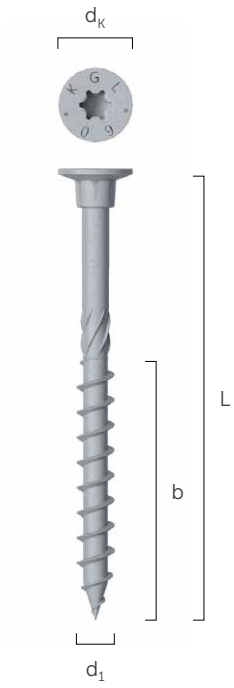
KGL EVO

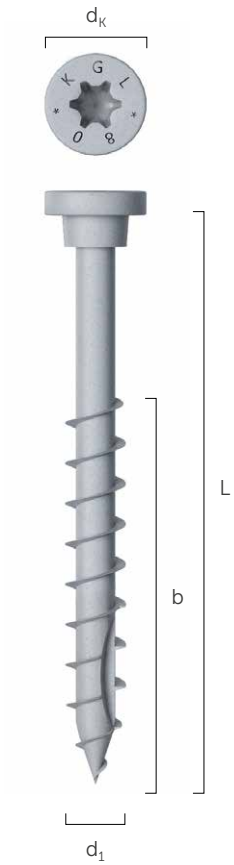
ICC ES AC233 | AC257 ESR-4645 · CE ETA-11/0030

SCREW WITH C4 EVO COATING AND PAN HEAD

- Multi-layer EVO coating based on epoxy and aluminium flakes. No rust after 1440 hours of salt spray exposure (ISO 9227)
- It can be used outdoors in coastal and industrial areas
- The 5.0 mm sizes are also ideal for timber-to-timber joints, the 8 mm sizes for metal profiles and post bases



KGL EVO Ø5



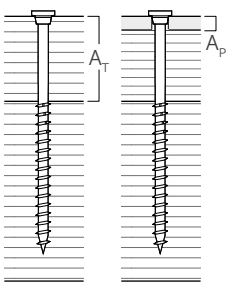
KGL EVO Ø8

MATERIAL: carbon steel, with a 20 µm coating, highly resistant to corrosion

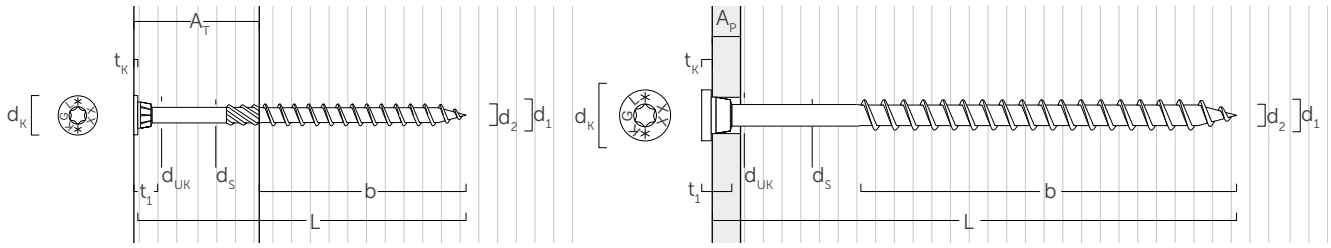
C4 EVO COATING · INCLUDED

d_1 [mm]	d_K [mm]	CODE	L [mm]	b [mm]	A_T [mm]	A_P [mm]	pcs
5 TX 25	9,65	KGLEVO560	60	35	25	1,0÷10	200
8 TX 40	14,50	HBSPEVO840	40	32	8	1,0÷15	100
		KGLEVO860	60	52	8	1,0÷15	100
		KGLEVO880	80	55	25	1,0÷15	100
		KGLEVO8100	100	75	25	1,0÷15	100

A maximum fastening thickness



GEOMETRY AND MECHANICAL CHARACTERISTICS

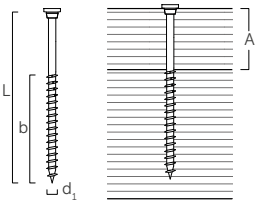
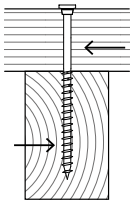
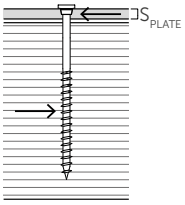
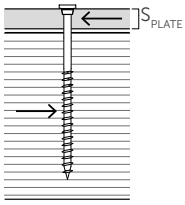
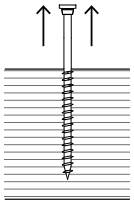
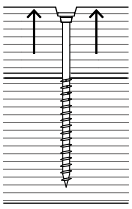


KGL EVO Ø5 KGL EVO Ø8

nominal diameter	d_1	[mm]	5	8
head diameter	d_K	[mm]	9,65	14,50
thread diameter	d_2	[mm]	3,40	5,40
shank diameter	d_S	[mm]	3,65	5,80
head thickness	t_1	[mm]	5,50	8,00
washer thickness	t_K	[mm]	1,00	3,40
underhead diameter	d_{UK}	[mm]	6,00	10,00
pre-drilling hole diameter(1)	d_V	[mm]	3,00	5,00
characteristic yield moment	$M_{y,k}$	[Nm]	5,40	20,10
characteristic withdrawal-resistance parameter(2)	$f_{ax,k}$	[N/mm²]	11,70	11,70
characteristic head-pull-through parameter(2)	$f_{head,k}$	[N/mm²]	10,50	10,50
characteristic tensile strength	$f_{tens,k}$	[kN]	7,90	20,10

(1) Pre-drilling valid for softwood.
(2) Valid for softwood - maximum density 440 kg/m³. Associated density ρ_a = 350 kg/m³.
For applications with different materials or with high density please see ETA-11/0030.

STRUCTURAL VALUES

				SHEAR				TENSION	
geometry				timber-to-timber	steel-wood thin plate(1)		steel-wood thick plate(2)	thread withdrawal(3)	head pull-through(4)
									
d_1 [mm]	L [mm]	b [mm]	A [mm]	$R_{V,k}$ [kN]		$R_{V,k}$ [kN]		$R_{ax,k}$ [kN]	$R_{head,k}$ [kN]
5	60	35	25	1,43	S_{PLATE} = 2,5 mm	1,82	S_{PLATE} = 5,0 mm	2,33	2,37	1,13
8	40	32	8	1,18	S_{PLATE} = 4,0 mm	2,13	S_{PLATE} = 8,0 mm	3,66	3,47	2,55
	60	52	8	1,18		3,31		5,12	5,63	2,55
	80	55	25	2,67		4,29		5,45	5,96	2,55
	100	75	25	2,67		4,83		5,99	8,12	2,55

NOTES

(1) The shear resistance characteristics are calculated considering the case of a thin plate ($S_{PLATE} \leq 0,5\ d_1$).
(2) The shear resistance characteristics are calculated considering the case of a thick plate ($S_{PLATE} \geq d_1$).
(3) The axial thread withdrawal resistance was calculated considering a 90° angle between the grain and the connector and for a fixing length of b.
(4) The axial resistance to head pull-through was calculated using wood elements.

GENERAL PRINCIPLES

- Characteristic values comply with the EN 1995:2014 standard in accordance with ETA-11/0030.
- Design values can be obtained from characteristic values as follows:

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

  The coefficients γ_M and k_{mod} should be taken according to the current regulations used for the calculation.
- For the mechanical resistance values and the geometry of the screws, reference was made to ETA-11/0030.
- For the calculation process a timber characteristic density ρ_k = 420 kg/m³ has been considered.
- Values were calculated considering the threaded part as being completely inserted into the wood.
- Dimensioning and verification of timber and steel elements must be carried out separately.
- The characteristic shear resistances are calculated for screws inserted without pre-drilling hole. In the case of screws inserted with pre-drilling hole, greater resistance values can be obtained.