Installation instructions AZ120

Anchor foot to be embedded in concrete for type ALBATROS

The following instructions include all information necessary for the installation and operation of this anchor foot. To avoid any misunderstanding we advise you to read these instructions carefully before use and then keep them for later reference.

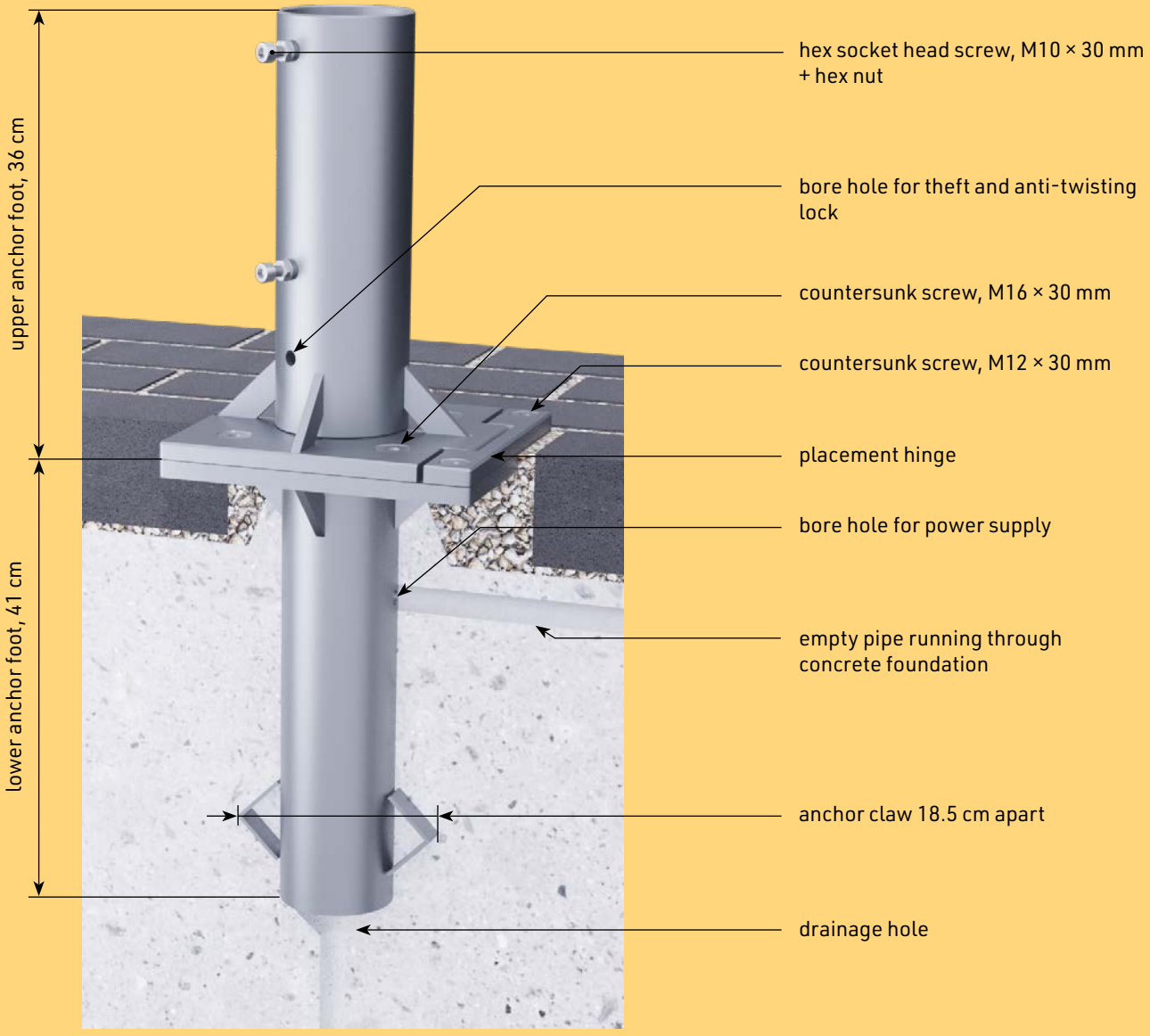
Caution

Non- observation of installation instructions can result in personal injuries or damage to property.

Please note that if these instructions are not observed, the manufacturer cannot accept any liability or guarantee.

- Always follow the safety regulations.
- Should you not understand any part of these installation instructions, please contact your MAY dealer.

Diagram showing installation components



Determining the location for the foundation

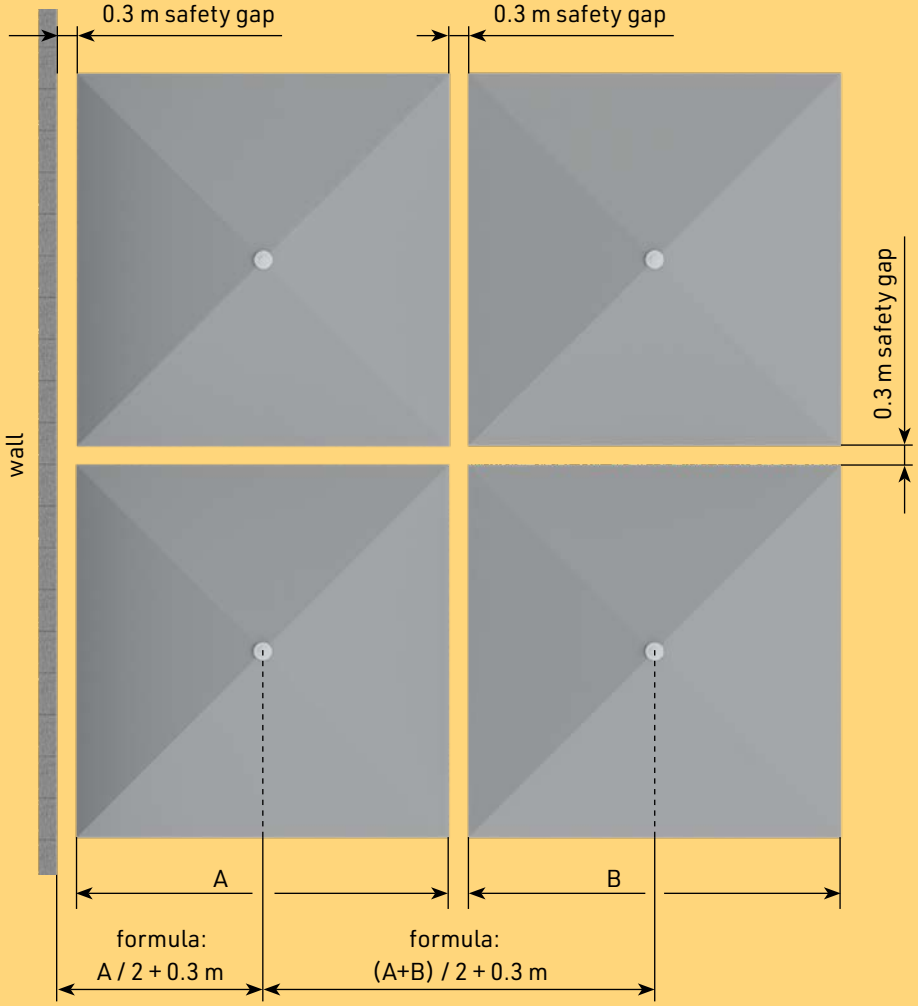
1. Allow sufficient space between parasols or between the wall of the house and the parasol.

Caution

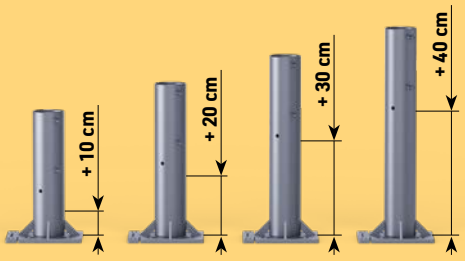
Parasols that are located too close together wear sooner.

Parasols may sway slightly. If there is not enough space between them, they may touch and abrade or scour the canopy fabric at the spoke ends.

- Make sure that there is a clearance of 30 cm between the parasols (or between the parasol and the wall of the house).

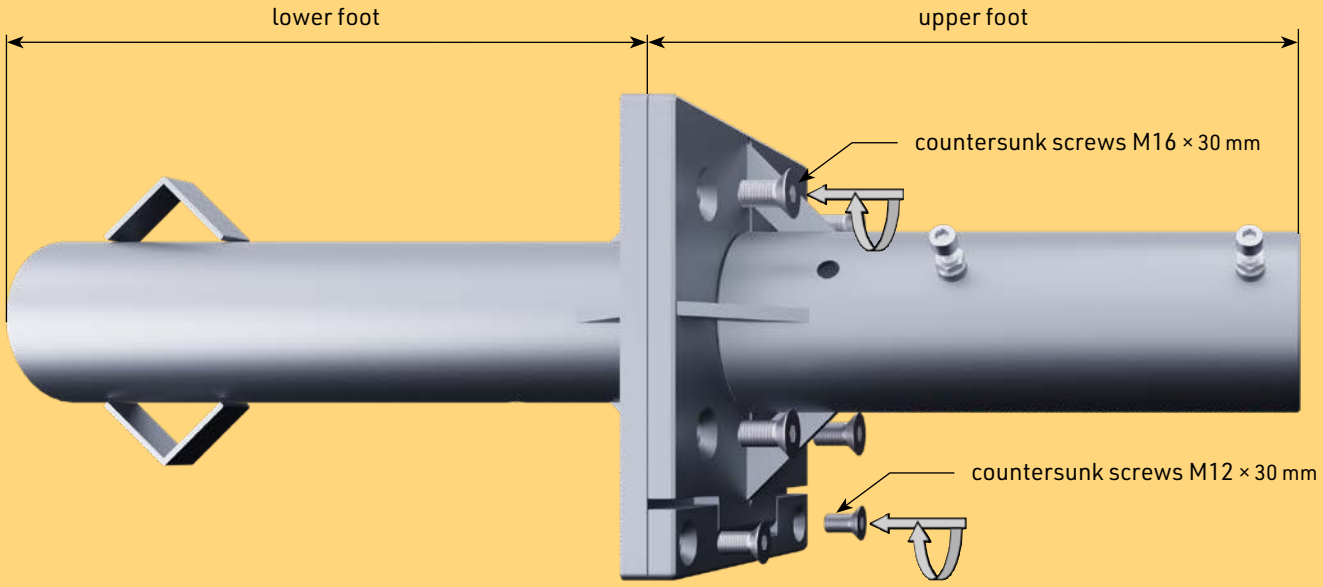


2. We are able to compensate any unevenness of the ground by adjusting the height of each individual parasol. Extra length upper foot are available at 10 cm gradation and can be adjusted and accommodated on location.
Instructions: may.ag/extralength.pdf



Assembling the anchor foot

1. Screw the upper anchor foot onto the lower foot (cf. illus.). To do so, insert the M16 and the M12 countersunk screws into the threaded holes and tighten it. Use the 10 mm and 8 mm hex key supplied.



Danger

Screws that are not tightened correctly will work loose.

If screws are not tightened firmly enough, there will not be sufficient tensile force to trigger self-locking. If the screws are tightened too firmly and over-stressed, the screw connection may slacken.

- Tighten the M16 screws manually using the hex key and extension provided. Exert as much force as possible. With the enclosed tools there is virtually no risk of overstressing.
- The correct torque for a torque wrench for
  M16: 150 Nm
  M12: 70 Nm

Embedding the anchor foot in concrete

1. Lay the concrete foundation. Consult the formwork and reinforcement plan on pages 12 - 19. For width and length of the foundation see the chart below. The depth of the foundation will depend on how sensitive the ground is to frost. We recommend a depth of at least 60 cm.

Size of parasol	Foundation: width / length
Ø 4 m, 3 × 3 m, 3.5 × 3.5 m, 3 × 4 m	60 / 60 cm
Ø 4.5 m, 4 × 4 m 8 panels, 4 × 4.5 m, 4 × 5 m	65 / 65 cm
Ø 5 m, Ø 5.5 m, 4 × 4 m 12 panels	70 / 70 cm
Ø 6 m, 4.5 × 4.5 m 8 panels, 3 × 6 m, 3.5 × 5 m, 3.5 × 5.5 m, 5 × 7.5 m	75 / 75 cm
Ø 6.5 m, 4.5 × 4.5 m 12 panels, 5 × 5 m 8 panels, 5.5 × 5.5 m 8 panels, 6 × 6 m 8 panels, 3.5 × 7.5 m, 4 × 6 m, 4 × 7 m, 4 × 8 m, 4.5 × 5 m, 4.5 × 7.5 m, 5 × 5.85 m, 5.5 × 6 m, 6 × 7 m, 6 × 8 m	80 / 80 cm
Ø 7 m, 5 × 5 m 12 panels, 5.5 × 5.5 m 12 panels, 6 × 6 m 12 panels, 3.5 × 7 m, 4.5 × 5.5 m, 4.5 × 6 m	85 / 85 cm
Ø 8 m, 6.5 × 6.5 m, 7 × 7 m	90 / 90 cm
Ø 9 m	95 / 95 cm
Ø 10 m	100 / 100 cm
7 × 8 m	105 / 105 cm

Danger

A falling parasol can cause serious or even fatal injury.

If the foundation for the lower anchor foot is not dimensioned to match the size of the umbrella, the parasol may fall and cause injuries.

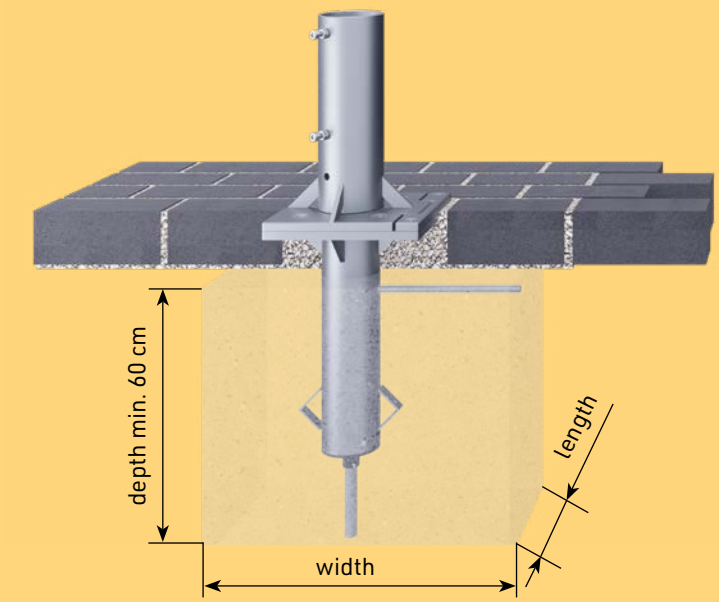
- Keep to the dimensions specified in the above chart.
- In case of poor-quality ground, opt for a larger-size foundation.

Caution

The concrete foundation can be damaged by frost.

Temperatures below freezing point may have a negative impact on the concrete foundation.

- Inquire up to what depth the ground of the designated parasol location is frost-proof and choose the size of the concrete foundation accordingly.



2. The following chart shows the volume calculation for the foundation in cubic metres (m³). It may help you to estimate the amount of material required.

width / length	depth	volume
60 / 60 cm	60 cm	0,22 m³
60 / 60 cm	70 cm	0,25 m³
60 / 60 cm	80 cm	0,29 m³
60 / 60 cm	90 cm	0,33 m³
60 / 60 cm	100 cm	0,36 m³

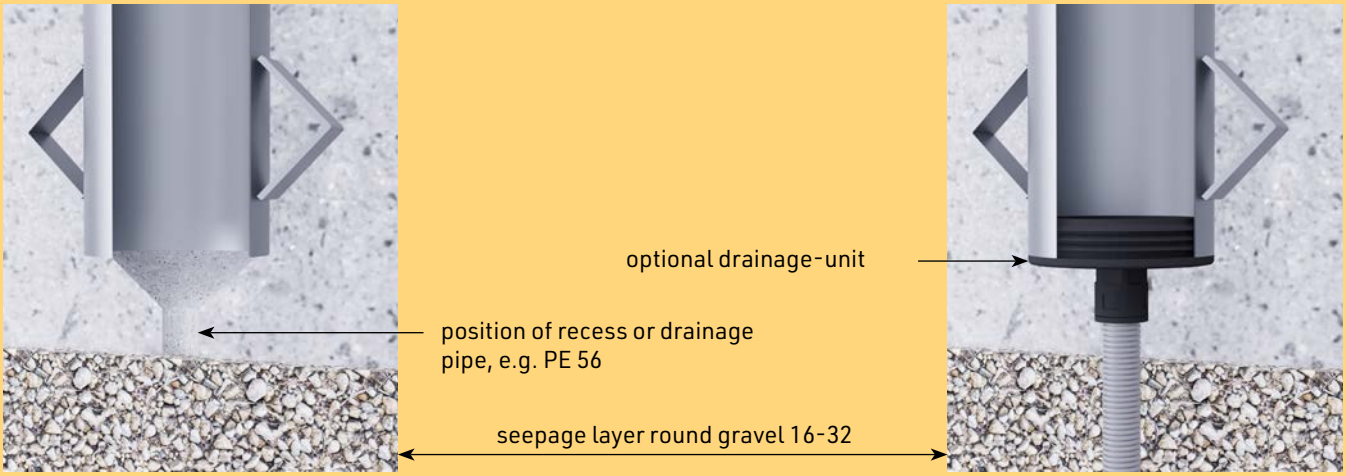
width / length	depth	volume
70 / 70 cm	60 cm	0,29 m³
70 / 70 cm	70 cm	0,34 m³
70 / 70 cm	80 cm	0,39 m³
70 / 70 cm	90 cm	0,44 m³
70 / 70 cm	100 cm	0,49 m³

width / length	depth	volume
80 / 80 cm	60 cm	0,38 m³
80 / 80 cm	70 cm	0,45 m³
80 / 80 cm	80 cm	0,51 m³
80 / 80 cm	90 cm	0,58 m³
80 / 80 cm	100 cm	0,64 m³

width / length	depth	volume
90 / 90 cm	60 cm	0,49 m³
90 / 90 cm	70 cm	0,57 m³
90 / 90 cm	80 cm	0,65 m³
90 / 90 cm	90 cm	0,73 m³
90 / 90 cm	100 cm	0,81 m³

width / length	depth	volume
100 / 100 cm	60 cm	0,6 m³
100 / 100 cm	70 cm	0,7 m³
100 / 100 cm	80 cm	0,8 m³
100 / 100 cm	90 cm	0,9 m³
100 / 100 cm	100 cm	1,0 m³

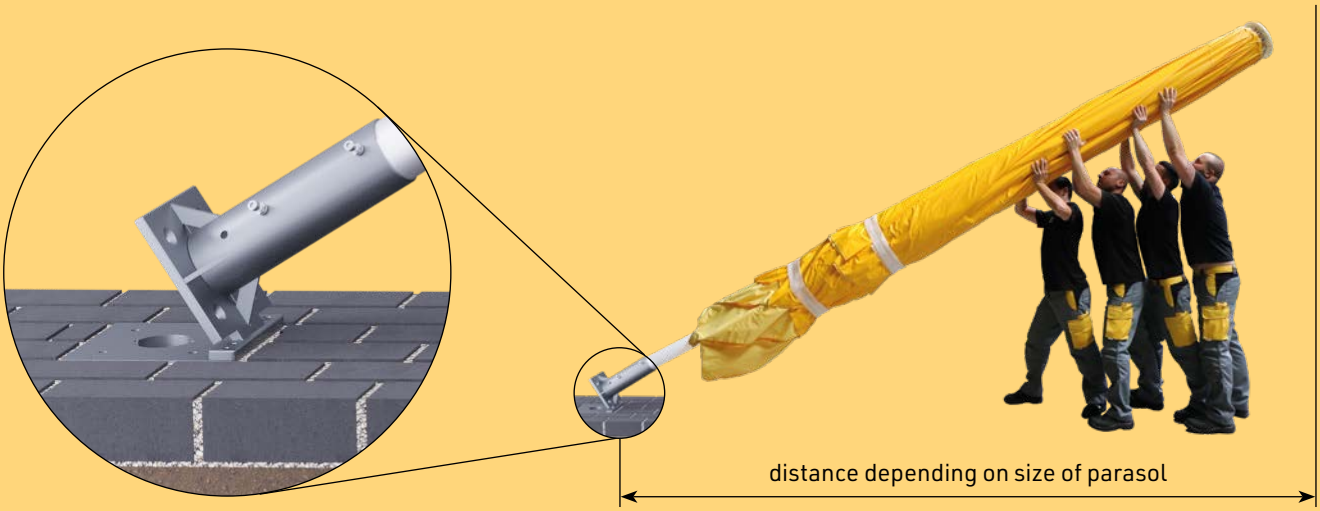
3. Spread gravel (we recommend a grain size of 16 - 32 mm) on the bottom of the foundation, thereby allowing enough space for a recess or a drainage pipe at the end of the lower anchor foot so that rainwater can drain off. Optionally, the matching drainage unit (art. no. 357 491) can be purchased from MAY and attached.



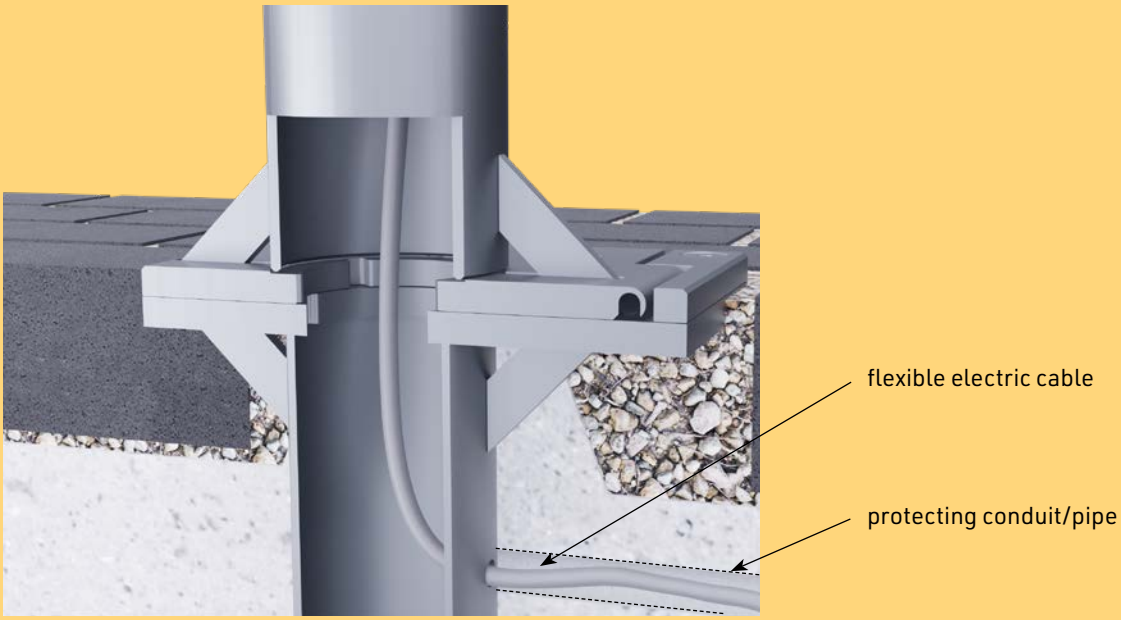
drainage-unit,
art. no. 357 491

4. Press the lower anchor foot into the concrete foundation. Be sure to observe the embedment depth, cf. pages 20.

5. When choosing the location for the anchor foot, take into consideration that there must be sufficient space to erect and dismount your parasol.



6. Lay the underground power cable. Protect the electric cable with a sheath tube. Protect the electric cable in an empty pipe. For full cable protection make sure that no concrete gets into the pipe.

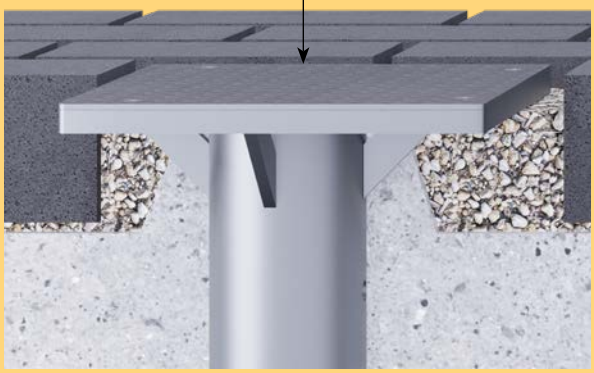


7. This applies for paved or other floor covering only!
   Form a dome-shape block of concrete on the foundation that reaches as far as the bottom end of the flange plate. The size of the dome-shape block will depend on what further structures or types of floor covering are planned. The larger and stronger the block, the less likely that the parasol will sway in the wind. For more illustrations cf. page 20.

8. To assure that the cover plate (for winter) is flush with the ground after the upper anchor foot has been removed, (cf. illus. b) insert the lower anchor foot 4 mm deeper into the concrete than the patio surface (cf. illus. a: -to give a clearer picture, the upper anchor foot has been omitted). In this way tripping hazard is eliminated.

a)

b)

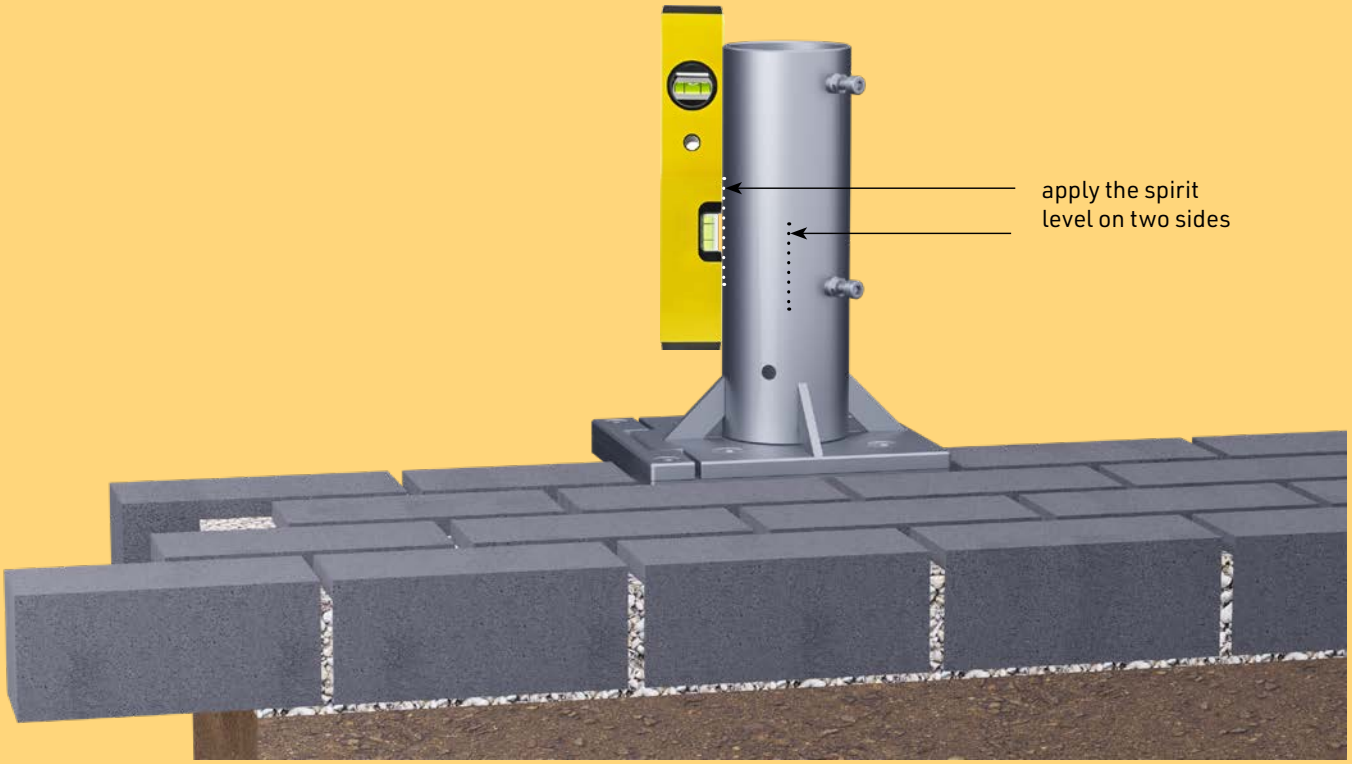


9. Check that the upper anchor foot is straight, using a spirit level. (cf. illus.)

Attention

If the parasol is to be in a vertical position, the anchor foot must be embedded in the concrete absolutely vertically.

Align the anchor foot and keep it in position until the concrete has cured completely.



Power supply

1. Connect the flexible rubber lead (certified approval for outdoor use necessary) and the parasol power-supply. The connection must be absolutely watertight. The ground cable should be installed by a qualified electrician and should be appropriate for the designated consumers and length of the lead.

   - power supply for heaters: 5-pole, min. 4 mm² cable cross section
   - power supply for light: 230 V, 3-pole, min. 1.5 mm² cable cross section;
     or for 12 V, lay out individually

Danger

Electric installation work must be carried out solely by a certified electrician. Disregarding this warning may result in serious personal injuries.

Danger

To avoid personal injury in case of faults.

- Secure parasol with a 30 mA RCBO protective switch.
- According to law, the functioning of protective switches must be checked at least every six months.

Caution

Danger of short circuit.

Water in the plug connector or the electrical harness can lead to a short circuit. Protect the connector against any water.

- Make sure that the plug connector remains above the ground when the parasol is erected.
- Seal the connector with silicon.
- For power supply via spoke and power supply over top cap: only use water protected connectors and prevent water from flowing towards the parasol.
- Disconnect the parasol from the power supply during holidays, while the canopy is removed and during extreme weather conditions.

Caution

Fire hazard.

Do not use a dimmer for the heaters. Otherwise the parasol may catch fire. If the parasol is equipped with a timer switch or automatic switch-off, a dimmer will interfere with the electrical system.

Wire colours (number dependent on consumers installed):

green-yellow	= protection	black, white	= heating (if used)
blue	= neutral	black	= motor (if used)
brown	= light (if used)		

Storage / Dismounting

1. Lift the parasol out of the anchor foot.

2. Screw off the upper anchor foot.

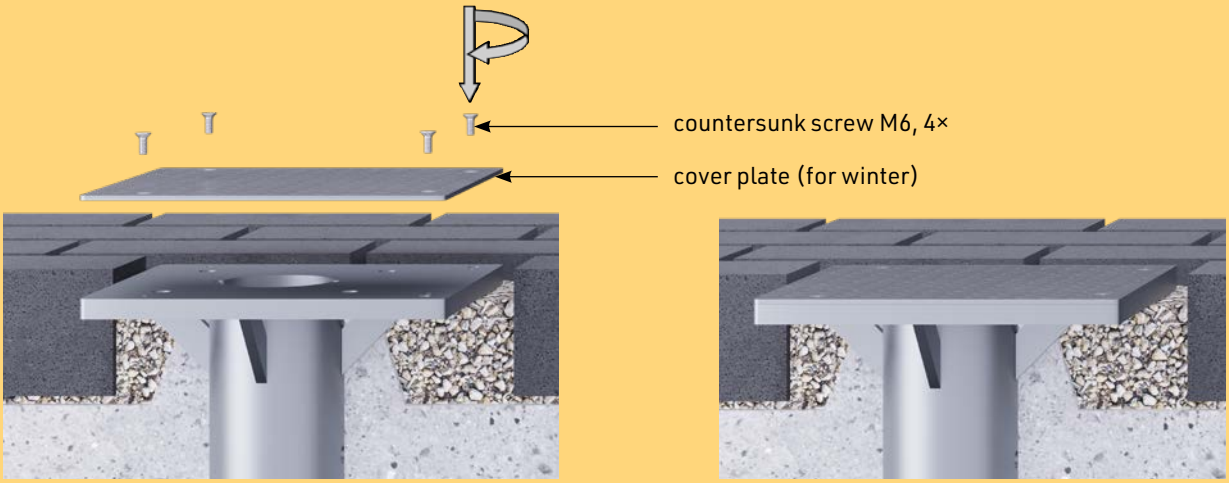
3. Unscrew the set screws with a 3 mm hex key. These serve to protect the internal thread against dirty water and sand.

4. Screw the cover plate (for winter) onto the lower anchor foot. (cf. illus.)

Caution

The thread can get damaged.

When the cover plate (for winter) is not on the lower anchor foot, sand may get washed into the flanks of the thread. As sand is harder than steel, the thread may get damaged when the screw is turned.



5. If you have two or more parasols, it is advisable to mark them and their installation option (e.g. with metal-stamped numerals or using a waterproof marker) as soon as they have been dismounted (e.g. for winter storage).

Tip

Marking saves a lot of time and helps to keep things in order.

If clearly marked, each parasol can easily be assigned to its proper location and reerected parallel to the wall of the house or next to the others.

- For clear and easy later assignment use the same number to mark the centre pole, the upper anchor foot and the lower anchor foot. For example, for parasol No. 1, all three parts should carry number 1, all three parts of parasol No. 2 should be marked with a 2, etc.

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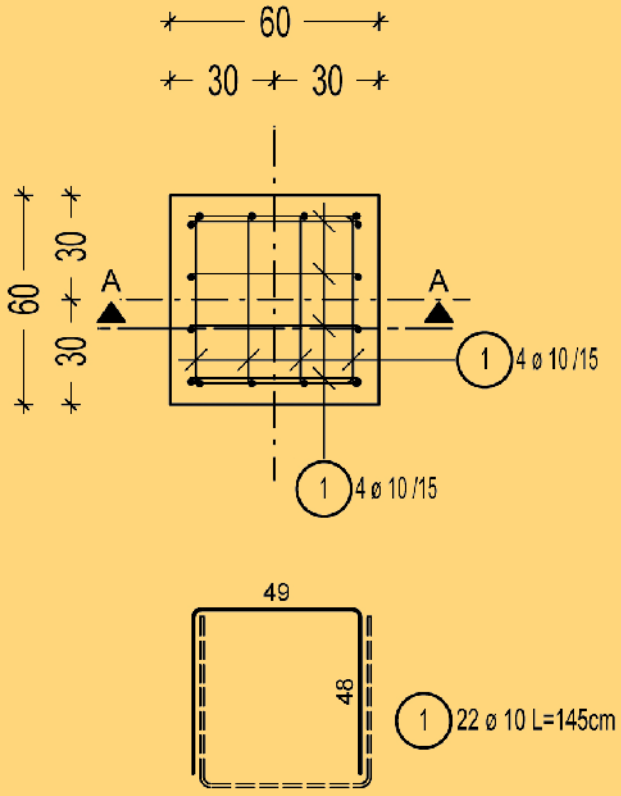
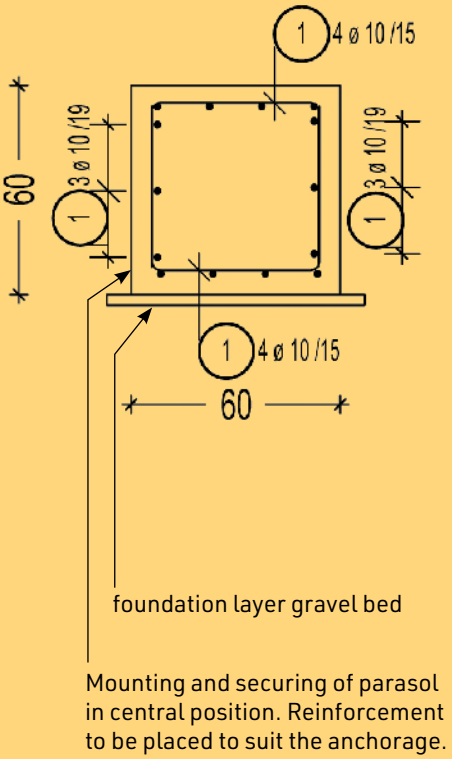
6. Grease the screws regularly to prevent them from rusting.

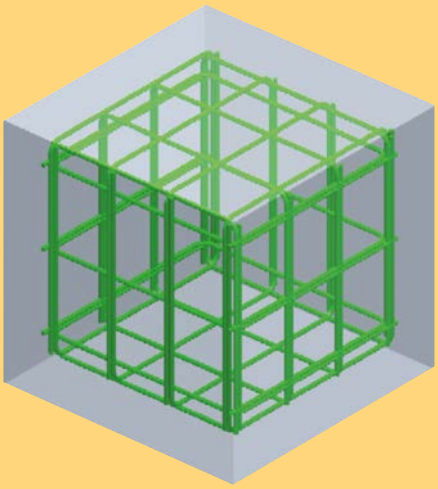
Foundation formwork and reinforcement plan 60 × 60 cm

ground plan



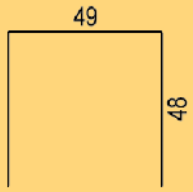
cross section A – A



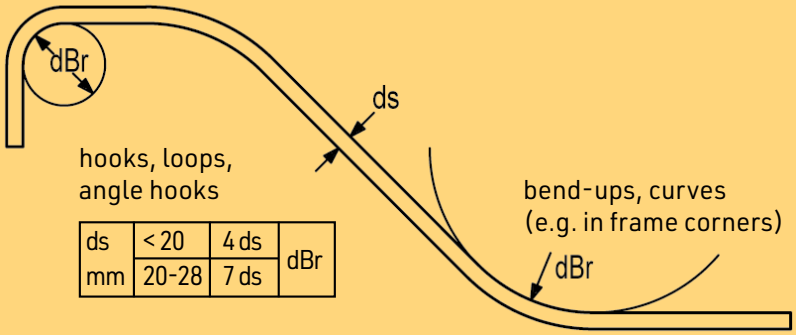


1. The allowable footing pressure must be 200 kN/m². This must be certified in a geotechnical report by an expert soil surveyor.

2. Bar details - bending shape:
   - quantity: 22 pieces
   - diameter: Ø 10 mm
   - length each: 1.45 m
   - total length: 31.9 m (22 × 1.45 m)
   - weight: 19.68 kg
   - dimensioned bending shape: not true to scale



3. Minimum values for bar bending roll diameter dBr for reinforcing steel B500B according to DIN EN 1992 -1-1/NA:2011-01 Chart NA.8.1.



ds	< 20	4 ds	dBr
mm	20-28	7 ds	

concrete cover at right angles to the curvature	> 10 cm and > 7 ds	10 ds	dBr
	> 5 cm and > 3 ds	15 ds	
	>5 cm and >3 ds	20 ds	

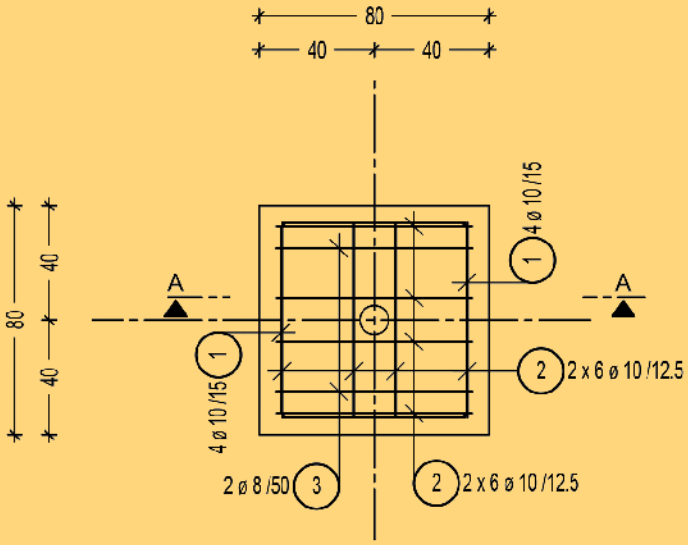
Bend measurements are external measurements.

4. Nominal dimension for concrete cover (nom C):
   - foundation top 5.5 cm
   - foundation bottom 5.5 cm
   - foundation sides 5.5 cm

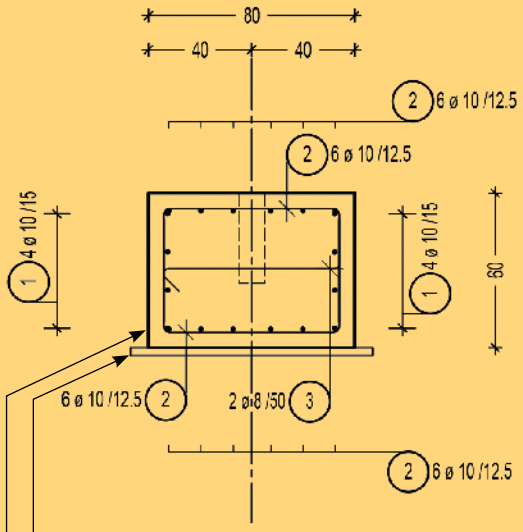
5. Construction steel B500 A / B500 B:
   - with de-icing salt: grade of concrete C30/37 (LP), consistency F3, exposure classes XC4, XD3, XF4, moisture class WF
   - without de-icing salt: grade of concrete C25/30 (LP), consistency F3, exposure classes XC2, XF1, moisture class WF

Foundation formwork and reinforcement plan 80 × 80 cm

ground plan

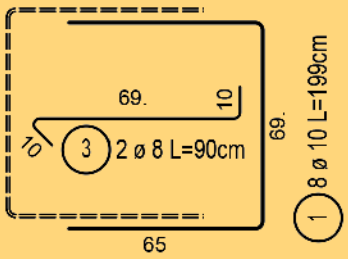


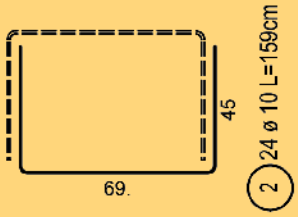
cross section A – A

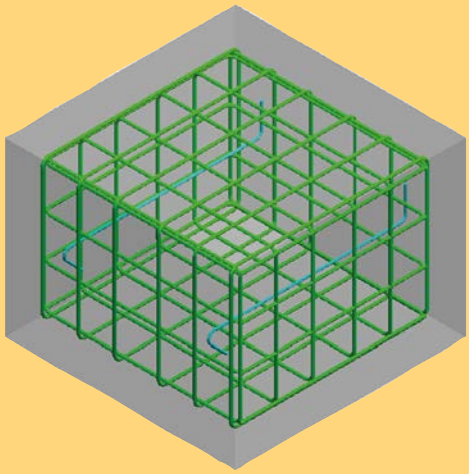


foundation layer gravel bed

Mounting and securing of parasol in central position. Reinforcement to be placed to suit the anchorage.

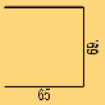
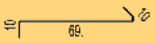




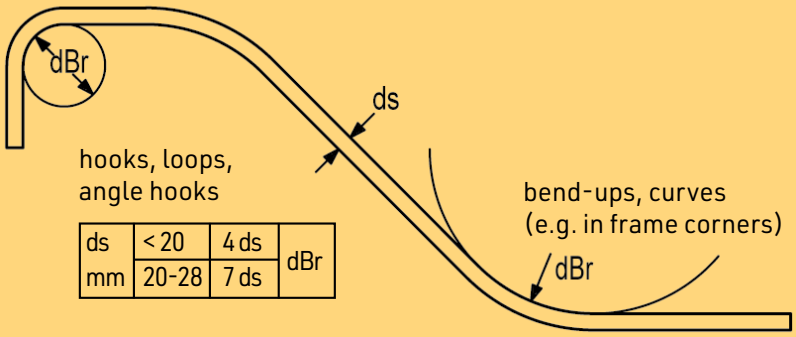


1. The allowable footing pressure must be 200 kN/m². This must be certified in a geotechnical report by an expert soil surveyor.

2. Bar details - bending shape

pos.	quantity [pieces]	bar diameter [mm]	length each [m]	dimensioned bending shape	total length [m]	weight [kg]
1	8	10	1.99		15.92	9.82
2	24	10	1.59		38.16	23.54
3	2	8	0.90		1.80	0.71
				total weight Σ		34.07 kg

3. Minimum values for bar bending roll diameter dBr for reinforcing steel B500B according to DIN EN 1992 -1-1/NA:2011-01 Chart NA.8.1.



ds mm	< 20	4 ds	dBr
	20-28	7 ds	

concrete cover at right angles to the curvature	> 10 cm and > 7 ds	10 ds	dBr
	> 5 cm and > 3 ds	15 ds	
	>5 cm and >3 ds	20 ds	

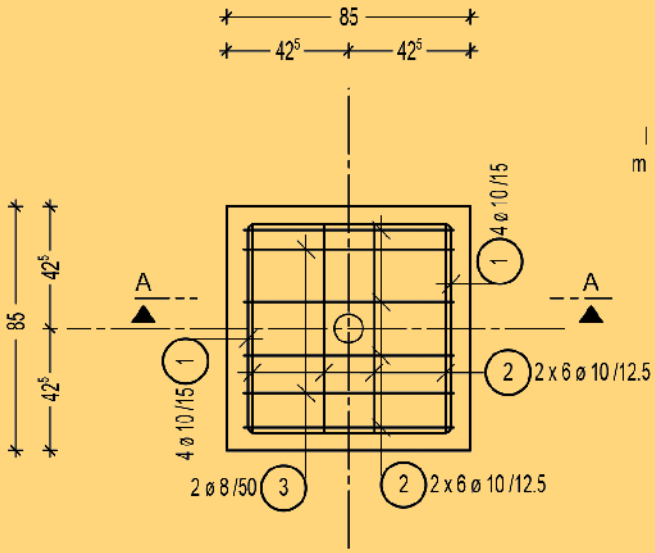
Bend measurements are external measurements.

4. Nominal dimension for concrete cover (nom C):
   - foundation top 5.5 cm
   - foundation bottom 5.5 cm
   - foundation sides 5.5 cm

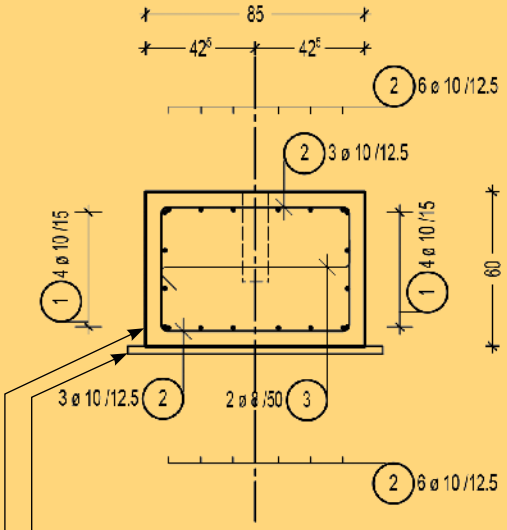
5. Construction steel B500 A / B500 B:
   - with de-icing salt: grade of concrete C30/37 (LP), consistency F3, exposure classes XC4, XD3, XF4, moisture class WF
   - without de-icing salt: grade of concrete C25/30 (LP), consistency F3, exposure classes XC2, XF1, moisture class WF

Foundation formwork and reinforcement plan 85 × 85 cm

ground plan

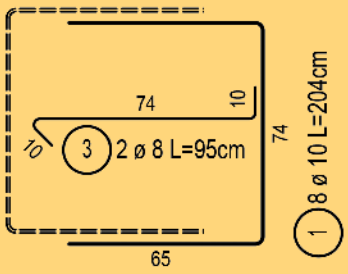


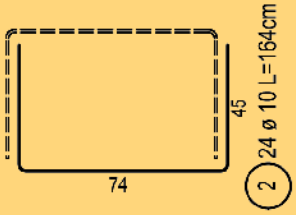
cross section A – A

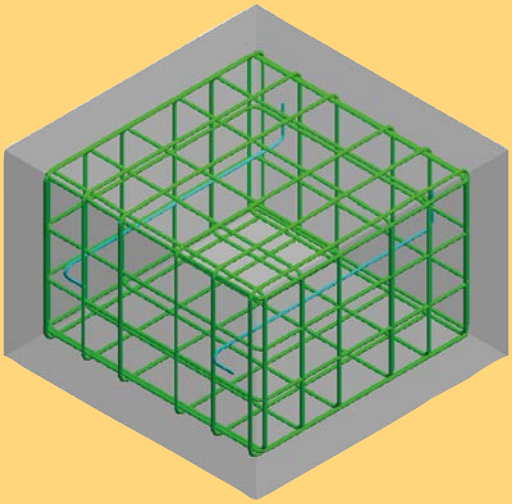


foundation layer gravel bed

Mounting and securing of parasol in central position. Reinforcement to be placed to suit the anchorage.

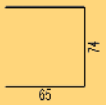
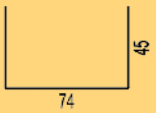
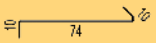




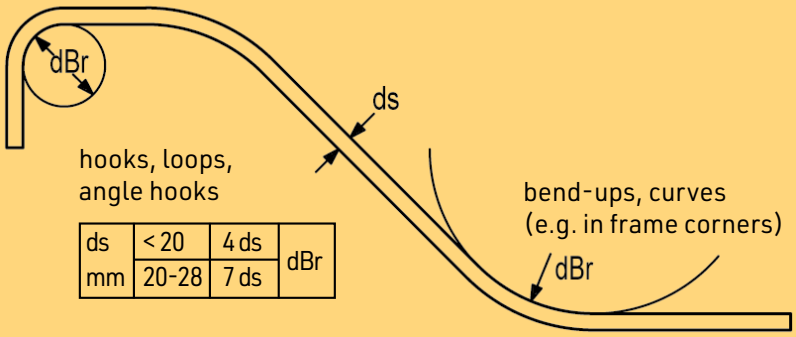


1. The allowable footing pressure must be 200 kN/m². This must be certified in a geotechnical report by an expert soil surveyor.

2. Bar details - bending shape

pos.	quantity [pieces]	bar diameter [mm]	length each [m]	dimensioned bending shape	total length [m]	weight [kg]
1	8	10	2.04		16.32	10.07
2	24	10	1.64		39.36	24.29
3	2	8	0.95		1.90	0.75
				total weight Σ		35.11 kg

3. Minimum values for bar bending roll diameter dBr for reinforcing steel B500B according to DIN EN 1992 -1-1/NA:2011-01 Chart NA.8.1.



ds	< 20	4 ds	dBr
mm	20-28	7 ds	

concrete cover at right angles to the curvature	> 10 cm and > 7 ds	10 ds	dBr
	> 5 cm and > 3 ds	15 ds	
	>5 cm and >3 ds	20 ds	

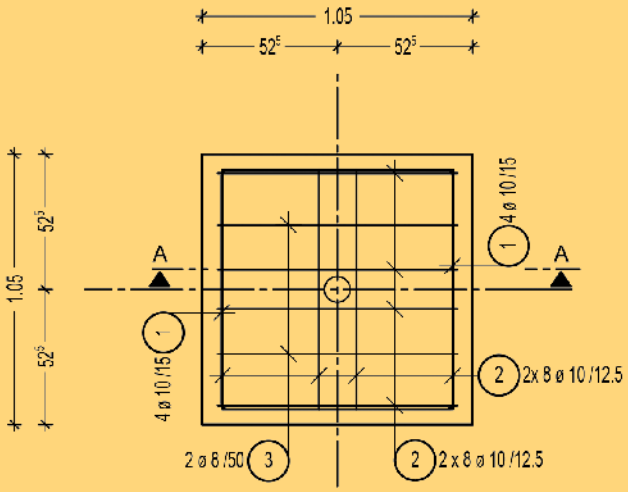
Bend measurements are external measurements.

4. Nominal dimension for concrete cover (nom C):
   - foundation top 5.5 cm
   - foundation bottom 5.5 cm
   - foundation sides 5.5 cm

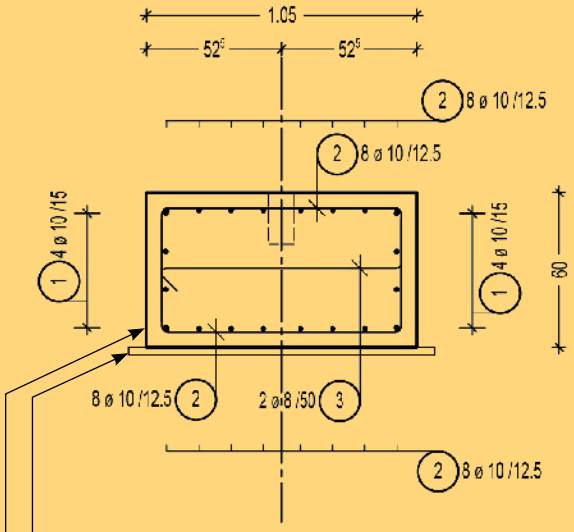
5. Construction steel B500 A / B500 B:
   - with de-icing salt: grade of concrete C30/37 (LP), consistency F3, exposure classes XC4, XD3, XF4, moisture class WF
   - without de-icing salt: grade of concrete C25/30 (LP), consistency F3, exposure classes XC2, XF1, moisture class WF

Foundation formwork and reinforcement plan 105 × 105 cm

ground plan

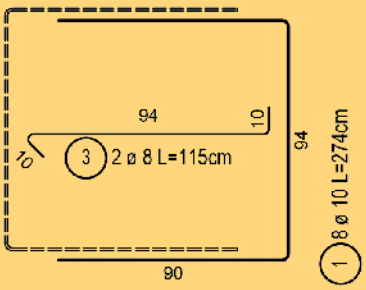


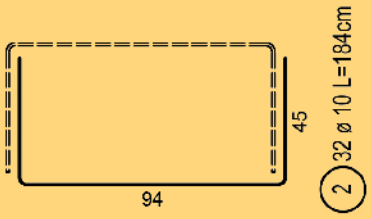
cross section A – A

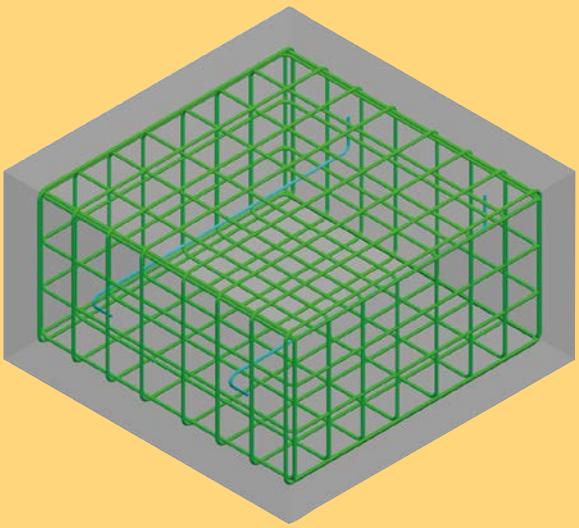


foundation layer gravel bed

Mounting and securing of parasol in central position. Reinforcement to be placed to suit the anchorage.

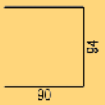
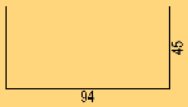
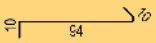




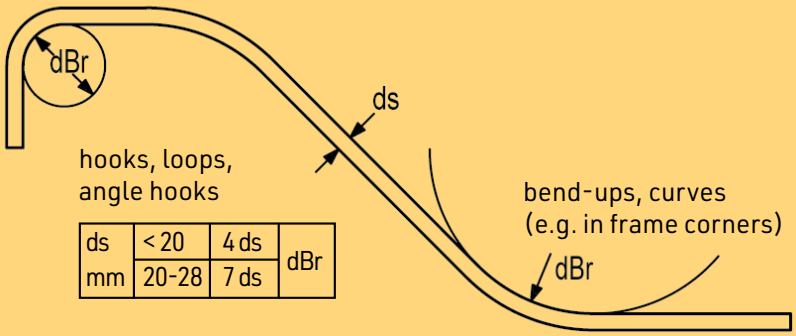


1. The allowable footing pressure must be 200 kN/m². This must be certified in a geotechnical report by an expert soil surveyor.

2. Bar details - bending shape

pos.	quantity [pieces]	bar diameter [mm]	length each [m]	dimensioned bending shape	total length [m]	weight [kg]
1	8	10	2.74		21.92	13.52
2	32	10	1.84		58.88	36.33
3	2	8	1.15		2.30	0.91
				total weight Σ		50.76 kg

3. Minimum values for bar bending roll diameter dBr for reinforcing steel B500B according to DIN EN 1992 -1-1/NA:2011-01 Chart NA.8.1.



ds mm	< 20	4 ds	dBr
	20-28	7 ds	

concrete cover at right angles to the curvature	> 10 cm and > 7 ds	10 ds	dBr
	> 5 cm and > 3 ds	15 ds	
	>5 cm and >3 ds	20 ds	

Bend measurements are external measurements.

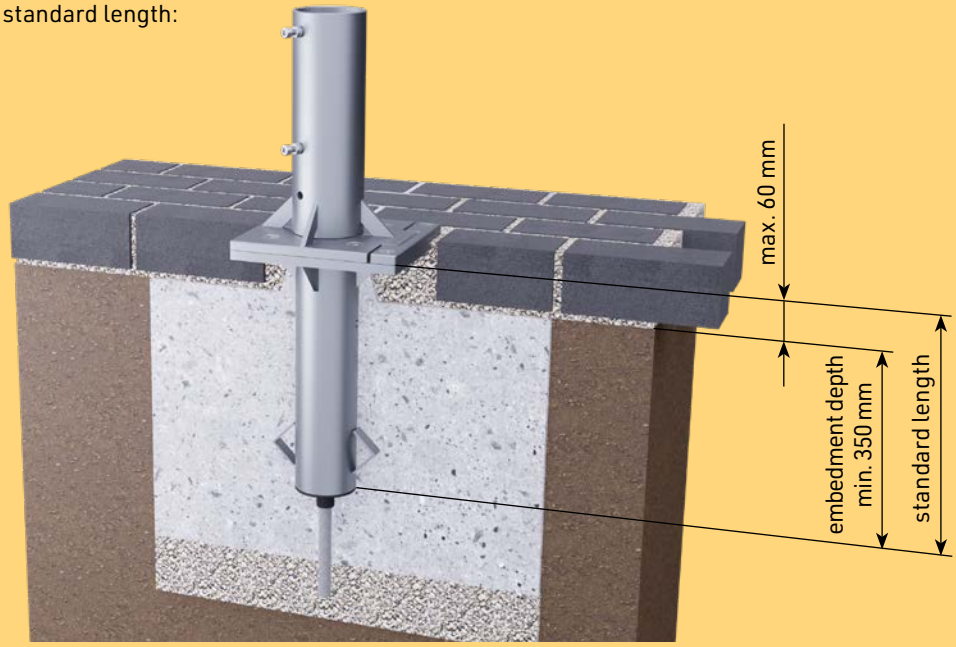
4. Nominal dimension for concrete cover (nom C):
   - foundation top 5.5 cm
   - foundation bottom 5.5 cm
   - foundation sides 5.5 cm

5. Construction steel B500 A / B500 B:
   - with de-icing salt: grade of concrete C30/37 (LP), consistency F3, exposure classes XC4, XD3, XF4, moisture class WF
   - without de-icing salt: grade of concrete C25/30 (LP), consistency F3, exposure classes XC2, XF1, moisture class WF

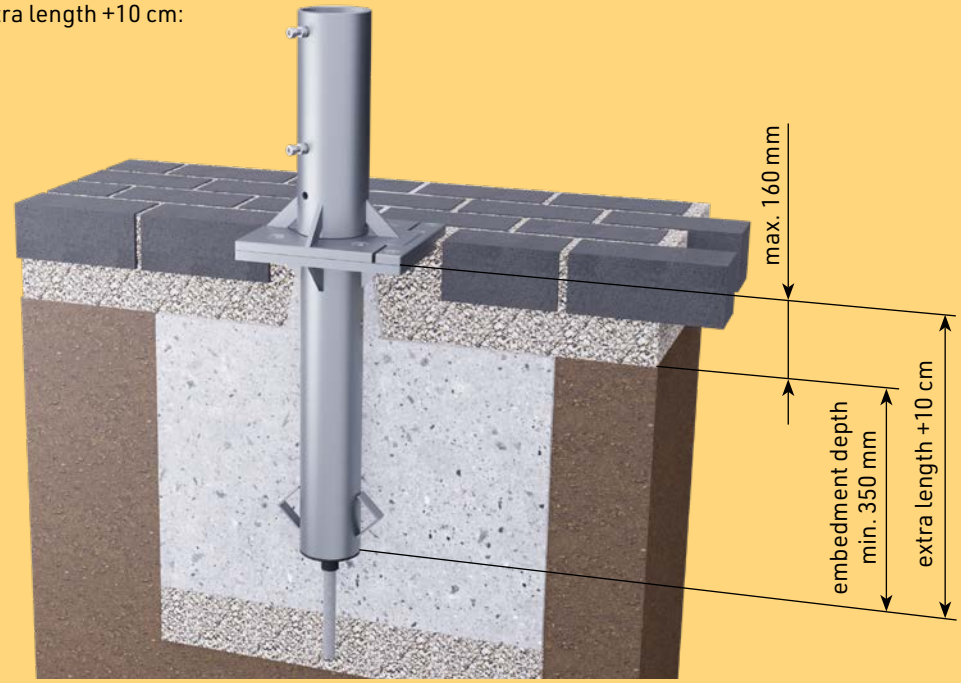
Extra length lower anchor foot

There are various terrace structures for which standard length lower anchor foot are not long enough, e.g. those with high floor tiles or with wooden terrace constructions. For static reasons it is essential to observe an embedment depth of min. 350 mm. Otherwise the lower anchor foot will not be sufficiently anchored in the foundation. This measurement does not include the dome-shaped concrete block. Lower anchor foot are available in the following additional lengths: +10, +20, +30 and +40 cm. These can be delivered from our stock at any time. Lengths exceeding those quoted can be custom-made after consultation with the MAY company.

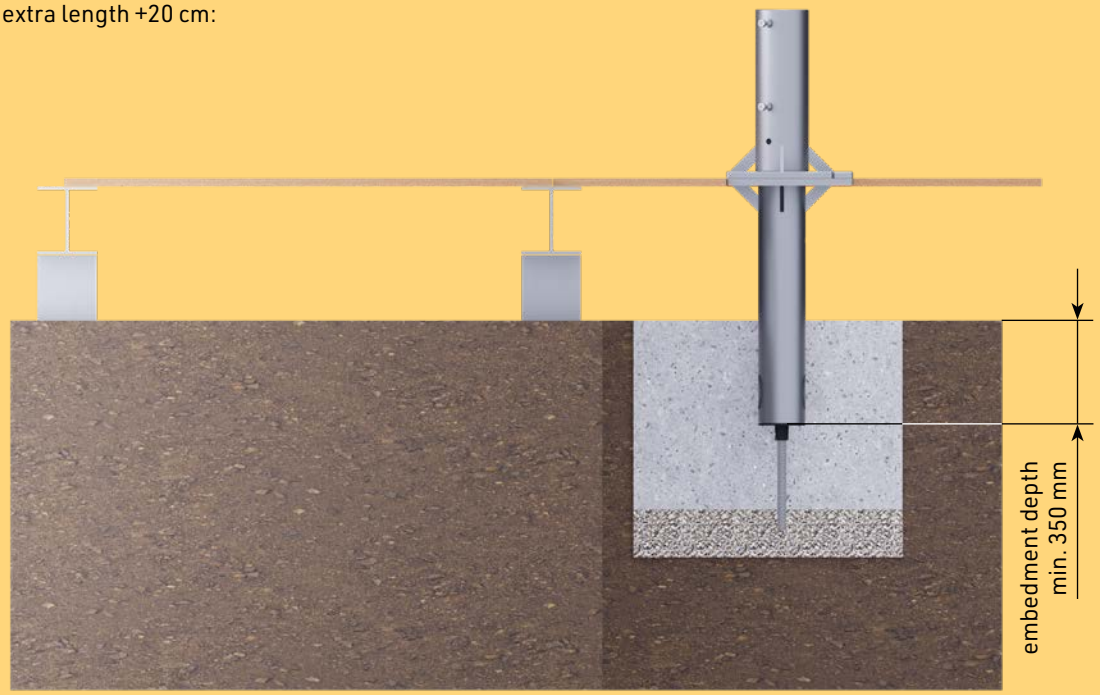
standard length:



extra length +10 cm:

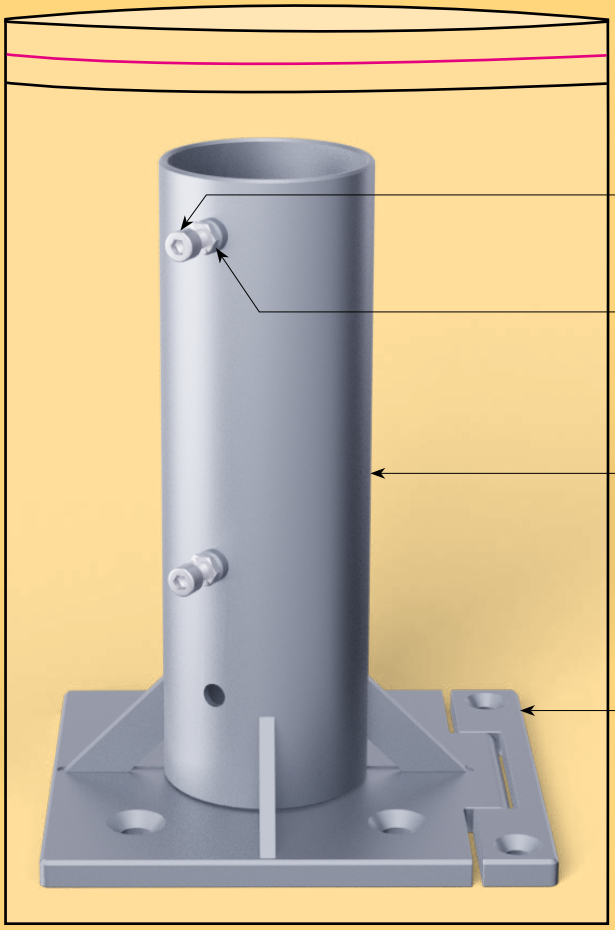


extra length +20 cm:



Spare parts

upper anchor foot [1) 2)], complete as shown
art. no. 200 019



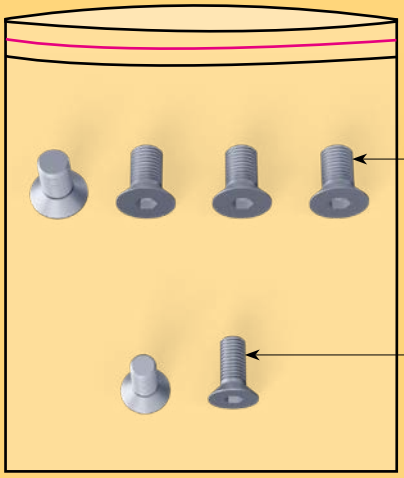
cylinder head screw M10 × 25 mm, 4×
(hex key 8 mm), art. no. 200 659

flat nut M10, 4×
(open-end spanner 17 mm)
art. no. 200 653

upper foot [1) 2)]
art. no. 350 766

placement hinge [2)]
art. no. 350 058

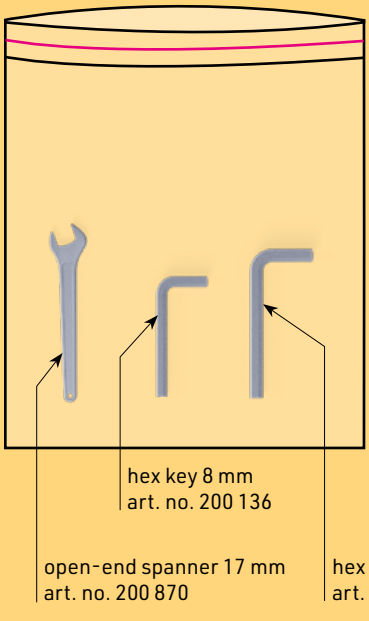
standard parts, package 20
art. no. 350 803



countersunk screws M16 × 30 mm, 4×
(hex key 10 mm), art. no. 355 167

countersunk screws M12 × 30 mm, 2×
(hex key 8 mm), art. no. 355 056

tools, package 8
art. no. 357 818

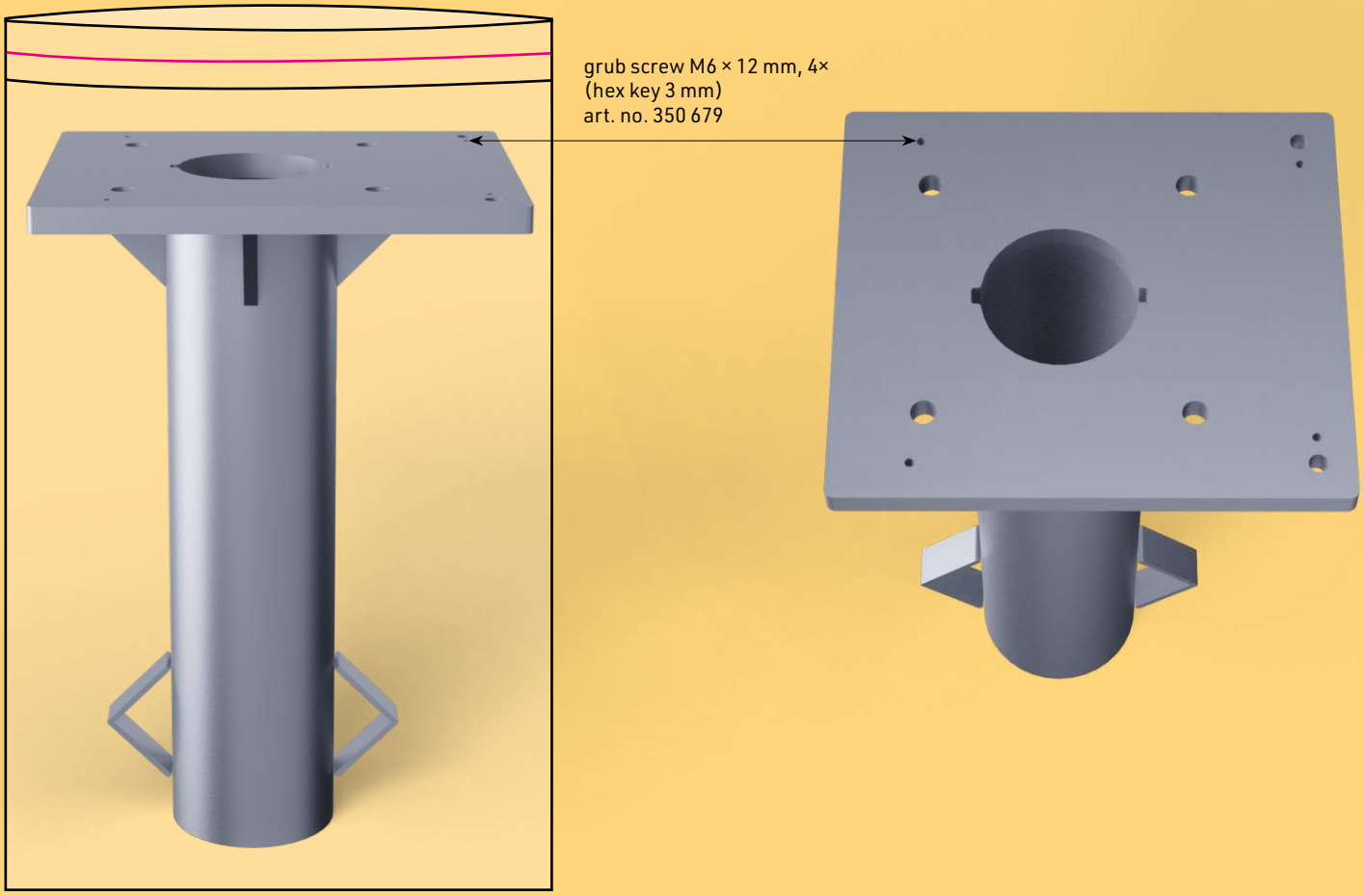


hex key 8 mm
art. no. 200 136

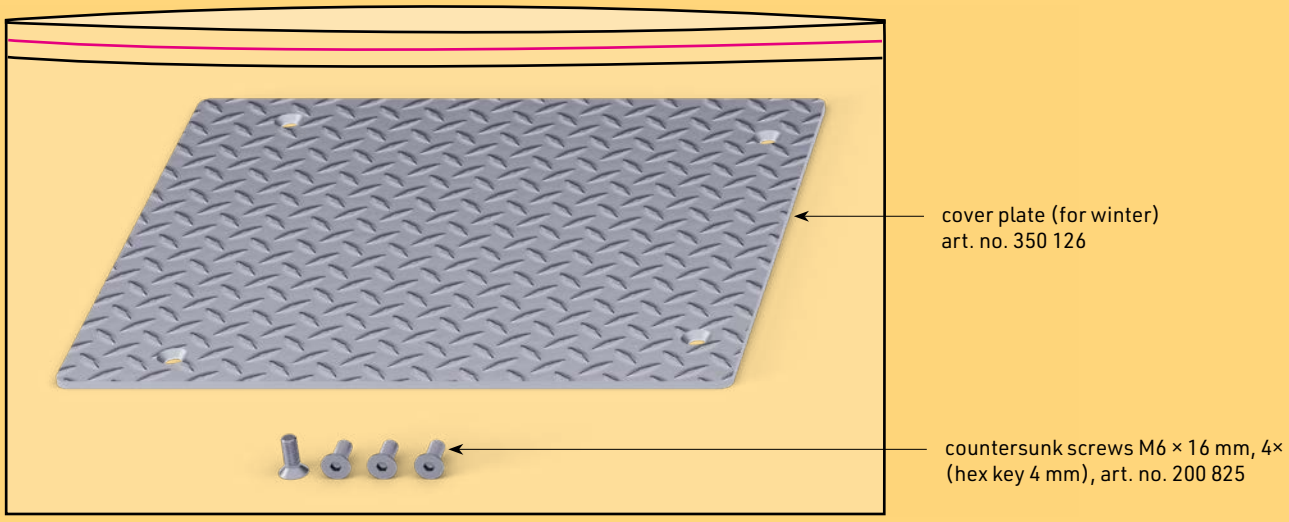
open-end spanner 17 mm
art. no. 200 870

hex key 10 mm
art. no. 200 137

lower anchor foot [1], complete as shown
art. no. 200 038



cover plate (for winter), package 12
art. no. 358 290



Options: [1] extra length: +10 cm, +20 cm , +30 cm, +40 cm [2] powder coating: RAL9010, RAL9006, RAL7016