

# Tekniset tiedot

**SIMPSON**  
**Strong-Tie**

ESCRC

## Uppokantainen rakenneruuvi puulle

ESCRC on 6, 8 tai 10 mm uppokantainen ruuvi, joka on suunniteltu puutavaran liittämiseen. ESCRC ruuveissa rungon rihlaus takaa sujuvan ruuvauksen. Uppokanta mahdollistaa tiiviin pinnanmyötäisen asennuksen.

## Ominaisuudet

### Materiaali

- Teräslaatu:  
Hiilliteräs
- Korroosiosuoja:  
N. 5 µm sinkkikerros

### Hyödyt

- ESCRC ruuveissa rungon rihlaus takaa sujuvan ruuvauksen.
- Uppokanta mahdollistaa tiiviin pinnanmyötäisen asennuksen.

### Sovellus

### Liitos

- **Puu-puu liitos**

### Käyttökohteet

- On muotoiltu niin, että voidaan yhdistää kaksi tai useampia puuosia rakenteessa

CE



EZGJ

INDOOR



Palkki- ja pylväskokoonpano



Multi-ply panel assembly



Harjarakenteet



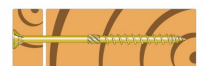
Julkisivurunko



OSB assembly



Poranterä (toimitetaan laatikossa)



ESCRC  
Uppokantainen rakenneruuvi puulle

## Technical Data

## ESCRC Uppokantainen rakenneruuvi puulle

Mitat ja ominaisarvot



Tuotenro	Mitat ja ominaisarvot [mm]					Bit	Määrä / laatikko
	L	l <sub>g</sub>	d <sub>1</sub>	D	d <sub>h</sub>		
ESCRC5.0x50	50	30	-	5	10	TX25	250
ESCRC5.0x60	60	30	-	5	10	TX25	250
ESCRC5.0x70	70	37	-	5	10	TX25	200
ESCRC5.0x80	80	37	-	5	10	TX25	200
ESCRC5.0x90	90	55	-	5	10	TX25	200
ESCRC6.0x60	60	36	4	6	12	TX30	200
ESCRC6.0x70	70	36	4	6	12	TX30	200
ESCRC6.0x80	80	48	4	6	12	TX30	100
ESCRC6.0x90	90	48	4	6	12	TX30	100
ESCRC6.0x100	100	48	4	6	12	TX30	100
ESCRC6.0x120	120	64	4	6	12	TX30	100
ESCRC6.0x140	140	64	4	6	12	TX30	100
ESCRC6.0x160	160	64	4	6	12	TX30	100
ESCRC6.0x180	180	64	4	6	12	TX30	100
ESCRC6.0x200	200	64	4	6	12	TX30	100
ESCRC6.0x220	220	64	-	6	12	TX30	100
ESCRC6.0x240	240	64	-	6	12	TX30	100
ESCRC6.0x260	260	64	-	6	12	TX30	100
ESCRC6.0x280	280	64	-	6	12	TX30	100
ESCRC6.0x300	300	64	-	6	12	TX30	100
ESCRC8.0x100	100	54	5.3	8	15	TX40	50
ESCRC8.0x120	120	54	5.3	8	15	TX40	50
ESCRC8.0x140	140	84	5.3	8	15	TX40	50
ESCRC8.0x180	180	100	5.3	8	15	TX40	50
ESCRC8.0x160	160	84	5.3	8	15	TX40	50
ESCRC8.0x200	200	100	5.3	8	15	TX40	50
ESCRC8.0x220	220	100	5.3	8	15	TX40	50
ESCRC8.0x240	240	100	5.3	8	15	TX40	50
ESCRC8.0x260	260	100	5.3	8	15	TX40	50
ESCRC8.0x280	280	100	5.3	8	15	TX40	50
ESCRC8.0x300	300	100	5.3	8	15	TX40	50
ESCRC8.0x320	320	100	5.3	8	15	TX40	50
ESCRC8.0x340	340	100	5.3	8	15	TX40	50
ESCRC8.0x360	360	100	5.3	8	15	TX40	50
ESCRC8.0x380	380	100	5.3	8	15	TX40	50
ESCRC8.0x400	400	100	5.3	8	15	TX40	50
ESCRC10.0x80	80	60	6.2	10	18.5	TX40	50
ESCRC10.0x100	100	60	6.2	10	18.5	TX40	50
ESCRC10.0x120	120	60	6.2	10	18.5	TX40	50
ESCRC10.0x140	140	60	6.2	10	18.5	TX40	50
ESCRC10.0x160	160	100	6.2	10	18.5	TX40	50
ESCRC10.0x180	180	100	6.2	10	18.5	TX40	50
ESCRC10.0x200	200	100	6.2	10	18.5	TX40	50
ESCRC10.0x220	220	100	6.2	10	18.5	TX40	50
ESCRC10.0x240	240	100	6.2	10	18.5	TX40	50
ESCRC10.0x260	260	100	6.2	10	18.5	TX40	50
ESCRC10.0x280	280	100	6.2	10	18.5	TX40	50

ESCRC  
Uppokantainen rakenneruuvi puulle

Tuotenro	Mitat ja ominaisarvot [mm]					Bit	Määrä / laatikko
	L	l <sub>g</sub>	d <sub>1</sub>	D	d <sub>h</sub>		
ESCRC10.0X300	300	100	6.2	10	18.5	TX40	50
ESCRC10.0X320	320	100	6.2	10	18.5	TX40	50
ESCRC10.0X340	340	100	6.2	10	18.5	TX40	50
ESCRC10.0X360	360	100	6.2	10	18.5	TX40	50
ESCRC10.0x380	380	100	6.2	10	18.5	TX40	50
ESCRC10.0X400	400	100	6.2	10	18.5	TX40	50
ESCRC6.0x130	-	-	-	-	-	-	-
ESCRC6.0X150	-	-	-	-	-	-	-

ESCRC  
Uppokantainen rakenneruuvi puulle

## Tuotteen ominaisuudet

Tuotenumero	Taivutuslujuus - $M_{y,k}$ [Nm]	Tyypillinen vetoparametri - $f_{ax,k,90^\circ}$ [N/mm <sup>2</sup> ]	Tyypillinen läpivetoparametri - $f_{head,k}$ [N/mm <sup>2</sup> ]	Tyypillinen vetolujuus - $f_{tens,k}$ [kN]	Tyypillinen vääntölujuus - $f_{tor,k}$ [Nm]
ESCRC5.0x50	6.5	13.6	14.6	8.8	6.3
ESCRC5.0x60	6.5	13.6	14.6	8.8	6.3
ESCRC5.0x70	6.5	13.6	14.6	8.8	6.3
ESCRC5.0x80	6.5	13.6	14.6	8.8	6.3
ESCRC5.0x90	6.5	13.6	14.6	8.8	6.3
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
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
ESCRC8.0X100	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
ESCRC8.0X180	22.6	10.7	12.4	22.7	25.6
ESCRC8.0X160	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
ESCRC8.0x380	22.6	10.7	12.4	22.7	25.6
ESCRC8.0X400	22.6	10.7	12.4	22.7	25.6
ESCRC10.0x80	33	9.5	12.2	33.2	47.5
ESCRC10.0x100	33	9.5	12.2	33.2	47.5
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
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
ESCRC10.0x260	33	9.5	12.2	33.2	47.5
ESCRC10.0X280	33	9.5	12.2	33.2	47.5

ESCRC

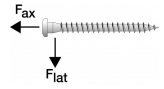
Uppokantainen rakenneruuvi puulle



Tuotenro	Taivutuslujuus - $M_{y,k}$ [Nm]	Tyypillinen vetoparametri - $f_{ax,k,90^\circ}$ [N/mm <sup>2</sup> ]	Tyypillinen läpivetoparametri - $f_{head,k}$ [N/mm <sup>2</sup> ]	Tyypillinen vetolujuus - $f_{tens,k}$ [kN]	Tyypillinen vääntölujuus - $f_{tor,k}$ [Nm]
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
ESCRC10.0x380	33	9.5	12.2	33.2	47.5
ESCRC10.0X400	33	9.5	12.2	33.2	47.5
ESCRC6.0x130	-	-	-	-	-
ESCRC6.0X150	-	-	-	-	-

## ESCRC Uppokantainen rakenneruuvi puulle

Kestävyyden ominaisarvot



Tuotenro	Kestävyyden ominaisarvot [kN]							
	R <sub>ax,k</sub> config [1]	R <sub>head,k</sub> config [2]	Leikkauslujuus - puu-puu - R <sub>lat,k</sub>				Leikkauslujuus - teräs-puu - R <sub>lat,k</sub>	
			α <sub>1</sub> =90° and α <sub>2</sub> =0° config [3]	α <sub>1</sub> =0° and α <sub>2</sub> =0° config [4]	α <sub>1</sub> =90° and α <sub>2</sub> =90° config [5]	α <sub>1</sub> =0° and α <sub>2</sub> =90° config [6]	α <sub>2</sub> =0° config [7]	α <sub>2</sub> =90° config [8] [kN]
ESCRC5.0x50	-	-	-	-	-	-	-	-
ESCRC5.0x60	-	-	-	-	-	-	-	-
ESCRC5.0x70	-	-	-	-	-	-	-	-
ESCRC5.0x80	-	-	-	-	-	-	-	-
ESCRC5.0x90	-	-	-	-	-	-	-	-
ESCRC6.0X60	2.81	2.1	1.81	1.81	1.81	1.81	3.02	3
ESCRC6.0X70	2.81	2.1	1.96	1.96	1.96	1.96	3.02	3
ESCRC6.0X80	3.74	2.1	1.96	1.96	1.96	1.96	3.25	3.3
ESCRC6.0X90	3.74	2.1	2.16	2.16	2.16	2.16	3.25	3.3
ESCRC6.0X100	3.74	2.1	2.16	2.16	2.16	2.16	3.25	3.3
ESCRC6.0X120	4.99	2.1	2.16	2.16	2.16	2.16	3.57	3.6
ESCRC6.0X140	4.99	2.1	2.16	2.16	2.16	2.16	3.57	3.6
ESCRC6.0X160	4.99	2.1	2.16	2.16	2.16	2.16	3.57	3.6
ESCRC6.0X180	4.99	2.1	2.16	2.16	2.16	2.16	3.57	3.6
ESCRC6.0X200	4.99	2.1	2.16	2.16	2.16	2.16	3.57	3.6
ESCRC6.0x220	-	-	-	-	-	-	-	-
ESCRC6.0x240	-	-	-	-	-	-	-	-
ESCRC6.0x260	-	-	-	-	-	-	-	-
ESCRC6.0x280	-	-	-	-	-	-	-	-
ESCRC6.0x300	-	-	-	-	-	-	-	-
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	5.9
ESCRC8.0X180	8.56	2.79	3.9	4.25	3.63	3.9	7.17	6.3
ESCRC8.0X160	7.19	2.79	3.9	4.25	3.63	3.9	6.82	5.9
ESCRC8.0X200	8.56	2.79	3.9	4.25	3.63	3.9	7.17	6.3
ESCRC8.0X220	8.56	2.79	3.9	4.25	3.63	3.9	7.17	6.3
ESCRC8.0X240	8.56	2.79	3.9	4.25	3.63	3.9	7.17	6.3
ESCRC8.0X260	8.56	2.79	3.9	4.25	3.63	3.9	7.17	6.3
ESCRC8.0X280	8.56	2.79	3.9	4.25	3.63	3.9	7.17	6.3
ESCRC8.0X300	8.56	2.79	3.9	4.25	3.63	3.9	7.17	6.3
ESCRC8.0X320	8.56	2.79	3.9	4.25	3.63	3.9	7.17	6.3
ESCRC8.0X340	8.56	2.79	3.9	4.25	3.63	3.9	7.17	6.3
ESCRC8.0X360	8.56	2.79	3.9	4.25	3.63	3.9	7.17	6.3
ESCRC8.0x380	-	-	-	-	-	-	-	-
ESCRC8.0X400	8.56	2.79	3.9	4.25	3.63	3.9	7.17	6.3
ESCRC10.0x80	-	-	-	-	-	-	-	-
ESCRC10.0x100	-	-	-	-	-	-	-	-
ESCRC10.0X120	5.7	4.18	5.29	5.79	4.92	5.29	8.14	6.9
ESCRC10.0X140	5.7	4.18	5.29	5.79	4.92	5.29	8.14	6.9
ESCRC10.0X160	9.5	4.18	5.29	5.79	4.92	5.29	9.09	7.9

Katso lisätiedot ja tarkemmat tiedot asiakirjasta ETA-13/0769 tai soita tekniseen asiakastukeen.

ESCRC

Uppokantainen rakenneruuvi puulle

Tuotenro	Kestävyyden ominaisarvot [kN]							
	R <sub>ax,k</sub> config [1]	R <sub>head,k</sub> config [2]	Leikkauslujuus - puu-puu - R <sub>lat,k</sub>				Leikkauslujuus - teräs-puu - R <sub>lat,k</sub>	
			α <sub>1</sub> =90° and α <sub>2</sub> =0° config [3]	α <sub>1</sub> =0° and α <sub>2</sub> =0° config [4]	α <sub>1</sub> =90° and α <sub>2</sub> =90° config [5]	α <sub>1</sub> =0° and α <sub>2</sub> =90° config [6]	α <sub>2</sub> =0° config [7]	α <sub>2</sub> =90° config [8] [kN]
ESCRC10.0X180	9.5	4.18	5.29	5.79	4.92	5.29	9.09	7.9
ESCRC10.0X200	9.5	4.18	5.29	5.79	4.92	5.29	9.09	7.9
ESCRC10.0X220	9.5	4.18	5.29	5.79	4.92	5.29	9.09	7.9
ESCRC10.0X240	9.5	4.18	5.29	5.79	4.92	5.29	9.09	7.9
ESCRC10.0x260	-	-	-	-	-	-	-	-
ESCRC10.0X280	9.5	4.18	5.29	5.79	4.92	5.29	9.09	7.9
ESCRC10.0X300	9.5	4.18	5.29	5.79	4.92	5.29	9.09	7.9
ESCRC10.0X320	9.5	4.18	5.29	5.79	4.92	5.29	9.09	7.9
ESCRC10.0X340	9.5	4.18	5.29	5.79	4.92	5.29	9.09	7.9
ESCRC10.0X360	9.5	4.18	5.29	5.79	4.92	5.29	9.09	7.9
ESCRC10.0x380	-	-	-	-	-	-	-	-
ESCRC10.0X400	9.5	4.18	5.29	5.79	4.92	5.29	9.09	7.9
ESCRC6.0x130	-	-	-	-	-	-	-	-
ESCRC6.0X150	-	-	-	-	-	-	-	-

Katso lisätiedot ja tarkemmat tiedot asiakirjasta ETA-13/0769 tai soita tekniseen asiakastukeen.



ESCRC  
**Uppokantainen rakenneruuvi puulle**

## Asennus



*Fixation de ceinture périphérique sur la lisse haute*



*OSB assembly*



*Julkisivurunko*



*Multi-ply panel assembly*

ESCRC

**Uppokantainen rakenneruuvi puulle**

## **Ominaisarvot**

## ESCRC Uppokantainen rakenneruuvi puulle

### Timber to Timber characteristic capacities

Tuotenro	Product characteristic capacities - Timber to Timber C24															
	Axial resistance		Shear resistance parallel to the grain depending of $t_1$ [Rv.0.k] [kN]							Shear resistance perpendicular to the grain depending of $t_1$ [Rv.90.k] [kN]						
	$t_1$ [mm]	$R_{ax,k}$ [kN]	35 [mm]	40 [mm]	45 [mm]	60 [mm]	75 [mm]	80 [mm]	$\geq 100$ [mm]	35 [mm]	40 [mm]	45 [mm]	60 [mm]	75 [mm]	80 [mm]	$\geq 100$ [mm]
ESCRC5.0x50	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ESCRC5.0x60	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ESCRC5.0x70	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ESCRC5.0x80	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ESCRC5.0x90	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ESCRC6.0X60	24	2.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ESCRC6.0X70	34	2.1	2.25	-	-	-	-	-	-	2.25	-	-	-	-	-	-
ESCRC6.0X80	32	2.1	2.28	-	-	-	-	-	-	2.28	-	-	-	-	-	-
ESCRC6.0X90	42	2.1	2.28	2.31	2.31	-	-	-	-	2.28	2.31	2.31	-	-	-	-
ESCRC6.0X100	52	2.1	2.28	2.31	2.31	-	-	-	-	2.28	2.31	2.31	-	-	-	-
ESCRC6.0X120	56	2.1	2.28	2.31	2.31	2.31	-	-	-	2.28	2.31	2.31	2.31	-	-	-
ESCRC6.0X140	76	2.1	2.28	2.31	2.31	2.31	2.31	2.31	-	2.28	2.31	2.31	2.31	2.31	2.31	-
ESCRC6.0X160	96	2.1	2.28	2.31	2.31	2.31	2.31	2.31	2.31	2.28	2.31	2.31	2.31	2.31	2.31	2.31
ESCRC6.0X180	116	2.1	2.28	2.31	2.31	2.31	2.31	2.31	2.31	2.28	2.31	2.31	2.31	2.31	2.31	2.31
ESCRC6.0X200	136	2.1	2.28	2.31	2.31	2.31	2.31	2.31	2.31	2.28	2.31	2.31	2.31	2.31	2.31	2.31
ESCRC6.0x220	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ESCRC6.0x240	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ESCRC6.0x260	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ESCRC6.0x280	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ESCRC6.0x300	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ESCRC8.0X100	46	2.79	3.92	4.22	4.25	-	-	-	-	3.08	3.26	3.46	-	-	-	-
ESCRC8.0X120	66	2.79	3.92	4.22	4.25	4.25	-	-	-	3.08	3.26	3.46	3.63	-	-	-
ESCRC8.0X140	56	2.79	3.92	4.22	4.25	4.25	-	-	-	3.08	3.26	3.46	3.63	-	-	-
ESCRC8.0X180	80	2.79	3.92	4.22	4.25	4.25	4.25	4.25	-	3.08	3.26	3.46	3.63	3.63	3.63	-
ESCRC8.0X160	76	2.79	3.92	4.22	4.25	4.25	4.25	4.25	-	3.08	3.26	3.46	3.63	3.63	3.63	-
ESCRC8.0X200	100	2.79	3.92	4.22	4.25	4.25	4.25	4.25	4.25	3.08	3.26	3.46	3.63	3.63	3.63	3.63
ESCRC8.0X220	120	2.79	3.92	4.22	4.25	4.25	4.25	4.25	4.25	3.08	3.26	3.46	3.63	3.63	3.63	3.63

These capacities are valid for:

- Timber element under the head with thickness  $\leq t_1$  disclosed in adjacent column
- Screw axis between  $45^\circ$  and  $90^\circ$  from timber grain for ESCR(XXX), and  $90^\circ$  from timber grain for all other screws.

For tightening screws (partially threaded),  $t_1$  dimension is the maximum thickness of the under-head timber member for which the thread is fully in the pointside timber member, for an optimum installation and tightening.

The shear capacities are given for several timber thicknesses  $t_1$  of the under-head member under the following configurations:

- Load axis at  $0^\circ$  from both timber grains  $R_{v,0^\circ,k}$
- Load axis at  $90^\circ$  from both timber grains  $R_{v,90^\circ,k}$

These capacities are valid for C24 timber grades or higher

The pre-drilled hypothesis for capacity and distances calculation is fulfilled.

For partial threaded screws, capacities are only given for configurations where the thread is less than 5mm in under-head timber member, in order to achieve optimum installation and tightening.

Clause (2) in 8.3.1.2 from EN1995-1-1:2004+A2:2014 about embedment length is ignored in these calculations.

ESCRC

## Uppokantainen rakenneruuvi puulle

Product characteristic capacities - Timber to Timber C24

Tuotenro	Axial resistance		Shear resistance parallel to the grain depending of $t_1$ [Rv.0.k] [kN]							Shear resistance perpendicular to the grain depending of $t_1$ [Rv.90.k] [kN]						
	$t_1$ [mm]	$R_{ax,k}$ [kN]	35 [mm]	40 [mm]	45 [mm]	60 [mm]	75 [mm]	80 [mm]	≥100 [mm]	35 [mm]	40 [mm]	45 [mm]	60 [mm]	75 [mm]	80 [mm]	≥100 [mm]
	ESCRC8.0X240	140	2.79	3.92	4.22	4.25	4.25	4.25	4.25	4.25	3.08	3.26	3.46	3.63	3.63	3.63
ESCRC8.0X260	160	2.79	3.92	4.22	4.25	4.25	4.25	4.25	4.25	3.08	3.26	3.46	3.63	3.63	3.63	3.63
ESCRC8.0X280	180	2.79	3.92	4.22	4.25	4.25	4.25	4.25	4.25	3.08	3.26	3.46	3.63	3.63	3.63	3.63
ESCRC8.0X300	200	2.79	3.92	4.22	4.25	4.25	4.25	4.25	4.25	3.08	3.26	3.46	3.63	3.63	3.63	3.63
ESCRC8.0X320	220	2.79	3.92	4.22	4.25	4.25	4.25	4.25	4.25	3.08	3.26	3.46	3.63	3.63	3.63	3.63
ESCRC8.0X340	240	2.79	3.92	4.22	4.25	4.25	4.25	4.25	4.25	3.08	3.26	3.46	3.63	3.63	3.63	3.63
ESCRC8.0X360	260	2.79	3.92	4.22	4.25	4.25	4.25	4.25	4.25	3.08	3.26	3.46	3.63	3.63	3.63	3.63
ESCRC8.0x380	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ESCRC8.0X400	300	2.79	3.92	4.22	4.25	4.25	4.25	4.25	4.25	3.08	3.26	3.46	3.63	3.63	3.63	3.63
ESCRC10.0x80	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ESCRC10.0x100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ESCRC10.0X120	60	4.18	-	5.48	5.79	5.79	-	-	-	-	4.25	4.48	4.92	-	-	-
ESCRC10.0X140	80	4.18	-	5.48	5.79	5.79	5.79	5.79	-	-	4.25	4.48	4.92	4.92	4.92	-
ESCRC10.0X160	60	4.18	-	5.48	5.79	5.79	5.79	5.79	-	-	4.25	4.48	4.92	4.92	4.92	-
ESCRC10.0X180	80	4.18	-	5.48	5.79	5.79	5.79	5.79	-	-	4.25	4.48	4.92	4.92	4.92	-
ESCRC10.0X200	100	4.18	-	5.48	5.79	5.79	5.79	5.79	5.79	-	4.25	4.48	4.92	4.92	4.92	4.92
ESCRC10.0X220	120	4.18	-	5.48	5.79	5.79	5.79	5.79	5.79	-	4.25	4.48	4.92	4.92	4.92	4.92
ESCRC10.0X240	140	4.18	-	5.48	5.79	5.79	5.79	5.79	5.79	-	4.25	4.48	4.92	4.92	4.92	4.92
ESCRC10.0x260	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ESCRC10.0X280	180	4.18	-	5.48	5.79	5.79	5.79	5.79	5.79	-	4.25	4.48	4.92	4.92	4.92	4.92
ESCRC10.0X300	200	4.18	-	5.48	5.79	5.79	5.79	5.79	5.79	-	4.25	4.48	4.92	4.92	4.92	4.92
ESCRC10.0X320	220	4.18	-	5.48	5.79	5.79	5.79	5.79	5.79	-	4.25	4.48	4.92	4.92	4.92	4.92
ESCRC10.0X340	240	4.18	-	5.48	5.79	5.79	5.79	5.79	5.79	-	4.25	4.48	4.92	4.92	4.92	4.92
ESCRC10.0X360	260	4.18	-	5.48	5.79	5.79	5.79	5.79	5.79	-	4.25	4.48	4.92	4.92	4.92	4.92
ESCRC10.0x380	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ESCRC10.0X400	300	4.18	-	5.48	5.79	5.79	5.79	5.79	5.79	-	4.25	4.48	4.92	4.92	4.92	4.92
ESCRC6.0x130	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ESCRC6.0X150	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

These capacities are valid for:

- Timber element under the head with thickness  $\leq t_1$  disclosed in adjacent column
- Screw axis between  $45^\circ$  and  $90^\circ$  from timber grain for ESCR(XXX), and  $90^\circ$  from timber grain for all other screws.

For tightening screws (partially threaded),  $t_1$  dimension is the maximum thickness of the under-head timber member for which the thread is fully in the pointside timber member, for an optimum installation and tightening.

The shear capacities are given for several timber thicknesses  $t_1$  of the under-head member under the following configurations:

- Load axis at  $0^\circ$  from both timber grains  $R_{v,0^\circ.k}$
- Load axis at  $90^\circ$  from both timber grains  $R_{v,90^\circ.k}$

These capacities are valid for C24 timber grades or higher

The pre-drilled hypothesis for capacity and distances calculation is fulfilled.

For partial threaded screws, capacities are only given for configurations where the thread is less than 5mm in under-head timber member, in order to achieve optimum installation and tightening.

Clause (2) in 8.3.1.2 from EN1995-1-1:2004+A2:2014 about embedment length is ignored in these calculations.

## ESCRC Uppokantainen rakenneruuvi puulle

Steel to Timber characteristic capacities

Tuotenro	Product characteristic capacities - Steel to Timber C24				
	Axial resistance [R <sub>ax.st.k</sub> ] [kN]	Shear resistance - Thin plate		Shear Resistance - Thick steel	
		R <sub>v,0.st.k</sub> [kN]	R <sub>v,90.st.k</sub> [kN]	R <sub>v,0.st.k</sub> [kN]	R <sub>v,90.st.k</sub> [kN]
ESCRC5.0x50	-	-	-	-	-
ESCRC5.0x60	-	-	-	-	-
ESCRC5.0x70	-	-	-	-	-
ESCRC5.0x80	-	-	-	-	-
ESCRC5.0x90	-	-	-	-	-
ESCRC6.0X60	2.81	2.49	2.49	3.23	3.23
ESCRC6.0X70	2.81	2.49	2.49	3.23	3.23
ESCRC6.0X80	3.74	2.72	2.72	3.46	3.46
ESCRC6.0X90	3.74	2.72	2.72	3.46	3.46
ESCRC6.0X100	3.74	2.72	2.72	3.46	3.46
ESCRC6.0X120	4.99	3.03	3.03	3.77	3.77
ESCRC6.0X140	4.99	3.03	3.03	3.77	3.77
ESCRC6.0X160	4.99	3.03	3.03	3.77	3.77
ESCRC6.0X180	4.99	3.03	3.03	3.77	3.77
ESCRC6.0X200	4.99	3.03	3.03	3.77	3.77
ESCRC6.0x220	-	-	-	-	-
ESCRC6.0x240	-	-	-	-	-
ESCRC6.0x260	-	-	-	-	-
ESCRC6.0x280	-	-	-	-	-
ESCRC6.0x300	-	-	-	-	-
ESCRC8.0X100	4.62	4.71	4.09	6.18	5.3
ESCRC8.0X120	4.62	4.71	4.09	6.18	5.3
ESCRC8.0X140	7.19	5.35	4.73	6.82	5.94
ESCRC8.0X180	8.56	5.69	5.07	7.17	6.28
ESCRC8.0X160	7.19	5.35	4.73	6.82	5.94
ESCRC8.0X200	8.56	5.69	5.07	7.17	6.28
ESCRC8.0X220	8.56	5.69	5.07	7.17	6.28
ESCRC8.0X240	8.56	5.69	5.07	7.17	6.28
ESCRC8.0X260	8.56	5.69	5.07	7.17	6.28
ESCRC8.0X280	8.56	5.69	5.07	7.17	6.28
ESCRC8.0X300	8.56	5.69	5.07	7.17	6.28
ESCRC8.0X320	8.56	5.69	5.07	7.17	6.28
ESCRC8.0X340	8.56	5.69	5.07	7.17	6.28
ESCRC8.0X360	8.56	5.69	5.07	7.17	6.28
ESCRC8.0x380	-	-	-	-	-
ESCRC8.0X400	8.56	5.69	5.07	7.17	6.28

Shear capacities are given for thick ( $t_{st} = d$ ) and thin ( $t_{st} = 0,5xd$ ) steel plates under the following configurations:

- Load axis at 0° from timber grain  $R_{v,0°.k}$
- Load axis at 90° from timber grain  $R_{v,90°.k}$

These capacities are valid for C24 timber grades or higher.

For intermediate steel thicknesses, capacities shall be calculated by linear interpolation between the limiting thin and thick plate values.

The pre-drilled hypothesis for capacity and distances calculation is fulfilled.

## ESCRC Uppokantainen rakenneruuvi puulle

Tuotenro	Product characteristic capacities - Steel to Timber C24				
	Axial resistance [R <sub>ax.st.k</sub> ] [kN]	Shear resistance - Thin plate		Shear Resistance - Thick steel	
		R <sub>v.0.st.k</sub> [kN]	R <sub>v.90.st.k</sub> [kN]	R <sub>v.0.st.k</sub> [kN]	R <sub>v.90.st.k</sub> [kN]
ESCRC10.0x80	-	-	-	-	-
ESCRC10.0x100	-	-	-	-	-
ESCRC10.0X120	5.7	6.17	5.3	8.14	6.91
ESCRC10.0X140	5.7	6.17	5.3	8.14	6.91
ESCRC10.0X160	9.5	7.12	6.25	9.09	7.86
ESCRC10.0X180	9.5	7.12	6.25	9.09	7.86
ESCRC10.0X200	9.5	7.12	6.25	9.09	7.86
ESCRC10.0X220	9.5	7.12	6.25	9.09	7.86
ESCRC10.0X240	9.5	7.12	6.25	9.09	7.86
ESCRC10.0x260	-	-	-	-	-
ESCRC10.0X280	9.5	7.12	6.25	9.09	7.86
ESCRC10.0X300	9.5	7.12	6.25	9.09	7.86
ESCRC10.0X320	9.5	7.12	6.25	9.09	7.86
ESCRC10.0X340	9.5	7.12	6.25	9.09	7.86
ESCRC10.0X360	9.5	7.12	6.25	9.09	7.86
ESCRC10.0x380	-	-	-	-	-
ESCRC10.0X400	9.5	7.12	6.25	9.09	7.86
ESCRC6.0x130	-	-	-	-	-
ESCRC6.0X150	-	-	-	-	-

Shear capacities are given for thick ( $t_{st} = d$ ) and thin ( $t_{st} = 0,5xd$ ) steel plates under the following configurations:

- Load axis at 0° from timber grain  $R_{v.0°.k}$
- Load axis at 90° from timber grain  $R_{v.90°.k}$

These capacities are valid for C24 timber grades or higher.

For intermediate steel thicknesses, capacities shall be calculated by linear interpolation between the limiting thin and thick plate values.

The pre-drilled hypothesis for capacity and distances calculation is fulfilled.

## ESCRC Uppokantainen rakenneruuvi puulle

Ledger on Stud characteristic capacities

Tuotenumero	Product characteristic capacities - Ledger on stud C24									
	Minimum width of the stud [mm]	Minimum distance to the bottom side of the ledger $a_{4,c}$ [mm]	Shear capacity depending of thickness of ledger $t_1$ [Rv.90-0.k] [kN]							
			35 [mm]	40 [mm]	45 [mm]	60 [mm]	75 [mm]	80 [mm]	90 [mm]	≥100 [mm]
ESCRC5.0x50	-	-	-	-	-	-	-	-	-	-
ESCRC5.0x60	-	-	-	-	-	-	-	-	-	-
ESCRC5.0x70	-	-	-	-	-	-	-	-	-	-
ESCRC5.0x80	-	-	-	-	-	-	-	-	-	-
ESCRC5.0x90	-	-	-	-	-	-	-	-	-	-
ESCRC6.0x60	-	-	-	-	-	-	-	-	-	-
ESCRC6.0x70	36	18	2.28	-	-	-	-	-	-	-
ESCRC6.0x80	36	18	2.31	-	-	-	-	-	-	-
ESCRC6.0x90	36	18	2.31	2.31	2.31	-	-	-	-	-
ESCRC6.0x100	36	18	2.31	2.31	2.31	-	-	-	-	-
ESCRC6.0x120	36	18	2.31	2.31	2.31	2.31	-	-	-	-
ESCRC6.0x140	36	18	2.31	2.31	2.31	2.31	2.31	2.31	-	-
ESCRC6.0x160	36	18	2.31	2.31	2.31	2.31	2.31	2.31	2.31	2.31
ESCRC6.0x180	36	18	2.31	2.31	2.31	2.31	2.31	2.31	2.31	2.31
ESCRC6.0x200	36	18	2.31	2.31	2.31	2.31	2.31	2.31	2.31	2.31
ESCRC6.0x220	-	-	-	-	-	-	-	-	-	-
ESCRC6.0x240	-	-	-	-	-	-	-	-	-	-
ESCRC6.0x260	-	-	-	-	-	-	-	-	-	-
ESCRC6.0x280	-	-	-	-	-	-	-	-	-	-
ESCRC6.0x300	-	-	-	-	-	-	-	-	-	-
ESCRC8.0x100	48	24	3.9	3.9	3.9	-	-	-	-	-
ESCRC8.0x120	48	24	3.9	3.9	3.9	3.9	-	-	-	-
ESCRC8.0x140	48	24	3.9	3.9	3.9	3.9	-	-	-	-
ESCRC8.0x180	48	24	3.9	3.9	3.9	3.9	3.9	3.9	-	-
ESCRC8.0x160	48	24	3.9	3.9	3.9	3.9	3.9	3.9	-	-
ESCRC8.0x200	48	24	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9
ESCRC8.0x220	48	24	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9
ESCRC8.0x240	48	24	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9
ESCRC8.0x260	48	24	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9
ESCRC8.0x280	48	24	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9
ESCRC8.0x300	48	24	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9
ESCRC8.0x320	48	24	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9
ESCRC8.0x340	48	24	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9
ESCRC8.0x360	48	24	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9
ESCRC8.0x380	-	-	-	-	-	-	-	-	-	-
ESCRC8.0x400	48	24	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9
ESCRC10.0x80	-	-	-	-	-	-	-	-	-	-
ESCRC10.0x100	-	-	-	-	-	-	-	-	-	-
ESCRC10.0x120	60	30	-	5.29	5.29	5.29	-	-	-	-
ESCRC10.0x140	60	30	-	5.29	5.29	5.29	5.29	5.29	-	-
ESCRC10.0x160	60	30	-	5.29	5.29	5.29	5.29	5.29	-	-
ESCRC10.0x180	60	30	-	5.29	5.29	5.29	5.29	5.29	-	-

The pre-drilled hypothesis for capacity and distances calculation is fulfilled.

ESCRC

Uppokantainen rakenneruuvi puulle

Product characteristic capacities - Ledger on stud C24

Tuotenro	Minimum width of the stud [mm]	Minimum distance to the bottom side of the ledger $a_{4,c}$ [mm]	Shear capacity depending of thickness of ledger $t_1$ [Rv.90-0.k] [kN]								
			35 [mm]	40 [mm]	45 [mm]	60 [mm]	75 [mm]	80 [mm]	90 [mm]	≥100 [mm]	
			ESCRC10.0X200	60	30	-	5.29	5.29	5.29	5.29	5.29
ESCRC10.0X220	60	30	-	5.29	5.29	5.29	5.29	5.29	5.29	5.29	
ESCRC10.0X240	60	30	-	5.29	5.29	5.29	5.29	5.29	5.29	5.29	
ESCRC10.0x260	-	-	-	-	-	-	-	-	-	-	
ESCRC10.0X280	60	30	-	5.29	5.29	5.29	5.29	5.29	5.29	5.29	
ESCRC10.0X300	60	30	-	5.29	5.29	5.29	5.29	5.29	5.29	5.29	
ESCRC10.0X320	60	30	-	5.29	5.29	5.29	5.29	5.29	5.29	5.29	
ESCRC10.0X340	60	30	-	5.29	5.29	5.29	5.29	5.29	5.29	5.29	
ESCRC10.0X360	60	30	-	5.29	5.29	5.29	5.29	5.29	5.29	5.29	
ESCRC10.0x380	-	-	-	-	-	-	-	-	-	-	
ESCRC10.0X400	60	30	-	5.29	5.29	5.29	5.29	5.29	5.29	5.29	
ESCRC6.0x130	-	-	-	-	-	-	-	-	-	-	
ESCRC6.0X150	-	-	-	-	-	-	-	-	-	-	

The pre-drilled hypothesis for capacity and distances calculation is fulfilled.



## ESCRC Uppokantainen rakenneruuvi puulle

Panel to Timber characteristic capacities

Tuotenumero	Panel (OSB, Fibreboard $\rho_k \geq 380 \text{ kg/m}^3$ ) on Timber C24 depending on panel thickness $t_p$														
	13 [mm]			15 [mm]			18 [mm]			22 [mm]			25 [mm]		
	$R_{ax.k.13}$ [kN]	$R_{v.0.k.13}$ [kN]	$R_{v.90.k.13}$ [kN]	$R_{ax.k.15}$ [kN]	$R_{v.0.k.15}$ [kN]	$R_{v.90.k.15}$ [kN]	$R_{ax.k.18}$ [kN]	$R_{v.0.k.18}$ [kN]	$R_{v.90.k.18}$ [kN]	$R_{ax.k.22}$ [kN]	$R_{v.0.k.22}$ [kN]	$R_{v.90.k.22}$ [kN]	$R_{ax.k.25}$ [kN]	$R_{v.0.k.25}$ [kN]	$R_{v.90.k.25}$ [kN]
ESCRC5.0x50	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ESCRC5.0x60	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ESCRC5.0x70	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ESCRC5.0x80	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ESCRC5.0x90	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ESCRC6.0X60	1.44	1.57	1.57	1.44	1.61	1.61	1.44	1.69	1.69	1.44	1.81	1.81	1.44	1.92	1.92
ESCRC6.0X70	1.44	1.57	1.57	1.44	1.61	1.61	1.44	1.69	1.69	1.44	1.81	1.81	1.44	1.92	1.92
ESCRC6.0X80	1.44	1.57	1.57	1.44	1.61	1.61	1.44	1.69	1.69	1.44	1.81	1.81	1.44	1.92	1.92
ESCRC6.0X90	1.44	1.57	1.57	1.44	1.61	1.61	1.44	1.69	1.69	1.44	1.81	1.81	1.44	1.92	1.92
ESCRC6.0X100	1.44	1.57	1.57	1.44	1.61	1.61	1.44	1.69	1.69	1.44	1.81	1.81	1.44	1.92	1.92
ESCRC6.0X120	1.44	1.57	1.57	1.44	1.61	1.61	1.44	1.69	1.69	1.44	1.81	1.81	1.44	1.92	1.92
ESCRC6.0X140	1.44	1.57	1.57	1.44	1.61	1.61	1.44	1.69	1.69	1.44	1.81	1.81	1.44	1.92	1.92
ESCRC6.0X160	1.44	1.57	1.57	1.44	1.61	1.61	1.44	1.69	1.69	1.44	1.81	1.81	1.44	1.92	1.92
ESCRC6.0X180	1.44	1.57	1.57	1.44	1.61	1.61	1.44	1.69	1.69	1.44	1.81	1.81	1.44	1.92	1.92
ESCRC6.0X200	1.44	1.57	1.57	1.44	1.61	1.61	1.44	1.69	1.69	1.44	1.81	1.81	1.44	1.92	1.92
ESCRC6.0x220	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ESCRC6.0x240	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ESCRC6.0x260	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ESCRC6.0x280	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ESCRC6.0x300	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ESCRC8.0X100	2.25	2.49	2.49	2.25	2.86	2.65	2.25	2.96	2.75	2.25	3.14	2.93	2.25	3.31	3.31
ESCRC8.0X120	2.25	2.49	2.49	2.25	2.86	2.65	2.25	2.96	2.75	2.25	3.14	2.93	2.25	3.31	3.31
ESCRC8.0X140	2.25	2.49	2.49	2.25	2.86	2.65	2.25	2.96	2.75	2.25	3.14	2.93	2.25	3.31	3.31
ESCRC8.0X180	2.25	2.49	2.49	2.25	2.86	2.65	2.25	2.96	2.75	2.25	3.14	2.93	2.25	3.31	3.31
ESCRC8.0X160	2.25	2.49	2.49	2.25	2.86	2.65	2.25	2.96	2.75	2.25	3.14	2.93	2.25	3.31	3.31
ESCRC8.0X200	2.25	2.49	2.49	2.25	2.86	2.65	2.25	2.96	2.75	2.25	3.14	2.93	2.25	3.31	3.31
ESCRC8.0X220	2.25	2.49	2.49	2.25	2.86	2.65	2.25	2.96	2.75	2.25	3.14	2.93	2.25	3.31	3.31
ESCRC8.0X240	2.25	2.49	2.49	2.25	2.86	2.65	2.25	2.96	2.75	2.25	3.14	2.93	2.25	3.31	3.31
ESCRC8.0X260	2.25	2.49	2.49	2.25	2.86	2.65	2.25	2.96	2.75	2.25	3.14	2.93	2.25	3.31	3.31
ESCRC8.0X280	2.25	2.49	2.49	2.25	2.86	2.65	2.25	2.96	2.75	2.25	3.14	2.93	2.25	3.31	3.31
ESCRC8.0X300	2.25	2.49	2.49	2.25	2.86	2.65	2.25	2.96	2.75	2.25	3.14	2.93	2.25	3.31	3.31
ESCRC8.0X320	2.25	2.49	2.49	2.25	2.86	2.65	2.25	2.96	2.75	2.25	3.14	2.93	2.25	3.31	3.31
ESCRC8.0X340	2.25	2.49	2.49	2.25	2.86	2.65	2.25	2.96	2.75	2.25	3.14	2.93	2.25	3.31	3.31
ESCRC8.0X360	2.25	2.49	2.49	2.25	2.86	2.65	2.25	2.96	2.75	2.25	3.14	2.93	2.25	3.31	3.31
ESCRC8.0x380	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ESCRC8.0X400	2.25	2.49	2.49	2.25	2.86	2.65	2.25	2.96	2.75	2.25	3.14	2.93	2.25	3.31	3.31
ESCRC10.0x80	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ESCRC10.0x100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ESCRC10.0X120	3.42	2.73	2.73	3.42	3.24	3.24	3.42	3.88	3.61	3.42	4.05	3.77	3.42	4.21	4.21
ESCRC10.0X140	3.42	2.73	2.73	3.42	3.24	3.24	3.42	3.88	3.61	3.42	4.05	3.77	3.42	4.21	4.21
ESCRC10.0X160	3.42	2.73	2.73	3.42	3.24	3.24	3.42	3.88	3.61	3.42	4.05	3.77	3.42	4.21	4.21
ESCRC10.0X180	3.42	2.73	2.73	3.42	3.24	3.24	3.42	3.88	3.61	3.42	4.05	3.77	3.42	4.21	4.21
ESCRC10.0X200	3.42	2.73	2.73	3.42	3.24	3.24	3.42	3.88	3.61	3.42	4.05	3.77	3.42	4.21	4.21
ESCRC10.0X220	3.42	2.73	2.73	3.42	3.24	3.24	3.42	3.88	3.61	3.42	4.05	3.77	3.42	4.21	4.21
ESCRC10.0X240	3.42	2.73	2.73	3.42	3.24	3.24	3.42	3.88	3.61	3.42	4.05	3.77	3.42	4.21	4.21



## ESCRC Uppokantainen rakenneruuvi puulle

Plywood to Timber characteristic capacities

Tuotenumero	Plywood ( $\rho_k \geq 490 \text{ kg/m}^3$ ) on Timber C24 depending on panel thickness $t_p$														
	10 [mm]			15 [mm]			18 [mm]			22 [mm]			25 [mm]		
	$R_{ax.k.10}$ [kN]	$R_{v.0.k.10}$ [kN]	$R_{v.90.k.10}$ [kN]	$R_{ax.k.15}$ [kN]	$R_{v.0.k.15}$ [kN]	$R_{v.90.k.15}$ [kN]	$R_{ax.k.18}$ [kN]	$R_{v.0.k.18}$ [kN]	$R_{v.90.k.18}$ [kN]	$R_{ax.k.22}$ [kN]	$R_{v.0.k.22}$ [kN]	$R_{v.90.k.22}$ [kN]	$R_{ax.k.25}$ [kN]	$R_{v.0.k.25}$ [kN]	$R_{v.90.k.25}$ [kN]
ESCRC5.0x50	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ESCRC5.0x60	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ESCRC5.0x70	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ESCRC5.0x80	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ESCRC5.0x90	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ESCRC6.0x60	1.76	1.51	1.51	1.76	1.76	1.76	1.76	1.84	1.84	1.76	1.97	1.97	1.76	2.08	2.08
ESCRC6.0x70	1.76	1.51	1.51	1.76	1.76	1.76	1.76	1.84	1.84	1.76	1.97	1.97	1.76	2.08	2.08
ESCRC6.0x80	1.76	1.51	1.51	1.76	1.76	1.76	1.76	1.84	1.84	1.76	1.97	1.97	1.76	2.08	2.08
ESCRC6.0x90	1.76	1.51	1.51	1.76	1.76	1.76	1.76	1.84	1.84	1.76	1.97	1.97	1.76	2.08	2.08
ESCRC6.0x100	1.76	1.51	1.51	1.76	1.76	1.76	1.76	1.84	1.84	1.76	1.97	1.97	1.76	2.08	2.08
ESCRC6.0x120	1.76	1.51	1.51	1.76	1.76	1.76	1.76	1.84	1.84	1.76	1.97	1.97	1.76	2.08	2.08
ESCRC6.0x140	1.76	1.51	1.51	1.76	1.76	1.76	1.76	1.84	1.84	1.76	1.97	1.97	1.76	2.08	2.08
ESCRC6.0x160	1.76	1.51	1.51	1.76	1.76	1.76	1.76	1.84	1.84	1.76	1.97	1.97	1.76	2.08	2.08
ESCRC6.0x180	1.76	1.51	1.51	1.76	1.76	1.76	1.76	1.84	1.84	1.76	1.97	1.97	1.76	2.08	2.08
ESCRC6.0x200	1.76	1.51	1.51	1.76	1.76	1.76	1.76	1.84	1.84	1.76	1.97	1.97	1.76	2.08	2.08
ESCRC6.0x220	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ESCRC6.0x240	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ESCRC6.0x260	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ESCRC6.0x280	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ESCRC6.0x300	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ESCRC8.0x100	2.76	3.38	3.07	2.76	3.65	3.33	2.76	3.87	3.54	2.76	4.21	3.86	2.76	4.49	4.49
ESCRC8.0x120	2.76	3.38	3.07	2.76	3.65	3.33	2.76	3.87	3.54	2.76	4.21	3.86	2.76	4.49	4.49
ESCRC8.0x140	2.76	3.38	3.07	2.76	3.65	3.33	2.76	3.87	3.54	2.76	4.21	3.86	2.76	4.49	4.49
ESCRC8.0x180	2.76	3.38	3.07	2.76	3.65	3.33	2.76	3.87	3.54	2.76	4.21	3.86	2.76	4.49	4.49
ESCRC8.0x160	2.76	3.38	3.07	2.76	3.65	3.33	2.76	3.87	3.54	2.76	4.21	3.86	2.76	4.49	4.49
ESCRC8.0x200	2.76	3.38	3.07	2.76	3.65	3.33	2.76	3.87	3.54	2.76	4.21	3.86	2.76	4.49	4.49
ESCRC8.0x220	2.76	3.38	3.07	2.76	3.65	3.33	2.76	3.87	3.54	2.76	4.21	3.86	2.76	4.49	4.49
ESCRC8.0x240	2.76	3.38	3.07	2.76	3.65	3.33	2.76	3.87	3.54	2.76	4.21	3.86	2.76	4.49	4.49
ESCRC8.0x260	2.76	3.38	3.07	2.76	3.65	3.33	2.76	3.87	3.54	2.76	4.21	3.86	2.76	4.49	4.49
ESCRC8.0x280	2.76	3.38	3.07	2.76	3.65	3.33	2.76	3.87	3.54	2.76	4.21	3.86	2.76	4.49	4.49
ESCRC8.0x300	2.76	3.38	3.07	2.76	3.65	3.33	2.76	3.87	3.54	2.76	4.21	3.86	2.76	4.49	4.49
ESCRC8.0x320	2.76	3.38	3.07	2.76	3.65	3.33	2.76	3.87	3.54	2.76	4.21	3.86	2.76	4.49	4.49
ESCRC8.0x340	2.76	3.38	3.07	2.76	3.65	3.33	2.76	3.87	3.54	2.76	4.21	3.86	2.76	4.49	4.49
ESCRC8.0x360	2.76	3.38	3.07	2.76	3.65	3.33	2.76	3.87	3.54	2.76	4.21	3.86	2.76	4.49	4.49
ESCRC8.0x380	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ESCRC8.0x400	2.76	3.38	3.07	2.76	3.65	3.33	2.76	3.87	3.54	2.76	4.21	3.86	2.76	4.49	4.49
ESCRC10.0x80	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ESCRC10.0x100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ESCRC10.0x120	4.19	4.61	4.17	4.19	4.89	4.45	4.19	5.14	4.69	4.19	5.53	5.05	4.19	5.86	5.86
ESCRC10.0x140	4.19	4.61	4.17	4.19	4.89	4.45	4.19	5.14	4.69	4.19	5.53	5.05	4.19	5.86	5.86
ESCRC10.0x160	4.19	4.61	4.17	4.19	4.89	4.45	4.19	5.14	4.69	4.19	5.53	5.05	4.19	5.86	5.86
ESCRC10.0x180	4.19	4.61	4.17	4.19	4.89	4.45	4.19	5.14	4.69	4.19	5.53	5.05	4.19	5.86	5.86
ESCRC10.0x200	4.19	4.61	4.17	4.19	4.89	4.45	4.19	5.14	4.69	4.19	5.53	5.05	4.19	5.86	5.86
ESCRC10.0x220	4.19	4.61	4.17	4.19	4.89	4.45	4.19	5.14	4.69	4.19	5.53	5.05	4.19	5.86	5.86
ESCRC10.0x240	4.19	4.61	4.17	4.19	4.89	4.45	4.19	5.14	4.69	4.19	5.53	5.05	4.19	5.86	5.86

ESCRC

Uppokantainen rakenneruuvi puulle

Plywood ( $\rho_k \geq 490 \text{ kg/m}^3$ ) on Timber C24 depending on panel thickness  $t_p$

Tuotenro	Plywood ( $\rho_k \geq 490 \text{ kg/m}^3$ ) on Timber C24 depending on panel thickness $t_p$														
	10 [mm]			15 [mm]			18 [mm]			22 [mm]			25 [mm]		
	$R_{ax.k.10}$ [kN]	$R_{v.0.k.10}$ [kN]	$R_{v.90.k.10}$ [kN]	$R_{ax.k.15}$ [kN]	$R_{v.0.k.15}$ [kN]	$R_{v.90.k.15}$ [kN]	$R_{ax.k.18}$ [kN]	$R_{v.0.k.18}$ [kN]	$R_{v.90.k.18}$ [kN]	$R_{ax.k.22}$ [kN]	$R_{v.0.k.22}$ [kN]	$R_{v.90.k.22}$ [kN]	$R_{ax.k.25}$ [kN]	$R_{v.0.k.25}$ [kN]	$R_{v.90.k.25}$ [kN]
ESCRC10.0x260	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ESCRC10.0X280	4.19	4.61	4.17	4.19	4.89	4.45	4.19	5.14	4.69	4.19	5.53	5.05	4.19	5.86	5.42
ESCRC10.0X300	4.19	4.61	4.17	4.19	4.89	4.45	4.19	5.14	4.69	4.19	5.53	5.05	4.19	5.86	5.42
ESCRC10.0X320	4.19	4.61	4.17	4.19	4.89	4.45	4.19	5.14	4.69	4.19	5.53	5.05	4.19	5.86	5.42
ESCRC10.0X340	4.19	4.61	4.17	4.19	4.89	4.45	4.19	5.14	4.69	4.19	5.53	5.05	4.19	5.86	5.42
ESCRC10.0X360	4.19	4.61	4.17	4.19	4.89	4.45	4.19	5.14	4.69	4.19	5.53	5.05	4.19	5.86	5.42
ESCRC10.0x380	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ESCRC10.0X400	4.19	4.61	4.17	4.19	4.89	4.45	4.19	5.14	4.69	4.19	5.53	5.05	4.19	5.86	5.42
ESCRC6.0x130	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ESCRC6.0X150	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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