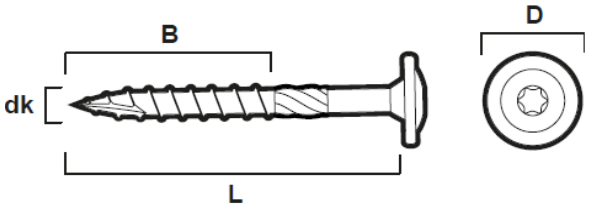
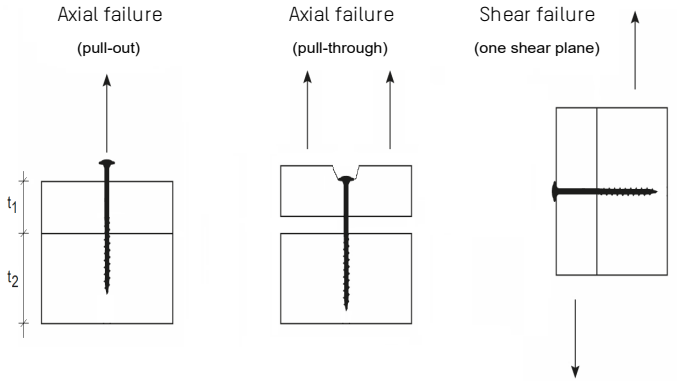
LOAD CAPACITY
Wood screw WAF 5,0 - 10,0 mm. CorrSeal surface treatment



Conditions for tabulated load capacity

The tabulated values are calculated in accordance with Eurocode 5 (EN 1995-1-1:2004 incl. AC:2006, A1:2008 and A2:2014). The calculation assumes that the entire threaded part B is screwed into the underlying timber part and that it has at minimum the same thickness, i.e. $t_2 \geq B$. Furthermore it is assumed the two timber parts are made of the same timber quality class (e.g. C24). If the screw is subjected to both axial and shear load the total load capacity must be verified. The tabulated loads are for one screw, if more screws are used a reduction may be needed depending on spacing. The final design should consider edge and spacing distances.



Recommended load

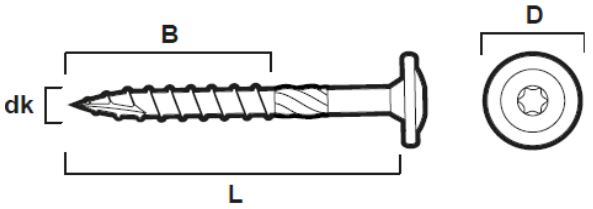
The recommended load given in unit [kg] can be applied directly since all safety factors have been considered incl. a factor on the applied load (γ = 1.4). It is calculated for a permanent load and service class 3 (acc. to Eurocode 5), e.g. a location directly exposed to rain.

Characteristic resistance

The characteristic resistance given in unit [kN] is intended for an engineer that wants to do a detailed analysis of the timber connection using the appropriate partial coefficients for design resistance based on load duration and service class in accordance with Eurocode 5 eq. (2.17):

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

LOAD CAPACITY
Wood screw WAF 5,0 - 10,0 mm. CorrSeal surface treatment



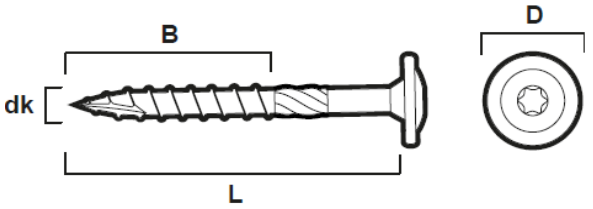
Recommended load

Intended for craftsmen

Art. No.	CE-marking EN 14592	Dimension dk × L [mm]	Thread length B [mm]	Inner thread diameter d_1 [mm]	Head diameter D [mm]	Timber tickness at screw head t_1 [mm]	Timber tickness at screw tip t_2 [mm]	Axial direction (pull-out/-through) $F_{ax,rec}$ [kg]		Shear direction (one shear plane) $F_{v,rec}$ [kg]	
								C14	C24	C14	C24
113 192	-	5.0 × 30	16	3.0	12	14	16	30	35	15	20
113 194	✓	5.0 × 40	24	3.0	12	16	24	45	55	20	25
113 196	✓	5.0 × 50	30	3.0	12	20	30	55	65	30	35
113 198	✓	5.0 × 60	36	3.0	12	24	36	70	80	35	40
113 200	✓	5.0 × 70	42	3.0	12	28	42	80	95	40	45

LOAD CAPACITY

Wood screw WAF 5,0 - 10,0 mm. CorrSeal surface treatment



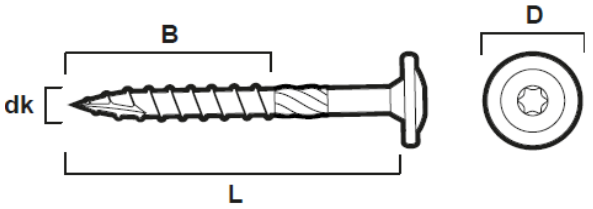
Recommended load

Intended for craftsmen

Art. No.	CE-marking EN 14592	Dimension dk × L [mm]	Thread length B [mm]	Inner thread diameter d_1 [mm]	Head diameter D [mm]	Timber tickness at screw head t_1 [mm]	Timber tickness at screw tip t_2 [mm]	Axial direction (pull-out/-through) $F_{ax,rec}$ [kg]		Shear direction (one shear plane) $F_{v,rec}$ [kg]	
								C14	C24	C14	C24
113 100	✓	6.0 × 40	35	3.8	14	5	35	70	80	5	10
113 102	✓	6.0 × 50	45	3.8	14	5	45	90	105	5	10
113 104	✓	6.0 × 60	50	3.8	14	10	50	100	115	15	20
113 106	✓	6.0 × 70	50	3.8	14	20	50	100	115	35	40
113 108	✓	6.0 × 80	50	3.8	14	30	50	100	115	50	60
113 110	✓	6.0 × 90	50	3.8	14	40	50	100	115	55	65
113 112	✓	6.0 × 100	50	3.8	14	50	50	100	115	60	70
113 114	✓	6.0 × 120	70	3.8	14	50	70	105	125	60	70
113 116	✓	6.0 × 140	70	3.8	14	70	70	105	125	60	70
113 118	✓	6.0 × 160	80	3.8	14	80	80	105	125	60	70
113 120	✓	6.0 × 180	80	3.8	14	100	80	105	125	60	70
113 122	✓	6.0 × 200	80	3.8	14	120	80	105	125	60	70
113 124	✓	6.0 × 220	80	3.8	14	140	80	105	125	60	70

LOAD CAPACITY

Wood screw WAF 5,0 - 10,0 mm. CorrSeal surface treatment



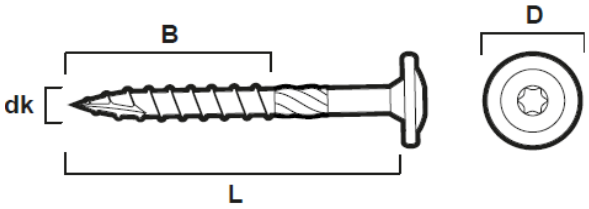
Recommended load

Intended for craftsmen

Art. No.	CE-marking EN 14592	Dimension dk × L [mm]	Thread length B [mm]	Inner thread diameter d_1 [mm]	Head diameter D [mm]	Timber tickness at screw head t_1 [mm]	Timber tickness at screw tip t_2 [mm]	Axial direction (pull-out/-through) $F_{ax,rec}$ [kg]		Shear direction (one shear plane) $F_{v,rec}$ [kg]	
								C14	C24	C14	C24
113 125	✓	8.0 × 40	35	5.3	22	5	35	85	100	10	10
113 126	✓	8.0 × 50	45	5.3	22	5	45	110	125	10	10
113 128	✓	8.0 × 60	50	5.3	22	10	50	120	140	20	25
113 130	✓	8.0 × 70	50	5.3	22	20	50	120	140	45	55
113 132	✓	8.0 × 80	50	5.3	22	30	50	120	140	65	80
113 134	✓	8.0 × 90	50	5.3	22	40	50	120	140	70	85
113 136	✓	8.0 × 100	50	5.3	22	50	50	120	140	75	90
113 138	✓	8.0 × 120	70	5.3	22	50	70	170	200	95	110
113 140	✓	8.0 × 150	80	5.3	22	70	80	195	225	110	125
113 142	✓	8.0 × 170	80	5.3	22	90	80	195	225	110	125
113 144	✓	8.0 × 200	80	5.3	22	120	80	195	225	110	125
113 145	✓	8.0 × 220	80	5.3	22	140	80	195	225	110	125
113 146	✓	8.0 × 240	80	5.3	22	160	80	195	225	110	125
113 148	✓	8.0 × 280	80	5.3	22	200	80	195	225	110	125
113 149	✓	8.0 × 300	80	5.3	22	220	80	195	225	110	125
113 150	✓	8.0 × 320	80	5.3	22	240	80	195	225	110	125

LOAD CAPACITY

Wood screw WAF 5,0 - 10,0 mm. CorrSeal surface treatment

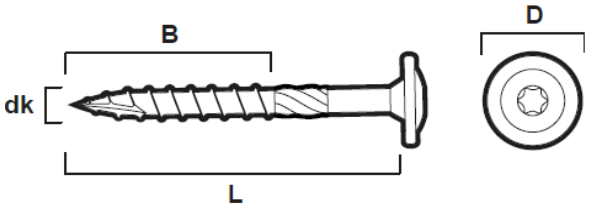


Recommended load

Intended for craftsmen

Art. No.	CE-marking EN 14592	Dimension dk × L [mm]	Thread length B [mm]	Inner thread diameter d_1 [mm]	Head diameter D [mm]	Timber tickness at screw head t_1 [mm]	Timber tickness at screw tip t_2 [mm]	Axial direction (pull-out/-through) $F_{ax,rec}$ [kg]		Shear direction (one shear plane) $F_{v,rec}$ [kg]	
								C14	C24	C14	C24
113 176	-	10.0 × 40	35	6.3	26	5	35	115	135	10	15
113 178	✓	10.0 × 50	45	6.3	26	5	45	150	175	10	15
113 180	✓	10.0 × 60	50	6.3	26	10	50	165	190	25	35
113 182	✓	10.0 × 70	50	6.3	26	20	50	165	190	55	70
113 156	✓	10.0 × 80	70	6.3	26	10	70	230	270	25	35
113 158	✓	10.0 × 100	70	6.3	26	30	70	230	270	85	105
113 160	✓	10.0 × 120	70	6.3	26	50	70	230	270	135	155
113 162	✓	10.0 × 140	90	6.3	26	50	90	300	350	145	175
113 164	✓	10.0 × 160	90	6.3	26	70	90	300	350	170	195
113 168	✓	10.0 × 180	90	6.3	26	90	90	300	350	180	200
113 170	✓	10.0 × 200	90	6.3	26	110	90	300	350	180	200
113 172	✓	10.0 × 220	90	6.3	26	130	90	300	350	180	200
113 174	✓	10.0 × 240	90	6.3	26	150	90	300	350	180	200

LOAD CAPACITY
Wood screw WAF 5,0 - 10,0 mm. CorrSeal surface treatment

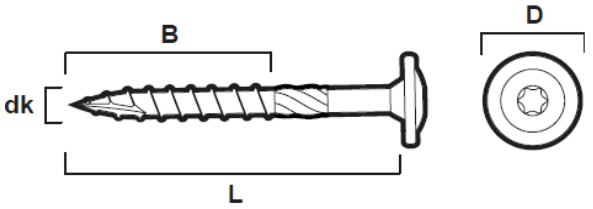


Characteristic resistance

Intended for engineers

Art. No.	CE-marking EN 14592	Dimension dk × L [mm]	Thread length B [mm]	Inner thread diameter d_1 [mm]	Head diameter D [mm]	Timber tickness at screw head t_1 [mm]	Timber tickness at screw tip t_2 [mm]	Axial direction (pull-out/-through) $F_{ax,Rk}$ [kN]		Shear direction (one shear plane) $F_{v,Rk}$ [kN]	
								C14	C24	C14	C24
113 192	-	5.0 × 30	16	3.0	12	14	16	1.1	1.3	0.6	0.7
113 194	✓	5.0 × 40	24	3.0	12	16	24	1.7	2.0	0.9	1.1
113 196	✓	5.0 × 50	30	3.0	12	20	30	2.1	2.5	1.1	1.3
113 198	✓	5.0 × 60	36	3.0	12	24	36	2.6	3.0	1.3	1.5
113 200	✓	5.0 × 70	42	3.0	12	28	42	3.0	3.5	1.5	1.7

LOAD CAPACITY
Wood screw WAF 5,0 - 10,0 mm. CorrSeal surface treatment

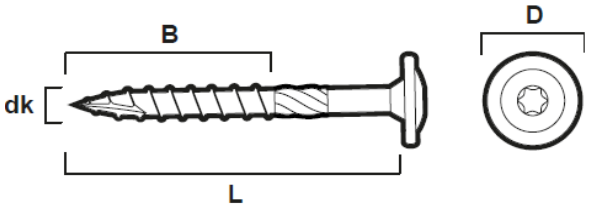


Characteristic resistance

Intended for engineers

Art. No.	CE-marking EN 14592	Dimension dk × L [mm]	Thread length B [mm]	Inner thread diameter d_1 [mm]	Head diameter D [mm]	Timber tickness at screw head t_1 [mm]	Timber tickness at screw tip t_2 [mm]	Axial direction (pull-out/-through) $F_{ax,Rk}$ [kN]		Shear direction (one shear plane) $F_{v,Rk}$ [kN]	
								C14	C24	C14	C24
113 100	✓	6.0 × 40	35	3.8	14.0	5	35	2.5	2.9	0.3	0.4
113 102	✓	6.0 × 50	45	3.8	14.0	5	45	3.2	3.8	0.3	0.4
113 104	✓	6.0 × 60	50	3.8	14.0	10	50	3.6	4.2	0.6	0.8
113 106	✓	6.0 × 70	50	3.8	14.0	20	50	3.6	4.2	1.3	1.6
113 108	✓	6.0 × 80	50	3.8	14.0	30	50	3.6	4.2	1.9	2.2
113 110	✓	6.0 × 90	50	3.8	14.0	40	50	3.6	4.2	2.1	2.4
113 112	✓	6.0 × 100	50	3.8	14.0	50	50	3.6	4.2	2.2	2.5
113 114	✓	6.0 × 120	70	3.8	14.0	50	70	3.8	4.5	2.3	2.6
113 116	✓	6.0 × 140	70	3.8	14.0	70	70	3.8	4.5	2.3	2.6
113 118	✓	6.0 × 160	80	3.8	14.0	80	80	3.8	4.5	2.3	2.6
113 120	✓	6.0 × 180	80	3.8	14.0	100	80	3.8	4.5	2.3	2.6
113 122	✓	6.0 × 200	80	3.8	14.0	120	80	3.8	4.5	2.3	2.6
113 124	✓	6.0 × 220	80	3.8	14.0	140	80	3.8	4.5	2.3	2.6

LOAD CAPACITY
Wood screw WAF 5,0 - 10,0 mm. CorrSeal surface treatment

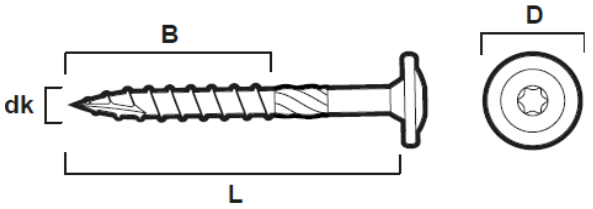


Characteristic resistance

Intended for engineers

Art. No.	CE-marking EN 14592	Dimension dk × L [mm]	Thread length B [mm]	Inner thread diameter d_1 [mm]	Head diameter D [mm]	Timber tickness at screw head t_1 [mm]	Timber tickness at screw tip t_2 [mm]	Axial direction (pull-out/-through) $F_{ax,Rk}$ [kN]		Shear direction (one shear plane) $F_{v,Rk}$ [kN]	
								C14	C24	C14	C24
113 125	✓	8.0 × 40	35	5.3	22	5	35	3.1	3.6	0.4	0.5
113 126	✓	8.0 × 50	45	5.3	22	5	45	4.0	4.6	0.4	0.5
113 128	✓	8.0 × 60	50	5.3	22	10	50	4.4	5.1	0.8	1.0
113 130	✓	8.0 × 70	50	5.3	22	20	50	4.4	5.1	1.6	2.0
113 132	✓	8.0 × 80	50	5.3	22	30	50	4.4	5.1	2.5	3.0
113 134	✓	8.0 × 90	50	5.3	22	40	50	4.4	5.1	2.6	3.1
113 136	✓	8.0 × 100	50	5.3	22	50	50	4.4	5.1	2.8	3.3
113 138	✓	8.0 × 120	70	5.3	22	50	70	6.2	7.2	3.4	4.0
113 140	✓	8.0 × 150	80	5.3	22	70	80	7.0	8.2	4.0	4.5
113 142	✓	8.0 × 170	80	5.3	22	90	80	7.0	8.2	4.0	4.5
113 144	✓	8.0 × 200	80	5.3	22	120	80	7.0	8.2	4.0	4.5
113 145	✓	8.0 × 220	80	5.3	22	140	80	7.0	8.2	4.0	4.5
113 146	✓	8.0 × 240	80	5.3	22	160	80	7.0	8.2	4.0	4.5
113 148	✓	8.0 × 280	80	5.3	22	200	80	7.0	8.2	4.0	4.5
113 149	✓	8.0 × 300	80	5.3	22	220	80	7.0	8.2	4.0	4.5
113 150	✓	8.0 × 320	80	5.3	22	240	80	7.0	8.2	4.0	4.5

LOAD CAPACITY
Wood screw WAF 5,0 - 10,0 mm. CorrSeal surface treatment

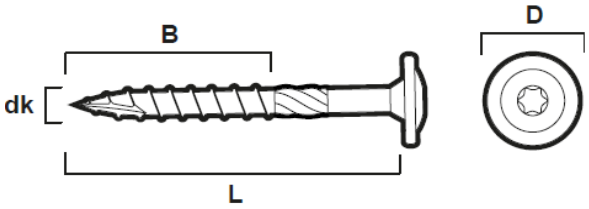


Characteristic resistance

Intended for engineers

Art. No.	CE-marking EN 14592	Dimension dk × L [mm]	Thread length B [mm]	Inner thread diameter d_1 [mm]	Head diameter D [mm]	Timber tickness at screw head t_1 [mm]	Timber tickness at screw tip t_2 [mm]	Axial direction (pull-out/-through) $F_{ax,Rk}$ [kN]		Shear direction (one shear plane) $F_{v,Rk}$ [kN]	
								C14	C24	C14	C24
113 176	-	10.0 × 40	35	6.3	26	5	35	4.2	4.9	0.5	0.6
113 178	✓	10.0 × 50	45	6.3	26	5	45	5.4	6.3	0.5	0.6
113 180	✓	10.0 × 60	50	6.3	26	10	50	6.0	7.0	1.1	1.3
113 182	✓	10.0 × 70	50	6.3	26	20	50	6.0	7.0	2.1	2.5
113 156	✓	10.0 × 80	70	6.3	26	10	70	8.4	9.7	1.1	1.3
113 158	✓	10.0 × 100	70	6.3	26	30	70	8.4	9.7	3.2	3.8
113 160	✓	10.0 × 120	70	6.3	26	50	70	8.4	9.7	4.9	5.7
113 162	✓	10.0 × 140	90	6.3	26	50	90	10.8	12.5	5.3	6.4
113 164	✓	10.0 × 160	90	6.3	26	70	90	10.8	12.5	6.1	7.1
113 168	✓	10.0 × 180	90	6.3	26	90	90	10.8	12.5	6.5	7.3
113 170	✓	10.0 × 200	90	6.3	26	110	90	10.8	12.5	6.5	7.3
113 172	✓	10.0 × 220	90	6.3	26	130	90	10.8	12.5	6.5	7.3
113 174	✓	10.0 × 240	90	6.3	26	150	90	10.8	12.5	6.5	7.3

LOAD CAPACITY
Wood screw WAF 5,0 - 10,0 mm. CorrSeal surface treatment



Conversion factors for load-duration and service classes

The conversion factors can be used to re-calculated the recommended load in the tables for other load-durations and service classes. The conversion factors are based on the factor k_{mod} in Eurocode 5.

Load-duration classes can differ between different countries due to climate-based loads (snow, wind).

Conversion factors from permanent load duration in service class 3

Load-duration	Examples of loading	Service class 1-2	Service class 3
Permanent	Self-weight	1.20	1.00
Long-term	Storage	1.40	1.10
Medium-term	Imposed floor load, snow	1.60	1.30
Short-term	Snow, wind	1.80	1.40
Instantaneous	Wind, accidental load	2.20	1.80

Corrosion protection

Rules and best practice for corrosion protection may differ among European countries. The end-user should ensure that the corrosion protection is suitable for the current application.

Conversion to different timber quality

Re-calculation of load capacity in the axial direction for a different timber quality (characteristic density) is possible according to the formula below:

$$F_{ax(\rho_{k,1})} \times \left(\frac{\rho_{k,2}}{\rho_{k,1}}\right)^{0,8} = F_{ax(\rho_{k,2})}$$

If for example the load capacity in axial direction is 60 kg in C14-timber the load capacity in C35-timber is increased to:

$$60kg \times \left(\frac{400}{290}\right)^{0,8} = 75kg$$

Re-calculation for load capacity in the shear direction in the same way is however not possible. For guidence please contact ESSVE technical support.

Material	Density ρ_k [kg/m^3]
C14	290
C18	320
C24	350
C30	380
C35	400
C40	420