



The ESCRC is a countersunk washer head screw designed to connect two or more timber members together.



[UK-DoP-e13-0796](#), [ETA-13/0796](#)

FEATURES



Material

Heat Treated Carbon Steel. Finish: Electrogalvanised and anti-friction coating with Yellow Chromate. Zinc coating thickness is $\geq 5\mu\text{m}$.

Warning: Industry studies show that hardened fasteners can experience performance problems in wet or corrosive environments. Accordingly, the ESCRC wood screw should only be used in dry, interior and non-corrosive environments e.g. Service class 1 & 2.

Benefits

The ESCRC screw has a reamer to allow for smooth driving of the shank. The countersunk head gives flush fitting while allowing the timber members to close up firmly.



APPLICATIONS

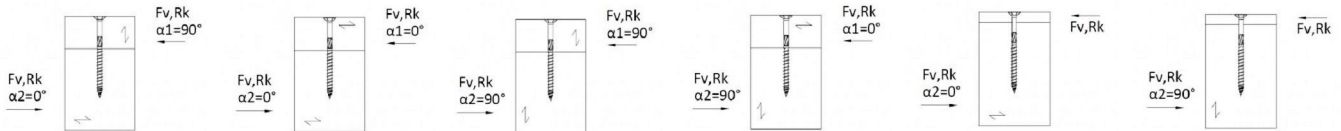
Suitable On

Multi-ply timbers.

When to Use

I-Joists, SIP Panels, Roof Trusses, Timber Frame Panels, Composite Panels, Engineered Timber, Metal Web Joists.

TECHNICAL DATA



Dimensions

References	Thread diameter [d _f] [mm]	Total length [L] [mm]	Head diameter [mm]	Shank diameter [mm]	Max fixture thickness [T _{fix}] [mm]	Thread length [l _f] [mm]	bit	Packaging [pce]
ESCRC5.0x50	5	50	10	3,5	20	30	T-25	250
ESCRC5.0x60		60	10	3,5	30	30	T-25	250
ESCRC5.0x70		70	10	3,5	33	37	T-25	200
ESCRC5.0x80		80	10	3,5	43	37	T-25	200
ESCRC5.0x90		90	10	3,5	35	55	T-25	150
ESCRC6.0x60	6	60	12	4,3	24	36	T-30	200
ESCRC6.0x70		70	12	4,3	34	36	T-30	200
ESCRC6.0x80		80	12	4,3	32	48	T-30	100
ESCRC6.0x90		90	12	4,3	42	48	T-30	100
ESCRC6.0x100		100	12	4,3	52	48	T-30	100
ESCRC6.0x120		120	12	4,3	56	64	T-30	100
ESCRC6.0x140		140	12	4,3	76	64	T-30	100
ESCRC6.0x160		160	12	4,3	96	64	T-30	100
ESCRC6.0x180		180	12	4,3	116	64	T-30	100
ESCRC6.0x200		200	12	4,3	136	64	T-30	100
ESCRC8.0x80	8	80	15	5,9	26	54	T-40	50
ESCRC8.0x100		100	15	5,9	46	54	T-40	50
ESCRC8.0x120		120	15	5,9	66	54	T-40	50
ESCRC8.0x140		140	15	5,9	56	84	T-40	50
ESCRC8.0x160		160	15	5,9	76	84	T-40	50
ESCRC8.0x180		180	15	5,9	80	100	T-40	50
ESCRC8.0x200		200	15	5,9	100	100	T-40	50
ESCRC8.0x220		220	15	5,9	120	100	T-40	50
ESCRC8.0x240		240	15	5,9	140	100	T-40	50
ESCRC8.0x260		260	15	5,9	160	100	T-40	50
ESCRC8.0x280		280	15	5,9	180	100	T-40	50
ESCRC8.0x300		300	15	5,9	200	100	T-40	50
ESCRC8.0x320		320	15	5,9	220	100	T-40	50
ESCRC8.0x340		340	15	5,9	240	100	T-40	50
ESCRC8.0x360		360	15	5,9	260	100	T-40	50
ESCRC8.0x400	400	15	5,9	300	100	T-40	50	
ESCRC10.0x120	10	120	18,5	7,1	60	60	T-40	50
ESCRC10.0x140		140	18,5	7,1	80	60	T-40	50
ESCRC10.0x160		160	18,5	7,1	60	100	T-40	50
ESCRC10.0x180		180	18,5	7,1	80	100	T-40	50
ESCRC10.0x200		200	18,5	7,1	100	100	T-40	50
ESCRC10.0x220		220	18,5	7,1	120	100	T-40	50
ESCRC10.0x240		240	18,5	7,1	140	100	T-40	50
ESCRC10.0x280		280	18,5	7,1	180	100	T-40	50
ESCRC10.0x300		300	18,5	7,1	200	100	T-40	50
ESCRC10.0x320		320	18,5	7,1	220	100	T-40	50
ESCRC10.0x340	340	18,5	7,1	240	100	T-40	50	

References	Thread diameter [df] [mm]	Total length [L] [mm]	Head diameter [mm]	Shank diameter [mm]	Max fixture thickness [T _{fix}] [mm]	Thread length [lf] [mm]	bit	Packaging [pce]
ESCRC10.0X360		360	18.5	7.1	260	100	T-40	50
ESCRC10.0X400		400	18.5	7.1	300	100	T-40	50

Characteristic values

References	Thread diameter [df] [mm]	Characteristic capacities - Timber class C24 [kN]							
		Tension resistance [F _{ax} ,R _k] [kN]	Head resistance [F _{head} ,R _k] [kN]	Shear resistance - timber to timber [F _v ,R _k] [kN]				Shear resistance - Steel to timber [F _v ,R _k] [kN]	
				$\alpha_1=90^\circ$ et $\alpha_2=0^\circ$ [1]	$\alpha_1=0^\circ$ et $\alpha_2=0^\circ$ [2]	$\alpha_1=90^\circ$ et $\alpha_2=90^\circ$ [3]	$\alpha_1=0^\circ$ et $\alpha_2=90^\circ$ [4]	$\alpha_2=0^\circ$ [5]	$\alpha_2=90^\circ$ [6]
ESCRC5.0x50	5	2.04	1.46	a)	a)	a)	a)	2.25	2.25
ESCRC5.0x60		2.04	1.46	1.5	1.5	1.5	1.5	2.25	2.25
ESCRC5.0x70		2.52	1.46	1.58	1.58	1.58	1.58	2.37	2.37
ESCRC5.0x80		2.52	1.46	1.58	1.58	1.58	1.58	2.37	2.37
ESCRC5.0x90		3.74	1.46	1.6	1.6	1.6	1.6	2.68	2.68
ESCRC6.0x60	6	2.81	2.1	1.81	1.81	1.81	1.81	3.02	3.02
ESCRC6.0x70		2.81	2.1	1.96	1.96	1.96	1.96	3.02	3.02
ESCRC6.0x80		3.74	2.1	1.96	1.96	1.96	1.96	3.25	3.25
ESCRC6.0x90		3.74	2.1	2.16	2.16	2.16	2.16	3.25	3.25
ESCRC6.0x100		3.74	2.1	2.16	2.16	2.16	2.16	3.25	3.25
ESCRC6.0x120		4.99	2.1	2.16	2.16	2.16	2.16	3.57	3.57
ESCRC6.0x140		4.99	2.1	2.16	2.16	2.16	2.16	3.57	3.57
ESCRC6.0x160		4.99	2.1	2.16	2.16	2.16	2.16	3.57	3.57
ESCRC6.0x180		4.99	2.1	2.16	2.16	2.16	2.16	3.57	3.57
ESCRC6.0x200		4.99	2.1	2.16	2.16	2.16	2.16	3.57	3.57
ESCRC8.0x80	8	4.62	2.79	a)	a)	a)	a)	6.18	5.3
ESCRC8.0x100		4.62	2.79	3.68	4.25	3.5	3.9	6.18	5.3
ESCRC8.0x120		4.62	2.79	3.9	4.25	3.63	3.9	6.18	5.3
ESCRC8.0x140		7.19	2.79	3.9	4.25	3.63	3.9	6.82	5.94
ESCRC8.0x160		7.19	2.79	3.9	4.25	3.63	3.9	6.82	5.94
ESCRC8.0x180		8.56	2.79	3.9	4.25	3.63	3.9	7.17	6.28
ESCRC8.0x200		8.56	2.79	3.9	4.25	3.63	3.9	7.17	6.28
ESCRC8.0x220		8.56	2.79	3.9	4.25	3.63	3.9	7.17	6.28
ESCRC8.0x240		8.56	2.79	3.9	4.25	3.63	3.9	7.17	6.28
ESCRC8.0x260		8.56	2.79	3.9	4.25	3.63	3.9	7.17	6.28
ESCRC8.0x280		8.56	2.79	3.9	4.25	3.63	3.9	7.17	6.28
ESCRC8.0x300		8.56	2.79	3.9	4.25	3.63	3.9	7.17	6.28
ESCRC8.0x320		8.56	2.79	3.9	4.25	3.63	3.9	7.17	6.28
ESCRC8.0x340		8.56	2.79	3.9	4.25	3.63	3.9	7.17	6.28
ESCRC8.0x360		8.56	2.79	3.9	4.25	3.63	3.9	7.17	6.28
ESCRC8.0x400	8.56	2.79	3.9	4.25	3.63	3.9	7.17	6.28	
ESCRC10.0x120	10	5.7	4.18	5.29	5.79	4.92	5.29	8.14	6.91
ESCRC10.0x140		5.7	4.18	5.29	5.79	4.92	5.29	8.14	6.91
ESCRC10.0x160		9.5	4.18	5.29	5.79	4.92	5.29	9.09	7.86
ESCRC10.0x180		9.5	4.18	5.29	5.79	4.92	5.29	9.09	7.86
ESCRC10.0x200		9.5	4.18	5.29	5.79	4.92	5.29	9.09	7.86
ESCRC10.0x220		9.5	4.18	5.29	5.79	4.92	5.29	9.09	7.86
ESCRC10.0x240		9.5	4.18	5.29	5.79	4.92	5.29	9.09	7.86
ESCRC10.0x280		9.5	4.18	5.29	5.79	4.92	5.29	9.09	7.86
ESCRC10.0x300		9.5	4.18	5.29	5.79	4.92	5.29	9.09	7.86
ESCRC10.0x320		9.5	4.18	5.29	5.79	4.92	5.29	9.09	7.86
ESCRC10.0x340		9.5	4.18	5.29	5.79	4.92	5.29	9.09	7.86
ESCRC10.0x360		9.5	4.18	5.29	5.79	4.92	5.29	9.09	7.86
ESCRC10.0x400		9.5	4.18	5.29	5.79	4.92	5.29	9.09	7.86

a) The thickness of the secondary member is not sufficient according to ETA-13/0796 annex 7 table A6.9, so no values are given for these dimensions in case of wood to wood connection. For Steel to wood connection no minimal thickness is defined.

- The tension resistance of the thread have been calculated with an angle between 45° and 90° compared with the grain.
- The geometry and mechanical properties are defined in ETA-13/0769.
- The values are for a timber class C24 # = 350 kg/m³.
- The thickness of the secondary member (AD) has been chosen equal to the length of the smooth part.
- All values have been calculated with a thread totally drawn in the primary member.
- For connection steel to timber, the thickness of the steel plate is equal to the diameter for calculation.
- Subject to setting and printing error.
- The values given are available to help the design. Projects must be carried out exclusively by duly licensed professionals.

ESCRC Mechanical Properties

References	Characteristic Tensile Capacity > f _{tens,k} [kN]	Characteristic Yield Moment > M _{y,k} [Nm]	Characteristic Head Pull-Through parameter > f _{head,k} [N/mm ²]	Characteristic Withdrawal parameter > f _{ax,k,90°} [N/mm ²]
ESCRC6.0 Range	12.8	10.1	14.6	13.0
ESCRC8.0 Range	22.7	22.6	12.4	10.7
ESCRC10.0 Range				
ESCRC5.0 Range				

Mechanical properties

References	Characteristic Yield Moment [M _{y,k}] [Nm]	Characteristic Withdrawal Parameter [f _{ax,k,90°}] [N/mm ²]	Characteristic Head Pull-Through Parameter [f _{head,k}] [N/mm ²]	Characteristic Tensile Capacity [f _{tens,k}] [kN]	Characteristic torsional strength [f _{tor,k}] [Nm]
ESCRC6.0X60	10.1	13	14.6	12.8	10.1
ESCRC6.0X70	10.1	13	14.6	12.8	10.1
ESCRC6.0X80	10.1	13	14.6	12.8	10.1
ESCRC6.0X90	10.1	13	14.6	12.8	10.1
ESCRC6.0X100	10.1	13	14.6	12.8	10.1
ESCRC6.0X120	10.1	13	14.6	12.8	10.1
ESCRC6.0X140	10.1	13	14.6	12.8	10.1
ESCRC6.0X160	10.1	13	14.6	12.8	10.1
ESCRC6.0X180	10.1	13	14.6	12.8	10.1
ESCRC6.0X200	10.1	13	14.6	12.8	10.1
ESCRC8.0X80	22.6	10.7	12.4	22.7	25.6
ESCRC8.0X100	22.6	10.7	12.4	22.7	25.6
ESCRC8.0X120	22.6	10.7	12.4	22.7	25.6
ESCRC8.0X140	22.6	10.7	12.4	22.7	25.6
ESCRC8.0X160	22.6	10.7	12.4	22.7	25.6
ESCRC8.0X180	22.6	10.7	12.4	22.7	25.6
ESCRC8.0X200	22.6	10.7	12.4	22.7	25.6
ESCRC8.0X220	22.6	10.7	12.4	22.7	25.6
ESCRC8.0X240	22.6	10.7	12.4	22.7	25.6
ESCRC8.0X260	22.6	10.7	12.4	22.7	25.6
ESCRC8.0X280	22.6	10.7	12.4	22.7	25.6
ESCRC8.0X300	22.6	10.7	12.4	22.7	25.6
ESCRC8.0X320	22.6	10.7	12.4	22.7	25.6
ESCRC8.0X340	22.6	10.7	12.4	22.7	25.6
ESCRC8.0X360	22.6	10.7	12.4	22.7	25.6
ESCRC8.0X400	22.6	10.7	12.4	22.7	25.6
ESCRC10.0X120	33	9.5	12.2	33.2	47.5
ESCRC10.0X140	33	9.5	12.2	33.2	47.5
ESCRC10.0X160	33	9.5	12.2	33.2	47.5

References	Characteristic Yield Moment [My,k] [Nm]	Characteristic Withdrawal Parameter [fax,k,90°] [N/mm²]	Characteristic Head Pull-Through Parameter [fhead,k] [N/mm²]	Characteristic Tensile Capacity [ftens,k] [kN]	Characteristic torsional strength [ftor,k] [Nm]
ESCRC10.0X180	33	9,5	12,2	33,2	47,5
ESCRC10.0X200	33	9,5	12,2	33,2	47,5
ESCRC10.0X220	33	9,5	12,2	33,2	47,5
ESCRC10.0X240	33	9,5	12,2	33,2	47,5
ESCRC10.0X280	33	9,5	12,2	33,2	47,5
ESCRC10.0X300	33	9,5	12,2	33,2	47,5
ESCRC10.0X320	33	9,5	12,2	33,2	47,5
ESCRC10.0X340	33	9,5	12,2	33,2	47,5
ESCRC10.0X360	33	9,5	12,2	33,2	47,5
ESCRC10.0X400	33	9,5	12,2	33,2	47,5
ESCRC6.0X220	10,1	13	14,6	12,8	10,1
ESCRC6.0X240	10,1	13	14,6	12,8	10,1
ESCRC6.0X260	10,1	13	14,6	12,8	10,1
ESCRC6.0X280	10,1	13	14,6	12,8	10,1
ESCRC6.0X300	10,1	13	14,6	12,8	10,1
ESCRC8.0X380	22,6	10,7	12,4	22,7	25,6
ESCRC5.0x50					
ESCRC5.0x60					
ESCRC5.0x70					
ESCRC5.0x80					
ESCRC5.0x90					

INSTALLATION



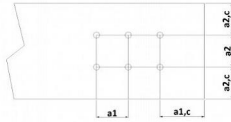
Fixation de ceinture périphérique sur la lisse haute

Fixation dalle OSB sur solive de plancher

Assemblage de montants pour la réalisation d'ITE

Assemblage de panneaux massifs multi-plis

Minimal distance



References	Min distances b)			
	a1 [mm]	a2 [mm]	a1,c [mm]	a2,c [mm]
ESCRC 5,0	25	25	25	20
ESCRC 6,0	30	30	30	24
ESCRC 8,0	40	40	40	32
ESCRC 10,0	70	50	100	40

The spacing a2 can be reduce to 2,5xØ, when a1 x a2 > 25 x Ø². Don't apply to Ø > 8mm.

b) The minimal spacing are given according to ETA-13/0796 A.7.3 for axial loading. For shear, please refer to EN1995-1-1