SUORITUSTASOILMOITUS

DoP-ETA-230747 [FI]

Rakenneruuvi ET-T, Corrseal
Puu- ja rakennusruuvi - HF (HEX)
Puu- ja rakennusruuvi-W (WAF) suuri kanta, Corrseal
Puu- ja rakennusruuvi-W (WAF) suuri kanta, kiiltosinkitty
Puu- ja rakennusruuvi-W (WAF) valkoinen suuri kanta, kiiltosinkitty
Puu- ja rakennusruuvi-W (WAF) suuri kanta, A4
Puuruuvi ESSDRIVE uppokanta, Corrseal
Puuruuvi ESSDRIVE uppokanta, sähkösinkitty
Pienpakkaukset Puuruuvi ESSDRIVE, uppokanta, Corrseal
Pienpakkaukset Puuruuvi ESSDRIVE, uppokanta, sähkösinkitty
Pienpakkaukset Puu- ja rakennusruuvi-W (WAF) suuri kanta, Corrseal
Pienpakkaukset Puu-ja rakennusruuvi-W (WAF) suuri kanta, A4

AIOTTU KÄYTTÖTARKOITUS (AIOTUT KÄYTTÖTARKOITUKSET)
Tuotteet on tarkoitettu puurunkojen liitoksiin ETA-23/0747 (versio 2025-09-30) ja EAD 130118-01-0603 (helmikuu 2019) mukaisesti.

VALMISTAJA
ESSVE AB, P.O. Box 7091, SE-164 07 Kista, Sweden

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SUORITUSTASON PYSYVYYDEN ARVIOINNISSA JA VARMENTAMISESSA KÄYTETTY JÄRJESTELMÄ/KÄYTETYT JÄRJESTELMÄT
3

ILMOITETTU LAITOS/ILMOITETUT LAITOKSET
ZAG (TAB)

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SUORITUSTASOILMOITUS

DoP-ETA-230747 [FI]

Rakenneruuvi ET-T, Corrseal

Geometria				
Halkaisija	**Pituus**	**Kannan halkaisija**	**Varren halkaisija**	**Kierteen pituus**
6,5 mm	65 mm	8 mm	4,1 mm	22 mm
6,5 mm	90 mm	8 mm	4,1 mm	38 mm
6,5 mm	130 mm	8 mm	4,1 mm	38 mm
6,5 mm	160 mm	8 mm	4,1 mm	60 mm
6,5 mm	190 mm	8 mm	4,1 mm	80 mm
6,5 mm	220 mm	8 mm	4,1 mm	95 mm
8,2 mm	130 mm	10 mm	5,7 mm	38 mm
8,2 mm	160 mm	10 mm	5,7 mm	60 mm
8,2 mm	190 mm	10 mm	5,7 mm	80 mm
8,2 mm	220 mm	10 mm	5,7 mm	95 mm
8,2 mm	245 mm	10 mm	5,7 mm	107 mm
8,2 mm	275 mm	10 mm	5,7 mm	107 mm
8,2 mm	300 mm	10 mm	5,7 mm	135 mm
8,2 mm	330 mm	10 mm	5,7 mm	135 mm

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Rakenneruuvi ET-T, Corrseal

Ilmoitettu suoritustaso/ilmoitetut suoritustasot

Perusominaisuudet		Suoritustaso	Yhdenmukaistetut tekniset eritelmät
Geometria	**6,5 mm**	**8,2 mm**	
Mitat	ETA-23/0747, Annex A2	ETA-23/0747, Annex A2	ETA-23/0747
Ominaismyötömomentti $M_{y,k}$ [Nmm]	8800	28300	ETA-23/0747
Taivutuskulma α [°]	≥ 45°	≥ 45°	ETA-23/0747
Ominaisvetoparametri $f_{ax,k}$ [N/mm^2] (ρ_k = 350 kg/m^3)	17,3	15,3	ETA-23/0747
Ominaisläpivetoparametri $f_{head,k}$ [N/mm^2] (ρ_k = 350 kg/m^3)	NPD	NPD	ETA-23/0747
Ominaistensilujuus $f_{tens,k}$ [kN]	14,8	30,1	ETA-23/0747
Ominaismyötöraja $f_{y,k}$ [N/mm^2]	900	900	ETA-23/0747
Ominais vääntömomentti $f_{tor,k}$ [Nm]	11,3	34,5	ETA-23/0747
Ominais vääntömomentti / kierrosmomentti $f_{tor,k}$ [Nm] / $R_{tor,mean}$ (ρ = 480 kg/m^3) [Nm]	≥ 1,5	≥ 1,5	ETA-23/0747
Sisäinen etäisyys, pääty- ja reunaetäisyys	ETA-23/0747, Annex A13	EN 1995-1-1	ETA-23/0747
Liukumoduli K_{ser} [N/mm]	NPD	NPD	ETA-23/0747
Korroosionkestävyys	Service class 3 acc. to EN 1995-1-1	Service class 3 acc. to EN 1995-1-1	ETA-23/0747
Palon reaktio	Class A1 (EN 13501-1)	Class A1 (EN 13501-1)	ETA-23/0747

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SUORITUSTASOILMOITUS

DoP-ETA-230747 [FI]

Rakenneruuvi ET-T, Corrseal

Tuotetyypin yksilöllinen tunniste

Tuotenro	GTIN	Kuvaus
118100	7317761151531	PUURUUVI ESSVE TEKNIIKKA 6,5X65TORX30 LIERIÖK.CS(100)
118102	7317761151548	PUURUUVI ESSVE TEKNIIKKA 6,5X90TORX30 LIERIÖK.CS(100)
118104	7317761151555	PUURUUVI ESSVE TEKNIIKKA 6,5X130 TORX30 LIERIÖK.CS(100)
118106	7317761151562	PUURUUVI ESSVE TEKNIIKKA 6,5X160TORX30 LIERIÖK.CS(50)
118108	7317761151579	PUURUUVI ESSVE TEKNIIKKA 6,5X190 TORX 30 LIERIÖK CORRS (50)
118110	7317761151586	PUURUUVI ESSVE TEKNIIKKA 6,5X220 TORX 30 LIERIÖK CORRS (50)
118114	7317761151609	PUURUUVI ESSVE TEKNIIKKA 8,2 X130 TORX 40 LIERIÖK CORRS(50)
118116	7317761151616	PUURUUVI ESSVE TEKNIIKKA 8,2X160 TORX 40 LIERIÖK CORRS(50)
118118	7317761151623	PUURUUVI ESSVE TEKNIIKKA 8,2X190 TORX 40 LIERIÖK CORRS(50)
118120	7317761151630	PUURUUVI ESSVE TEKNIIKKA 8,2X220 TORX 40 LIERIÖK CORRS(50)
118122	7317761151647	PUURUUVI ESSVE TEKNIIKKA 8,2X245 TORX 40 LIERIÖK CORRS(50)
118124	7317761151654	PUURUUVI ESSVE TEKNIIKKA 8,2X275 TORX 40 LIERIÖK CORRS(50)
118126	7317761151661	PUURUUVI ESSVE TEKNIIKKA 8,2X300 TORX 40 LIERIÖK CORRS(50)
118128	7317761151678	PUURUUVI ESSVE TEKNIIKKA 8,2X330 TORX 40 LIERIÖK CORRS(50)

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SUORITUSTASOILMOITUS

DoP-ETA-230747 [FI]

Puu- ja rakennusruuvi - HF (HEX)

Geometria				
Halkaisija	**Pituus**	**Kannan halkaisija**	**Varren halkaisija**	**Kierteen pituus**
6 mm	50 mm	13 mm	3,8 mm	40 mm
6 mm	70 mm	13 mm	3,8 mm	40 mm
6 mm	90 mm	13 mm	3,8 mm	50 mm
6 mm	120 mm	13 mm	3,8 mm	75 mm
6 mm	140 mm	13 mm	3,8 mm	75 mm
8 mm	50 mm	15 mm	5,3 mm	45 mm
8 mm	70 mm	15 mm	5,3 mm	50 mm
8 mm	90 mm	15 mm	5,3 mm	50 mm
8 mm	120 mm	15 mm	5,3 mm	80 mm
8 mm	160 mm	15 mm	5,3 mm	80 mm
8 mm	200 mm	15 mm	5,3 mm	100 mm
8 mm	240 mm	15 mm	5,3 mm	100 mm
10 mm	50 mm	18 mm	6,6 mm	45 mm
10 mm	80 mm	18 mm	6,6 mm	60 mm
10 mm	100 mm	18 mm	6,6 mm	60 mm
10 mm	120 mm	18 mm	6,6 mm	80 mm
10 mm	160 mm	18 mm	6,6 mm	80 mm
10 mm	200 mm	18 mm	6,6 mm	100 mm
10 mm	240 mm	18 mm	6,6 mm	100 mm

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DoP-ETA-230747 [FI]

Puu- ja rakennusruuvi - HF (HEX)

Ilmoitettu suoritustaso/ilmoitetut suoritustasot

Perusominaisuudet	Suoritustaso			Yhdenmukaistetut tekniset eritelmät
Geometria	**6 mm**	**8 mm**	**10 mm**	
Mitat	ETA-23/0747, Annex A3	ETA-23/0747, Annex A3	ETA-23/0747, Annex A3	ETA-23/0747
Ominaismyötömomentti $M_{y,k}$ [Nmm]	11900	25500	36600	ETA-23/0747
Taivutuskulma α [°]	≥ 45°	≥ 45°	≥ 45°	ETA-23/0747
Ominaisvetoparametri $f_{ax,k}$ [N/mm^2] (ρ_k = 350 kg/m^3)	10,9	12,5	10	ETA-23/0747
Ominaisläpivetoparametri $f_{head,k}$ [N/mm^2] (ρ_k = 350 kg/m^3)	17,1	16,6	19,7	ETA-23/0747
Ominaistensilujuus $f_{tens,k}$ [kN]	13,3	24,6	33,6	ETA-23/0747
Ominaismyötöraja $f_{y,k}$ [N/mm^2]	900	900	900	ETA-23/0747
Ominais vääntömomentti $f_{tor,k}$ [Nm]	12,4	28,2	46,3	ETA-23/0747
Ominais vääntömomentti / kierrosmomentti $f_{tor,k}$ [Nm] / $R_{tor,mean}$ (ρ = 480 kg/m^3) [Nm]	≥ 1,5	≥ 1,5	≥ 1,5	ETA-23/0747
Sisäinen etäisyys, pääty- ja reunaetäisyys	EN 1995-1-1	EN 1995-1-1	EN 1995-1-1	ETA-23/0747
Liukumoduli K_{ser} [N/mm]	NPD	NPD	NPD	ETA-23/0747
Korroosionkestävyys	Service class 3 acc. to EN 1995-1-1	Service class 3 acc. to EN 1995-1-1	Service class 3 acc. to EN 1995-1-1	ETA-23/0747
Palon reaktio	Class A1 (EN 13501-1)	Class A1 (EN 13501-1)	Class A1 (EN 13501-1)	ETA-23/0747

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DoP-ETA-230747 [FI]

Puu- ja rakennusruuvi - HF (HEX)

Tuotetyypin yksilöllinen tunniste		
Tuotenro	**GTIN**	**Kuvaus**
113403	7317761901907	PUU- JA RAK.RUUVI-HEX 6,0X50 CS
113408	7317761901914	PUU- JA RAK.RUUVI-HEX 6,0X70 CS
113411	7317761901921	PUU- JA RAK.RUUVI-HEX 6,0X90 CS
113415	7317761901938	PUU- JA RAK.RUUVI-HEX 6,0X120 CS
113417	7317761901945	PUU- JA RAK.RUUVI-HEX 6,0X140 CS
113431	7317761901952	PUU- JA RAK.RUUVI-HEX 8,0X50 CS
113435	7317761901969	PUU- JA RAK.RUUVI-HEX 8,0X70 CS
113439	7317761901976	PUU- JA RAK.RUUVI-HEX 8,0X90 CS
113443	7317761901983	PUU- JA RAK.RUUVI-HEX 8,0X120 CS
113451	7317761901990	PUU- JA RAK.RUUVI-HEX 8,0X160 CS
113453	7317761902003	PUU- JA RAK.RUUVI-HEX 8,0X200 CS
113455	7317761902010	PUU- JA RAK.RUUVI-HEX 8,0X240 CS
113461	7317761902027	PUU- JA RAK.RUUVI-HEX 10,0X50 CS
113466	7317761902034	PUU- JA RAK.RUUVI-HEX 10,0X80 CS
113467	7317761902041	PUU- JA RAK.RUUVI-HEX 10,0X100CS
113469	7317761902058	PUU- JA RAK.RUUVI-HEX 10,0X120CS
113473	7317761902065	PUU- JA RAK.RUUVI-HEX 10,0X160CS
113477	7317761902072	PUU- JA RAK.RUUVI-HEX 10,0X200CS
113481	7317761902089	PUU- JA RAK.RUUVI-HEX 10,0X240CS

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SUORITUSTASOILMOITUS

DoP-ETA-230747 [FI]

Puu- ja rakennusruuvi-W (WAF) suuri kanta, Corrseal

Geometria				
Halkaisija	**Pituus**	**Kannan halkaisija**	**Varren halkaisija**	**Kierteen pituus**
6 mm	40 mm	15,3 mm	3,9 mm	35 mm
6 mm	50 mm	15,3 mm	3,9 mm	40 mm
6 mm	60 mm	15,3 mm	3,9 mm	40 mm
6 mm	70 mm	15,3 mm	3,9 mm	40 mm
6 mm	80 mm	15,3 mm	3,9 mm	40 mm
6 mm	90 mm	15,3 mm	3,9 mm	50 mm
6 mm	100 mm	15,3 mm	3,9 mm	50 mm
6 mm	120 mm	15,3 mm	3,9 mm	75 mm
6 mm	140 mm	15,3 mm	3,9 mm	75 mm
6 mm	160 mm	15,3 mm	3,9 mm	75 mm
6 mm	180 mm	15,3 mm	3,9 mm	75 mm
6 mm	200 mm	15,3 mm	3,9 mm	75 mm
6 mm	220 mm	15,3 mm	3,9 mm	75 mm
8 mm	40 mm	22 mm	5,4 mm	35 mm
8 mm	50 mm	22 mm	5,4 mm	45 mm
8 mm	60 mm	22 mm	5,4 mm	50 mm
8 mm	70 mm	22 mm	5,4 mm	50 mm
8 mm	80 mm	22 mm	5,4 mm	50 mm
8 mm	90 mm	22 mm	5,4 mm	50 mm
8 mm	100 mm	22 mm	5,4 mm	60 mm
8 mm	120 mm	22 mm	5,4 mm	80 mm
8 mm	140 mm	22 mm	5,4 mm	80 mm
8 mm	160 mm	22 mm	5,4 mm	80 mm
8 mm	180 mm	22 mm	5,4 mm	80 mm
8 mm	200 mm	22 mm	5,4 mm	100 mm
8 mm	220 mm	22 mm	5,4 mm	100 mm
8 mm	240 mm	22 mm	5,4 mm	100 mm
8 mm	280 mm	22 mm	5,4 mm	100 mm
8 mm	300 mm	22 mm	5,4 mm	100 mm
8 mm	320 mm	22 mm	5,4 mm	100 mm
10 mm	40 mm	25 mm	6,6 mm	35 mm
10 mm	50 mm	25 mm	6,6 mm	45 mm

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Puu- ja rakennusruuvi-W (WAF) suuri kanta, Corrseal

Geometria				
Halkaisija	**Pituus**	**Kannan halkaisija**	**Varren halkaisija**	**Kierteen pituus**
10 mm	60 mm	25 mm	6,6 mm	55 mm
10 mm	70 mm	25 mm	6,6 mm	60 mm
10 mm	80 mm	25 mm	6,6 mm	60 mm
10 mm	100 mm	25 mm	6,6 mm	60 mm
10 mm	120 mm	25 mm	6,6 mm	80 mm
10 mm	140 mm	25 mm	6,6 mm	80 mm
10 mm	160 mm	25 mm	6,6 mm	80 mm
10 mm	180 mm	25 mm	6,6 mm	80 mm
10 mm	200 mm	25 mm	6,6 mm	100 mm
10 mm	220 mm	25 mm	6,6 mm	100 mm
10 mm	240 mm	25 mm	6,6 mm	100 mm

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Puu- ja rakennusruuvi-W (WAF) suuri kanta, Corrseal

Ilmoitettu suoritustaso/ilmoitetut suoritustasot

Perusominaisuudet	Suoritustaso			Yhdenmukaistetut tekniset eritelmät
Geometria	**6 mm**	**8 mm**	**10 mm**	
Mitat	ETA-23/0747, Annex A4	ETA-23/0747, Annex A4	ETA-23/0747, Annex A4	ETA-23/0747
Ominaismyötömomentti $M_{y,k}$ [Nmm]	11900	25500	36600	ETA-23/0747
Taivutuskulma α [°]	≥ 45°	≥ 45°	≥ 45°	ETA-23/0747
Ominaisvetoparametri $f_{ax,k}$ [N/mm^2] (ρ_k = 350 kg/m^3)	10,9	12,5	10	ETA-23/0747
Ominaisläpivetoparametri $f_{head,k}$ [N/mm^2] (ρ_k = 350 kg/m^3)	16,3	12,6	15,5	ETA-23/0747
Ominaistensilujuus $f_{tens,k}$ [kN]	13,3	24,6	33,6	ETA-23/0747
Ominaismyötöraja $f_{y,k}$ [N/mm^2]	900	900	900	ETA-23/0747
Ominais vääntömomentti $f_{tor,k}$ [Nm]	12,4	28,2	46,3	ETA-23/0747
Ominais vääntömomentti / kierrosmomentti $f_{tor,k}$ [Nm] / $R_{tor,mean}$ (ρ = 480 kg/m^3) [Nm]	≥ 1,5	≥ 1,5	≥ 1,5	ETA-23/0747
Sisäinen etäisyys, pääty- ja reunaetäisyys	EN 1995-1-1	EN 1995-1-1	EN 1995-1-1	ETA-23/0747
Liukumoduli K_{ser} [N/mm]	NPD	NPD	NPD	ETA-23/0747
Korroosionkestävyys	Service class 3 acc. to EN 1995-1-1	Service class 3 acc. to EN 1995-1-1	Service class 3 acc. to EN 1995-1-1	ETA-23/0747
Palon reaktio	Class A1 (EN 13501-1)	Class A1 (EN 13501-1)	Class A1 (EN 13501-1)	ETA-23/0747

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DoP-ETA-230747 [FI]

Puu- ja rakennusruuvi-W (WAF) suuri kanta, Corrseal

Tuotetyypin yksilöllinen tunniste

Tuotenro	GTIN	Kuvaus
10003342	7317761939429	WOOD SCREW CONSTRUCTION-W 6,0X40 CS-100
113103	7317761905066	PUU-RAK.RUUVI WAF 6,0X50 CS
9550113103	7317761955917	WOOD SCREW CONSTRUCTION-W 6,0X50 CS
113105	7317761905073	PUU-RAK.RUUVI WAF 6,0X60 CS
113107	7317761905080	PUU-RAK.RUUVI WAF 6,0X70 CS
113109	7317761905097	PUU-RAK.RUUVI WAF 6,0X80 CS
9550113109	7317761955931	WOOD SCREW CONSTRUCTION-W 6,0X80 CS
113111	7317761905103	PUU-RAK.RUUVI WAF 6,0X90 CS
113113	7317761905110	PUU-RAK.RUUVI WAF 6,0X100 CS
113115	7317761905127	PUU-RAK.RUUVI WAF 6,0X120 CS
113117	7317761905134	PUU-RAK.RUUVI WAF 6,0X140 CS
113119	7317761905141	PUU-RAK.RUUVI WAF 6,0X160 CS
113121	7317761905158	PUU-RAK.RUUVI WAF 6,0X180 CS
113123	7317761905165	PUU-RAK.RUUVI WAF 6,0X200 CS
113127	7317761905172	PUU-RAK.RUUVI WAF 6,0X220 CS
113129	7317761905189	PUU-RAK.RUUVI WAF 8,0X40 CS
113131	7317761905196	PUU-RAK.RUUVI WAF 8,0X50 CS
113133	7317761905202	PUU-RAK.RUUVI WAF 8,0X60 CS
113135	7317761905219	PUU-RAK.RUUVI WAF 8,0X70 CS
113137	7317761905226	PUU-RAK.RUUVI WAF 8,0X80 CS
113139	7317761905233	PUU-RAK.RUUVI WAF 8,0X90 CS
113141	7317761905240	PUU-RAK.RUUVI WAF 8,0X100 CS
113143	7317761905257	PUU-RAK.RUUVI WAF 8,0X120 CS
113147	7317761905264	PUU-RAK.RUUVI WAF 8,0X140 CS
113151	7317761905271	PUU-RAK.RUUVI WAF 8,0X160 CS
113152	7317761905288	PUU-RAK.RUUVI WAF 8,0X180 CS
113153	7317761905295	PUU-RAK.RUUVI WAF 8,0X200 CS
113154	7317761905301	PUU-RAK.RUUVI WAF 8,0X220 CS
113155	7317761905318	PUU-RAK.RUUVI WAF 8,0X240 CS
113097	7317761905325	PUU-RAK.RUUVI WAF 8,0X280 CS
113157	7317761905332	PUU-RAK.RUUVI WAF 8,0X300 CS
113099	7317761905349	PUU-RAK.RUUVI WAF 8,0X320 CS

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SUORITUSTASOILMOITUS

DoP-ETA-230747 [FI]

Puu- ja rakennusruuvi-W (WAF) suuri kanta, Corrseal

Tuotetyypin yksilöllinen tunniste		
Tuotenro	**GTIN**	**Kuvaus**
113159	7317761905356	PUU-RAK.RUUVI WAF 10,0X40 CS
113161	7317761905363	PUU-RAK.RUUVI WAF 10,0X50 CS
113163	7317761905370	PUU-RAK.RUUVI WAF 10,0X60 CS
113165	7317761905387	PUU-RAK.RUUVI WAF 10,0X70 CS
113166	7317761905394	PUU-RAK.RUUVI WAF 10,0X80 CS
113167	7317761905400	PUU-RAK.RUUVI WAF 10,0X100 CS
113169	7317761905417	PUU-RAK.RUUVI WAF 10,0X120 CS
113171	7317761905424	PUU-RAK.RUUVI WAF 10,0X140 CS
113173	7317761905431	PUU-RAK.RUUVI WAF 10,0X160 CS
113175	7317761905448	PUU-RAK.RUUVI WAF 10,0X180 CS
113177	7317761905455	PUU-RAK.RUUVI WAF 10,0X200 CS
113179	7317761905462	PUU-RAK.RUUVI WAF 10,0X220 CS
113181	7317761905479	PUU-RAK.RUUVI WAF 10,0X240 CS

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SUORITUSTASOILMOITUS

DoP-ETA-230747 [FI]

Puu- ja rakennusruuvi-W (WAF) suuri kanta, kiiltosinkitty

Geometria				
Halkaisija	**Pituus**	**Kannan halkaisija**	**Varren halkaisija**	**Kierteen pituus**
6 mm	50 mm	15,3 mm	3,9 mm	40 mm
6 mm	60 mm	15,3 mm	3,9 mm	40 mm
6 mm	80 mm	15,3 mm	3,9 mm	40 mm
6 mm	90 mm	15,3 mm	3,9 mm	50 mm
6 mm	100 mm	15,3 mm	3,9 mm	50 mm
6 mm	120 mm	15,3 mm	3,9 mm	75 mm
6 mm	140 mm	15,3 mm	3,9 mm	75 mm
8 mm	70 mm	22 mm	5,4 mm	50 mm
8 mm	80 mm	22 mm	5,4 mm	50 mm
8 mm	90 mm	22 mm	5,4 mm	50 mm
8 mm	100 mm	22 mm	5,4 mm	60 mm
8 mm	120 mm	22 mm	5,4 mm	80 mm
8 mm	140 mm	22 mm	5,4 mm	80 mm
8 mm	160 mm	22 mm	5,4 mm	80 mm
8 mm	180 mm	22 mm	5,4 mm	80 mm
8 mm	200 mm	22 mm	5,4 mm	100 mm
8 mm	240 mm	22 mm	5,4 mm	100 mm
8 mm	280 mm	22 mm	5,4 mm	100 mm
8 mm	320 mm	22 mm	5,4 mm	100 mm
10 mm	80 mm	25 mm	6,6 mm	60 mm
10 mm	100 mm	25 mm	6,6 mm	60 mm
10 mm	120 mm	25 mm	6,6 mm	80 mm
10 mm	140 mm	25 mm	6,6 mm	80 mm
10 mm	160 mm	25 mm	6,6 mm	80 mm
10 mm	180 mm	25 mm	6,6 mm	80 mm
10 mm	200 mm	25 mm	6,6 mm	100 mm
10 mm	240 mm	25 mm	6,6 mm	100 mm

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DoP-ETA-230747 [FI]

Puu- ja rakennusruuvi-W (WAF) suuri kanta, kiiltosinkitty

Ilmoitettu suoritustaso/ilmoitetut suoritustasot

Perusominaisuudet	Suoritustaso			Yhdenmukaistetut tekniset eritelmät
Geometria	**6 mm**	**8 mm**	**10 mm**	
Mitat	ETA-23/0747, Annex A4	ETA-23/0747, Annex A4	ETA-23/0747, Annex A4	ETA-23/0747
Ominaismyötömomentti $M_{y,k}$ [Nmm]	11900	25500	36600	ETA-23/0747
Taivutuskulma α [°]	≥ 45°	≥ 45°	≥ 45°	ETA-23/0747
Ominaisvetoparametri $f_{ax,k}$ [N/mm^2] (ρ_k = 350 kg/m^3)	10,9	12,5	10	ETA-23/0747
Ominaisläpivetoparametri $f_{head,k}$ [N/mm^2] (ρ_k = 350 kg/m^3)	16,3	12,6	15,5	ETA-23/0747
Ominaistensilujuus $f_{tens,k}$ [kN]	13,3	24,6	33,6	ETA-23/0747
Ominaismyötöraja $f_{y,k}$ [N/mm^2]	900	900	900	ETA-23/0747
Ominais vääntömomentti $f_{tor,k}$ [Nm]	12,4	28,2	46,3	ETA-23/0747
Ominais vääntömomentti / kierrosmomentti $f_{tor,k}$ [Nm] / $R_{tor,mean}$ (ρ = 480 kg/m^3) [Nm]	≥ 1,5	≥ 1,5	≥ 1,5	ETA-23/0747
Sisäinen etäisyys, pääty- ja reunaetäisyys	EN 1995-1-1	EN 1995-1-1	EN 1995-1-1	ETA-23/0747
Liukumoduli K_{ser} [N/mm]	NPD	NPD	NPD	ETA-23/0747
Korroosionkestävyys	Service class 2 acc. to EN 1995-1-1	Service class 2 acc. to EN 1995-1-1	Service class 2 acc. to EN 1995-1-1	ETA-23/0747
Palon reaktio	Class A1 (EN 13501-1)	Class A1 (EN 13501-1)	Class A1 (EN 13501-1)	ETA-23/0747

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Puu- ja rakennusruuvi-W (WAF) suuri kanta, kiiltosinkitty

Tuotetyypin yksilöllinen tunniste

Tuotenro	GTIN	Kuvaus
113203	7317761904519	PUU-RAK.RUUVI WAF 6,0X50 FZB
113205	7317761904526	PUU-RAK.RUUVI WAF 6,0X60 FZB
113209	7317761904533	PUU-RAK.RUUVI WAF 6,0X80 FZB
113211	7317761904540	PUU-RAK.RUUVI WAF 6,0X90 FZB
113213	7317761904557	PUU-RAK.RUUVI WAF 6,0X100 FZB
113215	7317761904564	PUU-RAK.RUUVI WAF 6,0X120 FZB
113217	7317761904571	PUU-RAK.RUUVI WAF 6,0X140 FZB
113235	7317761904588	PUU-RAK.RUUVI WAF 8,0X70 FZB
113237	7317761904595	PUU-RAK.RUUVI WAF 8,0X80 FZB
113239	7317761904601	PUU-RAK.RUUVI WAF 8,0X90 FZB
113241	7317761904618	PUU-RAK.RUUVI WAF 8,0X100 FZB
113243	7317761904625	PUU-RAK.RUUVI WAF 8,0X120 FZB
113247	7317761904632	PUU-RAK.RUUVI WAF 8,0X140 FZB
113251	7317761904649	PUU-RAK.RUUVI WAF 8,0X160 FZB
113252	7317761904656	PUU-RAK.RUUVI WAF 8,0X180 FZB
113253	7317761904663	PUU-RAK.RUUVI WAF 8,0X200 FZB
113255	7317761904670	PUU-RAK.RUUVI WAF 8,0X240 FZB
113256	7317761904687	PUU-RAK.RUUVI WAF 8,0X280 FZB
113257	7317761904694	PUU-RAK.RUUVI WAF 8,0X320 FZB
113266	7317761904700	PUU-RAK.RUUVI WAF 10,0X80 FZB
113267	7317761904717	PUU-RAK.RUUVI WAF 10,0X100 FZB
113269	7317761904724	PUU-RAK.RUUVI WAF 10,0X120 FZB
113271	7317761904731	PUU-RAK.RUUVI WAF 10,0X140 FZB
113273	7317761904748	PUU-RAK.RUUVI WAF 10,0X160 FZB
113275	7317761904755	PUU-RAK.RUUVI WAF 10,0X180 FZB
113277	7317761904762	PUU-RAK.RUUVI WAF 10,0X200 FZB
113281	7317761904779	PUU-RAK.RUUVI WAF 10,0X240 FZB

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Puu- ja rakennusruuvi-W (WAF) valkoinen suuri kanta, kiiltosinkitty

Geometria				
Halkaisija	**Pituus**	**Kannan halkaisija**	**Varren halkaisija**	**Kierteen pituus**
6 mm	50 mm	15,3 mm	3,8 mm	40 mm
6 mm	60 mm	15,3 mm	3,8 mm	40 mm
6 mm	80 mm	15,3 mm	3,8 mm	40 mm

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Puu- ja rakennusruuvi-W (WAF) valkoinen suuri kanta, kiiltosinkitty

Ilmoitettu suoritustaso/ilmoitetut suoritustasot

Perusominaisuudet	**Suoritustaso**	**Yhdenmukaistetut tekniset eritelmät**
Geometria	**6 mm**	
Mitat	ETA-23/0747, Annex A4	ETA-23/0747
Ominaismyötömomentti $M_{y,k}$ [Nmm]	11900	ETA-23/0747
Taivutuskulma α [°]	≥ 45°	ETA-23/0747
Ominaisvetoparametri $f_{ax,k}$ [N/mm^2] (ρ_k = 350 kg/m^3)	10,9	ETA-23/0747
Ominaisläpivetoparametri $f_{head,k}$ [N/mm^2] (ρ_k = 350 kg/m^3)	16,3	ETA-23/0747
Ominaistensilujuus $f_{tens,k}$ [kN]	13,3	ETA-23/0747
Ominaismyötöraja $f_{y,k}$ [N/mm^2]	900	ETA-23/0747
Ominais vääntömomentti $f_{tor,k}$ [Nm]	12,4	ETA-23/0747
Ominais vääntömomentti / kierrosmomentti $f_{tor,k}$ [Nm] / $R_{tor,mean}$ (ρ = 480 kg/m^3) [Nm]	≥ 1,5	ETA-23/0747
Sisäinen etäisyys, pääty- ja reunaetäisyys	EN 1995-1-1	ETA-23/0747
Liukumoduli K_{ser} [N/mm]	NPD	ETA-23/0747
Korroosionkestävyys	Service class 2 acc. to EN 1995-1-1	ETA-23/0747
Palon reaktio	Class A1 (EN 13501-1)	ETA-23/0747

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Puu- ja rakennusruuvi-W (WAF) valkoinen suuri kanta, kiiltosinkitty

Tuotetyypin yksilöllinen tunniste		
Tuotenro	**GTIN**	**Kuvaus**
113204	7317761903147	PUU-RAK.RUUVI WAF 6,0X50 VALK.
113206	7317761903154	PUU-RAK.RUUVI WAF 6,0X60 VALK.
113210	7317761903161	PUU-RAK.RUUVI WAF 6,0X80 VALK.

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Puu- ja rakennusruuvi-W (WAF) suuri kanta, A4

Geometria				
Halkaisija	**Pituus**	**Kannan halkaisija**	**Varren halkaisija**	**Kierteen pituus**
6 mm	70 mm	14 mm	3,8 mm	50 mm
6 mm	90 mm	14 mm	3,8 mm	50 mm
6 mm	120 mm	14 mm	3,8 mm	70 mm
8 mm	40 mm	17 mm	5,3 mm	37 mm
8 mm	70 mm	17 mm	5,3 mm	50 mm
8 mm	90 mm	17 mm	5,3 mm	50 mm
8 mm	120 mm	17 mm	5,3 mm	70 mm
8 mm	150 mm	17 mm	5,3 mm	80 mm
10 mm	40 mm	21 mm	6,3 mm	36 mm
10 mm	70 mm	21 mm	6,3 mm	50 mm
10 mm	90 mm	21 mm	6,3 mm	70 mm
10 mm	120 mm	21 mm	6,3 mm	70 mm
10 mm	150 mm	21 mm	6,3 mm	90 mm

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DoP-ETA-230747 [FI]

Puu- ja rakennusruuvi-W (WAF) suuri kanta, A4

Ilmoitettu suoritustaso/ilmoitetut suoritustasot

Perusominaisuudet	Suoritustaso			Yhdenmukaistetut tekniset eritelmät
Geometria	**6 mm**	**8 mm**	**10 mm**	
Mitat	ETA-23/0747, Annex A4	ETA-23/0747, Annex A4	ETA-23/0747, Annex A4	ETA-23/0747
Ominaismyötömomentti $M_{y,k}$ [Nmm]	6300	11600	19800	ETA-23/0747
Taivutuskulma α [°]	≥ 45°	≥ 45°	≥ 45°	ETA-23/0747
Ominaisvetoparametri $f_{ax,k}$ [N/mm^2] (ρ_k = 350 kg/m^3)	16,1	15,5	14,1	ETA-23/0747
Ominaisläpivetoparametri $f_{head,k}$ [N/mm^2] (ρ_k = 350 kg/m^3)	24,7	24,5	20,8	ETA-23/0747
Ominaistensilujuus $f_{tens,k}$ [kN]	7,7	15,7	21,9	ETA-23/0747
Ominaismyötöraja $f_{y,k}$ [N/mm^2]	380	380	380	ETA-23/0747
Ominais vääntömomentti $f_{tor,k}$ [Nm]	8,7	19,6	33,3	ETA-23/0747
Ominais vääntömomentti / kierrosmomentti $f_{tor,k}$ [Nm] / $R_{tor,mean}$ (ρ = 480 kg/m^3) [Nm]	≥ 1,5	≥ 1,5	≥ 1,5	ETA-23/0747
Sisäinen etäisyys, pääty- ja reunaetäisyys	EN 1995-1-1	EN 1995-1-1	EN 1995-1-1	ETA-23/0747
Liukumoduli K_{ser} [N/mm]	NPD	NPD	NPD	ETA-23/0747
Korroosionkestävyys	Service class 3 acc. to EN 1995-1-1	Service class 3 acc. to EN 1995-1-1	Service class 3 acc. to EN 1995-1-1	ETA-23/0747
Palon reaktio	Class A1 (EN 13501-1)	Class A1 (EN 13501-1)	Class A1 (EN 13501-1)	ETA-23/0747

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Puu- ja rakennusruuvi-W (WAF) suuri kanta, A4

Tuotetyypin yksilöllinen tunniste

Tuotenro	GTIN	Kuvaus
113306	7317761869603	PUURUUVI WAF 6,0X70 SK A4-50
113310	7317761869610	PUURUUVI WAF 6,0X90 SK A4-50
113314	7317761869627	PUURUUVI WAF 6,0X120 SK A4-50
113325	7317761869634	PUURUUVI WAF 8,0X40 SK A4-50
113330	7317761869887	PUURUUVI WAF 8,0X70 SK A4-50
113334	7317761869900	PUURUUVI WAF 8,0X90 SK A4-50
113338	7317761869924	PUURUUVI WAF 8,0X120 SK A4-25
113340	7317761869948	PUURUUVI WAF 8,0X150 SK A4-25
113376	7317761869962	PUURUUVI WAF 10,0X40 SK A4-50
113382	7317761869986	PUURUUVI WAF 10,0X70 SK A4-50
113357	7317761870043	PUURUUVI WAF 10,0X90 SK A4-25
113360	7317761870067	PUURUUVI WAF 10,0X120 SK A4-25
113364	7317761902348	PUURUUVI WAF 10,0x120 A4 7021
113365	7317761902355	PUURUUVI WAF 10,0x120 A4 9010
113363	7317761870081	PUURUUVI WAF 10,0X150 SK A4-25

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SUORITUSTASOILMOITUS

DoP-ETA-230747 [FI]

Puuruuvi ESSDRIVE uppokanta, Corrseal

Geometria				
Halkaisija	**Pituus**	**Kannan halkaisija**	**Varren halkaisija**	**Kierteen pituus**
6 mm	60 mm	11,7 mm	3,8 mm	36 mm
6 mm	70 mm	11,7 mm	3,8 mm	43 mm
6 mm	80 mm	11,7 mm	3,8 mm	43 mm
6 mm	90 mm	11,7 mm	3,8 mm	43 mm
6 mm	100 mm	11,7 mm	3,8 mm	53 mm
6 mm	110 mm	11,7 mm	3,8 mm	62 mm
6 mm	120 mm	11,7 mm	3,8 mm	72 mm
6 mm	140 mm	11,7 mm	3,8 mm	72 mm
6 mm	160 mm	11,7 mm	3,8 mm	72 mm
6 mm	180 mm	11,7 mm	3,8 mm	72 mm
6 mm	220 mm	11,7 mm	3,8 mm	72 mm
8 mm	80 mm	15 mm	5,4 mm	48 mm
8 mm	100 mm	15 mm	5,4 mm	60 mm
8 mm	120 mm	15 mm	5,4 mm	80 mm
8 mm	140 mm	15 mm	5,4 mm	80 mm
8 mm	160 mm	15 mm	5,4 mm	80 mm
8 mm	180 mm	15 mm	5,4 mm	80 mm
8 mm	200 mm	15 mm	5,4 mm	80 mm
8 mm	240 mm	15 mm	5,4 mm	80 mm
8 mm	300 mm	15 mm	5,4 mm	80 mm

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Puuruuvi ESSDRIVE uppokanta, Corrseal

Ilmoitettu suoritustaso/ilmoitetut suoritustasot

Perusominaisuudet	Suoritustaso		Yhdenmukaistetut tekniset eritelmät
Geometria	**6 mm**	**8 mm**	
Mitat	ETA-23/0747, Annex A5	ETA-23/0747, Annex A5	ETA-23/0747
Ominaismyötömomentti $M_{y,k}$ [Nmm]	7300	19700	ETA-23/0747
Taivutuskulma α [°]	≥ 45°	≥ 45°	ETA-23/0747
Ominaisvetoparametri $f_{ax,k}$ [N/mm^2] (ρ_k = 350 kg/m^3)	14,6	11,2	ETA-23/0747
Ominaisläpivetoparametri $f_{head,k}$ [N/mm^2] (ρ_k = 350 kg/m^3)	17,7	17,6	ETA-23/0747
Ominaistensilujuus $f_{tens,k}$ [kN]	13,5	28,7	ETA-23/0747
Ominaismyötöraja $f_{y,k}$ [N/mm^2]	900	900	ETA-23/0747
Ominais vääntömomentti $f_{tor,k}$ [Nm]	10,4	29,7	ETA-23/0747
Ominais vääntömomentti / kierrosmomentti $f_{tor,k}$ [Nm] / $R_{tor,mean}$ (ρ = 480 kg/m^3) [Nm]	≥ 1,5	≥ 1,5	ETA-23/0747
Sisäinen etäisyys, pääty- ja reunaetäisyys	EN 1995-1-1	EN 1995-1-1	ETA-23/0747
Liukumoduli K_{ser} [N/mm]	NPD	NPD	ETA-23/0747
Korroosionkestävyys	Service class 3 acc. to EN 1995-1-1	Service class 3 acc. to EN 1995-1-1	ETA-23/0747
Palon reaktio	Class A1 (EN 13501-1)	Class A1 (EN 13501-1)	ETA-23/0747

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Puuruuvi ESSDRIVE uppokanta, Corrseal

Tuotetyypin yksilöllinen tunniste

Tuotenro	GTIN	Kuvaus
137126	7317761847762	PUURUUVI ESS 6,0X60 UK CS-100
137127	7317761846383	PUURUUVI ESS 6,0X70 UK CS-100
137128	7317761846390	PUURUUVI ESS 6,0X80 UK CS-100
137228	7317761847779	PUURUUVI ESS 6,0X80 UK CS-500
137130	7317761846406	PUURUUVI ESS 6,0X90 UK CS-100
137231	7317761847786	PUURUUVI ESSDRIVE 6,0X90 UPPOKANTAINEN CORRSEAL
137132	7317761846413	PUURUUVI ESS 6,0X100 UK CS-100
137233	7317761847793	PUURUUVI ESSDRIVE 6,0X100 UPPOKANTAINEN CORRSEAL
137133	7317761846420	PUURUUVI ESS 6,0X110 UK CS-100
137134	7317761846437	PUURUUVI ESS 6,0X120 UK CS-100
137235	7317761847809	PUURUUVI ESSDRIVE 6,0X120 UPPOKANTAINEN CORRSEAL
137136	7317761846444	PUURUUVI ESS 6,0X140 UK CS-100
137138	7317761847816	PUURUUVI ESS 6,0X160 UK CS-50
137140	7317761847823	PUURUUVI ESS 6,0X180 UK CS-50
137142	7317761847830	PUURUUVI ESSDRIVE 6,0X220 UPPOKANTAINEN CORRSEAL
10002850	7317761935964	WOOD SCREW ESSDRIVE COUNTER SUNK HEAD 8X80 CS
10002851	7317761935971	WOOD SCREW ESSDRIVE COUNTER SUNK HEAD 8X100 CS
10002852	7317761935988	WOOD SCREW ESSDRIVE COUNTER SUNK HEAD 8X120 CS
10002853	7317761935995	WOOD SCREW ESSDRIVE COUNTER SUNK HEAD 8X140 CS
10002854	7317761936008	WOOD SCREW ESSDRIVE COUNTER SUNK HEAD 8X160 CS
10002855	7317761936015	WOOD SCREW ESSDRIVE COUNTER SUNK HEAD 8X180 CS
10002856	7317761936022	WOOD SCREW ESSDRIVE COUNTER SUNK HEAD 8X200 CS
10002857	7317761936039	WOOD SCREW ESSDRIVE COUNTER SUNK HEAD 8X240 CS
10002858	7317761936046	WOOD SCREW ESSDRIVE COUNTER SUNK HEAD 8X300 CS

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Puuruuvi ESSDRIVE uppokanta, sähkösinkitty

Geometria				
Halkaisija	**Pituus**	**Kannan halkaisija**	**Varren halkaisija**	**Kierteen pituus**
6 mm	40 mm	11,7 mm	3,8 mm	24 mm
6 mm	50 mm	11,7 mm	3,8 mm	30 mm
6 mm	60 mm	11,7 mm	3,8 mm	36 mm
6 mm	70 mm	11,7 mm	3,8 mm	42 mm
6 mm	80 mm	11,7 mm	3,8 mm	42 mm
6 mm	90 mm	11,7 mm	3,8 mm	42 mm
6 mm	100 mm	11,7 mm	3,8 mm	52 mm
6 mm	110 mm	11,7 mm	3,8 mm	62 mm
6 mm	120 mm	11,7 mm	3,8 mm	72 mm
6 mm	130 mm	11,7 mm	3,8 mm	72 mm
6 mm	140 mm	11,7 mm	3,8 mm	72 mm
6 mm	150 mm	11,7 mm	3,8 mm	72 mm

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Puuruuvi ESSDRIVE uppokanta, sähkösinkitty

Ilmoitettu suoritustaso/ilmoitetut suoritustasot

Perusominaisuudet	Suoritustaso	Yhdenmukaistetut tekniset eritelmät
Geometria	**6 mm**	
Mitat	ETA-23/0747, Annex A5	ETA-23/0747
Ominaismyötömomentti $M_{y,k}$ [Nmm]	7300	ETA-23/0747
Taivutuskulma α [°]	≥ 45°	ETA-23/0747
Ominaisvetoparametri $f_{ax,k}$ [N/mm^2] (ρ_k = 350 kg/m^3)	14,6	ETA-23/0747
Ominaisläpivetoparametri $f_{head,k}$ [N/mm^2] (ρ_k = 350 kg/m^3)	17,7	ETA-23/0747
Ominaistensilujuus $f_{tens,k}$ [kN]	13,5	ETA-23/0747
Ominaismyötöraja $f_{y,k}$ [N/mm^2]	900	ETA-23/0747
Ominais vääntömomentti $f_{tor,k}$ [Nm]	10,4	ETA-23/0747
Ominais vääntömomentti / kierrosmomentti $f_{tor,k}$ [Nm] / $R_{tor,mean}$ (ρ = 480 kg/m^3) [Nm]	≥ 1,5	ETA-23/0747
Sisäinen etäisyys, pääty- ja reunaetäisyys	EN 1995-1-1	ETA-23/0747
Liukumoduli K_{ser} [N/mm]	NPD	ETA-23/0747
Korroosionkestävyys	Service class 2 acc. to EN 1995-1-1	ETA-23/0747
Palon reaktio	Class A1 (EN 13501-1)	ETA-23/0747

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Puuruuvi ESSDRIVE uppokanta, sähkösinkitty

Tuotetyypin yksilöllinen tunniste		
Tuotenro	**GTIN**	**Kuvaus**
136159	7317761848165	PUURUUVI ESSDRIVE 6,0X40 UPPOKANTAINEN FZB
136140	7317761848172	PUURUUVI ESS 6,0X50 UK FZB-200
136141	7317761848189	PUURUUVI ESS 6,0X60 UK FZB-100
136142	7317761848196	PUURUUVI ESS 6,0X70 UK FZB-100
136143	7317761848202	PUURUUVI ESS 6,0X80 UK FZB-100
136243	7317761848219	PUURUUVI ESSDRIVE 6,0X80 UPPOKANTA FZB
436143	7317761848592	PUURUUVI ESS 6,0x80 UK FZB-10
136160	7317761848226	PUURUUVI ESS 6,0X90 UK FZB-100
136260	7317761848233	PUURUUVI ESS 6,0X90 UK FZB-400
136144	7317761848240	PUURUUVI ESS 6X100 UK FZB-100
136244	7317761848257	PUURUUVI ESSDRIVE 6,0X100 UPPOKANTA FZB
136145	7317761848264	PUURUUVI ESS 6X110 UK FZB-100
136146	7317761848271	PUURUUVI ESSDRIVE 6,0X120 UPPOKANTAINEN FZB
136246	7317761848288	PUURUUVI ESSDRIVE 6,0X120 UPPOKANTA FZB
136147	7317761848295	PUURUUVI ESSDRIVE 6,0X130 UPPOKANTAINEN FZB
136148	7317761848301	PUURUUVI ESSDRIVE 6,0X140 UPPOKANTAINEN FZB
136149	7317761848318	PUURUUVI ESSDRIVE 6,0X150 UPPOKANTAINEN FZB

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DoP-ETA-230747 [FI]

Pienpakkaukset Puuruuvi ESSDRIVE, uppokanta, Corrseal

Geometria				
Halkaisija	**Pituus**	**Kannan halkaisija**	**Varren halkaisija**	**Kierteen pituus**
6 mm	60 mm	11,7 mm	3,8 mm	36 mm
6 mm	70 mm	11,7 mm	3,8 mm	42 mm
6 mm	80 mm	11,7 mm	3,8 mm	42 mm
6 mm	90 mm	11,7 mm	3,8 mm	42 mm
6 mm	100 mm	11,7 mm	3,8 mm	52 mm
6 mm	120 mm	11,7 mm	3,8 mm	72 mm

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DoP-ETA-230747 [FI]

Pienpakkaukset Puuruuvi ESSDRIVE, uppokanta, Corrseal

Ilmoitettu suoritustaso/ilmoitetut suoritustasot

Perusominaisuudet	Suoritustaso	Yhdenmukaistetut tekniset eritelmät
Geometria	**6 mm**	
Mitat	ETA-23/0747, Annex A5	ETA-23/0747
Ominaismyötömomentti $M_{y,k}$ [Nmm]	7300	ETA-23/0747
Taivutuskulma α [°]	≥ 45°	ETA-23/0747
Ominaisvetoparametri $f_{ax,k}$ [N/mm^2] (ρ_k = 350 kg/m^3)	14,6	ETA-23/0747
Ominaisläpivetoparametri $f_{head,k}$ [N/mm^2] (ρ_k = 350 kg/m^3)	17,7	ETA-23/0747
Ominaistensilujuus $f_{tens,k}$ [kN]	13,5	ETA-23/0747
Ominaismyötöraja $f_{y,k}$ [N/mm^2]	900	ETA-23/0747
Ominais vääntömomentti $f_{tor,k}$ [Nm]	10,4	ETA-23/0747
Ominais vääntömomentti / kierrosmomentti $f_{tor,k}$ [Nm] / $R_{tor,mean}$ (ρ = 480 kg/m^3) [Nm]	≥ 1,5	ETA-23/0747
Sisäinen etäisyys, pääty- ja reunaetäisyys	EN 1995-1-1	ETA-23/0747
Liukumoduli K_{ser} [N/mm]	NPD	ETA-23/0747
Korroosionkestävyys	Service class 3 acc. to EN 1995-1-1	ETA-23/0747
Palon reaktio	Class A1 (EN 13501-1)	ETA-23/0747

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Tuotetyypin yksilöllinen tunniste		
Tuotenro	**GTIN**	**Kuvaus**
10003762	7317761942962	PUURUUVI ESS 6,0x60 UK CS
10003763	7317761942979	PUURUUVI ESS 6,0x70 UK CS
10003764	7317761942986	PUURUUVI ESS 6,0x80 UK CS
10003765	7317761942993	PUURUUVI ESS 6,0x90 UK CS
10003766	7317761943006	PUURUUVI ESS 6,0x100 UK CS
10003767	7317761943013	PUURUUVI ESS 6,0x120 UK CS

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DoP-ETA-230747 [FI]

Pienpakkaukset Puuruuvi ESSDRIVE, uppokanta, sähkösinkitty

Geometria				
Halkaisija	**Pituus**	**Kannan halkaisija**	**Varren halkaisija**	**Kierteen pituus**
6 mm	50 mm	11,7 mm	3,8 mm	30 mm
6 mm	60 mm	11,7 mm	3,8 mm	36 mm
6 mm	70 mm	11,7 mm	3,8 mm	42 mm
6 mm	80 mm	11,7 mm	3,8 mm	42 mm
6 mm	90 mm	11,7 mm	3,8 mm	42 mm
6 mm	100 mm	11,7 mm	3,8 mm	52 mm
6 mm	120 mm	11,7 mm	3,8 mm	72 mm

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DoP-ETA-230747 [FI]

Pienpakkaukset Puuruuvi ESSDRIVE, uppokanta, sähkösinkitty

Ilmoitettu suoritustaso/ilmoitetut suoritustasot

Perusominaisuudet	**Suoritustaso**	**Yhdenmukaistetut tekniset eritelmät**
Geometria	**6 mm**	
Mitat	ETA-23/0747, Annex A5	ETA-23/0747
Ominaismyötömomentti $M_{y,k}$ [Nmm]	7300	ETA-23/0747
Taivutuskulma α [°]	≥ 45°	ETA-23/0747
Ominaisvetoparametri $f_{ax,k}$ [N/mm^2] (ρ_k = 350 kg/m^3)	14,6	ETA-23/0747
Ominaisläpivetoparametri $f_{head,k}$ [N/mm^2] (ρ_k = 350 kg/m^3)	17,7	ETA-23/0747
Ominaistensilujuus $f_{tens,k}$ [kN]	13,5	ETA-23/0747
Ominaismyötöraja $f_{y,k}$ [N/mm^2]	900	ETA-23/0747
Ominais vääntömomentti $f_{tor,k}$ [Nm]	10,4	ETA-23/0747
Ominais vääntömomentti / kierrosmomentti $f_{tor,k}$ [Nm] / $R_{tor,mean}$ (ρ = 480 kg/m^3) [Nm]	≥ 1,5	ETA-23/0747
Sisäinen etäisyys, pääty- ja reunaetäisyys	EN 1995-1-1	ETA-23/0747
Liukumoduli K_{ser} [N/mm]	NPD	ETA-23/0747
Korroosionkestävyys	Service class 2 acc. to EN 1995-1-1	ETA-23/0747
Palon reaktio	Class A1 (EN 13501-1)	ETA-23/0747

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Tuotetyypin yksilöllinen tunniste		
Tuotenro	**GTIN**	**Kuvaus**
10003816	7317761943495	PUURUUVI ESS 6,0x50 UK FZB
10003817	7317761943501	PUURUUVI ESS 6,0x60 UK FZB
10003818	7317761943518	PUURUUVI ESS 6,0x70 UK FZB
10003819	7317761943525	PUURUUVI ESS 6,0x80 UK FZB
10003820	7317761943532	PUURUUVI ESS 6,0x90 UK FZB
10003821	7317761943549	PUURUUVI ESS 6,0x100 UK FZB
10003822	7317761943556	PUURUUVI ESS 6,0x120 UK FZB

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Pienpakkaukset Puu- ja rakennusruuvi-W (WAF) suuri kanta, Corrseal

Geometria				
Halkaisija	**Pituus**	**Kannan halkaisija**	**Varren halkaisija**	**Kierteen pituus**
8 mm	40 mm	22 mm	5,4 mm	35 mm
8 mm	50 mm	22 mm	5,4 mm	45 mm
8 mm	60 mm	22 mm	5,4 mm	50 mm
8 mm	70 mm	22 mm	5,4 mm	50 mm
8 mm	80 mm	22 mm	5,4 mm	50 mm
8 mm	90 mm	22 mm	5,4 mm	50 mm
8 mm	100 mm	22 mm	5,4 mm	60 mm
8 mm	120 mm	22 mm	5,4 mm	70 mm

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Pienpakkaukset Puu- ja rakennusruuvi-W (WAF) suuri kanta, Corrseal

Ilmoitettu suoritustaso/ilmoitetut suoritustasot

Perusominaisuudet	Suoritustaso	Yhdenmukaistetut tekniset eritelmät
Geometria	**8 mm**	
Mitat	ETA-23/0747, Annex A4	ETA-23/0747
Ominaismyötömomentti $M_{y,k}$ [Nmm]	25500	ETA-23/0747
Taivutuskulma α [°]	≥ 45°	ETA-23/0747
Ominaisvetoparametri $f_{ax,k}$ [N/mm^2] (ρ_k = 350 kg/m^3)	12,5	ETA-23/0747
Ominaisläpivetoparametri $f_{head,k}$ [N/mm^2] (ρ_k = 350 kg/m^3)	12,6	ETA-23/0747
Ominaistensilujuus $f_{tens,k}$ [kN]	24,6	ETA-23/0747
Ominaismyötöraja $f_{y,k}$ [N/mm^2]	900	ETA-23/0747
Ominais vääntömomentti $f_{tor,k}$ [Nm]	29,7	ETA-23/0747
Ominais vääntömomentti / kierrosmomentti $f_{tor,k}$ [Nm] / $R_{tor,mean}$ (ρ = 480 kg/m^3) [Nm]	≥ 1,5	ETA-23/0747
Sisäinen etäisyys, pääty- ja reunaetäisyys	EN 1995-1-1	ETA-23/0747
Liukumoduli K_{ser} [N/mm]	NPD	ETA-23/0747
Korroosionkestävyys	Service class 3 acc. to EN 1995-1-1	ETA-23/0747
Palon reaktio	Class A1 (EN 13501-1)	ETA-23/0747

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Pienpakkaukset Puu- ja rakennusruuvi-W (WAF) suuri kanta, Corrseal

Tuotetyypin yksilöllinen tunniste		
Tuotenro	**GTIN**	**Kuvaus**
10003718	7317761942528	PUU-RAK.RUUVI WAF 8,0X40 CS
10003729	7317761942634	PUURUUVI WAF 8,0X50 CS
10003719	7317761942535	PUU-RAK.RUUVI WAF 8,0X60 CS
10003720	7317761942542	PUU-RAK.RUUVI WAF 8,0X70 CS
10003721	7317761942559	PUU-RAK.RUUVI WAF 8,0X80 CS
10003722	7317761942566	PUU-RAK.RUUVI WAF 8,0X90 CS
10003723	7317761942573	PUU-RAK.RUUVI WAF 8,0X100 CS
10003728	7317761942627	PUURUUVI WAF 8,0X120 CS

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SUORITUSTASOILMOITUS

DoP-ETA-230747 [FI]

Pienpakkaukset Puu-ja rakennusruuvi-W (WAF) suuri kanta, A4

Geometria				
Halkaisija	**Pituus**	**Kannan halkaisija**	**Varren halkaisija**	**Kierteen pituus**
8 mm	40 mm	17 mm	5,3 mm	40 mm
8 mm	70 mm	17 mm	5,3 mm	50 mm
8 mm	90 mm	17 mm	5,3 mm	50 mm
8 mm	120 mm	17 mm	5,3 mm	70 mm

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SUORITUSTASOILMOITUS

DoP-ETA-230747 [FI]

Pienpakkaukset Puu-ja rakennusruuvi-W (WAF) suuri kanta, A4

Ilmoitettu suoritustaso/ilmoitetut suoritustasot

Perusominaisuudet	Suoritustaso	Yhdenmukaistetut tekniset eritelmät
Geometria	**8 mm**	
Mitat	ETA-23/0747, Annex A4	ETA-23/0747
Ominaismyötömomentti $M_{y,k}$ [Nmm]	11600	ETA-23/0747
Taivutuskulma α [°]	≥ 45°	ETA-23/0747
Ominaisvetoparametri $f_{ax,k}$ [N/mm^2] (ρ_k = 350 kg/m^3)	15,5	ETA-23/0747
Ominaisläpivetoparametri $f_{head,k}$ [N/mm^2] (ρ_k = 350 kg/m^3)	24,5	ETA-23/0747
Ominaistensilujuus $f_{tens,k}$ [kN]	15,7	ETA-23/0747
Ominaismyötöraja $f_{y,k}$ [N/mm^2]	380	ETA-23/0747
Ominais vääntömomentti $f_{tor,k}$ [Nm]	19,6	ETA-23/0747
Ominais vääntömomentti / kierrosmomentti $f_{tor,k}$ [Nm] / $R_{tor,mean}$ (ρ = 480 kg/m^3) [Nm]	≥ 1,5	ETA-23/0747
Sisäinen etäisyys, pääty- ja reunaetäisyys	EN 1995-1-1	ETA-23/0747
Liukumoduli K_{ser} [N/mm]	NPD	ETA-23/0747
Korroosionkestävyys	Service class 3 acc. to EN 1995-1-1	ETA-23/0747
Palon reaktio	Class A1 (EN 13501-1)	ETA-23/0747

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Pienpakkaukset Puu-ja rakennusruuvi-W (WAF) suuri kanta, A4

Tuotetyypin yksilöllinen tunniste		
Tuotenro	**GTIN**	**Kuvaus**
10003724	7317761942580	PUURUUVI WAF 8,0X40 SK A4
10003725	7317761942597	PUURUUVI WAF 8,0X70 SK A4
10003726	7317761942603	PUURUUVI WAF 8,0X90 SK A4
10003727	7317761942610	PUURUUVI WAF 8,0X120 SK A4

Edellä yksilöidyn tuotteen suoritustaso on ilmoitettujen suoritustasojen joukon mukainen. Tämä suoritustasoilmoitus on asetuksen (EU) N:o 305/2011 mukaisesti annettu edellä ilmoitetun valmistajan yksinomaisella vastuulla.

Valmistajan puolesta allekirjoittanut:

Viktor Bukowski, Product manager, concrete & mass timber fasteners
Kista 2026-01-28

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ZAVOD ZA GRADBENIŠTVO SLOVENIJE
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Designated according to Article 29 of Regulation (EU) No 305/2011

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European Technical Assessment

ETA-23/0747
of 30.09.2025

English version prepared by ZAG

General Part

Technical Assessment Body issuing the European Technical Assessment	**ZAG**
Trade name of the construction product	**ESSVE Construction screws ET-T, HF(HEX), W(WAF), Wood screws ESSDRIVE**
Product family to which the construction product belongs	**13: Structural timber products, elements and ancillaries**
Manufacturer	**ESSVE AB** **P.O. Box 7091** **SE-16407 Kista** https://www.essve.com/
Manufacturing plant	**Plant 1, 2, 3, 4**
This European Technical Assessment contains	**22 pages including Annex A which form an integral part of this assessment**
This European Technical Assessment is issued in accordance with Regulation (EU) No 305/2011, on the basis of	**EAD 130118-01-0603, Screws and threaded rods for use in timber construction, edition February 2019**

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Specific parts

1 Technical description of the product

ESSVE Construction screws ET-T, HF (HEX), W (WAF), Woodscrews ESSDRIVE are dowel type self-tapping screws to be used in timber structures. The following types of fasteners are subject of this ETA (see also Annex A):

- Construction screws ET-T, diameters 6.5 and 8.2 mm, Material: hardened carbon steel, Cylindrical head, CorrSeal corrosion protection.
- Construction screws HF(HEX), diameters 6, 8 and 10 mm, Material: hardened carbon steel, Hexagon head with flange, CorrSeal corrosion protection.
- Construction screws W(WAF), diameters 6, 8 and 10 mm, Material: hardened carbon steel, Wafer head, Electro zinc plated (EZP) or CorrSeal corrosion protection.
- Construction screws W(WAF), diameters 6, 8 and 10 mm, Material: austenitic stainless steel A4 (SAE 316), Wafer head.
- ESSDRIVE screws, diameters 6 and 8 mm, Material: hardened carbon steel, Countersunk head, CorrSeal corrosion protection or Electro zinc plated (EZP).

Screws made from stainless steel are not hardened.

Screws subject of this ETA have diameters in range $6 \le d \le 10$ mm, minimum threaded length $4 \cdot d$ ($l_g \ge 4 \cdot d$), ratio d_1/d in range 0.62 - 0.70, tolerances according to EAD 130118-01-0603, Table 1, and bending angle α at least $45 / d^{0.7} + 20$ (in °).

Detailed dimensions of products are presented in Annex A.

2 Specification of the intended use(s) in accordance with the applicable European Assessment Document (hereinafter EAD)

The products are to be used for connections in timber constructions, e. g.:

− timber / timber, wood-based panels / timber, steel / timber connections, steel / wood - based panels,

− reinforcement of timber in areas of high tensile stresses perpendicular to the grain or compression stresses perpendicular to the grain (e.g. supports of beams),

− fastening of battens on thermal insulation systems on top of rafters or on timber members in vertical façades.

Wood and various wood based materials / structural members can be used:

- Structural timber with rectangular cross section (EN 14081-1);
- Structural finger jointed solid timber (EN 15497);
- Glued solid timber, glue laminated timber (glulam), blocked glued glulam (EN 15497);
- Cross laminated timber (ETA according to EAD 130005-00-0304);
- Solid wood slab element (ETA according to EAD 130002-00-0304);
- Laminated veneer lumber / Glue laminated timber made of hardwood LVL (EN 14374 or ETA according to EAD 130010-01-0304);
- Wood based panels - Plywood (EN 13986 / EN 636);
- Other engineering products subject according to ETA where provisions for use of screws are given.

The general use conditions for which this EAD is valid are given in EN 1995-1-1. The use of the screws shall be limited to static and quasi-static actions, the design of the connections shall be based on the characteristic load-carrying capacities of the screw taking into consideration national provisions.

Depending on the durability of the fastener coating or of the stainless steel which the fasteners are made of they are used in constructions in Service classes 1 to 3 conditions according to EN 1995-1-1 considering the admissible service conditions and the admissible corrosive category according to EN ISO 12944-2 (and as informative according to prEN 1995-1-1:2023). Resistance to corrosion shall take into consideration national provisions at the installation site considering environmental conditions.

The provisions made in this ETA are based on an assumed intended working life (not the same as producer guarantee) for the intended of product taking into consideration proper use and maintenance of 50 years. These provisions are based upon the current state of the art and the available knowledge and experience. The actual working life may be, in normal use conditions, considerably longer without major degradation affecting the basic requirements for the works.

3 Performance of the product and references to the methods used for its assessment

The assessment is performed according to EAD 130118-01-0603: Screws and threaded rods for use in timber construction, edition February 2019. If not dated the latest release of referenced documents should always be taken into consideration.

Table 1: Performance of the product

Product-type: Screws for use in timber construction		**Intended use:** For use in connections in load bearing timber structures	
Basic Work Requirements (BWR)	**Essential characteristics of construction product**	**Assessment method**	**Product performance***
BWR 1 (Mechanical resistance and stability)	Dimensions	Clause 3.1.1	Clause 3.1.1 Annex A1 - A5
	Characteristic yield moment	Clause 3.1.2	Clause 3.1.2
	Bending angle	Clause 3.1.3	Clause 3.1.3
	Characteristic withdrawal parameter	Clause 3.1.4	Clause 3.1.4
	Characteristic head pull-trough parameter of screws	Clause 3.1.5	Clause 3.1.5
	Characteristic tensile strength	Clause 3.1.6	Clause 3.1.6
	Characteristic yield strength	Clause 3.1.7	Clause 3.1.7
	Characteristic torsional strength	Clause 3.1.8	Clause 3.1.8
	Insertion moment	Clause 3.1.9	Clause 3.1.9
	Spacing, end and edge distances of the screws or threaded rods and minimum thickness of the timber material	Clause 3.1.10	Clause 3.1.10
	Slip modulus for mainly axially loaded screws	Clause 3.1.11	Clause 3.1.11
	Durability against corrosion	Clause 3.1.12	Clause 3.1.12
BWR 2 (Safety in case of fire)	Reaction to fire	Clause 3.2.1	Clause 3.2.1
BWR 4 (Safety and accessibility in use)	Same as BWR 1		

* NPA – No performance assessed.

This ETA is issued for the products on the basis of agreed data, deposited with Slovenian National Building and Civil Engineering Institute (hereinafter ZAG), which identifies the product that has been assessed and judged. Changes to the production process or the product itself, which could result in this deposited data being incorrect, should be notified to ZAG before the changes are introduced. ZAG will decide whether or not such changes affect the ETA and consequently the validity of the CE marking on the basis of the ETA and if so whether further assessment, and / or alteration to the ETA, shall be necessary.

Product characteristics are based on proved data provided by producer or by appropriate standards. Relevance of defined product characteristics is related to validity of standard / reports used in preparation of ETA.

3.1 Mechanical resistance and stability (BWR 1)

3.1.1. Dimensions

Dimensions of screws were measured according to the provisions of EN 14592 and are presented in Annexes A1 - A6.

3.1.2. Characteristic yield moment

The values of characteristic yield moments were determined by tests according to EN 409 and evaluated according to EN 14358. Values are given in Annex A7. No cracks were observed at angle α_k.

3.1.3. Bending angle

The bending angles of the screws were determined by tests according to EAD 130118-01-0603, Ch. 2.2.3. The plastic bending angles of all types of screws are ≥ 45°.

3.1.4. Characteristic withdrawal parameter

The values of characteristic withdrawal parameters were determined on solid timber / glulam by tests according to EN 1382, without pre-drilling; values given in Annex A8 are corrected with factor k_ρ.

3.1.5. Characteristic head pull-trough parameter of screws

The values of characteristic head pull-trough parameters were determined on solid timber / glulam by tests according to EN 1383 (see Annex A9), without pre-drilling. For other materials values given in Annex A9 were taken from EAD 130118-01-0603, Ch. 2.2.5.1.

3.1.6. Characteristic tensile strength

The values of characteristic tensile strengths of screws were determined by testing (EAD 130118-01-0603, Ch. 2.2.6, values are presented in Annex A10.

3.1.7. Characteristic yield strength

The values of characteristic yield strengths of screws were determined by testing (EAD 130118-01-0603, Ch. 2.2.7, values are presented in Annex A11.

3.1.8. Characteristic torsional strength

The values of characteristic torsional strengths of screws were determined by testing (EAD 130118-01-0603, Ch. 2.2.8.1), without pre-drilling, values are presented in Annex A12.

3.1.9. Insertion moment

The values of insertion moments of screws were determined by testing (EAD 130118-01-0603, Ch. 2.2.9), without pre-drilling, values are presented in Annex A12.

3.1.10. Spacing, end and edge distances of the screws or threaded rods and minimum thickness of the timber material

The values of spacing, end and edge distances of the screws were determined by testing (EAD 130118-01-0603, Ch. 2.2.10.2), values for some types are presented in Annex A13**,** for others no performance assessed (NPA) option is applied.

3.1.11. Slip modulus for mainly axially loaded screws

No performance assessed (NPA) option is applied.

3.1.12. Durability against corrosion

Type and thickness of corrosion protection / type of stainless steel is given in Annex A1. Contact between screws, acid (in terms of metal corrosion) timber species and other components of the joint made from metal shall not result in corrosion in the intended use. Contact between screws and timber preservative treated against biological attack or fire retardants shall not result in corrosion in the intended use. If screws are used in preservative treated timber the compatibility has to be assessed.

Screws with electro zinc plated (EZP) corrosion protection can be used in Use classes 1 and 2 (acc. to EN 1995-1-1) and screws with CorrSeal corrosion protection or stainless steel in Use classes 1, 2 and 3 (acc. to EN 1995-1-1).

3.2 Safety in case of fire (BWR 2)

3.2.1 Reaction to fire

Screws made from steel / stainless steel are classified as Class A1 of reaction to fire in accordance with EN 13501-1 and European Commission Decision 96/603/EC amended by European Commission Decisions 2000/605/EC and 2003/424/EC.

It is assumed that due to thin layer of lubricants / coatings do not contribute to fire growth or the fully developed fire and have no significant influence to the smoke hazard.

3.2 Safety and accessibility in use (BWR 4)

Same as BWR 1.

3.3 General aspects

3.3.1 Identification

The identification parameters and reference to product specifications is given in Annex A.

3.3.2 Installation

The installation (pre-drilling, minimum spacing and edge and end distances) shall be carried out in accordance with EN 1995-1-1, an appropriate national provisions and instructions from manufacturer.

Pre-drilling is not required but optional; the drill dimension d_{drill} shall not be larger than the one given in Table 2.

Table 2: Pre-drilling: drill dimensions.

			Softwood	Hardwood
Product	d [mm]	d_1 [mm]	d_{drill} [mm]	d_{drill} [mm]
ET-T	6.5	4.0	4.0	4.0
ET-T	8.2	5.7	5.5	6.0
HF(HEX)	6	3.8	3.5	4.0
HF(HEX)	8	5.3	5.0	5.5
HF(HEX)	10	6.6	6.5	7.0
W(WAF)	6	3.8	3.5	4.0
W(WAF)	8	5.3	5.0	5.5
W(WAF)	10	6.6	6.5	7.0
ESSDRIVE	6	3.8	3.5	4.0
ESSDRIVE	8	5.4	5.0	5.5

4 Assessment and verification of constancy of performance (hereinafter AVCP) system applied

According to the Commission Decision 97/176/EC, the system of assessment and verification of constancy of performance (AVCP) (see Annex V of Regulation (EU) No 305/2011 and Commission Delegated Regulation (EU) No 568/2014) to be applied for specified use of the product is **3**.

5 Technical details necessary for the implementation of the AVCP system, as provided for in the applicable EAD

Technical details necessary for the implementation of the AVCP system are laid down in the EAD 130118-01-0603, Ch. 3.

Issued in Ljubljana on 30.09.2025

Signed by:

mag. Franc Capuder, univ. dipl. inž. grad.

Head of Service of TAB

ANNEX A: Products description / characteristic

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A1: ESSVE screws – products overview

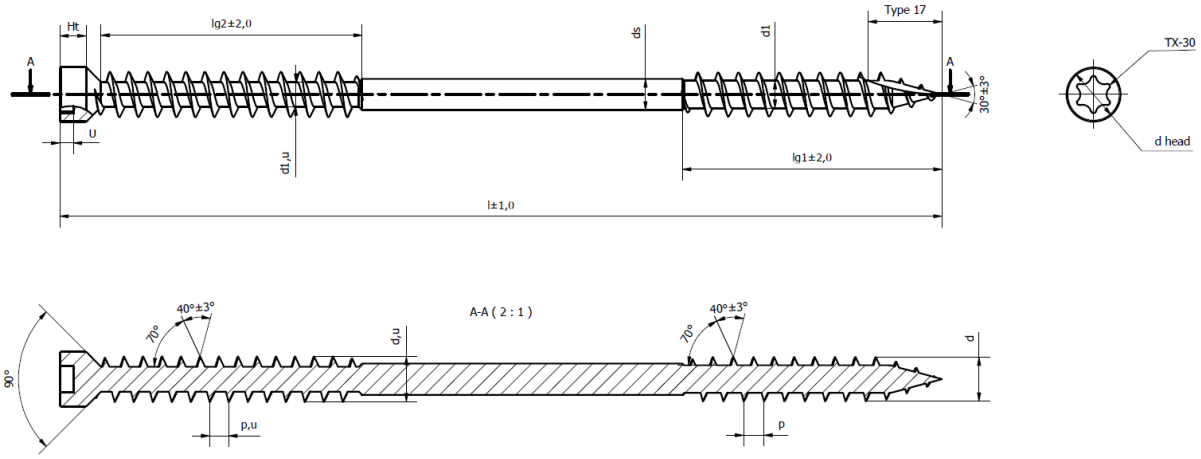
Table A1: Products overview.

Screw type	d [mm]	l [mm]	Head type	Steel grade	Coating type***
ET-T	6.5	65 - 220	Cylindrical	Hardened carbon steel	CorrSeal*
	8.2	90 - 330			
HF(HEX)	6	40 - 220	Hex	Hardened carbon steel	CorrSeal*
	8	40 - 340			
	10	40 - 240			
W(WAF)	6	40 - 220	Wafer	Hardened carbon steel	EZP**
	8	40 - 340			
	10	40 - 240			
W(WAF)	6	40 - 220	Wafer	Hardened carbon steel	CorrSeal*
	8	40 - 340			
	10	40 - 240			
W(WAF)	6	70 - 120	Wafer	Austenitic stainless steel A4 (SAE 316)	
	8	40 - 150			
	10	40 - 150			
ESSDRIVE	6	40 - 240	Countersunk	Hardened carbon steel	EZP**
	8	40 - 300			
ESSDRIVE	6	40 - 240	Countersunk	Hardened carbon steel	CorrSeal*
	8	40 - 300			

* CorrSeal: Zinc - based coating, min 23 µm.
** EZP: Electro zinc plated, min. 5 µm.
***Alternative corrosion protection: to be declared in accordance with EN 14592 / EN 1995-1-1.

A2: Construction screws ET-T, ø 6.5, 8.2 mm

ET-T, ø 6.5 mm

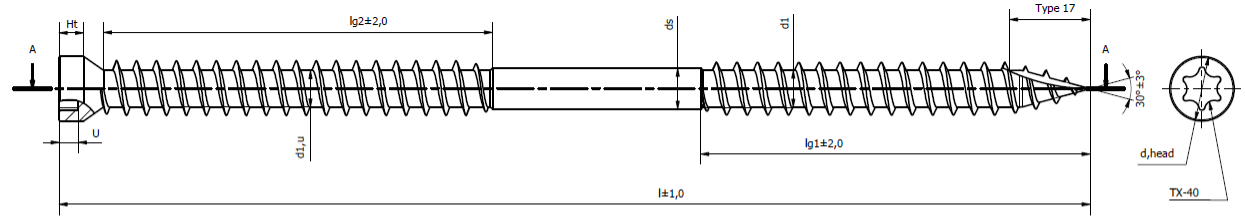


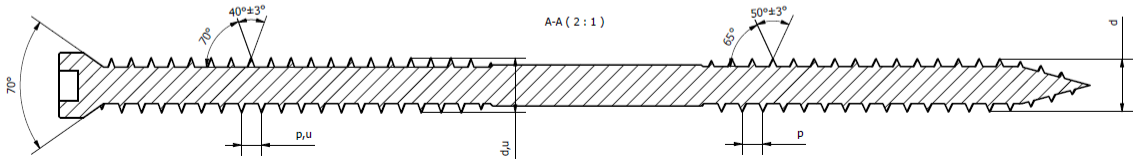
d	6.5 mm
d,u	6.7 mm
d1	4.1 mm
d1,u	3.6 mm
p	3.1 mm
p,u	2.8 mm
d,s	4.6 mm

d head	8.0 mm
Ht	3.9 mm
U	2 mm

l [mm]	lg1 [mm]	lg2 [mm]
65	22	22
90	38	38
130	38	38
160	60	60
190	80	80
220	95	95

ET-T, ø 8.2 mm





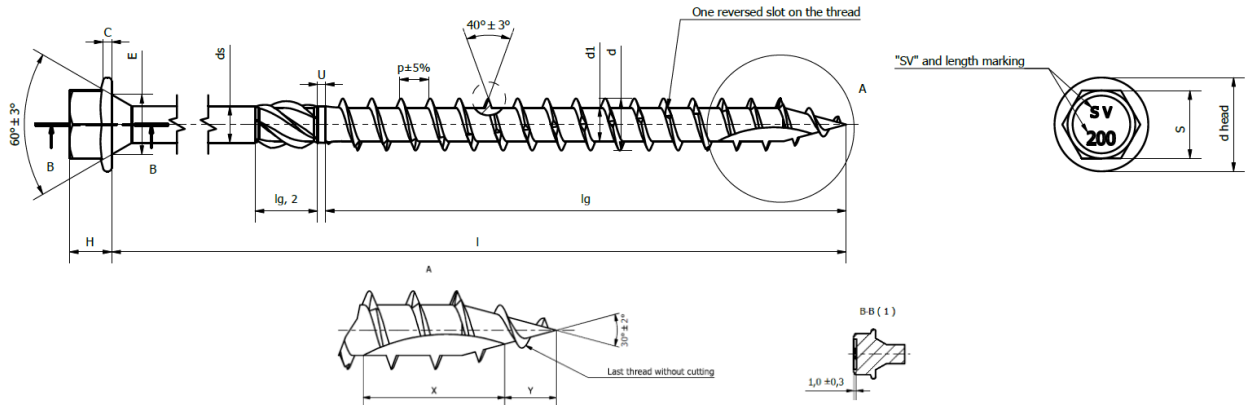
d	8.2 mm
d,u	8.5 mm
d1	5.7 mm
d1,u	5.6 mm
p	3.3 mm
d,s	6.3 mm
d,head	10 mm

l [mm]	lg1 [mm]	lg2 [mm]	p,u [mm]	Ht [mm]	U [mm]
90	38	38	2.9	3.8	3.0
130	38	38	2.9	3.8	3.0
160	60	60	3.0	3.8	3.0
190	80	80	3.0	3.8	3.0
220	95	95	3.0	3.8	3.0
245	107	107	3.0	4.8	4.0
275	107	107	3.0	4.8	4.0
300	135	135	3.1	4.8	4.0
330	135	135	3.1	4.8	4.0

Construction screws ET-T, HF(HEX), W(WAF)
Wood screws ESSDRIVE

Annex A (2/15)

A3: Construction screws HF(HEX), ø 6, 8, 10 mm



Size [mm]	d [mm]	d1 [mm]	ds [mm]	P [mm]	E [mm]	C [mm]	H [mm]	S [mm]	d head [mm]	X* [mm]	Y* [mm]
6	6.0	3.8	4.2	4.5	7.9	min. 1.0	max. 5.8	7.9	13.0	16.5	5.0
8	8.0	5.3	5.8	5.2	10,0	min. 1.1	max. 6.6	9.9	15.0	17.0	5.0
10	10.0	6.6	7.0	5.6	11.5	min. 1.2	max. 8.1	12.9	18.0	20.0	5.0

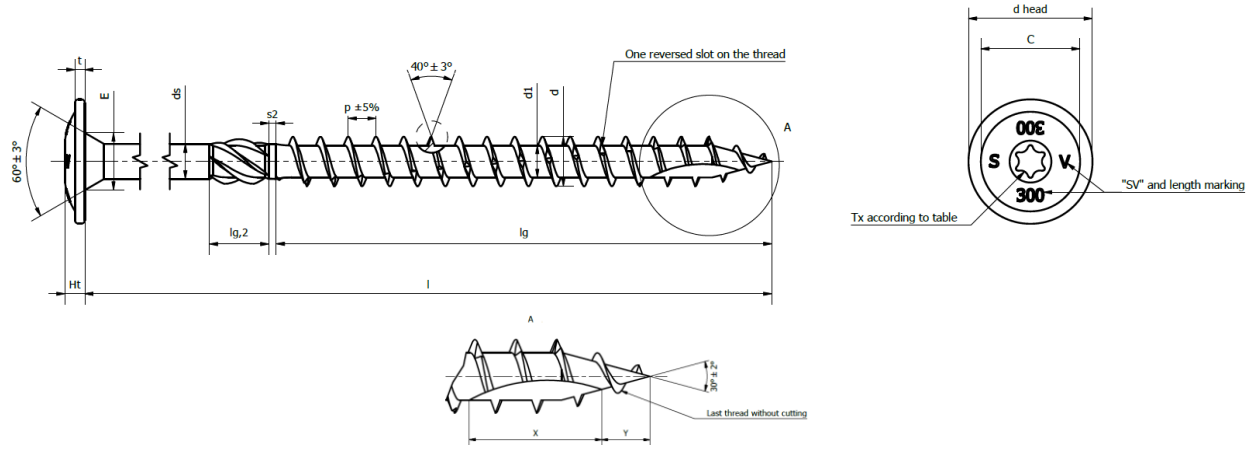
* L ≥ 60 mm, L < 60 mm: Type 17-cut.

Size [mm]	l [mm]	lg [mm]	lg,2 [mm]
6x40	40	40	Not available
6x50	50		
6x60	60		12
6x70	70		
6x80	80	50	
6x90	90		
6x100	100	75	
6x120	120		
6x140	140		
6x160	160		
6x180	180		
6x200	200		
6x220	220		

Size [mm]	l [mm]	lg [mm]	lg,2 [mm]
8x40	40	Full	Not available
8x50	50		
8x60	60	50	12
8x70	70		
8x80	80		
8x90	90		
8x100	100	60	
8x120	120	80	
8x140	140		
8x160	160		
8x180	180		
8x200	200	100	
8x220	220		
8x240	240		
8x280	280		
8x300	300		
8x320	320		
8x340	340		

Size [mm]	l [mm]	lg [mm]	lg,2 [mm]
10x40	40	Full	Not available
10x50	50		
10x60	60		
10x70	70	60	
10x80	80		
10x100	100		12
10x120	120	80	
10x140	140		
10x160	160		
10x180	180		
10x200	200	100	
10x220	220		
10x240	240		

A4: Construction screws W(WAF), ø 6, 8, 10 mm (EZP, CorrSeal)



Size [mm]	d [mm]	d1 [mm]	P [mm]	E [mm]	Ht [mm]	t [mm]	s2 [mm]	d head [mm]	C [mm]	Tx	Txdepth [mm]	ds [mm]	X* [mm]	Y* [mm]
6	6.0	3.9	4.5	8.0	2.9	1.6	1.5	15.3	11.0	30	2.7	4.2	16.5	5.0
8	8.0	5.4	5.2	10.0	3.4	1.8	1.5	22.0	16.0	40	3.4	5.8	17.0	5.0
10	10.0	6.6	5.6	11.5	4.0	2.0	NA	25.0	20.0	40	3.8	7.0	20.0	5.0

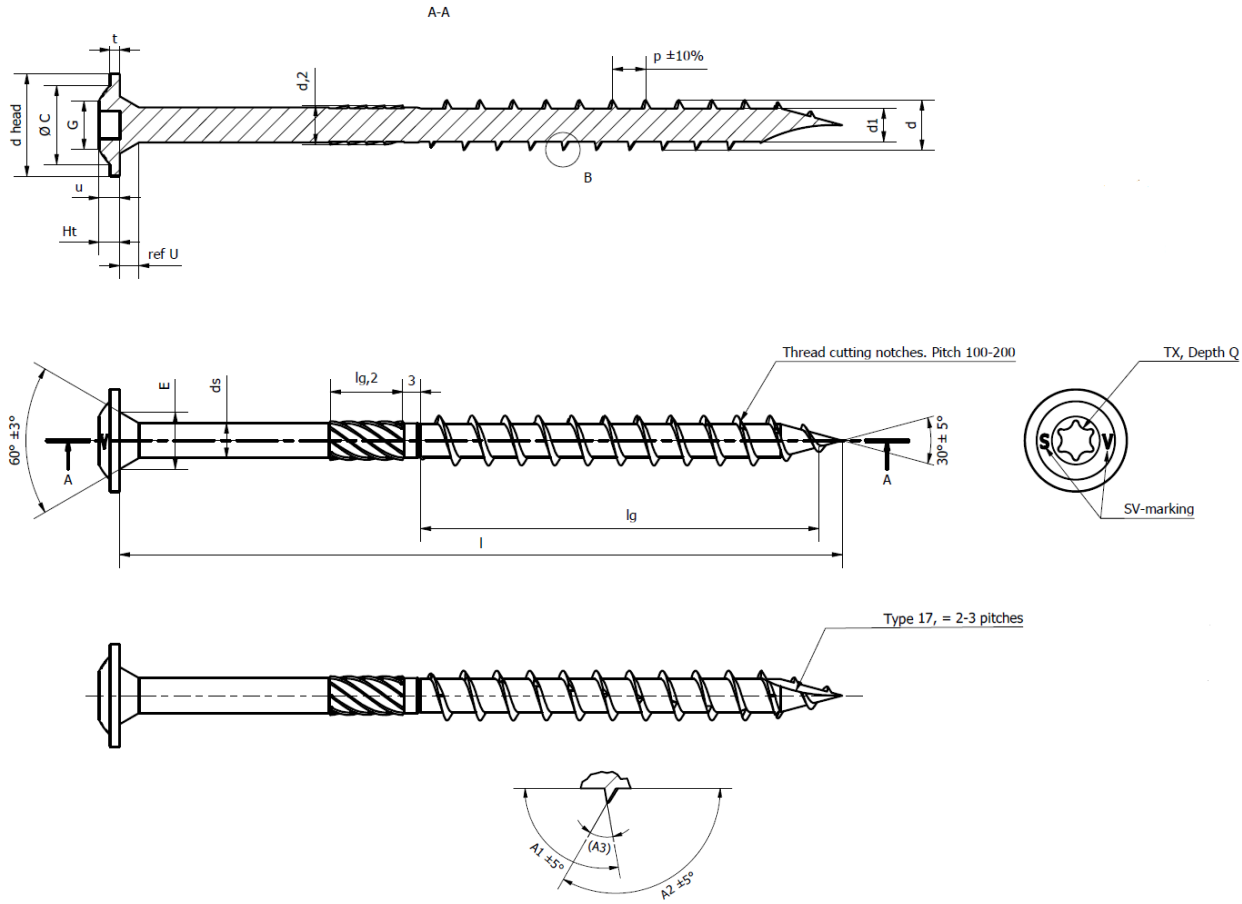
* L ≥ 60 mm, L < 60 mm: Type 17-cut.

Size [mm]	l [mm]	lg [mm]	lg,2 [mm]
6x40	40	40	Not available
6x50	50		
6x60	60		12
6x70	70		
6x80	80	50	
6x90	90		
6x100	100	75	
6x120	120		
6x140	140		
6x160	160		
6x180	180		
6x200	200		
6x220	220		

Size [mm]	l [mm]	lg [mm]	lg,2 [mm]
8x40	40	Full	Not available
8x50	50		
8x60	60	50	12
8x70	70		
8x80	80		
8x90	90		
8x100	100	60	
8x120	120	80	
8x140	140		
8x160	160		
8x180	180		
8x200	200	100	
8x220	220		
8x240	240		
8x280	280		
8x300	300		
8x320	320		
8x340	340		

Size [mm]	l [mm]	lg [mm]	lg,2 [mm]
10x40	40	Full	Not available
10x50	50		
10x60	60		
10x70	70	60	
10x80	80		
10x100	100		12
10x120	120	80	
10x140	140		
10x160	160		
10x180	180		
10x200	200	100	
10x220	220		
10x240	240		

A5: Construction screws W(WAF), ø 6, 8, 10 mm (Austenitic stainless steel)



Size [mm]	A1 [°]	A2 [°]	A3 [°]	d head [mm]	C [mm]	d [mm]	d,2 [mm]	d,1 [mm]	ds [mm]	F [mm]	Ht [mm]	p [mm]	u [mm]
6	110	115	45	14.0	11.0	6.0	4.8	3.8	4.3	7.5	2.9	4.5	2.7
8	100	120	40	17.0	13.0	8.0	6.5	5.3	5.8	10.0	3.6	5.5	3.3
10	100	120	40	21.0	17.0	10.0	7.8	6.3	7.0	12.0	4.0	6.6	3.6

Size [mm]	t [mm]	TX [mm]	U [mm]	G [mm]
6	1.4	TX30	2.5	6.4
8	1.8	TX40	3.0	8.0
10	2.0	TX40	4.0	8.0

Size [mm]	l [mm]	lg [mm]	lg,2 [mm]
6x70	70	50	NA
6x80	80		12
6x90	90		
6x100	100		
6x120	120	70	

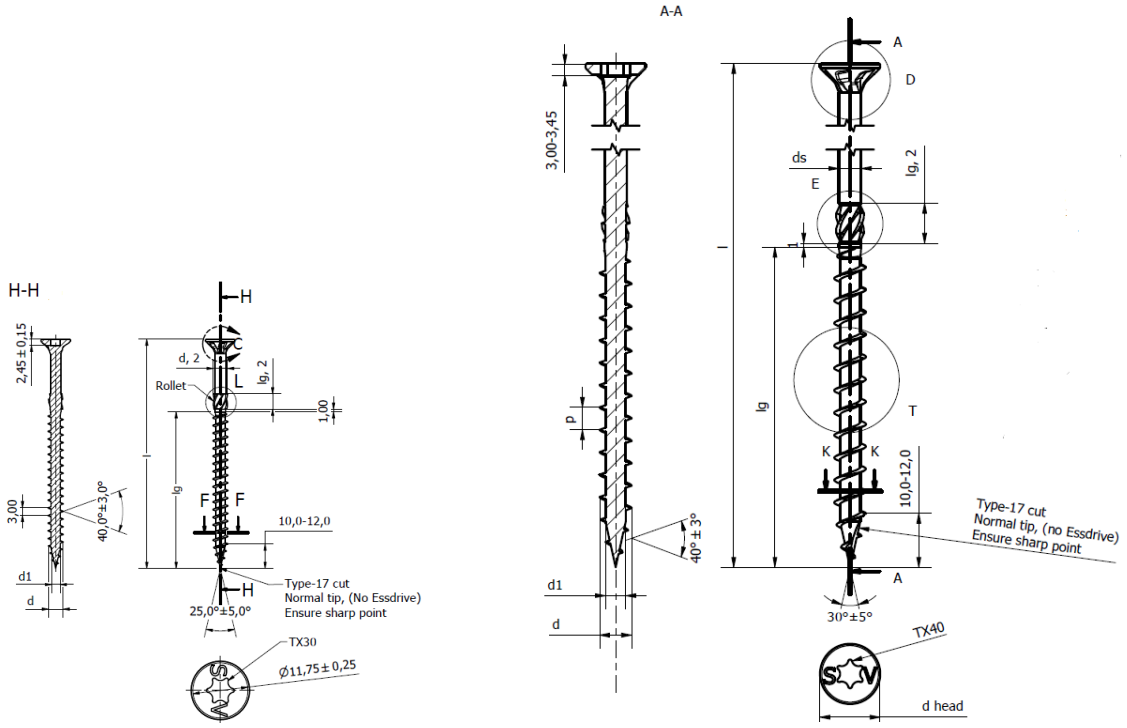
Size [mm]	l [mm]	lg [mm]	lg,2 [mm]
8x40	40	Full	NA
8x50	50		
8x60	60	50	
8x70	70		
8x80	80		12
8x90	90		
8x100	100		
8x120	120	70	
8x140	140	80	
8x150	160		

Size [mm]	l [mm]	lg [mm]	lg,2 [mm]
10x40	40	Full	NA
10x50	50		
10x60	60	50	
10x70	70		
10x80	80	70	
10x90	90		
10x100	100		12
10x120	120		
10x140	140	90	
10x150	160		

Construction screws ET-T, HF(HEX), W(WAF)
Wood screws ESSDRIVE

Annex A (5/15)

A6: Wood screws ESSDRIVE, ø 6, 8 mm (EZP, CorrSeal)



Size [mm]	l [mm]	lg [mm]	lg,2 [mm]	d,2 [mm]
6x40	40	24	NA	NA
6x50	50	30		
6x60	60	36		
6x70	70	42	6	4.7
6x80	80			
6x90	90			
6x100	100	52		
6x110	110	62		
6x120	120	72		
6x130	130			
6x140	140			
6x150	150			
6x160	160			
6x180	180			
6x200	200			
6x220	220			
6x240	240			

Size [mm]	l [mm]	lg [mm]	lg,2 [mm]	d,2 [mm]
8x80	80	48	12	7.1
8x100	100	60		
8x120	120	80		
8x140	140			
8x160	160			
8x200	200			
8x220	220			
8x240	240			
8x250	250			
8x260	260			
8x280	280			
8x300	300			

d head	11.7 mm
d	6.0 mm
d1	3.8 mm
ds	4.2 mm
p	3.0 mm

d head	15.0 mm
d	8.0 mm
d1	5.4 mm
ds	5.8 mm
p	5.6 mm

A7: Characteristic yield moment and plastic bending angle

Table A7: Characteristic yield moment.

Screw type	d [mm]	$M_{y,k}$ [Nmm]	Steel grade	Coating type
ET-T	6.5	8 800	Hardened carbon steel	CorrSeal
	8.2	28 300		
HF(HEX) W (WAF)	6	11 900	Hardened carbon steel	EZP CorrSeal
	8	25 500		
	10	36 600		
W(WAF)	6	6 300	Austenitic stainless steel A4 (SAE 316)	
	8	11 600		
	10	19 800		
ESSDRIVE	6	7 300	Hardened carbon steel	EZP, CorrSeal
	8	19 700		

Plastic bending angle for all types of screws: > 45°.

A8: Characteristic withdrawal parameter

Table A8_1: Characteristic withdrawal parameter $f_{ax,k}$ (solid timber (≥ C24), glulam (≥ GL 24), cross laminated timber, $\rho_k \geq 350$ kg/m³), perpendicular / parallel to grain.

Screw type	d [mm]	$f_{ax,k}$ [N/mm²] perpendicular	$f_{ax,k}$ [N/mm²] parallel	Coating type
ET-T	6.5	17.3	8.9*	CorrSeal
	8.2	15.3	7.8*	
HF(HEX) W(WAF)	6	10.9	/	EZP, CorrSeal
	8	12.5	/	
	10	10.0	/	
W(WAF)	6	16.1	12.3	Austenitic stainless steel A4 (SAE 316)
	8	15.5	11.3	
	10	14.1	10.3	
ESSDRIVE	6	14.6	/	EZP, CorrSeal
	8	11.2	/	

* informative, calculation based on 10 specimens.

Table A8_2: Characteristic withdrawal parameter $f_{ax,k}$ (solid timber (≥ C24), glulam (≥ GL 24), cross laminated timber, $\rho_k \geq 350$ kg/m³), α = 60°.

Screw type	d [mm]	$f_{ax,k}$ [N/mm²]	Coating type
ET-T	6.5	15.1	CorrSeal
	8.2	15.5	

For angles α between screw axis and grain direction 15° ≤ α° < 45° the characteristic withdrawal capacity $F_{ax,\alpha,Rk}$ should multiply by factor k_{ax}:

$$k_{ax} = 0.3 + \frac{0.7 \cdot \alpha}{45°}$$

Characteristic withdrawal capacity of connections with axially loaded screws shall be calculated as:

$$F_{ax,\alpha,Rk} = k_{ax} \cdot n_{ef} \cdot f_{ax,90,k} \cdot d \cdot l_{ef} \cdot \left(\frac{\rho_k}{350}\right)^{0.8}$$

k_{ax} factor to consider the influence of the angle between screw axis and grain direction and the long - term behaviour (k_{ax} = 1 for 45° ≤ α° ≤ 90°)
n_{ef} effective number of screws according to EN 1995-1-1
$f_{ax,90,k}$ short-term characteristic withdrawal parameter for an angle α between screw axis and grain direction of 90° in N/mm²
d outer thread diameter of the screw in mm
l_{ef} penetration length of the threaded part of the screw in the timber member in mm
ρ_k characteristic density of the timber member in kg/m³

A9: Characteristic head pull-trough parameter

Table A9_1: Characteristic head pull-trough parameter $f_{head,k}$ (solid timber (≥ C24), glulam (≥ GL 24), cross laminated timber, $\rho_k \geq 350$ kg/m³).

Screw type	d [mm]	d head [mm]	$f_{head,k}$ [N/mm²]	Coating type
ET-T	6.5	8	NPA	CorrSeal
	8.2	10	NPA	
HF(HEX)	6	13	17.1	CorrSeal
	8	15	16.6	
	10	18	19.7	
W(WAF)	6	15.3	16.3	EZP, CorrSeal
	8	22	12.6	
	10	25	15.5	
W(WAF)	6	14	24.7	Austenitic stainless steel A4 (SAE 316)
	8	17	24.5	
	10	21	20.8	
ESSDRIVE	6	11.7	17.7	EZP, CorrSeal
	8	15	17.6	

Table A9_2: Other timber and timber based products.

Material	$f_{head,k}$ [N/mm²]
Timber and timber based products, $\rho_k \geq 350$ kg/m³, thickness ≥ 20 mm: − Plywood according to EN 636 and EN 13986, − Oriented strand boards, OSB according to EN 300 and EN 13986, − Solid wood panels according to EN 13353 and EN 13986, − Particleboards according to EN 312 and EN 13986, − Cement-bonded particle boards according to EN 634-2 and EN 13986, − Fibreboards according to EN 622-2, EN 622-3 and EN 13986.	10
Wood based panels, thickness less than 12 mm, minimum thicknesses of the wood based panels: 1.2 • (outer screw thread diameter) and minimum board thickness: − Plywood and fibreboards (hardboards and medium boards): 6 mm, − Oriented strand boards, particleboards, cement-bonded particle board: 8 mm, − Solid wood panels: 12 mm.	8 $F_{ax,Rk,max.}$ = 400 N

Characteristic head pull-through capacity (EN 1995-1-1):

$$F_{ax,\alpha,Rk} = n_{ef} \cdot f_{head,k} \cdot d_h^2 \cdot \left(\frac{\rho_k}{350}\right)^{0.8}$$

n_{ef} effective numer of screws according to EN 1995-1-1
f_{head} characteristic head pull-trough parameter in N/mm²
d_h diameter of the screw head in mm
ρ_k characteristic density of the timber member in kg/m³

REMARK: Conversion of the characteristic head pull-through parameter $f_{head,k}^{EN\ 1383}$ in the characteristic head pull-through strength (prEN 1995-1-1):

$$f_{head,k} = \frac{4}{\pi} f_{head,k}^{EN\ 1383}$$

A10: Characteristic tensile strength and Characteristic yield strength

Table A10_1: Characteristic tensile strength.

Screw type	d [mm]	$f_{tens,k}$ [kN]	Steel grade	Coating type
ET-T	6.5	14.8	Hardened carbon steel	CorrSeal
	8.2	30.1		
HF(HEX)	6	13.3	Hardened carbon steel	CorrSeal
	8	24.6		
	10	33.6		
W(WAF)	6	13.3	Hardened carbon steel	EZP, CorrSeal
	8	24.6		
	10	33.6		
W(WAF)	6	7.7	Austenitic stainless steel A4 (SAE 316)	
	8	15.7		
	10	21.9		
ESSDRIVE	6	13.5	Hardened carbon steel	EZP, CorrSeal
	8	28.7		

Table A10_2: Characteristic yield strength.

Screw type	d [mm]	$f_{y,k}$ [N/mm^2]	Steel grade
ET-T	6.5	≥ 900	Hardened carbon steel
	8.2		
HF(HEX)	6	≥ 900	Hardened carbon steel
	8		
	10		
W(WAF)	6	≥ 900	Hardened carbon steel
	8		
	10		
W(WAF)	6	≥ 380	Austenitic stainless steel A4 (SAE 316)
	8		
	10		
ESSDRIVE	6	≥ 900	Hardened carbon steel
	8		

A11: Characteristic torsional strength / Insertion moment

Table A11: Characteristic torsional strength $f_{tor,k}$.

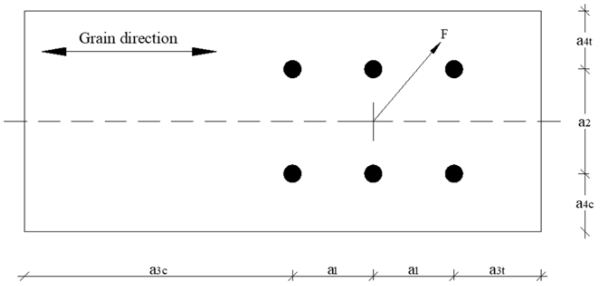
Screw type	d [mm]	$f_{tor,k}$ [Nm]	Steel grade	Coating type
ET-T	6.5	11.3	Hardened carbon steel	CorrSeal
	8.2	34.5		
HF(HEX)	6	12.4	Hardened carbon steel	CorrSeal
	8	28.2		
	10	46.3		
W(WAF)	6	12.4	Hardened carbon steel	EZP, CorrSeal
	8	28.2		
	10	46.3		
W(WAF)	6	8.7	Austenitic stainless steel A4 (SAE 316)	
	8	19.6		
	10	33.3		
ESSDRIVE	6	10.4	Hardened carbon steel	EZP, CorrSeal
	8	29.7		

Ratio of the characteristic torsional strength to the mean insertion moment for all type of screws:

$$\frac{f_{tor,k}}{R_{tor,mean}} \geq 1.5$$

A12: Spacing, end and edge distances of the screws

For screws in solid wood (strength classes C16 up to C40 and D30 up to D70 according to EN 14081-1) and glued laminated timber (strength class GL24 up to GL36 according to EN 14080) the spacing, end and edge distances and the minimum thickness of the timber material are to be determined according to EN 1995-1-1, Clause 8.3.1.2 and Table 8.2 (Figure A12).



(1) loaded end
(2) unloaded end
(3) loaded edge
(4) unloaded edge
α angle between the force and grain direction

Figure A12: Spacing, end and edge distances of the screws.

For screws ET-T, d = 6.5 mm, the minimum spacing, end and edge distances of the screws are given in Table A12.

Table A12: Spacing, end and edge distances for the screws ET-T, d = 6.5 mm.

Screw type	a_1	a_2	$a_{3,c}$	$a_{3,t}$	$a_{4,c}$	$a_{4,t}$
ET-T 6.5 mm	6d	3d	8d	8d	3d	3d
	40 mm	20 mm	50 mm	50 mm	20 mm	20 mm

A13_1: Fastening of battens on thermal insulation systems on top of rafters or on timber members in vertical façades

A13.1 General

ESSVE Construction screws ET-T, HF(HEX), W(WAF), Wood screws ESSDRIVE may also be used for fixation of various thermal insulation materials in roof and wall structures. Length of the screws has to be sufficient to ensure the lower thread is fully embedded in base load bearing structure / elements (Figure A13).

Max. spacing between the screws is limited to e_s = 1.75 m.

The angle between grain direction and screw axis should be 30° ≤ α ≤ 90°.

The thickness of insulation material is $h_{TI,max,\alpha=90°}$ = 250 mm ($h_{TI,max,\alpha=60°}$ = 205 mm). The minimum compressive stress of the thermal insulation material at 10 % deformation shall be $\sigma_{TI,C,10\%,min}$ = 0.05 N/mm² (EN 826:2013).
Minimum counter battens dimensions are presented in Table A13. The minimum strength class of timber elements is C24 (EN 338). Alternative board materials, listed in Chapter 2, can be used as alternative.

Table A13: Minimum counter battens dimensions.

Screw diameter [mm]	Batten width (2 · (4 · d)) [mm]	Batten thickness (4 · d) [mm]
6.0	48	24
6.5	52	26
8.0	64	32
8.2	65	33
10.0	80	40

Base load bearing structure / elements (rafters, studs, panels, etc.) can be made of solid timber (EN 14081-1) (min. C24), glue laminated timber (EN 14080), (min. GL 24), cross laminated timber or LVL Laminated veneer lumber (EN 14374) / Glue laminated timber made of hardwood LVL (ETA according to EAD). Min. width of timber / timber composites is limited to 60 mm.

Only the mechanical resistance is subject of this Annex, building physic performance is not subject of this assessment.

Basic mechanical model of counter battens, thermal insulation material and timber based base material (rafter, etc.) is a beam on elastic foundation: counter battens present the beam; thermal insulation installed above base material presents the elastic foundation.

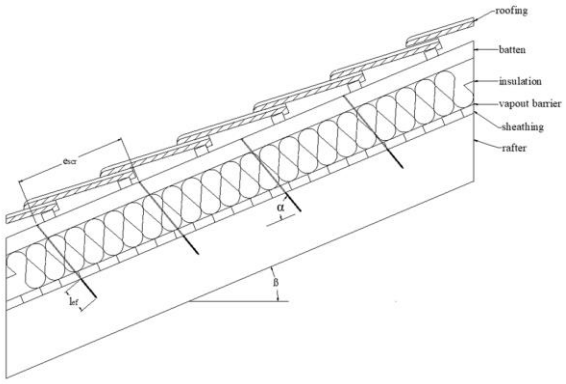


Figure A13: Fastening of battens on thermal insulation systems on top of rafters or on timber members in vertical facades.

A13_2: Fastening of battens on thermal insulation systems on top of rafters or on timber members in vertical façades

DESIGN OF COUNTER BATTNES:

Design shall follow EN 1995-1-1.

Friction forces shall not be taken into consideration in the design of the axial capacity of the screws.

a.) Bending:

Bending moment: $M_k = \frac{(F_{b,k}+F_{s,k})}{4} \cdot l_{ch}$; $l_{ch} = \sqrt[4]{\frac{4EI}{b_{ef} \cdot K}}$

$F_{b,k}$	characteristic point loads perpendicular to the battens (dead, wind, snow, etc.)
$F_{b,k}$	characteristic loads perpendicular to the battens (screw load application)
l_{ch}	characteristic length
EI	counter batten bending stiffness: $I = bh^3/12$
b_{ef}	effective width: $b_{ef} = b + h_{TI}/2$
h_{TI}	thickness of thermal insulation material
K	coefficient of subgrade reaction: $K = E_{TI}/h_{TI}$
b, h	width and height of counter batten (net dimensions)

$$\frac{\sigma_{m,d}}{f_{m,d}} = \frac{M_d}{W \cdot f_{m,d}} \leq 1;\ W = \frac{bh^2}{6}$$

b.) Shear:

Shear force: $V = \frac{(F_b+F_s)}{2}$

$$\frac{\tau_d}{f_{v,d}} = \frac{V_d}{A_s \cdot f_{m,d}} \leq 1;\ A_s = \frac{A}{1.5} = \frac{b \cdot h}{1.5}$$

DESIGN OF THERMAL INSULATION MATERIAL (in compression):

$$\sigma_k = \frac{1.5 \cdot F_{b,k} + F_{s,k}}{2 \cdot l_{ch} \cdot b} \leq 1.1 \cdot \sigma_{TI,C,10\%}$$

$\sigma_{TI,C,10\%}$ compressive stresses in thermal insulation at 10 % deformation calculated according to EN 826:2013

DESIGN OF SCREWS (parallel inclined screws):

Axial tension force in screw:

$$T_{S,k} = \frac{R_{S,k}}{\cos \alpha};\ R_{S,k} = \left(G_{s,k} + S_{s,k}\right) \cdot \sin \beta$$

A13_3: Fastening of battens on thermal insulation systems on top of rafters or on timber members in vertical façades

Axial withdrawal capacity of screw (min value of design value of the axial withdrawal capacity of the threaded part of the screw, the head pull-through capacity of the screw and the tensile capacity of the screw according to Annexes A8 - A10):

$$F_{ax,\alpha,Rd} = min \begin{cases} f_{ax,d} \cdot d \cdot l_{ef} \cdot k_1 \cdot k_2 \cdot \left(\frac{\rho_k}{350}\right)^{0.8} \\ f_{head,d} \cdot d_h^2 \cdot \left(\frac{\rho_k}{350}\right)^{0.8} \\ f_{tens,d} \end{cases}$$

$f_{ax,d}$	design value of the axial withdrawal parameter of screw
d	thread diameter of screw
l_{ef}	effective penetration length in base material (rafter) (≤ 6 • d)
k_{ax}	factor to consider the influence of the angle between screw axis and grain direction and the long-term behaviour (k_{ax} = 1 for 45° ≤ α° ≤ 90°; k_{ax} = 0.3 + (0.7 • α° / 45°) for 45° ≤ α°≤ 90°)
k_1	reduction factor – dimensions of thermal insulation material (k_1 = min {1; 200 / h_{TI} [mm]})
k_2	reduction factor – stresses in thermal insulation material (k_2 = min {1; $\sigma_{TI,C,10\%}$ [N/mm] / 0.12})
ρ_k	characteristic density of base material (rafter)
$f_{head,d}$	design value of the head pull-through capacity of the screw
d_h	head diameter
$f_{tens,d}$	design tensile strength of the screw