

## date palm



The increasing need to conceal radio base stations has led to the creation of antenna concealing solutions, that can easily be introduced into environments that require a low-impact visual outcome. A 'field experience' of over ten years as regards plastic and metallic products is **calzavara's** credentials as to quality and durability of these 'concealing antennas', even in extreme climates.

The trunk consists of a steel pole divided into several shafts, according to the overall height of the structure that can vary from 15 to 40 meters. The external surface of the trunk is coated by plastic material that is resistant to UVA rays and atmospheric agents, with an aspect that in time maintains the resemblance of natural bark.

The foliage is comprised of leaves made of plastic material accurately designed, taking into consideration quantity, shape and array suitable to completely conceal the antennas and all accessory parts in a natural manner. The materials used, in addition to guaranteeing radio-electric transparency and resistance to UVA rays, over the time keep their proper mechanical and colour characteristics. In order to render the aspect of this palm more natural there are available artificial fruits formed by bunches of dates. To facilitate maintenance operations, the **date palm** is also available with internal climbing ladder and also in a multi-operator version (site sharing).



### Design

Structural steel design according to the most recent European Standard. Designs to other International Standards (EIA, BS, NV65) available upon request.

- Design wind speed (Eurocode 1 - EN 1991) 28 m/s ( $q_{10}=1.2 \text{ kN/m}^2$ )
- Design wind speed (EIA 222) 160 km/h ( $q_{10}=1.2 \text{ kN/m}^2$ )
- Constant operational wind speed on entire height 100 km/h
- Top deflection (operational wind speed)  $<1^\circ$



### Materials

The materials comply with the requirements of European Standards (EURONORM).

- Structural parts Steel S355J0 (Fe 510 C) EN 10025
- Steel S235JR (Fe 360 B) EN 10025
- Nuts and bolts class 8.8 EN 20898-1
- Artificial bark reinforced plastics
- Branches fibreglass reinforced plastic
- Leaves plastic materials with supporting core in glass roving and resin

All steel materials are protected by hot-dip galvanizing in accordance to Euronorm EN 1461 and ASTM A123 Standards.



### Supply

The standard supply provides the minimum configuration required for commissioning of **date palm**, excluding radiant systems and mounts.

- Foundation set
- Polygonal pole, subdivided into shafts covered with artificial bark
- Top antenna pipe mounts
- Foliage
- Internal climbing ladder with anchor line (EN 353-1/2 Norm - only for version with ladder)
- Packing list, erection and maintenance instructions
- Packing in bundles and/or wooden cases and crates

For a description of the accessories and ordering information, please refer to the **Accessories** catalogue.





without ladder



with ladder

How to order

Specify bark type by adding the suffix codes to the article:

- **M** (Mediterranean bark) or **A** (Arabic bark)

**M** - Mediterranean bark



**A** - Arabic bark



Example: **FPNL 2000 A**

date palm H = 20 m  
without ladder

Arabic bark

(only for version with internal ladder)

Specify the anti-falling safety system required by adding the suffix codes to the article:

- **RL** (rigid anchor line EN 353-1)
- **FL** (flexible anchor line EN 353-2)

Example: **FPIL 3000 M RL**

date palm H = 30 m  
with ladder

rigid anchor line  
Mediterranean bark

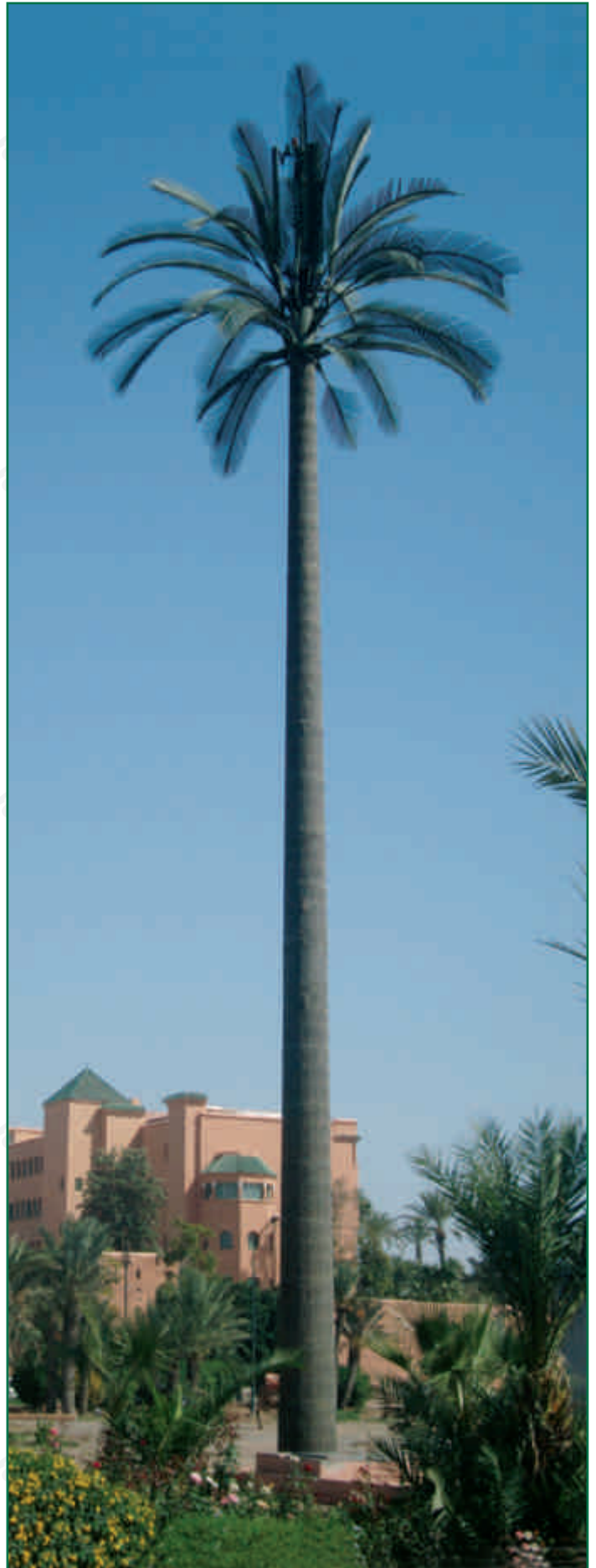
For more information, refer to the Accessories catalogue.

Article	Structure height H m	Antenna mount height H <sub>1</sub> m	Gross weight tons	Packing volume m <sup>3</sup>	Foundation concrete volume m <sup>3</sup>	Foundation excavation volume m <sup>3</sup>
<b>without ladder</b>						
<b>FPNL 1500 .</b>	15	3.5	2.9	20	12	25
<b>FPNL 2000 .</b>	20	3.5	4.1	30	19	38
<b>FPNL 2500 .</b>	25	3.5	5.0	40	24	49
<b>FPNL 3000 .</b>	30	3.5	6.7	50	30	62
<b>FPNL 3500 .</b>	35	3.5	8.5	65	37	77
<b>FPNL 4000 .</b>	40	3.5	11.4	85	46	90
<b>with ladder</b>						
<b>FPIL 1500 .. .</b>	15	3.5	3.5	20	12	25
<b>FPIL 2000 .. .</b>	20	3.5	4.9	30	19	38
<b>FPIL 2500 .. .</b>	25	3.5	5.8	40	24	49
<b>FPIL 3000 .. .</b>	30	3.5	7.5	50	30	62
<b>FPIL 3500 .. .</b>	35	3.5	9.7	65	37	77
<b>FPIL 4000 .. .</b>	40	3.5	13.2	85	46	90

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date palm scheme



date palm without ladder  
art. FPNL 3000 M