

## ROPE CARE

- Store in a clean, dry, well ventilated place.
- Avoid storing on cement floors.
- Keep away from all damaging chemicals, including (but not limited to) battery acid, bleach, or compounds containing acids or alkalis.
- Keep your rope clean.
- Heavily soiled ropes can be washed by hand or in a front loading washer. Use only clear, cool water to wash.
- Non-detergent soap may be used if necessary on very dirty ropes.
- Protect rope from extensive exposure to high heat or UV light.
- Avoid sharp objects and edges, especially when rope is under load.
- Keep track of the history of your rope, and retire conservatively.

## RETIRING YOUR ROPE

The lifespan of your rope depends on how it is used and how often it is used. As a general guideline, a rope should be retired within 4 to 5 years from its purchase date, even if it is only used occasionally. Under regular weekend use, 1-2 years is a normal lifespan. However, it is entirely possible to damage your rope so badly on its first day of use that you must retire it. You are responsible for considering the criteria below, and making the decision of when to retire your rope.

Ropes should be inspected before every use. Make it a habit to look and feel along the entire length of the rope, checking for any lump, bulge, flat spot, hourglass, or other inconsistency.

- If your rope has been damaged in any way, it should be retired immediately.
- If there is any inconsistency in the rope (lump, bulge, flat spot, hourglass, etc) it should be retired immediately. Common causes of rope damage and inconsistencies include, but are not limited to, harsh falls and contact with sharp edges.
- Visible sheath damage is a strong indication that there is damage to the rope, and is criteria for retirement.
- If your rope has come in contact with any damaging chemicals, it must be retired immediately.

## ROPE SPECIFICATIONS

Trango ropes stand for safety above all else. Our commitment to third party certification and regular inspections means that you can focus on climbing, knowing that your rope is of the highest quality available. The UIAA and ISO standards that Trango ropes are certified under are rigorous performance and quality standards that ensure every rope leaving our factory is ready for your adventure.

### Weight and Diameter

Weight is measured in grams per meter (g/m). In general, smaller diameter ropes are more lightweight, and larger diameter ropes tend to wear longer. The smallest diameter single ropes should only be used by experienced climbers, and with much care.

### Fall Rating

The UIAA test consists of a severe factor 1.8 fall over a simulated 10mm carabiner edge. Single and Double ropes must withstand a minimum of 5 successive drops while Twin ropes are tested in pairs and must hold a minimum of 12 drops. The number of actual drops a rope withstands becomes its fall rating. Keep in mind that fall ratings for different rope types are not directly comparable. Single and Twin ropes are tested with an 80kg test mass while Double ropes are tested as a single rope with a 55kg test mass. Also note that field use is quite different from lab testing. While a higher fall rating is better, the actual figure should not be taken too literally.

### Impact Force

Impact Force is one of the most important considerations in selecting a rope. It refers to the amount of energy the rope transmits to the climber and protection at the moment the fall is arrested. A maximum of 12kN force is permitted for Single and Twin ropes. Impact force for Double ropes must be below 8kN. Consider Impact Force in relation to other test results. A rope with a high fall rating and low impact force can be relied upon to absorb energy better, fall after fall.

### Elongation Under Load

This test measures elongation for a rope under an 80kg load – no drop, just a hang. Elongation must not exceed 10% (12% for Double or Twin ropes). The closer your rope is to the maximum, the greater its force absorption capability. However, exceeding the maximum could result in an exciting ride when you weight the rope.

### Extension

Rope extension is a key measurement that dictates the happy medium between falling on a bungee cord versus a steel cable. The new UIAA test method measures actual rope elongation during a fall and must not exceed 40%. This figure decreases with age, so the closer your rope is to the 40% maximum, the longer active life your rope should have. Note that when climbing on a dynamic rope near the ground, it is possible to contact the ground in a fall due to rope stretch.

## TRANGO ROPE BY THE NUMBERS

	Weight (g/m)	Falls	Impact Force (kN)	Elongation (%)	Extension (%)
<b>8.1 Amphibian Double</b>	42.1	8	5.2	8.9	35
<b>8.1 Amphibian Twin</b>	42.1	18	8.9	7.2	24
<b>Catalyst 9.0 Single</b>	55	7	8.2	6.5	31.2
<b>Catalyst 9.0 Double</b>	55	31	6.2	6.5	26.3
<b>Catalyst 9.0 Twin</b>	55	45	9.8	3.9	23.4
<b>Diamond 9.4</b>	59.1	7	7.9	5.6	34
<b>Lotus 9.9</b>	62.6	7	7.9	9.5	34
<b>Titan 10.2</b>	69.0	11	7.9	6.2	34

Twin ropes are all about versatility. They are relatively simple to use (both ropes are clipped together into every piece of protection), they make long rappels possible without a weight penalty, and the load can be shared on the approach.



**Twin Ropes**

Double (a.k.a. half) ropes are useful when protection wanders, rope damage is likely, or long rappels will be necessary. They provide an added safety margin because the climber clips each rope into alternating pieces of protection.



**Double Ropes**

Single ropes are the most commonly used climbing rope. They are the simplest rope to clip and belay with because the climber clips the one available strand into every piece of protection.



**Single Ropes**

### Types of Rope/Which rope is right for me/Choosing Your Rope

#### Extraordinary Engineering

Trango Rope is engineered to optimize the balance of features that contribute to a great climbing experience. Each model is designed with a specific user in mind – **you**. Please read these instructions in their entirety for a full understanding of your new rope's performance.

#### Dry Treatment

Our high performing dry treated sheath comes standard on every rope we make – and it's much more than just a coating. Sheath Dry is a highly refined process that creates a shield of polymerized molecules on every filament of the sheath. Trango ropes resist dirt, water, and abrasion exceptionally well, giving you the performance and the durability you need, all for the price of most "standard" treatment ropes. We also offer Duo Dry treatment in select ropes for increased performance in both wet and dry conditions. This treatment features a dry core as well as a dry sheath, and it is available on the thinnest ropes we make and on ropes that are commonly used for ice or alpine climbing. However, even our Sheath Dry ropes are suitable for many ice and alpine objectives.

#### Middle Mark

All Trango ropes come with an obvious and durable middle mark, allowing you to rappel and lower with a higher degree of confidence. We also recommend knotting the ends of your rope for both rappelling and belaying/lowering.

#### Rope Length

Weather, dirt and grime can all affect your rope's exact length – that's why we cut all Trango ropes at least 2% longer than the stated length. This is just another reason you can have peace of mind on your next rope-stretching lead or rappel.

#### ID Tape

In order to make sure your rope's production history is available long after it has been used and abused, we include pertinent manufacturing information inside the rope itself on a small strip of "ID Tape."

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#### YOUR NEW TRANGO ROPE

Trango Rope is engineered to have the most desirable performance properties, a long service life, and above all else, the safest design possible. Trango ropes exceed rigorous testing standards and are audited and certified by third parties including ISO and UIAA.

#### Unpacking Your Rope – IMPORTANT!

Trango ropes are factory coiled **torsion free** and **neutral** to give you a head start in maintaining a twist-free rope. To keep it this way, follow these instructions to unpack your rope for the first time:

- Un-wrap the outer rope end from around the coil.
- Put your arms through the center of the coil, one from each side.
- Rotate your arms over each other repeatedly as the outer end that you already unwrapped begins to flake into a pile on the ground.
- Take your time, and prevent the inner end of the rope from coming out of the coil or wrapping around your arm.
- Once the rope is uncoiled, flake the rope once or twice from end to end to remove any twists that may have found their way in.

In use, all ropes twist to some extent due to distortions along the longitudinal axis. These distortions can be caused by uneven rappel/lowering anchors, some belay devices, and ropes taking non-straight paths along the rock face when lowering. To remove twists, simply let the rope hang free from the rock and give it some help untwisting. If you are at a cliff that is not a full rope length in height, you can pull the rope back and forth to remove most twisting from each half. Using a rope bag instead of coiling your rope after every use also helps prevent twists.