

Technical sheet

Ground screw

type U and with pillar base

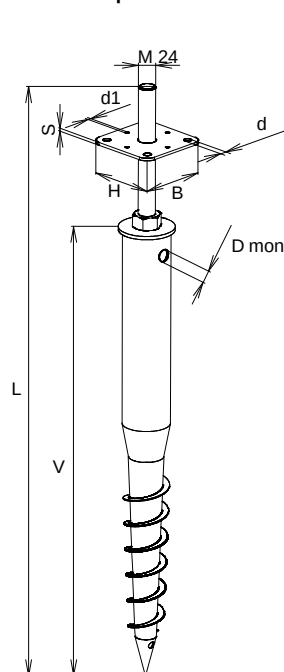
Design

- Material: steel S235	type U	with pillar base
- Corrosion protection:	hot dip galavanize	Under ground part – hot dip galvanize above ground part – electroplating

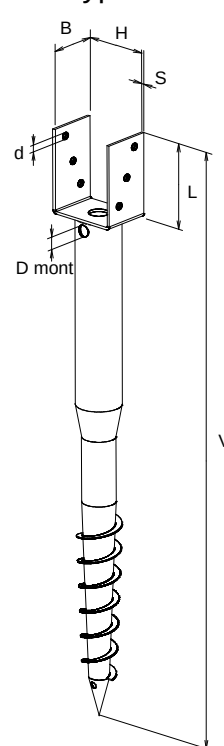
Dimensions (mm)

ID	Dimension	V	H	B	L (min - max)	S	d	d1	D mont
typ U									
12503	U 80 x 700	700	80	75	135	2	11	-	18
12504	U 100 x 900	900	100	75	135	2	11	-	
12505	U 120 x 900	900	120	75	135	2	11	-	
with pillar base									
25278	80x80x800	550	80	80	600 - 800	4	10,5	5	18
25279	110x110x900	650	110	110	700 - 900	4	10,5	5	
25280	110x110x1000	765	110	110	800 - 1000	4	10,5	5	

with pillar base



type U

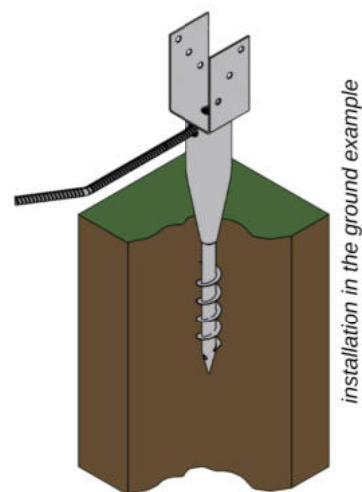


Intendet use

- ground screw for anchoring axially pushed posts into the ground
- for setting up pergolas, shelters, lighter wooden buildings without the need for concrete foundations

Instaling

- insert the rod Ø16 throught the "D mont" to screw ground screw in to the ground
- pre-drill a hole with a drill diameter (approx. 20-30 mm) when apply in to the hard soils or according to the needs of the current application.
drilling depth with an overlap of approx. 20-50 mm for the planned application
- column anchoring
typ U –carpentry wood screw Ø8, hexagon head wood screw DIN 571 Ø10 or threaded stud M10
with pillar base – dia 8 mm carpentry wood screw / construction screw with wafer head



Sheet 1 of 2

Load capacity

- the load capacity was determined in soil classified according Czech republic standard ČSN 73 6133 - class F3 MS (sandy clay)
- the total load capacity is determined by the bearing capacity of the soil at the application site and the screwing depth

Load capacity table

ID	Marking	Push force			Pull force			Lateral force		
Typ U		Shift about approx 1mm and 5 sec after last change						Force F at 270 mm above ground		
		F kN	Drilling depth mm	Safety faktor * 0,85 kN	kN	Drilling depth mm	Safety faktor * 0,85 kN	F kN	Degree °	Drilling depth mm
12503	U 80 x 700	1,91	500	1,62	1,01	500	0,86	0,75	1,56	500
12504	U 100 x 900	5,09	700	4,33	2,08	700	1,77	0,84	1,09	700
12505	U 120 x 900	5,09	700	4,33	2,08	700	1,77	0,84	1,09	700
with pillar base										
25278	80x80x800	2,48	500	2,11	1,1	500	0,94	0,86	1,07	500
25279	110x110x900	3,08	600	2,62	1,41	600	1,20	0,88	1,09	600
25280	110x110x1000	4,49	700	3,82	2,16	700	1,84	0,67	1,31	700

* safety coefficient value should be considered when designing the structure

- 1 kN = 101,19 kgf (kilogram force) = usually use 100 kg
- when the force on the ground screw is further increased, the displacement in the ground increases without damage to the screw.

Lifetime

- the ground screw its underground part is provided with a hot-dip zinc coating with a minimum thickness of 35 µm
- we determine the lifetime according to the level of corrosion aggressiveness and loss of zinc

Corrosion aggressivity levels			Exposition time (years)			
			5	10	15	20
			Zinc loss in µm			
C1	Very low	Indoor heated rooms. The outdoor environment in C1 is not considered	0,4	0,6	0,9	1,1
C2	Low	Non heated indoors, sports halls, outdoor areas and small towns	2,6	4,5	6,3	8
C3	Midle	Outdoor areas with moderate pollution such as urban areas, moderate SO2 pollution	7,8	13,6	19	24
C4	High	Swimming pools, industrial areas, polluted urban areas.	15,5	27,3	38	48
C5	Very high	Environments with very high pollution or with a significant influence of chlorides.	31,1	54,6	75,9	95,9
C6	Exteme	Industrial premises and areas with extreme humidity and aggressive atmosphere, seaside areas.	93	162	226	286