

CATALOGUE / ENG  
**2022**

tied to be free

**tENDON**



# CLIMBERS, WORKERS AND ADRENALINE SPORTSMEN/SPORTSWOMEN,

RIGHT NOW, YOU ARE HOLDING A TENDON CATALOGUE IN YOUR HANDS WHICH IS FOUNDED ON ALMOST SEVENTY YEARS OF EXPERIENCE IN THE FIELD OF DEVELOPMENT OF ROPES. WE PRODUCE THEM UTILIZING THE STATE-OF-THE-ART PROCEDURES AT LANEX A.S. IN THE CZECH REPUBLIC.

WE CONTINUE WORKING ON OURSELVES, WHICH MAKES US A TECHNOLOGICAL LEADER IN THE MARKET. EACH YEAR WE BRING YOU NEW INNOVATIONS AND TECHNOLOGIES THAT MAKE MOVEMENT MORE EFFECTIVE, MAKE WORK EASIER, AND PROVIDE FOR YOUR SAFETY. IN ADDITION TO OUR IN-HOUSE DEVELOPMENT TEAM WE OPENLY PURSUE COOPERATION WITH UNIVERSITIES, RESEARCH INSTITUTES, CERTIFIED LABORATORIES, AND LAST, BUT NOT LEAST, YOU OUR CUSTOMERS.

THANKS TO QUALITY AND HISTORY, WE HAVE BUILT A WORLDWIDE SALES NETWORK THAT WE ARE GOING TO ENLARGE AND IMPROVE INCESSANTLY. TIE UP YOUR FUTURE STEPS AT WORK AND IN YOUR LEISURE TIME WITH US.

tied to be free

**TENDON**



## CONTENT

	PICTOGRAMS	4-5		MILITARY	42-44
	TECHNOLOGY	6-9		ACCESSORIES	45-49
	SPORT CLIMBING / TRAD	10-15		HARNESSES	50-52
	INDOOR CLIMBING	16-20		MERCH	53-56
	MOUNTAINEERING AND ALPINISM	22-26		SELECTING A SUITABLE CLIMBING ROPE	59
	BIGWALL	27-30		ADDITIONAL SERVICES	60-63
	SPELEO & CANYONING	31-34		WHAT DO YOU HAVE TO KNOW?	64-69
	ARBORIST	35-38		CODES AND COLOURS	70-73
	WORK AT HEIGHTS AND RESCUE	39-41		DISTRIBUTORS	74-75



### SINGLE ROPES

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.



### 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.



### 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.



### TEFIX®

The TeFIX® patented technology permanently bonds the sheath to the core. It prevents from any slippage between these two basic rope parts.



### LOWE

Thanks to the unique combination of materials which work together jointly and meet the stringent requirements of the EN 892 standard, we were able to reduce the weight while retaining a diameter acceptable to all climbers.



### 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.



### SBS — SIMPLE BRAID SYSTEM

SBS - is system where each strand is plaited separately into the sheath construction and not in pair (tandem). SBS braiding makes the sheath surface much more compact and smoother. Therefore ropes made by SBS generate much lower friction, are more resistant to abrasion and last longer while in contact with rocks.



### 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.



### COMPLETE SHIELD

Maximum level of rope protection against water and abrasion. It is reached by using the new progressive NANOTECHNOLOGY method. COMPLETE SHIELD is an impregnation which extends the general lifespan of TENDON ropes significantly.



### ECO SHIELD

ECO variant of impregnation, which guarantees high water-repellent rope protection. The core and sheath are treated with a new method of PFC-free ECO impregnation, which forms a water-repellent layer. Rope with this protection does not absorb water and is environmentally friendly because it does not contain fluorinated hydrocarbons C8 or C6.



#### **BICOLOUR**

A new, clearly identifiable change of rope pattern in the middle. Bicolour brings comfort in rope handling and is advantageous especially for descending.



#### **CE - SYMBOL OF CONFORMITY**

This symbol confirms that the product meets safety requirements specified in the relevant European regulations. The number following symbol (e.g. CE1019) is number of notified body which performs checking of production: VVÚ, a.s., Pikartská 1337/7, 71607 Ostrava-Radvanice, Czech Republic.



#### **UIAA**

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



#### **TENOTE**

New, revolutionary conception of the overall administration and registration of ropes which, thanks to NFC technology, offers user comfort to a hitherto unrecognized level. Static ropes includes microchip. ☺ 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, 2017 edition.



**EXPERT** - If climbing is your lifestyle and you always go for the best equipment available. You need aggressive ropes that never fail and support your impressive performance.



**ADVANCED** - It seems that you are serious about climbing and that you care about the gear you use. The fact that you've already achieved quite difficult routes only confirms it. Go for the ropes labeled as Advanced.



**BEGINNER** - Ropes ideal for your first moves on rock or occasional climbing. Thicker diameters and long lifespan.

TEFIX



TECHNOLOGY

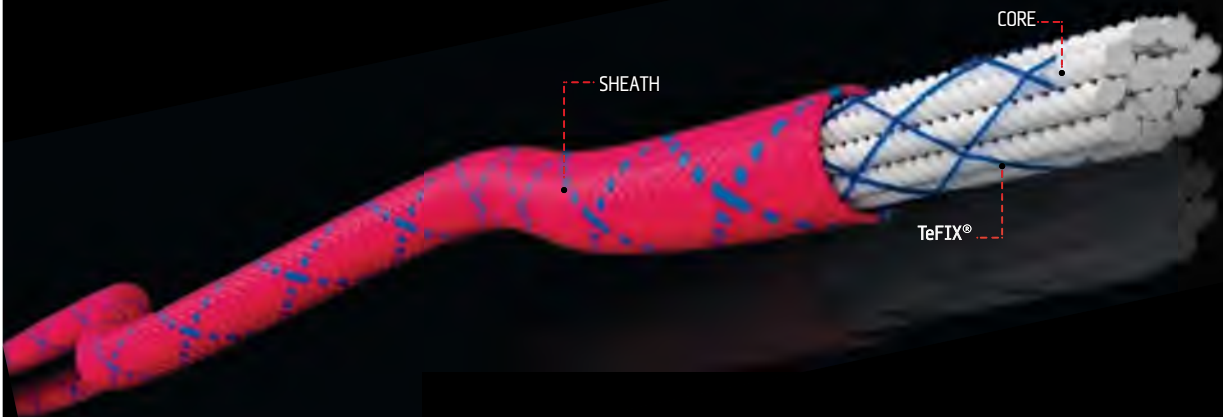
# TeFIX<sup>®</sup>

The TeFIX<sup>®</sup> patented technology permanently bonds the sheath to the core.

It prevents from any slippage between these two basic rope parts.

This particular feature was reached by adding a special material between the core and sheath. This extra material is added after the process so the bond is flexible and strong.

Rope has 0% sheath slippage, much longer lifespan, and better handling.



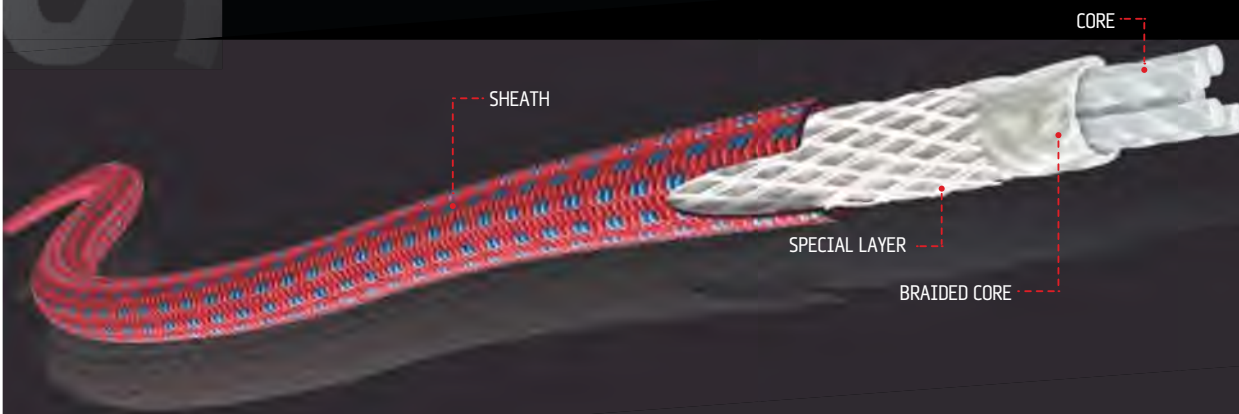
SECURE



TECHNOLOGY

# SECURE

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 a considerably damaged sheath or core without a complete rupture of the rope and subsequent fall of the suspended person.

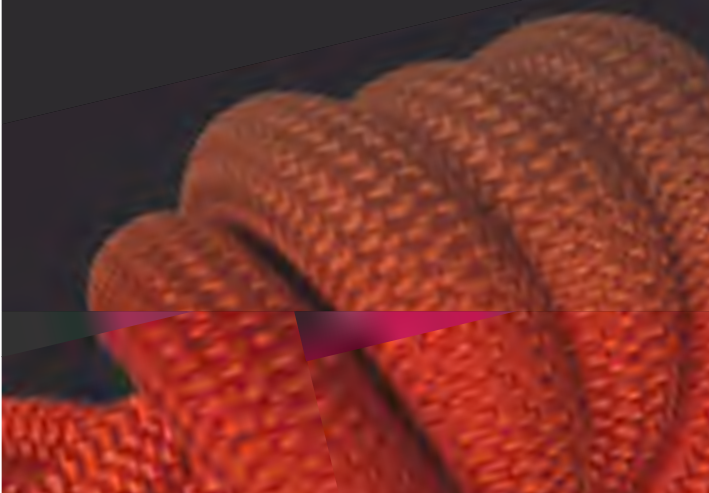




TECHNOLOGY

# ECO SHIELD

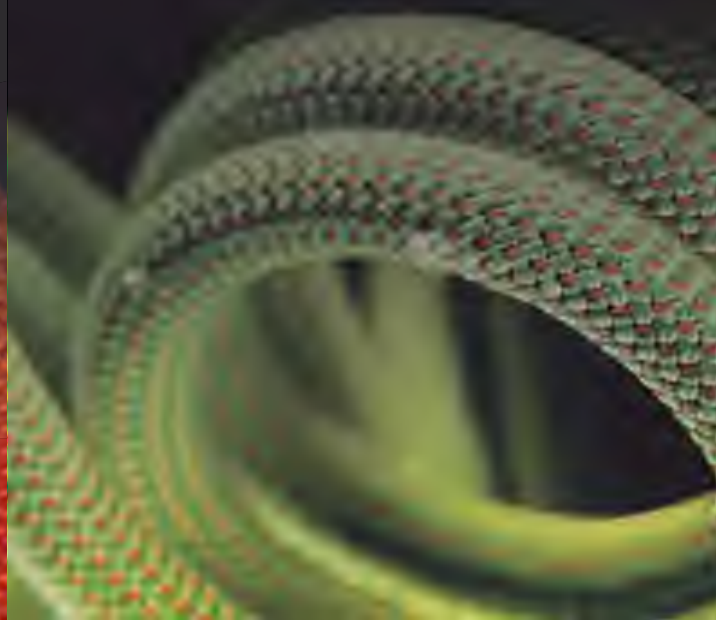
The new ECO rope protection against impregnation, guarantees high water-repellent rope protection. The core and sheath are treated with a new method of PFC-free ECO impregnation, which forms a water-repellent layer. Rope with this protection does not absorb water and is environmentally friendly because it does not contain fluorinated hydrocarbons C8 or C6. Our PFC - free rope meets the UAAA water repellent standard.



TECHNOLOGY

# COMPLETE SHIELD

Maximum level of rope protection against water and abrasion. It is reached by using the new progressive nanotechnology method. The rope fibres are then protected against dust and water which would otherwise cause a harm to the rope construction. Complete shield is an impregnation which extends the general lifespan of tendon ropes significantly. All ropes with the complete shield finish meet the uiaa 101 requirement for water repellent test.







SBS

TECHNOLOGY

# SBS

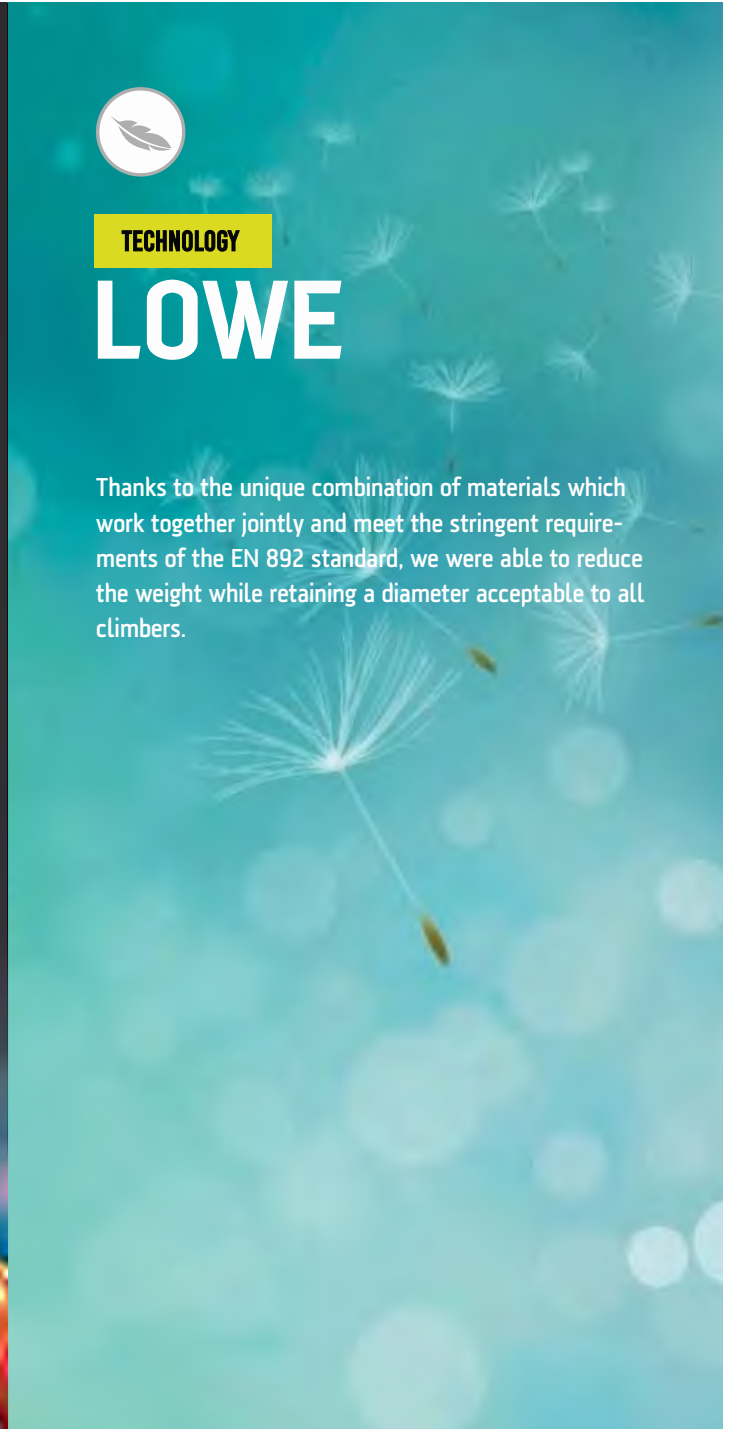
**SIMPLE BRAID SYSTEM** - is a system where each strand is plaited separately into the sheath construction and not in pairs (tandem). SBS braiding makes the sheath surface much more compact and smoother. Therefore ropes made by SBS generate much lower friction, are more resistant to abrasion and last longer while in contact with the rocks.



TECHNOLOGY

# LOWE

Thanks to the unique combination of materials which work together jointly and meet the stringent requirements of the EN 892 standard, we were able to reduce the weight while retaining a diameter acceptable to all climbers.



# SPORTI CLIMBING





TOM

# RANDALL

## WHAT DOES CLIMBING MEAN TO ME?

Climbing for me, is a form of meditation and expression of creativity. On one side, I find that climbing is so involving for your brain that it actually makes everything else in like "switch off" so then I can feel really calm in my head and it seems like it's just me, the rock, the moves and nothing else in life. On the other side, it's an incredible outlet for creativity because it's still a sport without too many rules! For example, I've loved how this year we've been on lock-downs and zero travel allowed, but I can still find monster roof crack projects on the underside of bridges. Yes it seems a bit weird, but it's creative in my mind and it allows me to still express a level of adventure and exploration in the manner in which I find rewarding.



## EN 892 / CE 1019

	①	1/2	∞
ROPE DIAMETER	9.0	9.0	9.0 mm
WEIGHT	55	55	55 g/m
NUMBER OF UIAA FALLS	6	19	33
MAX. IMPACT FORCE	8.9	6.5	10.8 kN
SHEATH SLIPPAGE	0	0	0 %
STATIC ELONGATION	9.6	9.6	9.6 %
DYNAMIC ELONGATION	31	29	25 %
KNOTABILITY	0.9	0.9	0.9

## MASTER 9.0 TEFIX®

EXPERT

If you want to have a lightweight rope for sport climbing and if you would like to use it occasionally in the mountains also, MASTER 9.0 is a good choice. In addition, this rope makes use of the TeFIX® technology which increases resistance and prolongs the lifespan of the rope thanks to the connection of the core and the sheath.



## EN 892 / CE 1019

	①
ROPE DIAMETER	9.2 mm
WEIGHT	58 g/m
NUMBER OF UIAA FALLS	9
MAX. IMPACT FORCE	8.5 kN
SHEATH SLIPPAGE	0.1 %
STATIC ELONGATION	6.5 %
DYNAMIC ELONGATION	35 %
KNOTABILITY	0.9

## MASTER PRO 9.2

EXPERT

This rope defeats the stigma that thin ropes are not durable. You don't need to carry one rope for practicing and another one for redpoint. Innovated, extremely fine SBS sheath significantly prolongs its lifespan. The rope is at the same time soft enough and easy to work with. If you're looking for a devoted friend for sport climbing, this is your choice.



## EN 892 / CE 1019

	①	1/2	∞
ROPE DIAMETER	8.6	8.6	8.6 mm
WEIGHT	50	50	50 g/m
NUMBER OF UIAA FALLS	5	13	30
MAX. IMPACT FORCE	9.9	7.2	11.5 kN
SHEATH SLIPPAGE	0.2	0.2	0.2 %
STATIC ELONGATION	5.7	5.8	3.9 %
DYNAMIC ELONGATION	30	22	23 %
KNOTABILITY	0.8	0.8	0.8

## MASTER 8.6

EXPERT

The thinnest single rope we offer. The low weight, which is only 50 g, makes it an ideal weapon, which will help you to send your hardest projects.





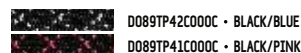
## EN 892 / CE 1019

	①	1/2	∞
ROPE DIAMETER	8.9	8.9	8.9 mm
WEIGHT	52	52	52 g/m
NUMBER OF UIAA FALLS	6	18	40
MAX. IMPACT FORCE	9.1	6.7	10.7 kN
SHEATH SLIPPAGE	0.2	0.2	0.2 %
STATIC ELONGATION	6.9	6.9	5.6 %
DYNAMIC ELONGATION	31	26	24 %
KNOTABILITY	0.8	0.8	0.8

## MASTER PRO 8.9

EXPERT

Brand new rope certificated as single, twin and half rope. Unique combination of simple braid system, modified sheath vs. core ratio in favour of sheath and complete shield impregnation guarantees good resistance and lifespan. The low weight, only 52 g/m, and low rope drag makes it excellent on-sight rope for hard climbing projects where every small detail matters.



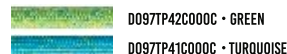
## EN 892 / CE 1019

	①
ROPE DIAMETER	9.7 mm
WEIGHT	65 g/m
NUMBER OF UIAA FALLS	9
MAX. IMPACT FORCE	8.5 kN
SHEATH SLIPPAGE	-0.4 %
STATIC ELONGATION	9.8 %
DYNAMIC ELONGATION	30 %
KNOTABILITY	0.9

## MASTER PRO 9.7

EXPERT

With MASTER PRO 9.7 we build on the success of the massively popular MASTER PRO 9.2. When our athletes field tested the rope, they were awestruck by the rope's outstanding durability. This incredible resilience is down to the unique braid SBS construction, which guarantees superior resistance to wear, greatly increasing the lifespan of the rope. It is the perfect choice for those who prefer durability and longevity over weight, including high performance climbers who are training for their projects.



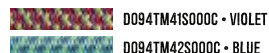
## EN 892 / CE 1019

	①
ROPE DIAMETER	9.4 mm
WEIGHT	58 g/m
NUMBER OF UIAA FALLS	6
MAX. IMPACT FORCE	7.9 kN
SHEATH SLIPPAGE	0 %
STATIC ELONGATION	6.4 %
DYNAMIC ELONGATION	37 %
KNOTABILITY	0.9

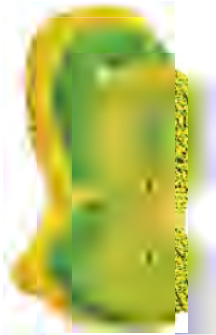
## MASTER 9.4

EXPERT

MASTER 9.4 with a small diameter but durable SBS sheath construction. Ideal for average climbers who want to keep pushing their limits.









**EN 892 / CE 1019**

ROPE DIAMETER	9.8 mm
WEIGHT	64 g/m
NUMBER OF UIAA FALLS	9
MAX. IMPACT FORCE	7.4 kN
SHEATH SLIPPAGE	0.05 %
STATIC ELONGATION	7.9 %
DYNAMIC ELONGATION	35 %
KNOTABILITY	0.9

**AMBITION 9.8**

BEGINNER

As its name suggests, this rope is both for beginners and ambitious climbers who pursue climbing outside and indoors. It offers outstanding value for money. It has a universal diameter.

	D098TR41S000C • YELLOW
	D098TR42S000C • GREEN
	D098TR45S000C • BICOLOUR
	D098TR48S000C • BRIGHT YELLOW



**EN 892 / CE 1019**

ROPE DIAMETER	10 mm
WEIGHT	67 g/m
NUMBER OF UIAA FALLS	9
MAX. IMPACT FORCE	8.9 kN
SHEATH SLIPPAGE	0.2 %
STATIC ELONGATION	5 %
DYNAMIC ELONGATION	33 %
KNOTABILITY	1

**AMBITION 10.0**

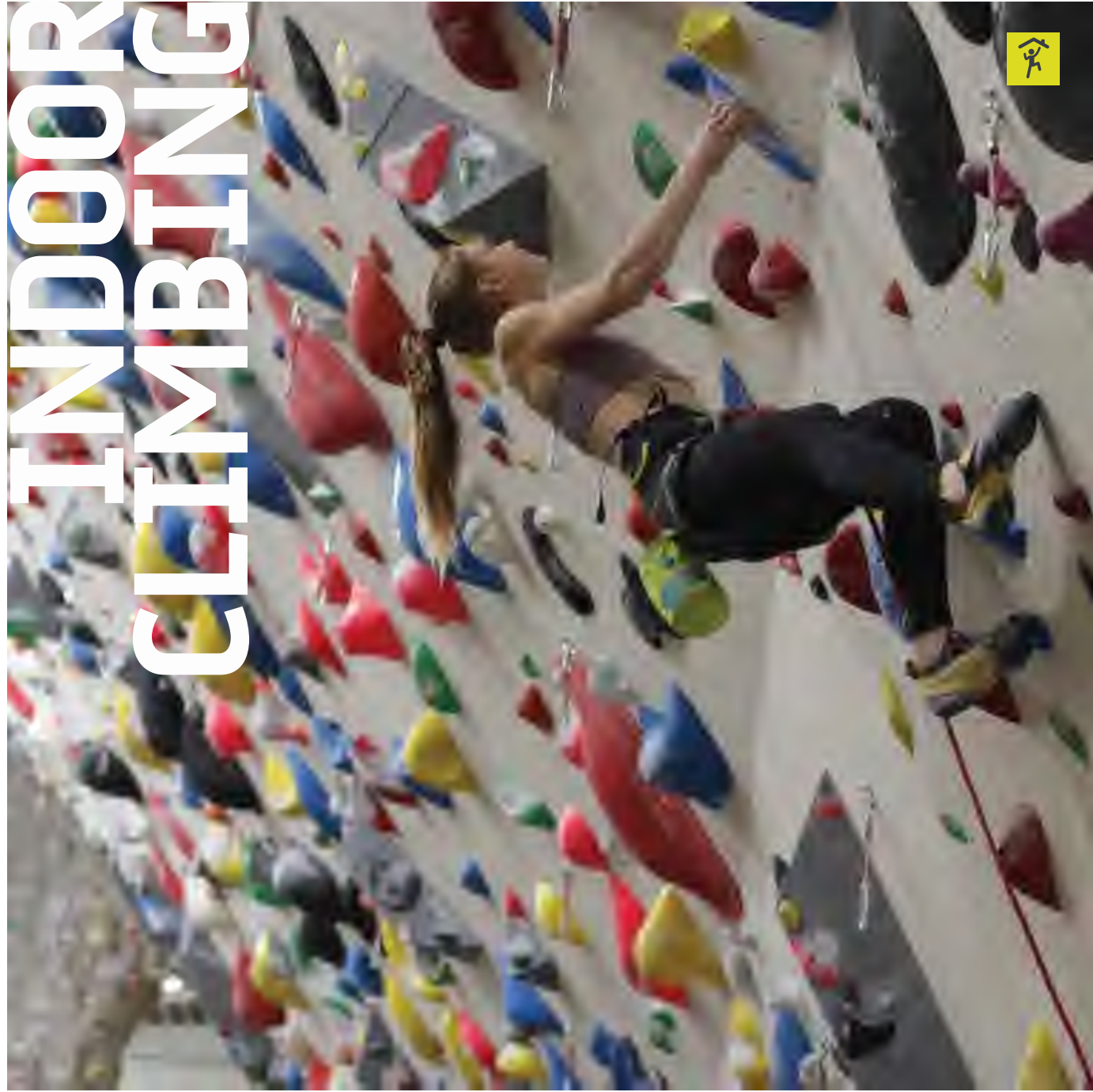
BEGINNER

AMBITION 10.0 is designed especially for beginners. Wider diameter combined with SBS sheath offers an impressive performance and long lifespan.

	D100TA41S000C • RED
	D100TA42S000C • BLUE



# INDOOR CLIMBING







ELIŠKA

# ADAMOVSKÁ

## WHAT DOES CLIMBING MEAN TO ME?

That is a tricky question, I definitely needed to give it some thought. I mean, I have been climbing for so long (14 years) that it not only became an integral part of majority of my days, but it also became an integral part of who I am. Of course, it is mostly about freedom, but it also gives me an opportunity to express myself. Climbing has already given me lots of useful life lessons - and I am still learning. I found out that different problems may have different solutions, I learned how to handle my emotions as well as interpersonal communication, and much more. Whether it was all the hard work on the climbing gym, or the peaceful days spent out in the rocks, climbing made me the person I am now. But, above all, climbing, training and the related lifestyle bring me joy.





**EN 892 / CE 1019**

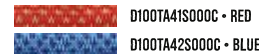


**AMBITION 10.0**

BEGINNER

ROPE DIAMETER	10 mm
WEIGHT	67 g/m
NUMBER OF UIAA FALLS	9
MAX. IMPACT FORCE	8.9 kN
SHEATH SLIPPAGE	0.2 %
STATIC ELONGATION	5 %
DYNAMIC ELONGATION	33 %
KNOTABILITY	1

AMBITION 10.0 is designed especially for beginners. Wider diameter combined with SBS sheath offers an impressive performance and long lifespan.



**EN 892 / CE 1019**



**AMBITION 10.2 TEFIX®**

BEGINNER

ROPE DIAMETER	10.2 mm
WEIGHT	67 g/m
NUMBER OF UIAA FALLS	11
MAX. IMPACT FORCE	8.3 kN
SHEATH SLIPPAGE	0 %
STATIC ELONGATION	6.9 %
DYNAMIC ELONGATION	33 %
KNOTABILITY	0.8

An new version of a robust rope AMBITION 10.2 enriched with TeFIX® technology. The fact that the core is connected with the sheath prevents the sheath from shifting and provides maximum possible safety in case of the sheath damage. An ideal rope which will guide you through many vertical miles.



**EN 892 / CE 1019**

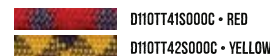


**TRUST 11.0**

BEGINNER

ROPE DIAMETER	11 mm
WEIGHT	79 g/m
NUMBER OF UIAA FALLS	16
MAX. IMPACT FORCE	9.1 kN
SHEATH SLIPPAGE	0.4 %
STATIC ELONGATION	5.3 %
DYNAMIC ELONGATION	31 %
KNOTABILITY	1

Massive, safe rope with extremely long lifespan. Designed for heavy usage in rope training centers and climbing schools.





EN 892 / CE 1019

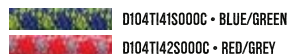
①

ROPE DIAMETER	10.4 mm
WEIGHT	72 g/m
NUMBER OF UIAA FALLS	8
MAX. IMPACT FORCE	8.2 kN
SHEATH SLIPPAGE	0.1 %
STATIC ELONGATION	9.1 %
DYNAMIC ELONGATION	35 %
KNOTABILITY	1

INDOOR 10.4

BEGINNER

A rope has a braided core, developed especially for top-rope climbing at gyms. Suitable for climbing schools and rentals.



EN 892 / CE 1019

①

ROPE DIAMETER	11.4 mm
WEIGHT	84 g/m
NUMBER OF UIAA FALLS	20
MAX. IMPACT FORCE	9.2 kN
SHEATH SLIPPAGE	0.3 %
STATIC ELONGATION	6.4 %
DYNAMIC ELONGATION	32 %
KNOTABILITY	1

TRUST 11.4

BEGINNER

Large diameter safe rope, with extremely long lifespan. Designed for heavy usage in rope training centers and climbing schools.



TENDON GEAR BAG



TENDON GEAR BAG Z

TENDON GEAR BAG S

Backpack with volume of 45 l designed especially for climbers. The zipper, which encircles almost the whole edge enables an easy access into the main chamber, which contains more pockets and hanging loops for your gear. Upper part of the backpack contains a handy pocket for a guidebook or other small pieces of equipment. The back system includes removeable mat for sitting. The anatomically shaped shoulder straps, adjustable sternum strap, hip belt, and padded back ensure that the backpack fits comfortable on your back, even during a long approach. If you completely fill the main chamber, you can always fasten your rope to the top of the backpack using tightening straps. The backpack includes a rope tarp.

- Top material: robust polyester 1000D with PU coating and water-resistant treatment
- Volume 45 l
- Adjustable sternum strap and hip belt
- Padded back
- Includes coated rope tarp
- The rope can be fastened on top of the backpack using tightening straps



# MOUNTAIN CLIMBING AND ALPINISM





DANNY

# MENŠÍK

## WHAT DOES CLIMBING MEAN TO ME?

For me, climbing is to clamber up somewhere, where I can see the world from a totally different perspective. And it is also the joy and excitement at movement and all those easy and difficult, smooth and tortuous moments.



**NEW!**



**EN 892 / CE 1019**



ROPE DIAMETER	7.6	7.6 mm
WEIGHT	38	38 g/m
NUMBER OF UIAA FALLS	11	28
MAX. IMPACT FORCE	5.3	8.4 kN
SHEATH SLIPPAGE	-0.3	-0.3 %
STATIC ELONGATION	10.10	6.10 %
DYNAMIC ELONGATION	37	32 %
KNOTABILITY	1	1

**MASTER PRO 7.6**



Master PRO 7.6 mm is the first simple braided half and double rope, whose parameters are virtually unbeatable by any other rope in this category. Master PRO 7.6 mm is the only rope with diameter of less than 8 mm in the market which has a large number of UIAA falls (11 falls as a half rope, 28 falls as a double rope) and very low impact force at the same time. With the weight of 38 g/m and 7.6 mm diameter the rope is suitable for all kinds of climbers.

- D076TP44C000C • GREEN
- D076TP45C000C • ORANGE



**EN 892 / CE 1019**



ROPE DIAMETER	7	7 mm
WEIGHT	34	34 g/m
NUMBER OF UIAA FALLS	14	
MAX. IMPACT FORCE	8.9	8.9 kN
SHEATH SLIPPAGE	0	0 %
STATIC ELONGATION	3.6	3.6 %
DYNAMIC ELONGATION	33	33 %
KNOTABILITY	0.9	

**MASTER 7.0**



The lightest twin rope in the world. Only 34 grams per meter and still perfectly safe. Ideal for extreme climbing projects or as an ultra-light rope for ski-tourists. You won't even notice this rope in your bag due to its weight and size. Certified for use as a twin rope exclusively.

- D070TM41C000C • RED
- D070TM42C000C • BLUE



**EN 892 / CE 1019**



ROPE DIAMETER	7.9	7.9 mm
WEIGHT	38	38 g/m
NUMBER OF UIAA FALLS	5	16
MAX. IMPACT FORCE	5.7	8.5 kN
SHEATH SLIPPAGE	0	0 %
STATIC ELONGATION	10.5	8.0 %
DYNAMIC ELONGATION	38	35 %
KNOTABILITY	0.9	0.9

**ALPINE 7.9**



An ideal choice for various activities in the mountains. Mountain guides, ski-tourists as well as mountaineers will love its low weight of 39 g. We offer this rope even in short variants of 20 and 30 m.

- D079TL41S000C • RED
- D079TL42S000C • YELLOW





## EN 892 / CE 1019

① ①/2 ③

ROPE DIAMETER	8.6	8.6	8.6 mm
WEIGHT	50	50	50 g/m
NUMBER OF UIAA FALLS	5	13	30
MAX. IMPACT FORCE	9.9	7.2	11.5 kN
SHEATH SLIPPAGE	0.2	0.2	0.2 %
STATIC ELONGATION	5.7	5.8	3.9 %
DYNAMIC ELONGATION	30	22	23 %
KNOTABILITY	0.8	0.8	0.8

## MASTER 8.6

■■■■  
EXPERT

The thinnest single rope we offer. Master 8.6 is the perfect rope for glacier crossings, alpine ascents, and anything you do in the mountains where you only want a single rope.

 D086TM42C000C • PINK

 D086TM43C000C • TURQUOISE


## EN 892 / CE 1019


①/2 ③

ROPE DIAMETER	7.8	7.8 mm
WEIGHT	38	38 g/m
NUMBER OF UIAA FALLS	5	16
MAX. IMPACT FORCE	5.7	8.5 kN
SHEATH SLIPPAGE	0	0 %
STATIC ELONGATION	10.5	8 %
DYNAMIC ELONGATION	38	35 %
KNOTABILITY	0.9	0.9

## MASTER 7.8

■■■■  
ADVANCED

A light weight quality rope, for those who feel at home in the mountains. The Complete Shield technology protects the rope from water and dirt.

 D078TD42S000C • BLUE

 D078TD44S000C • RED


## EN 892 / CE 1019

①/2 ③

ROPE DIAMETER	8.4	8.4 mm
WEIGHT	41	41 g/m
NUMBER OF UIAA FALLS	5	12
MAX. IMPACT FORCE	5.1	9.2 kN
SHEATH SLIPPAGE	0	0 %
STATIC ELONGATION	5.4	5.3 %
DYNAMIC ELONGATION	31	27 %
KNOTABILITY	0.8	0.8

## LOWE 8.4

■■■■  
ADVANCED

If you don't want extremely thin rope but you still aim for the lowest weight possible? There is no better option than this one. Our LOWE technology lowers the weight of the rope keeping an ideal diameter of 8.4. You can save 0.5 kg with sixty meter double ropes. Nothing better!

 D084TW41S000C • BLUE

 D084TW42S000C • YELLOW



EN 892 / CE 1019

1/2 33

ROPE DIAMETER	8,5	8,5 mm
WEIGHT	46	46 g/m
NUMBER OF UIAA FALLS	10	25
MAX. IMPACT FORCE	5,3	8,6 kN
SHEATH SLIPPAGE	0,1	0,1 %
STATIC ELONGATION	7	7 %
DYNAMIC ELONGATION	32	30 %
KNOTABILITY	0,8	0,8

MASTER 8.5

BEGINNER

You will choose this rope if you seek the best ratio of lifespan and a diameter. Perfect as you first rope for mountaineering. Complete Shield coating is a matter-of-course.

 D085TF41S000C - GREEN/YELLOW

 D085TF42S000C - KHAKI/BLUE



EN 892 / CE 1019

1/2

ROPE DIAMETER	8,5	mm
WEIGHT	45	g/m
NUMBER OF UIAA FALLS	9	
MAX. IMPACT FORCE	5,4	kN
SHEATH SLIPPAGE	0,1	%
STATIC ELONGATION	7,6	%
DYNAMIC ELONGATION	38	%
KNOTABILITY	1	

AMBITION 8.5

BEGINNER

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.

 D085TB41S000C - YELLOW

 D085TB42S000C - BLUE



# BIGWALL



BW

BW



MARY

## EDEN

### WHAT DOES CLIMBING MEAN TO ME?

What does climbing mean to me? It's hard to put what climbing means to me in a few short words but I'd say climbing to me means fun and freedom. I've had the most fun in my life outside on small rocks, and tall walls. Rock climbing has given me the ability and freedom to be able to go places I didn't think were possible to access. Climbing has also given me the feeling of freedom and perfection during the 'flow state' (a calm focused feeling while climbing at your limit). Rock climbing is the funnest passion I've discovered and it allows me to free myself from the rest of life and enjoy the challenge of playing on the rocks. Why do I climb? Why do I like beautiful sunsets, margaritas, good laughs, shiny gear, and kittens? I'll never truly be able to explain the joy I find in climbing. I love the struggle, the community, the challenge, and growth I experience in this sport, and all that good stuff just translates over into every aspect of my life.



## EN 892 / CE 1019



①

ROPE DIAMETER	9.7 mm
WEIGHT	61 g/m
NUMBER OF UIAA FALLS	8
MAX. IMPACT FORCE	8.2 kN
SHEATH SLIPPAGE	0 %
STATIC ELONGATION	8.0 %
DYNAMIC ELONGATION	35 %
KNOTABILITY	0.8

## MASTER 9.7 TEFIX®

■■■■  
EXPERT

Technologies keep advancing, the favorite MASTER 9.7 now with TeFIX® technology. Even more safe and durable than its older brother. The permanent connection of core and sheath ensures the sheath cannot slip. Check the fresh design!

 D097MF41S000C • TURQUOISE
 D097MF42S000C • PINK



## EN 892 / CE 1019

①

ROPE DIAMETER	10.2 mm
WEIGHT	67 g/m
NUMBER OF UIAA FALLS	11
MAX. IMPACT FORCE	8.3 kN
SHEATH SLIPPAGE	0 %
STATIC ELONGATION	6.9 %
DYNAMIC ELONGATION	33 %
KNOTABILITY	0.8

## AMBITION 10.2 TEFIX®

■■■■  
ADVANCED

An new version of a robust rope AMBITION 10.2 enriched with TeFIX® technology. The fact that the core is connected with the sheath prevents the sheath from shifting and provides maximum possible safety in case of the sheath damage. An ideal rope which will guide you through many vertical miles.

 D102AF41S000C • YELLOW
 D102AF42S000C • ORANGE



## EN 892 / CE 1019

①

ROPE DIAMETER	9.7 mm
WEIGHT	61 g/m
NUMBER OF UIAA FALLS	5
MAX. IMPACT FORCE	7.6 kN
SHEATH SLIPPAGE	0 %
STATIC ELONGATION	9.0 %
DYNAMIC ELONGATION	30 %
KNOTABILITY	1

## HATRICK 9.7

■■■■  
ADVANCED

If you prefer small diameters but you don't want to underestimate the safety, there is no better option than Hatrick 9.7 or Master TeFIX® 9.7. SBS construction of the sheath together with a SECURE technology make this rope safe, long-lasting and prevents the sheath from shifting.

 D097TH41S000C • GREEN/BLUE
 D097TH42S000C • RED/BLUE

**EN 892 / CE 1019**


ROPE DIAMETER	10.2 mm
WEIGHT	66 g/m
NUMBER OF UIAA FALLS	5
MAX. IMPACT FORCE	8.2 kN
SHEATH SLIPPAGE	0 %
STATIC ELONGATION	5.4 %
DYNAMIC ELONGATION	33 %
KNOTABILITY	0.9


①

**HATRICK 10.2**

BEGINNER

A rope with SECURE technology that offers less UIAA falls but has much larger sheath that ensures durability and a long lifespan of the rope. Perfect choice for rentals and permanent use in the climbing gyms (top-roping).

 D102TH41S000C • BLUE

 D102TH42S000C • RED


# SPELEO AND CANYONING





LASO

# SCHALLER

## WHAT DOES CANYONING MEAN TO ME?

Canyoning...following the water stream from up to down...feeling the cold water, the fresh air, the view and diving into the pure nature with nothing else than just with some ropes and some climbing gear...that's freedom...my little world...





**CE 1019**

DIAMETER	10.2* mm
WEIGHT	60 g/m
NUMBER OF FALLS	20** min.
RELATIVE MASS OF SHEATH	47 %
SHEATH SLIPPAGE	0 %
ELONGATION (50 - 150 KG)	2.6 %
SHRINKAGE	0 %
STRENGTH	23 kN
MIN. STRENGTH WITH KNOTS	12 kN
USED MATERIAL	PA/PPV
TYPE	-
FLOATING	Yes

**SALAMANDER 10.2**

The best choice among the canyoning ropes. Light, floating rope with our SECURE technology keeps its outstanding qualities for a long time. Its construction and applied materials help to minimize shrinking of the rope in wet conditions. It has stronger, coarser sheath and thanks to the production technology, this rope is very static, low stretch.

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

 **C102TS41S000C • YELLOW/RED • SALAMANDER**



**EN1891 / CE1019**

DIAMETER	9 mm
WEIGHT	59 g/m
NUMBER OF FALLS	16 min.
RELATIVE MASS OF SHEATH	44 %
SHEATH SLIPPAGE	0.2 %
ELONGATION (50 - 150 KG)	3.6 %
SHRINKAGE	1 %
STRENGTH	28 kN
MIN. STRENGTH WITH KNOTS	18 kN
USED MATERIAL	PA
TYPE	A

**CANYON DRY 9.0**

New polyamide (nylon) rope with a smaller diameter of 9 mm and Complete Shield dry treatment which coats core strands and sheath fibers. This reduces water absorption and increases abrasion resistance considerably. The highly visible colour guarantees that the user has under control any situation where bad conditions prevail. The rope is flexible and retains its softness even after a long period of use. CANYON DRY 9.0 will be especially appreciated by experienced canyoneers who want a quick and smooth descent, and who care about every gram of weight.

 **C090TD41C000C • RED**



**CE 1019**

DIAMETER	10* mm
WEIGHT	61 g/m
NUMBER OF FALLS	20** min.
RELATIVE MASS OF SHEATH	47 %
SHEATH SLIPPAGE	-0.2 %
ELONGATION (50 - 150 KG)	3.2 %
SHRINKAGE	1.7 %
STRENGTH	18 kN
MIN. STRENGTH WITH KNOTS	12 kN
USED MATERIAL	PA/PPV
TYPE	-
FLOATING	Yes

**CANYON GRANDE 10.0**

This rope is easily knotted and soft even after repeated immersion into the water. Its bright colours contrast well with the colour of the water, it is highly resistant to abrasion and offers increased water-resistance. Thanks to the materials used, the rope has lower absorbability and floats on the surface.

\*\* weight 55 kg, fall factor 1  
\* tested according to EN 1891 type B except min. tenacity and material

 **C100TC41S000C • YELLOW • CANYON GRANDE**



EN 1891 / CE 1019

DIAMETER	10	mm
WEIGHT	66	g/m
NUMBER OF FALLS	20	min.
RELATIVE MASS OF SHEATH	38	%
SHEATH SLIPPAGE	-0.3	%
ELONGATION (50 - 150 KG)	2.5	%
SHRINKAGE	0.8	%
STRENGTH	30	kN
MIN. STRENGTH WITH KNOTS	18	kN
USED MATERIAL	PA	
TYPE	A	

CANYON WET 10.0

Rope variation which doesn't float on water due to materials used (PA) meets requirement of EN 1891 type A.

 C100TW48W000C • ORANGE • CANYON WET



EN 1891 / CE 1019

DIAMETER	9	10	10.5	11	mm
WEIGHT	48	63	72	77	g/m
NUMBER OF FALLS	8	16	20	20	min.
RELATIVE MASS OF SHEATH	42	40	46	42	%
SHEATH SLIPPAGE	-0.3	0	0.1	2	%
ELONGATION (50 - 150 KG)	4.1	3.7	3	3.3	%
SHRINKAGE	1	1.8	1.4	1.8	%
STRENGTH	19	27	28	34	kN
MIN. STRENGTH WITH KNOTS	12	16	18	19	kN
USED MATERIAL	PA	PA	PA	PA	
TYPE	B	A	A	A	

SPELEO 9.0 - 11.0

Low stretch, high static strength, and exceptional resistance to abrasion are the qualities most valued among cavers.

 S090TS41S000C • WHITE/ORANGE S105TS41S000C • WHITE/ORANGE  
S100TS41S000C • WHITE/ORANGE S110TS41S000C • WHITE/ORANGE




EN 1891 / CE 1019

DIAMETER	10.5	mm
WEIGHT	76	g/m
NUMBER OF FALLS	12	min.
RELATIVE MASS OF SHEATH	51	%
SHEATH SLIPPAGE	0.5	%
ELONGATION (50 - 150 KG)	2.7	%
SHRINKAGE	1	%
STRENGTH	34	kN
MIN. STRENGTH WITH KNOTS	18	kN
USED MATERIAL	PES/PA	
TYPE	A	

SPELEO 10.5 SPECIAL

Low stretch, high static strength, and exceptional resistance to abrasion are the qualities most valued among cavers. Polyester sheath is built to endure higher thermal stress during abseiling on 10.5 special rope.

 S105T641S000C SPECIAL • WHITE/BLUE

# ARBORISTI



**EN 1891 / CE 1019**

DIAMETER	11 mm
WEIGHT	88 g/m
NUMBER OF FALLS	20 min.
RELATIVE MASS OF SHEATH	57 %
SHEATH SLIPPAGE	0 %
ELONGATION (50 - 150 KG)	3.1 %
SHRINKAGE	0.7 %
STRENGTH	30 kN
MIN. STRENGTH WITH KNOTS	18 kN
USED MATERIAL	PES/PA
TYPE	A

**TIMBER EVO 11.0**

The lightest rope in the Tendon arbor line. Timber Evo 11.0 is a rope with excellent handling and smooth ascent and descent because of the 24 strand construction and specially designed sheath.

 L110TT41S000C • BRIGHT YELLOW

**SPLICED LOOP AVAILABLE - ON REQUEST**

**EN 1891 / CE 1019**

DIAMETER	11.5 mm
WEIGHT	90 g/m
NUMBER OF FALLS	20 min.
RELATIVE MASS OF SHEATH	54 %
SHEATH SLIPPAGE	0.5 %
ELONGATION (50 - 150 KG)	3 %
SHRINKAGE	1 %
STRENGTH	30 kN
MIN. STRENGTH WITH KNOTS	18 kN
USED MATERIAL	PES/PA
TYPE	A

**TIMBER EVO 11.5**

This improved version of the Timber Evo 11.5 working rope is characterized by a better abrasion resistance and consequently a longer service life thanks to the new construction of the sheath. 24 strand double braid construction makes this an excellent rope for professional arborists.

 L115TE42S000C • ORANGE/YELLOW

**SPLICED LOOP AVAILABLE - ON REQUEST**

**EN 1891 / CE 1019**

DIAMETER	12.5 mm
WEIGHT	104 g/m
NUMBER OF FALLS	20 min.
RELATIVE MASS OF SHEATH	48 %
SHEATH SLIPPAGE	0 %
ELONGATION (50 - 150 KG)	3 %
SHRINKAGE	0.6 %
STRENGTH	39 kN
MIN. STRENGTH WITH KNOTS	22 kN
USED MATERIAL	PES/PA
TYPE	A

**TIMBER EVO 12.5**

The combination of polyamide (nylon) core and polyester sheath lends to, among other features, an excellent abrasion resistance and also high strength in the ropes of the Timber Evo series. The 12.5 mm diameter guarantees good control during handling. Excellent for climbing as well as safety rigging line where some stretch is desired.

 L125TT41S000C • BRIGHT ORANGE

**SPLICED LOOP AVAILABLE - ON REQUEST**



DIAMETER	15 mm
WEIGHT	172 g/m
STRENGTH	61 kN
USED MATERIAL	PES

## LOWERING ROPE 15.0

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



L150TT41S000C - YELLOW/BLACK

## TIMBER SET

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



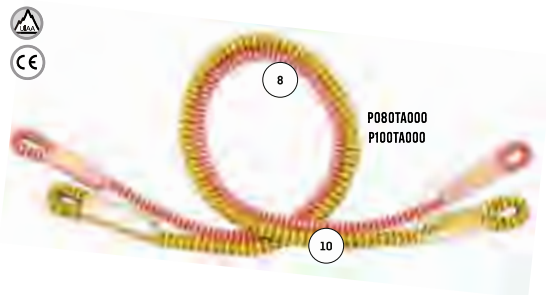
EN 813 / EN 358 / CE 1019

Timber sit	WEIGHT
Size M-XL	1 780 g
Size XXL	1 820 g
XPTH-030	

## TIMBER SIT

The Tendon Timber Sit is a fully adjustable arborist harness with a wide padded back and leg loops, making it really comfortable even for long days high in the trees. The quick release leg and waist buckles make putting it on and taking it off a snap. It comes equipped with one sliding ring on the bridge, two metal side attachment points for lanyard or flip line and three gear loops in the back.

Complies with EN 358 and EN 813.



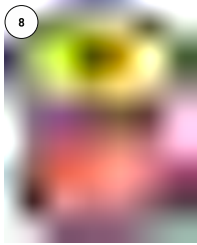
## PRUSIKS 8 AND 10 MM

EN 566 / EN 795B / CE 1019

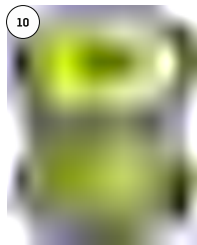
The use of the PES/TECHNORA material combination results in a better thermal and mechanical resistance of the sheath. Supplied in any length or as prusiks made to measure with sewn eyes.



### ACCESSORY CORD



A080TP41S000C  
EN 564



A100TP41S000C

#### CE 1019

ROPE DIAMETER	8	10	mm
WEIGHT	54.3	73	g/m
TENACITY	20	25	kN
USED MATERIAL	PES/TECHNORA		



TIMBER 8	+	+
TIMBER 10	+	-

### THROW BAG



XTIMBERBAG300 / XTIMBERBAG350 / XTIMBERBAG400  
300 g      350 g      400 g

### TIMBER 3



ROPE DIAMETER	3	mm
WEIGHT	2.5	g/m
TENACITY	0.8	kN
USED MATERIAL	PE	

A030TT41S000C



# WORK AT HEIGHT AND RESCUE





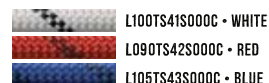
**EN 1891 / CE 1019**

DIAMETER	9	10	10.5	11	12	13	mm
WEIGHT	50	69	72	80	92	109	g/m
NUMBER OF UIAA FALLS	15	20	20	20	20	20	min.
RELATIVE MASS OF SHEATH	49	38	35	39	35	46	%
SHEATH SLIPPAGE	0.4	0.1	0	0.3	4	0	%
ELONGATION (50 - 150 KG)	5	4.1	3.4	3.7	3.2	3	%
SHRINKAGE	0.6	2	1.9	1.9	1.8	1.1	%
STRENGTH	23	31	32	33	42	42	kN
MIN. STRENGTH WITH KNOTS	13	17	18	20	25	27	kN
USED MATERIAL	PA	PA	PA	PA	PA	PA	
TYPE	B	A	A	A	A	A	

SEWN TERMINATION IS AVAILABLE - ON REQUEST

**STATIC 9.0 - 13.0**

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.



**EN 1891 / CE 1019**

DIAMETER	10.5	11	mm
WEIGHT	75	85	g/m
NUMBER OF UIAA FALLS	17	20	min.
RELATIVE MASS OF SHEATH	48.5	33	%
SHEATH SLIPPAGE	0	0	%
ELONGATION (50 - 150 KG)	4.6	4.5	%
SHRINKAGE	1.2	0.8	%
MIN. STRENGTH WITH KNOTS	18	19	kN
STRENGTH	28	35	kN
TYPE	A	A	

SEWN TERMINATION IS AVAILABLE - ON REQUEST

**SECURE 10.5, SECURE 11.0**

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 sandwichtype 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.



PATENT PENDING



**EN 1891 / CE 1019**

DIAMETER	9	mm
WEIGHT	61	g/m
NUMBER OF FALLS (MIN.)	5	min.
RELATIVE MASS OF SHEATH	41	%
SHEATH SLIPPAGE	0	%
ELONGATION (50 - 150 KG)	3.3	%
SHRINKAGE	1.9	%
STRENGTH	24	kN
MIN. STRENGTH WITH KNOTS	15	kN
USED MATERIAL	PA	
TYPE	A	

**STATIC 9.0 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.







**EN 1891 / CE 1019 / NFPA 1983 2017 EDITION**  
**PARAMETERS ACCORDING TO EN 1891**

DIAMETER	10.5	11	12	mm
WEIGHT	74	83	87	g/m
NUMBER OF FALLS (MIN.)	20	20	20	min.
RELATIVE MASS OF SHEATH	34	33	35	%
SHEATH SLIPPAGE	0	0	4	%
ELONGATION (50 - 150 KG)	3.6	3.5	3.2	%
SHRINKAGE	0.3	4.5	1.8	%
STRENGTH	32	42	42	kN
MIN. STRENGTH WITH KNOTS	17	15	25	kN
USED MATERIAL	PA	PA	PA	
TYPE	A	A	A	

**STATIC NFPA 10.5 - 12.0**

The excellent ropes with low elongation and high static strength are intended primarily for work at height 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 equipment for emergency services, 2017 edition.



L105NS41S000C • WHITE

L110NS41S000C • WHITE

L120NS41S000C • WHITE



**EN 1891 / CE 1019 / NFPA 1983 2017 EDITION**  
**PARAMETERS ACCORDING TO NFPA**

DIAMETER	10.5	11	12	mm
DIAMETER	0.413	0.433	0.472	in
MBS*	32	40.5	42	kN
MBS*	7194	9105	9442	lbs
WEIGHT	74	83	87	g
ELONGATION AT 10% MBS	8.6	8.4	7.4	%
ELONGATION AT 1.35 KN (300 LBF)	2.8	3.6	2.3	%
ELONGATION AT 2.70 KN (600 LBF)	7.1	6.2	4.7	%
ELONGATION AT 4.40 KN (1000 LBF)	10.7	9.5	7.8	%
NFPA 1983 2017 EDITION	Yes	Yes	Yes	
CLASSIFIED	Technical use	General use		

**STATIC NFPA 10.5 - 12.0**

The excellent ropes with low elongation and high static strength are intended primarily for work at height 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 equipment for emergency services, 2017 edition.



L105NS41S000C • WHITE

L110NS41S000C • WHITE

L120NS41S000C • WHITE



# MILITARY





**EN 1891 / CE 1019**

DIAMETER	9	10	10.5	11	12	mm
WEIGHT	50	69	72	80	92	g/m
NUMBER OF FALLS (MIN.)	15	20	20	20	20	min.
RELATIVE MASS OF SHEATH	49	38	35	39	35	%
SHEATH SLIPPAGE	0.4	0.1	0	0.3	4	%
ELONGATION (50 - 150 KG)	5	4.1	3.4	3.7	3.2	%
SHRINKAGE	0.6	2	1.9	1.9	1.8	%
STRENGTH	23	31	32	33	42	kN
MIN. STRENGTH WITH KNOTS	13	17	18	20	25	kN
USED MATERIAL	PA	PA	PA	PA	PA	
TYPE	B	A	A	A	A	

**MILITARY 9.0 - 12.0**

Excellent ropes with low elongation and high static strength are designed for army and police.

-  L100TS44S000C • BLACK
-  L100TS45S000C • GREEN
-  L100TS46S000C • CAMOUFLAGE
-  L100TS4KS000C • DESERT STORM
-  L100TS47S000C • SOLID BLACK

SEWN TERMINATION IS AVAILABLE ON SOME TYPES - ON REQUEST



**EN 1891 / CE 1019**

DIAMETER	10	11	mm
WEIGHT	65	80	g/m
NUMBER OF FALLS (MIN.)	10	20	min.
RELATIVE MASS OF SHEATH	50	48	%
SHEATH SLIPPAGE	0.1	0.2	%
ELONGATION (50 - 150 KG)	3.3	2.5	%
SHRINKAGE	1.9	-2	%
STRENGTH	33	44	kN
MIN. STRENGTH WITH KNOTS	15	20	kN
USED MATERIAL	Aramid/PA	Aramid/PA	
TYPE	B	B	

**ARAMID 10.0, 11.0**

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 descent from a helicopter, when ordinary ropes are not able to tackle the heat energy.

\* tested according to EN 1891 except impact force

-  L100TA42S000C • BLACK
-  L110TA41S000C • BLACK




**EN 1891 / CE 1019**

DIAMETER	11	mm
WEIGHT	80	g/m
NUMBER OF FALLS (MIN.)	20	min.
RELATIVE MASS OF SHEATH	39	%
SHEATH SLIPPAGE	0.3	%
ELONGATION (50 - 150 KG)	3.7	%
SHRINKAGE	1.9	%
STRENGTH	33	kN
MIN. STRENGTH WITH KNOTS	20	kN
USED MATERIAL	PA	
TYPE	A	

**REFLECTIVE 11.0**

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.

-  L110TS49S000C • BLACK

SEWN TERMINATION IS AVAILABLE - ON REQUEST



**CE 1019**

DIAMETER	10*	11**	mm
WEIGHT	68	84	g/m
NUMBER OF FALLS (MIN.)	5	5	min.
RELATIVE MASS OF SHEATH	36	41	%
SHEATH SLIPPAGE	0	0.5	%
ELONGATION (50 - 150 KG)	3.5	3.6	%
SHRINKAGE	2.3	3	%
STRENGTH	24	26	kN
MIN. STRENGTH WITH KNOTS	13	15	kN
USED MATERIAL	PA/Steel	PA/Steel	
TYPE	B	A	

**FORCE 10.0, 11.0**

A special rope which makes use of a technology of combination of materials and the rope construction itself. There is internal sheath made of stainless steel wires in the rope. The product for use in extremely severe conditions (for instance rescuers, firemen, policemen and other special forces) due to its increased resistance to cutting.

\* tested according to EN 1891 type B excepted material and marking  
 \*\* tested according to EN 1891 type A excepted material and marking

- L100TF41S000C • BLACK
- L110TF41S000C • BLACK

**PATENT PENDING**

**FAST ROPE**

**ROPE FOR RAPID DEPLOYMENT FROM HELICOPTERS FAST ROPE (2) AND VERSION FOR TRANSPORTATION AND EVACUATION F.R.I.E.S. (1)**

In the production of the unique Fast Rope, special PA BCF fibres are used which give superior protection during descending, having high resistance to wear and rupture. The rope with a diameter of 44 mm and a unique construction offers the user good control during descending without additional belay. We are able to supply our key military clients in many countries with Fast Ropes also in diameters 40 mm and 32 mm.

ROPE DIAMETER, PRE-TENSIONED ACCORDING TO EN ISO 2307 (245 KG)	44	40	32	mm
ROPE DIAMETER, LOOSE (ZERO TENSION)	50	46	38	mm
ROPE WEIGHT, PRE-TENSIONED ACCORDING TO EN 2307 (245 KG)	77	60	42	kg/100 m
ROPE WEIGHT, LOOSE (ZERO TENSION)	96	75	52	kg/100 m
MINIMUM ROPE STRENGTH WITH SPLICED EYE	12 000	10 000	7 500	kg
MINIMUM ROPE STRENGTH WITH SEWN LOOP WITH TEXTILE PROTECTION	6 000	6 000	6 000	kg
MINIMUM ROPE STRENGTH WITH STEEL TERMINATION	3 000	3 000	-	kg
MINIMUM STRENGTH OF SUSPENSION SLING (F.R.I.E.S.)	2 250	2 250	2 250	kg
ROPE ELONGATION, PRE-TENSIONED ACCORDING TO EN ISO 2307 (245 KG)	25	25	25	%

- **spliced eye** with high strength and resistance, for frequent straining and loading (e.g. in practising).
- **eye made of express slings (ST-short termination)** - lightweight and especially short eye with high strength. Easy examination of seams and express slings after removal of the protector. In emergency the rope may be simply cut at the termination.
- **eye with metal termination (MT-metal termination)** for different types of metal connectors and hooks.

**1) ROPE F.R.I.E.S. FOR TRANSPORTATION AND EVACUATION PERSONNEL**



**2) FAST ROPE USED FOR RAPID DEPLOYMENT FROM HELICOPTERS**



**STANDARD TYPE OF TERMINATIONS**

- A) Metal multifit termination
- B) Metal termination with connecting pin
- C) Short termination (sewn loop) with textile protection
- D) Spliced loop with textile protection



# ACCESSORIES





## ACCESSORY CORDS

CORD DIAMETER / mm  
WEIGHT / g/m  
MIN. STRENGTH / daN

CORD DIAMETER / mm	4	5	6	7	8	FULL ARAMID	ARAMID	REFLECTIVE	TOUCH
WEIGHT / g/m	12.7	18.9	25	34	43	26	22.9	23.2	23.2
MIN. STRENGTH / daN	340	510	1000	1300	1460	2200	1700	1000	1000
Color / Code	blue / yellow A040TR41S100R red A040TR42S100R	yellow A050TR41S100R blue A050TR42S100R	green A060TR41S100R red A060TR42S100R	red A070TR41S100R yellow A070TR42S100R	red A080TR42S100R orange A080TR41S100R	beige A060TF41S100R black A060T441S100R	black A060TR44S100R	black A060TR44S100R	white/red A060TT41S000R white/blue A060TT42S000R



EN 564 / CE 1019

Aramid accessory cord has an extremely high strength in spite of having the same weight as a standard PA accessory cord. You will appreciate also its low elongation and maintenance of high strength even with damaged sheath thanks to the braided core made of 100% aramid.

## POWER CORDS

CORD DIAMETER / mm  
WEIGHT / g/m  
MIN. STRENGTH / daN

CORD DIAMETER / mm	2	3	9
WEIGHT / g/m	2.8	6.5	54.4
MIN. STRENGTH / daN	120	190	1900
Color / Code	blue A020TH41S100R yellow A020TH42S100R	blue A030TH41S100R black A030TH42S100R	red A090TR41S100R

CE 1019

## TUBULAR TAPE

WIDTH	TENACITY
19 mm	15 kN
25 mm	20 kN

A tubular tape for different applications, such as connection of a chest harness and a sit harness. Different widths, strengths and colours are available.

12C3PAPOPEXP20	19 mm
12C3PAPOPEXP25Ž	25 mm
12C3PAPOPEXP25Č	25 mm

## DUCK

EN 576

Weight 70 g / X888



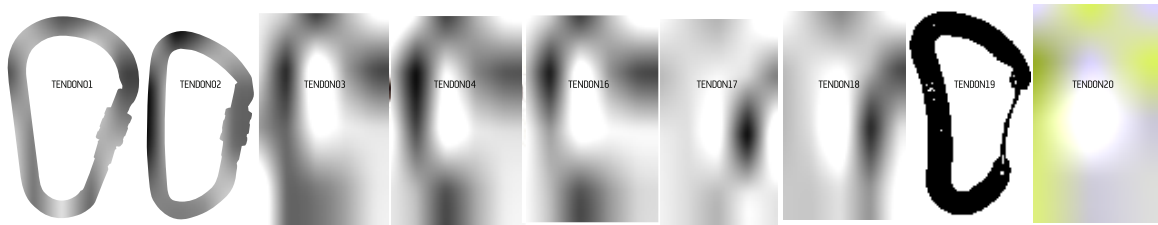
Duck a rope clamp/positioner made by Kong, designed for ropes with diameters between 8 and 13 mm. The first and only device that may be used also with 10 to 15 mm wide flat and tubular slings. Due to its small dimensions, it is possible to use Duck with one hand only, the large diameter enables the karabiner to rotate. Intended for ascending activities, daisy chain positioning, self-belaying.

## ASCENDERS AND DESCENDER



	ASCENDERS TENDON 13	ASCENDERS TENDON 14	ASCENDERS TENDON 15	FIGURE 8 DESCENDER TENDON 09
WEIGHT / g	160	225	225	110
	EN 567	EN 567	EN 567	EN 15151-2

## CARABINERS



CARABINERS	TENDON 01	TENDON 02	TENDON 03	TENDON 04	TENDON 16	TENDON 17	TENDON 18	TENDON 19	TENDON 20
MAJOR AXIS STRENGTH / kN	22	30	27	27	27	23	23	23	21
MINOR AXIS STRENGTH / kN	8	10	10	10	10	10	10	9	8
OPEN GATE STRENGTH / kN	6	10	9	9	9	9	9	10	7
WEIGHT / g	90	70	56	55	60	55	55	39	31
EN	12275, 362 B	12275, 362 B	12275	12275	12275, 362 B	12275	12275	12275	12275



## HELMETS ORBIX

EN 12492 / CE 0497



- Low weight: 240 g
- ergonomic and padded interior
- ventilation with 17 vents
- 3 Headlamp clips
- size: UNI 54/62 cm, new easily and conveniently adjustable system
- fully adjustable chinstrap
- material: external shell polycarbonate, internal shell from EPS



XT-ORBIXGREEN



XT-ORBIXWHITE



XT-ORBIXRED



## QUICKDRAW AND SEWN SLINGS

EN 566 / CE 1019

	PA					
LENGTH / cm	10	15	20	60	120	180
WIDTH / mm	16	16	16	16	16	16
MIN. STRENGTH / kN	22	22	22	22	22	22

	DYNEEMA®					
LENGTH / cm	10	15	20	60	120	180
WIDTH / mm	11	11	11	11	11	11
MIN. STRENGTH / kN	22	22	22	22	22	22



illustrative photo



## DYNAPROT 10

CE 1019

STATIC TENACITY / kN	FALL FACTOR 1		FALL FACTOR 2	
	IMPACT FORCE / kN	NUMBER OF FALLS	IMPACT FORCE / kN	NUMBER OF FALLS
22	7.4	min. 20	10.7	9



DynaProt 10, the dynamic sling, is made of a dynamic rope and is therefore capable of absorbing the energy of a dynamic fall and to dampen this fall thanks to its elongation. DynaProt 10 has been tested with fall factors 1 and 2. It is able to arrest nine falls with a fall factor of 2. Even with a fall factor of 2, the impact force is lower than the maximum force permitted by EN 892.

### DYNAPROT 10 CLASSIC:

Length 45 cm - DP100C045  
 Length 60 cm - DP100C060  
 Length 75 cm - DP100C075

### DYNAPROT 10 Y:

Length 75 cm - DP100Y000

### DYNAPROT 10 Y SHORT:

Length 45 cm and length 75 cm - DP100YS000

## MASTERCORD 7.8

EN 566 / CE 1019

LENGTH / cm	60	120	180
MIN. STRENGTH / kN	22	22	22

MasterCord 7.8 is a dynamic sling that is certified to EN566 standard with a minimum strength of 22 kN. Additionally, the MasterCord 7.8 dynamic sling has been tested on a drop tower with an 80kg weight and a fall factor of 2. Made from a dynamic rope, this helps absorb the impact energy of a fall, potentially reducing the force on the users and the anchor points. The MasterCord 7.8 can be used as part of a quick anchor when securing your belay, or it can be used on the route in place of a conventional sling.

### MASTERCORD 7.8:

length 60 cm - MC078C060  
 length 120 cm - MC078C120  
 length 180 cm - MC078C180





## ULTIMO

EN 12277 / CE 1019

SIZE	WAIST / cm		LEG LOOPS / cm	
	min.	max.	min.	max.
XS	65	75	49	49
S	70	80	52	52
M	75	85	55	55
L	80	90	58	58
XL	85	95	60	60
WEIGHT / g	352			

XT-ULTIMO-XS    XT-ULTIMO-L  
 XT-ULTIMO-S    XT-ULTIMO-XL  
 XT-ULTIMO-M

The Ultimo is an extremely lightweight and ideally sized harness with comfortable leg loops, suitable mainly but not exclusively for sport climbing. Made with low weight and comfort in mind, ensuring that the Ultimo will be appreciated in climbing contests and extreme route climbing.



## STORM

EN 12277 / CE 1019

SIZE	WAIST / cm		LEG LOOPS / cm	
	min.	max.	min.	max.
XS	65	75	50	55
S	70	80	50	55
M	75	85	55	60
L	80	90	55	60
XL	85	95	65	70
XXL	90	100	65	70
WEIGHT / g	429			

XT-STORM-XS    XT-STORM-L  
 XT-STORM-S    XT-STORM-XL  
 XT-STORM-M    XT-STORM-XXL

The Storm is a comfortable harness with reinforced attachment points and a differently coloured belaying eye. The leg loop diameter of the Storm can be adjusted to ensure comfort. The Storm has been designed especially for sport climbing.



## TALUNG



EN 12277 / CE 1019

SIZE	WAIST / cm		LEG LOOPS / cm	
	min.	max.	min.	max.
S	65	80	50	55
M - L	75	90	60	65
XL	85	100	65	70
WEIGHT / g	465			

XT-TALUNG-S  
XT-TALUNG-M/L  
XT-TALUNG-XL



This multi-purpose harness is intended especially for mountain, big wall climbing and a full day at the crag. It features excellent adjustability via four stainless steel buckles. This should ensure the Talung gives maximum comfort during long and strenuous ascents.

## COMP



EN 12277 / CE 1019

SIZE	WAIST / cm		LEG LOOPS / cm	
	min.	max.	min.	max.
ONE SIZE	65	120	42	66
WEIGHT / g	505			

XT-COMP



Harness for via ferratas and for beginners. With reinforced leg loops and attachment points, with two loops 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 upside down position.



## CANYON SIT

EN 12277 / CE 1019

SIZE	WAIST / cm		LEG LOOPS / cm	
	min.	max.	min.	max.
ONE SIZE	60	120	42	66
WEIGHT / g	550			

### XT-CANYON

A simple, uncushioned harness for canyoning, based on the design of the popular sport harness Jammy. It is made of a strong material which is resistant to the water environment. With its removable neoprene protector, ergonomic design and reinforce attachment points, this harness is an ideal part of your gear for canyons.



## JAMMY

EN 12277 / CE 1019



SIZE	WAIST / cm		LEG LOOPS / cm	
	min.	max.	min.	max.
ONE SIZE	60	120	42	66
WEIGHT / g	370			

### XT-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.

## SCOUT

EN 12277 / CE 1019



SIZE	GIRTH OF CHEST / cm
ONE SIZE	75 - 110
WEIGHT / g	240



### XT-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.

# MERCH





MERCH



### TENDON HOODIE

Pleasant and comfortable full-length zipper sweatshirt with fluorescent parts and contrasting large hood with microperforated fabric and two pockets

Style: UNISEX

Size: S, M, L, XL, XXL

Color: black and lime

Material: 85% COTTON  
15% VISCOSE

cm	S	M	L	XL	XXL
width	50	53	56	59	62
length	63	66	69	72	75

XTENDON MIKINA (S-XXL)



### TENDON T-SHIRT

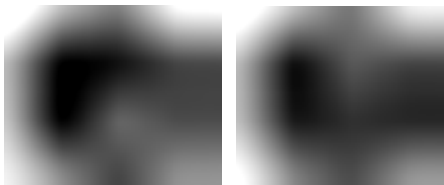
Cotton t-shirt with short sleeves. Modern with round and lined neckline. Men's and women's comfortable fit.

Weight: 185 g/m<sup>2</sup>

Size: S, M, L, XL, XXL

Material: 100% ORGANIC COTTON

- XT-CLIMB/Z/M/S-XXL
- XT-CLIMB/Ĉ/M/S-XXL
- XT-CLIMB/Z/W/S-XL
- XT-CLIMB/Ĉ/W/S-XL



### TENDON SNAPBACK

Straight peak

Size: universal

Color: various

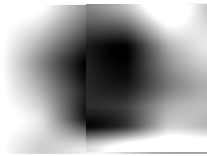
XTENDON CUP BLACK



### NALGENE BOTTLE

Excellent bottle made by Nalgene with flip cap and safety lock against opening and spilling of the drink. The shaped neck makes it easy to fill the bottle up. Easy opening and closing with one hand. Volume: 750 ml.

XNALGENE BOTTLE



## TENDON CAP

Breathable elastic material of soft non-scratching construction with high thermal insulation even in extreme climatic conditions. Ideal under the helmet when climbing.

XCAP



## MICROFLEECE CAP

Material: 100% polyester mikrofleece

Size: onesize

XTENDON\_HAT



## TENDON SCARF

Practical multifunctional scarf. You can turn it into a headdress, balaclava, pirate, neckerchief, hair band. Suitable for all sports and leisure. Made of one piece without seams and antibacterial microfiber. Offers protection against wind, snow, sun, etc.

Material: 100% POLYAMIDE

Size: universal

XHEADSCARF GREEN  
XHEADSCARF BLACK



## CRUSHED MAG

Climbing chalk (magnesium carbonate) in a practical plastic screw dose, perfect grade natural chalk specifically designed for climbing activities.

Capacity: 100 g (3.5 oz) of chalk

XTENDON MAGNESIUM

## TENDON STICKERS



XSTICKER





### TENDON NOTEBOOK

Ideal format for take notes about your climbing projects



### CLOTH BADGE

Application of a cloth badge is a suitable way of decoration and additional decoration of finished clothing.

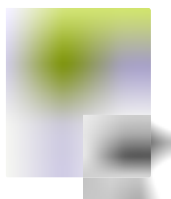
Size: 85 x 45 mm



### TENDON PEN

Ballpoint pen for writing

XTENDON PEN



### TAPING STRIPS

Dimensions: 1.25 cm x 10 m  
5 cm x 10 m

XTAPING STRIP  
XTAPING STRIP NEW



### TENDON CUP

Stainless steel mug with colored snap hook instead of handle.

Color: green  
Volume: 300 ml

XTENDON\_HRNEK



### CHALK BAG

The magnesium bag is made of printed polyester and polyamide. Fleece is used as the inner material. A quick closing system and a reinforced edge allow comfortable handling of the bag.

XTENDON CHALK BAG





# 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. WE USE PFC-FREE ECO IMPREGNATION ON OUR ROPE, WHICH IS ENVIROMENTALLY FRIENDLY BECAUSE IT DOES NOT CONTAIN FLUORINATED HYDROCARBONS C8 OR C6. WE ALSO RECYCLED ALL UNUSED SHEED AND MADE NEW PRODUCTS FROM THEM. 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. WE ARE GLAD THAT WE CAN CONTRIBUTE TO THE MAINTENANCE OF A HIGH-QUALITY ENVIRONMENT BY OUR APPROACH.



## RECYCLED TENDON MERCH

TENDON merch are made of dynamic and static ropes residue.



### CHALK BAG ECO **NEW!**

Brand new chalk bag with new design. Quick closing system and reinforced edge allow convenient bag handling. Slot for brush, fleece inner material. Belt and parts of the bag are made from Master 8.6.



**BRACELET**  
XT-NÁRAMEK



**KEYCHAIN FROM 1 ROPE**  
XT-KLÍČENKA1/POPRU



**KEYCHAIN LONG**  
XT-KLÍČENKA KRK



**BELT WITH BUCKLE**  
XT-OPASEK KROUŽKY



# ADDITIONAL SERVICES



## 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 than 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".



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.  
**XROPEMARKER**



**YOU SHOULD ALWAYS KNOW WHERE THE MIDPOINT OF YOUR ROPE IS, ESPECIALLY IF THE ROPE HAS BEEN SHORTENED.**



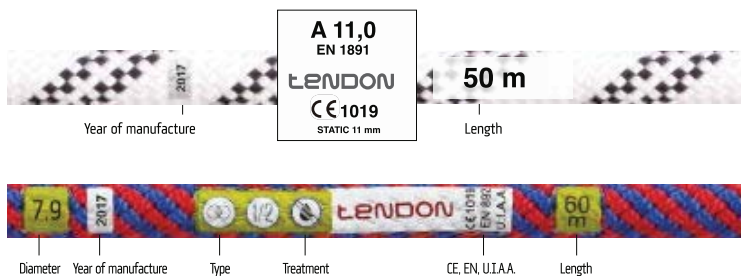
We develop the conception of the overall administration and registration of ropes which, thanks to NFC technology, offers amazing possibilities and brings user comfort to a new level. With a PC and a mobile phone you obtain a quick, effective and smart tool for examination and maintenance of your ropes.

## OUR ROPES WILL COMMUNICATE WITH YOU

INNOVATIVE AND MOBILE ACCESS TO IDENTIFICATION, MARKING AND REGISTRATION OF STATIC AND DYNAMIC ROPES.

MORE INFORMATION ON [WWW.MYTENDON.COM](http://WWW.MYTENDON.COM)





## END MARKING OF ROPES

End marking of ropes by TENDON Thermotransfer is relatively permanent, does not come off and doesn't cause 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.

**MORE INFORMATION ON [WWW.MYTENDON.COM](http://WWW.MYTENDON.COM) OR IN USING INSTRUCTION.**



## 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.



**BEAR IN MIND THAT THE STRENGTH OF EYES IS USUALLY LOWER THAN THE STRENGTH OF THE ROPE.**

## ROPE TERMINATION

A perfect rope termination is done 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.



## ROPE CUTTER + CUTTING BLADE

CUTTING BLADE TYPE R - XCEPEL-R  
HEAT CUTTER HSG - XPAJKA-HSGO

Rope shortening device.



## ROPE PROTECTOR

LENGTH 60 CM - XPROTECTOR60  
LENGTH 100 CM - XPROTECTOR100

Rope protector against rubbing when the rope runs over an edge. A resistant sleeve made of PVC with easy closing by a velcro fastener.



## 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.

## TENDON ROPE CLEANER

XPRACIGEL03



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.



**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.**

## STORAGE LIFE AND LIFESPAN 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 humidity 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!

### LIFESPAN

#### 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-occurring false twist effect.

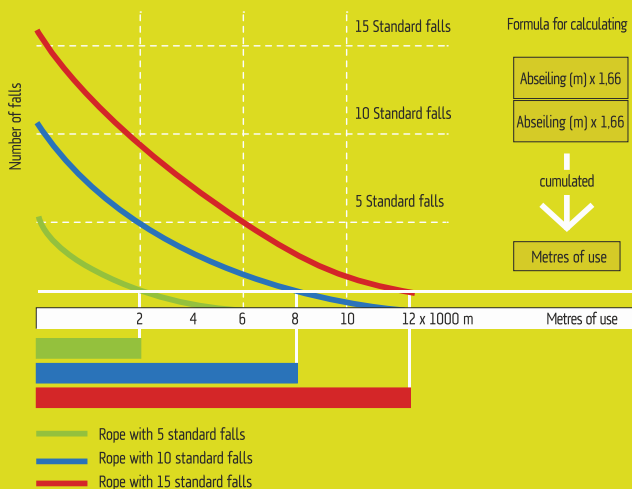
#### **The general load is much higher than in the aforementioned case!**



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

$$\text{metres of climbing} \times 0.33 + \text{metres of abseiling} \times 1.66 = \text{metres of use}$$

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  $\geq 5$  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  $\leq 2$  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 humidity of about 65 %. An examination of the rope by a competent person 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 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 catch 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.

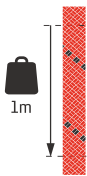
OCCASIONAL USE (SEVERAL TIMES A YEAR) WITH AN INTENSITY OF USE UNWORTHY OF NOTICE, WITHOUT CONSIDERABLE MECHANICAL LOADING OR FALL ARREST, WITHOUT RECOGNIZABLE WEAR OR CONTAMINATION.	8 - 10 YEARS
OCCASIONAL USE (SEVERAL TIMES A YEAR) WITH HIGH INTENSITY OF USE, MECHANICAL LOADING (SUSPENSION, OCCASIONAL LOWERING OR ABSEILING), WITHOUT FALL ARREST. <b>SIGNS OF USE:</b> SLIGHT WEAR, SLIGHT CONTAMINATION, NEGLIGIBLE HAIRINESS.	5 - 8 YEARS
FREQUENT USE (SEVERAL TIMES A MONTH) WITH LOW INTENSITY OF USE, WITHOUT CONSIDERABLE MECHANICAL LOADING (SUSPENSION, OCCASIONAL LOWERING OR ABSEILING) OR FALL ARREST. <b>SIGNS OF USE:</b> NO SIGNS OF HEAVY WEAR, SLIGHT CONTAMINATION, HARDLY RECOGNIZABLE HAIRINESS.	
VERY FREQUENT USE (SEVERAL TIMES A WEEK) WITH LOW INTENSITY OF USE, WITHOUT CONSIDERABLE MECHANICAL LOADING OR FALL ARREST. <b>SIGNS OF USE:</b> 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. <b>SIGNS OF USE:</b> SIGNS OF WEAR, OBVIOUS HAIRINESS, SLIGHT VITRIFICATION.	
INTENSIVE USE (EVERY DAY) WITH NORMAL INTENSITY OF USE, WITHOUT CONSIDERABLE MECHANICAL LOADING OR FALL ARREST. <b>SIGNS OF USE:</b> 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. <b>SIGNS OF USE:</b> HEAVY WEAR, VITRIFICATION, CONTAMINATION AND HAIRINESS.	< / = 1 YEAR
<b>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.</b>	

## TESTING OF CLIMBING ROPES IN ACCORDANCE WITH EN 892

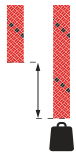
### DIAMETER



### WEIGHT



### STATIC ELONGATION



### SHEATH SLIPPAGE



### 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.

### 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 1 % (20 mm) when stretching a length of rope measuring 2250 (+ - 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.

### 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.

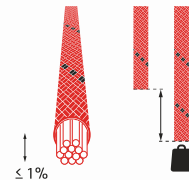
### DYNAMIC ELONGATION DURING A FIRST DROP

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.

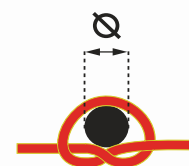
### KNOTABILITY

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.

### DYNAMIC ELONGATION DURING A FIRST DROP



### KNOTABILITY

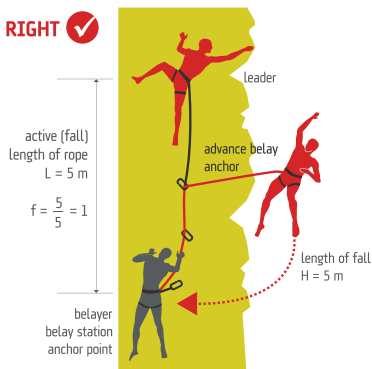


WHAT DO YOU HAVE TO KNOW?

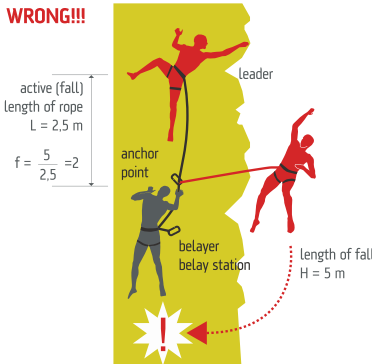


**THE FALL FACTOR IS ALSO OF KEY IMPORTANCE FOR THE AMOUNT OF IMPACT FORCE. HOW FAR YOU FALL IS VIRTUALLY INSIGNIFICANT FOR THE IMPACT FORCE. THE AMOUNT OF THE FALL FACTOR IS MUCH MORE IMPORTANT. A FIVE METER FALL WITH A FALL FACTOR OF  $F = 1$  WILL RESULT IN A MUCH LOWER IMPACT FORCE THAN A FALL OF 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).**

**RIGHT** ✓



**WRONG!!!**



**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**

MONITORED PARAMETER	REQUIRED VALUES		
	SINGLE ROPE	HALF ROPE	TWIN ROPE
Rope diameter	Undefined	Undefined	Undefined
Rope weight	Undefined	Undefined	Undefined
Sheath slippage	1 % (± 20 mm)	1 % (± 20 mm)	1 % (± 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 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.

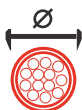
**STRENGTH**

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

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

### DIAMETER



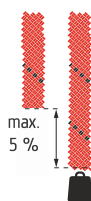
### DIAMETER

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 %.

### ELONGATION



### 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.



**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.

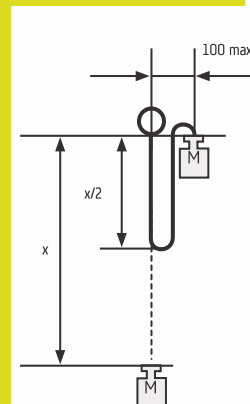
For Type A ropes, slippage may not exceed ca. 20 mm for a 2 m length of rope (this applies to ropes with a diameter of up to 12 mm). For Type B ropes, slippage may not exceed 15 mm.

### 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.

### 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.



### REQUIREMENTS OF THE NORM EN 1891 – STATIC ROPES





MONITORED PARAMETER	REQUIRED VALUES	
	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. 6 kN	max. 6 kN
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




























CODES AND COLOURS

	TIMBER EVO 11.0		TIMBER EVO 11.5		TIMBER EVO 12.5		LOWERING ROPE	
ROPE DIAMETER • [mm]	11	ART. NO. • COLOUR	11.5	ART. NO. • COLOUR	12.5	ART. NO. • COLOUR	15	ART. NO. • COLOUR
WEIGHT • [g/m]	88		90		104		172	
NUMBER OF FALLS (MIN.)	20	L110TT41S000C	20	L115TE42S000C	20	L125TT41S000C	-	L150TT41S000C • YELLOW/BLACK
RELATIVE MASS OF SHEATH	57	BRIGHT YELLOW	54	ORANGE/YELLOW	48	BRIGHT ORANGE	-	-
SHEATH SLIPPAGE • [%]	0		0.5		0		-	
ELONGATION (50 – 150 KG)	3.1		3		3		-	
SHRINKAGE • [%]	0.7		1		0.6		-	
STRENGTH • [kN]	30		30		39		61	
MIN. STRENGTH WITH KNOTS • [kN]	18		18		22		-	
USED MATERIAL	PES/PA		PES/PA		PES/PA		PES	
TYPE	A		A		A		-	






  

	TIMBER CORD 3.0		TIMBER CORD 8.0		TIMBER CORD 10.0	
ROPE DIAMETER • [mm]	3	COLOUR • ART. NO.	8	COLOUR • ART. NO.	10	COLOUR • ART. NO.
WEIGHT • [g/m]	2.5		54.3		73	
TENACITY • [kN]	0.8	A030TT41S000C • RED	20	A080TP41S000C • WHITE/RED	25	A100TP41S000C • YELLOW/BLACK
USED MATERIAL	PE		PES/TECHNORA		PES/TECHNORA	

	MILITARY 9.0		MILITARY 10.0		MILITARY 10.5		MILITARY 11.0		MILITARY 12.0	
ROPE DIAMETER • [mm]	9	COLOUR • ART. NO.	10	COLOUR • ART. NO.	10.5	COLOUR • ART. NO.	11	COLOUR • ART. NO.	12	COLOUR • ART. NO.
WEIGHT • [g/m]	50		69		72		80		92	
NUMBER OF FALLS (MIN.)	15	L090TS44S000C • BLACK	20	L100TS44S000C • BLACK	20	L105TS44S000C • BLACK	20	L110TS44S000C • BLACK	20	L120TS44S000C • BLACK
RELATIVE MASS OF SHEATH	49		38		35		39		35	
SHEATH SLIPPAGE • [%]	0.4	L090TS45S000C • GREEN	0.1	L100TS45S000C • GREEN	0	L105TS45S000C • GREEN	0.3	L110TS45S000C • GREEN	0.3	L120TS45S000C • GREEN
ELONGATION (50 – 150 KG)	5		4.1		3.4		3.7		3.2	
SHRINKAGE • [%]	0.6	L090TS46S000C • CAMOUFLAGE	2	L100TS46S000C • CAMOUFLAGE	1.9	L105TS46S000C • CAMOUFLAGE	1.9	L110TS46S000C • CAMOUFLAGE	1.8	L120TS46S000C • CAMOUFLAGE
STRENGTH • [kN]	23		31		32		33		42	
MIN. STRENGTH WITH KNOTS • [kN]	13	L090TS4KS000C • DESERT STORM	17	L100TS4KS000C • DESERT STORM	18	L105TS4KS000C • DESERT STORM	20	L110TS4KS000C • DESERT STORM	25	L120TS4KS000C • DESERT STORM
USED MATERIAL	PA		PA		PA		PA		PA	
TYPE	B	L090TS47S000C • SOLID BLACK	A	L100TS47S000C • SOLID BLACK	A	L105TS47S000C • SOLID BLACK	A	L110TS47S000C • SOLID BLACK	A	L120TS47S000C • SOLID BLACK

	REFLECTIVE 11.0		ARAMID 10.0		ARAMID 11.0		FORCE 10.0		FORCE 11.0	
ROPE DIAMETER • [mm]	11	COLOUR • ART. NO.	10*	COLOUR • ART. NO.	11	COLOUR • ART. NO.	10*	COLOUR • ART. NO.	11**	COLOUR • ART. NO.
WEIGHT • [g/m]	80		65		80		68		84	
NUMBER OF FALLS (MIN.)	20	L110TS49S000C • BLACK	10	L100TA42S000C • BLACK	20	L110TA41S000C • BLACK	5	L100TF41S000C • BLACK	5	L110TF41S000C • BLACK
RELATIVE MASS OF SHEATH	39		50		48		36		41	
SHEATH SLIPPAGE • [%]	0.3		0.1		0.2		0		0.5	
ELONGATION (50 – 150 KG)	3.7		3.3		2.5		3.5		3.6	
SHRINKAGE • [%]	1.9		1.9		-2		2.3		3	
STRENGTH • [kN]	33		33		44		24		26	
MIN. STRENGTH WITH KNOTS • [kN]	20		15		20		13		15	
USED MATERIAL	PA		Aramid/PA		Aramid/PA		PA/Steel		PA/Steel	
TYPE	A		B		B		B		A	

\* tested according to EN 1891 type B excepted material, marking  
 \*\* tested according to EN 1891 type A excepted material, marking



	STATIC 9.0		STATIC 9.0 TYPE A		STATIC 10.0		STATIC 10.5		STATIC 11.0	
ROPE DIAMETER • [mm]	9	COLOUR • ART. NO.	9	COLOUR • ART. NO.	10	COLOUR • ART. NO.	10.5	COLOUR • ART. NO.	11	COLOUR • ART. NO.
WEIGHT • [g/m]	50		61		69		72		80	
NUMBER OF FALLS (MIN.)	15	L090TS41S000C • WHITE	5	L090TS41A000C • WHITE	20	L100TS41S000C • WHITE	20	L105TS41S000C • WHITE	20	L110TS41S000C • WHITE
RELATIVE MASS OF SHEATH	49		41		38		35		39	
SHEATH SLIPPAGE • [%]	0.4	L090TS42S000C • RED	0		0.1	L100TS42S000C • RED	0	L105TS42S000C • RED	0.3	L110TS42S000C • RED
ELONGATION (50 – 150 KG)	5	L090TS43S000C • BLUE	3.3		4.1	L100TS43S000C • BLUE	3.4	L105TS43S000C • BLUE	3.7	L110TS43S000C • BLUE
SHRINKAGE • [%]	0.6		1.9		2		1.9		1.9	
STRENGTH • [kN]	23		24		31		32		33	
MIN. STRENGTH WITH KNOTS • [kN]	13		15		17		18		20	
USED MATERIAL	PA		PA		PA		PA		PA	
TYPE	B		A		A		A		A	

	STATIC 12.0		STATIC 13.0		SECURE 10.5		SECURE 11.0	
ROPE DIAMETER • [mm]	12	COLOUR • ART. NO.	13	COLOUR • ART. NO.	10.5	COLOUR • ART. NO.	11	COLOUR • ART. NO.
WEIGHT • [g/m]	92		109		75		85	
NUMBER OF FALLS (MIN.)	20	L120TS41S000C • WHITE	20	L130TS41S000C • WHITE	min. 17	L105TE41S000C • RED	min. 20	L110TE41S000C • YELLOW
RELATIVE MASS OF SHEATH	35		46		48.5	L105TE42S000C • YELLOW	33	
SHEATH SLIPPAGE • [%]	4	L120TS42S000C • RED	0		0		0	
ELONGATION (50 – 150 KG)	3.2	L120TS43S000C • BLUE	3		4.6		4.5	
SHRINKAGE • [%]	1.8		11		1.2		0.8	
STRENGTH • [kN]	42		42		28		35	
MIN. STRENGTH WITH KNOTS • [kN]	25		27		18		19	
USED MATERIAL	PA		PA		PA		PA	
TYPE	A		A		A		A	

	STATIC (NFPA)			COLOUR • ART. NO.
DIAMETER • [mm]	10.5	11	12	
DIAMETER • [in]	0.413	0.433	0.472	
MBS* • [kN]	32	40.5	42	L105NS41S000C • WHITE
MBS* • [LB]	7 194	9 105	9 442	
WEIGHT • [g/m]	74	83	87	L110NS41S000C • WHITE
ELONGATION AT 10% MBS • [%]	8.6	8.4	7.4	
ELONGATION AT 1.35 KN (300 LBF) • [%]	2.8	3.6	2.3	L120NS41S000C • WHITE
ELONGATION AT 2.70 KN (600 LBF) • [%]	7.1	6.2	4.7	
ELONGATION AT 4.40 KN (1000 LBF) • [%]	10.7	9.5	7.8	
NFPA 1983 2017 EDITION CLASSIFIED	yes	yes	yes	
	Technical use	General use	General use	

**ACCESSORY AND POWER CORDS**

	ACCESSORY AND POWER CORDS									FULL ARAMID	REEP ARAMID	REEP REFLECTIVE	REEP TOUCH
CORD DIAMETER • [mm]	4	5	6	7	8	2	3	9		6	6	6	6
WEIGHT • [g/m]	12.7	18.9	25	34	43	2.8	6.5	54.4		26	229	23.2	23.2
MIN. STRENGTH • [daN]	340	510	1000	1300	1460	120	190	1900		2200	1700	1000	1000
ART. NO. • COLOUR	A040TR4S100R • BLUE/YELLOW	A050TR4S100R • YELLOW	A060TR4S100R • GREEN	A070TR4S100R • RED	A080TR4S100R • RED	A020TR4S100R • BLUE	A030TR4S100R • BLUE	A090TR4S100R • RED		A060TF41S100R • BEIGE	A060TR4S100R • BLACK	A060TR4S100R • BLACK	A060TT41S000R • WHITE/RED
	A040TR4S200R • RED	A050TR4S200R • BLUE	A060TR4S200R • RED	A070TR4S200R • YELLOW	A080TR4S200R • ORANGE	A020TR4S200R • YELLOW	A030TR4S200R • BLACK						A060TT4S000R • WHITE/BLUE

DISTRIBUTORS

ANDORRA	VILADOMAT, SAU	Av. Meritxell, 110	AD500 Andorra la vella	Andorra	+376 800 808	viladomat@viladomat.com
AUSTRALIA	Climbing Anchors	4/21 Industrial Drive	Coffs Harbour	NSW 2450	+61 2 90052 6434	info@climbinganchors.com
AUSTRIA	AGENTUR CONDOR	Schwarzenbach 14	Opponitz	3342	+43 (0) 664 4423380	berg.condor@speed.at
AUSTRIA	ALPIN-SPORT-AGENTUR	Untere Platte 5	Höfen	6604	+43 (0) 680 2305098	alpin-sport@tnrat
BELGIE	Condor Safety bvba	Krommebeekstraat 44	Menen	B 8930	+32 (0)56 22 50 22	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, of601	Minsk	220113	+375 172 80 02 13	elaks47@tut.by
BOLIVIA	BASE CAMP / CAMPO BASE	Av. Illampu 1037	La Paz	3520	+59173541860	ekuiprent@gmail.com
BRAZIL	Resgatecnica	Rua Urano 77	Santa Lúcia	30350-580	+(31) 3290-2300	contacto@resgatecnica.com.br
COLOMBIA	Deporteka LTDA	C.C. Monterrey, local 346 piso 2	Medellin		+57 4 268 3278	ventas@deporteka.com.co
CROATIA	Iglu Sport d.d.d.	Zagrebačka Cesta	Zagreb	10000	+38 513 700 434	iglusport@iglusport.hr
CZECH	LANEX a.s.	Hlučinská 96/1	Bolatice	747 23	+420 725 503 706	jan.broz@mytendon.com
DENMARK	ALEXHOLDING IVS	Amerikavej 23	Hobro	9500	+459 854 44 33	info@sikringsagenten.com
ECUADOR	MAGMA equipos ECUADOR	Toledo N23-126 y Madrid, Ed. Munich	Quito	170517	+593-995665545	ecuador@magmaequipos.com
EGYPT	AMNT	30Abd El Rahman El Rafai Street, Hegaz Square, Heliopolis	Cairo		+0 0221 808 808	info@amnt.com.eg
ESTONIA	Darf	Jaama str.12	Tallin	11621	+372 656 37 78	andry@matkamaailm.ee
FINLAND	WhiteBalance Oy	Lemuntie 3-5	Helsinki	FI-00510	+358 45 129 4896	info@whitebalance.fi
FRANCE	HORIZON VERTICAL	211 rue de la Gare	Heiligenberg	67190	+33 (0)3 88 48 00 48	contact@hove.fr
GERMANY	Aliens Bergsport & Arbeitssicherheit	Tegenseer 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
GUATEMALA	Big Mountain S.A.	5 AVE „B“ 3 -15 zona 9	Guatemala	01009	+50 223 609 248	ggazzola@bigmountainonline.com
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
CHILE	Vulkanica Outdoors	Av. Suecia 0119	Providencia Santiago		+56 2 23357569	ventas@vulkanica.cl
CHINA	G-View Equipment	ZHU JIANG MO'ER INTERNATIONAL CENTER, BEI QING ROAD N.1, CHANG PING DISTRICT	Beijing	102 206	+861 068 365 520	gview@emg.com.cn
ICELAND	Utilíf	Alfheimur 74	Reykjavik	IS-104	+354 545 15 22	utivist@utilif.is
INDIA	AVI Industries	13, Shriji Sadan 352, Chandavakar Road	Matunga (E) Mumbai, Maharashtra	400019	+912 224 103 810	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		+6221 314 15 59	info@tendon.in
IRAN	Petro Sanat Emdad Co.	Apr.05, No.14 Yas St. South Shiraz Ave. Hemmat Highway	Tehran	143 694 3686	+98 21 882 19 610	tinoosh@petroemdad.com
ITALY	Kong S.p.A.	Zona industriale - Via XXV Aprile 4	Monte Marengo (LC)	I-23804	+390 341 630 506	info@kong.it
ISRAEL	iClimb - Alfa Afikimi	19 Ben Gurion str.	Bnei Brak	5126373	+970 3 579 6643	info@iclimb.co.il
JAPAN	RESCUE JAPAN co.Ltd.	23 SHIN HATADA SINO SHINO-MACHI	KAMEOKA CITY KYOTO	621-0826	0771-29-2108	info@rescue-japan.com

## DISTRIBUTORS

TENDON

JORDAN	BETT JALA Trading Establishment	Middle East Circle, Madaba Str.	Amman 11151 Jordan		962 6 477 7189 / 8452	sales@beitjala.com.jo
KAZACHSTAN	Limpopo	Sejfullina 534	Almaty	480072	+732 726 172 65	limpopo-kz@mail.ru
KOREA	DENALI COMPANY	246-6 Nonhyundong Gangnamgu	SEOUL, S. Korea	06098	+822-517-6194	iceclimber85@hotmail.com
LATVIA	GANDRS	Kalnciema iela 28	Riga	LV 1046	+371 761 47 75	janis.simanis@gandrs.lv
LEBANON	CLIFFHANGER	Kheir Younes Bldg., Broummana / Main Street	Beirut, Lebanon		+961 3276938	cliffhangerleb@hotmail.com
LITHUANIA	UAB Mantis Magia	Gelvonu 68-30	Vilnius		+370 699 539 00	robert@montismagia.lt
MACEDONIA	MADAL BAL DOOEL	Outdoor.mk, ul. Makedonija 16	Skopje	1000	+389 2 6147644	info@outdoor.mk
MALAYSIA	Outdoor Centre Sdn. Bhd.	242-C, Jalan Ampang	Kuala Lumpur	50450	+603 4251 2423	info@outdoorcentre.com.my
MOLDAVIA	Linia Montana	Stefan cel Mare, 148	Chisinau	2008MD	+372 22229005	liniamontana@mail.ru
MOROCCO	Atlas Extreme S.A.R.L.	Boutique 2	Marrakech	40000	+212 661 377129	AbdelLahBaba@gmail.com
MEXICO	Meci PLUS SA de CV	Galeana No. 12, Col. Magisterial Vista Bella	Tlalhepantla, edo. De Mexico. C.P. 54050		+52 5362 0177 ext 104	singingmex@meciplus.com
MEXICO	Gimbel Mexicana S.A. De C.V	AVENIDA DE LAS GRANJAS NO. 388	CIUDAD DE MEXICO C.P. 02040		(52-55) 1101-2300	gimbel@gimbelmexicana.com
NEPAL	Vertical Access	Bhagwati Bahal - Thamel	Kathmandu		+977 9803 526 136	vertical.access@live.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	netbutikk@vpg.no
PHILIPPINES	T3ck Trading	8 LT. AMB. F. NERI ST. BLUE MOUNTAIN SUBD. STA. CRUZ	Antipolo City	1870 Philippines	+632- 63 628 92	t3ckoutdoorsales@gmail.com
POLAND	Fatra Hurtownia	Ul. Podgórze 1	Sandomierz	27-600	+485 023 154 74	info@hurtowniafatra.pl
PORTUGAL	Altitude, Jogos de Aventura, Unip., Lda.	Av. dos Cavaleiros, 72, 10 Piso	Cornaxide	2790-045	+351 210 163 726	info@altitude-pro.com
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	jen@ahd.ru
SERBIA	Alp Project Systems, d.o.o	Kneza Višeslava 88	Belgrade	11000	+381 11 3573 156	alpkancelarija@alp.rs
SINGAPORE	Gear Fitters Pte Ltd	48, Toh Guan Road East, #05-153, Enterprise Hub	Singapore	608586	+65 6515 9363	info@gearfitters.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.	Hlučínská 96/1	Bolatice	747 23	+420 725 503 706	jan.broz@mytendon.com
SLOVENIA	Treking Sport	Tbilisjska 59	Ljubljana	SI-1000	+386 125 625 01	trek@siol.net
SPAIN	Novulner S.L.	C/ de Les Medes 4-10	Barcelona-Spain	08023	+349 355 197 39	info@novulner.com
SWEDEN	AB Poly-Produkter	Redegatan 9	Västra Frölunda	SE-426 77	+46 (0)31-686 493	Christoffer.Mansson@poly.se
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	A1 Arama Kurtarma Ltd.	Meriç Mah. MTK sit. 5746/4 sok No:14 / 1	Izmir		+90 532 508 32 94	mrtsar2019@gmail.com
UKRAINE	Shambala mountain group	Stepana Rudanskogo 3a St	Kyiv	04112	+38 096 792 23 53	info@smgc.com.ua
UNITED KINGDOM	2pure Limited	Deans Industrial Estate 4 Royston RD, Livingston	Livingston	Eh54 8AH	+44(0) 131 449 4147	info@2pure.co.uk
UNITED ARAB EMIRATES	Global Climbing Trading LLC	PO Box 474476	Dubai Investment Park 1		+971 4 8829 361	info@globalclimbing.com
USA	Spindrift Climbing	4348 Wimbledon Dr.	Provo	UT 84604	801-857-8955	ryan@spindriftclimbing.com

LANEX a.s.  
Hlučínská 96/1, 747 23 Bolatice  
Czech Republic  
Phone: +420 553 751 111,  
E-mail: [info@mytendon.com](mailto:info@mytendon.com)  
[www.mytendon.com](http://www.mytendon.com)

**ENDON**  
tied to be free

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