SKY NETWORKS
GLOBAL TELECOM INFRASTRUCTURE SOLUTION PROVIDER

FOR THE CHANGING WORLD OF TELECOM INFRASTRUCTURES

Products Introduction

Sky Networks Engineering Co., Ltd.
c/o Zhejiang ZEC Imp & Exp Co., Ltd.

Hangzhou, China

MADE IN CHINA

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Products & Services

Design

Design of various towers, poles and other steel structures.

Manufacture

Advanced, dedicated manufacturing process under strict control.

Procurement

Out-sourcing products strictly in conformity of industrial codes and specification requirements.

Logistics

Storage and transportation for both domestic and international market

Turnkey solutions for Telecommunication infrastructures!

Products List

1. CCTV Mounting Structure

2. Lattice Tower (Angle Leg)

3. Monopole

4. Concealing Artificial Tree

5. Shelter/Cabin

6. Cabinet

7. Battery Group

CCTV Mounting Structure

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Camera Poles / Towers are the most widely used and cost effective solution for mounting any camera in all scenarios.

Design

Structural design according to latest ILETR7, BS6399 and BS8100:
- Design wind speed : mean hourly wind speed 28.8 m/s
- Constant operational wind on entire height: 20m/s mean hourly
- Top deflection (operational wind speed): <0.1degree default

Material

Comply with the requirements of Chinese Standards:
- Structure parts GB 1591-2008 and ASTM G60 Q420
- Nuts and Bolts GB 3098.1.2 Grade 8.8
– Foundation bolt Grade 4.6 full galvanized

Manufacture

All materials are protected by hot-dip galvanizing in accordance to Chinese GB13912-2002 and ASTM A153/A153M
Welding as per code AWS1.1 and GB50205-2001, GB50017-2003
Paint finish of metallic structure upon requirement

Supply

Standard supply provides the minimum configuration required for structure commissioning
Foundation frame (Anchor bolts & templates)
Supporting structure, divided into shafts/sections
Climbing ladder with fall arrester system (Optional)
Packing list with assembly and maintenance instructions

CCTV Mounting Tower – Static /Tilt-down

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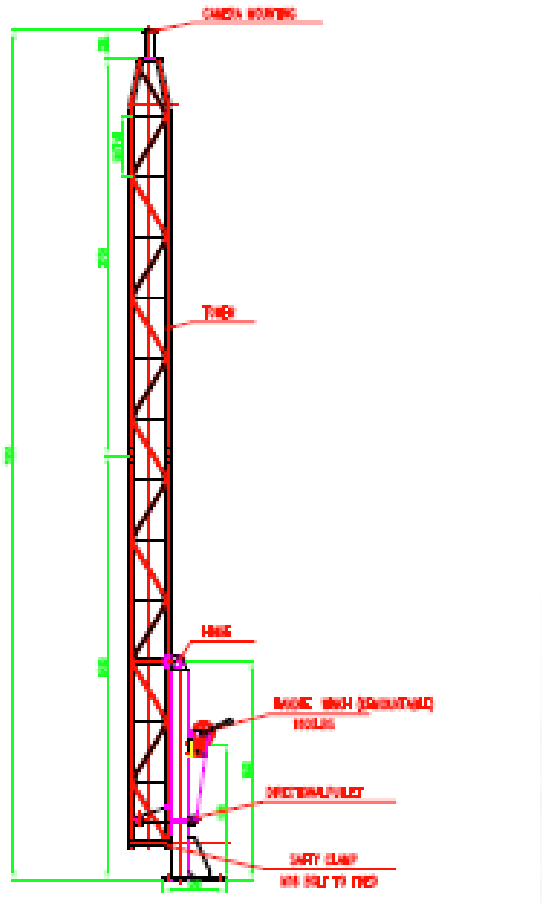
CCTV Camera towers (CMT) are a widely used and cost effective solution for camera mounting. Available in both static and tilt down models. Its low surface area makes it ideal for exposed locations such as deserts and coastal locations.



Features:

1. Cost effective solution of stable triangular structure achieving desired camera mounting height.
2. Modular construction for ease of transportation, assembly and erection on site;
3. Built in climbing rungs for equpment installation and maintenance.
4. Can be custom designed to fulfil project requirements or supplying tailored brackets/mounts for junction box, washer, telemetry receiver.
5. Tilt Down model: Demountable winches allow for a secure installation whilst also reducing costs on multiple installations; Tilting of tower can usually be simply carried out by single operator.
6. Constructed in high tensile steel and hot dip galvanized after fabrication for durability , especially for installation in saline/hostile environments;
7. This range accepts our appropriate accessories and mounting bracket, also suitable to mount loudspeakers;

CCTV Pole – Tubular Tilt-down Pole

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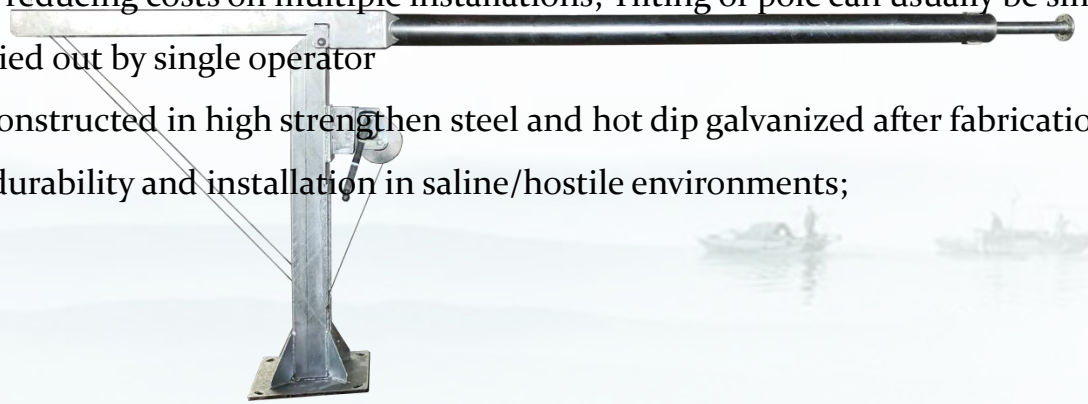
A complete range of tubular to cover all requirements for any CCTV system. These tubular poles unlike those used for lighting will provide stable mounting platforms to ensure a good quality stable picture.

Features:

1. Most cost-effective solution for gaining a desired camera mounting height. Standard PTZ fixing holes on 101.6PCD.
2. Serving as stable structures for all camera types ensuring minimal picture vibration;
3. Secure lockable service access door and plywood backboard as standard for inspection/junction apertures.
4. Suitable for public access areas;
5. Accepts appropriate SNE accessories and bracketry, such as anti climb collar.
6. Tilt Down model: Demountable winches allow for a secure installation whilst also reducing costs on multiple installations; Tilting of pole can usually be simply carried out by single operator
7. Constructed in high strengthen steel and hot dip galvanized after fabrication for durability and installation in saline/hostile environments;



CCTV Pole – Cabinet Based Pole

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Cabinet Based Pole is a tubular tilt-down pole with cabinet room, providing a rigid, secure camera mount at cost effective price while also providing safe servicing conditions at ground level. A luxury model for Tilt-down pole.

Features:

◆1. Stable structure for all camera types ensuring minimal picture vibration;

2. Standard cabinet sizes 400mm, and can be manufactured as per specified;

3. Flush fitting door level with cabinet surface giving enhanced security;

4. Secure lockable service access door and plywood backboard as standard for inspection/junction apertures.

5. Fitted vents allowing full convection system eliminating condensation;

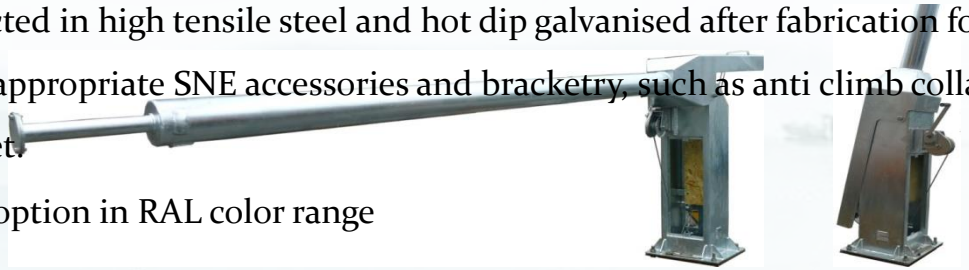
5. Can be used in any location from Town Centre to Industrial/Commercial locations using relevant options.

6. Tilt Down model: Demountable winches allow for a secure installation whilst also reducing costs on multiple installations; Tilting of pole can usually be simply carried out by single operator;

7. Constructed in high tensile steel and hot dip galvanised after fabrication for durability

8. Accepts appropriate SNE accessories and bracketry, such as anti climb collar, side-of-pole bracket.

9. Paint as option in RAL color range



Wall Mounted Poles

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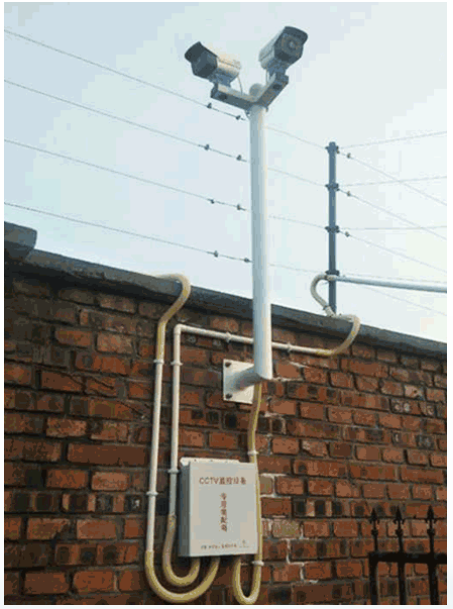
Ideal for gaining an elevated viewpoint from existing structures

Wall mounting bracket extension

Corner wall mounting plate details



Flat wall mounting plate details

Please contact us for custom design.

Lattice Tower

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SKY NETWORKS' lattice tower provides the perfect low cost and good quality tower solution for start-up stations, which features:

- Cost-effective design solutions in accordance with latest ANSI/TIA-222 ;
- Designed to meet the RF requirements of telecom operators and vendors, as well as co-location load requirements of several operators;
- Easy to ship and erect,
- Excellent service including supervision and supplementary components;

Design → Detailing → Prototype → Fabrication → Galvanization → EXW

Production Diagram





Lattice Tower - Design

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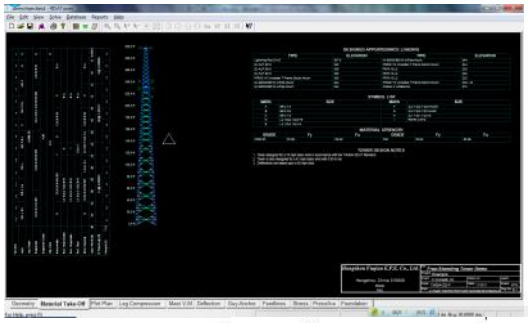
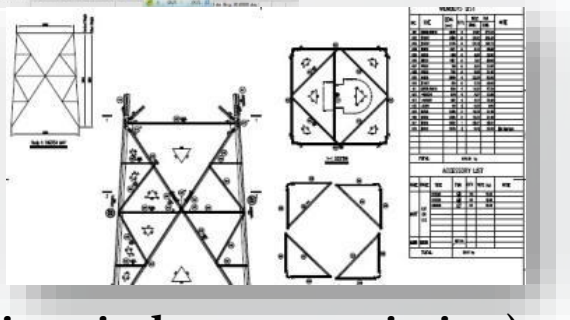
- **Sky Networks engineers are qualified and experienced structural design engineers. Having developed over 100 over designs and complying to various industry standards and requirements.**
- **Towers are designed using latest software based programs which takes into account various parameters such as:**
  - ✓**Wind load conditions**
  - ✓**Antenna loading height & dimensions**
  - ✓**Feeding cable load conditions**
  - ✓**Ice load conditions**
  - ✓**Topography factor**
  - ✓**Dynamic effect of wind**
  - ✓**Factor of safety**
  - ✓**Codes / Standards requirements, and etc.**





- **Design software utilized:**
  - ✓***Risa Tower & Risa3D***
  - ✓***PLS tower***
  - ✓***X-Steel***
- **Design standards mostly utilize EIA/TIA-222-G (Telecommunications industry association) for International approval**

Lattice Tower - Detailing

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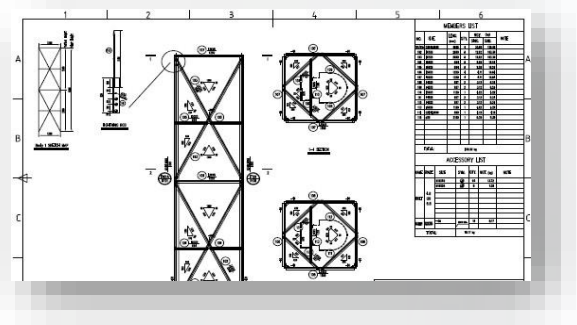
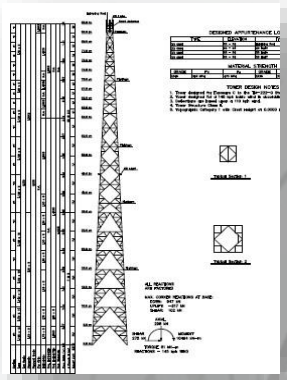
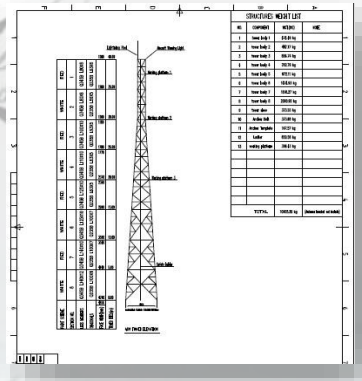
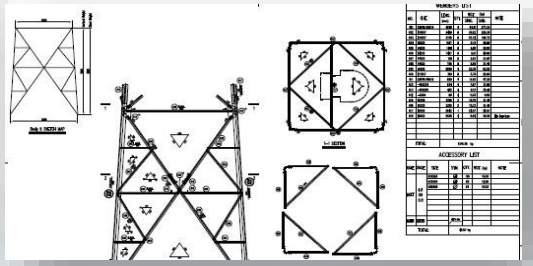
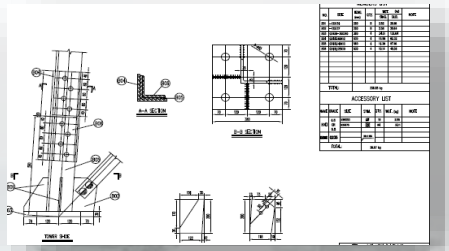
- Generation Structure drawing for workshop drawing generation and site installation purpose.
- Generation of Bill Of Material (BOM)
- Workshop drawing for manufacturing based on Structure drawing & BOM.
- Software utilizing AutoCAD Ver 2004 or above
- Production Capacity – 1,500 MT/monthly
- Galvanization Capacity– 8,000 MT/monthly











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Lattice Tower - Prototype Assembly and Inspection

- **Dedicated independent prototype assembly units**

- **Prototype inspection done by internal QA Team, Third party or by Customers are also applicable for the final approval and for Mass production**





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Lattice Tower - Fabrication

1. Fabrication Capacity – 2,000 MT/month
2. Galvanization Capacity – 8,000 MT/month
3. Machines - Lattice Towers
   - -CNC cutting
   - -CNC Angle punching and stamping
   - -CNC Plate punching and stamping
   - -Angle cropping with Stamping
   - -Hydraulic press machines for angle cutting, hole and number punching machines
   - -Notch cutting machines
   - -Angle bending machines
   - -Radial drilling machines
   - -Welding machines
   - -..... Etc.

- Approved Structure Drawing
- Lofting
- Laying
- Marking → Shearing
- Punching
- Bending, back chipping and back off, welding
- Trial assembling
- Finished product straightening
- Galvanizing
- Inspection
- Packing → Ex-works

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Lattice Tower - Galvanization

12.8mx1.6mx2m
Galv. Pool

8mx1.2mx1.6m
Galv. Pool

3.5mx1.1mx1.5m
Galv. Pool

Monopole

To minimize the environmental impact of antenna supporting structure, Sky Networks has developed Monopole vertical structure, which combines technology and functionality with the present-day aesthetic needs in both large and small urban areas.

Design

- Structural steel design according to ANSI/TIA-222-G:
- Design wind speed (EIA-222): 160km/h, up to 200km/h
- Constant operational wind on entire height: 100km/h, up to 130km/h
- Top deflection (operational wind speed): <1 °

Material

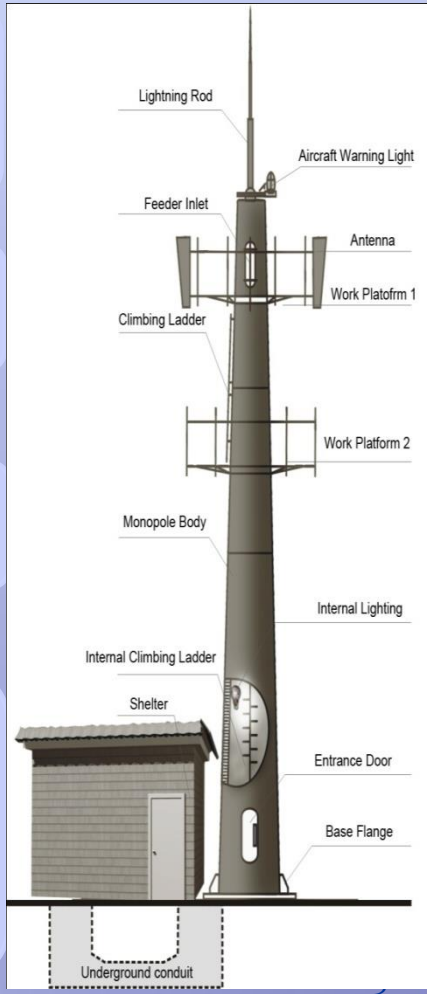
- Comply with the requirements of Chinese Standards:
- Structure parts GB 1591-2008 and ASTM G60 Q420
- Nuts and Bolts GB 3098.1.2 Grade 8.8

Manufacture

- All materials are protected by hot-dip galvanizing in accordance to Chinese GB13912-2002 and ASTM A153/A153M
- Welding as per code AWS1.1 and GB50205-2001, GB50017-2003

Supply

- Standard supply provides the minimum configuration required for pole commissioning, excluding radiant systems and mounts.
- Foundation set
- Supporting structure, divided into shafts
- Climbing ladder with fall arrester system
- Paint finish of metallic structure
- Packing list with assembly and maintenance instructions
- Packing



Monopole

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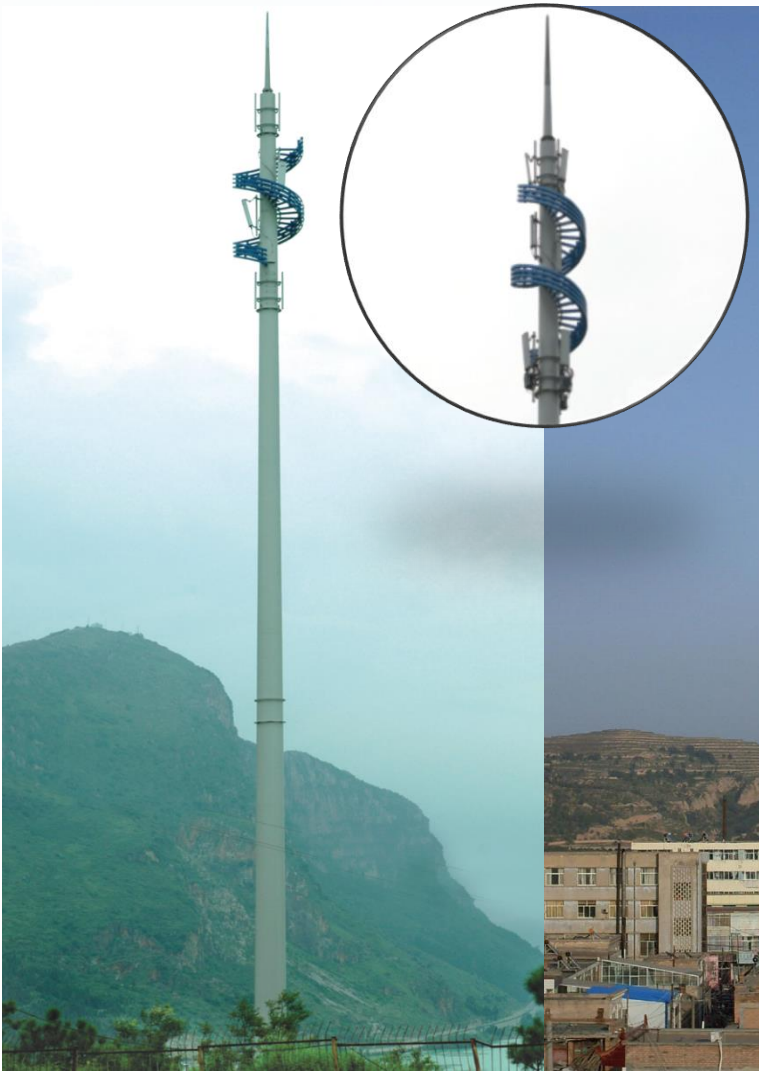
Blue Ribbon



Golden Ribbon

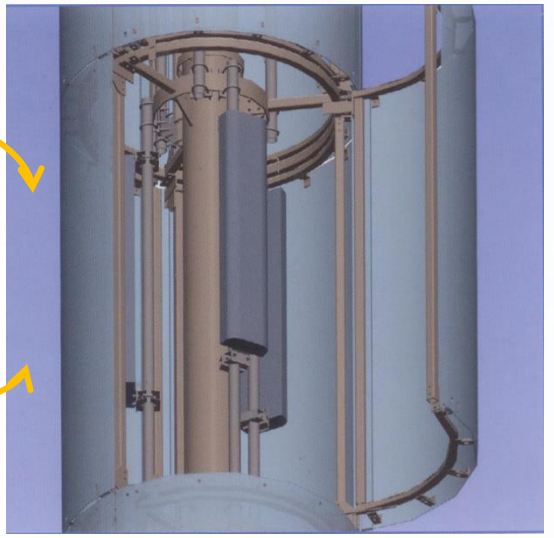
Normal Type

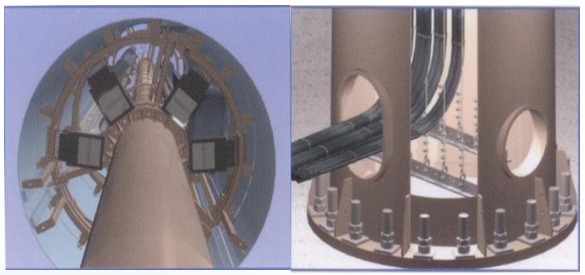
Normal Type

Monopole (Camouflaged)

CityPole 1

CityPole 3






Wheel


Wheel w/ floodlight


Rainbow


6 disc pattern


Sail 1


Sail 2


Sail 3

Crown

Concealing Artificial Tree

Are you running out of suggestions?
Is the landlord not easily persuaded to allow installation of your equipment on his property?
Or are the authorities not giving the permissions because of V.I.P. area considerations and restrictions?

SKY NETWORKS suggest that you look at alternative solutions that creates new possibilities, speeds up the progress and ensures that all parties are satisfied –and you do not even have to compromise your RF-plan!

A consolidated experience of over ten year and worldwide patents, is Sky Networks' credentials with regards quality and durability of these concealing antennas, even in extreme climates.

Concealing Artificial Tree

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The trunk consists of a steel pole divided into several shafts, according to the overall height of the structure that can vary from 20 to 40 meters. The external surface of the trunk is lined by plastic material that is resistant to UVA rays and atmospheric agents, with an aspect that in time maintains the resemblance of natural bark.

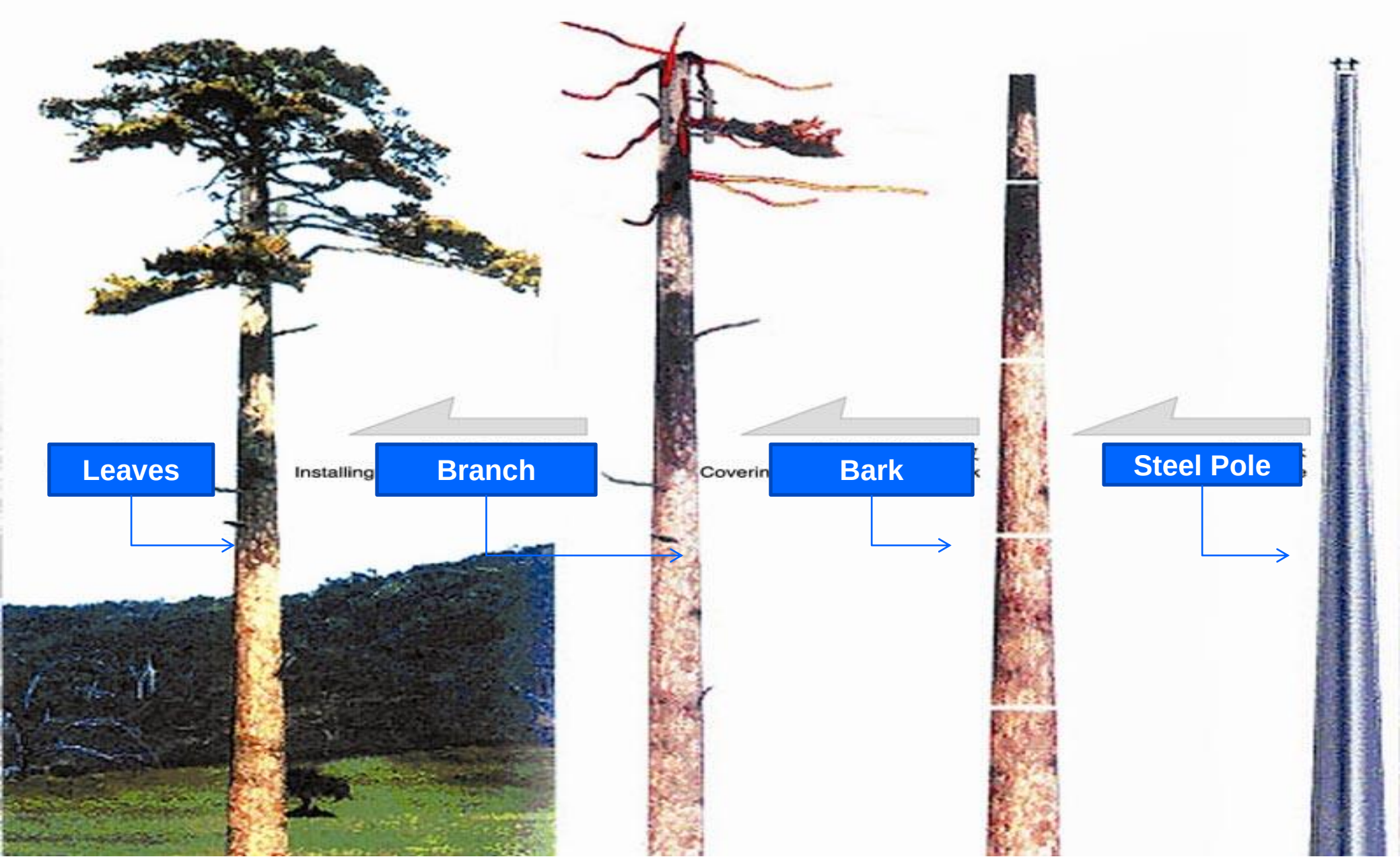
The foliage is comprised of branches made of plastic material accurately designed, taking into consideration quantity, shape and array suitable to completely conceal the antennas and all accessory parts in a natural manner. The materials used, in addition to guaranteeing radio-electric transparency and resistance to UVA rays, over the time keep their proper mechanical and color characteristics

Design

- Structural steel design according to the most recent TIA/EIA-222-G.
- Design wind speed (EIA-222-G) 42m/s
- Constant operational wind speed on entire height 35m/s
- Top deflection (operational wind speed) <1°

Material

- The Materials comply with the requirements of Chinese Standards
- Structure parts Q345 GB 1591-2008
- Nuts and Bolts G8.8 GB 3098.1.2
- Artificial Bark Reinforced Plastic
- Branches Fiberglass reinforced plastic
- Leaves Plastic materials with supporting core in glass rowing and resin
- All materials are protected by hot-dip galvanizing in accordance to Chinese GB13912-2002 and ASTM123



Conception Diagram of Tree pole production

Concealing Artificial Tree

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Palm Tree

Pine Tree

Shelter/Cabin

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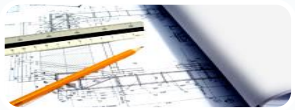

Features

1. Framework structure, and adopting screw fastening mode between framework and wallboards to ensure bulk strength of shelter;
2. Structural waterproof design;
3. Weatherability, quakeproof and wind-resistant;
4. Simple and convenient in installation and maintenance, reducing numerous and jumbled civil engineering works;

Benefits

1. Convenient for on-site assembly promptly to shorten construction period, and help to realize fast network coverage;
2. Not only can the shelter be assembled on site, but also can it be lifted to the desired location in a whole after being assembled in the warehouse, thus enable convenient installation, transportation and move of shelter;
3. To improve the leakproofness reliability;
4. Widely applicable to various weather conditions;
5. Applicable for installation along roads and highways, mountainous regions and seaside, rooftops, scenic spots or commercial districts.

Shelter/ Cabin

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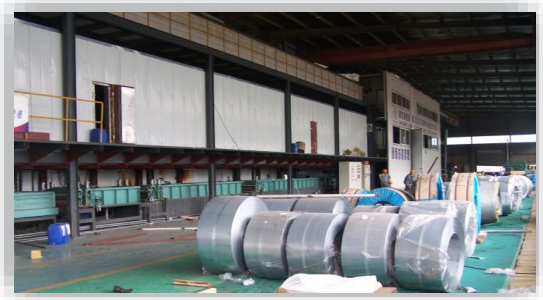
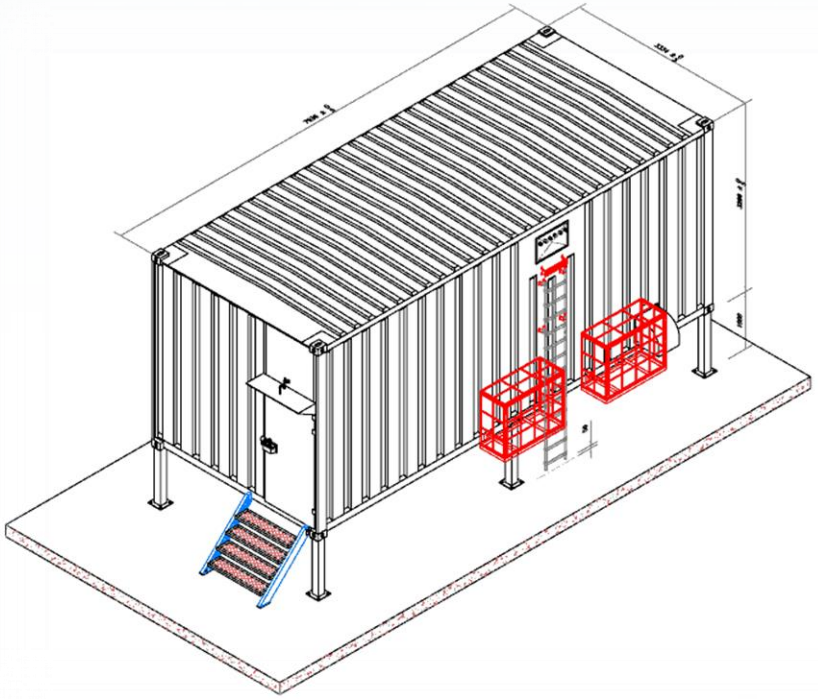
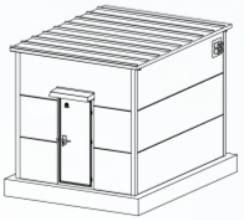
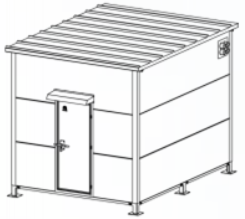






Ordinary type



Standard type

Double-roof type

Cabinet

1) The Cabinet integrates such equipment as communication power supply, backup battery and BTS. It is mainly used in small outdoor wireless base stations, and is an integrated wireless communication Cabinet with high integrity..

2) This Cabinet can install 19-inch mounted-rack and is applied to such industries as communications, power, transport, CATV and industrial control. It is an outdoor network Cabinet with wide application scope.

3) Newly developed multi-functional outdoor Cabinet, providing multiple optional configuration and installation modes

*Please contact us for specific project requirements.

Battery

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12V high capacity valve regulated lead acid battery for use in telecoms deployments. Designed to be rack mounted with high reliability and long float life.

Our battery features following advantages:

- Compact size, smaller resistance and higher power output;
- Less than 3% self-discharge level per month;
- High recovery performance with unique formulation under deep discharge condition;
- Of pure material and strict QC process, to assure product specification.

*Please contact us for specific project requirements.

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PRODUCTS FOR THE CHANGING WORLD OF TELECOM INFRASTRUCTURES

Thank You!

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