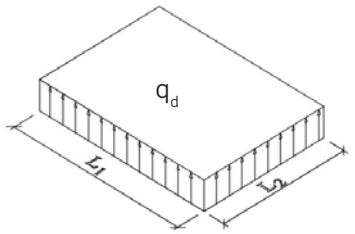
Nordic Systems

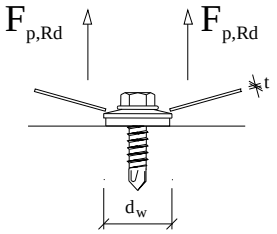
Calculation of fasteners in tension

Self-tapping screws and wind suction

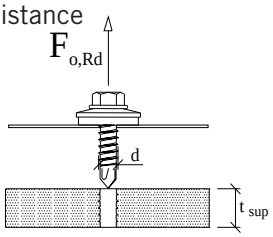
Area of wind action:		
Lenght (m)	L_1=	10
Lenght (m)	L_2=	5
Wind suction (kN/m^2)	q_d=	1.2
Thickness of copper sheet (mm): Range of validity (0,5mm-1,5mm)	t=	0.6
Number of sheets that are fixed to the supporting member by the same screw:	n=	1
Thickness of the supporting member into which a screw is fixed (mm)	t_{sup}=	2
Diameter of washer or the head of the fastener	d_w=	10
Nominal diameter of the fastener (mm):	d=	4.8
Ultimate tensile strength of the sheet material (N/mm^2)	f_u=	R290
Ultimate tensile strength of the supporting member into which a screw is fixed (N/mm^2)	$f_{u,sup}$=	350
Tension resistance of fastener (N)	F_t=	6000
Partial factor of material	γM2=	1.25



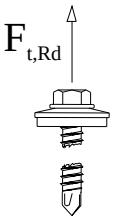
Pull-through resistance



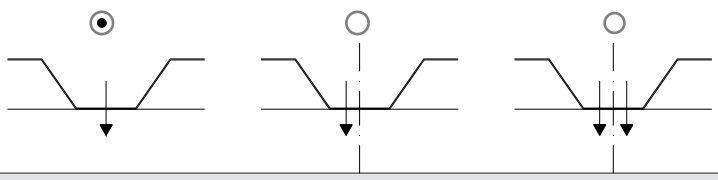
Pull-out resistance



Tension resistance



Select position of fasteners



Calculate

Results:

Amount of fasteners: 2 pcs/m2 100 total pcs