

SNK

WHITE COUNTERSUNK HEAD SCREW FOR WOOD

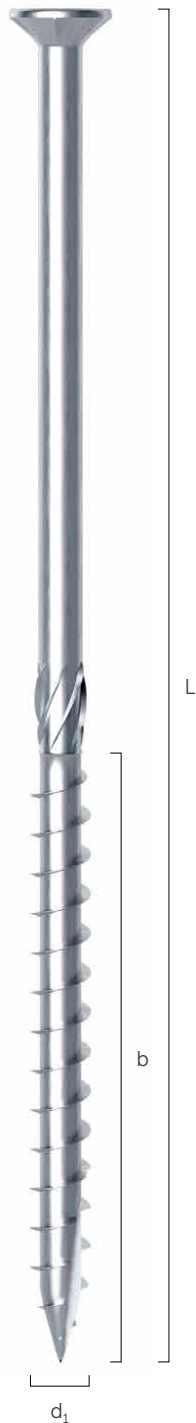
- Approved universal screw for various structural applications, from small construction to timber buildings
- Certified for use on CLT and high density woods such as LVL
- Excellent tensile and yield strength of steel. Very high torsional strength for secure screwing



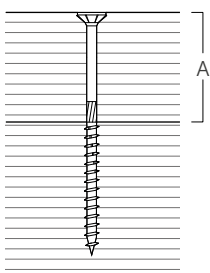
MATERIAL: carbon steel with bright zinc plated



d_1 [mm]	d_k [mm]	CODE	L [mm]	b [mm]	A [mm]	pcs
3,5 TX 15	7,00	SNK3540	40	18	22	500
		SNK3550	50	24	26	400
4 TX 20	8,00	SNK440	40	24	16	500
		SNK445	45	30	15	400
		SNK450	50	30	20	400
		SNK460	60	35	25	200
		SNK470	70	40	30	200
4,5 TX 20	9,00	SNK4540	40	24	16	400
		SNK4545	45	30	15	400
		SNK4550	50	30	20	200
		SNK4560	60	35	25	200
		SNK4570	70	40	30	200
		SNK4580	80	40	40	200
5 TX 25	10,00	SNK550	50	24	26	200
		SNK560	60	30	30	200
		SNK570	70	35	35	100
		SNK580	80	40	40	100
		SNK590	90	45	45	100
		SNK5100	100	50	50	100
		SNK5120	120	60	60	100
6 TX 30	12,00	SNK660	60	30	30	100
		SNK670	70	40	30	100
		SNK680	80	40	40	100
		SNK690	90	50	40	100
		SNK6100	100	50	50	100
		SNK6120	120	60	60	100
		SNK6140	140	75	65	100
		SNK6160	160	75	85	100



A maximum fastening thickness



d ₁ [mm]	d _k [mm]	CODE	L [mm]	b [mm]	A [mm]	pcs
6 TX 30	12,00	SNK6180	180	75	105	100
		SNK6200	200	75	125	100
		SNK6220	220	75	145	100
		SNK6240	240	75	165	100
		SNK6260	260	75	185	100
		SNK6280	280	75	205	100
		SNK6300	300	75	225	100
8 TX 40	14,50	SNK880	80	52	28	100
		SNK8100	100	52	48	100
		SNK8120	120	60	60	100
		SNK8140	140	60	80	100
		SNK8160	160	80	80	100
		SNK8180	180	80	100	100
		SNK8200	200	80	120	100
		SNK8220	220	80	140	100
		SNK8240	240	80	160	100
		SNK8260	260	80	180	100
		SNK8280	280	80	200	100
		SNK8300	300	100	200	100
		SNK8320	320	100	220	100
		SNK8340	340	100	240	100
		SNK8360	360	100	260	100
		SNK8380	380	100	280	100
SNK8400	400	100	300	100		
10 TX 40	18,25	SNK10100	100	52	48	50
		SNK10120	120	60	60	50
		SNK10140	140	60	80	50
		SNK10160	160	80	80	50
		SNK10180	180	80	100	50
		SNK10200	200	80	120	50
		SNK10220	220	80	140	50
		SNK10240	240	80	160	50
		SNK10260	260	80	180	50
		SNK10280	280	80	200	50
		SNK10300	300	100	200	50
		SNK10320	320	100	220	50
		SNK10340	340	100	240	50
		SNK10360	360	100	260	50
		SNK10380	380	100	280	50
SNK10400	400	100	300	50		

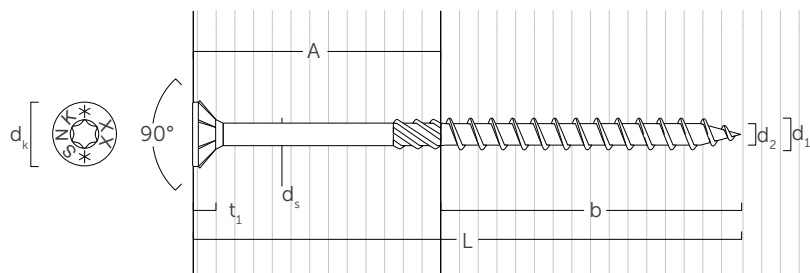


SHT

TURNED WASHER WITH BRIGHT ZINC PLATING

d _{1 SNK} [mm]	CODE	D ₂ [mm]	h [mm]	pcs
6	SHT6	20	4,5	100
8	SHT8	25	5,5	50
10	SHT10	30	6,5	50

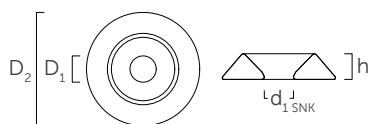
GEOMETRY AND MECHANICAL CHARACTERISTICS



nominal diameter	d_1	[mm]	3,5	4	4,5	5	6	8	10
head diameter	d_k	[mm]	7,00	8,00	9,00	10,00	12,00	14,50	18,25
thread diameter	d_2	[mm]	2,25	2,55	2,80	3,40	3,95	5,40	6,40
shank diameter	d_s	[mm]	2,45	2,75	3,15	3,65	4,30	5,80	7,00
head thickness	t_1	[mm]	2,20	2,80	2,80	3,10	4,50	4,50	5,80
pre-drilling hole diameter ⁽¹⁾	d_v	[mm]	2,0	2,5	2,5	3,0	4,0	5,0	6,0
characteristic yield moment	$M_{y,k}$	[Nm]	2,1	3,0	4,1	5,4	9,5	20,1	35,8
characteristic withdrawal-resistance parameter ⁽²⁾	$f_{ax,k}$	[N/mm ²]	11,7	11,7	11,7	11,7	11,7	11,7	11,7
characteristic head-pull-through parameter ⁽²⁾	$f_{head,k}$	[N/mm ²]	10,5	10,5	10,5	10,5	10,5	10,5	10,5
characteristic tensile strength	$f_{tens,k}$	[kN]	3,8	5,0	6,4	7,9	11,3	20,1	31,4

⁽¹⁾ Pre-drilling valid for softwood.

⁽²⁾ Valid for softwood - maximum density 440 kg/m³. Associated density $\rho_a = 350$ kg/m³.
For applications with different materials or with high density please see ETA-11/0030.



nominal screw diameter	$d_{1\text{SNK}}$	[mm]	6	8	10
internal diameter	D_1	[mm]	7,5	8,5	10,8
external diameter	D_2	[mm]	20,0	25,0	30,0
height	h	[mm]	4,5	5,5	6,5

STRUCTURAL VALUES

geometry				SHEAR		TENSION		
				timber-to-timber	thread withdrawal ⁽¹⁾	head pull-through ⁽²⁾	head pull-through with washer ⁽²⁾	
d ₁ [mm]	L [mm]	b [mm]	A [mm]	R _{V,k} [kN]	R _{ax,k} [kN]	R _{head,k} [kN]	R _{head,k} [kN]	
3,5	40	18	22	0,73	0,80	0,56	-	
	50	24	26	0,79	1,06	0,56	-	
4	40	24	16	0,83	1,21	0,73	-	
	45	30	15	0,81	1,52	0,73	-	
	50	30	20	0,91	1,52	0,73	-	
	60	35	25	0,99	1,77	0,73	-	
	70	40	30	0,99	2,02	0,73	-	
4,5	40	24	16	0,98	1,36	0,92	-	
	45	30	15	0,96	1,70	0,92	-	
	50	30	20	1,06	1,70	0,92	-	
	60	35	25	1,18	1,99	0,92	-	
	70	40	30	1,22	2,27	0,92	-	
5	80	40	40	1,22	2,27	0,92	-	
	50	24	26	1,29	1,52	1,13	-	
	60	30	30	1,46	1,89	1,13	-	
	70	35	35	1,46	2,21	1,13	-	
	80	40	40	1,46	2,53	1,13	-	
	90	45	45	1,46	2,84	1,13	-	
6	100	50	50	1,46	3,16	1,13	-	
	120	60	60	1,46	3,79	1,13	-	
	60	30	30	1,78	2,27	1,63	4,53	
	70	40	30	1,88	3,03	1,63	4,53	
	80	40	40	2,08	3,03	1,63	4,53	
	90	50	40	2,08	3,79	1,63	4,53	
	100	50	50	2,08	3,79	1,63	4,53	
	120	60	60	2,08	4,55	1,63	4,53	
	140	75	65	2,08	5,68	1,63	4,53	
	160	75	85	2,08	5,68	1,63	4,53	
	180	75	105	2,08	5,68	1,63	4,53	
	200	75	125	2,08	5,68	1,63	4,53	
	220	75	145	2,08	5,68	1,63	4,53	
	240	75	165	2,08	5,68	1,63	4,53	
260	75	185	2,08	5,68	1,63	4,53		
280	75	205	2,08	5,68	1,63	4,53		
300	75	225	2,08	5,68	1,63	4,53		

NOTES

- (1) The axial thread withdrawal resistance was calculated considering a 90° angle between the grain and the connector and for a fixing length of b.
 (2) The axial resistance to head pull-through, with and without a washer, was calculated using timber elements.

STRUCTURAL VALUES

				SHEAR		TENSION		
geometry				timber-to-timber	thread withdrawal ⁽¹⁾	head pull-through ⁽²⁾	head pull-through with washer ⁽²⁾	
d ₁	L	b	A	R _{V,k}	R _{ax,k}	R _{head,k}	R _{head,k}	
[mm]	[mm]	[mm]	[mm]	[kN]	[kN]	[kN]	[kN]	
8	80	52	28	2,59	5,25	2,38	7,08	
	100	52	48	3,28	5,25	2,38	7,08	
	120	60	60	3,28	6,06	2,38	7,08	
	140	60	80	3,28	6,06	2,38	7,08	
	160	80	80	3,28	8,08	2,38	7,08	
	180	80	100	3,28	8,08	2,38	7,08	
	200	80	120	3,28	8,08	2,38	7,08	
	220	80	140	3,28	8,08	2,38	7,08	
	240	80	160	3,28	8,08	2,38	7,08	
	260	80	180	3,28	8,08	2,38	7,08	
	280	80	200	3,28	8,08	2,38	7,08	
	300	100	200	3,28	10,10	2,38	7,08	
	320	100	220	3,28	10,10	2,38	7,08	
	340	100	240	3,28	10,10	2,38	7,08	
	360	100	260	3,28	10,10	2,38	7,08	
	380	100	280	3,28	10,10	2,38	7,08	
400	100	300	3,28	10,10	2,38	7,08		
10	100	52	48	4,22	6,57	3,77	10,20	
	120	60	60	4,81	7,58	3,77	10,20	
	140	60	80	4,81	7,58	3,77	10,20	
	160	80	80	4,81	10,10	3,77	10,20	
	180	80	100	4,81	10,10	3,77	10,20	
	200	80	120	4,81	10,10	3,77	10,20	
	220	80	140	4,81	10,10	3,77	10,20	
	240	80	160	4,81	10,10	3,77	10,20	
	260	80	180	4,81	10,10	3,77	10,20	
	280	80	200	4,81	10,10	3,77	10,20	
	300	100	200	4,81	12,63	3,77	10,20	
	320	100	220	4,81	12,63	3,77	10,20	
	340	100	240	4,81	12,63	3,77	10,20	
	360	100	260	4,81	12,63	3,77	10,20	
	380	100	280	4,81	12,63	3,77	10,20	
	400	100	300	4,81	12,63	3,77	10,20	

NOTES

- ⁽¹⁾ The axial thread withdrawal resistance was calculated considering a 90° angle between the grain and the connector and for a fixing length of b.
- ⁽²⁾ The axial resistance to head pull-through, with and without a washer, was calculated using timber elements.

GENERAL PRINCIPLES

- Characteristic values comply with the EN 1995:2014 standard in accordance with ETA-11/0030.
- Design values can be obtained from characteristic values as follows:

$$R_d = \frac{R_k \cdot k_{mod}}{\gamma_M}$$

The coefficients γ_M and k_{mod} should be taken according to the current regulations used for the calculation.

- For the mechanical resistance values and the geometry of the screws, reference was made to ETA-11/0030.
- For the calculation process a timber characteristic density $\rho_k = 385 \text{ kg/m}^3$ has been considered.
- Values were calculated considering the threaded part as being completely inserted into the wood.
- Dimensioning and verification of the timber elements must be carried out separately.
- The characteristic shear strength are calculated for screws inserted without pre-drilling hole.