
TENDON

ELITE

The TENDON brand puts an exceptional unique series of ropes and cords on the market under the common name of Elite. This new group consists of the already known and successful static rope SECURE, the dynamic rope HATTRICK, the canyoning rope SALAMANDER and the accessory cord ELITE.

The single dynamic rope Hattrick 10.2 is perfectly adapted to the needs of all sportsmen and climbers – from beginners to professionals. The parameters of the rope are adjusted so as to lend excellent flexibility, compactness and especially resistance to the rope. Its another merit is easy tying and untying of knots. An important benefit of the rope is its strong sheath with excellent abrasion resistance. The rope does not become hard and may be used with the majority of belaying devices available on the market.

The static rope Secure with a diameter of 11 mm is intended for applications where the sheath and the core may suffer damage. The rope is designed for rescue activities, handling of objects, and work at height and above free depth. The rope meets the most demanding requirements of rescuers, firefighters, height specialists and other professionals who require the highest quality in everyday use.

A real masterpiece is the **floating canyoning rope Salamander**. With a diameter of 10.2 millimetres it has an excellent knotability even after repeated wetting, retains its softness and improved resistance – properties that predeterminate the rope to be used especially in canyoning to where it belongs primarily. Salamander is a lightweight rope which keeps its user-friendly properties for a long time thanks to its construction. The construction and materials used assist in minimizing the shrinkage of the rope in a wet environment. Salamander has a thicker and coarser sheath and floats on water. It is a static rope which is characterized by minimum elongation as a result of the production technology used. In order to facilitate the rope identification even under difficult conditions prevailing in deep and dark canyons, it is made in a distinctive combination of colours.

The series is completed with a **6 mm** thick **accessory cord Elite**, a robust product with zero sheath slippage. A strong product with simple universal use. This accessory cord for mountaineering is a useful helper for vertical adventures, rescue activities and self-belaying, but its use is almost unlimited.

Ropes belonging to the Elite series have unique properties that differentiate them from similar ropes in their categories:

- **SAFETY**
- **RESISTANCE**
- **PLEASANT HANDLING**

The new ropes and cords are being produced by a special patented technology the primary objective of which is to increase safety of users when using the ropes. **SAFETY** is the main merit of the ropes which have an ambition of becoming the most demanded ropes in their categories on the world outdoor market. The technology used prevents the ropes from breaking completely even after failure of the sheath and gives the user time to escape the dangerous situation quickly.

The dynamic rope Hattrick 10.2 consists of 4 layers, which is a typical feature of our new product – a parallel core together with a braided core, a braided intermediate sheath, and finally the only visible layer – a braided SBS sheath. The Used material in all four layers is polyamide which has a special form in case of the intermediate sheath – staple fibres. The result of the combination of layers and the special material form is an increased high **RESISTANCE** of the whole product, well-balanced parameters, and very pleasant **HANDLING** of the rope. The rope holds its circular shape during use, therefore it goes easily through different belaying devices, and the technology used eliminates the sheath slippage significantly. Both the material and the technology contribute to the increased mechanical resistance of the rope as a whole. The rope will be available with standard finish and with teflonized finish called Protect Shield.

The static rope **Secure** consists, just like **Hattrick**, of 4 layers. Thanks to the unique sandwich-type construction of braided layers and the use of specially developed staple fibres, the rope is able to hold the suspended person or load even in case of considerably damaged sheath or core without a complete rupture of the rope and subsequent fall of the suspended person.

As the name suggests, the canyoning rope **Salamander** is an amphibian. With a diameter of 10.2 millimetres it has an excellent knotability even after repeated wetting, retains its softness and improved resistance – properties that predeterminate the rope to be used not only in canyoning but also in other water sports.

ELITE, the accessory cord, is a product with zero sheath slippage. Thanks to the technology used, the cord is able to withstand higher mechanical loads than common cords.

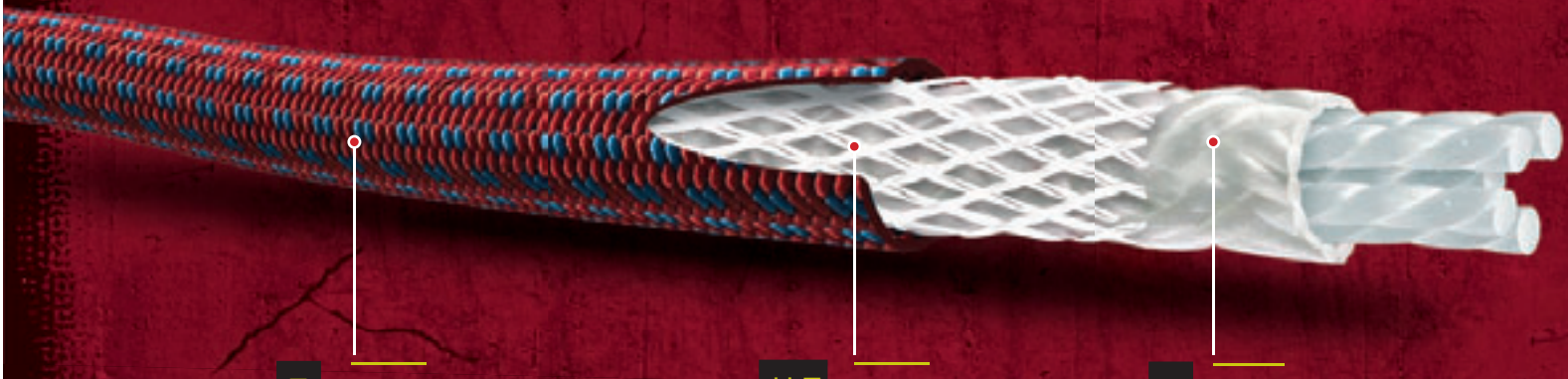
The entire group of Elite ropes is being manufactured in the Czech Republic by a patented technology named Secure. Thanks to this technology, the products are able to withstand higher mechanical loads and find their application especially in situations where a damage to or fraying of the sheath during use may occur.

	Hattrick	Secure	Salamander	Elite
Diameter (mm)	10,2	11	10,2	6
Weight (g/m)	66	75	60	26
Number of (UIAA) falls	5	17	26	-
Max. impact force (kN)	8,2	4,5	-	-
Sheath slippage (mm)	0	0	0	-
Static elongation (%)	5,4	-	-	-
Dynamic elongation (%)	33	-	-	-
Knotability	0,9	-	-	-
Relative mass of sheath (%)	-	48,5	47	-
Used material	-	PA	PA/PPV	-
Rope type	-	A	B	-
Shrinkage (%)	-	1,2	0	-
Tenacity (kN)	-	28	26	-
Min. tenacity with knots (kN)	-	18	12	-
Min. strength (daN)	-	-	-	920
Elongation (50 – 150 kg) (%)	-	4,6	2,6	-
Floating	-	-	YES	-
EN	892	1891	-	564
CE	1019	1019	1019	1019

Rope with a zero sheath slippage is made with utilization of the unique patented technology named **Secure**. Thanks to the unique sandwich-type construction of braided layers and the use of specially finished fibres, the rope is safe even in case of a heavily damaged sheath.

TENDON

Hattrick 10.2



SHEATH

The sheath made of PA material in SBS construction facilitates handling and increases the mechanical resistance of the rope.

INTERMEDIATE SHEATH

Specially finished PA fibres which guarantee a zero sheath slippage thanks to interaction with the other layers of the rope.

CORE

The braided core with parallel core strands guarantees the circular cross section of the rope. It has a positive influence on the extent of sheath slippage and general safety of the rope.

ROPE WITH A ZERO SHEATH SLIPPAGE IS MADE WITH UTILIZATION OF THE UNIQUE PATENTED TECHNOLOGY NAMED SECURE. THANKS TO THE UNIQUE SANDWICH-TYPE CONSTRUCTION OF BRAIDED LAYERS AND THE USE OF SPECIALLY FINISHED FIBRES, THE ROPE IS SAFE EVEN IN CASE OF A HEAVILY DAMAGED SHEATH.

Master

THE ABSOLUTE TOP OF THE LINE OF OUR COLLECTION - EXTREMELY LIGHT ROPES WITH A SMALL DIAMETER AND LOW WEIGHT, FOR THE TOUGHEST SPORT CLIMBING AND FOR EXTREME ASCENTS IN THE MOUNTAINS. THE LATEST TECHNOLOGIES AND EXPERIENCE OF OUR DEVELOPMENT TEAM WERE USED FOR THEIR PRODUCTION. TEFLON®ECO IS USED FOR IMPREGNATING THE SHEATH AND/OR THE CORE OF THE ROPE USING THE REVOLUTIONARY TENDON NANOTECHNOLOGY METHOD. SELECTED ROPES ARE THEN EQUIPPED WITH SBS CONSTRUCTION OF SHEAT. WE HAVE MADE MASTER ROPES FOR ALL EXTREME CLIMBERS AND DEMANDING USERS.

Master

Master 8.9

An exceptional universal single, half and twin rope in one, with a low weight and the Complete Shield finish will arouse enthusiasm in you and will become an exquisite partner to the most exacting of you. A complete double impregnation increases its life span and its resistance to moisture, abrasion and penetration of impurities into the rope. Due to the very good handling properties of the rope and the minimum friction in progression belaying, the rope will be your ideal ally in climbing long sport routes. You will surely appreciate its qualities also in a combined mountain terrain of rocks, ice and glaciers.

D089TM32S000C • red
D089TM31S000C • green

Master 9.2

The specialist of our range. Low weight and narrow diameter suit this rope to top-end sport climbing. Choose this rope for extreme on-sights and red-points where every gram saved and drag reduction are crucial to success.

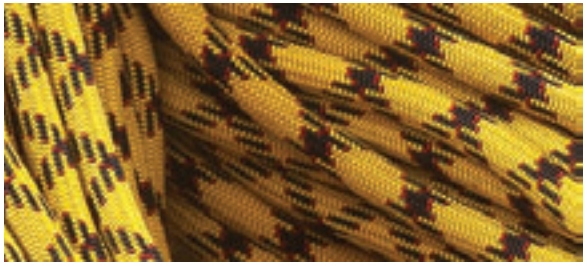
D092TM31S000C • green

Rope diameter (mm)		Weight (g/m)	Number of UIAA falls	Max. impact force (kN)	Sheath slippage (mm)	Static elongation (%)	Dynamic elongation (%)	Knotability
8,9	1	52	5	8,7	0	6,9	33	0,8
8,9		52	29	9.6	0	6,9	27	0,8
8,9	1/2	52	16	6.1	0	6,9	30	0,8
9.2	1	55	5-6	6.8	0	6,9	39	0,8

	standard			COMPACT	CE	UIAA		
8.9 single	–	–	•	•	•	•	–	•
8.9 twin	–	–	•	•	•	•	–	•
8.9 half	–	–	•	•	•	•	–	•
9.2 single	•	•	•	•	•	•	–	•

EN 892 / CE 1019

Tips Impregnation of ropes with the COMPLETE SHIELD treatment prevents water soaking into the entire structure of the rope (a wet rope is weaker and heavier). This advantage is manifested mainly at temperatures around zero degrees when in lower parts of the climb there may be slushy snow and a non-impregnated rope may absorb a considerable quantity of water into its structure. In the higher elevation of the climb or in the course of the day the temperature may drop below zero and the rope will get frozen and stiff. Its weight will increase, the number of falls will be reduced and handling the rope will become very difficult.



Master 9.4

An excellent single rope with low weight, great technical parameters and SBS construction of the sheat, which makes the rope not only more resistant to abrasion, but also soft and easy to manipulate. The best choice for both hard and sport climbing.

D094TM32S000C blue
D094TM31S000C red

Master 9.7

A top-class single rope with low weight and our SBS sheath construction that combines both increased resistance to abrasion, and great handling qualities. If you care about maximum performance, you have just found the right rope.

D097TV31S000C yellow
D097TV32S000C green

Master 7.8

An excellent rope with uncompromising quality certified both as a half and twin rope.→

D078TD31S000C red/yellow
D078TD34S000C green/black

Master 7.8

Low weight and top-class specifications enable broad versatility but it's ideally suited to ice and mixed climbing.

D078TD33S000C green/yellow
D078TD32S000C red/blue

Master 8.5

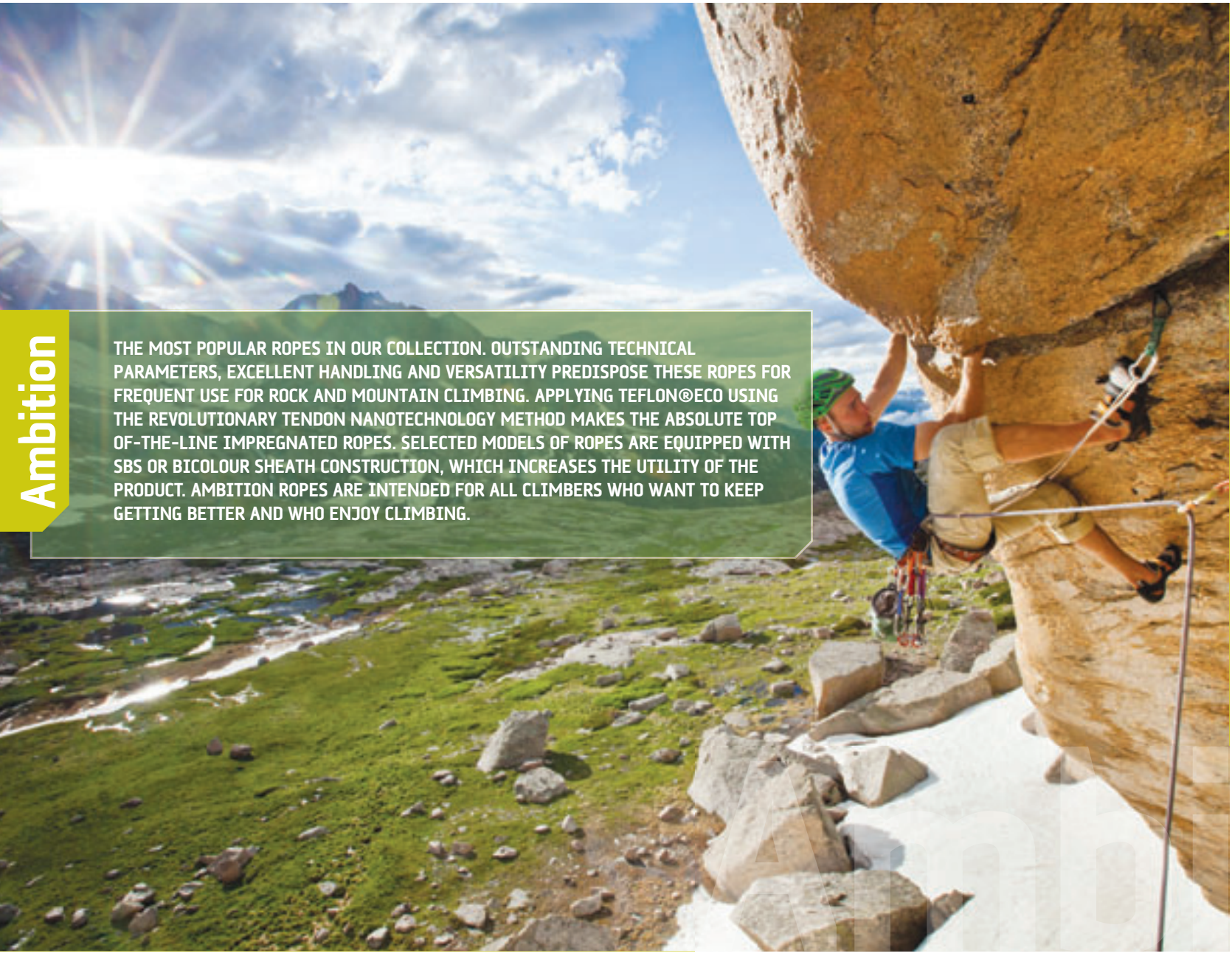
High wear resistance and long lifespan target this rope towards both extreme rock climbs in summer as well as winter mountaineering. The possibility of its use as half rope and twin rope increases its versatility greatly.

D085TF32S000C khaki/blue
D085TF31S000C green/yellow

Rope diameter (mm)		Weight (g/m)	Number of UIAA falls	Max. impact force (kN)	Sheath slippage (mm)	Static elongation (%)	Dynamic elongation (%)	Knotability
9.4	1	58	5-7	7	0	6.2	37	0.9
9.7	1	61	9	7	1.2	6.3	36	0.9
7.8	1/2	38	6	5.2	0	6.5	32	0.8
7.8	∞	38	16	7.9	0	6.1	33	0.8
8.5	1/2	46	10	5	1.5	7	35	0.8
8.5	∞	46	14-17	7.7	1.5	7	33	0.8

	standard				CE	UIAA		
9.4 single	•	•	•	•	•	•	•	•
9.7 single	•	•	•	•	•	•	•	•
7.8 half	•	•	•	•	•	•	–	–
7.8 twin	•	•	•	•	•	•	–	–
8.5 half	•	•	•	•	•	•	–	–
8.5 twin	•	•	•	•	•	•	–	–

EN 892 / CE 1019



Ambition

THE MOST POPULAR ROPES IN OUR COLLECTION. OUTSTANDING TECHNICAL PARAMETERS, EXCELLENT HANDLING AND VERSATILITY PREDISPOSE THESE ROPES FOR FREQUENT USE FOR ROCK AND MOUNTAIN CLIMBING. APPLYING TEFLON®ECO USING THE REVOLUTIONARY TENDON NANOTECHNOLOGY METHOD MAKES THE ABSOLUTE TOP OF-THE-LINE IMPREGNATED ROPES. SELECTED MODELS OF ROPES ARE EQUIPPED WITH SBS OR BICOLOUR SHEATH CONSTRUCTION, WHICH INCREASES THE UTILITY OF THE PRODUCT. AMBITION ROPES ARE INTENDED FOR ALL CLIMBERS WHO WANT TO KEEP GETTING BETTER AND WHO ENJOY CLIMBING.



Ambition 9.8

A more conventional sport rope designed for climbers aiming to get better. Although having a narrow diameter, this rope will give a long lifespan and high abrasion resistance. Its low weight, higher fall rating and excellent ease of handling are all benefits to help you push your own limits.

D098TR31S000C • yellow/black
D098TR32S000C • yellow/red
D098TR35S000C • bicolour - green

Ambition 10

Dynamic sport climbing rope of SBS construction with a perfect design. Excellent handling, high resistance to abrasion and low weight are the special characteristics, which make this rope the top within its class. There is no better choice for those who have climbing as a passion. Check the best technology - now avalaible in AMBITION line!

D100TA31S000C red
D100TA32S000C blue

Rope diameter (mm)		Weight (g/m)	Number of UIAA falls	Max. impact force (kN)	Sheath slippage (mm)	Static elongation (%)	Dynamic elongation (%)	Knotability
9.8	1	64	9	7.1	0	6.2	35	0.8
10	1	67	9	7.8	1	5.7	33	1

	Standard				CE	UIAA			BC
9.8 single	•	•	•	•	•	•	–	•	•
10.0 single	•	•	•	•	•	•	•	•	–

EN 892 / CE 1019

Tips BICOLOUR - manufacturing technology of stranding offers various patterns on one rope - giving a clear indication of the centre and a guide to how much rope has been paid out. An optimist says that we still have a half to the end of our journey. On the other hand, a pessimist declares that it is a great pity that a half of our journey is over.
Marking of the rope centre with a dye used for the same purpose - the harmless dye does not have any impact on the quality of the rope.

Ambition 10.2

A dynamic rope with an excellent specification and great designs. Maximum user convenience is achieved by the combination of high suppleness, good knotability, strength and toughness. The right choice for all those who are regular climbing enthusiasts.

D102TM31S000C yellow
D102TM32S000C blue

Ambition 10.5

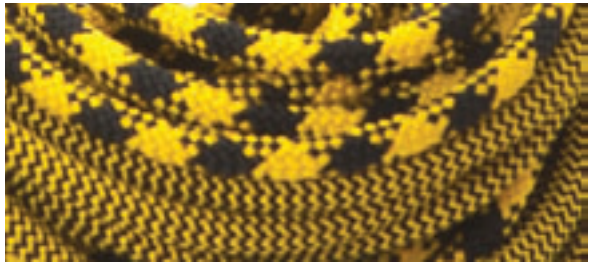
An excellent all-rounder and a good choice for those who want to possess one rope only. The best compromise diameter with extraordinary durability and great technical performance make the rope suitable for all kinds of climbing activities.

D105TA31S000C • red
D105TA32S000C • blue

Ambition 7.9

A lightweight rope certified as both a half and twin rope. Good durability and low weight make this rope the best companion when glacier walking or ski mountaineering.

D079TA31S000C • yellow
D079TA32S000C • red



Ambition 8.5

A lightweight half rope with great versatility and very high durability. All its technical specifications are designed to increase safety and broaden the range of suitable usage.

D085TB35S000C • bicolour
D085TB32S000C • blue
D085TB31S000C • yellow

Ambition 9.1

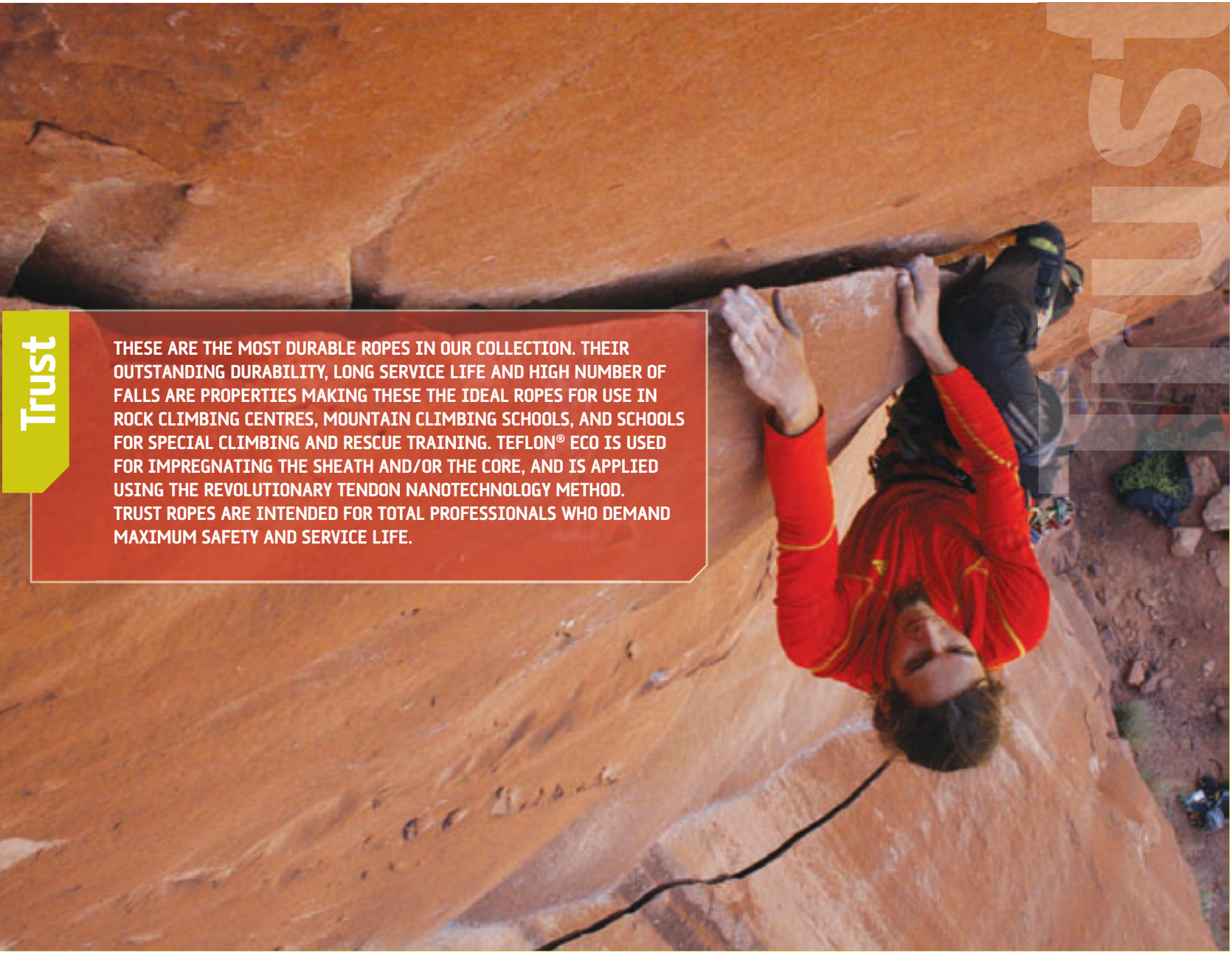
Our safest half rope with high strength, excellent knotability and fantastic abrasion resistance. Its features will be appreciated especially on conventional alpine ascents all the year round.

D091TE31S000C • yellow
D091TE32S000C • blue

Rope diameter (mm)		Weight (g/m)	Number of UIAA falls	Max. impact force (kN)	Sheath slippage (mm)	Static elongation (%)	Dynamic elongation (%)	Knotability
10.2	1	67	12-13	7.1	1.6	6.1	36	0.8
10.5	1	69	9-10	7.9	0	6	34	0.8
7.9	1/2	39	6	5.4	0	6.7	34	0.8
7.9	∞	39	16	7.8	0	7	32	0.8
8.5	1/2	45	10-11	5	1	7	35	1
9.1	1/2	52	13	5.1	0.5	6.4	36	1

	standard				CE	UIAA			BC
10.2 single	•	•	•	•	•	•	–	•	–
10.5 single	•	•	•	•	•	•	–	•	–
7.9 half	•	•	•	•	•	•	–	–	–
7.9 twin	•	•	•	•	•	•	–	–	–
8.5 half	•	•	•	•	•	•	–	–	•
9.1 half	•	•	•	•	•	•	–	–	–

EN 892 / CE 1019



Trust

THESE ARE THE MOST DURABLE ROPES IN OUR COLLECTION. THEIR OUTSTANDING DURABILITY, LONG SERVICE LIFE AND HIGH NUMBER OF FALLS ARE PROPERTIES MAKING THESE THE IDEAL ROPES FOR USE IN ROCK CLIMBING CENTRES, MOUNTAIN CLIMBING SCHOOLS, AND SCHOOLS FOR SPECIAL CLIMBING AND RESCUE TRAINING. TEFLON® ECO IS USED FOR IMPREGNATING THE SHEATH AND/OR THE CORE, AND IS APPLIED USING THE REVOLUTIONARY TENDON NANOTECHNOLOGY METHOD. TRUST ROPES ARE INTENDED FOR TOTAL PROFESSIONALS WHO DEMAND MAXIMUM SAFETY AND SERVICE LIFE.

Trust 11

A dynamic single rope with high safety factor and utmost durability. Designed for heavy usage in rope training centres and climbing schools - where the properties of this product will be appreciated most.

D110TT32S000C • yellow
D110TT31S000C • red

Trust 11.4

A highly flexible single rope with high safety factor and long lifespan. The right choice for everyday professional use.

D114TA31S000C • yellow
D114TA32S000C • blue

Rope diameter (mm)		Weight (g/m)	Number of UIAA falls	Max. impact force (kN)	Sheath slippage (mm)	Static elongation (%)	Dynamic elongation (%)	Knotability
11	1	79	16	8.1	1.3	6.1	34	0.9
11.4	1	84	20	8.4	1.6	5.5	34	1

	Standard			Compact	CE	UIAA		
Trust 11	•	•	•	•	•	•	•	–
Trust 11.4	•	•	•	•	•	•	•	–

EN 892 / CE 1019

Tips What does the term Number of UIAA falls mean? And what is actually a fall? A standard fall is something that a climber should hope never to experience in his life even if he pushes hard... and the Number of UIAA falls is an exactly defined test that certifies how strong a rope is and what it is able to withstand as regards falls.

Indoor 10.2

A dynamic single rope with high safety factor and utmost durability. Designed for heavy usage in rope training centres and climbing schools – where the properties of this product will be appreciated most.

D102TI31S000C • red/yellow
D102TI32S000C • yellow/grey

Indoor 10.4

The top indoor ropes specially developed and tested for climbing on artificial walls and for top rope belaying. Robust sheath, practical and easy identifiable rope design, long life, excellent handling - are the specific parameters of ropes for indoor climbing.

D104TI31S000C • green

HardRope 10.4

A high-performance rope which, due to its construction, materials used and thicker and coarser sheath, has an extremely long lifespan and high abrasion resistance whilst maintaining all advantages of a dynamic rope - great number of falls, low impact force and very good handling. It is the right choice for frequent use under extreme conditions, for instance in climbing schools or outdoor centres.

D104TH31S000C • red/yellow

Rope diameter (mm)	Weight (g/m)	Number of UIAA falls	Max. impact force (kN)	Sheath slippage (mm)	Static elongation (%)	Dynamic elongation (%)	Knotability
10.2 i ①	68	7	7.8	0	7.3	36	1
10.4 i ①	72	8-9	7.7	1.3	6.5	35	1
10.4 hr ①	70	8-9	7.4	1.7	6.5	37	1

	standard			CE	UIAA			BC
10.2 Indoor	●	–	–	●	●	●	–	–	–
10.4 Indoor	●	–	–	●	●	●	–	–	–
10.4 HardRope	●	●	●	●	●	●	–	●	–

Tips

The fall factor and physiological limitation of the body with regard to the absorption of the fall energy are the main arguments why not to climb on a static rope. A dynamic rope receives certain elasticity in the production that absorbs a great part of the energy produced during capturing of the fall of a climber. Compared to a dynamic rope, a static rope does not have any elasticity or only has minimum elasticity. In case of a climber's fall on a static rope a part of energy is not absorbed in the entire rope, but all the energy is transferred to the harness, climber's body and belaying elements in the wall. There is a danger of serious damage of internal organs of the climber, of the belaying points being torn out and in an extreme case of rupture of the rope.

Ropes for indoor climbing are characterized with thicker and more resistant braiding as compared to standard ropes. They are ideal for use where the rope is subjected to heavy use, such as at an indoor wall, where top rope belaying will be normal. These ropes are suitable for all conditions where the braiding of standard ropes would have a shorter life expectancy.

7.9 Alpine

A superb rope intended to be used especially by mountain guides for "short roping". Excellent for many types of sport activities in the mountains - its low weight and top parameters make it ideally suited to ski alpine touring or highmountain hiking. This very light rope with long life span is available in short lengths of 20 m and 30 m as well as in coils of 200 m.

Rope diameter (mm)		Weight (g/m)	Number of UIAA falls	Max. impact force (kN)	Sheath slippage (mm)	Static elongation (%)	Dynamic elongation (%)	Knotability
7.9 A	1/2	39	6	5.4	0	6.7	34	0.8
7.9 A		38	16	7.8	0	7	32	0.8

	standard			COMPACT	CE	UIAA			BC
7.9 half	•	•	•	•	•	•	–	–	–
7.9 twin	•	•	•	•	•	•	–	–	–

D079TL32S000C yellow
D079TL31S000C red

Pictograms

SINGLE
For ascent where only one rope is used. This is the most basic and widely used method of using rope for ascents.

HALF ROPES
Separate ropes are anchored in alternating belaying points. This system reduces the risk of rope breakage by falling rocks and provides maximum protection in alpine conditions or on tough climbs.

TWIN ROPES
The same ropes are always used in pairs, secured at common belaying points. Twin ropes guarantee a high level of safety, especially for classic alpine climbing.

STANDARD
Improved basic finishing of dynamic ropes. The new technological process enables the application of impregnation agents early in the standard finishing of the ropes.

PROTECT SHIELD
In addition to the standard finishing against water and abrasion, the sheath of the entire product is treated with the TENDON NANOTECHNOLOGY surface finish. Using the new progressive method of surface finishing called NANOTECHNOLOGY, TEFLON® Eco in the form of very small particles is applied to the rope sheath and very effectively prevents penetration of water, dust and other particles into the rope sheath which means that the water resistance and the abrasion resistance of the ropes are increased.

COMPLETE SHIELD
The maximum level of protection of ropes with high water resistance and abrasion resistance. Using the new progressive method called NANOTECHNOLOGY, TEFLON® Eco in form of very small particles is applied to the rope sheath as well as the rope core and forms an almost impermeable protective layer against water and dust that could damage the sheath or the core. COMPLETE SHIELD is a new impregnation which extends the general lifespan of TENDON ropes significantly.

TENDON ELECTRONIC NOTE SYSTEM (TeNOTE)
Rope marking system by means of a microchip.

TENDON ELECTRONIC ROPE MARKING (TeROM)
Rope marking system by means of a microchip.

SBS - SIMPLE BRAIDING SYSTEM
SBS gives the rope better properties. Every fibre of the sheath is guided individually, not in a pair as usual. The sheath is more resistant against breakage, but on the other hand it is smoother.

COMPACT
Our own special technology has been used for the ends of the rope. In a length of 15 mm, the core strand and sheath are connected into one unit.

MIDPOINT OF ROPE
At half of the length, the rope is visibly marked by coloured band, which does not affect the core structure and its mechanical properties. Lengths 30 - 80 m only.

BICOLOUR
A new, clearly identifiable change of rope pattern in the middle. Bicolour brings comfort in rope handling and is advantageous especially for descending. The change of pattern is practical also when climbing with half ropes and contributes to improvement of ropework as well as to safety in general.

CE – SYMBOL OF COMPLIANCE
The CE symbol on a product declares that the product is in compliance with all applicable regulations and has undergone all appropriate compliance evaluation procedures. The number after the CE symbol (e.g. 1019) indicates relevant accredited laboratory.

UIAA
Products marked with this symbol meet UIAA requirements. The UIAA is the International Mountaineering and Climbing Federation.

SECURE
Rope with a zero sheath slippage is made with utilization of the unique patented technology named Secure. Thanks to the unique sandwich-type construction of braided layers and the use of specially finished fibres, the rope is safe even in case of a heavily damaged sheath.

TeNOTE
New, revolutionary conception of the overall administration and registration of ropes which, thanks to NFC technology, offers unthought-of possibilities and brings user comfort to a hitherto unrecognized level.
With a PC and a mobile phone you obtain a quick, effective and smart tool for examination and maintenance of your ropes.

EN 1891
This European norm establishes safety requirements and testing procedures for static ropes at European Union accredited laboratories. Products labeled with the symbol of this European norm satisfy the given safety requirements.

EN 892
This European norm establishes safety requirements and testing procedures for dynamic climbing ropes at European Union accredited laboratories. Products labelled with the symbol of this European norm satisfy the given safety requirements.

NFPA
These ropes meet the life safety rope requirements of NFPA 1983, standard on fire service life safety rope and equipment for emergency services, 2006 edition.


OUR ROPES WILL
COMMUNICATE
WITH YOU
TeNOTE
Tendon Electronic
Note System
INNOVATIVE AND MOBILE ACCESS TO IDENTIFICATION, MARKING
AND REGISTRATION OF STATIC AND DYNAMIC ROPES.

We bring a new, revolutionary conception of the overall administration and registration of ropes which, thanks to **NFC technology**, offers amazing possibilities and brings user comfort to a new level.
With a PC and a mobile phone you obtain a quick, effective and smart tool for examination and maintenance of your ropes.

TeNOTE
Tendon Electronic Note System

Static

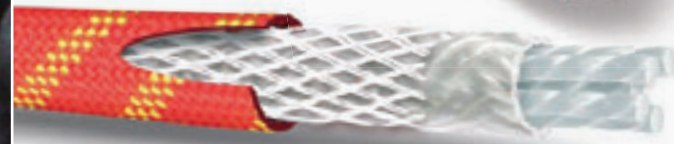
THIS EXCELLENT ROPE WITH LOW ELONGATION AND HIGH STATIC STRENGTH IS INTENDED PRIMARILY FOR WORK AT HEIGHT AND FOR SECURING PEOPLE ABOVE VERTICAL DROPS. THE THICKER THE DIAMETER, THE STRONGER THE ROPE.

Secure

EN 1891
CE 1019

A rope for any application where the sheath and the core may suffer damage. When using this rope you will significantly increase your safety margins, in cases where mechanical damage to the rope due to sharp edges or falling objects. Thanks to the unique sandwich-type construction of braided layers and the use of specially developed staple fibers, the rope is able to hold the suspended person or load even in the event of considerable sheath or core damage. Even if the rope is heavily damaged, the suspended person has enough time to abseil to the ground or to a safe anchor point.

Protected by utility model



L110TE31S000C • red
L110TE32S000C • yellow

Static Pro 11 - 12 NFPA

The excellent ropes with low elongation and high static strength are intended primarily for work at high and for securing people above vertical drops. Recommended use are rescue operations, work positioning and military and police use. Occasional use for NFPA certificated ropes meet the life safety rope requirements of NFPA 1983. Standard on fire service life safety rope and equipement for emergency services, 2006 edition.

L120NS31S000C • white

Static 9, Type A

Thanks to the unique construction and the state-of-the-art technological finishing, the static rope offers a strength higher than 22 kN with a falling mass of 100 kg (in comparison with the standard falling mass of 80 kg for type B ropes). The strength of the rope with knots exceeds 15 kN for a period of 3 minutes without any damage to the core and the sheath (type B ropes are tested for 12 kN for a period of 3 minutes). This is an advantage which workers working at heights and rescue teams are eager for, because having a stronger rope in critical situations with full outfit and gear brings them to a higher standard.

L090TS31A000C • white

Rope diameter (mm)	Secure 11
Weight (g/m)	75
Number of falls	17
Relative mass of sheat (%)	48,5
Sheat slippage (mm)	0
Elongation (50 - 150 kg) (%)	4.6
Shrinkage (%)	1.2
Min. tenacity with knots (kN)	18
Tenacity (kN)	28
Max. impact force (kN)	4.5

	Rope diameter (mm)	Diameter (in)	MBS* (kN)	MBS* (LB)	Weight (g/m)	Elongation at 10% MBS (%)	Elongation at 1.35 kN (300 lbf) (%)	Elongation at 2.70 kN (600 lbf) (%)	Elongation at 4.40 kN (1000 lbf) (%)	NFPA 1983-2006	Type EN 1981	Classified
Static NFPA	12	0.472	42	9 442	87	6.1	1.9	3.8	6.3	Yes	–	General use
Static Pro NFPA	11	0.433	47	10 566	80	8.1	2.1	4	7.3	Yes	A	General use

		CE			
Secure 11	•	•	•	•	•
Static 9A	•	•	•	•	–
Static 12 NFPA	•	•	–	•	–
Static Pro 11 NFPA	•	•	–	•	–

Static 9 - 13 mm

L100TS31S000C • white

L090TS32S000C • red

L105TS33S000C • blue

Rope diameter (mm)	Weight (g/m)	Number of falls	Relative mass of sheat (%)	Sheat slippage (mm)	Elongation (50 – 150 kg) (%)	Shrinkage (%)	Tenacity (kN)	Min. tenacity with knots (kN)	Used material	Type	NFPA 1983 2006 edition
9	50	25	49	2	3.8	2.1	23	13	PA	B	No
9A	61	8	41	0	2.8	1.9	26	15	PA	A	No
10	69	30	39	4	3.4	2	34	17	PA	A	No
10.5	72	40	36	3	3.4	1.9	38	18	PA	A	Yes Light Use
11	80	50	40	5	3.3	1.9	40	20	PA	A	No
12	92	70	35	4	3.2	1.8	44	25	PA	A	No
13	109	80	46	0	3.3	1.8	48	27	PA	A	No

	COMPACT	CE	UIAA		
Static 9 - 13	•	•	•	•	-

EN 1891 / CE 1019

Tips

Static ropes of the A and B type are ropes with low elongation and karmantle construction core. Ropes of the A type have the required minimum strength of 22 kN, B type ropes are ropes of lower parameters and they are not subject to such high requirements. B type ropes usually have smaller diameters, their minimum strength requirement is 18 kN and they are mainly used in applications where the rope weight is the limiting factor. TENDON is bringing a new product in the market in the form of a rope with the diameter of 9 mm, complying with A type requirements.

If you buy a new static rope and a situation occurs that you have to use it in a wet environment, we recommend you to wash the new rope before the first use. This way you will remove greasy additives (used during production of PA fibre) that would get released from the rope on the first contact with moisture.

Military

THIS EXCELLENT ROPE WITH LOW ELONGATION AND HIGH STATIC STRENGTH IS INTENDED PRIMARILY FOR WORK AT HEIGHT AND FOR SECURING PEOPLE ABOVE VERTICAL DROPS. THE THICKER THE DIAMETER, THE STRONGER THE ROPE.

Military 9 - 12 mm

This excellent rope with low elongation and high static strength is designed for army and police.

L100TS34S000C • black
L100TS36S000C • camouflage

L100TS35S000C • green

Aramid 10 - 11

A unique rope with aramid sheath and polyamide core, which features high firmness and increased resistance to cutting and abrasion. The rope is resistant to naked flame and radiant heat of up to 400 °C for short periods of time! This characteristic will be appreciated in particular by special police and army emergency squads for quick release from a helicopter, when ordinary ropes are not able to tackle the heat energy.

L110TA31S000C • black

Rope diameter (mm)	Weight (g/m)	Number of falls	Relative mass of sheat (%)	Sheat slippage (mm)	Elongation (50 – 150 kg) (%)	Shrinkage (%)	Tenacity (kN)	Min. tenacity with knots (kN)	Used material	Type	NFPA 1983 2006 edition
9	50	25	49	2	3.8	2.1	23	13	PA	B	No
10	69	30	39	4	3.4	2	34	17	PA	A	No
10.5	72	40	36	3	3.4	1.9	38	18	PA	A	Yes Light Use
11	80	50	40	5	3.3	1.9	40	20	PA	A	No
12	92	70	35	4	3.2	1.8	44	25	PA	A	No
Aramid 10*	66.4	10	50	0	0	1.5	35	15	Aramid/PA	A	Yes Light Use
Aramid 11	80	18	47	1	3	0.9	41	15	Aramid/PA	A	No

* tested according to EN 1891 except impact force

Military 9 - 12	•	•	•	•	–
Aramid 10 - 11	–	•	–	•	–

EN 1891 / CE 1019

Force 10 - 11

A special rope which makes use of a patented technology of combination of materials and the rope construction itself. A rope for use in extremely severe conditions (for instance rescuers, firemen, policemen and other special forces) due to its increased resistance to cutting.

L110TF31S000C • black

Reflective

The newly developed rope with reflection control weaving reflects a beam of direct light, making it easier to identify the rope in the dark and in poor lighting conditions. The rope is particularly useful for rescue work, speleology, diving and as a tracing rope for mines.

L110TS39S000C • black

Rope diameter (mm)	Weight (g/m)	Number of falls	Relative mass of sheat (%)	Sheat slippage (mm)	Elongation (50 - 150 kg) (%)	Shrinkage (%)	Tenacity (kN)	Min. tenacity with knots (kN)	Used material	Type	NFPA 1983 2006 edition
Force 10*	68	5	40	0	2	2	24	13	PA/Steel	B	No
Force 11**	82	5	41	5	3.4	1.8	26	15	PA/Steel	A	No
Reflective 11	80	50	40	5	3.3	1.9	40	20	PA	A	No

** tested according to EN 1891 type B excepted material, marking and falls

*** tested according to EN 1891 type A excepted material, marking and falls

Force 10 - 11	–	•	–	•	–
Reflective	•	•	–	•	–

EN 1891 / CE 1019

NEW

Salamander

As the name implies, the canyoning rope **Salamander** is an amphibian. With a diameter of 10.2 millimetres it has an excellent knotability even after repeated wetting, retains its softness and improved resistance - properties that predeterminate the rope to be used especially in canyoning to where it belongs primarily. Salamander is a lightweight rope which keeps its user-friendly properties for a long time thanks to its construction. The construction and materials used assist in minimizing the shrinkage of the rope in a wet environment. Salamander has a thicker and coarser sheath and floats on water. It is a static rope which is characterized by minimum elongation as a result of the production technology used. In order to facilitate the rope identification even under difficult conditions prevailing in deep and dark canyons, it is made in a distinctive combination of colours.

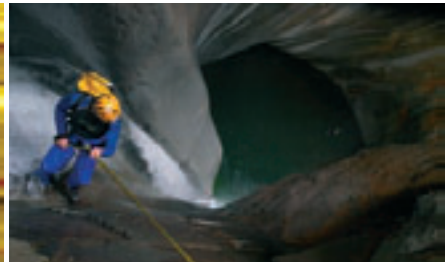
Rope diameter (mm)	Weight (g/m)	Number of falls	Relative mass of sheat (%)	Sheat slippage (mm)	Elongation (50 - 150 kg) (%)	Shrinkage (%)	Tenacity (kN)	Min. tenacity with knots (kN)	Used material	Type	Floating
Salamander 10.2*	60	26**	47	0	2.6	0	26	12	PA/PPV	-	Yes

* tested according to EN 1891 type B except material and number of falls
** weight 55 kg, fall factor 1

Salamander	•	•	–	•	•

CE 1019

C102TS31S000C



Canyon Wet, Canyon Grande

Excellent knotability, maintenance of softness even after repeated multiple wetting and brilliant colours contrasting with the colour of water, maximum abrasion resistance and increased water resistance – all these are properties that predestine the CANYON Grande rope for use not only in canyoning, but in other water sports as well. Thanks to the materials used, the rope has lower water absorption capacity and floats on water. WET – a CANYON rope variant which does not float on water due to materials used (PA).

C100TC31S000C • yellow

C100TW38W000C • orange

Speleo 9 – 11

This rope was developed especially for cave exploring. It is outstanding for its low elongation, high static strength and exceptional resistance to wear. Special – this version of the rope Speleo has a sheath made of PES and a core made of PA. Thanks to the use of this combination of materials, the rope is more wear resistant and is able to withstand the higher temperatures caused, for example, by fast descending.

S105TG31S000C Special • white/blue

S105TS31S000C • white/yellow

Rope diameter (mm)	Weight (g/m)	Number of falls	Relative mass of sheat (%)	Sheat slippage (mm)	Elongation (50 – 150 kg) (%)	Shrinkage (%)	Tenacity (kN)	Min. tenacity with knots (kN)	Used material	Type	Floating
Canyon Grande 10**	61	50*	49	3	3.2	1.7	19	12	PA/PPV	-	Yes
Canyon Wet 10	66	12	33	2	2.1	0.8	28	17	PA	A	No
Speleo 9	48	12	44	1	4.1	2.2	23	12	PA	B	-
Speleo 10	66	20	42	0	3.5	1.8	33	16	PA	A	-
Speleo 10.5	72	28	46	2	3.4	1.9	34	17	PA	A	-
Speleo Speciál 10.5	76	12	51	1	3.5	0.3	33	15	PES/PA	A	-
Speleo 11	77	30	42	2	3.3	1.8	37	19	PA	A	-

* weight 55 kg, fall factor 1

** tested according to EN 1891 type B except min. tenacity and material

Canyon Wet	•	•	•	–
Canyon Grande	•	•	–	–
Speleo	•	•	•	–
Speleo Special	•	•	–	–

EN 1891 / CE 1019

TIMBER SET

TIMBER Set has been developed especially for maximum comfort of work of tree workers and arborists.

SET

The Set is completed with a throwline, an accessory cord and a throw bag, all in high quality and in colours that are markedly visible in treetops.

Prusiks 8 and 10 mm

Prusiks are new products in our offer. The use of the PES/TECHNORA material combination results in a better thermal and mechanical resistance of the sheath. Supplied in any length or as prusiks made to measure with sewn eyes.

EN 566, 795B
P080TA000

EN 566, 795B
P100TA000

15

L150TT31S000C

Lowering rope 15 mm of a new construction with increased strength and reduced diameter. Very good handling during lowering and braking of loads.

11.5

L115TT31S000C

Ascent rope 11.5 of a brand new construction enables comfortable work and troublefree splicing of eyes. Supplied in any length by the metre or as finished rope with spliced eye.

EN 1891

8

EN 564 A080TP31S000C

10

A100TP31S000C

3

A030TP31S000C

TIMBERBAG300 TIMBERBAG400 TIMBERBAG350

Rope diameter (mm)	Weight (g/m)	Number of falls	Relative mass of sheat (%)	Sheat slippage (mm)	Elongation (50 – 150 kg) (%)	Shrinkage (%)	Tenacity (kN)	Min. tenacity with knots (kN)	Used material	Type
Timber throw line 3	2.5	-	-	-	-	-	0.8	-	PE	-
Timber Accessory cord 8	54.3	-	-	-	-	-	20	-	PES/TECHNORA	-
Timber Accessory cord 10	73	-	-	-	-	-	25	-	PES/TECHNORA	-
Timber Rope 11.5	84	17	54	10	3.4	1.8	35	15	PES/PA	A
Timber Lowering Rope 15	174	-	-	-	-	-	61	-	PES	-

	COMPACT	CE	LIRA		
Timber 3	–	–	–	–	–
Timber 8	–	●	●	–	–
Timber 10	–	●	–	–	–
Timber 11.5	–	●	–	–	–
Timber 15	–	●	–	–	–

Accessory and power cords

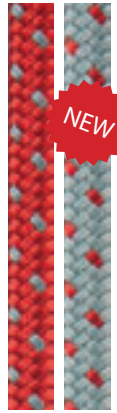
Accessory and power cords	reep Aramid	reep Reflective	reep Touch	reep Elite
Diameter (mm)	6	6	6	6
Weight (g/m)	22.9	23.2	23.2	26
Min. strength (daN)	1700	1000	1700	920


A060TA31S100R • black


A060TR34S100R • black


A060TT31S000R • white/red

A060TT32S000R • white/blue



A060TE31S000C - red

A060TE32S000C - grey

	CE	UIAA	
Elite	●	●	●
Touch	●	●	–
Reflective	●	●	–
Aramid	●	●	–

EN 566
CE 1019

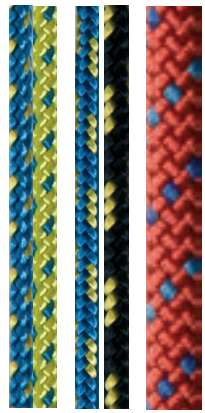
Elite 6 reep

6 mm thick **accessory cord Elite**, a robust product with zero sheath slippage. A strong product with simple universal use. This accessory cord for mountaineering is a useful helper for vertical adventures, rescue activities and self-belaying, but its use is almost unlimited.

Accessory and power cords	4	5	6	7	8
Rope diameter (mm)	4	5	6	7	8
Weight (g/m)	12.7	18.9	23.2	34	39.8
Min. strength (daN)	340	510	1000	1300	1640

CE UIAA
EN 564
CE 1019

Accessory and power cords	2	3	9
Rope diameter (mm)	2	3	9
Weight (g/m)	2.8	6.5	54.4
Min. strength (daN)	120	190	1900

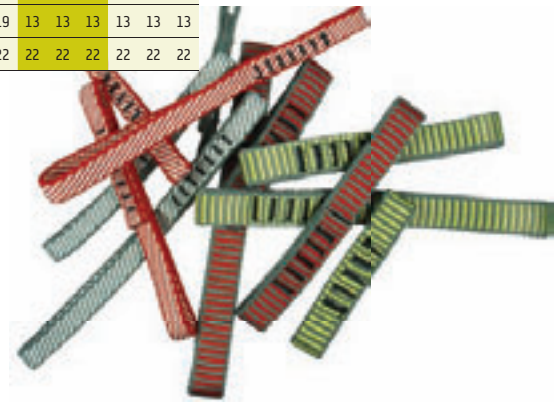


CE
CE 1019

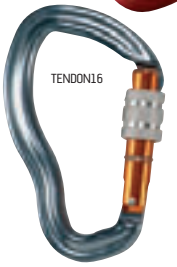
Quickdraw and sewn slings

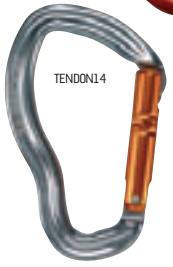
	PA			PA			DYNEEMA®			DYNEEMA®		
Lenght (cm)	10	15	20	60	120	180	10	15	20	60	120	180
Width (g/m)	19	19	19	19	19	19	13	13	13	13	13	13
Min. tenacity (kN)	22	22	22	22	22	22	22	22	22	22	22	22

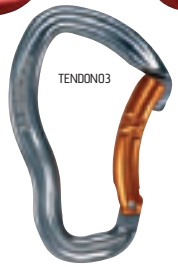
CE UIAA
EN 566
CE 1019



Carabines







Carabiners	TENDON 02	TENDON 01	TENDON 06	TENDON 05	TENDON 07	TENDON 08	TENDON 16	TENDON 03	TENDON 04
Major axis strength (kN)	30	22	26	26	25	25	29	29	29
Minor axis strength (kN)	10	8	9	9	10	10	10	10	10
Open gate strength (kN)	10	6	10	10	10	10	12	12	12
Weight (g)	70	86	51	51	42	42	60	55	55
EN	12275, 362	12275, 362	12275	12275	12275	12275	12275, 362	12275	12275

Ascenders and descender


TENDON13


TENDON14


TENDON15


TENDON09

	Ascenders TENDON 13	Ascenders TENDON 14	Ascenders TENDON 15	Figure 8 DESCENDER
Weight (g)	160	225	225	135
EN	567	567	567	-

Harnesses

Spider

Extremely lightweight and perfectly anatomically shaped harness with split ventilated back and comfortable leg loops, designed for sport climbing. Low weight, high degree of comfort and especially the progressive system of waistline adjustment are features you will appreciate when contesting and climbing extreme sport routes.

Spider	Waist (cm)		Leg loops (cm)	
Size	min.	max.	min.	max.
XS	65	75	46	50
S	70	80	50	54
M	75	85	54	58
L	80	90	58	62
XL	85	95	62	66
XXL	90	100	62	66
Weight (g)		395		

EN 12277
CE 1019

Mercury

Harness designed with emphasis on maximum comfort of the climber. With reinforced attachment points and a colour-differentiated belay loop for safe fastening. Thanks to adjustable leg loops (that can be unbuckled at the back) and the revolutionary system of waistline adjustment, this harness is the right choice for every climbing.

Mercury	Waist (cm)		Leg loops (cm)	
Size	min.	max.	min.	max.
XS	65	75	45	50
S	70	80	50	55
M	75	85	55	60
L	80	90	60	65
XL	85	95	65	70
XXL	90	100	65	70
Weight (g)		460		

EN 12277
CE 1019

Endurance

Multi-purpose harness designed for climbing in mountains and on big walls. Its main advantage is full adjustability thanks to 4 rock&lock shackles, split ventilated back and progressive system of waistline adjustment. It has a colour-differentiated belay loop and two eyes for plastic carabiners for safe fastening. The harness offers maximum comfort during long and strenuous ascents.

Endurance	Waist (cm)		Leg loops (cm)	
Size	min.	max.	min.	max.
S	65	80	50	55
M - L	75	90	60	65
XL	85	100	60	70
Weight (g)		540		

EN 12277
CE 1019

Comp

Harness for via ferratas and for beginners. With reinforced leg loops and attachment points, with one loop for material attachment. It optimizes the position of the body when hanging on the rope or after a fall. It prevents the body from taking the topsyturvy position.

Comp	Waist (cm)		Leg loops (cm)	
Size	min.	max.	min.	max.
One size	**65**	**120**	**42**	**66**
Weight (g)		**505**		

EN 12277
CE 1019

Jammy

Very lightweight uncushioned harness designed especially for via ferratas, mountains and glaciers. Available in one universal size for all figures, with reinforced attachment point, colour-differentiated belay loop for safe fastening, and one loop for material attachment. The right choice also for artificial climbing walls, climbing schools and skialpinism.

Jammy	Waist (cm)		Leg loops (cm)	
Size	min.	max.	min.	max.
One size	**60**	**120**	**42**	**66**
Weight (g)		**370**		

EN 12277
CE 1019

Scout

Chest harness SCOUT must be used in combination with a sit harness. It has two buckles for adjustment purposes and the height of attachment may be selected according to its position.

Caution: Do not use the chest harness separately!

Scout	
Size	Girth of chest (cm)
One size	**75 -110**
Weight (g)	**240**

EN 12277
CE 1019

SELECTING A SUITABLE CLIMBING ROPE

		Sport climbing					Trad climbing							
		OS/RP	Trenink, trying (x)	Gym top rope climbing	Sport iceclimbing and drytooling	Sport multipitch	Sandstone	Single and multipitch trad rockclimbing and moutaineering	Single and multipitch winter climbing and moutaineering	Ice and mix climbing	Big walls	Univerzal (general use) (xx)	Skimountaineering and Glacier	Rescue
MASTER	8.9	***			***	*		*** (1)	***(1)	**(1)			**(2,3)	
	9.2	***			***(2)	*					*		*(2,3)	
	9.4	***	*		*** (2)	*	**	*			*	*	*(2,3)	
	9.7	***	**	*	**(2)	*	***	*			**	**		
	7.8					***		**	**(2)	***(2)	*		***(2,3)	
	8.5					**		***	***(2)	***(2)	*		** (2,3)	
AMBITION	9.8	*	***	**	**(2)	*	***	*	*		**	***		
	10	*	***	**		*	***	*	*		**	***		
	10.2		**	**			***	*	*		***	***		
	10,4 HR			**			***	*	*		***	***		
	10.5			*			***	*	*		***	***		
	7.9					***		***	***(2)	***(2)			***(2)	
	7,9 ALPINE												***(2)	
	8.5					**		***	***(2)	**(2)			**(2)	
	9.1					*		***	***(2)	*(2)			**(2)	*
TRUST	11						**				**	*		***
	11.4						**					*		***
HATTRICK	10.2		*	***			***				***	***		*
INDOOR	10.2			***								***		
	10.4			***								***		

x Thin ropes have a relatively thin sheath due to their small diameter. In case of an increased number of short falls when preparing for hard sport routes, the sheath usually suffers damage very soon just as a result of those short falls. When practising for hard sport routes, it is therefore recommended to use a rope with a different construction than that for OS climbing.

xx GENERAL USE - general use with no requirements for special properties of the rope. Schools, training, recreational climbing etc.

1 The rope is to be used as a half rope or a twin rope in pairs
2 The rope has a Complete Shield (Protect Shield) finish against abrasion and moisture
3 The rope is to be used singly

SINGLE ROPES

Single ropes are more suitable for use in places where there is no danger of the rope being cut by falling stone. They are suitable for all climbing adventures outdoor and indoor. Our lowest diameter single rope is the TENDON Master 8.9 mm, and at the upper limit, is the TENDON Trust with a diameter of 11.4 mm. With the increasing diameter, the rope strength and the number of falls increase as well; unfortunately this also holds true for the weight. Therefore, you should select an optimum ratio between the thickness of the rope and its weight. The selection is also related to the climber's experience and character of the "work" on the rock. An experienced climber prefers thin ropes with a low weight while a beginning or inexperienced climber selects a thicker rope with higher safety parameters. In establishing new routes, there is a higher probability of falls and in this case a thicker rope is more suitable. For long climbs taking several days, you should select a compromise between the diameter and weight of the ropes. However, all this depends on the climber's experience. For top belaying (top rope) climbing we recommend you to use ropes designed for this purpose – indoor ropes, e.g. TENDON 10.4 indoor or TENDON 10.4 hard rope with higher abrasion resistance. The correct rope selection at the outset will help extend its life.

TWIN ROPES

Twin ropes should be of equal length and diameter to ensure that they have common belaying progression points. They are excellent for classic climbing activities in the mountains and less stable terrain, where you need to minimise potential risk from falling stone or sharp rock edges.

HALF ROPES

Half ropes must be used as a pair (double), only when used this way will they provide the correct safety standard. The climber's safety can be considerably increased by the half rope technique, in which the "left" and "right" rope is guided separately through different belaying points. If the belaying points are widely spread, this technique helps to reduce abrasion and the impact load in the event of a fall. Belay devices should enable independent control of either rope. Half ropes are ideal for a mixture of climbing conditions and environments, such as, high mountains, rock climbing and ice climbing.

CAUTION! You cannot combine belaying elements of twin and half ropes! There is a danger, that should the lead climber fall, that the differing diameters of the individual ropes, while passing through a common belay point at different speeds will suffer heat damage.

EOCA - european outdoor conservation association

Since 2012 we have been members of EOCA - an organization established in 2006 as a not-for-profit organization of the European Outdoor Group (EOG). Its activity consists not only in preservation of nature and devastated landscape, but also in education in the field of elimination of adverse effects of production of outdoor goods on the environment.

Many years ago, we had decided to take an active part in the preservation of the environment and to assist in sustaining nature for future generations, not only for lovers of outdoor activities. Because we are cooperating with real professionals only, our products and packagings possess excellent utility and technical properties with high added value and minimum impact on the environment. We have the honour of cooperating with partners who deliver bluesign® certified products and materials. Bluesign® guarantees that the product is manufactured in an environmentally friendly way.

Environmental Friendly Brand

To sustain our unique natural riches, it is necessary that all economic subjects contribute by a more responsible approach to sustain our planet for future generations. We cannot just take, we also have to give. We too also try to adhere to this approach - therefore all of our customers can return their old and damaged rope to us and we will ensure a completely free of charge recycling of it at our costs. Informative labels on ropes as well as the reels, on which our ropes are wound, are made of an ecologically recyclable material. The reels themselves are returnable and we reuse them to pack new ropes. Packagings of our dynamic ropes are packagings with an additional utility value - they may be reused for many other purposes after removing the ropes from them. And finally, the tags and instructions for all of our ropes are made from paper and this of course is also completely recyclable. We are glad that we can contribute to the maintenance of a high-quality environment by our approach.

Storage life and life span of dynamic ropes

Storage life

The maximum storage life in unused condition without limitation to life span makes up to 5 years.

This is conditional on optimum storage conditions: clean place protected against light, without chemical, physical and mechanical effects, in a normal climate of 15-25°C and a relative humidily of about 65%. An examination of the rope by a competent person (person authorized by the manufacturer) once every six months is mandatory.

In the process of rope production, the fibres are mechanically doubled, twisted and braided in several stages. In this way the fibres finally attain a condition of mechanically induced stress. A long-term storage leads to retardation and relaxation. This means that stress in macromolecules is "relieving". This phenomenon is not harmful, on the contrary it is connected with an improvement of dynamic properties. Research works showed that the results of tests of dynamic performance of ropes that had been (optimally) stored for several years were often better than values measured immediately after production. Polyamide also does not contain additives and softeners like, for example, PVC that could diffuse out. This is the reason why no embrittlement occurs.

In addition, the in-the-meantime standardized finishing of fibres by nanotechnological treatment offers an additional protection.

In case of present-time advanced materials, a considerable negative change of properties of the product in a time interval of 5 years can be excluded provided that optimum storage conditions are maintained.

Safety investigations performed by mountaineering associations in the past showed that some used and duly stored ropes made early in the sixties (!) still had a residual capacity of two standard falls!

Life span

Ageing of DYNAMIC ropes in use

Due to different influences on use and specialities of use it is impossible to give an exact numerical value, only a roughly estimated time value can be specified.

Depending on frequency and intensity of use, external effects as abrasion, contamination, mechanical loading (static), rope work (lowering and/or abseiling) loading by falls (dynamic), intensive action of UV radiation, aggressive climatic conditions etc. lead to reduction of safety reserve of the dynamic rope.

- The consequences of abseiling and lowering are reduction of dynamic performance and reduction of safety reserve of the rope.
- Abrasion leads to gradual weakening of consistency of the sheath. Heavier abrasion makes the sheath "hairier" and reduces the loadability of the sheath and its protective effect on the rope core.
- Particles of impurities and rocks inside the rope, especially in combination with heavy performance of the rope, result in abrasion of fine fibres of the core and the sheath. The particles act as abrasive sand and lead to reduction of the load-bearing cross section of the fibres, especially during frequent abseiling/lowering.
- Dynamic load results in loss of rope performance - the ability of arresting dynamic (impact) energy decreases. This depends on the hardness of the fall considerably (hardness of the fall is given by the belay method and the fall factor; falls with a fall factor of >1 are classified as hard falls according to the general state of the art).

Safety investigations performed by mountaineering associations reveal that if the rope sheath is not excessively damaged and shows no signs of heavy abrasion, a loading by falls with a fall factor of <0.5 and correct dynamic belaying does not represent a safety risk provided that the rope is not resting on sharp edges.

Investigations by the Safety Commission of the German Alpine Club

Investigations performed by the Safety Commission of the German Alpine Club in the nineties revealed that there was a hyperbolic relation between the loss in safety reserve and the rope performance. There is also a linear relation between the rope quality and the loss in safety reserve.

The higher the safety reserve (number of falls) of the rope, the longer the life span of the rope, because the loss starts from the higher initial level.

In practical use of mountaineering ropes, two factors of rope work with different effects on the rope may be defined essentially:

- The rope is drawn by dead weight and friction only (metres of climbing)
  The leader climbs up and draws the rope behind to the next belay station, the rope is drawn from above or by change of rope direction without being loaded by the weight of the climber. The influencing factors are only the surface of the ground and friction when drawing the rope, as well as ambient conditions (UV radiation, moisture, impurities etc.).
  The general load is very low.

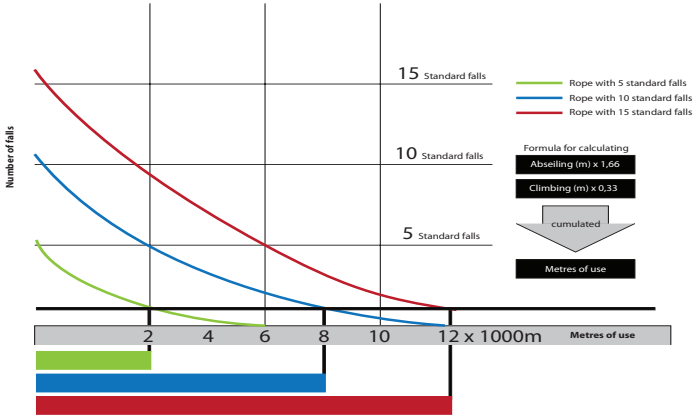
- The rope is used for lowering and abseiling (metres of abseiling)
  When using the rope for lowering with bending, a high performance induced by friction and movement is generated both in the belay/braking system (HMS, descender or belay device) and in the place of bending in the sheath and the core, and is often connected with twisting which is brought about by the frequently-occuring false twist effect.
  The general load is much higher than in the aforementioned case!

The user may use the following simple equation for making an approximate calculation:

metres of climbing x 0.33 + metres of abseiling x 1.66 = metres of use

When documenting the metres of use cumulatively, the user may estimate the safety condition of the rope (safety reserve of the number of falls) from the number of metres of use of the rope since the first day of use.

General values of safety condition (safety reserve)



According to curves depicted in the graph for individual rope types:

TENDON 11.4 mm Trust	20 standard falls on the day of production
TENDON 11.0 mm Trust	16 standard falls on the day of production
TENDON 10.5 mm Ambition	11 standard falls on the day of production

The number of cumulated metres may be used to estimate the remaining safety condition/safety reserve (number of standard falls) of the rope.

Estimated safety condition of ropes used with different intensity (TENDON 11 mm Trust):

- Safety condition >/= 5 standard falls (up to approx. 6,000-8,000 metres of use)
  If the rope is in perfect condition, it may be used to secure any climbing situation up to a fall factor of 2.

- Safety condition > 2 standard falls (up to approx. 12,000-14,000 metres of use)
  If the rope is in perfect condition, it may be used to secure any climbing situation up to a fall factor of 1.

- Safety condition </= 2 standard falls
  If the rope is in perfect condition, it may be used to secure any climbing situation up to a fall factor of 0.3, if the rope sheath shows no signs of damage or extreme hairiness.

It is not easy to specify an exactly defined life span.

The following information can be used as a guide:

- occasional use (e.g., five times a year, training use) with no heavy performance of the rope (no abseiling), without loading by hard falls, with the rope being correctly used and loaded by not more than 600-800 metres of use = the rope may be used safely for 10 years maximum.

Extreme loading by falls or other strong mechanical, physical, climatic or chemical effects can damage the rope so heavily that it must be discarded immediately.

The rope must be discarded immediately also in case the user has the slightest doubt about the safety and the perfect condition of the rope.

Storage life and life span of static ropes

Storage life

The maximum storage life in unused condition without limitation to life span makes up to 5 years.

This is conditional on optimum storage conditions: clean place protected against light, without chemical, physical and mechanical effects, in a normal climate of 15-25°C and a relative humidily of about 65%. An examination of the rope by a competent person once every six months is mandatory.

Notes:
In the process of rope production, the fibres are mechanically doubled, twisted and braided in several stages. In this way the fibres finally attain a condition of mechanically induced stress. A long-term storage leads to retardation and relaxation. This means that stress in macromolecules is "relieving". This phenomenon is not harmful, on the contrary it is connected with an improvement of dynamic properties. Research works showed that the results of tests of dynamic performance of ropes that had been (optimally) stored for several years were often better than values measured immediately after production. Polyamide also does not contain additives and softeners like, for example, PVC that could diffuse out. This is the reason why no embrittlement occurs.

In case of present-time advanced materials, a considerable negative change of properties of the product in a time interval of 5 years can be excluded provided that optimum storage conditions are maintained.

Life span

As to ageing of static ropes, it is impossible to give an exact numerical value, only a roughly estimated time value can be specified. This information does not relieve the user of the mandatory examination of the rope by a competent person (person authorized by the manufacturer) after use.

Depending on frequency and intensity of use, external effects as abrasion, contamination, mechanical

loading (static), rope work (lowering and/or abseiling) loading by falls (dynamic), intensive action of UV radiation, aggressive climatic conditions etc. lead to reduction of static and dynamic performance (safety reserve) of the static rope.

The crucial influencing factors for safety of static ropes are external effects, as for instance:

- Sharp edges that may have fatal consequences even at a slight tension of the rope!
- Abseiling and lowering (rope work) lead to loss of dynamic and static performance. For instance, frequent abseiling with high load forms

clusters of fused (melted) fibres in the rope sheath as a result of the heat inevitably developed by friction.

- Abrasion leads to gradual weakening of consistency of the sheath. Heavier abrasion makes the sheath "hairier".
- Internal wear - particles of impurities and rocks inside the rope, especially in combination with heavy performance of the rope, result in abrasion of fine fibres of the core and the sheath. The particles act as abrasive sand and lead to reduction of the load-bearing cross section of the fibres, especially during frequent abseiling.
- Loading by falls
  Due to the low dynamic elongation, loading by falls with a fall factor of 0.3 or greater must be essentially excluded.

Because, unlike dynamic ropes, the main task of static ropes does not consist in safe arrest of falls but in a quasi-static loading with a minimum dynamic stress only, a macromolecular stretching occurs when the rope is used correctly which, however, has no adverse effects on the maximum tensile force and the elongation of the rope. In case of an alternating to repeated (cyclic) loading of up to 20% of the maximum tensile strength of the rope with approximately 10,000 loading cycles, a residual force at break of the rope of >75% may be expected.

Example:
TENDON 11 mm Static

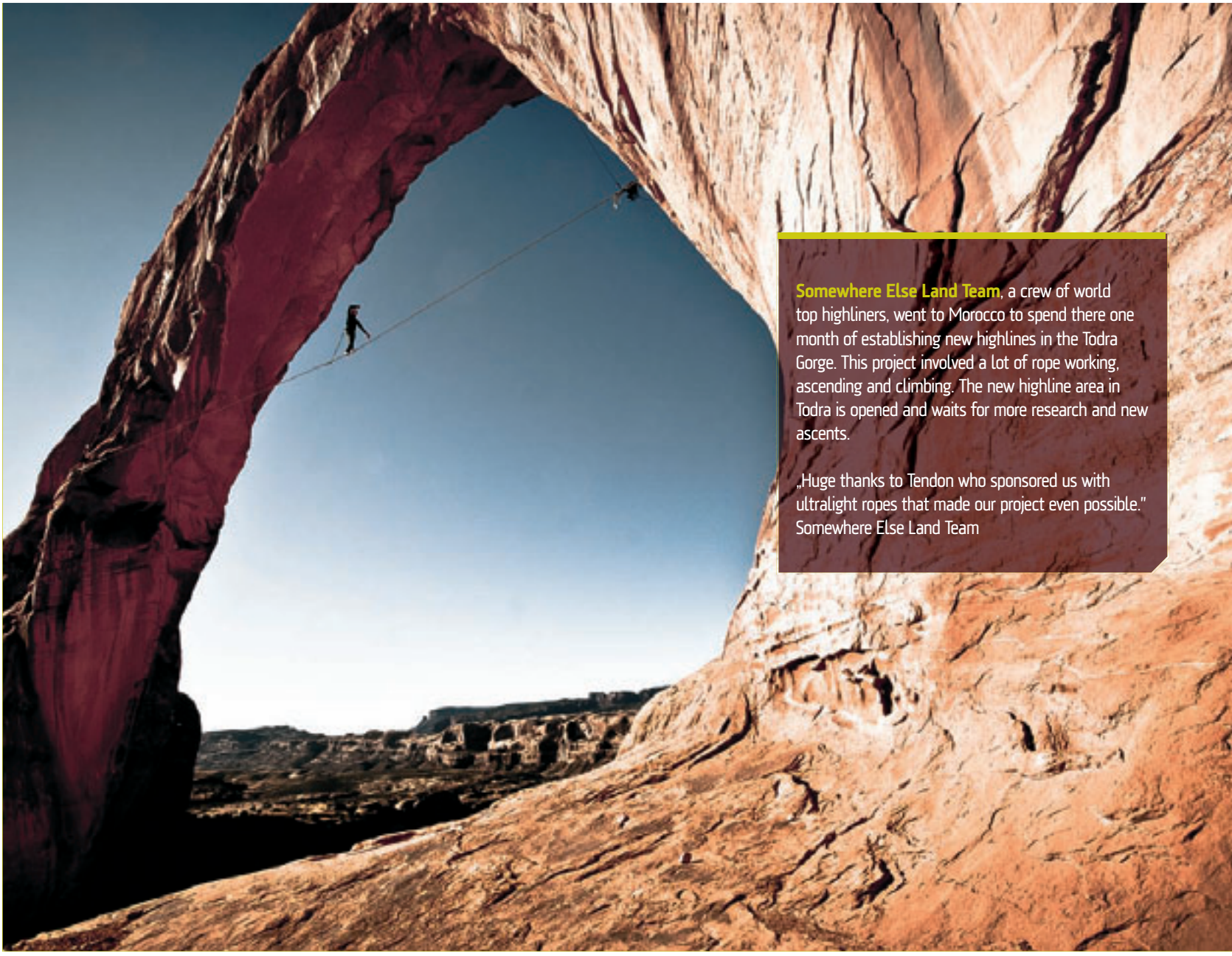
• maximum tensile force:	40.0 kN
• residual force at break - knot:	16.5 kN
• residual force at break after 10,000 cycles of repeated (cyclic) loading of up to 20%(= 6 kN):	30.0 kN

The above parameters exceed the minimum requirements of EN 1891 for Type A static rope significantly.

Occasional use (several times a year) with an intensity of use unworthy of notice, without considerable mechanical loading or fall arrest, without recognizable wear or contamination.	**8 - 10 years**
Frequent use (several times a month) with low intensity of use, without considerable mechanical loading (suspension, occasional lowering or abseiling) or fall arrest. Signs of use: no signs of heavy wear, slight contamination, hardly recognizable hairiness.	**5 - 8 years**
Occasional use (several times a year) with high intensity of use, mechanical loading (suspension, occasional lowering or abseiling), without fall arrest. Signs of use: slight wear, contamination, negligible hairiness.	
Very frequent use (several times a week) with low intensity of use, without considerable mechanical loading or fall arrest. Signs of use: signs of heavy wear, slight contamination, recognizable hairiness.	**3 - 5 years**
Very frequent use (several times a week) with high intensity of use, mechanical loading (suspension), but without fall arrest. Signs of use: signs of wear, obvious hairiness, slight vitrification.	
Intensive use (every day) with normal intensity of use, without considerable mechanical loading or fall arrest. Signs of use: obvious wear, obvious hairiness, heavy contamination.	**1 - 3 years**
Intensive use (every day) with high intensity of use, mechanical loading (suspension), but without fall arrest. Signs of use: heavy wear, vitrification, contamination and hairiness.	**</=1 year**

Extreme loading by falls or other strong mechanical, physical, climatic or chemical effects can damage the rope so heavily that it must be discarded immediately.

The rope must be discarded immediately also in case the user has the slightest doubt about the safety and the perfect condition of the rope.



Somewhere Else Land Team, a crew of world top highliners, went to Morocco to spend there one month of establishing new highlines in the Todra Gorge. This project involved a lot of rope working, ascending and climbing. The new highline area in Todra is opened and waits for more research and new ascents.

„Huge thanks to Tendon who sponsored us with ultralight ropes that made our project even possible."
Somewhere Else Land Team

TESTING OF CLIMBING ROPES IN ACCORDANCE WITH EN 892

DIAMETER

This parameter is measured with a 10 kg load for single ropes, 6 kg for half ropes and 5 kg for twin ropes. This would imply that testing the exact diameter of ropes under domestic conditions is quite difficult.

WEIGHT

The mass of a rope is measured for a length of one meter. A single rope without any added finish weights 52 to 88 grams per meter, a half rope about 50 grams and twin rope approximately 42 grams per meter. The rope's core must account for at least 50 % of its total mass.

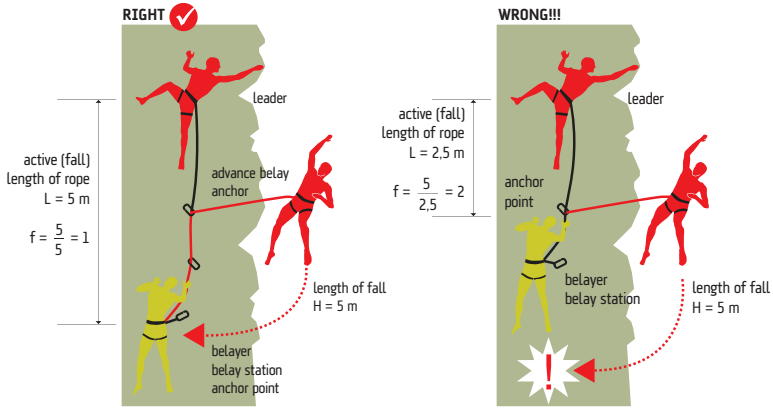
NUMBER OF STANDARD FALLS

This gives the number of falls the rope being tested under conditions given by the EN 892. This standard requires a minimum of 5 falls with a load of 80 kilograms for single ropes. Half ropes are tested with a 55 kg load. For twin ropes, the two ropes are under a constant load of 80 kilograms and the minimum number of falls is 12. The number of falls withstood during testing is a direct measurement of a rope's margin of safety (strength). In practice, no new rope will break under a sudden load if the rope is in good condition and has been properly handled. A rope will gradually become less safe as its material ages and as it becomes worn from use, as these factors reduce its strength. Moisture can also reduce a rope's strength by degrading the polyamide fibers used for making the rope.

MAXIMUM IMPACT FORCE

Impact force is the force that occurs during a first fall under defined conditions (mass of the load, fall factor, etc.) and that is absorbed by the rope. Under testing, the impact force increases for each additional test fall the rope is subjected to. How fast the impact force increases determines the number of standard falls withstood. The higher the number of standard falls, the longer the service life of the rope for the user. The practical use of ropes in real climbing or on training walls is different from laboratory conditions. During standard rope tests, the end of the rope is firmly secured, but in real climbing, belaying equipment and systems allow for some slippage of the rope, breaking the fall dynamically. Dynamic belaying dissipates some of the fall's energy, thereby lowering the impact force. For that reason, it is important to know how to use appropriate dynamic belaying.

WARNING!
The fall factor is also of key importance for the amount of impact force. How far you fall is virtually insignificant for the impact force. The amount of the fall factor is much more important. A five meter fall with a fall factor of f = 1 will result in a much lower impact force than a fall of the same length with a factor of f = 2. The energy of the climber's fall is absorbed by the active length of the rope (shown in the illustrations in red).



STATIC ELONGATION

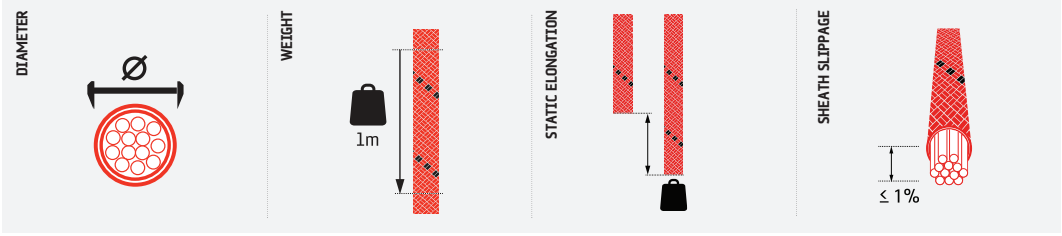
Usable static elongation is tested by applying an 80 kg load to the rope. Elongation may not exceed 10 % for single ropes (one strand) and twin ropes (two strands tested in tandem) and 12 % for half ropes (one strand).

SHEATH SLIPPAGE

Using a special machine, this test determines how much the surface of a rope will slip relative to the core when subjected to a load. The EN 892 establishes that slippage may not exceed 20 mm when stretching a length of rope measuring 1930 (+ - 10 mm).

If the sheath slides over the core during actual climbing, it can lead to bulges and so-called stockings. If the ends of ropes have not been sealed properly, the core at the end of the rope can come loose from the sheath or the sheath may extend longer than the core.

The ends of our ropes are sealed with ultrasound into one indivisible whole, and if the limits for slippage are complied with, the situation described above will not occur.

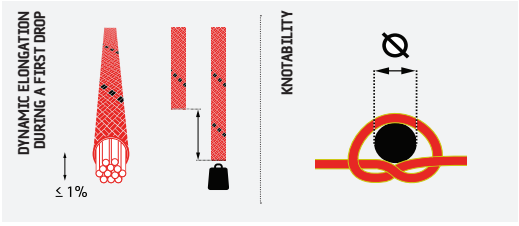


DYNAMIC ELONGATION DURING A FIRST DROP

This parameter measures the elongation of the rope during the first standard drop. The maximum allowable dynamic elongation is 40 %. This measurement is a better indicator of the rope's properties than the static elongation value.

KNOTABILITY

One of the most important requirements for mountain climbing rope is outstanding flexibility. How is this measured? A section of the tested rope is tied into a simple knot. Weight is then applied to the rope (10 kg for a single rope). Then the interior diameter of the knot is measured. The ratio between that diameter and the diameter of the rope gives the coefficient of Knotability. The maximum value of the coefficient is 1.1 times the diameter of the rope.



WARNING!
A rope with poor flexibility is harder to tie in knots and slides less efficiently through the carabiners of a belaying system. The effects of the elements or of improper care can reduce a rope's flexibility.

LANEX has built its own laboratory for testing its TENDON ropes, including its own drop tower. Newly developed ropes to European labs for certification already fully prepared and with known technical parameters. Most TENDON ropes are tested at the accredited TÜV lab in Vienna.

REQUIREMENTS OF THE NORM EN 892 - DYNAMIC CLIMBING ROPES

	REQUIRED VALUES		
MONITORED PARAMETER	**SINGLE ROPE**	**HALF ROPE**	**TWIN ROPE**
Rope diameter	**Undefined**	**Undefined**	**Undefined**
Rope weight	**Undefined**	**Undefined**	**Undefined**
Sheath slippage	**± 20 mm**	**± 20 mm**	**± 20 mm**
Static elongation	**max. 10 %** *	**max. 12 %** *	**max. 10 %** **
Dynamic elongation	**max. 40 %** +	**max. 40 %** ***	**max. 40 %** ++
Impact force of the first fall	**max. 12 kN** +	**max. 8 kN** ***	**max. 12 kN** ++
Number of falls	**min. 5** +	**min. 5** ***	**min. 12** ++

* test of one strand of rope / ** test of two strands of rope / *** test of one strand of rope, load: 55 kg

+ test of one strand of rope, load: 80 kg / ++ test of two strands of rope, load: 80 kg

TESTING ROPES WITH LOW ELONGATION (STATIC ROPES) IN ACCORDANCE WITH EN 1891

DIAMETER

This quantity is measured with a 10 kg load on the rope. The ropes may have a minimum diameter of 8.5 mm and a maximum of 16 mm.

ELONGATION

Usable static elongation is measured by applying a test load of 150 kg (after 50 kg pretensioning). Elongation may not exceed 5 %.

STATIC STRENGTH

This is always stated on tags on the ropes. It varies according to the diameter of the rope and the kind of Used material. EN 1891 requires that group A ropes have a minimum static strength of 22 kN, and that Type B ropes have a minimum static strength of 18 kN.

WARNING!
The maximum recommended load is 1/10 of the nominal strength stated on the product label.

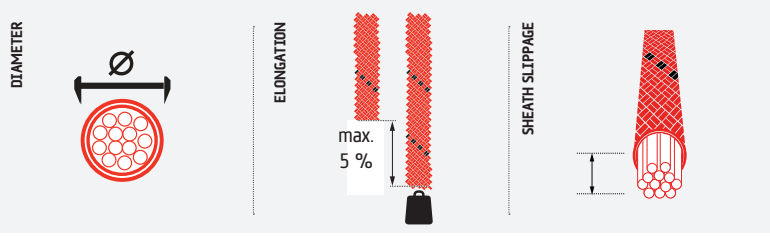
REQUIREMENTS WITH RESPECT TO MATERIAL PROPERTIES

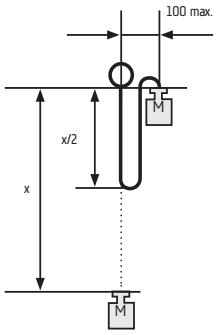
According to EN 1981, static ropes must be manufactured from a material that has a melting point higher than 195 °C, so they may not be made using polyethylene and polypropylene. Ropes made for those materials for canyoning are not subject to that norm, although they fulfill the norm with respect to static strength and other parameters.

SHEATH SLIPPAGE

This parameter is important mainly during rappelling on static ropes – if this parameter of a rope is insufficient, a safe descent could be endangered by the bunching of the rope's sheath in front of the rappelling brake.

For Type A ropes, slippage may not exceed ca. 20 mm for a 2 m length of rope (this applies to ropes with a diameter of up to 12 mm). For Type B ropes, slippage may not exceed 15 mm.





DYNAMIC PERFORMANCE

The testing equipment is similar to that used for testing climbing ropes, except that the rope is ca. 2 m long. At the ends it is tied in figure eight knots and it is tested with five falls with a fall factor of 1. During the test, the rope must withstand all five falls. Type A ropes are tested with a load of 100 kg. Type B ropes are tested with a load of 80 kg.

KNOTABILITY

This is tested in the same way as mountain climbing ropes: it must not be possible to insert a bar with a diameter greater than a multiple of 1.2 times the diameter of the rope into the opening in the knot tightened by the testing force.

Requirements of the norm EN 1891 - static ropes

	REQUIRED VALUES	
MONITORED PARAMETER	**ROPE TYPE A**	**ROPE TYPE B**
Rope diameter	**8,5 - 16 mm**	**8,5 - 16 mm**
Knotability coefficient	**max. 1,2**	**max. 1,2**
Sheath slippage	**max. 20 mm***	**max. 15 mm***
Elongation	**max. 5 %**	**max. 5 %**
Shrinkage	**Undefined**	**Undefined**
Impact force	**max. 6kN**	**max. 6kN**
No. of falls with a fall factor of 1	**min. 5**	**min. 5**
Strength without knots	**min. 22 kN**	**min. 18 kN**
Strength with knots	**min. 15 kN (3 minutes)**	**min. 12 kN (3 minutes)**

* 20 mm + 10 for ropes to diameter 12 mm, 20 mm + 5 for ropes with diameter between 12,1 - 16 mm

TESING OF ACCESSORY CORD

DIAMETER

Accessory cords are tested in a manner similar to testing of ropes, except that the pretensioning is less. According to EN 564, cords should have diameters of 4, 5, 6, 7 and 8 mm. Smaller diameters (2 mm - avalanche cords, 3 mm - hammer cord and 9 mm - force cord) do not comply with the norm.

STRENGTH

The minimum strength under to EN 564 is shown on the table below:

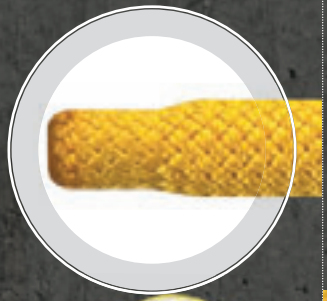
diameter (mm)	minimum strength (kN)
4	**3,2**
5	**5,0**
6	**7,2**
7	**9,8**
8	**12,8**

ROPE MADE TO MEASURE

We can make a rope in a length as required by you. Thanks to this possibility there is no need for you to shorten and mark the rope later. Just think economically and effectively - you can save time and money and avoid making useless waste.

ROPE TERMINATION

A perfect rope termination is realized by the COMPACT technology - the core of the last 15 mm of the rope is joined to the sheath by means of ultrasound to form a compact end. This technology is currently considered to be the best method of rope termination.



SEWN AND SPLICED EYE

Certain types of ropes can be delivered with a sewn or spliced eye on request. Sewn and spliced eyes are always in conformity with relevant standards.

Caution: Bear in mind that the strength of eyes is usually lower than the strength of the rope.

MIDPOINT OF ROPE

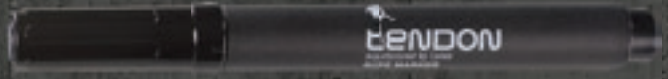
The rope is distinctly marked in the midpoint of its length with an ink which does not affect its structure and its mechanical properties. In case of new ropes, the flexibility in the area of marking may be slightly stiff but this phenomenon disappears during the first use of the rope.

The midpoint mark:

- clearly identifies the rope midpoint during abseiling and guarantees that both rope ends have the same length.
- assists in quickly finding the rope midpoint and the climber knows when abseiling, that both rope ends hanging down have the same length without measuring.
- in sport climbing, informs the belayer that the climber is higher that a half of the rope and his/her descending or abseiling may be difficult.
- in the mountains, informs the belayer that a half of the rope (still or just) remains.
- assists in coiling the rope "from the midpoint".

CAUTION: You should always know where the midpoint of your rope is, especially if the rope has been shortened.

If there is no midpoint mark on your rope or the mark is poorly visible, use the Tendon Rope Marker for making permanent black marks.



END MARKING OF ROPES

End marking of ropes by Tendon Thermotransfer is relatively permanent, does not come off, and its use prevents formation of rope end widenings that could get caught when pulling down the rope after abseiling.

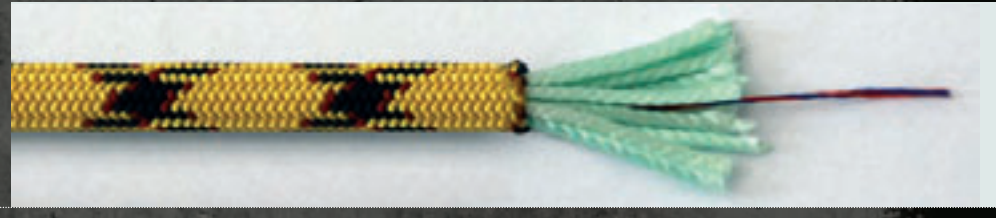
ROPE IDENTIFICATION AND MARKING

Static rope

There is an identification tape (two tapes in case of NFPA certified ropes) inside the rope which contains the following information: rope manufacturer, standard, rope type, material used, year of manufacture.

Dynamic rope

Inside a dynamic rope there is a colour marker thread (one or more) identifying the calendar year of manufacture of the rope (2010 green/yellow, 2011 black/yellow, 2012 red/blue).



Tendon Rope Bag SPEEDY is a rucksack sized for a rope of 50, 60, 70 m. It is space-saving, lightweight and waterproof. You can pack and unpack the rope in a flash without tangling it. It is a handy and comfortable aid for climbers and an excellent rope protector.

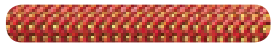
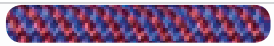
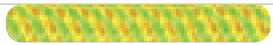
Rope with **PROTECT SHIELD** contains a sheath which is treated with the Tendon NANOTECHNOLOGY surface finish - Teflon® Eco in form of very small particles is applied to the rope sheath and very effectively prevents penetration of water, dust and other particles into the rope sheath in which way the water repellency and the abrasion resistance of ropes are increased.

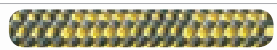
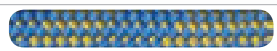
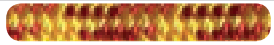
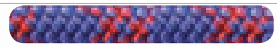
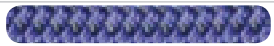
The maximum level of protection of ropes with high water repellency and abrasion resistance is offered by the **COMPLETE SHIELD** finish - using this new progressive technology, Teflon® Eco in form of very small particles is applied to the rope sheath as well as the rope core and forms an almost impermeable protective layer against water, dust and other particles that could damage the sheath or the core.

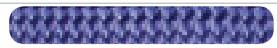
DuPont™ Teflon® fabric protector

Do not use any detergent for cleaning and washing of ropes. **Tendon Rope Cleaner** is a highly effective detergent for safe and thorough washing of ropes in washing machines as well as by hand. It does not damage the rope in any way and in addition the rope is ageing more slowly and is easier to use after washing and proper drying.

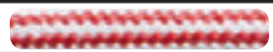
Dynamic ropes

MASTER			ART. NO.		COLOUR
Master	Single, half, twin	8,9	D089TM31S000C		green
Master	Single, half, twin	8,9	D089TM32S000C		red
Master	Single	9,2	D092TM31S000C		green
Master	Single	9,4	D094TM31S000C		red
Master	Single	9,4	D094TM32S000C		blue
Master	Single	9,7	D097TV31S000C		yellow
Master	Single	9,7	D097TV32S000C		green
Master	Half & twin	7,8	D078TD31S000C		red/yellow
Master	Half & twin	7,8	D078TD32S000C		red/blue
Master	Half & twin	7,8	D078TD33S000C		green/ yellow
Master	Half & twin	7,8	D078TD34S000C		green/ black
Master	Half & twin	8,5	D085TF31S000C		green/ yellow
Master	Half & twin	8,5	D085TF32S000C		khaki/blue

AMBITION			ART. NO.		COLOUR
Ambition Alpine	Half & twin	7.9	D079TL31S000C		red
Ambition Alpine	Half & twin	7.9	D079TL32S000C		yellow
Ambition	Single	9,8	D098TR31S000C		yellow/ black
Ambition	Single	9,8	D098TR32S000C		yellow/red
Ambition	Single	9,8	D098TR35S000C		bicolour
Ambition	Single	10	D100TA31S000C		red
Ambition	Single	10	D100TA32S000C		blue
Ambition	Single	10,2	D102TM31S000C		yellow
Ambition	Single	10,2	D102TM32S000C		blue
HardRope	Single	10,4	D104TH31S000C		red-yellow
Ambition	Single	10,5	D105TA31S000C		red
Ambition	Single	10,5	D105TA32S000C		blue
Ambition	Half & twin	7,9	D079TA31S000C		yellow
Ambition	Half & twin	7,9	D079TA32S000C		red
Ambition	poloviční	8,5	D085TB31S000C		yellow
Ambition	Poloviční	8,5	D085TB32S000C		blue
Ambition	Poloviční	8,5	D085TB35S000C		bicolour
Ambition	Poloviční	9,1	D091TE31S000C		yellow
Ambition	Poloviční	9,1	D091TE32S000C		blue

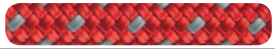
TRUST			ART. NO.		COLOUR
Trust	Single	11	D110TT31S000C		red
Trust	Single	11	D110TT32S000C		yellow
Trust	Single	11,4	D114TA31S000C		yellow
Trust	Single	11,4	D114TA32S000C		blue

INDOOR			ART. NO.		COLOUR
Indoor	single	10.2	D102TI31S000C		red/yellow
Indoor	Single	10.2	D102TI32S000C		yellow/ gray
Indoor	Single	10,4	D104TI31S000C		green

REEP, CORDS			ART. NO.		COLOUR
Touch	reep	6	A060TT31S000R		white/red
Touch	reep	6	A060TT32S000R		white/blue
Aramid	reep	6	A060TA31S100R		black
Reflective	reep	6	A060TR34S100R		black
	reep	4	A040TR31S100R		blue/yellow
	reep	4	A040TR32S100R		red
	reep	5	A050TR31S100R		yellow
	reep	5	A050TR32S100R		blue
	reep	6	A060TR31S100R		green
	reep	6	A060TR32S100R		red

Codes and Colours

	reep	7	A070TR31S100R		red
	reep	7	A070TR32S100R		yellow
	reep	8	A080TR32S100R		blue
	reep	8	A080TR31S100R		red
	cord	2	A020TH31S100R		blue
	cord	2	A020TH32S100R		yellow
	cord	3	A030TH31S100R		blue
	cord	3	A030TH32S100R		black
	cord	9	A090TR31S100R		red

ELITE			ART. NO.		COLOUR
HATTRICK	Dynamic	10.2	D102TH31S000C		blue
HATTRICK	Dynamic	10.2	D102TH32S000C		red
SECURE	Static	11	L110TE31S000C		red
SECURE	Static	11	L110TE32S000C		yellow
SALAMANDER	Static	10.2	C102TS31S000C		yellow
REEPELITE	Reep	6	A060TE31S000C		red
REEPELITE	Reep	6	A060TE32S000C		gray

Static ropes

STATIC		ART. NO.		COLOUR
Static	9	L090TS31S000C		white
Static	9	L090TS32S000C		red
Static	9	L090TS33S000C		blue
Static	9 A	L090TS31A000C		white
Static	10	L100TS31S000C		white
Static	10	L100TS32S000C		red
Static	10	L100TS33S000C		blue
Static	10,5	L105TS31S000C		white
Static	10,5	L105TS32S000C		red
Static	10,5	L105TS33S000C		blue
Static	11	L110TS31S000C		white
Static	11	L110TS32S000C		red
Static	11	L110TS33S000C		blue
Static	12	L120TS31S000C		white
Static	12	L120TS32S000C		red
Static	12	L120TS33S000C		blue
Static	13	L130TS31S000C		white
REFLECTIVE	**ART. NO.**	**COLOUR**		
Reflective	11	L110TS39S000C		black

MILITARY		ART. NO.		COLOUR
Military	9	L090TS34S000C		black
Military	9	L090TS35S000C		green
Military	9	L090TS36S000C		camouflage
Military	10	L100TS34S000C		black
Military	10	L100TS35S000C		green
Military	10	L100TS36S000C		camouflage
Military	10,5	L105TS34S000C		black
Military	10,5	L105TS35S000C		green
Military	10,5	L105TS36S000C		camouflage
Military	11	L110TS34S000C		black
Military	11	L110TS35S000C		green
Military	11	L110TS36S000C		camouflage
Military	12	L120TS34S000C		black
Military	12	L120TS35S000C		green
Military	12	L120TS36S000C		camouflage
CANYON		**ART. NO.**		**COLOUR**
Canyon Grande	10	C100TC31S000C		yellow
Canyon Wet	10	C100TW38W000C		orange
SPELEO		**ART. NO.**		**COLOUR**
Speleo	9	S090TS31S000C		white
Speleo	10	S100TS31S000C		white
Speleo	10,5	S105TS31S000C		white
Speleo Special	10,5	S105TG31S000C		white
Speleo	11	S110TS31S000C		white
ARAMID		**ART. NO.**		**COLOUR**
Aramid	10	L100TA31S000C		natural
Aramid	11	L110TA31S000C		black
FORCE		**ART. NO.**		**COLOUR**
Force	10	L100TF31S000C		black
Force	11	L110TF31S000C		black
TIMBER		**ART. NO.**		**COLOUR**
Timber	11.5	L115TT31S000C		yellow-green
Timber	15	L150TT31S000C		green/black
Timber cord	8	A080TP31S000C		red
Timber cord	10	A100TP31S000C		black
Timber bag	300 g	TIMBERBAG300		yellow
Timber bag	350 g	TIMBERBAG350		red
Timber bag	400 g	TIMBERBAG400		orange

Distributors

ANDORRA	Viladomat SA	C/Esteve Dola N. 30	Andorra La Vella	AD 500	+376 800 600	esterferrer@viladomat.com
ARGENTINA	Camping Center	Blas Parera 3145	Olivos	1636	+011 479 005 81	
AUSTRALIA	Climbing Anchors	5/8-10 Industrial Drive	Coffs Harbour	NSW 2450	+614 221 055 10	steve@climbinganchors.com
AUSTRIA	Sail & Surf Produktions- und Handels GmbH	Bundesstrasse 55	Bad Goisern	4822	+43 (0) 6135 20633-0	office@sailsurf.at
BELGIE	Condor Safety bvba	Kleine Weg 229A	Roeselare	B-8800	+32 (0)51 25 24 94	info@condorsafety.be
BELARUS	Outdoor Trade	13-26 B Seraphimovicha str.	Minsk	220033	+375 172 147 346	info@fortint.by
BELARUS	Elaks	J.Kolasa 73, of.601	Minsk	220113	+375 172 80 02 13	elaks47@mail.ru
BRAZIL	Sisteroutdoors	Rua Júlio Conceicão 449	Sao Paulo	SP 01126-001	+551 132 228 756	info@sisteroutdoors.com.br
BULGARIA	C.T.C. - 3 Ltd.	Akademik Ivan Buresh Str. 23	Sofia	1407	+359 888 618 522	sava164@abv.bg
CANADA	La Cordée	2159 Est, rue Ste-Catherine, Cl. 4 Sur-43A-195	Montréal (Québec)	H2K 2H9	+151 452 411 06	info@lacordee.com
COLOMBIA	Deporteka LTDA	C.C. Monterrey, local 346 piso 2	Medellin		+57 4 268 3278	deporEgésza@une.net.co
CROATIA	Iglu šport d.o.o.	Purgarija 37a	10431 Sveta nedjelja		+385 137 004 34	robert.verem@iglusport.hr
CZECH	LANEX a.s.	Hlučínská 1/96	Bolatice	747 23	+420 553 751 227	michal.smuk@lanex.cz
DENMARK	Friluftsland A/S	Frederiksborggade 52	Copenhagen K.	DBK-1360	+453 314 51 50	cpo@friluftsland.dk
ESTONIA	Darf	Jaama str.12	Tallin	11621	+372 656 37 78	andry@matkamaailm.ee
FINLAND	Heaven Distribution OY, C/O Suomen Kiipeilytekniikka Oy	Viertolantie 2-4b	Helsinki	00730	+358 445 768 976	sampsajyrkynen@kiipeilytekniikka .com
FRANCE	HORIZON VERTICAL	211 rue de la Gare	Molsheim	67129	+33 (0)3 88 48 00 48	contact@hove.fr
GERMANY	Aliens Bergsport & Arbeitssicherheit	Tegernseer Weg 1	D - 83679 Sachsenkam	D-83661	+49 8021 50 78 90	info@aliens-outdoor.de
GEORGIA (GRUZIE)	Ltd.MOGZAURI	10th Build. App 36	Tbilisi	0186	+995 32 311 117	info@mogzauri.ge
GREECE	POLO S.A.	Zisimopoulou 62, P. Faliro	Athens	17564	+30 210 94 28 200	info@polo.gr
HUNGARY	MOUNTEX	Rózsa u. 16	Szentendre	H-2000	+362 650 12 20	mountex@mountex.hu
HONG-KONG	Ice-crown Mountaineering training Center	Room 910, 9/F, Witty Commercial Building, 1A Tung Choi Street	Mongkok, Kowloon, Hong Kong		+852 3487 2402	info@mountaineering.hk
CHINA	G-View Equipment	Huayun Hotel D-002 Room, Jia No. 26, Zhanlangguan St.	Beijing	100037	+861 068 365 520	gview@emg.com.cn
ICELAND	Utilif	Alfheimum 74	Reykjavik	IS-104	+354 545 15 22	utivist@utilif.is
INDIA	AVI Indrustries	13, Shriji Sadan 352, Chandavarkar	Matunga (E) Mumbai, Maharasthra	400019	+912 224 143 810	avinashkamath@gmail.com
INDIA	SHRADHA OUTDOOR EQUIPMENTS PVT LTD	5/61 GOPINATH MARKET DELHI CANTT	DELHI	110 010	+911 125 684 868	soumen@soepl.com
INDONESIA	PT. AKSHARA DIRGA	Jl. Penataran no. 1, Menteng	Jakarta Pusat		+021-314 15 59	nainggolan@msn.com
IRAN	Petro Sanat Emdad	Apt:08 No:31 Aram St., North Mofateh Ave. Haft Tir squ.	Tehran	33411	+98 21 883 11 622-3	info@petroemdad.com
ISRAEL	Otto Perl & Sons Ltd.	128 Haatzmauth Rd. P.O.B 33770	Haifa		+972 485 201 35	mail@ottoperl.com
ITALY	Kong S.p.A.	Zona industriale - Via XXV Aprile 4	Monte Marenzo (LC)	I-23804	+390 341 630 506	info@kong.it
JAPAN	RESCUE JAPAN co.ltd.	23 SHIN HATADA SINO SHINO-MACHI	KAMEOKA CITY KYOTO	621-0826	0771-29-2108	asada@gekiryu.com
JORDAN	BEIT JALA Trading Establishment	Middle East Circle, Madaba Str.	Amman 11151 Jordan		962 6 477 7189 / 8452	BeitJala@index.com.jo
KAZACHSTAN	Limpopo	Sejfullina 534	Almaty	480072	+732 726 172 65	limpopo_z@nursat.kz
KOREA	Denali Company	Gangnam, P.O. Box 1558	Seoul	135-615	+822 517 61 94	iceclimber@netsgo.com
LATVIA	GANDRS	Kalnciema iela 28	Riga	LV 1046	+371 761 47 75	janis.simanis@gandrs.lv
LITHUANIA	UAB Mantis Magia	Gelvonu 68-30	Vilnius		+370 699 539 00	robert@montismagia.lt
MALTA	The Bowline	11 Triq Is-Saghtar	Qormi QRM 2921		(+356) 27498119	info@thebowline.com
MALAYSIA	Outdoor Centre Sdn. Bhd.	242-C, Jalan Ampang	Kuala Lumpur	50450	+603 4251 2423	jecyoutdoor@yahoo.com
MOLDAVIA	Linia Montana	Stefan cel Mare, 148	Chisinau	2008MD	+373 224 414 09	iniamontana@mail.ru
MEXICO	Suquinsa, S.A. de C.V.	Michoacan 321 Fracc.Jacarandas, Tlalnepantla, edode Mexico	MEXICO, R.F.C. SUQ980817AZ3	C.P 54050	+52 555 365 7997	singingmex@prodigy.net.mx
MEXICO	Gimbel Mexiana S.A. De C.V	Prolongacion Moliere No.46, Exq./Andomaco Col. Ampliacion	Granada, Mexico D.F.	C.P.11529	+525 511 012 300	gimbel@gimbel.mexicana.com
NETHERLANDS	Ch. O. A. van der Valk	Goudsesingel 85	Rotterdam	3031 EE	+311 041 118 15	touwhuis@bart.nl
NEW ZEALAND	Outsider Mountain Sports Ltd	BOX 117/24a Albert Street	Rangiora		+643 310 64 01	office@oms.co.nz
NORWAY	Vertical Playground AS	Auneveien 4	Oppdal	N-7340	+47 72 42 31 00	marius@7blaner.no
POLAND	Fatra Hurtownia	UL. Podgórze 1	Sandomierz	27-600	+481 583 246 26	info@hurtowniafatra.pl
POLAND	LANEX Polska Sp. z o.o.	UL. Rapackiego 22	Dàbrowa Górnicza	42-520	+483 226 478 81-3	lanex@lanexpolska.pl
PORTUGAL	ALTITUDE	Jogos de Aventura, Lda. Rua Joao Saraiva, 34 A/B	Lisboa	1700-250	+351 218 435 580	altitude@cipreia.pt
ROMANIA	GD Escapade SRL	Calea Mosilor Nr. 27, Sector 3	Bucharest		+402 131 551 52	himalaya@rdslink.ro
RUSSIA	Alpine House	Professora Kachalova str. 11 lit I	Sankt - Peterburg	192019	+781 270 231 52	ann@ahd.ru
SINGAPORE	Exponent Challenge Technology, Asia Pte Ltd.	48 Toh Guan Road East, # 05-153	Enterprise Hub	608586	+656 515 93 63	jejochua@singnet.com.sg
SINGAPORE	FORCE 21 EQUIPMENT PTE LTD	38 Tanjong Penjuru	CWT Logistics Hub 1	609039	+656 626 268 88	chjames@force21.cwtlimited.com
SLOVAKIA	LANEX a.s.	Hlucinská 1/96	Bolatice	747 23	+420 602 505 865	michal.smuk@lanex.cz
SLOVENIA	Treking Sport	Tbilisijska 59	Ljubljana	SL-1000	+386 125 625 01	trek@siol.net
SOUTH AFRICA	Eiger Equipment (Pty) Ltd.	P.O.Box 16201	Vlaeberg	2018	+270 215 550 781	info@eigerequipment.co.za
SPAIN	Novulner S.L.	C/ de les Medes 4-10	Barcelona-Spain	08023	+349 355 197 39	info@novulner.com
SWEDEN	Granitbiten	Atlasmuren 2	Stockholm	S-11321	+468 611 39 49	henrik@granitbiten.com
SWITZERLAND	Freetimex AG	Schontal 16	Zumikon	CH-8126	+414 481 101 20	freetimex@bluewin.ch
ROC TAIWAN	Mountain&Wilderness Service Co.,Ltd	372 Sec.1 Jiankang Road, West Central District	Tainan City	70052	+886 621 559 76	mwservis@ms63.hinet.net
THAILAND	Outdoor Centre Sdn. Bhd.	242-C, Jalan Ampang	Kuala Lumpur	50450	+603 4251 2423	jecyoutdoor@yahoo.com
TURKEY	Alpinist Doğa Sporlar Endüstriyel proje Uygulamalar Eğitim Hizmetleri Sanayi ve Ticaret Ltd.Şti	Sümer 1 sok. 7/4 Kizilay	Ankara	1637	+90 312 230 51 37	murat.yildirim@cebit.biz.tr
UKRAINE	Shambala Company	100 Karl Marks av.	Dnepropetrovsk	49000	+380 563 702 401	info@shambala.dp.ua
UNITED KINGDOM	Allcord Limited	Coralinn House, 4 Royston Road	Livingston, West Lothian.	EH54 8AH	+441 316 034 494	enquiries@allcord.co.uk
UNITED ARAB EMIRATES	Global Climbing Trading LLC	PO Box 474476	Dubai Investment Park 1		+971 4 8829 361	pete@globalclimbing.com
USA	Cascade Alpinist	28104 3rd Ave. N.E	Arlington, WA	98223	+1 425 698 5045	craigdixon@cascadealpinist.com

LANEX a.s.

Hlučínská 1/96, 747 23 Bolatice, Czech Republic

Phone: +420 553 751 111, Fax: +420 553 654 130

E-mail: info@mytendon.com, www.mytendon.com

CE 1019 - VVUÚ, a.s., Pikartská 1337/7
716 07 Ostrava - Radvanice, Czech Republic

tendon