

ESCR

Rakenneruuvi puulle

ESCR on 8 tai 10 mm aluslevykantainen ruuvi, joka on suunniteltu puutavaran liittämiseen. ESCR ruuveissa on tyypin 17 kärki, joka porautuu helposti puuhun ja rungon rihlaus takaa sujuvan ruuvauksen. Iso aluslevykanta varmistaa suuret läpivetojuuudet ja kirstysmomentin, eli vahvan liitoksen.

Ominaisuudet

Materiaali

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

Hyödyt

- ESCR-ruuveissa on tyypin 17 kärki, joka tarttuu nopeasti puuhun, ja rungon rihlaus, joka takaa helpon ja vakaan ruuvautumisen
- Suuri aluslevykanta takaa suuren läpivetokestävyyden ja vesijohtojen ja sähköjen asennukseen

Sovellus

Liitos

- **Puu-puu liitos**

Käyttökohteet

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



Harjarakenteet



I-Joist floor assembly



Palkki- ja pylväskokoonpano



Julkisivurunko



Poranterä (toimitetaan laatikossa)



ESCR
Rakenneruuvi puulle

Technical Data

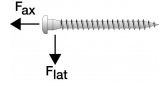
Mitat ja ominaisarvot



Tuotenro	Mitat ja ominaisarvot [mm]						Määrä / laatikko
	L	l _g	d ₁	D	d _h	Bit	
ESCR6.0X60	60	36	4	6	14	TX30	100
ESCR6.0X80	80	48	4	6	14	TX30	100
ESCR6.0X100	100	48	4	6	14	TX30	100
ESCR6.0X120	120	64	4	6	14	TX30	100
ESCR6.0X140	140	64	4	6	14	TX30	100
ESCR6.0X160	160	64	4	6	14	TX30	100
ESCR6.0x180	180	64	4	6	14	TX30	50
ESCR6.0x200	200	64	4	6	14	TX30	50
ESCR8.0X100	100	54	5.3	8	20	TX40	50
ESCR8.0X120	120	54	5.3	8	20	TX40	50
ESCR8.0X140	140	84	5.3	8	20	TX40	50
ESCR8.0X160	160	84	5.3	8	20	TX40	50
ESCR8.0X180	180	100	5.3	8	20	TX40	50
ESCR8.0X200	200	100	5.3	8	20	TX40	50
ESCR8.0X220	220	100	5.3	8	20	TX40	50
ESCR8.0X240	240	100	5.3	8	20	TX40	50
ESCR8.0X260	260	100	5.3	8	20	TX40	50
ESCR8.0X280	280	100	5.3	8	20	TX40	50
ESCR8.0X300	300	100	5.3	8	20	TX40	50
ESCR8.0X320	320	100	5.3	8	20	TX40	50
ESCR8.0X340	340	100	5.3	8	20	TX40	50
ESCR8.0X360	360	100	5.3	8	20	TX40	50
ESCR8.0x380	380	100	5.3	8	20	TX40	50
ESCR8.0X400	400	100	5.3	8	20	TX40	50
ESCR10.0x100	100	60	6.2	10	25	TX50	25
ESCR10.0X120	120	60	6.2	10	25	TX50	25
ESCR10.0X140	140	60	6.2	10	25	TX50	25
ESCR10.0X160	160	100	6.2	10	25	TX50	25
ESCR10.0X180	180	100	6.2	10	25	TX50	25
ESCR10.0X200	200	100	6.2	10	25	TX50	25
ESCR10.0X220	220	100	6.2	10	25	TX50	25
ESCR10.0X240	240	100	6.2	10	25	TX50	25
ESCR10.0X260	260	100	6.2	10	25	TX50	25
ESCR10.0X280	280	100	6.2	10	25	TX50	25
ESCR10.0X300	300	100	6.2	10	25	TX50	25
ESCR10.0X320	320	100	6.2	10	25	TX50	25
ESCR10.0X340	340	100	6.2	10	25	TX50	25
ESCR10.0X360	360	100	6.2	10	25	TX50	25
ESCR10.0x380	380	100	6.2	10	25	TX50	25
ESCR10.0X400	400	100	6.2	10	25	TX50	25

ESCR Rakenneruuvi puulle

Kestävyyden ominaisarvot



Tuotenro	Kestävyyden ominaisarvot [kN]						
	R _{ax,k} config [1]	Leikkauslujuus - puu-puu - R _{lat,k}				Leikkauslujuus - teräs-puu - R _{lat,k}	
		$\alpha_1=90^\circ$ and $\alpha_2=0^\circ$ config [2]	$\alpha_1=0^\circ$ et $\alpha_2=0^\circ$ config [3]	$\alpha_1=90^\circ$ et $\alpha_2=90^\circ$ config [4]	$\alpha_1=0^\circ$ et $\alpha_2=90^\circ$ config [5]	$\alpha_2 = 0^\circ$ config [6]	$\alpha_2 = 90^\circ$ config [7]
ESCR6.0X60	-	-	-	-	-	-	-
ESCR6.0X80	-	-	-	-	-	-	-
ESCR6.0X100	-	-	-	-	-	-	-
ESCR6.0X120	-	-	-	-	-	-	-
ESCR6.0X140	-	-	-	-	-	-	-
ESCR6.0X160	-	-	-	-	-	-	-
ESCR6.0x180	-	-	-	-	-	-	-
ESCR6.0x200	-	-	-	-	-	-	-
ESCR8.0X100	yes	-	4.14	4.71	3.96	4.35	6.18
ESCR8.0X120	yes	-	4.35	4.71	4.09	4.35	6.18
ESCR8.0X140	yes	-	4.96	5.31	4.69	4.96	6.82
ESCR8.0X160	yes	-	4.96	5.31	4.69	4.96	6.82
ESCR8.0X180	yes	-	4.96	5.31	4.69	4.96	7.17
ESCR8.0X200	yes	-	4.96	5.31	4.69	4.96	7.17
ESCR8.0X220	yes	-	4.96	5.31	4.69	4.96	7.17
ESCR8.0X240	yes	-	4.96	5.31	4.69	4.96	7.17
ESCR8.0X260	yes	-	4.96	5.31	4.69	4.96	7.17
ESCR8.0X280	yes	-	4.96	5.31	4.69	4.96	7.17
ESCR8.0X300	yes	-	4.96	5.31	4.69	4.96	7.17
ESCR8.0X320	yes	-	4.96	5.31	4.69	4.96	7.17
ESCR8.0X340	yes	-	4.96	5.31	4.69	4.96	7.17
ESCR8.0X360	yes	-	4.96	5.31	4.69	4.96	7.17
ESCR8.0x380	yes	-	4.96	5.31	4.69	4.96	7.17
ESCR8.0X400	yes	-	4.96	5.31	4.69	4.96	7.17
ESCR10.0x100	yes	-	5.67	6.17	5.3	5.67	8.14
ESCR10.0X120	yes	-	5.67	6.17	5.3	5.67	8.14
ESCR10.0X140	yes	-	5.67	6.17	5.3	5.67	8.14
ESCR10.0X160	yes	-	6.62	7.12	6.25	6.62	9.09
ESCR10.0X180	yes	-	6.62	7.12	6.25	6.62	9.09
ESCR10.0X200	yes	-	6.62	7.12	6.25	6.62	9.09
ESCR10.0X220	yes	-	6.62	7.12	6.25	6.62	9.09
ESCR10.0X240	yes	-	6.62	7.12	6.25	6.62	9.09
ESCR10.0X260	yes	-	6.62	7.12	6.25	6.62	9.09
ESCR10.0X280	yes	-	6.62	7.12	6.25	6.62	9.09
ESCR10.0X300	yes	-	6.62	7.12	6.25	6.62	9.09
ESCR10.0X320	yes	-	6.62	7.12	6.25	6.62	9.09
ESCR10.0X340	yes	-	6.62	7.12	6.25	6.62	9.09
ESCR10.0X360	yes	-	6.62	7.12	6.25	6.62	9.09
ESCR10.0x380	-	-	-	-	-	-	-
ESCR10.0X400	yes	-	6.62	7.12	6.25	6.62	9.09

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

ESCR
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Asennus



Palkki- ja pylväskokoonpano



Harjarakenteet



I-Joist floor assembly

Ominaisarvot

ESCR 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]	≥ 100 [mm]	35 [mm]	40 [mm]	45 [mm]	60 [mm]	75 [mm]	80 [mm]	≥ 100 [mm]
ESCR6.0X60	24	2.81	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ESCR6.0X80	32	3.27	2.57	-	-	-	-	-	-	2.57	-	-	-	-	-	-
ESCR6.0X100	52	3.27	2.57	2.6	2.6	-	-	-	-	2.57	2.6	2.6	-	-	-	-
ESCR6.0X120	56	3.27	2.57	2.6	2.6	2.6	-	-	-	2.57	2.6	2.6	2.6	-	-	-
ESCR6.0X140	76	3.27	2.57	2.6	2.6	2.6	2.6	2.6	-	2.57	2.6	2.6	2.6	2.6	2.6	-
ESCR6.0X160	96	3.27	2.57	2.6	2.6	2.6	2.6	2.6	2.6	2.57	2.6	2.6	2.6	2.6	2.6	2.6
ESCR6.0x180	116	3.27	2.57	2.6	2.6	2.6	2.6	2.6	2.6	2.57	2.6	2.6	2.6	2.6	2.6	2.6
ESCR6.0x200	136	3.27	2.57	2.6	2.6	2.6	2.6	2.6	2.6	2.57	2.6	2.6	2.6	2.6	2.6	2.6
ESCR8.0X100	46	4.62	4.38	4.68	4.71	-	-	-	-	3.54	3.72	3.92	-	-	-	-
ESCR8.0X120	66	4.62	4.38	4.68	4.71	4.71	-	-	-	3.54	3.72	3.92	4.09	-	-	-
ESCR8.0X140	56	7.04	4.99	5.28	5.31	5.31	-	-	-	4.14	4.33	4.52	4.69	-	-	-
ESCR8.0X160	76	7.04	4.99	5.28	5.31	5.31	5.31	5.31	-	4.14	4.33	4.52	4.69	4.69	4.69	-
ESCR8.0X180	80	7.04	4.99	5.28	5.31	5.31	5.31	5.31	-	4.14	4.33	4.52	4.69	4.69	4.69	-
ESCR8.0X200	100	7.04	4.99	5.28	5.31	5.31	5.31	5.31	5.31	4.14	4.33	4.52	4.69	4.69	4.69	4.69
ESCR8.0X220	120	7.04	4.99	5.28	5.31	5.31	5.31	5.31	5.31	4.14	4.33	4.52	4.69	4.69	4.69	4.69
ESCR8.0X240	140	7.04	4.99	5.28	5.31	5.31	5.31	5.31	5.31	4.14	4.33	4.52	4.69	4.69	4.69	4.69
ESCR8.0X260	160	7.04	4.99	5.28	5.31	5.31	5.31	5.31	5.31	4.14	4.33	4.52	4.69	4.69	4.69	4.69
ESCR8.0X280	180	7.04	4.99	5.28	5.31	5.31	5.31	5.31	5.31	4.14	4.33	4.52	4.69	4.69	4.69	4.69
ESCR8.0X300	200	7.04	4.99	5.28	5.31	5.31	5.31	5.31	5.31	4.14	4.33	4.52	4.69	4.69	4.69	4.69
ESCR8.0X320	220	7.04	4.99	5.28	5.31	5.31	5.31	5.31	5.31	4.14	4.33	4.52	4.69	4.69	4.69	4.69
ESCR8.0X340	240	7.04	4.99	5.28	5.31	5.31	5.31	5.31	5.31	4.14	4.33	4.52	4.69	4.69	4.69	4.69
ESCR8.0X360	260	7.04	4.99	5.28	5.31	5.31	5.31	5.31	5.31	4.14	4.33	4.52	4.69	4.69	4.69	4.69
ESCR8.0x380	280	7.04	4.99	5.28	5.31	5.31	5.31	5.31	5.31	4.14	4.33	4.52	4.69	4.69	4.69	4.69
ESCR8.0X400	300	7.04	4.99	5.28	5.31	5.31	5.31	5.31	5.31	4.14	4.33	4.52	4.69	4.69	4.69	4.69
ESCR10.0x100	40	5.7	-	5.86	6.17	-	-	-	-	-	4.64	4.86	-	-	-	-
ESCR10.0X120	60	5.7	-	5.86	6.17	6.17	-	-	-	-	4.64	4.86	5.3	-	-	-
ESCR10.0X140	80	5.7	-	5.86	6.17	6.17	6.17	6.17	-	-	4.64	4.86	5.3	5.3	5.3	-

These capacities are valid for:

- Timber element under the head with thickness $\leq t_1$ disclosed in adjacent column
- Screw axis between 45° and 90° from timber grain for ESCR(XXX), and 90° 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° from both timber grains $R_{v,0^\circ.k}$
- Load axis at 90° 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.

ESCR 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]
	ESCR10.0X160	60	9.5	-	6.81	7.12	7.12	6.17	6.17	-	-	5.59	5.81	6.25	6.25	6.25
ESCR10.0X180	80	9.5	-	6.81	7.12	7.12	7.12	7.12	-	-	5.59	5.81	6.25	6.25	6.25	-
ESCR10.0X200	100	9.5	-	6.81	7.12	7.12	7.12	7.12	7.12	-	5.59	5.81	6.25	6.25	6.25	6.25
ESCR10.0X220	120	9.5	-	6.81	7.12	7.12	7.12	7.12	7.12	-	5.59	5.81	6.25	6.25	6.25	6.25
ESCR10.0X240	140	9.5	-	6.81	7.12	7.12	7.12	7.12	7.12	-	5.59	5.81	6.25	6.25	6.25	6.25
ESCR10.0X260	160	9.5	-	6.81	7.12	7.12	7.12	7.12	7.12	-	5.59	5.81	6.25	6.25	6.25	6.25
ESCR10.0X280	180	9.5	-	6.81	7.12	7.12	7.12	7.12	7.12	-	5.59	5.81	6.25	6.25	6.25	6.25
ESCR10.0X300	200	9.5	-	6.81	7.12	7.12	7.12	7.12	7.12	-	5.59	5.81	6.25	6.25	6.25	6.25
ESCR10.0X320	220	9.5	-	6.81	7.12	7.12	7.12	7.12	7.12	-	5.59	5.81	6.25	6.25	6.25	6.25
ESCR10.0X340	240	9.5	-	6.81	7.12	7.12	7.12	7.12	7.12	-	5.59	5.81	6.25	6.25	6.25	6.25
ESCR10.0X360	260	9.5	-	6.81	7.12	7.12	7.12	7.12	7.12	-	5.59	5.81	6.25	6.25	6.25	6.25
ESCR10.0x380	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ESCR10.0X400	300	9.5	-	6.81	7.12	7.12	7.12	7.12	7.12	-	5.59	5.81	6.25	6.25	6.25	6.25

These capacities are valid for:

- Timber element under the head with thickness $\leq t_1$ disclosed in adjacent column
- Screw axis between 45° and 90° from timber grain for ESCR(XXX), and 90° 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° from both timber grains $R_{v,0^\circ.k}$
- Load axis at 90° 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.

Steel to Timber characteristic capacities

Tuotenro	Product characteristic capacities - Steel to Timber C24				
	Axial resistance [R _{ax.st.k}] [kN]	Shear resistance - Thin plate		Shear Resistance - Thick steel	
		R _{v,0.st.k} [kN]	R _{v,90.st.k} [kN]	R _{v,0.st.k} [kN]	R _{v,90.st.k} [kN]
ESCR6.0X60	2.81	2.49	2.49	3.23	3.23
ESCR6.0X80	3.74	2.72	2.72	3.46	3.46
ESCR6.0X100	3.74	2.72	2.72	3.46	3.46
ESCR6.0X120	4.99	3.03	3.03	3.77	3.77
ESCR6.0X140	4.99	3.03	3.03	3.77	3.77
ESCR6.0X160	4.99	3.03	3.03	3.77	3.77
ESCR6.0x180	4.99	3.03	3.03	3.77	3.77
ESCR6.0x200	4.99	3.03	3.03	3.77	3.77
ESCR8.0X100	4.62	4.71	4.09	6.18	5.3
ESCR8.0X120	4.62	4.71	4.09	6.18	5.3
ESCR8.0X140	7.19	5.35	4.73	6.82	5.94
ESCR8.0X160	7.19	5.35	4.73	6.82	5.94
ESCR8.0X180	8.56	5.69	5.07	7.17	6.28
ESCR8.0X200	8.56	5.69	5.07	7.17	6.28
ESCR8.0X220	8.56	5.69	5.07	7.17	6.28
ESCR8.0X240	8.56	5.69	5.07	7.17	6.28
ESCR8.0X260	8.56	5.69	5.07	7.17	6.28
ESCR8.0X280	8.56	5.69	5.07	7.17	6.28
ESCR8.0X300	8.56	5.69	5.07	7.17	6.28
ESCR8.0X320	8.56	5.69	5.07	7.17	6.28
ESCR8.0X340	8.56	5.69	5.07	7.17	6.28
ESCR8.0X360	8.56	5.69	5.07	7.17	6.28
ESCR8.0x380	8.56	5.69	5.07	7.17	6.28
ESCR8.0X400	8.56	5.69	5.07	7.17	6.28
ESCR10.0x100	-	-	-	-	-
ESCR10.0X120	5.7	6.17	5.3	8.14	6.91
ESCR10.0X140	5.7	6.17	5.3	8.14	6.91
ESCR10.0X160	9.5	7.12	6.25	9.09	7.86
ESCR10.0X180	9.5	7.12	6.25	9.09	7.86
ESCR10.0X200	9.5	7.12	6.25	9.09	7.86
ESCR10.0X220	9.5	7.12	6.25	9.09	7.86
ESCR10.0X240	9.5	7.12	6.25	9.09	7.86
ESCR10.0X260	9.5	7.12	6.25	9.09	7.86
ESCR10.0X280	9.5	7.12	6.25	9.09	7.86
ESCR10.0X300	9.5	7.12	6.25	9.09	7.86
ESCR10.0X320	9.5	7.12	6.25	9.09	7.86
ESCR10.0X340	9.5	7.12	6.25	9.09	7.86

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.

Product characteristic capacities - Steel to Timber C24

Tuotenro	Product characteristic capacities - Steel to Timber C24				
	Axial resistance [R _{ax.st.k}] [kN]	Shear resistance - Thin plate		Shear Resistance - Thick steel	
		R _{v,0.st.k} [kN]	R _{v,90.st.k} [kN]	R _{v,0.st.k} [kN]	R _{v,90.st.k} [kN]
ESCR10.0X360	9.5	7.12	6.25	9.09	7.86
ESCR10.0x380	-	-	-	-	-
ESCR10.0X400	9.5	7.12	6.25	9.09	7.86

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.

ESCR

Rakenneruuvi puulle

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ESCR
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