



Anchoring system  
Starpole™

sicame  
NORTH AMERICA

# About us

**sicame**  
GROUP

Sicame Group is one of the key players in the electrical equipment business worldwide. It has been able to adapt and develop to support the continuous evolution of electricity infrastructure in France and around the world, and become the largest independent entity in its sector.

A true player in the energy transition, it offers its customers new products and services to improve energy efficiency, deal with environmental risks and support the development of electric vehicle and solar power plant markets.

70

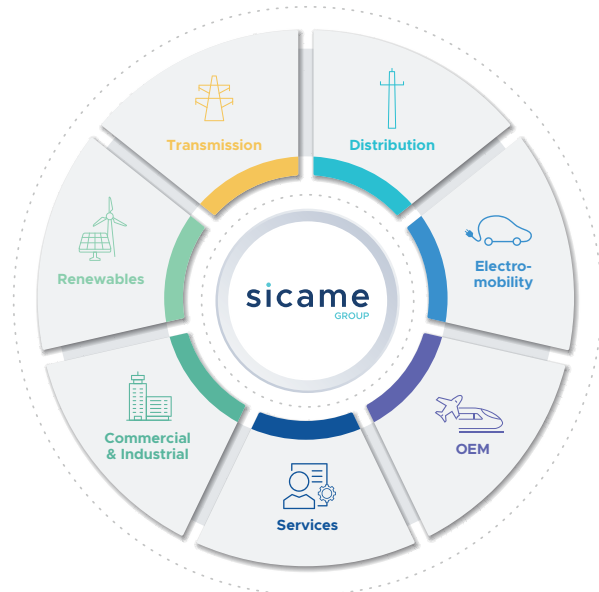
years of worldwide success

600 M€

2024 turnover

3,600

employees



## Our fields of activity

Sicame Group is specialised in **products and services** related to transmission and distribution of **electrical energy**, renewables, electro-mobility, safety equipment and industrial applications.

5 continents

26 countries

50 companies  
around the world

Products distributed  
in 157 countries



## Introducing the star pole anchor system

Star pole anchor is a safe and efficient system designed to quickly and easily install and secure poles (wooden, composite or other material) in place on rock, concrete or any hard surface by anchoring them rather than spending precious time and money on blasting, augering, cradling, or costly methods.

Star pole anchor has been designed to be stronger than wooden poles that complies with CSA 015-05 standard (red pine species). Multiple tests, performed in different conditions, have proven that the system is stronger than the bending moment of the pole itself.

Our anchors will resist any load, even those most poles cannot.



### Multiple applications

Poles are only one of the many examples of vertical structures our system can anchor.

- Industrial structures
- Electrical or telecommunications poles
- Recreational structures
- Composite or wooden poles

### Safe

Eliminates the risks and environmental hazards inherent in blasting.

### More productive

Install more poles per day. Work in almost any kind of weather. Keep tighter control of scheduling and costs.

### Easy to install

Simple installation needs only a two-man crew.

## Operations

By drilling at least 3 holes, with diameter depending on the system used, you can actually set your pole securely on any hard surface.

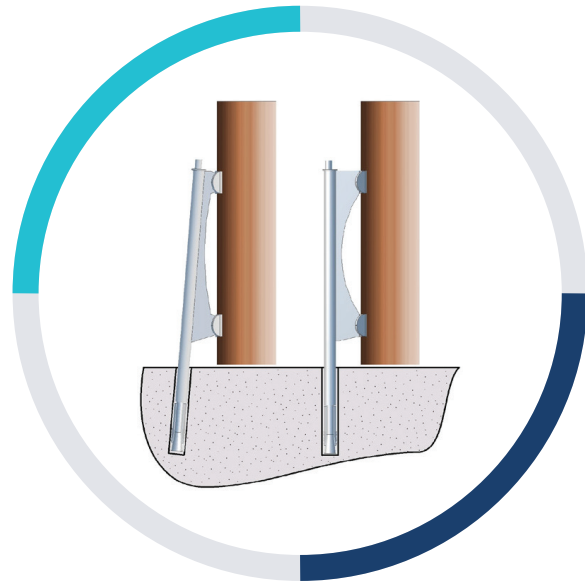
The galvanized steel legs of the star pole anchor® system hold the pole in place with the pole saddles and lag bolts, while the tapered anchor bolt spreads an expansion shell at the bottom of each hole.



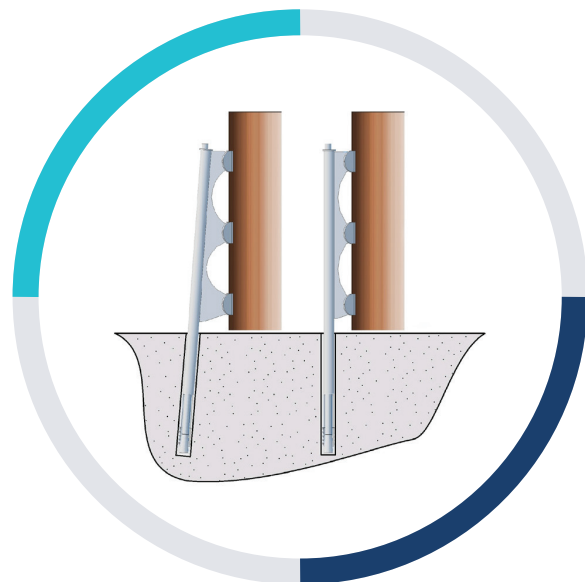
It's that simple!

# Product description

A brand new range of anchors



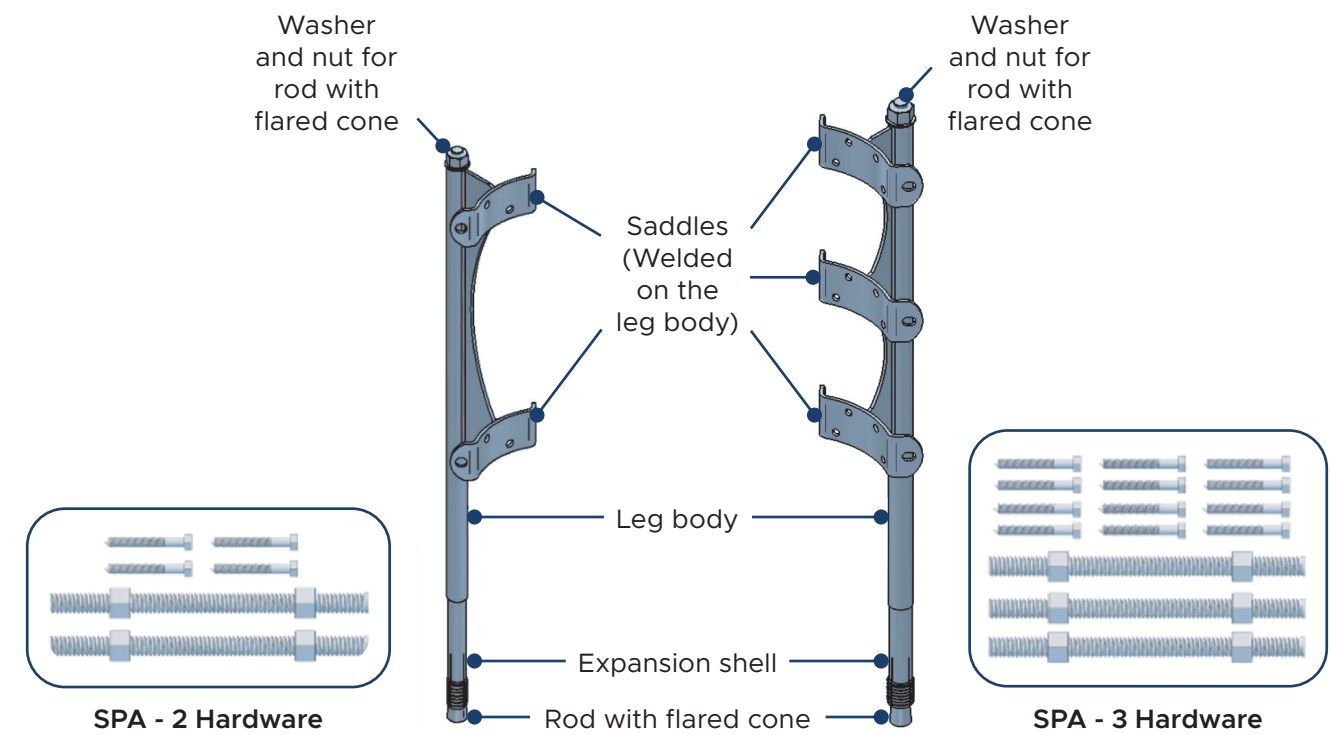
**SPA - 2 - Distribution**  
2 Saddles  
Inclined or vertical design



**SPA - 3 - Transmission**  
3 Saddles  
Inclined or vertical design



## — Anchors' sub components



**SPA - 2 Hardware**

**SPA - 3 Hardware**

# Advantage of the new system

## Universal system

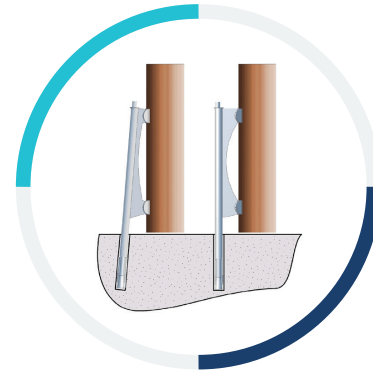
- Efficient and heavy duty anchoring in hard surfaces such as rock, concrete or similar solid geology
- Anchoring systems designed for poles of any material
- System fully adaptable according to the diameter of the pole

## Strong anchoring power

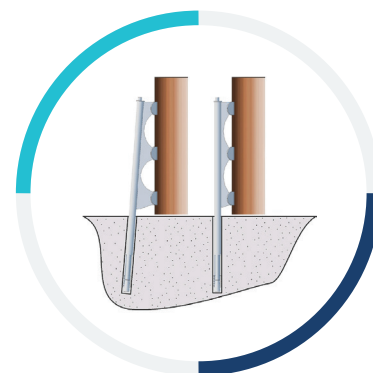
- Multiple discrete mounting interfaces linked together for continuous connection interface/legs for a stronger system
- Money saving due to increasingly stronger legs
- Strong galvanization - no short term maintenance

## Other features

- 2 design options: inclined or straight legs
- Assembling kit provided
- Drilling template available to ease installation
- No need to install guy wire

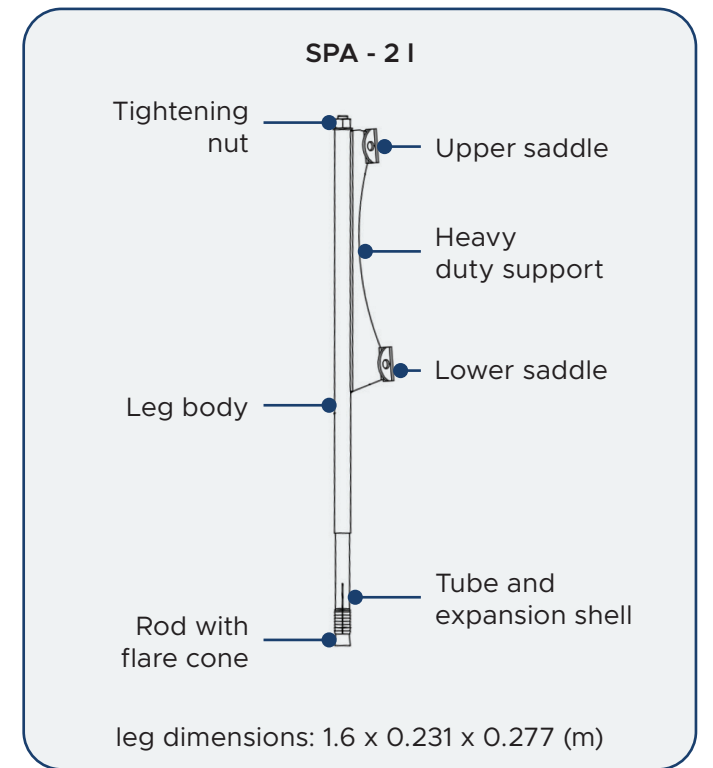
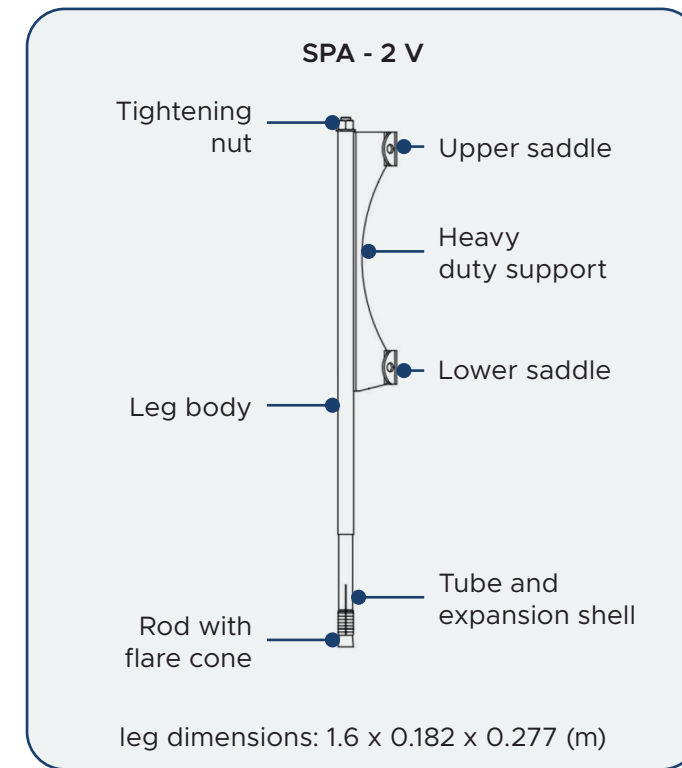


SPA - 2 - Distribution

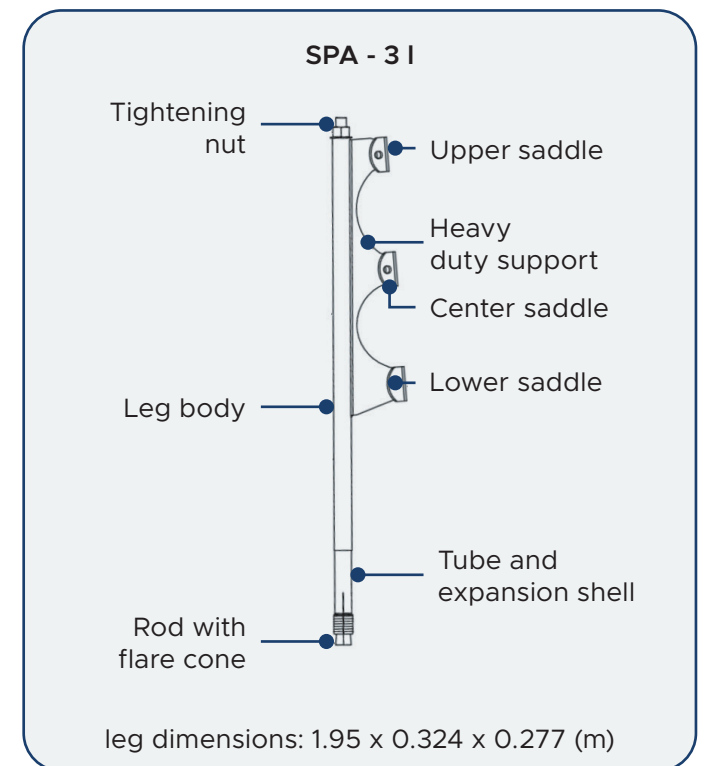
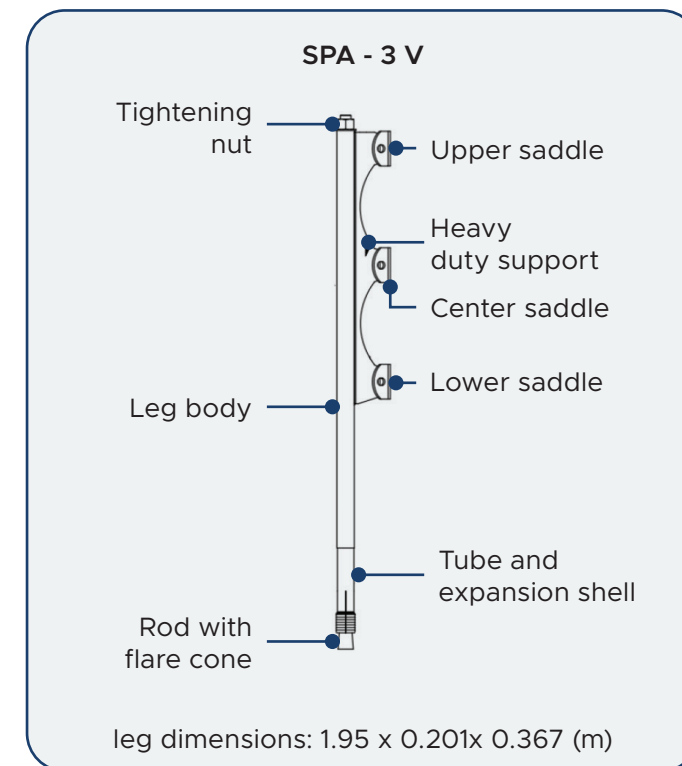


SPA - 3 - Transmission

## SPA - 2 - Distribution



## SPA - 3 - Transmission



## Product range

SPA - 2	SPA - 3
<ul style="list-style-type: none"> <li>• Minimum 3 anchors needed*</li> <li>• For 3 anchors, minimum pole diameter is 8 inches (0.203 m)</li> </ul>	<ul style="list-style-type: none"> <li>• Minimum 4 anchors needed*</li> <li>• For 4 anchors, minimum pole diameter is 16 inches (0.406 m)</li> </ul>
<ul style="list-style-type: none"> <li>• A bag with all hardware needed is sent along with the legs</li> <li>• The arched support is very strong and transfers uniformly the pole strength to the anchors</li> <li>• The saddles fit exactly the diameter of the pole when lag bolts are properly tightened</li> </ul>	
<ul style="list-style-type: none"> <li>• To drill the holes, deep to 24", you'll use the drilling template</li> </ul>	<ul style="list-style-type: none"> <li>• To drill the holes, deep to 29", you'll use the drilling template</li> </ul>
<ul style="list-style-type: none"> <li>• Made of strong material, the tube of the leg has a bigger bending moment prior distortion</li> </ul>	

\*the number of anchors to be used depends on the pole diameters - see selection chart

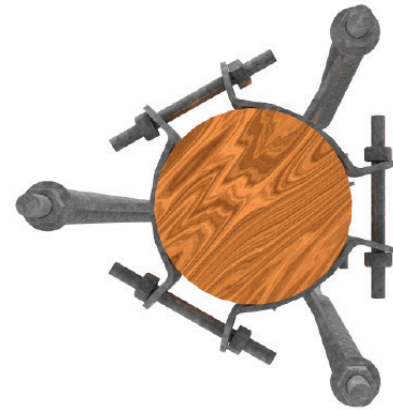
# Determine the number of legs

SPA - 2 and 3 - pole butt at base (in)



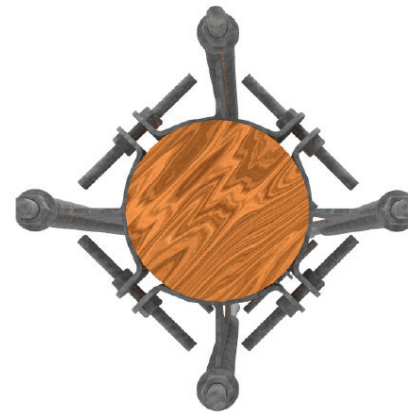
## 3 Anchors configuration

SPA 2	
Dia.	Circ.
8	25
9	28
10	31
11	35
12	38



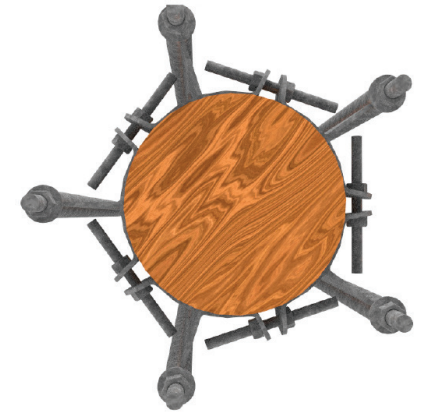
## 4 Anchors configuration

SPA 2		SPA 3	
Dia.	Circ.	Dia.	Circ.
11	35	16	50
12	38	17	53
13	41	18	57
14	44	19	60
15	47	20	63
16	50	-	-



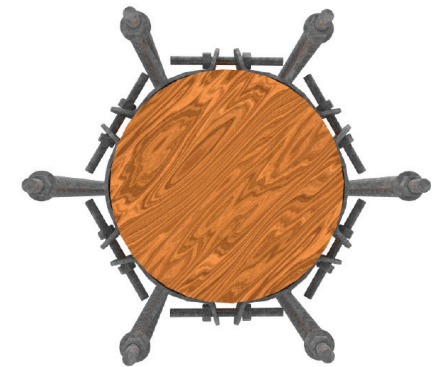
## 5 Anchors configuration

SPA 2		SPA 3	
Dia.	Circ.	Dia.	Circ.
14	44	19	60
15	47	20	63
16	50	21	66
17	53	22	69
18	57	23	72
19	60	24	75
20	63	25	79



## 6 Anchors configuration

SPA 3	
Dia.	Circ.
22	69
23	72
24	75
25	79
26	82
27	85
28	88
29	91
30	94
31	97



\*Please contact us for other dimensions



# Installation

## Tools for installation



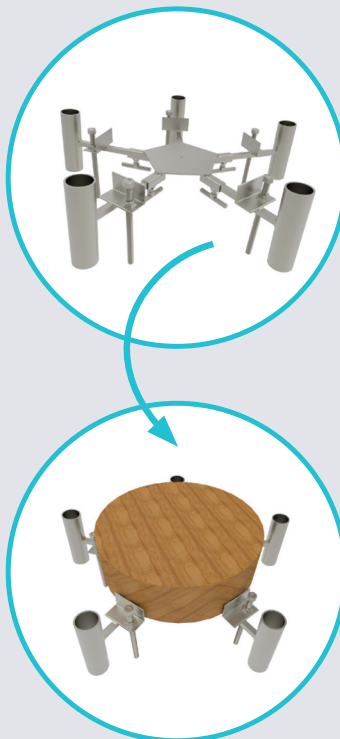
### SPA 2

- 1 X Impact drive Socket 1"
- 1 X Impact drive Socket 1-13/16"
- 2 X Wrench 1-7/16"



### SPA 3

- 1 X Impact drive Socket 1-1/8"
- 1 X Impact drive Socket 2-3/8"
- 2 X Wrench 1-5/8"



## Drilling template available

A drilling template is recommended to correctly position your anchoring system. This template is reusable. It is unnecessary to get a new one for each installation.

### How to use the template:

- 1 - Cut a small log at the bottom of the pole (about 6 inches in height)
- 2 - Install the log into the drilling template and adjust the template to hold the cut log piece tightly in place
- 3 - Level the drilling template at the installation location
- 4 - Drill the anchor leg hole to the correct depth
- 5 - Remove the template and install your pole per installation instructions

# Installation instructions

Modules are shipped assembled. Each consisting of a forge anchor bolt, expansion shell, welded pipe, washer and nut, along with the required field assembly hardware. Each pole installation requires at least 3 modules, depending on the pole butt diameter and the SPA model you use.

## Step 1 - Remove overburden

The pole butt must rest directly on the rock, so all loose overburden (soil, gravel, etc.) must be removed.

## Step 2 - Rock evaluation

If the rock is fractured or unsound, an alternative method to the SPA system should be used. For example, if the rock can be easily broken, shovelled or augured, this would suggest insufficient rock soundness.

## Step 3 - Check slope

The maximum allowable gap between the pole base and the rock surface is 3 inches. For example, there must not be a gap of more than 3 inches between the pole butt and the rock, and the pole must rest on the rock at some point.

## Step 4 - Number of anchor to use

Consult the selection chart shown below.

## Step 5 - Rock drilling template

Choose the appropriate drilling template for the configuration chosen.

## Step 6 - Adjust template

Fit the assembled template to the pole butt, adjusting it for the pole size. Place the template, leveled, on the rock. For installation of anchors SPA-2I or SPA-3I, make sure the hole to be drilled points outward from the pole center.

## Step 7 - Drill holes

### Case 1 - you use SPA-2

- 1) Always begin at the highest point of the rock.
- 2) Drill a 2-inch diameter hole to the depth of 24 inches using template. Do the same for all holes.
- 3) Clean out the holes from dust.

### Case 2 - you use SPA-3

- 1) Always begin at the highest point of the rock.
- 2) Drill a 3-inch diameter hole to the depth of 29 inches using template. Do the same for all holes.
- 3) Clean out the holes from dust.

## Step 8 - Insert the anchors

Drop the anchors into the holes. Loosely connect the saddles with the studs.

## Step 9 - Erect pole and tighten saddles

Hold the pole vertically in place, tighten all the studs to grip the pole within the saddles. Ensure that all nuts are firmly tightened.

## Step 10 - Tighten anchor bolts

Tighten the nuts of the anchor to a torque of 400 N-m (300 Lbs-ft). In poor rock you will run out of thread before developing an adequate torque. An alternate location or installation method must be used.

## Step 11 - Install lag bolts

Pre-drill holes and install all lag bolts using an impact wrench or socket wrench. Add a MAX torque specification of 45-50 ft-lb for installing the lag bolts.

## Step 12 - Final steps

Grouting of the holes is optional if ice is a concern. Grouting should never be done before installation. Back fill any removed overburden if desired.

## Step 13 - Maintenance

Incorporate the anchors into the regular pole and line maintenance schedule and procedures. At each inspection, ensure that all nuts and lag bolts are in place, and tight.

# Compare starpole to other installation methods

Method	Cribbing	Rock augering	Rock blasting	Starpole anchors
Material required	<ul style="list-style-type: none"> <li>16 pieces minimum of treated lumber</li> <li>Big pieces of rock</li> </ul>	Sealing compound	<ul style="list-style-type: none"> <li>Sealing compound</li> <li>Dynamite</li> </ul>	Starpole anchors
Weight to bring on site	<ul style="list-style-type: none"> <li>Wood pole</li> <li>16 pieces of treated lumber = 320 kg (710 lbs)</li> <li>About 3000 kg of rocks (6600 lbs)</li> </ul>	<ul style="list-style-type: none"> <li>Wood pole</li> <li>Sealing compounds, dirt, and rocks = 250 kg (550 lbs)</li> </ul>	<ul style="list-style-type: none"> <li>Wood pole</li> <li>Sealing compound = 125 kg (275 lbs)</li> <li>About 1500 kgs of rocks (3300 lbs)</li> </ul>	<b>Wood pole + 3 x Starpole anchors SPA-2V*</b> *SPA-2V x 3 = 23 kg x 3 = 69 kg (150 lbs)
Equipment to bring on site	Motorized loader to move rocks around	Large utility truck equipped with a big powered auger	<ul style="list-style-type: none"> <li>Light power drill</li> <li>Tools to set up dynamite in the rock</li> <li>Motorized loader to move rocks around the pole</li> </ul>	Light power drill
Manpower	Standard crew	Skilled crew to handle auger truck	Crew with at least one dynamite specialist	Standard crew
+	Easy to set up	Quick installation	Light equipment to handle	<ul style="list-style-type: none"> <li>Easy to setup</li> <li>Light equipment to handle</li> <li>No skilled labor required</li> <li>Quick installation</li> <li>Stronger than the pole</li> <li>No heavy material involved</li> </ul>
-	<ul style="list-style-type: none"> <li>Cannot sustain strong side bad needs guy wire to add strength.</li> <li>Requires heavy load manipulation</li> <li>Installation takes a lot of time</li> <li>Difficult to install in remote areas, and hard to access with a loader</li> </ul>	<ul style="list-style-type: none"> <li>Requires a heavy truck in rocky and remote areas (difficult to access)</li> <li>Cost per hour is quite expensive</li> <li>Highly skilled labor required</li> <li>Climate conditions need to be good for compound to solidify and be durable.</li> </ul>	<ul style="list-style-type: none"> <li>Requires long time to drill deep holes for dynamite sticks</li> <li>Requires specific permits and authorizations</li> <li>Requires specific storage for dynamite</li> <li>Requires dynamite expert</li> <li>Requires heavy load manipulation (rocks after blasting dynamite)</li> <li>Difficult to install in remote areas, and hard to access with equipment</li> <li>Skilled labor required</li> <li>Climate conditions need to be good for compound to solidify and be durable</li> </ul>	Requires solid rock

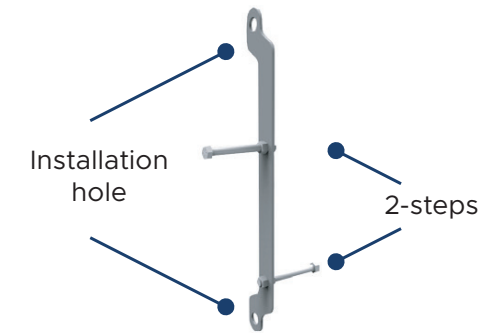
# Accessories

## Climbing step

### Easy to set up

Climbing system designed to easily ascend anchor system and onto pole:

- Easy to set up
- Made of durable steel
- Allows for easy scaling onto the pole with spurs
- 1 foot maximum step height

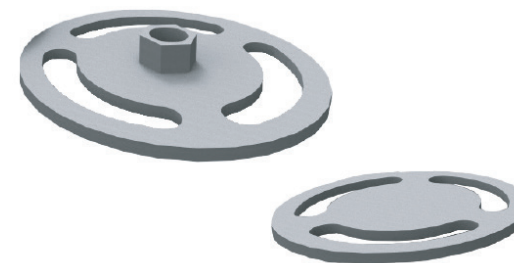


## Protectors caps

### Easy to set up

Anchor top cap system designed to protect threaded rod ends and reduce potential for injury when climbing pole:

- Easy to install
- Increases lineman safety
- Protects threaded rod ends
- Aides in descending pole





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