rainbow professional

shaping your environment

Rainbow Professional Ltd
131 Cumberland Street,
Hull. HU2 0PP

Tel: +44 (0)1482 616861
Fax: +44(0)1482 221387
Email: info@rainbow.eu.com

www.rainbow.eu.com
www.rite-edge.com

Buckle Tree Ties

General Product Information

The original Rainbow Buckle Tree Tie dates back to the 1960's and is still the most widely used type of tree tie due to their simplicity, ease of use and reliability. The Rainbow Buckle is uniquely strong, manufactured in polycarbonate, which is needed to withstand the incredibly high loads that winds can apply to the middle of the buckle. This tree tie comes with a collar that fits between the tree and stake to prevent rubbing against the stake and also allows some stretch to give the tree some movement which helps it develop its own resistance to the wind. This stretch also reduces the amount of maintenance needed with this type of tree tie to less than every two years, but we do recommend inspections at these intervals to prevent the risk of tree bulging damage.

Product Specification

Product code	C203
Material (strap)	P.V.C
Material (buckle)	Polycarbonate
Thickness	2mm
Finish	Black
Profile Width	25mm
Piece Length	60cm
Pieces per pack	100
Weight	0.06kg
Break Load	62kg

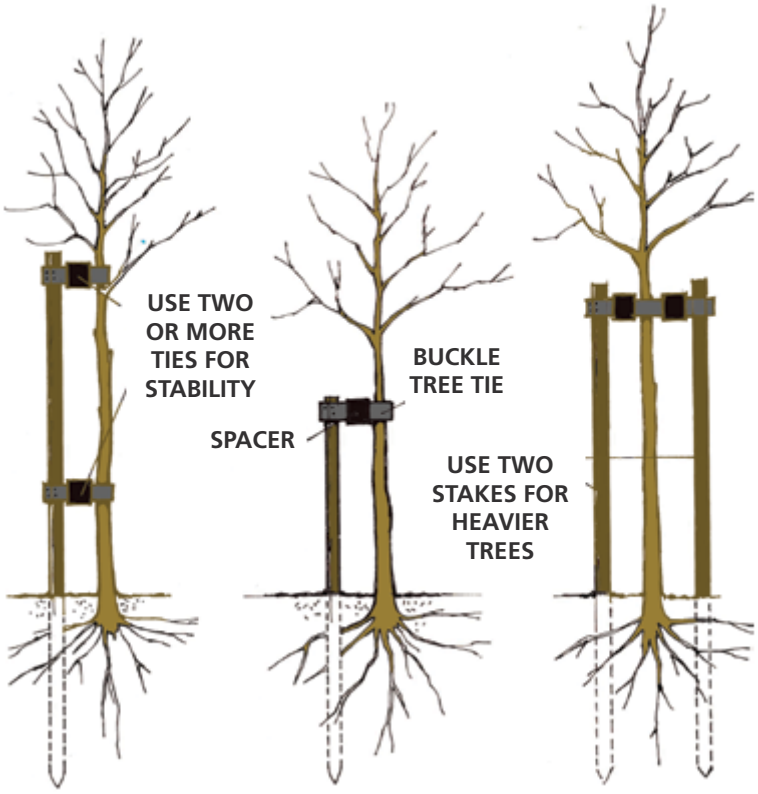
Rainbow Professional Limited as part of its continual improvement process reserve the right to change the properties listed on this data sheet without prior notice.

General Installation Information

The use of a strong tree tie and adequate stake, takes the wind load off the young tree and its roots until the tree can develop its own wind resistance. The stake needs to be at least a third of the young tree above ground level, with a similar length being in the ground. The tree tie needs to be at the top of the stake to prevent the tree from blowing into the stake. The preferable position for the tree stake is away from the tree in the direction of the prevailing wind.

Should a stake of over 1.2 meters above ground level be required, we strongly recommend using a second tree tie halfway up the tree stake.

Basic Installation Steps



Rainbow recommends that the Buckle Tree Tie is checked after several years for the following:

- It is not damaging nearby side shoots
- Not Chaffing the tree bark
- Tree pests can form nests between the tree tie and the tree
- That the buckle is not becoming excessively tight

Storage and Handling

This product is packed in a double flute cardboard carton to ensure the product is secure in transit. We recommend cartons are stored off the floor in a dry environment. Do not stack more than six cartons high.

Whilst there is no specific weight restrictions on what is or is not safe to lift in manual handling, an assessment of the health and safety risks should be undertaken and measures taken to reduce the risk of injury so far as reasonably practicable.

a) Each person should be fully trained in manual handling techniques.
b) The use of handling aids such as a trolley, folk-lift, pallet truck or conveyor should be used if moving large volumes of cartons.
c) Breaking up large consignments into more manageable loads.
d) Ensure that the product is stored at a reasonable height, so avoiding the lifting of cartons from floor level or above shoulder height.
e) Reduce carrying distances of cartons.

Protective Equipment

We would recommend that personal protective equipment (PPE) is used when installing.

a) Good strong safety boots/shoes to protect the feet from cutting blades, heavy equipment and dropped landscape product.
b) Protective eyewear such as safety glasses when installing product to protect eyes from tree branches.
c) Strong gloves to protect the hands from blisters, scratches and cuts from tools etc.
d) If using loud cutting equipment then ear plugs or ear muffs should be worn to protect hearing

First Aid

There are no known first aid issues when using Rainbow Buckle Tree Ties. The materials used are none toxic and biologically inert and will therefore cause no harmful effects if used in contact with skin, inhaled or ingested.

Fire Protection

Product requires continuous flame to ignite and will not cause explosion through mechanical impact or static discharge. Should fire break out use extinguishers of Water Fog, Foam, Dry Chemicals or CO2. Be aware of acidic gases been released once fire has been established on product. Approved Breathing Apparatus must be used with separate Oxygen Supply.

Physical Properties

Product Composed of

* STRAPS – Black Reprocessed Polyvinyl Chloride Plasticized (P.V.C) Grade 40/50
* COLLARS - Black Reprocessed Polyvinyl Chloride Plasticized (P.V.C) Grade 20/50
* BUCKLE – Polycarbonate

Physical Properties	Value
Service Temperature	-10 to + 55 °c
Life Expectancy	20 years
Acid Resistance	Good Except Aromatic Hydrocarbons
Alkalis And Alcohol Resistance	Good
% Elongation At Break	170
Thermal Coefficient Of Expansion	80
Notched Impact Strength	2.0 To 45.0
Melting Point	92 °c

Resistance to Chemicals

Since the main chain of the polymer is made by single bonds of carbon atoms, PVC has excellent chemical resistance, as with other general-purpose plastics. PVC has excellent chemical resistance together with good mechanical properties, therefore is used for chemical storage tanks, plastic valves/ flanges, drainage/sewage pipes and plant piping.

Stability

Under normal conditions of use, the factor most strongly influencing the durability of a material is resistance to oxidation by atmospheric oxygen. PVC, having the molecular structure where the chlorine atom is bound to every other carbon chain, is highly resistant to oxidative reactions, and maintains its performance for a long time. Other general purpose plastics with structures made up only of carbon and hydrogen are more susceptible to deterioration by oxidation in extended use conditions (such as, for example, through repeated recycling).

Environmental Issues

Plastics are often perceived as symbols of throwaway or single use. However, in reality plastics are durable materials that do not rust or corrode. PVC is an exceptionally durable plastic, used for instance in water supply and sewage pipes, which can last for over 50 years. Most of PVC products are used in durable applications. More than half of all PVC products are long life products with service lives of over 15 years.

PVC is a material well-suited to recycling. It has the longest history of recycling among plastics, and it is most advanced in mechanical recycling. For example, in Japan about 68% of end-of-life agricultural films (agro-films) was recycled in 2005 and used for flooring, etc. In Europe, more than 260,000 tons of post-consumer products were recycled in 2011 through industry-sponsored schemes.

All materials, and PVC is no exception, have sustainability issues, arising both from their specific properties but also from the ways in which they are used and disposed of across the life cycle.

Where PVC differs from other materials is that the PVC industry perhaps has a better understanding of its product's sustainability than manufacturers of most other synthetic materials; and is working systematically to address these to ensure that it will continue to play a useful role in a more sustainable future for mankind.