



Unlimited Rope Solutions

Kite Paragliding Sailplane
2019 / 2020





LIROS Unlimited Rope Solutions

LIROS is now recognised as a world leader in the manufacture of high tech yachting ropes, kitesurf cords, paragliding lines and a wide range of industrial cordage. Latest production facilities enable LIROS to develop products for every customer requirement.

Special coatings developed by LIROS minimize the abrasion of high-quality fibre ropes and Protect from UV-radiation. Thermal processes optimize the rope in terms of elongation and tensile strength. Our quality management systems ensure the highest level of quality for all LIROS customers.

For this reason LIROS produces innovative and customer-optimised rope products – for more than 160 years.

Sven Rosenberger

Karl Friedrich Rosenberger

Our company is certified and approved according to DIN EN ISO 9001 and DIN EN ISO 14001.
Production 100% Made in Germany.



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LIROS – YOUR EXCELLENT PARTNER



Production *Rope-finishing expertise Made in Germany*



Latest technology *Essential for producing premium products*



Laboratory *Technical development of unique rope solutions*



Quality control *guarantees continuous quality*

LIROS HSS

||||| Heat Stretch System

LIROS HSS pre-stretch system uses exact heat treatment to guarantee the highest accuracy in any application.

LIROS LCS

■■■■■ LIROS Coating System

LIROS LCS is the best Protection against wear-and-tear and UV effects for technical ropes. LIROS LCS increases UV- and wearresistance by up to 50%.

LIROS DRS

●●●●● Dry Rope System

LIROS DRS is the durable water-repellent coating for technical ropes.

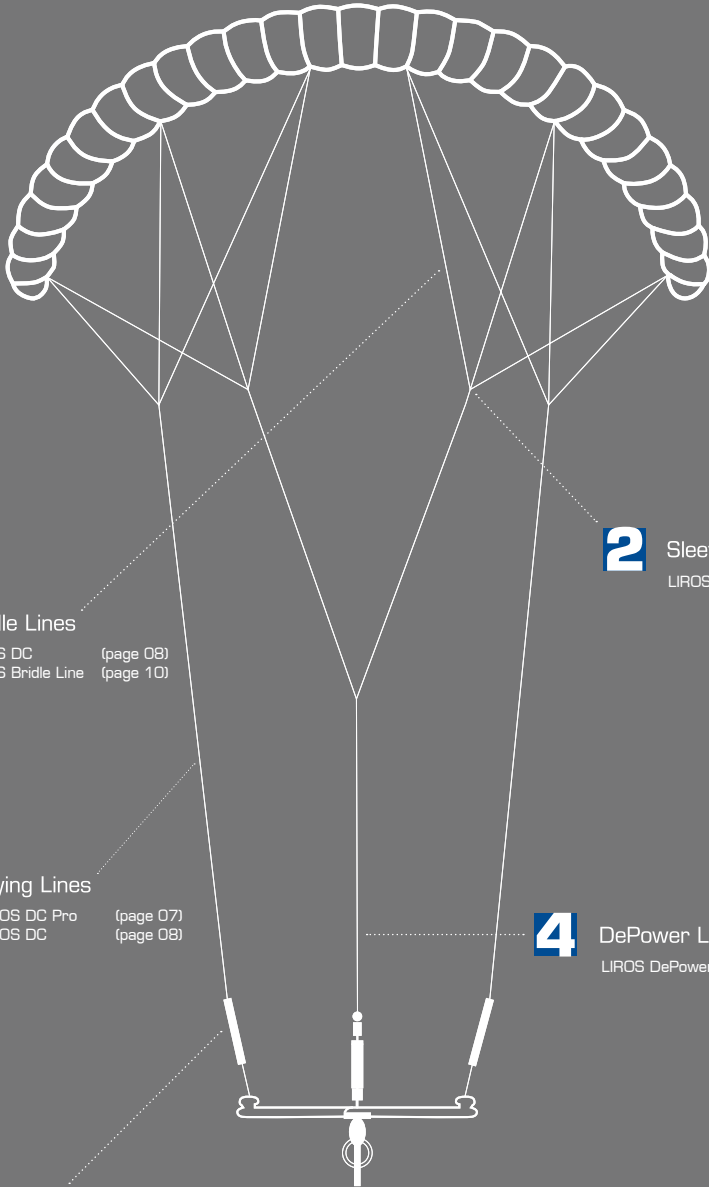
LIROS line optimization systems





/// Recommendations

KITE LINES



1 Bridle Lines
LIROS DC (page 08)
LIROS Bridle Line (page 10)

2 Sleeve Covers
LIROS PC (page 09)

3 Flying Lines
LIROS DC Pro (page 07)
LIROS DC (page 08)

4 DePower Lines
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5 Leader Lines
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LIROS D-Pro (page 23)



LIROS DC Pro

High-performance, 100% Dyneema® SK99 kitenline. Unmatched ratio between diameter and breaking strength. LIROS DC Pro is perfect for use as flying or bridle line. Extremely low drag values and maximum performance for the kiter. Excellent dimensional stability even after highest stress. Delivers best in kite performance and durable precise control of the sporting equipment.

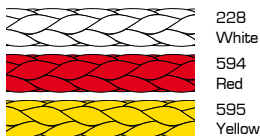
- *easy to splice*
- *unmatched precision in kite control*
- *excellent dimensional stability*
- *LIROS Heat-Stretch-System*

Material pre-stretched, coated Dyneema® SK99

Construction 12-braided



Colours



Reference	approx. Ø [mm]	Breakload min. [daN]	Breakload eff. [daN]	Elongation at Breakload [%]
DC 000-0161	0,83	160	170	2,4
DC 000-0201	1,10	200	230	3,7
DC 000-0301	1,30	300	325	3,6
DC 000-0401	1,55	400	490	3,4
DC 000-0701	2,00	700	730	3,2

Reference	Elongation / Line creep at 10 daN [%]	Elongation / Line creep at 30 daN [%]	Strength after 5000 bending cycles [daN]	Weight [g/m]	Length of spool* m
DC 000-0161	0,36 / 0,19	0,77 / 0,32	156	0,56	1000
DC 000-0201	0,20 / 0,19	0,43 / 0,23	245	0,88	1000
DC 000-0301	0,19 / 0,14	0,41 / 0,22	330	1,45	1000
DC 000-0401	0,20 / 0,18	0,42 / 0,21	450	1,94	1000
DC 000-0701	0,15 / 0,10	0,33 / 0,19	667	3,05	1000

* LIROS Flightsport lines may come six pieces to a spool. No line will be shorter than 25m.

Not all colours available in all diameters.



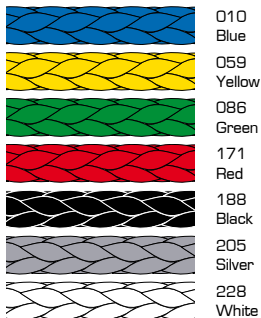
LIROS DC

High-end, 100% Dyneema® SK 75 kiteline. LIROS DC is perfect for use as flying or bridle line. Highest load capacity with minimal line diameter delivers the best in kite performance. Extreme stretch resistance, even after heavy loads, for precise control of the kite.

LIROS DC – Kiting without compromise!

- *easy to splice*
- *unmatched precision in kite control*
- *excellent dimensional stability*
- *LIROS Heat-Stretch-System*

Colours



Material

pre-stretched, coated Dyneema® SK75

Construction

12- and 16-braided

Reference	approx. Ø [mm]	Breakload min. [daN]	Breakload eff. [daN]	Elongation at Breakload [%]
DC000-0035	0,38	35	38	2,5
DC000-0040	0,5	40	48	2,2
DC000-0060	0,6	60	84	3,2
DC000-0100	0,8	100	110	3,0
DC000-0120	0,85	120	133	1,9
DC000-0160	1,1	160	200	2,3
DC000-0200	1,6	200	248	3,7
DC000-0300	1,8	300	368	3,7
DC000-0500	2,5	500	600	3,2

Reference	Elongation / Line creep at 10 daN [%]	Elongation / Line creep at 30 daN [%]	Strength after 5000 bending cycles [daN]	Weight [g/m]	Length of spool* m
DC000-0035	0,77 / 0,19	–	33	0,11	1000
DC000-0040	0,64 / 0,18	–	33	0,19	1000
DC000-0060	0,43 / 0,08	1,20 / 0,31	74	0,24	1000
DC000-0100	0,36 / 0,08	1,00 / 0,20	99	0,42	1000
DC000-0120	0,44 / 0,24	0,96 / 0,38	132	0,59	1000
DC000-0160	0,57 / 0,13	1,59 / 0,31	182	0,87	1000
DC000-0200	0,40 / 0,24	0,78 / 0,40	240	1,42	1000
DC000-0300	0,25 / 0,12	0,49 / 0,24	360	2,01	1000
DC000-0500	0,42 / 0,29	0,70 / 0,49	536	2,73	1000

* LIROS FlightSport lines may come six pieces to a spool. No line will be shorter than 25m.

Not all colours available in all diameters.

** DC 000-0035 only available in 228 White and 659 Orange.



LIROS PC

Very long-lived and abrasion resistant cover for LIROS flying lines. A flexible braid made of high quality polyester protects the flying line and guarantees best connection properties.

- long-lived
- UV-resistant
- cover material without core

Colours



086
Green



188
Black



171
Red

Material hollow-braided Polyester

Reference	suitable for	Length of spool [®] m
PC000-0060	DC60, DC100	100
PC000-0120	DC120, DC160, DC161, DC201	100
PC000-0200	DC200, DC301	100
PC000-0300	DC300, DC401, DC701	100

* LIROS Flightsport lines may come six pieces to a spool. No line will be shorter than 25 m.



**LIROS Magic-High-Trim****02080**

Pre-stretched, extreme low elongation extension line for excellent kitebar control. High-strength continuous Polyester for high-grip and durability. Perfect cleat hold.

- *working stretch < 1.5 %*
- *extremely low-stretch*
- *built for maximum hold in cleats*
- *round, firm, abrasion resistant braiding*
- *LIROS Heat-Stretch-System*

Colours

188
Black
228
White



LIROS HSS
Heat-Stretch-System

Cover
Polyester

Construction
8-plaited

Core
pre-stretched Dyneema® SK78

Reference	app. Ø (mm)	Breakload min. (daN)	Elongation at Breakload (%)	Weight (g/m)	Length of spool ^{*)} m
02080-0400	4	800	3,6	0,56	250
02080-0500	5	1100	3,5	0,88	250
02080-0600	6	2200	3,4	1,45	250

LIROS Bridle Line**22138**

LIROS Bridle Line is the reliable and durable bridle line with minimal stretch characteristics. The very abrasion-resistant and compact braided Polyester cover makes this rope glide perfectly through pulleys and has direct influence on kite control.

- *low elongation*
- *high abrasion resistance*
- *compact*
- *safe*

Colour

188
Black



LIROS HSS
Heat-Stretch-System
LIROS LCS
Low-Stretch-System

Cover high-strength Polyester

Construction 12-plaited

Core Dyneema® plaited

Reference	approx. Ø (mm)	Breakload min. (daN)	Breakload eff. (daN)	Elongation at Breakload (%)	Weight (g/m)	Length of spool ^{*)} m
22138-0200	2	300	313	3,1	2,7	1000
22138-0330	3,3	500	537	3,3	7,81	500

* LIROS Flight sport lines may come six pieces to a spool. No line will be shorter than 25m.



LIROS DePower Lines

Specially designed Depower line made of 100% Dyneema®. For long-life cycle in modern kitebar constructions. Technically versed coatings deliver up to 30% more resistance against abrasion, than in common Depowerlines.

- highest safety and perfect abrasion resistance for the kiter
- spliceable
- very good abrasion resistance
- high breaking load
- low elongation
- LIROS Heat Stretch System



Colours



716
Silver
521
White

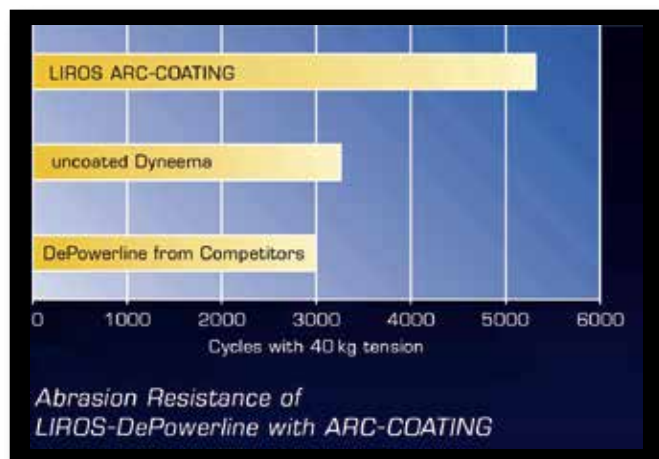


735
Deep Black

Material Dyneema®

Construction plaited, heat set and coated

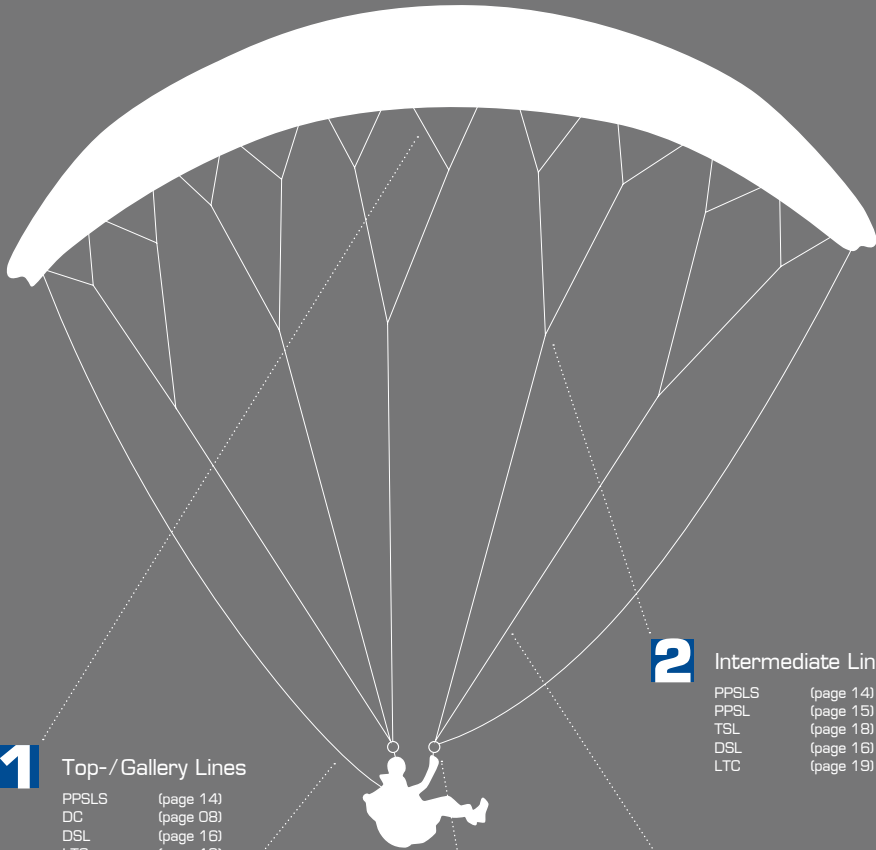
Reference	app. Ø [mm]	Breakload min. [daN]	Weight [g/m]	Length of spool* m
DPLPO-1300	4	1300	7	100/500
DPLPO-1750	4,5	1750	10,3	100/500
DPLPO-2600	5	2600	13	100/500
DPL00-1550	4,4	1550	10,9	500
DPL00-1700	5,2	1700	16,0	500
DPL00-1800	5,6	1800	17,5	500





PARAGLIDING LINES





1 Top-/Gallery Lines

- PPSLS (page 14)
- DC (page 08)
- DSL (page 16)
- LTC (page 19)
- TSL (page 18)

2 Intermediate Lines

- PPSLS (page 14)
- PPSL (page 15)
- TSL (page 18)
- DSL (page 16)
- LTC (page 19)

3 Break-/Frame Lines

- DFL (page 17)

4 Bottom Lines

- PPSLS (page 14)
- TSL (page 18)
- PPSL (page 15)
- DSL (page 16)
- LTC (page 19)

5 Lines and Webbing for Harness

- LIROS Harness (page 21)
- LIROS T-Webbing (page 21)



LIROS PPSLS

Thin + Safe + Longlasting. Unique breakload at thinnest diameter guarantees highest performance for the paraglider. Minimum elongation for ideal glider setup. The paragliding line for high demands.

- extremely light
- extremely thin
- highest breakloads
- best paragliding performance
- perfect aging properties
- LIROS Heat-Stretch-System

Colours



010
Blue
059
Yellow
086
Green



150
Orange
171
Red



Cover Polyester **Core** pre-stretched Dyneema®

Reference	approx. Ø [mm]	Breakload min. [daN]	Breakload eff. [daN]	Elongation at Breakload [%]
PPSLS-0065	0,76	65	80	3,0
PPSLS-0125	1,05	125	150	2,7
PPSLS-0180	1,2	180	200	3,2
PPSLS-0200	1,3	200	220	3,0
PPSLS-0260	1,58	260	300	2,8

Reference	Elongation / Line creep at 10 daN [%]	Elongation / Line creep at 30 daN [%]	Strength after 5000 bending cycles [daN] ⁽²⁾	Weight [g/m]	Length of spool ¹⁾ m
PPSLS-0065	0,37 / 0,06	–	49	0,4	1000
PPSLS-0125	0,27 / 0,12	0,65 / 0,21	107	0,89	1000
PPSLS-0180	0,29 / 0,17	0,62 / 0,27	179	0,92	1000
PPSLS-0200	0,27 / 0,17	0,53 / 0,26	204	1,65	1000
PPSLS-0260	0,24 / 0,16	0,48 / 0,26	212	1,98	1000

¹⁾ LIROS Flightsport lines may come six pieces to a spool. No line will be shorter than 25m.

Not all colours available in all diameters.

⁽²⁾ Test reports upon request.



LIROS PPSL

LIROS PPSL is lightweight, with minimal creep, as well as unrivaled durability, even after extreme bending. The kite line for the most demanding applications. Shrinkage < 0,5%.

- very low creep
- lowest stretch
- top paragliding performance
- optimal dimensional stability
- extremely durable
- LIROS Heat-Stretch-System

Colours



010
Blue
059
Yellow
086
Green



150
Orange
171
Red



Cover Polyester 16-plaited

Core pre-stretched Dyneema®

Reference	approx. Ø [mm]	Breakload min. [daN]	Breakload eff. [daN]	Elongation at Breakload [%]
PPSLO-0120	1,15	120	159	2,0
PPSLO-0160	1,4	160	177	3,7
PPSLO-0200	1,42	200	241	2,5
PPSLO-0275	1,9	275	283	2,3
PPSLO-0350	2,25	350	407	2,7

Reference	Elongation / Line creep at 10 daN [%]	Elongation / Line creep at 30 daN [%]	Strength after 5000 bending cycles [daN]	Weight [g/m]	Length of spool* m
PPSLO-0120	0,20 / 0,036	0,58 / 0,13	135	1,0	1000
PPSLO-0160	0,31 / 0,11	0,62 / 0,23	168	1,34	1000
PPSLO-0200	0,24 / 0,128	0,55 / 0,26	191	1,6	1000
PPSLO-0275	0,20 / 0,091	0,44 / 0,18	246	2,26	1000
PPSLO-0350	0,15 / 0,012	0,29 / 0,16	374	3,49	500

* LIROS Flightsport lines may come six pieces to a spool. No line will be shorter than 25 m.

Not all colours available in all diameters.

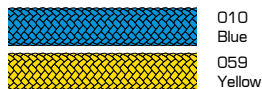


LIROS DSL

High-tech Dyneema® core, combined with our superior Polyester braided cover, guarantees a long-lasting and high-altitude line. Perfectly balanced Polyester cover offers the best in line accessibility and protects the core from dirt and UV exposure.

- *very low creep*
- *lowest stretch*
- *good line differentiation*
- *optimum durability*
- *LIROS Heat-Stretch-System*

Colours



Cover Polyester 32-plaited
Core pre-stretched Dyneema®



Reference	approx. Ø [mm]	Breakload min. [daN]	Breakload eff. [daN]	Elongation at Breakload [%]
DSL00-0025 Black	0,8	25	38	3,7
DSL00-0035 White	0,9	35	45	3,6
DSL00-0070	0,95	70	92	3,6
DSL00-0140	1,25	140	147	3,3
DSL00-0350	2,0	350	436	3,2
DSL00-0600	2,4	600	675	3,1

Reference	Elongation / Line creep at 10 daN [%]	Elongation / Line creep at 30 daN [%]	Strength after 5000 bending cycles [daN]	Weight [g/m]	Length of spool ¹⁾ m
DSL00-0025 Black	1,35 / 0,60	–	35	0,45	1000
DSL00-0035 White	0,83 / 0,37	–	42	0,64	1000
DSL00-0070	0,19 / 0,14	0,41 / 0,22	85	0,67	1000
DSL00-0140	0,54 / 0,16	0,42 / 0,21	120	1,14	1000
DSL00-0350	0,15 / 0,10	0,33 / 0,19	412	3,25	500
DSL00-0600	0,08 / 0,00	0,24 / 0,08	550	4,3	500

¹⁾ LIROS Flightsport lines may come six pieces to a spool. No line will be shorter than 25 m.

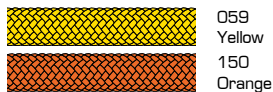


LIROS DFL

LIROS DFL offers a high degree of flexibility. Very good knot holding and UV resistance, excellent for brake lines. LIROS DFL handles high dynamic load ranges easily, especially in deflection through turning blocks.

- *good knot hold*
- *extremely abrasion resistant*
- *lightweight*
- *highly flexible*

Colours



Cover Polyester 16-plaited, DFLPO-0232 32-plaited

Core Dyneema®

Reference	approx. Ø [mm]	Breakload min. [daN]	Breakload eff. [daN]	Elongation at Breakload [%]	Weight [g/m]	Length of spool** m
DFL00-0115	1,4	115	120	3,3	1,18	1000
DFLS0-0200	2,0	200	218	3,6	3,10	1000
DFLPO-0232	2,1	200	219	3,4	2,58	1000
DFL00-0350	2,7	350	390	3,5	4,98	1000

* LIROS Flightsport lines may come six pieces to a spool. No line will be shorter than 25 m.

** Only available in 059 Yellow and 150 Orange.





LIROS TSL

LIROS TSL is the covered Technora® paragliding line with the best diameter to load capacity ratio. Optimised cross-section for excellent aerodynamics. High-strength Technora® fibres and LIROS Heat-Stretch-System to minimise stretch and creep. Finely braided, water-repellent Polyester cover provides easy line differentiation.

- optimal diameter to load capacity ratio
- lowest creep, lowest stretch
- optimum bendability
- LIROS Heat-Stretch-System

Colours



010
Blue



086
Green



171
Red



059
Yellow



150
Orange

Cover Polyester

Core Technora®

Technora®

The power of Aramid

LIROS HSS
LIROS Heat-Stretch-System

Reference	approx. Ø [mm]	Breakload min. [daN]	Breakload eff. [daN]	Elongation at Breakload [%]
TSL00-0090	1,2	90	109	3,3
TSL00-0115	1,25	115	132	4
TSL00-0140	1,3	140	172	4,6
TSL00-0190	1,55	190	227	4,6
TSL00-0220	1,65	230	256	5
TSL00-0280	1,80	280	325	4,5
TSL00-0380	2,2	380	464	5
TSL00-0500	2,37	500	575	4,9

Reference	Elongation / Line creep at 10 daN [%]	Elongation / Line creep at 30 daN [%]	Strength after 5000 bending cycles [daN]	Weight [g/m]	Length of spool* m
TSL00-0090	0,45 / 0,04	1,38 / 0,24	50,5	1,06	1000
TSL00-0115	0,42 / 0,04	1,21 / 0,21	59	1,18	1000
TSL00-0140	0,25 / 0,00	0,88 / 0,13	74	1,39	1000
TSL00-0190	0,25 / 0,04	0,71 / 0,08	110	1,76	1000
TSL00-0220	0,29 / 0,04	0,75 / 0,13	121	2,12	1000
TSL00-0280	0,17 / 0,00	0,46 / 0,04	139	2,55	1000
TSL00-0380	0,18 / 0,03	0,46 / 0,09	195	3,46	1000
TSL00-0500	0,16 / 0,04	0,42 / 0,11	240	4,6	500

* LIROS Flightsport lines may come six pieces to a spool. No line will be shorter than 25m.



LIROS LTC

LIROS LTC - performance at its best! The high tech line with double coating for the best in aerodynamics. The unique LIROS LTC process coats Technora® fibres before braiding for the best in static hold, UV stability, lateral strength, and line handling. LIROS LTC is the perfect line for competitive and advanced-intermediate use.

- lowest stretch
- very low creep
- double nanocoating
- optimum surface finish
- peak performance
- LIROS Heat-Stretch-System



Colour



705
Beige NF

Material 100% Technora®
Construction 12-plaited

Reference	approx. Ø [mm]	Breakload min. [daN]	Breakload eff. [daN]	Elongation at Breakload [%]
LTC00-0025	0,39	25	29	4,8
LTC00-0045	0,55	45	58	5,2
LTC00-0065	0,65	65	72	5,1
LTC00-0080	0,7	80	103	4,6
LTC00-0120	1,1	120	172	3,5
LTC00-0160	1,2	160	201	4,5
LTC00-0200	1,3	200	244	4,7
LTC00-0350	1,75	350	355	2,2
LTC00-0400	1,9	400	415	3,0

Reference	Elongation / Line creep at 10 daN [%]	Elongation / Line creep at 30 daN [%]	Strength after 5000 bending cycles [daN]	Weight [g/m]	Length of spool* m
LTC00-0025	–	–	18	0,13	1000
LTC00-0045	0,85 / 0,20	–	37	0,28	1000
LTC00-0065	0,80 / 0,30	–	43	0,45	1000
LTC00-0080	0,65 / 0,30	1,65 / 0,50	76	0,57	1000
LTC00-0120	0,60 / 0,30	1,20 / 0,40	96	0,84	1000
LTC00-0160	0,55 / 0,25	1,05 / 0,35	135	1,17	1000
LTC00-0200	0,60 / 0,25	1,10 / 0,40	149	1,42	1000
LTC00-0350	0,50 / 0,17	0,95 / 0,38	199	2,16	500
LTC00-0400	0,45 / 0,20	0,95 / 0,40	260	2,89	500

* LIROS Flightsport lines may come six pieces to a spool. No line will be shorter than 25m.



LIROS SL

Very long lasting and lightweight towing line for paragliding and winch towing. LIROS SL delivers a high level of safety. The SL500 is especially well-suited for tandem towing. The extremely thin diameter increases capacity on winch drums.

- *easy to splice*
- *low diameter increases winch capacity*
- *no water absorption*
- *very good UV resistance*



Colour



228
White

Material

Dyneema®

Construction

SL375 12-plaited / SL500 8-plaited

Reference	approx. Ø [mm]	Breakload min. [daN]	Breakload eff. [daN]	Elongation at Breakload [%]	Weight [g/m]	Length of spool* m
SL000-0375	2,5	375	468	8	2,18	1000
SL000-0500	2,8	500	670	8	2,92	1000

* Individual lengths possible. 1000 - 1800 in one joint.

LIROS Safety Line

LIROS Safety Line was specially engineered for safety equipment applications, and is optimised for stretch and shock loading compensation. Developed to deliver the ultimate in safety.

RLP

- *working stretch < 25 %*
- *excellent damping capabilities*
- *good spliceability*
- *Material: Polyamide*

Colour



228
White

RLD

- *working stretch < 7 %*
- *good spliceability*
- *high weight reduction*
- *Material: Dyneema®*



Reference	approx. Ø [mm]	Breakload min. [daN]	Breakload eff. [daN]	Elongation at Breakload [%]	Weight [g/m]	Length of spool* m
RLD00-0190	1,3	190	193	6,25	0,82	500
RLD00-0275	1,35	275	289	3,3	1,19	1000
RLD00-0350	1,7	350	364	5	1,32	1000
RLP00-0110	4	110	118	25,2	1,68	1000
RLP00-0150	4,5	150	153	32	2,7	1000

* LIROS Flightport lines may come six pieces to a spool. No line will be shorter than 25m.



LIROS Harness

Extremely flat hollow braided rope. LIROS Harness is qualified to replace common webbings in paragliding harness. Made of 100% Dyneema® for less weight and very good flexibility endurance and resistant to fatigue.

- *lightweight*
- *high breakloads*
- *LIROS Heat-Stretch-System*



Colour



228
White

Material 100% Dyneema®
Construction 32-plaited

Reference	approx. Ø (mm)	Breakload min. (daN)	Weight (g/m)	Length of spool* (m)
CRS00-0500-228	5	500	3,2	500
CR000-1000-228	6	1000	6,33	500
CR000-1800-228	9	1800	13,3	500



LIROS T-Webbing

Technora® webbing with Polyester cover. A LIROS development for use in paragliding ultra light harnesses. Longlasting high tech quality.

- *high breakloads*
- *good resistance to abrasion*



Colour



188
Black

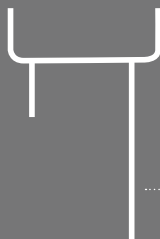
Material Technora® / Polyester
Construction webbing

Reference	approx. Ø (mm)	Breakload min. (daN)	Weight (g/m)	Length of spool* (m)
00185-1301	13	> 850	23	100



/// Recommendations

GLIDING – TOWING LINES



1

Synthetic winch cable

LIROS D-Pro (page 23)
LIROS Regatta 2000 (page 24)



2

Intermediate Cable

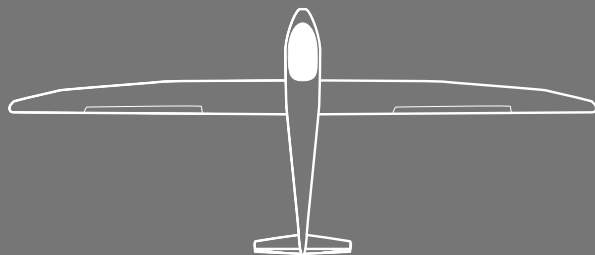
LIROS Intermediate Cable (page 25)



3

Safety Cable

LIROS Safety Cable (page 25)





LIROS D-Pro (Glider Winch Launch Rope)

LIROS Heat-Stretch-System guarantees the optimal breaking load and stretch characteristics of this line. Excellent chafing resistance, light weight, and easy spliceability make this line irreplaceable for towing sailplanes.

- working stretch < 1%
- very high breaking load with small diameter and very low weight
- first choice for any application under extreme loads
- very spliceable, can also be employed with separate cover
- highly UV stable and chafe resistant
- LIROS Heat-Stretch-System

Colours



171
Red



010
Blue



059
Yellow

Material coated Dyneema® SK78

Construction pre-stretched,
coated 12-plaited



LIROS HSS
Heat-Stretch-System

Reference	approx. Ø (mm)	Breakload min. (daN)	Weight (g/m)	Length of spool* m
01505-0300	3	950	4,6	100
01505-0400	4	1300	7	100
01505-0500	5	2600	13	1000
01514-0450	4,5	2200	10	1000
01514-0500	5	3000	12	1000

* Individual lengths possible. 1000 - 1800 m in one joint.





LIROS Regatta 2000 (Glider Winch Launch Rope)

Very low-stretch line for halyards, spinnaker and genoa sheets. An extremely light and durable high-performance rope with abrasion resistant braided cover and inner cover, and specialised core of coated Dyneema® SK7B.



- working stretch < 1.5%
- extreme break resistant, light and durable
- 30% more abrasion resistant than conventional Polyester
- LIROS-Heat-Stretch-System

Cover	Special Polyester high-twisted
Construction	2-3 mm 1:6-plaited 4 mm and up 1:1 plaited
Material	Coated Dyneema® SK7B, 8 mm and up with additional cover plait

Colours



354
Steelblue-Red



352
Steelblue-Yellow

Reference	approx. Ø [mm]	Breakload min. [daN]	Weight [g/m]	Length of spool* m
02000-0600	6	2500	25	1000

* Individual lengths possible. 1000 - 1800 m in one joint.

LIROS Aero Tow Rope

Compact, braided, shape-retaining rope for aero-towing – perfect shock absorption.

- round
- compact

Colour



228
White

Material 100% Polyester

Reference	approx. Ø [mm]	Length of spool* m
01046-0200	2	250
01046-0250	2,5	250
01046-0300	3	250
01046-0350	3,5	250
01046-0400	4	250
01046-0450	4,5	250
01046-0500	5	250
01046-0550	5,5	250
01046-0600	6	200
01046-0700	7	200
01046-0800	8	200



LIROS Safety Cable

Robust and stiff braiding with highest abrasion resistance.
 Fabrication: one ending with oval ring, the other ending connection ring pair according to LN65091. On both endings shrinking tube with LIROS-branding.

- abrasion resistant
- 10x lighter than steel
- highest UV-resistance
- dirt- and water-repellent
- version 00099-1235 Easy Find for easier identification by harvesting vehicles
- LIROS 00099-2424 with reinforcement hose, according to german SBO (pic. 3)



Material **Cover** Polyester
 Core Dyneema®



Construction 32-plaited

LIROS HSS
— 1111 Max. Temperature

Colour



171
Red

Reference	Picture	approx. Ø [mm]	Breakload min. [daN]	Working stretch	Length [m]
00099-1630	1	10	3500	<1,5	3
00099-1235	2	10	1600	<1,5	3
00099-2424	3	12	7200	<1,5	3

* Individual lengths possible. 1000 - 1800m in one joint.

LIROS Intermediate Cable

Perfect for usage together with winch rope. Special construction with very good damping properties. Secure and longlasting LIROS quality. Customized: both ends with spliced eye (6cm), total length 10 m.



- for rope parachutes > 1,5 m
- plastic thimble on demand
- low weight
- very good damping properties

Material **Cover** Polyamide
 Core Polyamide

Colour



188
Black

Construction 1:1 plaited

Reference	approx. Ø [mm]	Breakload min. [daN]	Working stretch	Length [m]
00099-1607	14	3800	>20	10
00099-1608	14	3800	>20	2

* Individual lengths possible. 1000 - 1800m in one joint.



Comparing summary of synthetic fibres










Material

	Polyamide (PA) 6 and 6,6	Polyester (PES)	high-tenacity Polypropylene multifilament (PP)	Polyethylene (PE)	high-tenacity Polyethylene (HMPE)	Aramid	LCP	PBO
Brand name	Perlon Nylon				Dyneema® Spectra®	Twaron® Kevlar® Technora®	Vectran®	Zylon®
Yarn strength								
cN/dtex	7 – 8	7 – 8,4	ca. 7	ca. 4,5	28 – 38	20 – 25	22 – 25	ca. 37
Specific gravity								
kg/dm³	1,14	1,38	0,91	0,96	0,96	1,44	1,41	1,52
Strength loss due to humidity								
%	5 – 10	0	0	0	0	0	0	0
Water absorption								
%	1 – 7	0,5 – 2	0	0	0	2 – 5	1	0,6
Knot tenacity								
%	60 – 65	55 – 60	55 – 65	50 – 60	35 – 50	30 – 40	30 – 35	35 – 55
Light-resistance								
%	good	very good	only good when equipped	good	good	poor	poor	poor
Breaking stretch								
%	16 – 27	10 – 16	12 – 20	15 – 30	3,8	2 – 4	3,3	2,5
Abrasion resistance	very good	very good	fair	fair	good	adequate	good	poor

TECHNICAL AND CHEMICAL SPECIFICATIONS

Reaction of synthetic ropes under different conditions

Material

	Polyamide (PA) 6 / 6,6	Polyester (PES)	Polypropylene (PP)	Polyethylene (PE),(HMPE)	Aramid	LCP	PBO
Brand name	Perlon Nylon			Dyneema® Spectra®	Twaron® Kevlar® Technora®	Vectran®	Zylon®
 Washing temp. °C	50 – 60	50 – 60	30	30	80 – 90	60	50
 Acids (50% concentr.) 25 °C / 100 °C	17 / 5 – 10	80 / 0	no reaction	no reaction	partially good resistance	very good resistance	good resistance
 Gasoline	no reaction	no reaction	no reaction	no reaction	no reaction	no reaction	no reaction
 Diesel and Oil	no reaction	no reaction	no reaction	no reaction	no reaction	no reaction	no reaction
 Solvents	formic acid & acetic acid at high temp.	phenols, cresols zinc chloride	minimal reaction	minimal reaction	minimal reaction	minimal reaction	minimal reaction
 Alkali (Leaches)	resistant against weak solutions	resistant against solutions at 20 °C; dissolves in solutions at 100 °C	resistant against weak solutions	resistant	partially good resistant	very good resistant	very good resistant
Insulating Properties 	very good; poor conductor	very good	excellent	excellent	excellent	excellent	excellent
Highest temp. Short load approx. °C 	130	170	80	70	400	200	550
Range Exposure approx. °C 	170	225	140	120	–	–	–
Melting point approx. °C 	215	260	170	150	chars at approx. 500 °C	330	chars at approx. 650 °C



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