# tied to be free



# CONTENT

# TECHNOLOGY ..... 5 -\*\* Ŷ MOUNTAINEERING AND ALPINISM ...... 19 - 2 Α 1 Ŧ

8	ACCESSORIES	38 - 42
4	HARNESSES	43 - 45
8	ADDITIONAL SERVICES	46 - 49
2	WHAT DO YOU HAVE TO KNOW?	50 - 55
5	PICTOGRAMS	56 - 57
8	CODES AND COLOURS	58 - 61
	DISTRIBUTORS	62 - 63

# 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 ON THE MARKET WHO BRINGS YOU EVERY YEAR FUNCTIONAL INNOVATIONS AND TECHNOLOGIES TO MAKE MOVEMENT MORE EFFECTIVE, TO MAKE WORK EASIER AND TO PROVIDE FOR SAFETY. IN ADDITION TO OUR IN-HOUSE DEVELOPMENT TEAM, WE OPENLY PURSUE COOPERATION WITH UNIVERSITIES, RESEARCH INSTITUTES, CERTIFIED LABORATORIES AND LAST BUT NOT LEAST, WITH YOU, OUR CUSTOMERS.

# tied to be free

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.



# 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.





THE TEFIX® 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.



#### TECHNOLOGY

# FENDON



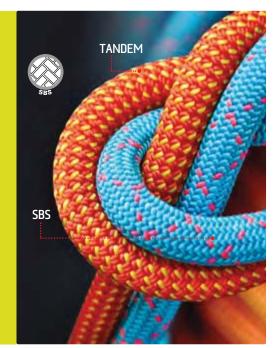


THANKS TO THE UNIQUE SANDWICH-TYPE CONSTRUCTION OF BRAIDED LAYERS AND THE USE OF SPECIALLY DEVELOPED STAPLE FIBRES, THE ROPE IS ABLE TO HOLD THE SUSPENDED PERSON OR LOAD EVEN IN CASE OF A CONSIDERABLY DAMAGED SHEATH OR CORE WITHOUT A COMPLETE RUPTURE OF THE ROPE AND SUBSEQUENT FALL OF THE SUSPENDED PERSON.



# TECHNOLOGY SBS

SIMPLE BRAID SYSTEM – IS A SYSTEM WHERE EACH STRAND IS PLAITED SEPARATELLY 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.

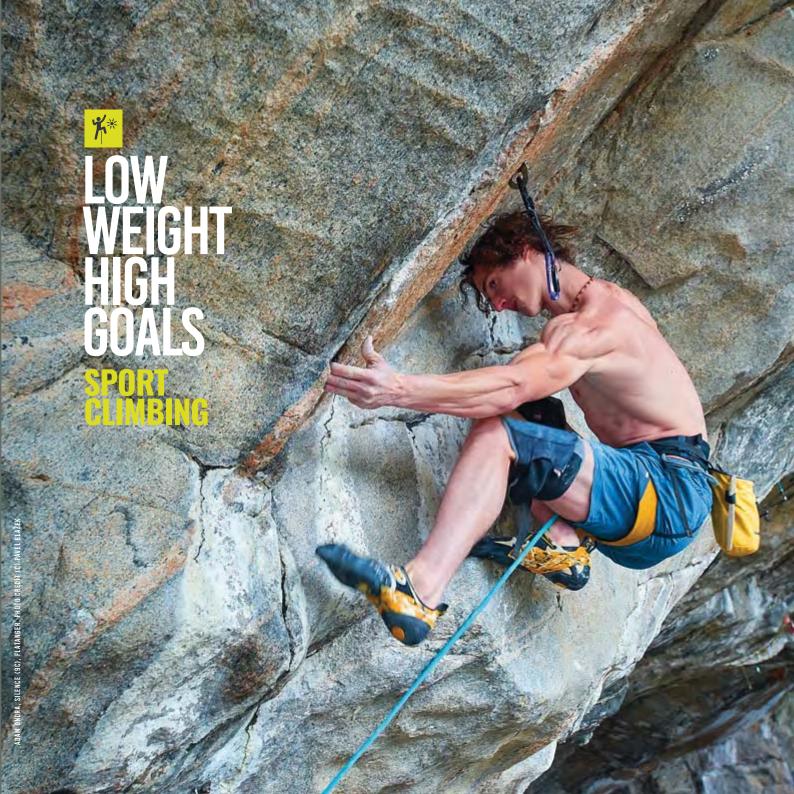


TECHNOLOGY

# **COMPLETE SHIELD**

MAXIMUM LEVEL OF ROPE PROTECTION AGAINST WATER AND ABRASION. IT IS REACHED BY USING THE NEW PROGRESSIVE NANOTECHNOLOGY METHOD. TINY PARTICLES **OF TEFLON®ECO ARE APPLIED TO THE ROPE** SHEATH AND CORE AND TO MAKE A FILM OF ALMOST IMPERMEABLE PROTECTIVE LAYER. THE ROPE FIBRES ARE THEN PROTECTED AGAINST DUST AND WATER WHICH WOULD **OTHERVISE CAUSE 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.





SPORT CLIMBING

**NEW!** 

EN 892 / CE 1019 Rope Diameter

NUMBER OF UIAA FALLS

MAX, IMPACT FORCE

SHEATH SLIPPAGE

KNOTABILITY

STATIC ELONGATION

DYNAMIC ELONGATION

WEIGHT

**MASTER 9.0 TEFIX®** 

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AD	AM		
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"ROPES ARE IMPORANT PART OF CLIMBING GEAR AND MY LIFE LITERALLY DEPENDS ON THEM. THAT IS WHY I USE TENDON ROPES. THEY ARE EASY TO HANDLE FOR THE BELAYER, EASY FOR THE CLIMBER TO CLIP, VERY LIGHT TO CARRY. MADE IN THE CZECH REPUBLIC JUST LIKE ME. MY FAVORITE IS LOWE 9.7. FOR SILENCE 9C, I USED THE NEW THIN MASTER 8.6 WHICH WAS PERFECT FOR THIS ROUTE."



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.

EXPERT

9.0 mm

55 g/m

0 %

9.6 %

25 %

0.9

0

(1) (2)

9.0 9.0

55 55

6 19 33

8.9 6.5 10.8 kN

0 0

9.6 9.6

31 29

0.9 0.9

D090MF42C000C • TURQUOISE D090MF41C000C • PINK

MASTER 8.9			EX	PER
EN 892 / CE 1019	1	1/2	0	
ROPE DIAMETER	8.9	8.9	8.9	mm
WEIGHT	52	52	52	g/m
NUMBER OF UIAA FALLS	5	15	28	
MAX. IMPACT FORCE	8.7	6.4	10.3	kΝ
SHEATH SLIPPAGE	0	0	0	%
STATIC ELONGATION	6.9	6.9	6.9	%
DYNAMIC ELONGATION	34	30	27	%
KNOTABILITY	0.8	0.8	0.8	
		••••••	• • • • • • • • • • • • • • • • • • • •	



DO89TM44COOOC • PINK

Another aggressive rope with impregnation for hard climbing projects. Certified for use as a single, twin and half rope.



ADAM ONDRA

10

# SPORT CLIMBING

MASTER PRO 9.2	EXPERT
EN 892 / CE 1019	1
ROPE DIAMETER	9.2 mm
WEIGHT	58 g/m
NUMBER OF UIAA FALLS	9
MAX. IMPACT FORCE	9.1 kN
SHEATH SLIPPAGE	0.3 %

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D092TP41C000C • RED D092TP43C000C • TUROUOISE

6.1 %

31 %

EXPERT

1

STATIC ELONGATION

DYNAMIC ELONGATION KNOTABILITY



LENDON

This innovation from 2017 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.

MASTER 8.6	EX	EXPERT		
EN 892 / CE 1019	1			
ROPE DIAMETER	8.6	mm		
WEIGHT	50	g/m		
NUMBER OF UIAA FALLS	5			
MAX. IMPACT FORCE	9.1	kΝ		
SHEATH SLIPPAGE	0.3	%		
STATIC ELONGATION	4.3	%		
DYNAMIC ELONGATION	30	%		
KNOTABILITY	0.9			



D086TM43C000C • TURQUOISE

LENDO

tied to be free

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.



# MASTER 9.4

EN 892 / CE 1019	$\cup$
ROPE DIAMETER	9.4 mm
WEIGHT	58 g/m
NUMBER OF UIAA FALLS	6
MAX. IMPACT FORCE	7.1 kN
SHEATH SLIPPAGE	0 %
STATIC ELONGATION	6.2 %
DYNAMIC ELONGATION	37 %
KNOTABILITY	0.9



D094TM41S000C • VIOLET D094TM42S000C • BLUE D094TM44S000C • BRIGHT ORANGE

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

11





# **TENDON GEAR BAG**

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



**XTENDON GEAR BAG Z** 



# MASTER 9.7 TEFIX®

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		

EXPERT





D097MF41S000C • TURQUOISE D097MF42S000C • PINK

Technologies keep advancing. Favorite MASTER 9.7 with TeFIX® technology became even more safer and durable than its older brother. Permanent connection of a core and sheath ensures that the sheath cannot slip. Check the fresh design!





EN 892 / CE 1019	1	
ROPE DIAMETER	9.7	mm
WEIGHT	55	g/m
NUMBER OF UIAA FALLS	6	
MAX. IMPACT FORCE	8.6	kΝ
SHEATH SLIPPAGE	-0.15	%
STATIC ELONGATION	7.4	%
DYNAMIC ELONGATION	32	%
KNOTABILITY	1	

**۴**\*



The favorite rope of Adam Ondra. Our unique technology lowers the weight of the rope keeping the ideal diameter. An excellent choice for all sport climbing areas.

MASTER 9.7		VANCED	
EN 892 / CE 1019	1		
ROPE DIAMETER	9.7	mm	
WEIGHT	61	g/m	
NUMBER OF UIAA FALLS	7		
MAX. IMPACT FORCE	7	kΝ	
SHEATH SLIPPAGE	0.1	%	
STATIC ELONGATION	6.3	%	
DYNAMIC ELONGATION	40	%	
KNOTABILITY	0.9		



D097TV45S000C • BICOLOUR



One of the most favorite ropes among our customers. MASTER 9.7 is time-proven - it offers an ideal diameter, SBS sheath and a long lifespan. One of the best ropes for rock climbing you can get. Offers an excellent value for money.

AMBITION 9.8	BEG	INNER
EN 892 / CE 1019	1	
ROPE DIAMETER	9.8	mm
WEIGHT	64	g/m
NUMBER OF UIAA FALLS	9	
MAX. IMPACT FORCE	7.1	kN
SHEATH SLIPPAGE	0	%
STATIC ELONGATION	6.2	%
DYNAMIC ELONGATION	35	%
KNOTABILITY	0.8	
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D098TR41S000C • YELL	.0W	
D098TR42S000C • GRE	EN	
D098TR45S000C • BIC	OLOUR	
D098TR48S000C • BRI	GHT YELLO	W



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.

AMBITION 10.0		
EN 892 / CE 1019	(1)	
ROPE DIAMETER	10	mm
WEIGHT	67	g/m
NUMBER OF UIAA FALLS	9	
MAX. IMPACT FORCE	8.1	kN
SHEATH SLIPPAGE	0.1	%
STATIC ELONGATION	5.7	%
DYNAMIC ELONGATION	33	%
KNOTABILITY	1	
🔊 💮 CC 🛆 🖝	• • • · · · · · · · · · · · · · · · · ·	)
	RED	

D100TA42S000C • BLUE



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

# **F** CLIMB EVERY TIME NDOOR CLIMBING

# 

# NEMETHOVÁ

WHENEVER I HAVE AN OPPORTUNITY, I CLIMB IN THE SANDSTONE PARADISE AT ADRŠPACH IN OUR COUNTRY, THE CZECH REPUBLIC. REGARDING WEAR OF THE ROPES, SANDSTONE IS ONE OF THE RUTHLESS MATERIALS, THEREFORE I USE THE ROBUST AND YET LIGHT AMBITION 10.2 TEFIX THE LIFESPAN OF WHICH IS EXTENDED BY THE CORE CONNECTED TO THE SHEATH.

INDOOR 10.2i	BEG	BEGINNER		
EN 892 / CE 1019	1			
ROPE DIAMETER	10.2	mm		
WEIGHT	68	g/m		
NUMBER OF UIAA FALLS	7			
MAX. IMPACT FORCE	8.8	kΝ		
SHEATH SLIPPAGE	0	%		
STATIC ELONGATION	7.2	%		
DYNAMIC ELONGATION	32	%		
KNOTABILITY	0.9			



D102TI71S000C • RED/YELLOW D102TI72S000C • YELLOW/GREY

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



HATTRICK 10.2	BEG	INNER
EN 892 / CE 1019	1	
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	

D102TH41S000C • BLUE

D102TH42S000C • RED



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).

1

### INDOOR CLIMBING

AMBITION 10.5	10.5 BEGINNEF	
EN 892 / CE 1019	1	
ROPE DIAMETER	10.5 mr	n
WEIGHT	69 g/r	n
NUMBER OF UIAA FALLS	9	
MAX. IMPACT FORCE	7.9 kN	
SHEATH SLIPPAGE	0 %	
STATIC ELONGATION	6 %	
DYNAMIC ELONGATION	34 %	
KNOTABILITY	0.8	

 D105TA41S000C • RED

 D105TA42S000C • BLUE

 D105TA47S000C • BRIGHT GREEN

LENDON

Thicker ropes are ideal for beginners because they make falls easier to catch using a belay device and thus they make climbing safer. You can use this rope at crags as well.

	ጠ	
EN 892 / CE 1019	U	
ROPE DIAMETER	10	mm
WEIGHT	67	g/m
NUMBER OF UIAA FALLS	9	
MAX. IMPACT FORCE	7.8	kN
SHEATH SLIPPAGE	0.1	%
STATIC ELONGATION	5.7	%
DYNAMIC ELONGATION	33	%
KNOTABILITY	1	

D100TA41S000C • RED D100TA42S000C • BLUE



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

# BEGINNER AMBITION 10.2 TEFIX®

EN 892 / CE 1019	1	
ROPE DIAMETER	10.2 mn	n
WEIGHT	67 g/r	n
NUMBER OF UIAA FALLS	11	
MAX. IMPACT FORCE	8.3 kN	
SHEATH SLIPPAGE	0 %	
STATIC ELONGATION	6.9 %	
DYNAMIC ELONGATION	33 %	
KNOTABILITY	0.8	



D102AF41S000C • YELLOW D102AF42S000C • ORANGE

An new version of a robust rope AMBITION 10.2 enriched with TeFIX<sup>®</sup> 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.





TRUST 11.0	BEGINNER
EN 892 / CE 1019	1
ROPE DIAMETER	11 mm
WEIGHT	79 g/m
NUMBER OF UIAA FALLS	16
MAX. IMPACT FORCE	8.2 kN
SHEATH SLIPPAGE	0.1 %
STATIC ELONGATION	6.1 %
DYNAMIC ELONGATION	36 %
KNOTABILITY	0.9





D110TT41S000C • RED D110TT42S000C • YELLOW

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



**INDOOR 10.4** 

D	E OI	INT	uг	n
D	Ľυ	INI	٩Ŀ	ĸ

1	
10.4	mm
72	g/m
8	
8	kN
0.1	%
6.5	%
35	%
1	
	10.4 72 8 8 0.1





D104TI41S000C • BLUE/GREEN
D104TI42S000C • RED/GREY

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



# **TRUST 11.4**

# BEGINNER

1		
11.4	mm	
84	g/m	
20		
8.4		
0.1	%	
5.5	%	
51	%	
1		
	84 20 8.4 0.1 5.5	



D114 D114

D114TA41S000C • YELLOW D114TA42S000C • BLUE

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



# ANDRON

FOR ALPINE, INTRICATE AND NEW MEANDERING Routes, my trust relies in Master 7.8 tefix. As guide my best tool is the master 8.9, for sport climbs I haven't found any rope that could beat master pro 9.2.

EN 892 / CE 1019	0	
ROPE DIAMETER	7	mm
WEIGHT	34	g/m
NUMBER OF UIAA FALLS	14	
MAX. IMPACT FORCE	8.9	kΝ
SHEATH SLIPPAGE	0	%
STATIC ELONGATION	3.6	%
DYNAMIC ELONGATION	33	%
KNOTABILITY	0.9	

D070TM42C000C • BLUE



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.

MASTER 7.8		ADV	ANCED
EN 892 / CE 1019	1/2	0	
ROPE DIAMETER	7.8	7.8	mm
WEIGHT	38	38	g/m
NUMBER OF UIAA FALLS	6	16	
MAX. IMPACT FORCE	4.8	7.9	kΝ
SHEATH SLIPPAGE	0	0	%
STATIC ELONGATION	6.5	6.1	%
DYNAMIC ELONGATION	39	33	%
KNOTABILITY	0.9	0.9	

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D078TD42S000C • BLUE D078TD44S000C • RED

standard



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. You can choose from four distinct colour patterns.

20

#### MOUNTAINEERING AND ALPINISM



MASTER 8.5	TER 8.5		
EN 892 / CE 1019	12	0	
ROPE DIAMETER	8.5	8.5	mm
WEIGHT	46	46	g/m
NUMBER OF UIAA FALLS	10	14	
MAX. IMPACT FORCE	5.1	7.9	kN
SHEATH SLIPPAGE	0.1	0.1	%
STATIC ELONGATION	7	7	%
DYNAMIC ELONGATION	38	36	%
KNOTABILITY	0.8	0.8	

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D085TF41S000C • GREEN/YELLOW DO85TF42S000C • KHAKI/BLUE

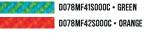
You will choose this rope if you seek the best ratio of lifespan and a diameter. Perfect as you first rope for mountaineering. Complete Shield coating is a matter-of-course.

NEW!			
MASTER 7.8 TEF	EXPERT		
EN 892 / CE 1019	(12)	0	
ROPE DIAMETER	7.8	7.8	mm
WEIGHT	39	39	g/m
NUMBER OF UIAA FALLS	6	16	
MAX. IMPACT FORCE	5.4	8.3	kN
SHEATH SLIPPAGE	0	0	%
STATIC ELONGATION	11.3	7.1	%
DYNAMIC ELONGATION	36	32	%



0.9

0.9



KNOTABILITY

The TeFIX® technology is also in our lightest ropes for climbing in the mountains. Where else is there a need for good resistance and lifespan of the ropes than in the mountains? Master 7.8 TeFIX<sup>®</sup>, besides low weight, profits also from better resistances.



#### MOUNTAINEERING AND ALPINISM

EN 892 / CE 1019	1	
ROPE DIAMETER	8.6	mm
WEIGHT	50	g/m
NUMBER OF UIAA FALLS	5	
MAX. IMPACT FORCE	9.1	kΝ
SHEATH SLIPPAGE	0.3	%
STATIC ELONGATION	4.3	%
DYNAMIC ELONGATION	30	%
KNOTABILITY	0.9	
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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	1/2	
ROPE DIAMETER	8.5	mm
WEIGHT	45	g/m
NUMBER OF UIAA FALLS	7	
MAX. IMPACT FORCE	5	kN
SHEATH SLIPPAGE	0.1	%
STATIC ELONGATION	7	%
DYNAMIC ELONGATION	38	%
KNOTABILITY	1	

D085TB41S000C • YELLOW D085TB42S000C • BLUE



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.

ALPINE 7.9		LV	PERT
EN 892 / CE 1019	1/2	0	
ROPE DIAMETER	7.9	7.9	mm
WEIGHT	39	39	g/m
NUMBER OF UIAA FALLS	6	16	
MAX. IMPACT FORCE	5.4	8.3	kΝ
SHEATH SLIPPAGE	0	0	%
STATIC ELONGATION	6.7	7	%
DYNAMIC ELONGATION	37	33	%
KNOTABILITY	0.8	0.8	

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.

EN 892 / CE 1019	(1/2)	0	
ROPE DIAMETER	8.4	8.4	mm
VEIGHT	41	41	g/m
IUMBER OF UIAA FALLS	5	12	
IAX. IMPACT FORCE	5	8.9	kΝ
HEATH SLIPPAGE	0	0	%
TATIC ELONGATION	5.4	5.3	%
YNAMIC ELONGATION	31	27	%
NOTABILITY	0.8	0.8	





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 8.4. You can save 0,5 kg with sixtymeter long double ropes. That's a deal, isn't it?

# SECURITY IS A BASIS OF COURAGE BGWALL

# OFER BLUTRICH

I LOVE TENDON ROPES! I USE THEM AS UNIVERSAL TOOLS FOR DIFFERENT TASKS. BIG WALLS OF WADI RUM WITH LOWE 9.7, FOR REDPOINTING AT NEZER CAVE WITH LIGHT MASTER 8.9, FOR HARD SPORT CLIMBING INCLUDE HANGDOGGING MASTER 9.4 OR MASTER PRO 9.2 FOR THEIR WEIGHT AND NICE HANDLING.

# **MASTER 9.7 TEFIX®**

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





D097MF41S000C • TURQUOISE D097MF42S000C • PINK



For big walls you need a rope, which you can rely on. Even when you damage a sheath in one part, you don't have to be afraid. TeFIX<sup>®</sup> technology connects the sheath with a core so that you can pass the damaged part and reach safety. That's not what an ordinary rope would offer you.

EXPERT



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	

D102AF41S000C • YELLOW D102AF42S000C • ORANGE



The most robust and safest rope for big walls from our catalogue. TeFIX<sup>®</sup> technology holds the core and the sheath firmly together so that in case of emergency you can use the rope even when the sheath is ripped.

BIGWALL

EN 892 / CE 1019	1	
ROPE DIAMETER	9.7	mm
WEIGHT	61	g/m
NUMBER OF UIAA FALLS	5	
MAX. IMPACT FORCE	8.4	kN
SHEATH SLIPPAGE	0	%
STATIC ELONGATION	9.0	%
DYNAMIC ELONGATION	29	%
KNOTABILITY	1	

D097TH42S000C • RED/BLUE



If you prefer small diameters but you don't want to underestimate the safety, there is no better option than Hattrick 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.

HATTRICK 10.2	BEG	INNER
EN 892 / CE 1019	1	
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	

D102TH41S000C • BLUE D102TH42S000C • RED



25

# The massive sheath of this rope ensures safety and a long lifespan. As other ropes for big wall climbing, this one offers SECURE technology for your security.

# LOWE 9.7 ADVANCED

EN 892 / CE 1019	1	
ROPE DIAMETER	9.7	mm
WEIGHT	55	g/m
NUMBER OF UIAA FALLS	6	
MAX. IMPACT FORCE	8.6	kΝ
SHEATH SLIPPAGE	-0.15	%
STATIC ELONGATION	7.4	%
DYNAMIC ELONGATION	32	%
KNOTABILITY	1	

# 

FENDON

tied to be free

D097TW41S000C • GREEN D097TW42S000C • BLUE

The favorite rope of Adam Ondra. Our unique technology lowers the weight of the rope keeping the ideal diameter. An excellent choice for all sport climbing areas. **ENICATION ALLANTER** 

# SALAMANDER 10.2

() ) )

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

C102TS41S000C • YELLOW/RED • SALAMANDER

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 minimally dynamic.



# CANYON DRY 9.0

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#### EN1891 / CE1019

DIAMETER	9	mm
WEIGHT	59	g/m
NUMBER OF FALLS	16	min.
RELATIVE MASS OF SHEATH	44	%
SHEATH SLIPPAGE	0.20	mm
ELONGATION (50 – 150 KG)	3,6	%
SHRINKAGE	1	%
TENACITY	28	kN
MIN. TENACITY WITH KNOTS	18	kN
USED MATERIAL	PA	
ТҮРЕ	А	
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C090TD41C000C • 1	RED	

New polyamide rope with a smaller diameter of 9 mm it has a teflon finish in comparison with the other types, which increases its water and 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 appreciated especially by experienced canyoneers who strive for a guick and smooth advancement above all and who care about every gram of weight.



# IASO SCHALLER

THE SALAMANDER IS PERFECT FOR FAST RAPPELLING AND IN HIGH WATER LEVEL CONDITIONS BECAUSE IT'S FLOATING. ALSO NICE IS THAT THE COAT IS STITCHED WITH THE CORE. WHEN YOU HAVE A LITTLE DAMAGE, THEN YOU CAN USE IT STILL "NORMAL". THE CANYON DRY 9.0 IS FINE WHEN I NEED THE MINIMUM OF THE WEIGHT AND PLACE. AND THE COLOUR IS AMAZING. IT LOOKS LIKE IT'S GLOWING IN THE WATER. THAT MAKES IT HIGH VISIBLE.



# CANYON WET, CANYON GRANDE 10.0

	CANYON GRANDE**	CANYON WET	
DIAMETER	10	10	mm
WEIGHT	61	66	g/m
NUMBER OF FALLS	20*	12	min.
RELATIVE MASS OF SHEATH	49	33	%
SHEATH SLIPPAGE	2.6	2.7	mm
ELONGATION (50 – 150 KG)	3.2	2.1	%
SHRINKAGE	1.7	0.8	%
TENACITY	18	30	kΝ
MIN. TENACITY WITH KNOTS	12	17	kΝ
USED MATERIAL	PA/PPV	PA	
TYPE	-	A / EN 1891	
FLOATING	Yes	No	

\* TESTED ACCORDING TO EN 1891 TYPE B EXCEPT MIN. TENACITY AND MATERIAL \*\* WEIGHT 55 KG, FALL FACTOR 1

	(Participation)	Œ		$\bigcirc$	TENSTE
CANYON WET 10	+	+	+	+	+
CANYON GRANDE 10	+	+	-	+	+

# C100TC41S000C • YELLOW • CANYON GRANDE C100TW48W000C • ORANGE • CANYON WET

**CANYON GRANDE** 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.

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



DIAMETER	9	10	10.5	10.5 Special	11	mm
WEIGHT	48	66	72	76	77	g/m
NUMBER OF FALLS	12	20	20	12	20	min.
RELATIVE MASS OF SHEATH	44	42	46	51	42	%
SHEATH SLIPPAGE	1	0	2	1	2	mm
ELONGATION (50 – 150 KG)	4.1	3.5	3.4	3.5	3.3	%
SHRINKAGE	2.2	1.8	1.9	0.3	1.8	%
TENACITY	23	29	30	33	34	kΝ
MIN. TENACITY WITH KNOTS	12	16	17	15	19	kΝ
USED MATERIAL	PA	PA	PA	PES/PA	PA	
TYPE	В	А	Α	А	Α	
FLOATING	-	-	-	-	-	

	(1) (1) (1) (1) (1) (1) (1) (1) (1) (1)	Œ		TENSTE
SPELEO	+	+	+	+
SPELEO SPECIAL	+	+	-	+

### S105TG41S000C SPECIAL • WHITE/BLUE

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

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.



# **A IN HARMONY IN HARMONY WITH NATURE**

#### ARBORIST

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DIAMETER	11	mm
WEIGHT	88	g/m
NUMBER OF FALLS	20	min.
RELATIVE MASS OF SHEATH	57	%
SHEATH SLIPPAGE	0	mm
ELONGATION (50 – 150 KG)	3.1	%
SHRINKAGE	0.7	%
TENACITY	30	kΝ
MIN. TENACITY WITH KNOTS	18	kΝ
USED MATERIAL	PES/PA	
ТҮРЕ	А	





The Timber Evo 11.5 rope enjoys great popularity, so we decided to offer additional diameters in this product line. Timber Evo 11.0 is a rope with good handling and fast run.

SPLICED LOOP AVAILABLE - ON REQUEST



# TIMBER EVO 11.5 EN 1891 / CE 1019

DIAMETER	11.5	mm
WEIGHT	90	g/m
NUMBER OF FALLS	20	min.
RELATIVE MASS OF SHEATH	54	%
SHEATH SLIPPAGE	10	mm
ELONGATION (50 – 150 KG)	3	%
SHRINKAGE	1	%
TENACITY	30	kΝ
MIN. TENACITY WITH KNOTS	18	kΝ
USED MATERIAL	PES/PA	
TYPE	А	



#### L115TE42S000C ORANGE/YELLOW

The 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.

# SPLICED LOOP AVAILABLE - ON REQUEST



# TIMBER EVO 12.5 EN 1891 / CE 1019



L125TT41S000C Bright orange

The combination of polyamide and polyester lends, among other features, an excellent abrasion resistance and also a high strength in the ropes of the Timber Evo series. The diameter of 12.5 mm guarantees good control during handling.

SPLICED LOOP AVAILABLE - ON REQUEST

# TIMBER SIT EN 813 / EN 358 / CE 1019



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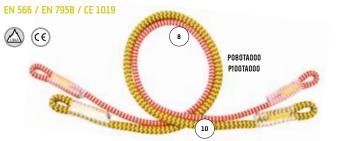
Is a fully adjustable harness for positioning which has been developed for the needs of arborists. It is equipped with a cushioned back support and leg loops adapted to work in hanging position, with adjustable buckles, lateral eyes and a suspension point according to EN 813:2008 and has adjustable aluminium shackles that exclude the risk of accidental unfastening. It is intended to be used primarily as a fall arrester, a protective equipment against falls from a height when working on trees. It provides a comfortable support in the lumbar area, great freedom of movement and high positioning comfort at work.

Timber sit	Weight
Size M-XL	1 780 g
Size XXL	1 820 g

# 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.

# PRUSIKS 8 AND 10 MM



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.



# LOWERING ROPE 15.0

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

L150TT41S000C • YELLOW/BLACK

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

ACCESSORY CORD



A030TT41S000C



A080TP41S000C EN 564

A100TP41S000C

ROPE DIAMETER	3	8	10	mm
WEIGHT	2.5	54.3	73	g/m
TENACITY	0.8	20	25	kN
USED MATERIAL	PE	PES/1	TECHNORA	

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-	-
+	+
+	-
	- + +

# SAFETY FIRST! WORKS AT HEIGHT AND RESCUE

# STATIC 9.0 - 13.0

# 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	20	20	20	20	20	20	min.
RELATIVE MASS OF SHEATH	49	39	36	40	35	46	%
SHEATH SLIPPAGE	2	4	3	5	4	0	mm
ELONGATION (50 – 150 KG)	3.8	3.4	3.4	3.3	3.2	3.3	%
SHRINKAGE	2.1	2	1.9	1.9	1.8	1.8	%
TENACITY	23	31	32	33	42	42	kN
MIN. TENACITY WITH KNOTS	13	17	18	20	25	27	kΝ
USED MATERIAL	PA	PA	PA	PA	PA	PA	
ТҮРЕ	В	Α	А	Α	Α	А	

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L100TS41S000C • WHITE L090TS42S000C • RED L105TS43S000C • BLUE



# SECURE 10.5, SECURE 11.0 EN 1891 / CE 1019

DIAMETER	10.5	11	mm
WEIGHT	75	84.6	g/m
NUMBER OF UIAA FALLS	17	20	min.
RELATIVE MASS OF SHEATH	48.5	33.1	%
SHEATH SLIPPAGE	0	0	mm
ELONGATION (50 – 150 KG)	4.6		%
SHRINKAGE	1.2	0.8	%
MIN. TENACITY WITH KNOTS	18	19.8	kN
TENACITY	28	35	kN
MAX. IMPACT FORCE	4.5	4.3	
ТҮРЕ	А	А	





L105TE42S000C • YELLOW/RED L110TE43S000C • YELLOW/BLUE L110TE44S000C • BLUE L110TE57S000C · BLACK

LENDON tied to be free

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.

# PROTECTED BY UTILITY MODEL.

Sewn termination is available on request.

Sewn termination is available on some types - on request.



# \*

# **STATIC NFPA 10.5 – 12.0**

EN 1891 / CE 1019 / NFPA 1983 2017 EDITION

# EN 1891

DIAMETER		12	11	10.5	mm
WEIGHT		87	83	74	g/m
NUMBER OF FALLS (MIN.)		20	20	20	min.
RELATIVE MASS OF SHEATH		35	33	34	%
SHEATH SLIPPAGE		4	0	0	mm
ELONGATION (50 – 150 KG)		3.2	3.5	3.6	%
SHRINKAGE		1.8	4.5	0.3	%
TENACITY		42	42	32	kN
MIN. TENACITY WITH KNOTS		25	15	17	kN
USED MATERIAL		PA	PA	PA	
TYPE		Α	Α	A	
NFPA					
DIAMETER	12	11		10.5	mm
DIAMETER	0.472	0.433		0.413	in
MBS*	42	40.5		32	kN
MBS*	9 4 4 2	9 105		7194	lbs
WEIGHT	87	83		74	g
ELONGATION AT 10% MBS	7.4	8.4		8.6	%
ELONGATION AT 1.35 KN (300 LBF)	2.3	3.6		2.8	%
ELONGATION AT 2.70 KN (600 LBF)	4.7	6.2		7.1	%
ELONGATION AT 4.40 KN (1000 LBF)	7.8	9.5		10.7	%
NFPA 1983 2012 EDITION	Yes	Yes		Yes	
CLASSIFIED	Gen	General use		ical use	



t.		L105NS41S000C • WHITE
		L110NS41S000C • WHITE
1,11	.t <sup>1</sup> t <sup>1</sup> t <sup>1</sup> t	L120NS41S000C • WHITE

The excellent ropes with low elongation and high static strength are intended primarily for work at hight and for securing people above vertical drops. Recommended use are rescue operations, work positioning and military and police use. Occasional use for NFPA certificated ropes meet the life safety rope requirements of NFPA 1983 Standard on fire service life safety rope and equipement for emergency services. 2017 edition.

# **STATIC 9.0 TYPE A**

EN 1891 / CE 1019

DIAMETER	9	mm
WEIGHT	61	g/m
NUMBER OF FALLS (MIN.)	8	min.
RELATIVE MASS OF SHEATH	41	%
SHEATH SLIPPAGE	0	mm
ELONGATION (50 – 150 KG)	2.8	%
SHRINKAGE	1.9	%
TENACITY	28	kΝ
MIN. TENACITY WITH KNOTS	15	kΝ
USED MATERIAL	PA	
ТҮРЕ	A	
NFPA 1983 2012 EDITION	No	

LO9OTS41A000C • WHITE





Thanks to the unique construction and the stateof-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.

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# MILITARY 9.0 - 12.0

#### EN 1891 / CE 1019

DIAMETER	9	10	10.5	11	12	mm
WEIGHT	50	69	72	80	92	g/m
NUMBER OF FALLS (MIN.)	20	20	20	20	20	min.
RELATIVE MASS OF SHEATH	49	39	36	40	35	%
SHEATH SLIPPAGE	2	4	3	5	4	mm
ELONGATION (50 – 150 KG)	3.8	3.4	3.4	3.3	3.2	%
SHRINKAGE	2.1	2	1.9	1.9	1.8	%
TENACITY	23	31	32	33	42	kΝ
MIN. TENACITY WITH KNOTS	13	17	18	20	25	kΝ
USED MATERIAL	PA	PA	PA	PA	PA	
TYPF	B	Α	Α	Α	Α	



Wallow?

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



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

Sewn termination is available on some types - on request.

# ARAMID 10.0, 11.0

#### EN 1891 / CE 1019

DIAMETER	10*	11	mm
WEIGHT	66.4	80	g/m
NUMBER OF FALLS (MIN.)	10	18	min.
RELATIVE MASS OF SHEATH	50	47	%
SHEATH SLIPPAGE	0	1	mm
ELONGATION (50 – 150 KG)	0	3	%
SHRINKAGE	1.5	0.9	%
TENACITY	37	45	kN
MIN. TENACITY WITH KNOTS	15	15	kN
USED MATERIAL	Aramid/PA	Aramid/PA	
ТҮРЕ	*	A / EN 1891	

#### \* TESTED ACCORDING TO EN 1891 EXCEPT IMPACT FORCE



L100TA42S000C • BLACK L110TA41S000C • BLACK



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.

# **FAST ROPE** ROPE FOR RAPID DEPLOYMENT FROM HELICOPTERS FAST ROPE AND VERSION FOR TRANSPORTATION AND EVACUATION F.R.I.E.S.

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	%

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.

- 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.

### FENDON

ENDON

# **REFLECTIVE 11.0**

### EN 1891 / CE 1019

DIAMETER	11	mm
WEIGHT	80	g/m
NUMBER OF FALLS (MIN.)	20	min.
RELATIVE MASS OF SHEATH	40	%
SHEATH SLIPPAGE	5	mm
ELONGATION (50 – 150 KG)	3.3	%
SHRINKAGE	1.9	%
TENACITY	33	kN
MIN. TENACITY WITH KNOTS	20	kN
USED MATERIAL	PA	
TYPE	А	



L110TS49S000C • BLACK

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.

Sewn termination is available on request.

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# FORCE 10.0, 11.0

DIAMETER	10*	11**	mm
WEIGHT	68	82	g/m
NUMBER OF FALLS (MIN.)	5	5	min.
RELATIVE MASS OF SHEATH	40	41	%
SHEATH SLIPPAGE	0	5	mm
ELONGATION (50 – 150 KG)	2	3.4	%
SHRINKAGE	2	1.8	%
TENACITY	24	26	kN
MIN. TENACITY WITH KNOTS	13	15	kN
USED MATERIAL	PA/Steel	PA/Steel	
TYPE	*	**	

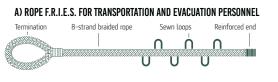
\* TESTED ACCORDING TO EN 1891 TYPE B EXCEPTED MATERIAL, MARKING AND FALLS \*\* TESTED ACCORDING TO EN 1891 TYPE A EXCEPTED MATERIAL, MARKING AND FALLS



L100TF41S000C • BLACK L110TF41S000C • BLACK

### PATENT PENDING

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.



#### B) 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



# EVERYTHING IS IMPORTANT ACCESSORIES

LENDON



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.

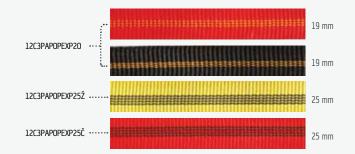
# **POWER CORDS**



# **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.



#### ACCESSORIES



Duck - a new 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.

# 



				FIGURE 8 DESCENDER TENDON 09
WEIGHT / g	160	225	225	110
	EN 567	EN 567	EN 567	-

# CARABINERS

**(E)** 



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



### QUICKDRAW AND SEWN SLINGS

#### EN 566 / CE 1019

			F	PA			
LENGTH / cm	10	15	20	60	120	180	
WIDTH / mm	19	19	19	19	19	19	
MIN. TENACITY / kN	22	22	22	22	22	22	
			DYNE	EMA®			
LENGTH / cm	10	15	20	60	120	180	
WIDTH / mm	13	13	13	13	13	13	Ī
MIN. TENACITY / kN	22	22	22	22	22	22	





### **DYNAPROT 10**

#### CE 1019

	FALL F/	ACTOR 1	FALL FA	ACTOR 2	
STATIC TENACITY / kN	IMPACT FORCE / kN	NUMBER OF FALLS	IMPACT FORCE / kN	NUMBER OF FALLS	
22	7.4	min. 20	10.7	9	
Ce					

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.

#### Why a dynamic sling?

Standard static tape slings are sized for static loads only = they are not capable of arresting a fall at the level of or above the belaying point. Such a fall loads the belaying point and the climber's body with a high impact force which can lead to a bodily injury or cause the belaying point to be torn out.

In case of slings made of DYNEEMA® this force is even higher and the sling can break even during the first fall.

 DYNAPROT 10 CLASIC:
 DYNAPROT 10 Y:
 DYNAPROT 10 Y SHORT:

 length 45 cm - DP100C045
 length 75 cm - DP100Y000
 length 45 cm and length 75 cm - DP100YS000

 length 75 cm - DP100C060
 length 75 cm - DP100C075
 length 75 cm - DP100YS000

### FENDON

### ULTIMO

#### EN 12277 / CE 1019

	WAIST	/ cm	LEG LOO	PS / cm	
SIZE	min.	max.	min.	max.	
XS	65	75	49	49	
S	70	80	52	52	
М	75	85	55	55	
L	80	90	58	58	
XL	85	95	60	60	
WEIGHT / g		3!	52		

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

			••••••	••••••••
	WAIST	/ cm	LEG LOO	PS / cm
SIZE	min.	max.	min.	max.
XS	65	75	50	55
S	70	80	50	55
М	75	85	55	60
L	80	90	55	60
XL	85	95	65	70
XXL	90	100	65	70
WEIGHT / g		47	29	
VT CTODM VC	VT CTODA			

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.



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# TALUNG

#### EN 12277 / CE 1019

	WAIST / cm		LEG LOO	PS / cm
SIZE	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

	WAIST	/ cm	LEG LOO	PS / cm
SIZE	min.	max.	min.	max.
ONE SIZE	65	120	42	66
WEIGHT / g		50	)5	

Œ

#### XT-COMP



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

# **CANYON SIT**

EN 12277 / CE 1019

	WAIST / cm		LEG LOOPS / cm	
SIZE	min.	max.	min.	max.
ONE SIZE	60	120	42	66
WEIGHT / g		5.	50	

#### 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 reinforced attachment points, this harness is an ideal part of your gear for canyons.

### **JAMMY** EN 12277 / CE 1019

	WAIST	WAIST / cm		LEG LOOPS / cm	
SIZE	min.	max.	min.	max.	
ONE SIZE	60	120	42	66	
WEIGHT / g		37	70		



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

CE

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



DO NOT USE THE CHEST HARNESS SEPARATELY!

(CE)



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.

# HELP WITH ANYTHING 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 that a half of the rope and his/ her descending or abseiling may be difficult,
- in the mountains, informs the belayer that a half of the rope (still or just) remains,
- assists in coiling the rope "from the midpoint".



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

# 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





# **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.



### 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 (e.g. 2014 red/black, 2015 green).

MORE INFORMATION ON 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 USU-ALLY 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.





CUTTING BLADE TYPE R • XCEPEL-R Heat Cutter HSG • XPAJKA-HSGO

Rope shortening device.



# **ROPE PROTECTOR**

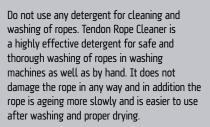
#### LENGTH 60 CM • XPROTECTOR60 LENGTH 100 CM • XPROTECTOR100

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** 

XPRACIGEL01



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 humidily of about 65 %. An examination of the rope by a competent person (person authorized by the manufacturer) once every six months is mandatory.

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

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

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

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

#### 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).

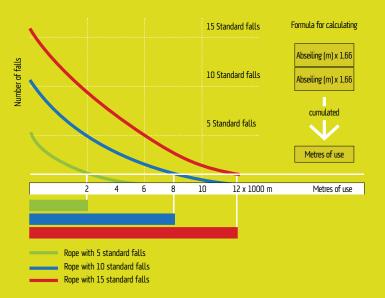
When using the rope for lowering with bending, a high performance induced by friction and movement is generated both in the belay/braking system (HMS, descender or belay device) and in the place of bending in the sheath and the core and is often connected with twisting which is brought about by the frequentlyoccuring false twist effect.

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

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

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

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



### **GENERAL VALUES OF SAFETY CONDITION (SAFETY RESERVE)**

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

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

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

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

 Safety condition >/= 5 standard falls (up to approx. 6,000-8,000 metres of use)

If the rope is in perfect condition, it may be used to secure any climbing situation up to a fall factor of 2.

 Safety condition > 2 standard falls (up to approx. 12,000-14,000 metres of use)

If the rope is in perfect condition, it may be used to secure any climbing situation up to a fall factor of 1.

#### Safety condition </= 2 standard falls</p>

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

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

#### The following information can be used as a guide:

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

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

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

# **STORAGE LIFE AND LIFE SPAN OF STATIC ROPES**

#### **STORAGE LIFE**

#### THE MAXIMUM STORAGE LIFE IN UNUSED CONDITION WITHOUT LIMITATION TO LIFE SPAN MAKES UP TO 5 YEARS.

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

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

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

#### **LIFE SPAN**

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

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

- Sharp edges that may have fatal consequences even at a slight tension of the rope!
- Abseiling and lowering (rope work) lead to loss of dynamic and static performance. For instance, frequent abseiling with high load forms clusters of fused (melted) fibres in the rope sheath as a result of the heat inevitably developed by friction.
- Abrasion leads to gradual weakening of consistency of the sheath. Heavier abrasion makes the sheath "hairier".
- Internal wear particles of impurities and rocks inside the rope, especially in combination with heavy performance of the rope, result in abrasion of fine fibres of the core and the sheath. The particles act as abrasive sand and lead to reduction of the load-bearing cross section of the fibres, especially during frequent abseiling.
- Loading by falls Due to the low dynamic elongation, loading by falls with a fall factor of 0.3 or greater must be essentially excluded.

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

#### EXAMPLE:

**TENDON 11 mm Static** 

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

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

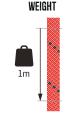
OCCASIONAL USE (SEVERAL TIMES A YEAR) WITH An intensity of use unworthy of notice, without considerable m@chanical loading or fall arrest, without recognizable wear or contamination.	8 - 10 Years
OCCASIONAL USE (SEVERAL TIMES A YEAR) WITH HIGH INTENSITY OF USE, MECHANICAL LOADING (SUSPENSION, OCCASIONAL LOWERING OR Abselling), WITHOUT FALL ARREST. SIGNS OF USE: SLIGHT WEAR, SLIGHT CONTAMINATION, NEGLIGIBLE HAIRINESS.	5 - 8
FREQUENT USE (SEVERAL TIMES A MONTH) WITH LOW INTENSITY OF USE, WITHOUT CONSIDERABLE MECHANICAL LOADING (SUSPENSION, OCCASIONAL LOWERING OR ABSEILING) OR FALL ARREST. SIGNS OF USE: NO SIGNS OF HEAVY WEAR. SLIGHT	YEARS
CONTAMINATION, HARDLY RECOGNIZABLE HAIRINESS. Very frequent use (several times a week) with	
LOW INTENSITY OF USE, WITHOUT CONSIDERABLE MECHANICAL LOADING OR FALL ARREST. SIGNS OF USE: SIGNS OF HEAVY WEAR, SLIGHT CONTAMINATION, RECOGNIZABLE HAIRINESS.	3 - 5
VERY FREQUENT USE (SEVERAL TIMES A WEEK) WITH HIGH INTENSITY OF USE, MECHANICAL LOADING (SUSPENSION), BUT WITHOUT FALL ARREST. SIGNS OF USE: SIGNS OF WEAR, OBVIOUS HAIRINESS, SI IGHT VITRIFICATION.	YEARS
INTENSIVE USE (EVERY DAY) WITH NORMAL INTENSITY OF USE, WITHOUT CONSIDERABLE MECHANICAL LOADING OR FALL ARREST. SIGNS OF USE: OBVIOUS WEAR, OBVIOUS HAIRINESS,	1 - 3 Years
HEAVY CONTAMINATION. Intensive use (every day) with high intensity of use, mechanical loading (suspension), but without fall arrest.	=1<br YFAR
SIGNS OF USE: HEAVY WEAR, VITRIFICATION, Contamination and Hairiness.	TLAN

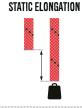
EXTREME LOADING BY FALLS OR OTHER STRONG MECHANICAL, Physical, climatic or chemical effects can damage the Rope so heavily that it must be discarded immediately. The Rope must be discarded immediately also in case the user has the slightest doubt about the safety and the perfect condition of the Rope.

# **TESTING OF CLIMBING ROPES IN ACCORDANCE WITH EN 892**

#### DIAMETER











#### 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

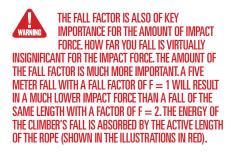
This parameter measures the elongation of the rope during the first standard drop. The maximum allowable dynamic elongation is 40 %. This measurement is a better indicator of the rope's properties than the static elongation value.

#### KNOTABILITY

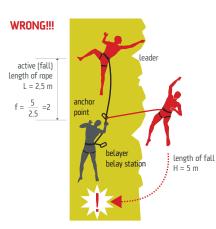
One of the most important requirements for mountain climbing rope is outstanding flexibility. How is this measured? A section of the tested rope is tied into a simple knot. Weight is then applied to the rope (10 kg for a single rope). Then the interior diameter of the knot is measured. The ratio between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













# A ROPE WITH POOR FLEXIBILITY IS HARDER TO TIE IN KNOTS AND SLIDES LESS EFFICIENTLY THROUGH THE CARABINERS OF A BELAYING SYSTEM. THE EFFECTS OF THE ELEMENTS OR OF IMPROPER CARE CAN REDUCE A ROPE'S FLEXIBILITY.

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

#### **REQUIREMENTS OF THE NORM EN 892 - DYNAMIC CLIMBING ROPES**

		REQUIRED VALUES	
MONITORED PARAMETER	SINGLE ROPE	HALF ROPE	TWIN ROPE
Rope diameter	Undefined	Undefined	Undefined
Rope weight	Undefined	Undefined	Undefined
Sheath slippage	1 % ( <u>+</u> 20 mm)	1 % ( <u>+</u> 20 mm)	1 % ( <u>+</u> 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

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

#### **ELONGATION**

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

#### **STATIC STRENGTH**

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



THE MAXIMUM RECOMMENDED LOAD IS 1/10 OF THE NOMINAL STRENGTH STATED ON THE PRODUCT LABEL.

#### **REQUIREMENTS WITH RESPECT TO MATERIAL PROPERTIES**

**REQUIREMENTS OF THE NORM EN 1891 - STATIC ROPES** 

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.

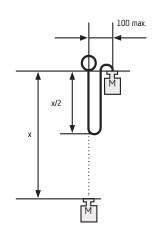
For Type A ropes, slippage may not exceed ca. 20 mm for a 2 m length of rope (this applies to ropes with a diameter of up to 12 mm). For Type B ropes, slippage may not exceed 15 mm.

#### 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.

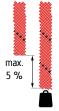


	REQUIRE	D VALUES
MONITORED PARAMETER	ROPE TYPE A	ROPE TYPE B
Rope diameter	8.5 - 16 mm	8.5 - 16 mm
Knotability coefficient	max. 1.2	max. 1.2
Sheath slippage	max. 20 mm*	max. 15 mm*
Elongation	max. 5 %	max. 5 %
Shrinkage	Undefined	Undefined
Impact force	max. 6 kN	max. 6 kN
No. of falls with a fall factor 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

ELONGATION

DIAMFTER





#### 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.



#### 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. Tiny particles of TEFLON®Eco are applied to the rope sheath and core and make a film of almost impermeable protective layer. The rope fibres are then protected against dust and water which would othervise 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.



### TEFIX®

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 core and sheath. This extra material is later also processed so that the bond is flexible and strong. The rope has a 0% sheath slippage, much longer lifespan, and better handling.



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 separatelly 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.

### COMPACT



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

### MIDPOINT OF ROPE

At half of the length, the rope is visibly marked by coloured band, which does not

affect the core structure and its mechanical properties. Lengths 30 - 80 m only.



### BICOLOUR

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



### ${\rm CE-SYMBOL\,OF\,COMPLIANCE}$

This symbol confirms that the product meets safety requirements specified in the relevant Europen regulations. The number following symbol (e.g. CE1019) is number of notified body which performs checking of production: VVUÚ, 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 unthought-of possibilities and brings user comfort to a hitherto unrecognized level. Rope includes microchip. (S) With a PC and a mobile phone you obtain a quick, effective and smart tool for examination and maintenance of your ropes.



### **TENDON ELECTRONIC NOTE SYSTEM (TENOTE)**

Rope marking system by means of a microchip.

#### 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.

# 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 COM-PLETELY FREE OF CHARGE RECYCLING OF IT AT OUR COSTS. INFORMATIVE LABELS ON ROPES AS WELL AS THE REELS, ON WHICH OUR ROPES ARE WOUND, ARE MADE OF AN ECOLOGICALLY RECYCLABLE MATERIAL. THE REELS THEMSELVES ARE RETURNABLE AND WE REUSE THEM TO PACK NEW ROPES. PACKAGINGS OF OUR DYNAMIC ROPES ARE PACKAGINGS WITH AN ADDITIONAL UTILITY VALUE – THEY MAY BE REUSED FOR MANY OTHER PURPOSES AFTER REMOVING THE ROPES FROM THEM.

WE ARE GLAD THAT WE CAN CONTRIBUTE TO THE MAINTENANCE OF A HIGH-QUALITY ENVIRONMENT BY Our approach. ART. NO. • COLOUR

19255555

D094TM41S000C • VIOLET

D094TM42S000C • BLUE

D094TM44S000C • BRIGHT ORANGE

ROPE DIAMETER • [mm]
WEIGHT • [g/m]
NUMBER OF UIAA FALLS
MAX. IMPACT FORCE • [kN]
SHEATH SLIPPAGE • [%]
STATIC ELONGATION • [%]
DYNAMIC ELONGATION • [%]
KNOTABILITY

ART. NO. • COLOUR	۲	12	
6888	7.8	7.8	
N 8 8 8 8	39	39	
D078MF41S000C • GREEN	16	6	
and the second	8.3	5.4	
D078MF42S000C • ORANGE	0	0	
	7.1	11.3	
	32	36	
	0.9	0.9	

**MASTER PRO 9.2** 

1

9.2

58

9

9.1

MASTER 7.8 TEFIX® NEW!

MASTER 8.	.6
1	ART. NO. • COLOUR
8.6	
50	2000000000000
5	D086TM42C000C • PINK
9.1	
0.3	DO86TM43C000C • TURQUOISE
4.3	BODOTHIASOCOOD - TORQODISE
30	
0.9	

MASTER 9.4

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9.4

58

5-7

7

0

6.2

37

0.9

33

0.8

ART. NO. • COLOUR

D092TP41C000C • RED

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	8.9	STER	MA	
ART. NO. • COLOUR	0	12	1	R
	8.9	8.9	8.9	
D089TM45C000C • TUROUOISE	52	52	52	к
D0891W49C000C • 10KQ00I3E	29	16	5	N
	9.6	6.1	8.7	
D089TM44C000C • PINK	0	0	0	E
	6.9	6.9	6.9	
	27	30	33	
	0.8	0.8	0.8	

MASTER 9.7

ART. NO. • COLOUR

100

0.8

1

D097TV41S000C • YELLOW

D097TV42S000C • GREEN

D097TV45S000C • BICOLOUR

ART. NO. • COLOUR

.

D085TF41S000C • GREEN/YELLOW

D085TF42S000C • KHAKI/BLUE

1

9.7

61

7-8

7

0.1

6.3

36

0.9

MASTER 8.5

12 0

8.5 8.5

0.1 0.1

0,8 0,8

46 46

10 14-17 5.1 7.7

7 7

35 33

MA	STER	89.0	TEFIX®	NEW!
1	12	0	ART.	NO. • COLOUR
9.0	9.0	9.0	1111	1266
55	55	55	D000WE 400000	
6	19	33	D090MF42C000	12 • 1 NKÚ NUSE
8.9	6.5	10.8	c.c.c.c.	S 8 8 8
0	0	0	DO90MF4	1C000S • PINK
9.6	9.6	9.6		
31	29	25		
0.9	0.9	0.9		

MASTER 9.7 TEFIX <sup>®</sup>			
1	ART. NO. • COLOUR		
9.7	N. N. N. W.		
61			
8	D097MF41S000C • TURQUOISE		
8.2	Course and second s		
0	D097MF42S000C • PINK		
8.0			
35			

AMBITION 9.8		
1	ART. NO. • COLOUR	
9.8		
64	D098TR48S000C • BRIGHT YELLOW	
9	1 1 1 1 1 1 1 1	
7.1	D098TR42S000C • GREEN	
0	思想都被得到	
6.2	D098TR41S000C • YELLOW	
35		
0.8	D098TR45S000C • BICOLOUR	



ROPE DIAMETER • [mm]
WEIGHT • [g/m]
NUMBER OF UIAA FALLS
MAX. IMPACT FORCE • [kN]
SHEATH SLIPPAGE • [%]
STATIC ELONGATION • [%]
DYNAMIC ELONGATION • [%]
KNOTABILITY

ROPE DIAMETER • [mm]			
WEIGHT • [g/m]			
NUMBER OF UIAA FALLS			
MAX. IMPACT FORCE • [kN]			
SHEATH SLIPPAGE • [%]			
STATIC ELONGATION • [%]			
DYNAMIC ELONGATION • [%]			
KNOTABILITY			

ROPE DIAMETER • [mm]

NUMBER OF UIAA FALLS

SHEATH SLIPPAGE • [%]

STATIC ELONGATION • [%]

**DYNAMIC ELONGATION** • [%]

MAX. IMPACT FORCE • [kN]

WEIGHT • [g/m]

KNOTABILITY

0.3 6.1 31 1	D092TP43C000C • TURQUOISE
MAST	ER 7.0
0	ART. NO. • COLOUR
7	
34	D070TM41C000C • RED
14	\$\$\$\$\$\$\$\$???????????????????????????????
8.9	D070TM4200000 - BLUE

MASTER 7.0			
0	ART. NO. • COLOUR		
7			
34	D070TM41C000C • RED		
14	5555555222222222		
8.9	D070TM42C000C • BLUE		
0			
3.6			
33			
0.9			

ART. NO. • COLOUR

N 10 10

D100TA41S000C • RED

D100TA42S000C • BLUE

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**AMBITION 10.0** 

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67

9

7.8

0.1

5.7

33

1

MAS	STER 7	.8
12	0	ART. NO. • COLOUR
7.8	7.8	A ARABA MARABARA
38	38	D078TD42S000C • BLUE
6	16	
5.2	7.9	D078TD44S000C • RED
0	0	
6.5	6.1	
32	33	
0.9	0.9	

AMBITION 10.2 TEFIX®			
1	ART. NO. • COLOUR		
10.2			
67	****************		
11	D102AF41S000C • YELLOW		
8.3			
0	D102AF42S000C • ORANGE		
6.9			

AMBITI	ON 10.5
1	ART. NO. • COLOUR
10.5	
69	*****
9-10	D105TA41S000C • RED
7.9	REREPERSE
0	D105TA42S000C • BLUE
6	
34	

1	ART. NO. • COLOUR
10.5	100000000000000000000000000000000000000
69	
9-10	D105TA41S000C • RED
7.9	REAL RAILER
0	D105TA42S000C • BLUE
6	。 这些成为为此为,在这次的是他的人们的人们的人们的。 这些的人们的人们的人们的人们的人们的人们的人们的人们的人们的人们的人们的人们的人们的
34	and a constant and the
0.8	D105TA47S000C • BRIGHT GREEN

ROPE DIAMETER • [mm]
WEIGHT • [g/m]
NUMBER OF UIAA FALLS
MAX. IMPACT FORCE • [kN]
SHEATH SLIPPAGE • [%]
STATIC ELONGATION • [%]
DYNAMIC ELONGATION • [%]
KNOTABILITY

ROPE DIAMETER • [mm]
WEIGHT • [g/m]
NUMBER OF UIAA FALLS
MAX. IMPACT FORCE • [kN]
SHEATH SLIPPAGE • [%]
STATIC ELONGATION • [%]
DYNAMIC ELONGATION • [%]
KNOTABILITY

ROPE DIAMETER • [mm]
WEIGHT • [g/m]
NUMBER OF UIAA FALLS
MAX. IMPACT FORCE • [kN]
SHEATH SLIPPAGE • [%]
STATIC ELONGATION • [%]
DYNAMIC ELONGATION • [%]
KNOTABILITY

1

ART. NO. • COLOUR	۲	1/2	
	7.9	7.9	
	39	39	
D079TL41S000C • RED	16	6	
1222222	7.8	5.4	
D079TL42S000C • YELLOW	0	0	
	7	6.7	
	32	34	
	0.8	0.8	
l i	VF 8 4	100	

**ALPINE 7.9** 

TRUST 11.0		
1	ART. NO. • COLOUR	
11	20000	
79		
16	D110TT41S000C • RED	
8.1	all	
0.1	D110TT42S000C • YELLOW	
6.1		
34		
0.9		

TRUS	i 11.4
1	ART. NO. • COLOUR
11.4	NALCOLOUP PRESERVED
84	
20	D114TA41S000C • YELLOW
8.4	in the second state of the second second
0.1	D114TA42S000C • BLUE
5.5	
34	
1	

LOWE 9.7		
1	ART. NO. • COLOUR	
9.7		
55		
6	D097TW41S000C • GREEN	
8.6		
-0.15	D097TW42S000C • BLUE	
7.4		
32		

1

1

LOWE 8.4		
12	0	ART. NO. • COLOUR
8.4	8.4	********
41	41	1777 C C C C C C C C C C C C C C C C C C
5	12	D084TW41S000C • BLUE
5	8.9	
0	0	D084TW42S000C • YELLOW
5.4	5.3	
31	27	
0.8	0.8	

INDOOR 10.4		
1	ART. NO. • COLOUR	
10.4		
72	Set Set Out	
8-9	D104TI41S000C • BLUE/GREEN	
7.7	* * * * *	
0.1	D104TI42S000C • RED/GREY	
6.5		
35		

HATTRICK 9.7		
1	ART. NO. • COLOUR	
9.7		
61		
5	D097TH41S000C • GREEN/BLUE	
8.4	CHIEF AND A CHIEF	
0	D097TH42S000C • RED/BLUE	
9.0		
29		

1

HATTI	RICK 10.2
1	ART. NO. • COLOUR
10.2	กษณฑลที่สารสารสารสารสารสารสารสารสารสารสาร
66	140190000000000000000000000000000000000
5	D102TH41S000C • BLUE
8.2	N N N N N N N N N
0	D102TH42S000C • RED
5.4	
33	
0.9	

INDOOR 10.21		
1	ART. NO. • COLOUR	
10.2		
68	~~~~~~~~~~~	
7	D102TI71S000C • RED/YELLOW	
7.8	0000000000000	
0	D102TI72S000C • YELLOW/GREY	
7.3		
36		

	CANYON	DRY 9.0
ROPE DIAMETER • [mm]	9	ART. NO
WEIGHT • [g/m]	59	
NUMBER OF FALLS (MIN.)	16	
RELATIVE MASS OF SHEAT	H 44	C090TD41C0
SHEATH SLIPPAGE • [%]	0,20	
ELONGATION (50 - 150 KG	3) 3,6	
SHRINKAGE • [%]	1	
TENACITY • [kN]	30	
MIN. TENACITY WITH KNO	<b>IS •</b> [kN] 18,4	
USED MATERIAL	PA	
TYPE	A / EN 1891	
FLOATING	No	

	CANYON W	ET 10.0
IO. • COLOUR	10	ART. NO. • COLOUR
	66	************
11111	12	
C000C • RED	33	C100TW48W000C • ORANGE
	2.7	
	2.1	
	0.8	
	30	
	17	
	PA	
	A / EN 1891	
	No	

ROPE DIAMETER • [mm]
WEIGHT • [g/m]
NUMBER OF FALLS (MIN.)
RELATIVE MASS OF SHEATH
SHEATH SLIPPAGE • [%]
ELONGATION (50 – 150 KG)
SHRINKAGE • [%]
TENACITY • [kN]
MIN. TENACITY WITH KNOTS • [kN]
USED MATERIAL
ТҮРЕ
FLOATING

10	ART. NO. • COLOUR
61	REALISSINGAL \$100000000
20	-
49	C100TC41S000C • YELLOW
2.6	
3.2	
1.7	
18	
12	
PA,	/PPV
-	
Yes	3
*	weight 55 kg, fall factor 1
**	tested according to EN 1891 type B
	except min. tenacity and material

CANYON GRANDE 10.0\*\*

SALAMANDE	SPELE		
10.2*	ART. NO. • COLOUR	9	ľ
60	annaa aanaa a	48	1
20**		12	1
47	C102TS41S000C • YELLOW	44	4
0		1	1
2.6		4.1	1
0		2.2	
23		23	1
12		12	
PA/PPV		PA	
-		В	1
Yes		-	
	ding to EN 1891 type B ial and number of falls		

	except material and number of
*	weight 55 kg, fall factor 1

\*:

SPELEO					
10	10.5	10.5 Special	11		
66	72	76	77		
20	20	12	20		
42	46	51	42		
0	2	1	2		
3.5	3.4	3.5	3.3		
1.8	1.9	0.3	1.8		
29	30	33	34		
16	17	15	19		
PA	PA	PES/PA	PA		
А	А	A	А		
-	-	-	-		
	<b>10</b> 66 20 42 0 3.5 1.8 29 16 PA	10         10.5           66         72           20         20           42         46           0         2           3.5         3.4           1.8         1.9           29         30           16         17           PA         PA	10.5         10.5 Special           66         72         76           20         20         12           42         46         51           0         2         1           3.5         3.4         3.5           1.8         1.9         0.3           29         30         33           16         17         15           PA         PA         PES/PA		

	ART. NO. • COLOUR
1. 1.	Ante at Aria at
S10	5TG41S000C SPECIAL • WHITE/BLUE
1110	Contraction and
ø 9	SO9OTS41SOOOC • WHITE/ORANGE
ø 10	S100TS41S000C • WHITE/ORANGE
ø 10.5	S105TS41S000C • WHITE/ORANGE
ø 11	S110TS41S000C • WHITE/ORANGE

	TIMBER EVO 11.0 NEW! TIMBER EVO 11.		R EVO 11.5	TIMBER EVO 12.5 NEW!		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	STATISTICS IN THE OWNER.	172	
NUMBER OF FALLS (MIN.)	20	********	20	and the second second second	20	33333333	-	*******
RELATIVE MASS OF SHEATH	57	L110TT41S000C	54	L115TE42S000C	48	L125TT41S000C	- 1	150TT41S000C • YELLOW/BLACK
SHEATH SLIPPAGE • [%]	0	BRIGHT YELLOW	10	ORANGE/YELLOW	0	BRIGHT ORANGE	-	
ELONGATION (50 – 150 KG)	3.1		3		3		-	
SHRINKAGE • [%]	0.7		1		0.6		-	
TENACITY • [kN]	30		30		39		61	
MIN. TENACITY WITH KNOTS • [kN]	18		18		22		-	
USED MATERIAL	PES/PA	1	PES/PA		PES/PA	١	PES	
TYPE	A		A / EN 1	891	А		-	

ROPE DIAMETER • [mm] WEIGHT • [g/m] TENACITY • [kN] USED MATERIAL

**TIMBER CORD 3.0** 3 COLOUR • ART. NO. 2.5 0.8 PE

COLOUR • ART. NO. 54.3 20 PES/TECHNORA

**TIMBER CORD 8.0** 

8

MILI 10



A100TP41S000C • YELLOW/BLACK

	MI
ROPE DIAMETER • [mm]	9
WEIGHT • [g/m]	50
NUMBER OF FALLS (MIN.)	20
RELATIVE MASS OF SHEATH	49
SHEATH SLIPPAGE • [%]	2
ELONGATION (50 – 150 KG)	3.8
SHRINKAGE • [%]	2.1
TENACITY • [kN]	23
MIN. TENACITY WITH KNOTS • [kN]	13
USED MATERIAL	PA
TYPE	В

MIL	TARY 9.0	MI
9	COLOUR • ART. NO.	10
50		69
20	LO9OTS44SOOOC • BLACK	20
49		39
2	L090TS45S000C • GREEN	4
3.8		3.4
2.1	LO9OTS46SODOC • CAMOUFLAGE	2
23		31
13	LO9OTS4KSOOOC • DESERT STORM	17
PA	L090134K30000 • DE3ERT 310RM	PA
В	L090TS47S000C • SOLID BLACK	А

A030TT41S000C • RED

TARY 10.0
COLOUR • ART. NO.
L100TS44S000C • BLACK
L100TS45S000C • GREEN
L100TS46S000C • CAMOUFLAGE
1441100010
L100TS4KS000C • DESERT STORM
L100TS47S000C • SOLID BLACK

A080TP41S000C • WHITE/RED

MIL	MILITARY 10.5					
10.5	Colour • Art. No.					
72						
20	L105TS44S000C • BLACK					
36	and the second					
3	L105TS45S000C • GREEN					
3.4						
1.9	105TS46S000C • CAMOUFLAGE					
32						
18	L105TS4KS000C • DESERT STORM					
PA	L100194K90000 • DESERI SIOKM					
А						
	L105TS47S000C • SOLID BLACK					

F

0

2

2

24

13

PA/

AR/

11

80

18

47

1

3

0.9

45

15

А

Aramid/PA

MILI	М	
11	Colour • Art. No.	12
80		92
20	L110TS44S000C • BLACK	20
40	1979 - 1979 - 1979 - 1979 - 1979 - 1979 - 1979 - 1979 - 1979 - 1979 - 1979 - 1979 - 1979 - 1979 - 1979 - 1979 -	35
5	L110TS45S000C • GREEN	4
3.3		3.2
1.9	L110TS46S000C • CAMOUFLAGE	1.8
33	EII0134030000 · DAMOULAUL	42
20	L110TS4KS000C • DESERT STORM	25
PA	TU0124K20000 • DE2EKI 210KW	PA
А	L110TS47S000C • SOLID BLACK	А

TARY 12.0
COLOUR • ART. NO.
L120TS44S000C • BLACK
2212223
L120TS45S000C • GREEN
L120TS46S000C • CAMOUFLAGE
1221237
L120TS4KS000C • DESERT STORM
Electoric de la companya de la compa
L120TS47S000C • SOLID BLACK

ROPE DIAMETER • [mm] WEIGHT • [g/m] NUMBER OF FALLS (MIN.) **RELATIVE MASS OF SHEATH** SHEATH SLIPPAGE • [%] ELONGATION (50 - 150 KG) SHRINKAGE • [%] TENACITY • [kN] MIN. TENACITY WITH KNOTS • [kN] USED MATERIAL TYPE

REFLE	AR	
11	COLOUR • ART. NO.	10*
80		66.4
20		10
40	L110TS49S000C • BLACK	50
5		0
3.3		0
1.9		1.5
33		37
20		15
PA		Ara
А		*
		* ti

ARAMID 10.0					
10*	COLOUR • ART. NO.				
66.4	<i></i>				
10					
50	L100TA42S000C • BLACK				
0					
0					
1.5					
37					
15					
Aramid/	'PA				
*					
¥	secondian to FNI 1001 augent				

tested according to EN 1891 except impact force

AMID <sup>.</sup>	11.0	
	Colour • Art. N	0
	L110TA41S000C • BLAC	K

FURCE 10.0					
10*	COLOUR • ART. NO.				
68	664888888666				
5					
40	L100TF41S000C • BLACK				

	ビンシンシンシン	5	20
L100TF	415000C • BLACK	41	
		5	
		3.4	
		1.8	
		26	
		15	
Steel		PA/Ste	eel
		**	

FORCE 11.0					
11**	COLOUR • ART. NO.				
82	6655555566				
5					
41	L110TF41S000C • BLACK				
5					
3.4					
1.8					
26					

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

60

### FENDON

#### CODES AND COLOURS

	STAT	IC 9.0	STA	TIC 9.0 TYPE A	STA	FIC 10.0	STAT	IC 10.5	STAT	TIC 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] NUMBER OF FALLS (MIN.) RELATIVE MASS OF SHEATH SHEATH SLIPPAGE • [%] ELONGATION (50 - 150 KG)	50 20 49 2 3.8 2.1	L090T\$41\$000C • WHITE	61 8 41 0 2.8 1.9	LO9OTS41A000C • WHITE	69 20 39 4 3.4	L100T\$41\$000C • WHITE	72 20 36 3 3.4 1.9	L105T\$41\$000C • WHITE	80 20 40 5 3.3 1.9	L110TS41S000C • WHITE L110TS42S000C • RED
SHRINKAGE • [%] Tenacity • [kN] Min. Tenacity with Knots • [kN] Used Material Type	23 13 PA B	LO9OTS43S000C • BLUE	30 15 PA A		2 31 17 PA A	L100TS43S000C • BLUE	1.9 32 18 PA A	L105T\$43\$000C • BLUE	7.9 33 20 PA A	L110TS43S000C • BLU
	STAT	TC 12.0		STATIC 13.0		SECURE 10.	5	SEC	URE 11	.0

	STAT	FIC 12.0
ROPE DIAMETER • [mm]	12	COLOUR • ART. NO.
WEIGHT • [g/m]	92	
NUMBER OF FALLS (MIN.)	20	
RELATIVE MASS OF SHEATH	35	L120TS41S000C • WHITE
SHEATH SLIPPAGE • [%]	4	
ELONGATION (50 - 150 KG)	3.2	a de ante de conserve a
SHRINKAGE • [%]	1.8	L120TS42S000C • RED
TENACITY • [kN]	42	
MIN. TENACITY WITH KNOTS • [kN]	25	CARL STORE DURING STORE
USED MATERIAL	PA	L120TS43S000C • BLUE
TYPE	А	

STATI	C 13.0
13	COLOUR • ART. NO.
109	
20	
46	L130TS41S000C • WHITE
0	
3.3	
1.8	
42	
27	
PA	
А	

SECURE	10.5	SEC
10.5	COLOUR • ART. NO.	11
75		84.6
min. 17		min.
48.5	L105TE41S000C • RED	33.1
0	98.8.3.3.98.4	0
4.6	CONTRACTOR CONTRACTOR	4.5
1.2	L105TE42S000C • YELLOW	0.8
18		19.8
28		35
4.5		4.3

SECUR	E 11.0
11	COLOUR • ART. NO.
84.6	222
min. 20	200 200
33.1	L110TE43S000C • YELLOW
0	
4.5	
0.8	L110TE44S000C • BLUE
19.8	
35	

	STATIC (NF	PA)		
DIAMETER • [mm]	10.5	11	12	COLOUR • ART. NO.
DIAMETER • [in]	0.413	0.433	0.472	
MBS* • [kN]	32	40.5	42	*.I* .*.I*
MBS* • [LB]	6519	9 105	9 442	L105NS41S000C • WHITE
WEIGHT • [g/m]	74	83	87	***
ELONGATION AT 10% MBS • [%]	8.6	8.4	7.4	
ELONGATION AT 1.35 KN (300 LBF) • [%]	2.8	3.6	2.3	L110NS41S000C • 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	+1 +1 +1 +1 +1
NFPA 1983 2012 EDITION	Yes	Yes	Yes	L120NS41S000C • WHITE
CLASSIFIED	Technical use	General use	General us	e

	ACCESS	ORY AND POW	ER CORDS						REEP ARAMID	REEP REFLECTIVE	REEP TOUCH
CORD DIAMETER • [mm]	4	5	6	7	8	2	3	9	6	6	6
WEIGHT • [g/m]	12.7	18.9	23.2	34	39.8	2.8	6.5	54.4	22.9	23.2	23.2
MIN. STRENGTH • [daN]	340	510	1000	1300	1640	120	190	1900	1700	1000	1000 <u></u>
ART. NO. • COLOUR	A040TR41S100R • BLUE/YELLOW A040TR42S100R • RED	A050TR41\$100R • YELLOW A050TR42\$100R • BLUE	A060TR41\$100R + GREEN A060TR42\$100R + RED	A070TR415100R • RED A070TR425100R • YELLOW	A080TR42S100R • RED A080TR41S100R • ORANGE	AO2OTH41S100R • BLUE AO2OTH42S100R • YELLOW	A030TH41S100R • BLUE A030TH42S100R • BLACK	A090TR41S100R • RED	A060TA41STODR + BLACK	AOGOTR44S100R • BLACK	A060TT41S000R • WHITE/RED 00001 A060TT42S000R • WHITE/BLUE
		and the second							0110111000	14	

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