \times l_{ef}$											
12	Corrosion protection	ETA-19/0553 chapter 3.5		Table 2											
Safety in case of fire (BWR 2)															
13		ETA-19/0553 chapter 3.2		Class A1											
Safety and accessibility in use (BWR 4)															
14				-											



Tabelle 1.2: HECO-TOPIX-plus, HECO-TOPIX-plus-T, HECO-TOPIX-plus-CC screws made of carbon steel with MagicClose

	Characteristic			HECO-TOPIX-plus screws								HECO-TOPIX-plus-CC		HECO-TOPIX-plus-T	
			Screws Ø	3,5	4,0	4,5	5,0	6,0	8,0	10,0	6,0/6,5	8,0/8,5	8,0	10,0	
Mechanical resistance and stability (BWR 1)															
1	$l, l_g, d_1, d, d_s, d_{head}, P$		[mm]	according to ETA-19/0553 Annex A											
2	$M_{y,k}$	ETA-19/0553 chapter 3.4	[Nm]	2,3	2,8	4,5	5,9	9,5	-	-	-	-	-	-	
3	α_{bend}	ETA-19/0553 chapter 1	[°]	39	37	36	35	33	-	-	-	-	-	-	
4a	$f_{ax,k}$	ETA-19/0553 chapter 3.4	[N/mm²]	11,8	11,8	11,8	11,8	11,8	-	-	-	-	-	-	
4b	$f_{ax,k}$ <small>LVL Buche, Träger BauBuche GL75</small>	ETA-19/0553 chapter 3.4	[N/mm²]	-	-	-	-	-	-	-	-	-	-	-	
4c	$f_{ax,k}$ <small>Particle Board, OSB</small>	ETA-19/0553 chapter 3.4	[N/mm²]	-	10,0	10,0	10,0	10,0	-	-	-	-	-	-	
5a	$f_{head,k}$	ETA-19/0553 chapter 3.4	[N/mm²]	$f_{head,k} = 14,0 \text{ N/mm}^2$ for $d_h < 23 \text{ mm}$; $f_{head,k} = 9,4 \text{ N/mm}^2$ for $23 \text{ mm} < d_h < 35 \text{ mm}$											
5b	$f_{head,k}$ <small>Ash, Beech, Oak $\geq 20 \text{ mm}$</small>	ETA-19/0553 chapter 3.4	[N/mm²]	$f_{head,k} = 20,0 \text{ N/mm}^2$ for $d_h \leq 20 \text{ mm}$; $f_{head,k} = 15 \text{ N/mm}^2$ for $d_h > 20 \text{ mm}$											
5c	$f_{head,k}$ <small>LVL Buche, Träger BauBuche GL75</small>	ETA-19/0553 chapter 3.4	[N/mm²]	$f_{head,k} = 32,0 \text{ N/mm}^2$ for $d_h < 35 \text{ mm}$											
6	$f_{tens,k}$	ETA-19/0553 chapter 3.1	[kN]	3,4	4,4	5,6	7,9	11,3	-	-	-	-	-	-	
7	$R_{0,2,k}$		[Nmm²]	NPD	NPD	NPD	NPD	NPD	NPD	NPD	NPD	NPD	NPD	NPD	
8	$f_{tor,k}$	ETA-19/0553 chapter 3.1	[Nm]	2,1	2,9	4,5	6,2	11,0	-	-	-	-	-	-	
9	$R_{tor,mean}$	ETA-19/0553 chapter 3.1	[Nm]	1,4	1,9	3,0	4,1	7,3	-	-	-	-	-	-	
10	$a_1; a_2; a_{1,CG}; a_{2,CG}$	ETA-19/0553 Annex B	[mm]	according to ETA-19/0553 Annex B											
11	K_{ser}	ETA-19/0553 chapter 3.4	[N/mm]	Softwood: $K_{ser} = 25 \times d \times l_{ef}$; Hardwood: $K_{ser} = 30 \times d \times l_{ef}$											
12	Corrosion protection	ETA-19/0553 chapter 3.5		Table 2											
Safety in case of fire (BWR 2)															
13		ETA-19/0553 chapter 3.2		Class A1											
Safety and accessibility in use (BWR 4)															
14				-											



Tabelle 1.3: HECO-TOPIX-plus, HECO-TOPIX-plus-T, HECO-TOPIX-plus-CC screws made of stainless steel without MagicClose

	Characteristic			HECO-TOPIX-plus screws								HECO-TOPIX-plus-CC		HECO-TOPIX-plus-T	
			Screws Ø	3,5	4,0	4,5	5,0	6,0	8,0	10,0	6,0/6,5	8,0/8,5	8,0	10,0	
Mechanical resistance and stability (BWR 1)															
1	$l, l_g, d_1, d, d_s, d_{head}, p$		[mm]	according to ETA-19/0553 Annex A											
2	$M_{y,k}$	ETA-19/0553 chapter 3.4	[Nm]	1,9	2,8	3,4	4,4	7,1	17,0	30,0	-	-	15,0	27,0	
3	α_{bend}	ETA-19/0553 chapter 1	[°]	39	37	36	35	33	30	29	-	-	30	29	
4a	$f_{ax,k}$	ETA-19/0553 chapter 3.4	[N/mm²]	13,7	13,7	13,7	11,8	11,8	11,8	11,8	-	-	11,8	11,8	
4b	$f_{ax,k}$ <small>LVL Buche, Träger BauBuche GL75</small>	ETA-19/0553 chapter 3.4	[N/mm²]	-	-	-	35,0	35,0	35,0	30,0	-	-	-	-	
4c	$f_{ax,k}$ <small>Particle Board, OSB</small>	ETA-19/0553 chapter 3.4	[N/mm²]	-	10,0	10,0	10,0	10,0	-	-	-	-	-	-	
5a	$f_{head,k}$	ETA-19/0553 chapter 3.4	[N/mm²]	$f_{head,k} = 14,0 \text{ N/mm}^2$ for $d_h < 23 \text{ mm}$; $f_{head,k} = 9,4 \text{ N/mm}^2$ for $23 \text{ mm} < d_h < 35 \text{ mm}$											
5b	$f_{head,k}$ <small>Ash, Beech, Oak $\geq 20\text{mm}$</small>	ETA-19/0553 chapter 3.4	[N/mm²]	$f_{head,k} = 20,0 \text{ N/mm}^2$ for $d_h \leq 20 \text{ mm}$; $f_{head,k} = 15 \text{ N/mm}^2$ for $d_h > 20 \text{ mm}$											
5c	$f_{head,k}$ <small>LVL Buche, Träger BauBuche GL75</small>	ETA-19/0553 chapter 3.4	[N/mm²]	$f_{head,k} = 32,0 \text{ N/mm}^2$ for $d_h < 35 \text{ mm}$											
6	$f_{tens,k}$	ETA-19/0553 chapter 3.1	[kN]	2,9	3,8	4,8	5,9	7,5	15,0	22,0	-	-	14,0	22,0	
7	$R_{0,2,k}$		[Nmm²]	NPD	NPD	NPD	NPD	NPD	NPD	NPD	-	-	NPD	NPD	
8	$f_{tor,k}$	ETA-19/0553 chapter 3.1	[Nm]	1,8	2,7	4,1	6,0	8,0	19,0	35,0	-	-	18,0	37,0	
9	$R_{tor,mean}$	ETA-19/0553 chapter 3.1	[Nm]	1,3	1,9	2,3	3,3	4,7	12,7	23,3	-	-	12,0	24,7	
10	$a_1; a_2; a_{1,CG}; a_{2,CG}$	ETA-19/0553 Annex B	[mm]	according to ETA-19/0553 Annex B											
11	K_{ser}	ETA-19/0553 chapter 3.4	[N/mm]	Softwood: $K_{ser} = 25 \times d \times l_{ef}$; Hardwood: $K_{ser} = 30 \times d \times l_{ef}$											
12	Corrosion protection	ETA-19/0553 chapter 3.5		Table 2											
Safety in case of fire (BWR 2)															
13		ETA-19/0553 chapter 3.2		Class A1											
Safety and accessibility in use (BWR 4)															
14				-											



Tabelle 1.4: HECO-TOPIX-plus, HECO-TOPIX-plus-T, HECO-TOPIX-plus-CC Screws made of stainless steel with MagicClose

	Characteristic			HECO-TOPIX-plus screws							HECO-TOPIX-plus-CC		HECO-TOPIX-plus-T		
			Screws Ø	3,5	4,0	4,5	5,0	6,0	8,0	10,0	6,0/6,5	8,0/8,5	8,0	10,0	
Mechanical resistance and stability (BWR 1)															
1	$l, l_g, d_1, d, d_s, d_{head}, p$		[mm]	according to ETA-19/0553 Annex A											
2	$M_{y,k}$	ETA-19/0553 chapter 3.4	[Nm]	1,9	2,8	3,7	4,9	7,9	-	-	-	-	-	-	
3	α_{bend}	ETA-19/0553 chapter 1	[°]	39	37	36	35	33	-	-	-	-	-	-	
4a	$f_{ax,k}$	ETA-19/0553 chapter 3.4	[N/mm²]	11,8	11,8	11,8	11,8	11,8	-	-	-	-	-	-	
4b	$f_{ax,k}$ LVL Buche, Träger BauBuche GL75	ETA-19/0553 chapter 3.4	[N/mm²]	-	-	-	-	-	-	-	-	-	-	-	
4c	$f_{ax,k}$ Particle Board, OSB	ETA-19/0553 chapter 3.4	[N/mm²]	-	10,0	10,0	10,0	10,0	-	-	-	-	-	-	
5a	$f_{head,k}$	ETA-19/0553 chapter 3.4	[N/mm²]	$f_{head,k} = 14,0 \text{ N/mm}^2$ for $d_h < 23 \text{ mm}$; $f_{head,k} = 9,4 \text{ N/mm}^2$ for $23 \text{ mm} < d_h < 35 \text{ mm}$											
5b	$f_{head,k}$ Ash, Beech, Oak $\geq 20\text{mm}$	ETA-19/0553 chapter 3.4	[N/mm²]	$f_{head,k} = 20,0 \text{ N/mm}^2$ for $d_h \leq 20 \text{ mm}$; $f_{head,k} = 15 \text{ N/mm}^2$ for $d_h > 20 \text{ mm}$											
5c	$f_{head,k}$ LVL Buche, Träger BauBuche GL75	ETA-19/0553 chapter 3.4	[N/mm²]	$f_{head,k} = 32,0 \text{ N/mm}^2$ for $d_h < 35 \text{ mm}$											
6	$f_{tens,k}$	ETA-19/0553 chapter 3.1	[kN]	3,4	4,4	5,3	7,4	10,0	-	-	-	-	-	-	
7	$R_{0,2,k}$		[Nmm²]	NPD	NPD	NPD	NPD	NPD	-	-	-	-	-	-	
8	$f_{tor,k}$	ETA-19/0553 chapter 3.1	[Nm]	1,8	2,7	4,1	6,0	8,0	-	-	-	-	-	-	
9	$R_{tor,mean}$	ETA-19/0553 chapter 3.1	[Nm]	1,2	1,8	2,7	4,0	5,3	-	-	-	-	-	-	
10	$a_1; a_2; a_{1,CG}; a_{2,CG}$	ETA-19/0553 Annex B	[mm]	according to ETA-19/0553 Annex B											
11	K_{ser}	ETA-19/0553 chapter 3.4	[N/mm]	Softwood: $K_{ser} = 25 \times d \times l_{ef}$; Hardwood: $K_{ser} = 30 \times d \times l_{ef}$											
12	Corrosion protection	ETA-19/0553 chapter 3.5		Table 2											
Safety in case of fire (BWR 2)															
13		ETA-19/0553 chapter 3.2		Class A1											
Safety and accessibility in use (BWR 4)															
14				-											



8. The performance of the product identified in points 1 and 2 is in conformity with the declared performance in point 7. This declaration of performance is issued under the sole responsibility of the manufacturer identified in point 4.

Signed for and on behalf of the manufacturer by:

Schramberg, 29.02.2024

ppa.

A handwritten signature in black ink, appearing to read 'A. Hettich', is written over the printed name.

Andreas Hettich, Head of Business Development