

### HARDWOOD CERTIFICATION

Special tip with diamond geometry and notched, serrated thread. ETA-11/0030 certification for use with high density timber without any pre-drill. Approved for structural applications subject to stresses in any direction vs the grain ( $\alpha = 0^\circ - 90^\circ$ ).

### INCREASED DIAMETER



Internal thread diameter increased to ensure tightening in the highest density woods. Excellent torsional moment values. HBS H Ø0.24 inch, comparable to a 0.28 inch diameter; HBS H Ø0.32 inch, comparable to a 0.35 inch diameter.

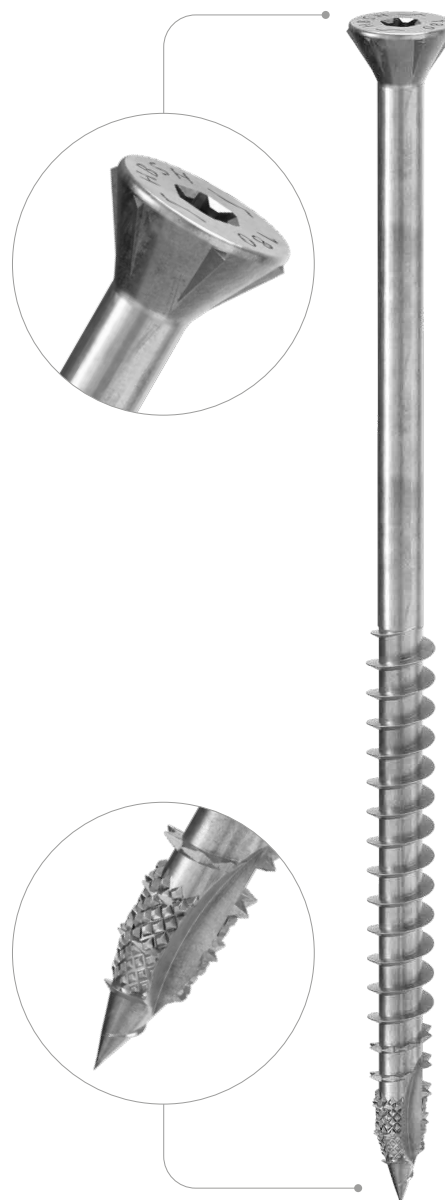
### 60° COUNTERSUNK HEAD

Concealed head, 60°, for effective, minimally invasive insertion, even in high density woods.

### HYBRID SOFTWOOD-HARDWOOD

Approved in ETA-11/0030 for different types of applications without the need for pre-drill hole with softwood and hardwood used simultaneously. For example: composite beam (softwood and hardwood) and hybrid engineered timbers (softwood and hardwood).

	 BIT INCLUDED			
DIAMETER [in]	0.12	0.24	0.32	0.48
LENGTH [in]	1/2	3 1/8	19	39 3/8
EXPOSURE CONDITION	EC1	EC2	EC3	EC4
ATMOSPHERIC CORROSIVITY	C1	C2	C3	C4
WOOD CORROSIVITY	T1	T2	T3	T4
MATERIAL	 electrogalvanized carbon steel			



### FIELDS OF USE

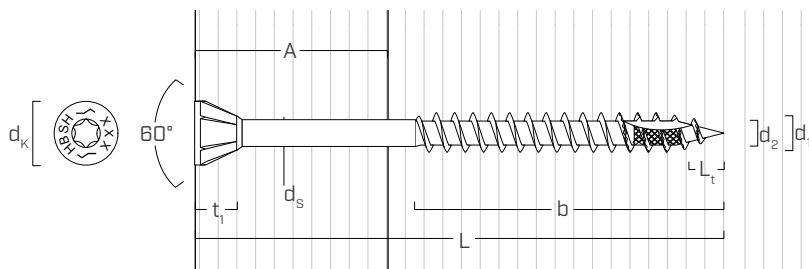
- timber based panels
- solid timber and glulam
- CLT and LVL
- high density woods
- beech, oak, cypress, ash, eucalyptus, bamboo

## CODES AND DIMENSIONS

d <sub>1</sub>	CODE	L		b		A	pcs
[mm]		[mm]	[in]	[mm]	[in]	[in]	
6 0.24 #14 TX 30	HBSH680	80	3 1/8	50	1 15/16	1	100
	HBSH6100	100	4	60	2 3/8	1 1/2	100
	HBSH6120	120	4 3/4	70	2 3/4	1 3/4	100
	HBSH6140	140	5 1/2	80	3 1/8	2 1/4	100
	HBSH6160	160	6 1/4	90	3 1/2	2 3/4	100

d <sub>1</sub>	CODE	L		b		A	pcs
[mm]		[mm]	[in]	[mm]	[in]	[in]	
8 0.32 TX 40	HBSH8120	120	4 3/4	70	2 3/4	1 3/4	100
	HBSH8140	140	5 1/2	80	3 1/8	2 1/4	100
	HBSH8160	160	6 1/4	90	3 1/2	2 3/4	100
	HBSH8180	180	7 1/8	100	4	3	100
	HBSH8200	200	8	100	4	3 3/4	100
	HBSH8220	220	8 5/8	100	4	4 1/2	100
	HBSH8240	240	9 1/2	100	4	5 1/2	100
	HBSH8280	280	11	100	4	7	100
	HBSH8320	320	12 5/8	100	4	8 1/2	100
	HBSH8360	360	14 1/4	100	4	10	100
	HBSH8400	400	15 3/4	100	4	11 3/4	100
	HBSH8440	440	17 1/4	100	4	13 1/4	100
	HBSH8480	480	19	100	4	14 3/4	100

## GEOMETRY

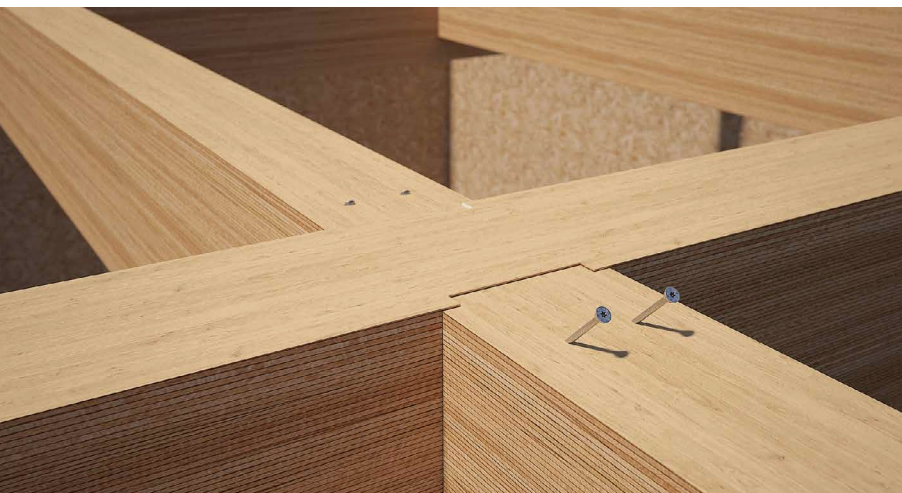


Nominal diameter	d <sub>1</sub>	[in] <sup>(1)</sup>	0.24	0.32
		[mm]	6	8
Outer thread diameter	d <sub>1</sub>	[in]	0.236	0.236
Head diameter	d <sub>K</sub>	[in]	0.472	0.571
Root diameter	d <sub>2</sub>	[in]	0.177	0.232
Shank diameter	d <sub>S</sub>	[in]	0.189	0.248
Head thickness	t <sub>1</sub>	[in]	0.295	0.331
Tip length	L <sub>t</sub>	[in]	0.236	0.315
Pre-drilling hole diameter <sup>(2)</sup>	d <sub>V,G≤0.55</sub>	[in]	5/32	13/64
Pre-drilling hole diameter <sup>(3)</sup>	d <sub>V,G&gt;0.55</sub>	[in]	5/32	15/64

<sup>(1)</sup>The nominal diameter of the screw is converted into imperial units and rounded up to the nearest decimal point.

<sup>(2)</sup>Pre-drilling applies to timber with G≤0.55 (optional).

<sup>(3)</sup>Pre-drilling applies to timber with G>0.55 (required).



## HARDWOOD PERFORMANCE

Geometry developed for high performance and use without pre-drilling on structural woods such as beech, oak, cypress, ash, eucalyptus, bamboo.

## BEECH LVL

Values also tested, certified and calculated for high density woods such as beech laminated veneer lumber. Certified for use without pre-drilling, for densities of up to G = 0.88.