Components of the Keeper system

The Keeper system is composed of the following parts

- Eco Keepers

The Eco Keeper is a patented product that is the most important part of our underground tree anchoring system. Combined with NatuRope (see below) the Eco Keeper anchors the tree robustly, easily and sustainably.

- NatuRope

Natural Plastics has developed a rope/cable from 100% biological polymers. The quality, strength and usage is similar to rope made of polypropylene and nylon.

- NatuDrain

NatuDrain is a venting and watering drain (perforated flexible hose) which supports trees in their growth. Until recently these drains were mostly produced from polluting PVC. NatuDrain is 100% biodegradable and compostable and does not contain any additives harmful to the environment.

NatuDrain was developed in collaboration with the company Pipelife

- Natusheet (width 30 cm)

NatuSheet is used for watering purposes, root guidance and protection. It is composed of biological polymers and is 100% biodegradable and compostable. Contrary to similar products, NatuSheet does not contain any additives that are harmful to the environment.

- Driver and pre-driver

Both are 1 meter long. The driver is needed for effective placement of the Eco Keepers and is suitable for both the small and the large Eco Keeper. The pre-driver can be used to pre-drill the holes.

Manual for the Keeper system

Manual for using the Keeper system, biologically degradable tree anchoring.

1. 

Place tree in tree hole

2. 

Make 4 holes with the pre-driver around the root ball.

3.  .

Thread the rope through the eye of the keeper. The rope should have the length of the driver + root ball.

4. 

Attach the keeper with the rope to the driver.

5. 

Place the driver with the keeper into one of the holes. Hammer it to approximately 60 cm under the root ball or until solid ground is reached. Continue by retracting the driver from the keeper. Pull the rope, in order to 'tilt' the keeper. Repeat this process 4 times.

6. 

Tie a ring of rope above the root ball around the tree. Maintain some space around the tree trunk.

7. 

Tie the ropes (attached to the keepers) with a loop and knot to the ring around the trunk. The first three should be pulled into position rather loosely, the fourth tightly and subsequently the first three tight as well.

8. 

This is what the final result looks like. The tree hole can now be filled up with soil.

9. 

An instruction video is available here www.naturalplastics.nl/en.

If the soil in the tree hole is loose, tamper the soil and place the root ball on top of a little 'hill' in the tree hole due to possible subsiding.

Tree anchoring advice

The size of the tree is the circumference of the trunk in centimetres at 1.5 meters from the ground.

Size	Number of Keepers
10/12 - 14/16 - 18/20	4 (small)
20/25	4 (large)
25/30	6 (large)
30/35	8 (large)
40/45	10 (large)
>45	12 (large)

Tips for anchoring a tree with the Keeper system:

- Buy a tree with a good and firm root ball
- Transport the tree with care
- Make sure the tree stands upright
- The soil in which the tree is planted should be dense and firm
- The keepers must be anchored in dense and firm soil
- Tie the ropes in a correct fashion and tighten them well
- Tamper the soil around the freshly planted tree
- Level the remaining surrounding soil

CO_2 Compensation

Using the Keeper system reduces CO_2 emission significantly compared to planting with tree stakes.

Trees for All (formerly known as Trees for Travel) has calculated that the reduction of CO_2 emission is 42 tons per 1000 trees planted. This equals 233.333 kilometres of company traffic. This calculation has been verified by the Dutch National Institute for Public Health and Environment.

CO2 compensation solely from using a different system. No investment required.

Natural Plastics compensates its production process and as such is a CO_2neutral company. To compensate our CO_2emission from the production process we purchase FER's (Future Emission Reduction). 1 FER equals 1 ton of CO_2. These FER's will be verified by an independent organisation. Per Keeper system the CO_2emission has been calculated to be 0.26 kg. The price for 1 FER is €7,50. This way the production process of Natural Plastics is carried out CO_2neutral. The actual compensation is carried out by Trees for All, who invest in forestry projects. These projects will also be verified, after which Trees for All receives the CO_2rights that match the amount of planted trees.

Projects

The Keeper system is a proven method of planting trees more effectively, cheaper and more sustainably. The pictures below are some of the projects where the Keeper system has been used.

Urban trees planted in the Amsterdam borough 'Zuidoost'

Castle Assumburg of Heemskerk; In the background trees are planted with traditional tree stakes. In the front free standing trees are planted with the use of the Keeper system.

Planting oak trees in Ranst in the province of Antwerp, Belgium.

Recognition

For the Keeper system, Natural Plastics was awarded the Beco/Ernst&Young Sustainable Hero award 2012, presented by former Dutch Prime Minister Jan Peter Balkenende. At the 2012 GWW Noviteitenprijs (innovations in civil engineering) the Keeper system came in second place. Lastly, Natural Plastics has a Green Deal with the Dutch central government in The Hague.