cobra®

Installation Guide

cobra®

TREE CABLING HAS A NAME: *cobra*® – WORLDWIDE

Our cobra® tree cabling system has been very successful on the market since 1993 and impresses arborists all over the world with its easy handling, high quality and reliability. With cobra®, we are making a valuable contribution to appropriate, modern tree care.

Find out more about cobra on YouTube!
Have a look at our YouTube channel **cobratreecabling**, which has many interesting videos and useful tutorials. Simply scan in the QR code or go directly to **www.youtube.com/user/cobratreecabling.**

Dear Arborist,

We are delighted that you have decided to make a valuable contribution to appropriate, modern tree care by choosing cobra tree cabling systems.

With pbs Baumsicherungsprodukte GmbH, you are placing your trust in a leading international company: Since 1993, our range of cobra products has been used successfully time and time again – all over the world and certainly also near you.

This handy booklet is designed to help you to install and use your cobra tree cabling systems correctly. We want you to work well with – and like using – our products. And we want our products to help you eliminate potential safety risks in trees as well as prolonging the life of endangered trees.

We wish you lots of fun and success using cobra,

Peter Göhner
Managing Director

You will find an overview of our dealer listing here. Simply scan in the QR code or go directly using your browser:
www.cobranet.de/de_DE/page/handler.

Note

We reserve the right to make product changes in the interest of technical progress; prices, mistakes and print errors subject to change without notice.

Overview of the *cobra*® systems

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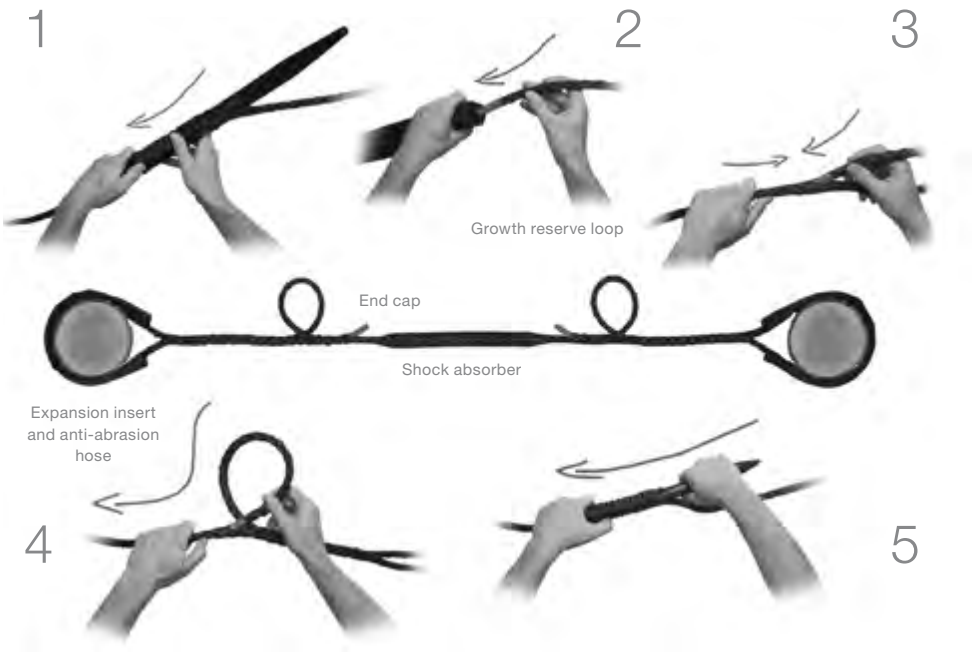
	APPLICATION AREA	INSTALLATION HEIGHT	NOTE
cobra 2t	Dynamic breakage cabling up to branch base diameter of 40 cm (16 in.). Load/support cabling up to 30 cm (12 in.) branch base diameter.	Installation position as dynamic breakage cabling at 2/3 the height of the part of the tree to be supported. When used as load/support cabling, the cable should be installed as vertically as possible.	According to ZTV Baumpflege (the German tree care standard), cobra 2t is a tree cabling system with a minimum tensile strength of 2 tonnes (20 kN). **Service life: 12 years**
cobra 4t	Dynamic breakage cabling up to branch base diameter of 40 to 60 cm (16 to 24 in.). Static breakage cabling and load/support cabling up to branch base diameter of 40 cm (16 in.).	Installation position as dynamic breakage cabling at 2/3 the height of the part of the tree to be supported. When used as load/support cabling, the cable should be installed as vertically as possible.	According to ZTV Baumpflege, cobra 4t is a tree cabling system with a minimum tensile strength of 4 tonnes (40 kN). **Service life: 12 years**
cobra 8t	Dynamic breakage cabling up to branch base diameter of 60 to 80 cm (24 to 32 in.). Static breakage cabling and load/support cabling up to branch base diameter of 40 to 60 cm (16 to 24 in.). Double installation for branch base diameter of 60 to 80 cm (24 to 32 in.).	Installation position as dynamic breakage cabling at 2/3 the height of the part of the tree to be supported. When used as load/support cabling, the cable should be installed as vertically as possible.	According to ZTV Baumpflege, cobra 8t is a tree cabling system with a minimum tensile strength of 8 tonnes (80 kN). **Service life: 8 years**
minicobra	Securing plants, fruit growing, crown correction	Installation position for crown correction as required	**Service life: 8 years**
cobra ultrastatic	Static breakage cabling and load/support cabling up to branch base diameter of 40 cm (16 in.).	Installation position at 2/3 the length of the part of the tree to be supported. When installed at two levels, static cabling is fitted at 1/4 the length of the part of the tree to be braced. When used as load/support cabling, the cable should be installed as vertically as possible.	According to ZTV Baumpflege, cobra ultrastatic is a tree cabling system with a minimum tensile strength of 4 tonnes (40 kN). **Service life: 8 years**

cobra*® *2t, 4t, 8t and ***minicobra***
Installation in six easy steps:



1. INSERT EXPANSION INSERT
Choose the appropriate expansion insert length (= at least 2/3 the circumference of the branch). Grasp the cable at the branch circumference distance plus 20 cm (8 inches) from the end of the cable and insert the expansion insert through the mesh.

2. FIT ANTI-ABRASION HOSE
Cut the anti-abrasion hose to the required length (minimum length = branch circumference) and slide it over the cable in the expansion insert area.

3. MAKE A QUICK SPLICE
Wrap the cable around the branch, then push the end of the cable approx. 40 cm/16 inches (mini, 2t and 4t) or 50 cm/20 inches (8t) into the cable (distance from branch = ½ its diameter) and guide it out again.

4. MAKE GROWTH RESERVE LOOP
Make a loop and insert the cable back in by about 10 cm/4 inches (mini, 2t, 4t) or about 15 cm/6 inches (8t). Then pull out the end of the cable.

5. INSERT SHOCK ABSORBER
Grasp the cable at any point and insert the shock absorber.

6. CREATE ABUTMENT
Repeat steps 1-4 on the abutment.

Note

For long cabling paths (more than 8 m/26 ft), we recommend that you do not use a shock absorber.

cobra® ultrastatic
Installation in four easy steps:

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cobra ultrastatic was specifically developed for use for cracked branches. Its very low cable expansion of 0.2% per tonne makes this system ideal for immobilising branches in such situations. It is installed as follows:

1. PREPARE ENDS OF THE CABLE
Slice off the end of the cobra ultrasonic cable at an angle of 15° along the filament. Slide a cobra ultrastatic end cap over the end of the cable and heat-shrink it.

2. JOIN CABLE AND LOOP
Wrap the cobra ultrastatic loop around the branch and feed the end of the cable through both end loops.

3. MAKE A QUICK SPLICE
Insert the cable fully through the cable twice at about 90 cm (35 inches) from the end of the cable. Then open up the mesh at one point with your finger and push the tip of the cable at least 50 cm (20 inches) through this into the inside of the cable and do not pull it out again. Smoothen the quick splice and tension it.

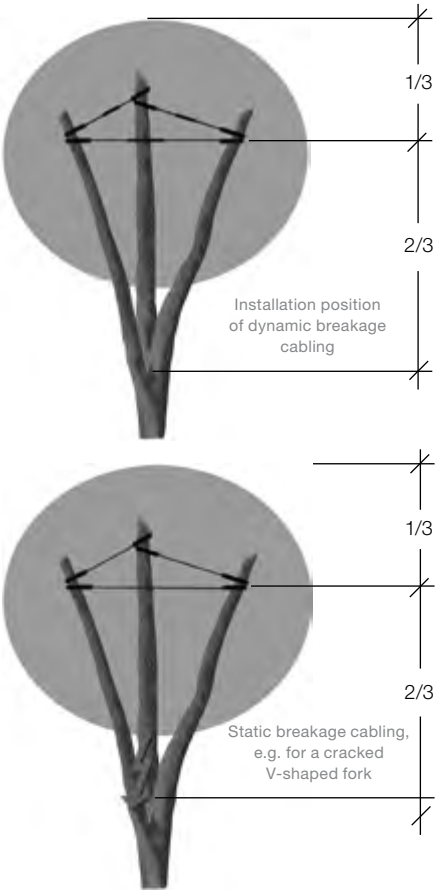
4. CONNECT BRANCHES
Using a tensioner, carefully pull the branches to be secured together slightly. Cut cobra ultrastatic to length and fit it on the second branch as described above (step 1-3). Install the cable as tightly as possible. Then, carefully loosen the tensioner. The cobra ultrastatic cable is tensioned even more and forms a static connection between the two branches.

Installation height

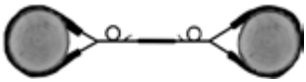
Breakage cabling is installed in accordance with "ZTV Baumpflege" at 2/3 the length of the crown part to be secured. When installing cabling on two levels, a static connection is fitted at 1/4 of the length and a dynamic connection is fitted at 2/3 of the length.

Arrangement of *cobra*® tree cabling systems

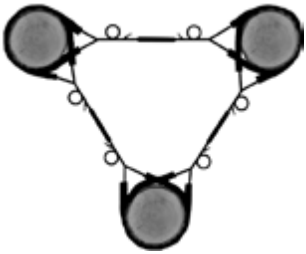
You can install cobra breakage cabling systems in accordance with the connection types specified in "ZTV Baumpflege" (the German tree care standard), while observing the following rules:
- Secure at a point at least 2/3 the length of the branch
- Install without tension or slack in summer
- Install with a slight amount of slack (max. 10% of connection length) in winter



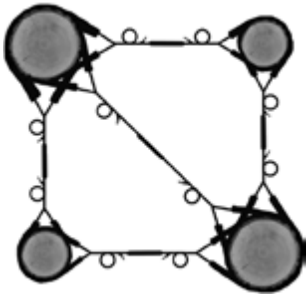
Simple cabling



Triangular cabling



Triangular cabling of 4 branches/limbs



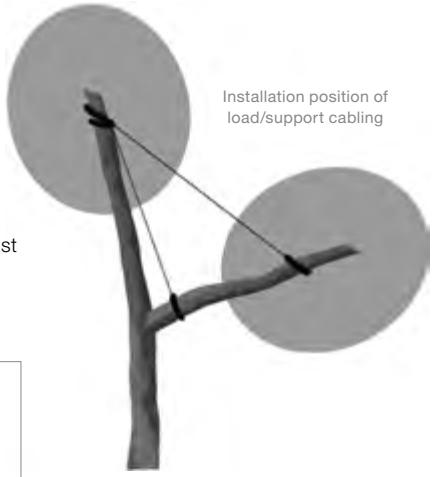
INSTALLATION LEVELS:
Installation at two levels may be appropriate for a cracked fork or branch. In this case, a static cabling system is installed at 1/4 the height and a dynamic cabling system is installed at 2/3 the height of the branch to be supported.

Note

Installation in the form of one or more interlinked triangles is ideal for reducing swaying in several directions.

INSTALLATION RULES FOR LOAD/SUPPORT CABLING:

- Install cabling as vertically as possible
- Install cabling tightly to prevent the branch from falling in
- The anchor point on the supporting part of the crown must be sufficient to bear the weight of the supported part of the crown



Installation position of load/support cabling

Note

We strongly recommend that you document a tree cabling system to allow and facilitate correct inspection and maintenance.

Tensile strength recommendation of "ZTV Baumpflege"

FOR DYNAMIC BREAKAGE CABLING:

Basic diameter of branch/limb	Minimum tensile strength*1
up to 40 cm (16 in.)	***cobra 2t***
up to 60 cm (24 in.)	***cobra 4t***
up to 80 cm (32 in.)*2	***cobra 8t***

FOR STATIC BREAKAGE CABLING AND LOAD/SUPPORT CABLING:

Basic diameter of branch/limb	Minimum tensile strength*1
up to 30 cm (12 in.)	***cobra 2t***
up to 40 cm (16 in.)	***cobra 4t***
up to 60 cm (24 in.)	***cobra 8t***
up to 80 cm (32 in.)*2	***cobra 8t (doubled)***

*1 Minimum tensile strength of the system
For the promised service life, when installed at a point at least 2/3 the length of the part of the crown to be supported.

*2 Basic diameter greater than 80 cm (32 in.)
A special measure is used for basic branch diameters greater than 80 cm (32 in.). In this case, a decision relating to sizing must be made on a case-by-case basis.

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