

KAYMA DEFENCE

KAYAROPES.COM

2016/ENG

DEFENCE
PRODUCTS





KAYAROPES.COM

KAYAROPES.COM

**KAYA
ROPES**

KAYASAFETY.COM

**KAYA
SAFETY**

KAYATRANING.COM.TR

**KAYA
TRAINING**

KAYACONSULTING.COM

**KAYA
CONSULTING**

KAYAOSGB.COM

**KAYA
OSGB**

KAYAADVENTURE.COM

**KAYA
ADVENTURE**

KAYADDEFENCE.COM

**KAYA
DEFENCE**

KAYAGRUBU.COM.TR

**KAYA
CONSTRUCTION**

KAYAGRUBU.COM.TR

**KAYA
SPORT**

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**KAYA
SCAFFOLDING**

KAYA COMPANIES;

A LEADER IN ITS FIELD TODAY, THE KAYA GROUP BEGAN BUSINESS IN THE 1980'S AS KAYA CONSTRUCTION. NOW PREPARING TO CELEBRATE ITS 30TH YEAR OF OPERATION, THE KAYA GROUP CONCENTRATES ITS KNOWLEDGE AND EXPERIENCE IN FOUR MAIN AREAS OF ACTIVITY: TECHNICAL ROPES, INDUSTRIAL WORK SAFETY AND WORK AT HEIGHT, WORK HEALTH AND SAFETY TRAINING AND CONSULTING SERVICES. FULLY AWARE OF THE DIMENSION OF SOCIAL RESPONSIBILITY ATTACHED TO THE SECTOR, THE COMPANY OBTAINS NATIONAL AND INTERNATIONAL CERTIFICATES FOR ALL PRODUCTS IT DEVELOPS AND MANUFACTURES. THROUGH PROVIDING EDUCATION AND CONSULTATION SERVICES CONCERNING THE CORRECT USE OF ITS PRODUCTS, THE KAYA GROUP HAS GAINED THE KNOWLEDGE, EXPERIENCE AND LEVEL OF COMPETENCE THAT HAVE GIVEN THE COMPANY THE CONFIDENCE AND RESOURCES TO BE ABLE TO MAKE NEW ADVANCES FROM A SOUND BASE. WITH ITS 30 YEARS OF EXPERIENCE, THE KAYA GROUP IS THE LARGEST ORGANIZATION IN THE SECTOR. IN 2010, WITH NEW PRODUCTS, SERVICES AND INVESTMENTS, THE COMPANY IS FIRMLY ON THE PATH TOWARDS BECOMING AN IMPORTANT BRAND IN THE INTERNATIONAL MARKET.

OUR VISION;

TO MAKE KAYA THE UNDISPUTED WORLD'S STRONGEST, MOST PRESTIGIOUS AND TRUSTED BRAND IN ITS SECTOR.

MISSION STATEMENT;

OUR MISSION IS TO CONDUCT RESEARCH AND DEVELOPMENT BASED ON ACCURATE ANALYSIS OF NEEDS IN THE SECTOR AND THEREBY DEVELOP NEW PRODUCTS; TO EMPLOY MODERN MACHINERY AND A COMPETENT WORKFORCE IN THE MANUFACTURE OF WORLD-CLASS, HIGH QUALITY GOODS; TO PROVIDE TRAINING AND CONSULTING SERVICES TO CREATE KNOWLEDGEABLE WORKERS AND MANAGERS AND HELP ESTABLISH A CULTURE OF WORK SAFETY IN TURKEY; AND TO PROVIDE COMPLETE SOLUTIONS VIA OUR INTEGRATED SERVICES.

COMPANY PHILOSOPHY;

BASED ON THE VALUE WE PLACE ON HUMAN LIFE, OUR GOAL IS TO DESIGN PRODUCTS THAT WILL SAFEGUARD HUMAN LIFE ON THE JOB, TO MANUFACTURE SUCH PRODUCTS, AND TO RAISE AWARENESS ABOUT WORK SAFETY BY TRAINING WORKERS AND MANAGERS AND PROVIDING CONSULTATION SERVICES IN THIS REGARD.



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ROPE CONSTRUCTIONS

LAI D ROPES



3 STRAND



6 STRAND

PLAITED ROPE

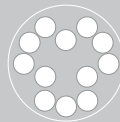


8 STRAND (SQUARE)

12 STRAND BRAIDED ROPES

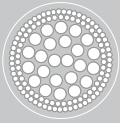


12 STRAND



12 STRAND (ROUND)

DOUBLE BRAIDED ROPES



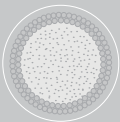
DOUBLE BRAIDED (16 - 20 - 24 - 32 - 36 - 40 - 48)

SOLID BRAIDED ROPE



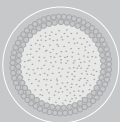
SOLID BRAIDED

PARALLEL STRAND ROPE

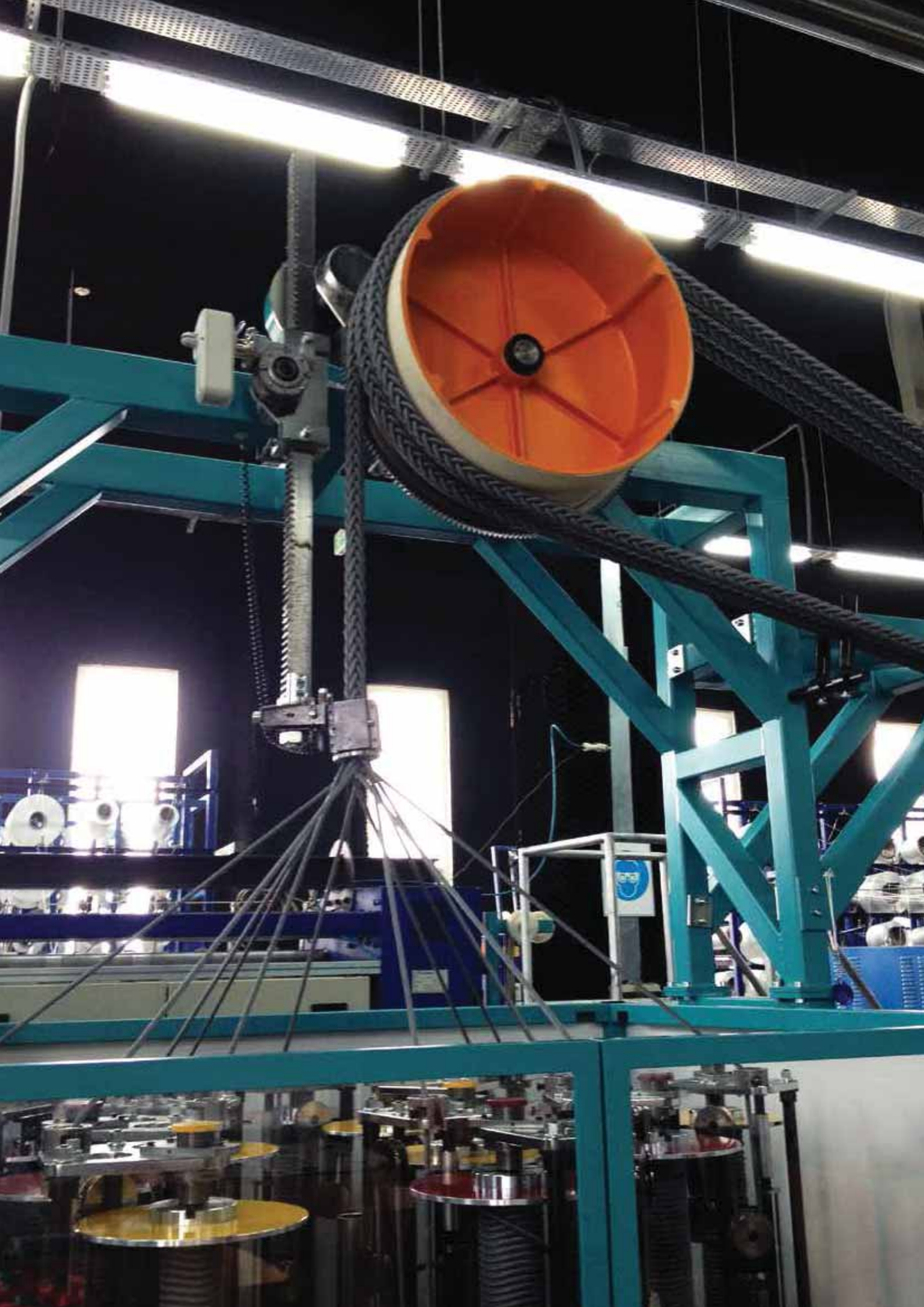


PARALLEL STRAND

KERNMANTEL ROPE



KERNMANTEL



OUR MATERIALS

DYNEEMA® FIBER



DYNEEMA® IS A REGISTERED TRADEMARK OF ROYAL DSM N.V.

DYNEEMA® IS AN UHMWPE FIBER. DSM INVENTED DYNEEMA® MORE THAN 30 YEARS AGO AND IT HAS BEEN IN PRODUCTION SINCE 1990. THE FIBER IS INCREDIBLY VERSATILE WITH VIRTUALLY LIMITLESS APPLICATIONS. THE FIBER IS MANUFACTURED BY MEANS OF A GEL-SPINNING PROCESS THAT COMBINES EXTREME STRENGTH WITH INCREDIBLE SOFTNESS. DYNEEMA® IS A SUPER-STRONG FIBER BASED ON UHMWPE. IT OFFERS MAXIMUM STRENGTH COMBINED WITH MINIMUM WEIGHT.

DYNEEMA® SK75 IS AN EXTREMELY HIGH-STRENGTH, LOW-STRETCH FIBER.

DYNEEMA® SK78 FIBER FROM DSM DYNEEMA® PROVED ITS SUPERIOR PERFORMANCE UNDER EXTREME CONDITIONS. THE HIGH MODULUS FIBER, SK78 HAS A BETTER STABILITY UNDER CONSTANT LOADS, IMPROVED CREEP FEATURE THAN ITS PROTOTYPE.

DYNEEMA® SK90 IS ONE OF THE MOST ADVANCED HIGH-TECH FIBERS WITH 12-13% GREATER STRENGTH, HAS SAME CREEP FEATURE AS SK-75 FIBER. IT IS A PERFECT FIBER FOR EXTREME SAILORS WHO ARE IN SEARCH OF OUTSTANDING PERFORMANCE.

DYNEEMA® SK99 IS THE NEWEST FIBER IN DYNEEMA'S SK RANGE – 99 SAILING INSPIRATIONS WITH DYNEEMA® SPOTLIGHTS AND SHARES THE MANY WAYS THE WORLD'S STRONGEST FIBER IS EXTENDING PERFORMANCE AND GIVING PROFESSIONAL AND RECREATIONAL SAILORS A WINNING, AND SAFETY, EDGE. SK99 HAS NEARLY 20% HIGHER STRENGTH THAN SK78 AND KEEPS THE SAME ELONGATION AND CREEP FEATURES AS SK75.

TECHNORA® FIBER



The power of Aramid

TECHNORA® IS A REGISTERED TRADEMARK OF TEIJIN ARAMID B.V.

TECHNORA® IS A PARA-ARAMID FIBER MADE FROM CO-POLYMERS AND PRODUCED FROM POLY-PARAPHENYLENE TEREPHTHALAMIDE (PPTA). IT WAS INDEPENDENTLY DEVELOPED BY TEIJIN AND HAS BEEN COMMERCIALY AVAILABLE SINCE 1987. THIS HIGH PERFORMANCE FIBER HAS A RANGE OF EXCELLENT PROPERTIES, INCLUDING HIGH TENSILE STRENGTH, GOOD FATIGUE RESISTANCE, LONG-TERM DIMENSIONAL STABILITY AND GOOD RESISTANCE TO CORROSION, HEAT, CHEMICALS AND SALTWATER.

VECTRAN® FIBER



VECTRAN® IS A REGISTERED TRADEMARK OF KURARAY CO.LTD

VECTRAN® IS A HIGH-PERFORMANCE MULTIFILAMENT YARN SPUN FROM LIQUID CRYSTAL POLYMER (LCP) PRODUCED BY KURURAY IN JAPAN. VECTRAN® IS CURRENTLY THE ONLY MELT SPUN LCP FIBER IN THE WORLD THAT IS COMMERCIALY AVAILABLE. THE UNIQUE COMBINATION OF CHARACTERISTICS OF VECTRAN® FIBERS MAKE IT SUPERIOR TO MANY OTHER MATERIALS AND ENABLE IT TO PERFORM UNDER CONDITIONS IN WHICH OTHER MATERIALS FAIL.

KEVLAR® FIBER



DUPONT™ AND KEVLAR® ARE REGISTERED TRADEMARKS OF E. I. DU PONT DE NEMOURS AND COMPANY

IN THE 1960S DUPONT™ DEVELOPED KEVLAR® IN RESPONSE TO THE LIMITED BREAK STRENGTH AND INITIAL MODULUS OF THE, AT THAT TIME, LEADING MAN-MADE FIBERS, NYLON AND POLYESTER. DUPONT™ SUCCEEDED IN CREATING AN INNOVATIVE POLYMER CHAIN EXTENSION METHOD WHICH CAN BE CONSIDERED THE CORNERSTONE OF THE CURRENT FORMULATION. DUPONT™ KEVLAR® IS A SO-CALLED PARA-ARAMID FIBER. ITS PROPERTIES MAKE IT SUITABLE FOR THE MOST DIFFICULT AND DEMANDING APPLICATIONS IN SEVERAL INDUSTRIES. IT COMBINES HIGH STRENGTH AND MODULUS, TOUGHNESS, AND THERMAL STABILITY.

POLYESTER

POLYESTER

FIRST COMMERCIAL POLYESTER FIBER PRODUCTION: 1953, DUPONT COMPANY. POLYESTER IS A CATEGORY OF POLYMERS WHICH CONTAIN THE ESTER FUNCTIONAL GROUP IN THEIR MAIN CHAIN. POLYESTER IS THE MOST DURABLE OF THE COMMON MATERIALS. IT HAS GOOD BREAKING LOAD AND A LOW ELONGATION. IT HAS GOOD RESISTANCE AGAINST SUNLIGHT, EXTERNAL ABRASION. POLYESTER DOES NOT LOSE STRENGTH RAPIDLY DUE TO CYCLIC LOADING. POLYESTER HAS A LOW CO-EFFICIENT OF FRICTION. POLYESTER IS USED AS A MATERIAL FOR THE COVER (PROTECTION AGAINST UV RADIATION) IN THE HIG-TECH ROPES AND IS MOST WIDELY USED FIBER IN YACHTING ROPES AS WELL AS FOR ANCHORING LINES.

POLYAMIDE

POLYAMIDE

FIRST COMMERCIAL NYLON FIBER PRODUCTION: 1939, DUPONT COMPANY. A MANUFACTURED FIBER IN WHICH THE FIBER FORMING SUBSTANCE IS A LONG-CHAIN SYNTHETIC POLYAMIDE IN WHICH LESS THAN 85% OF THE AMIDE-LINKAGES ARE ATTACHED DIRECTLY (-CO NH-) TO TWO ALIPHATIC GROUPS. POLYAMIDES-OF ITS STRENGTH WHEN WET. THE ABRASION RESISTANCE OF POLYAMIDE IS BETTER IN WET CONDITIONS THAN IN DRY CONDITIONS. POLYAMIDE CAN BECOME STIFF (KEPT IN WET CONDITION FOR TOO LONG). THE MOST IMPORTANT POLYAMIDES ARE PA 6 AND PA 6.6. POLYAMIDE IS USED FOR MOORING LINES, SPORT CLIMBING ROPES, SAFETY AND RESCUE ROPES.

OUR TREATMENTS



THIS SPECIAL POLYURETHANE COATING KNOWN AS LONG LASTING- MOST EFFICIENT KIND OF PROTECTIVE COATING THAT IS BEING APPLIED TO EACH OF OUR HIGH-TECH LINES TO IMPROVE ABRASION RESISTANCE ON THE ROPES AND AVOIDS SLIPPAGE BETWEEN COVER AND CORE. THIS PARTICULAR PROCESS OFFERS EXCELLENT SUBSTRATE PROTECTION TO GET BETTER RESULTS, WHICH ALSO MAKES THE SPLICING MUCH EASIER.



THIS PARTICULAR THERMAL PROCESS INCREASES EFFICIENCY AND STRENGTH OF DYNEEMA® ROPES, WHICH ALSO ACHIEVES SIGNIFICANT IMPROVEMENTS IN THE BREAK LOAD OF THE ROPE AND ALMOST ELIMINATES THE 'CREEP' THAT HELPS ROPES TO HAVE BETTER PERFORMANCE. THIS PROCEDURE CONTRACTS THE YARNS AND INCREASES THE NET FIBER DENSITY OF THE ROPE AS WELL. THE ROPES BECOME STRONGER AND MORE DURABLE THAN STANDARD PRODUCTION PERFORMANCE ROPES THROUGH THESE PROCESSES.

DYNEEMA® FIBER CURRENTLY HAS A LOWEST STRETCH AMONG ALL THE OTHER SYNTHETIC FIBERS. HOWEVER, THE CONSTRUCTIONAL ELONGATION WILL OCCUR DURING TWISTING AND BRAIDING PROCESSES OF BASIC ROPE MANUFACTURING PROCEDURE. PRE-STRETCH METHOD IS USED TO MINIMIZE THIS CONSTRUCTIONAL ELONGATION AND IMPROVE ROPE STRENGTH. WHEN THE HEAT SET AND PRE-STRETCH PROCESS APPLIED ON THE ROPE TOGETHER, THE BOTH CONSTRUCTIONAL AND STRUCTURAL ELONGATION WILL BE REDUCED YET FURTHER INCREASE IN STRENGTH IS ALSO OBTAINED BY MAKING THE POLYMER TO LINEAR ARRAY. WE APPLY THIS METHOD TO ALL OF OUR HIGH-TECH AND MID-TECH LINES TO HAVE AN EXCELLENT PRODUCT THAT EXCEEDS OUR CUSTOMER'S NEEDS.







MARINE



TOWING / RESCUE



INSERTION / EXTRACTION



RAPPELLING



HARNESSES



HARDWARE (METAL COMPONENTS)



ACCESSORIES

MARINE





APPLICATIONS

DOCK LINE
ANCHOR LINE
TOWING LINE

SPECIFICATIONS

MATERIAL	100% HT POLYESTER FIBER
TYPE	-
SPECIFIC GRAVITY	1,38 KG/DM ³
CONSTRUCTION	COVER : 24-32 PLAITED / CORE : 12-16 PLAITED
UV RESISTANCE	EXCELLENT
CHEMICAL RESISTANCE	GOOD
MELTING POINT	256°C
CRITICAL TEMPERATURE	170°C
ELONGATION AT BREAK	APPROX.%15
FIBER WATER ABSORPTION	APPROX. %1-2
WET ABRASION	GOOD
DRY ABRASION	GOOD
COLOUR	BLACK - WHITE - NAVY BLUE
STANDARD	ISO 10547
LENGTH	100-200 M ORANGE SPOOL OR COIL
OTHER COLOURS ON REQUEST	



007 LUPES® STANDARD

ART.NO	DIA (Ø)	WEIGHT (kg / 100 m)	B.LOAD (kgf)*
007	8	5,10	1.550
007	10	7,97	2.330
007	12	11,50	3.270
007	14	15,60	4.370
007	16	20,40	5.630
007	18	25,80	7.000
007	20	31,90	8.600
007	22	38,60	10.300
007	24	45,90	13.100
007	26	53,90	15.100
007	28	62,50	17.300
007	30	71,70	19.600
007	32	81,60	22.000
007	36	100,30	27.400
007	40	128,00	33.000
007	48	184,00	46.000
007	56	250,00	62.000
007	64	326,00	80.000
007	72	413,00	100.000
007	80	510,00	123.000
007	88	617,00	148.000
007	96	735,00	175.000

*UNSPliced BREAK LOAD (ALL TESTS ARE IN ACCORDANCE WITH ISO 2307)



BENEFITS / FEATURES
SOFT HAND
DOES NOT HARDEN
DURABLE



LUPA® STANDARD



008 LUPA® STANDARD



BENEFITS / FEATURES

- HIGH STRENGTH
- EXCELLENT SHOCK ABSORPTION
- HIGH STRETCH
- DURABLE
- SOFT HAND
- DOES NOT KINK

APPLICATIONS

- DOCK LINE
- ANCHOR LINE
- TOWING LINE

SPECIFICATIONS

MATERIAL	100% HT POLYAMIDE FIBER
TYPE	-
SPECIFIC GRAVITY	1,14 KG/DM ³
CONSTRUCTION	COVER : 24-32 PLAITED / CORE : 12-16 PLAITED
UV RESISTANCE	VERY GOOD
CHEMICAL RESISTANCE	GOOD
MELTING POINT	218°C
CRITICAL TEMPERATURE	130°C
ELONGATION AT BREAK	APPROX.%30-35
FIBER WATER ABSORPTION	APPROX. %3-4
WET ABRASION	SUFFICIENT
DRY ABRASION	GOOD
COLOUR	BLACK - WHITE - NAVY BLUE
STANDARD	ISO 10554
LENGTH	100-200 M ORANGE SPOOL OR COIL

OTHER COLOURS ON REQUEST

ART.NO	DIA	WEIGHT	B.LOAD
	(Ø)	(kg / 100 m)	(kgf)*
008	8	3,98	1.500
008	10	6,22	2.280
008	12	8,96	3.230
008	14	12,20	4.350
008	16	15,90	5.630
008	18	20,20	7.100
008	20	24,90	8.720
008	22	30,10	10.500
008	24	35,80	13.400
008	26	42,00	15.500
008	28	48,80	17.800
008	30	56,00	20.300
008	32	63,70	22.900
008	36	80,60	28.700
008	40	99,50	35.100
008	48	143,00	50.000
008	56	195,00	68.000
008	64	255,00	89.000
008	72	322,00	112.000
008	80	398,00	138.000
008	88	482,00	167.000
008	96	573,00	198.000

*UNSPliced BREAK LOAD (ALL TESTS ARE IN ACCORDANCE WITH ISO 2307)





APPLICATIONS

DOCK LINE
TOWING LINE

SPECIFICATIONS

MATERIAL	100% HT POLYPROPYLENE FIBER
TYPE	-
SPECIFIC GRAVITY	0,91 KG/DM ³
CONSTRUCTION	COVER : 24-32 PLAITED / CORE : 12-16 PLAITED
UV RESISTANCE	SUFFICIENT
CHEMICAL RESISTANCE	VERY GOOD
MELTING POINT	165°C
CRITICAL TEMPERATURE	80°C
ELONGATION AT BREAK	APPROX.%23
FIBER WATER ABSORPTION	NONE
WET ABRASION	SUFFICIENT
DRY ABRASION	SUFFICIENT
COLOUR	BLACK - WHITE - NAVY BLUE
STANDARD	-
LENGTH	100-200 M ORANGE SPOOL OR COIL

OTHER COLOURS ON REQUEST



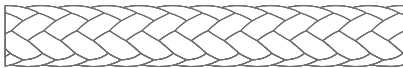
ART.NO	DIA	WEIGHT	B.LOAD
	(Ø)	(kg / 100 m)	(kgf)*
009	8	2,90	1.080
009	10	4,52	1.625
009	12	6,51	2.265
009	14	8,86	3.225
009	16	11,60	4.310
009	18	14,60	5.350
009	20	18,10	6.500
009	22	21,90	7.740
009	24	26,00	9.060
009	26	30,60	10.500
009	28	35,40	12.900
009	30	40,70	14.600
009	32	46,30	16.400
009	36	58,60	20.100
009	40	72,30	24.300
009	48	104,00	33.700
009	56	142,00	44.600
009	64	185,00	56.800
009	72	234,00	70.200
009	80	289,00	86.000
009	88	350,00	102.000
009	96	417,00	120.000

*UNSPliced BREAK LOAD (ALL TESTS ARE IN ACCORDANCE WITH ISO 2307)



BENEFITS / FEATURES
MODERATE ELONGATION
DOES NOT HARDEN
BUOYANT
ECONOMICALLY PRICED

DYNE K®



BENEFITS / FEATURES

- SUPERIOR ABRASION RESISTANCE
- EXCELLENT BREAKING LOAD
- BUOYANT
- DURABLE
- VERY LOW STRETCH
- LIGHTWEIGHT
- EASY TO SPLICE
- DOES NOT KINK

APPLICATIONS

- VESSEL MOORING LINE
- VESSEL TOW LINE
- TUG PENDANT
- TUG MOORING LINE
- TUG TOWING LINE
- TUG WINCH LINE

SPECIFICATIONS

MATERIAL	COATED DYNEEMA® SK 75/78
SPECIFIC GRAVITY	0,97 KG/DM ³
CONSTRUCTION	12 STRAND BRAIDED
UV RESISTANCE	EXCELLENT
CHEMICAL RESISTANCE	EXCELLENT
MELTING POINT	147°C
CRITICAL TEMPERATURE	65°C
WORKING STRETCH	<1%
FIBER WATER ABSORPTION	NONE
WET ABRASION	EXCELLENT
DRY ABRASION	EXCELLENT
STANDARD	ISO 10325
LENGTH	100-200 M ORANGE SPOOL OR COIL

OTHER COLOURS & LARGE DIAMETERS UPON REQUEST

ART.NO	DIA (mm)	WEIGHT**	B.LOAD * (kgf)
	(Ø)	(kg / 100 m)	SK 75/78
005	16	15,10	23.700
005	18	19,00	28.500
005	20	23,20	34.000
005	24	33,10	47.000
005	26	40,00	54.000
005	28	48,00	61.000
005	32	62,20	77.800
005	36	77,00	97.250
005	40	96,00	110.000
005	44	112,00	135.000
005	48	129,00	156.000
005	52	160,00	187.000
005	56	170,00	219.000
005	60	220,00	240.000
005	64	248,00	270.000
005	68	278,00	300.000
005	72	307,00	340.000

*SPLICED BREAK LOAD (ALL TESTS ARE IN ACCORDANCE WITH ISO 2307)

**THE WEIGHT MAY VARY AROUND ±5 DUE TO SPECIAL COATING





LUPP® HIGH TENACITY SQUARE

APPLICATIONS

DOCK LINE
 ANCHOR LINE
 TOWING LINE

SPECIFICATIONS

MATERIAL	100% HT POLYOLEFIN FIBER
TYPE	L
SPECIFIC GRAVITY	0,94 KG/DM ³
CONSTRUCTION	8 STRAND PLAITED (4X2)
UV RESISTANCE	GOOD
CHEMICAL RESISTANCE	VERY GOOD
MELTING POINT	165°C
CRITICAL TEMPERATURE	80°C
ELONGATION AT BREAK	APPROX.%23
FIBER WATER ABSORPTION	NONE
WET ABRASION	GOOD
DRY ABRASION	GOOD
COLOUR	WHITE - AQUA GREEN
STANDARD	ISO 10572
LENGTH	200-220 M COIL

OTHER COLOURS ON REQUEST

ART.NO	DIA	WEIGHT	B.LOAD
	(Ø)	(kg / 100 m)	(kgf)**
027	40	72,50	28.000
027	48	104,00	40.000
027	56	142,00	52.000
027	64	186,00	68.000
027	72	235,00	85.000
027	80	290,00	104.000
027	88	351,00	125.000
027	96	417,00	148.000

*UNSPliced BREAK LOAD



027 - LUPP® HIGH TENACITY SQUARE



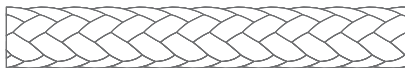
BENEFITS / FEATURES

- EXCELLENT GRIP
- MODERATE ELONGATION
- BUOYANT
- NOMICALLY PRICED
- DOES NOT KINK
- EASY TO SPLICE
- %25-30 MORE STRENGTH THAT NORMAL PP ROPES

LUPES® ROUND



217 LUPES® ROUND



BENEFITS / FEATURES

- DURABLE
- EASY TO SPLICE
- DOES NOT KINK
- SOFT HAND

APPLICATIONS

- DOCK LINE
- ANCHOR LINE
- TOWING LINE

SPECIFICATIONS

MATERIAL	100% HT POLYESTER FIBER
TYPE	T
SPECIFIC GRAVITY	1,38 KG/DM ³
CONSTRUCTION	12 STRAND BRAIDED
UV RESISTANCE	EXCELLENT
CHEMICAL RESISTANCE	GOOD
MELTING POINT	256°C
CRITICAL TEMPERATURE	170°C
ELONGATION AT BREAK	APPROX. %15-20
FIBER WATER ABSORPTION	APPROX. %1-2
WET ABRASION	GOOD
DRY ABRASION	GOOD
COLOUR	BLACK - WHITE - NAVY BLUE
STANDARD	-
LENGTH	100-200 M ORANGE SPOOL OR COIL

OTHER COLOURS ON REQUEST

ART.NO	DIA	WEIGHT	B.LOAD
	(Ø)	(kg / 100 m)	(kgf)*
217	8	4,85	1.300
217	10	7,57	2.060
217	12	10,90	2.875
217	14	14,90	3.875
217	16	19,40	5.000
217	18	24,60	6.250
217	20	30,30	8.250
217	22	36,70	10.000
217	24	43,70	11.500
217	26	51,20	13.500
217	28	59,40	15.500
217	30	68,20	17.750
217	32	77,60	20.000
217	36	98,20	25.000
217	40	121,00	33.000
217	48	175,00	46.000
217	56	238,00	62.000
217	64	310,00	80.000
217	72	393,00	100.000
217	80	485,00	123.000
217	88	587,00	148.000
217	96	699,00	175.000

*UNSPliced BREAK LOAD (ALL TESTS ARE IN ACCORDANCE WITH ISO 2307)





bluesign

LUPA® ROUND

APPLICATIONS

DOCK LINE

ANCHOR LINE

TOWING LINE

SPECIFICATIONS

MATERIAL	100% HT POLYAMIDE FIBER
TYPE	T
SPECIFIC GRAVITY	1,14 KG/DM ³
CONSTRUCTION	12 STRAND BRAIDED
UV RESISTANCE	VERY GOOD
CHEMICAL RESISTANCE	GOOD
MELTING POINT	218°C
CRITICAL TEMPERATURE	130°C
ELONGATION AT BREAK	APPROX.%30-35
FIBER WATER ABSORPTION	APPROX. %3-4
WET ABRASION	SUFFICIENT
DRY ABRASION	GOOD
COLOUR	BLACK - WHITE - NAVY BLUE
STANDARD	-
LENGTH	100-200 M ORANGE SPOOL OR COIL

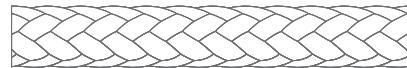
OTHER COLOURS ON REQUEST

216 LUPA® ROUND



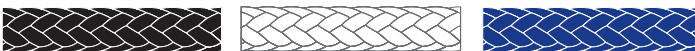
ART.NO	DIA	WEIGHT	B.LOAD
	(Ø)	(kg / 100 m)	(kgf)*
216	8	3,95	1.320
216	10	6,17	2.125
216	12	8,88	3.000
216	14	12,10	4.250
216	16	15,80	5.280
216	18	20,00	6.875
216	20	24,70	8.500
216	22	29,90	10.250
216	24	35,50	12.000
216	26	41,70	14.500
216	28	48,40	17.000
216	30	55,50	19.000
216	32	63,20	21.125
216	36	80,00	27.500
216	40	98,70	34.000
216	48	142,00	48.000
216	56	193,00	68.000
216	64	253,00	84.500
216	72	320,00	110.000
216	80	395,00	129.000
216	88	478,00	152.000
216	96	569,00	183.000

*UNSPliced BREAK LOAD (ALL TESTS ARE IN ACCORDANCE WITH ISO 2307)



BENEFITS / FEATURES

- HIGH STRENGTH
- EXCELLENT SHOCK ABSORPTION
- HIGH STRETCH
- DURABLE
- SOFT HAND
- DOES NOT KINK
- EASY TO SPLICE



LUPP® ROUND



218 LUPP® ROUND



BENEFITS / FEATURES

- ECONOMICALLY PRICED
- EASY TO SPLICE
- DOES NOT KINK
- DOES NOT HARDEN
- BUOYANT
- MODERATE ELONGATION
- EXCELLENT GRIP

APPLICATIONS

- DOCK LINE
- TOWING LINE

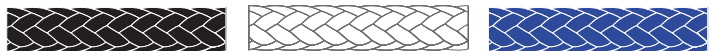
SPECIFICATIONS

MATERIAL	100% HT POLYPROPYLENE FIBER
TYPE	T
SPECIFIC GRAVITY	0,91 KG/DM ³
CONSTRUCTION	12 STRAND BRAIDED
UV RESISTANCE	SUFFICIENT
CHEMICAL RESISTANCE	VERY GOOD
MELTING POINT	165°C
CRITICAL TEMPERATURE	80°C
ELONGATION AT BREAK	APPROX.%23
FIBER WATER ABSORPTION	NONE
WET ABRASION	SUFFICIENT
DRY ABRASION	SUFFICIENT
COLOUR	BLACK - WHITE - NAVY BLUE
STANDARD	-
LENGTH	100-200 M ORANGE SPOOL OR COIL

OTHER COLOURS ON REQUEST

ART.NO	DIA (Ø)	WEIGHT (kg / 100 m)	B.LOAD (kgf)*
218	8	2,90	1.80
218	10	4,52	1.625
218	12	6,51	2.265
218	14	8,86	3.225
218	16	11,60	4.310
218	18	14,60	5.350
218	20	18,10	6.500
218	22	21,90	7.740
218	24	26,00	9.060
218	26	30,60	10.500
218	28	35,40	12.900
218	30	40,70	14.600
218	32	46,30	16.400
218	36	58,60	20.100
218	40	72,30	24.300
218	48	104,00	33.700
218	56	142,00	44.600
218	64	185,00	56.800
218	72	234,00	70.200
218	80	289,00	86.000
218	88	350,00	102.000
218	96	417,00	120.000

*UNSPliced BREAK LOAD (ALL TESTS ARE IN ACCORDANCE WITH ISO 2307)





LUPES® SQUARE



017 LUPES® SQUARE



BENEFITS / FEATURES

- EASY TO SPLICE
- DOES NOT KINK
- DURABLE

APPLICATIONS

- DOCK LINE
- ANCHOR LINE
- TOWING LINE

SPECIFICATIONS

MATERIAL	100% HT POLYESTER FIBER
TYPE	L
SPECIFIC GRAVITY	1,38 KG/DM ³
CONSTRUCTION	8 STRAND PLAITED (4X2)
UV RESISTANCE	EXCELLENT
CHEMICAL RESISTANCE	GOOD
MELTING POINT	256°C
CRITICAL TEMPERATURE	170°C
ELONGATION AT BREAK	APPROX.%15-20
FIBER WATER ABSORPTION	APPROX. %1-2
WET ABRASION	GOOD
DRY ABRASION	GOOD
COLOUR	BLACK - WHITE - NAVY BLUE
STANDARD	EN ISO 1141
LENGTH	100-200 M ORANGE SPOOL OR COIL

OTHER COLOURS ON REQUEST

ART.NO	DIA (Ø)	WEIGHT (kg / 100 m)	B.LOAD (kgf)*
017	8	4,85	1.300
017	10	7,57	2.060
017	12	10,90	2.875
017	14	14,90	3.875
017	16	19,40	5.000
017	18	24,60	6.250
017	20	30,30	8.250
017	22	36,70	10.000
017	24	43,70	11.500
017	26	51,20	13.500
017	28	59,40	15.500
017	30	68,20	17.750
017	32	77,60	20.000
017	36	98,20	25.000
017	40	121,00	33.000
017	48	175,00	46.000
017	56	238,00	62.000
017	64	310,00	80.000
017	72	493,00	100.000
017	80	485,00	123.000
017	88	587,00	148.000
017	96	699,00	175.000

*UNSPliced BREAK LOAD (ALL TESTS ARE IN ACCORDANCE WITH ISO 2307)





APPLICATIONS

DOCK LINE

ANCHOR LINE

TOWING LINE

SPECIFICATIONS

MATERIAL	100% HT POLYAMIDE FIBER
TYPE	L </td
SPECIFIC GRAVITY	1,14 KG/DM ³
CONSTRUCTION	8 STRAND PLAITED (4X2)
UV RESISTANCE	VERY GOOD
CHEMICAL RESISTANCE	GOOD
MELTING POINT	218°C
CRITICAL TEMPERATURE	130°C
ELONGATION AT BREAK	APPROX.%30-35
FIBER WATER ABSORPTION	APPROX. %3-4
WET ABRASION	SUFFICIENT
DRY ABRASION	GOOD
COLOUR	BLACK - WHITE - NAVY BLUE
STANDARD	EN ISO 1140
LENGTH	100-200 M ORANGE SPOOL OR COIL

OTHER COLOURS ON REQUEST



ART.NO	DIA (Ø)	WEIGHT (kg / 100 m)	B.LOAD (kgf)*
016	8	3,95	1.320
016	10	6,17	2.125
016	12	8,88	3.000
016	14	12,10	4.250
016	16	15,80	5.280
016	18	20,00	6.875
016	20	24,70	8.500
016	22	29,90	10.250
016	24	35,50	12.000
016	26	41,70	14.500
016	28	48,40	17.000
016	30	55,50	19.000
016	32	63,20	21.125
016	36	80,00	27.500
016	40	98,70	34.000
016	48	142,00	48.000
016	56	193,00	68.000
016	64	253,00	84.500
016	72	320,00	110.000
016	80	395,00	129.000
016	88	478,00	152.000
016	96	569,00	183.000

*UNSPliced BREAK LOAD (ALL TESTS ARE IN ACCORDANCE WITH ISO 2307)



BENEFITS / FEATURES

- HIGH STRENGTH
- EXCELLENT SHOCK ABSORPTION
- HIGH STRETCH
- DURABLE
- SOFT HAND
- DOES NOT KINK
- EASY TO SPLICE



LUPP® SQUARE



018 LUPP® SQUARE



BENEFITS / FEATURES

- ECONOMICALLY PRICED
- EASY TO SPLICE
- EXCELLENT GRIP
- DOES NOT KINK
- BUOYANT
- MODERATE ELONGATION

APPLICATIONS

DOCK LINE

TOWING LINE

SPECIFICATIONS

MATERIAL	100% HT POLYPROPYLENE FIBER
TYPE	L
SPECIFIC GRAVITY	0,91 KG/DM ³
CONSTRUCTION	8 STRAND PLAITED (4X2)
UV RESISTANCE	SUFFICIENT
CHEMICAL RESISTANCE	VERY GOOD
MELTING POINT	165°C
CRITICAL TEMPERATURE	80°C
ELONGATION AT BREAK	APPROX.%23
FIBER WATER ABSORPTION	NONE
WET ABRASION	SUFFICIENT
DRY ABRASION	SUFFICIENT
COLOUR	BLACK - WHITE - NAVY BLUE
STANDARD	EN ISO 1346
LENGTH	100-200 M ORANGE SPOOL OR COIL

OTHER COLOURS ON REQUEST

ART.NO	DIA	WEIGHT	B.LOAD
	(Ø)	(kg / 100 m)	(kgf)*
018	8	2,90	1.080
018	10	4,52	1.625
018	12	6,51	2.265
018	14	8,86	3.225
018	16	11,60	4.310
018	18	14,60	5.350
018	20	18,10	6.500
018	22	21,90	7.740
018	24	26,00	9.060
018	26	30,60	10.500
018	28	35,40	12.900
018	30	40,70	14.600
018	32	46,30	16.400
018	36	58,60	20.100
018	40	72,30	24.300
018	48	104,00	33.700
018	56	142,00	44.600
018	64	185,00	56.800
018	72	234,00	70.200
018	80	289,00	86.000
018	88	350,00	102.000
018	96	417,00	120.000

*UNSPliced BREAK LOAD (ALL TESTS ARE IN ACCORDANCE WITH ISO 2307)





LUPES® TWIST



014 LUPES® TWIST



BENEFITS / FEATURES

- REMAINS FIRM UNDER LOAD
- EASY TO SPLICE
- DURABLE

APPLICATIONS

- DOCK LINE
- ANCHOR LINE
- TOWING LINE

SPECIFICATIONS

MATERIAL	100% HT POLYESTER FIBER
TYPE	A
SPECIFIC GRAVITY	1,38 KG/DM ³
CONSTRUCTION	3 STRAND PLAITED
UV RESISTANCE	EXCELLENT
CHEMICAL RESISTANCE	GOOD
MELTING POINT	256°C
CRITICAL TEMPERATURE	170°C
ELONGATION AT BREAK	APPROX.%15-20
FIBER WATER ABSORPTION	APPROX. %1-2
WET ABRASION	GOOD
DRY ABRASION	GOOD
COLOUR	BLACK - WHITE - NAVY BLUE
STANDARD	EN ISO 1141
LENGTH	100-200 M ORANGE SPOOL OR COIL

OTHER COLOURS ON REQUEST

ART.NO	DIA	WEIGHT	B.LOAD
	(Ø)	(kg / 100 m)	(kgf)*
014	4	1,21	325
014	5	1,90	515
014	6	2,73	720
014	8	4,85	1.300
014	10	7,57	2.060
014	12	10,90	2.875
014	14	14,90	3.875
014	16	19,40	5.000
014	18	24,60	6.250
014	20	30,30	8.250
014	22	36,70	10.000
014	24	43,70	11.500
014	26	51,20	13.500
014	28	59,40	15.500
014	30	68,20	17.750
014	32	77,60	20.000
014	36	98,20	25.000
014	40	121,00	33.000
014	48	175,00	46.000
014	56	238,00	62.000
014	64	310,00	80.000
014	72	493,00	100.000
014	80	485,00	123.000
014	88	587,00	148.000
014	96	699,00	175.000

*UNSPliced BREAK LOAD (ALL TESTS ARE IN ACCORDANCE WITH ISO 2307)





APPLICATIONS

DOCK LINE

TOWING LINE

ANCHOR LINE

SPECIFICATIONS

MATERIAL	100% HT POLYAMIDE FIBER
TYPE	A
SPECIFIC GRAVITY	1,14 KG/DM ³
CONSTRUCTION	3 STRAND PLAITED
UV RESISTANCE	VERY GOOD
CHEMICAL RESISTANCE	GOOD
MELTING POINT	218°C
CRITICAL TEMPERATURE	130°C
ELONGATION AT BREAK	APPROX. %30-35
FIBER WATER ABSORPTION	APPROX. %3-4
WET ABRASION	SUFFICIENT
DRY ABRASION	GOOD
COLOUR	BLACK - WHITE - NAVY BLUE
STANDARD	EN ISO 1140
LENGTH	100-200 M ORANGE SPOOL OR COIL

OTHER COLOURS ON REQUEST

013 LUPA® TWIST



ART.NO	DIA	WEIGHT	B.LOAD
	(Ø)	(kg / 100 m)	(kgf)*
013	4	0,98	330
013	5	1,54	535
013	6	2,22	750
013	8	3,95	1.320
013	10	6,17	2.125
013	12	8,88	3.000
013	14	12,10	4.250
013	16	15,80	5.280
013	18	20,00	6.875
013	20	24,70	8.500
013	22	29,90	10.250
013	24	35,50	12.000
013	26	41,70	14.500
013	28	48,40	17.000
013	30	55,50	19.000
013	32	63,20	21.125
013	36	80,00	27.500
013	40	98,70	34.000
013	48	142,00	48.000
013	56	193,00	68.000
013	64	253,00	84.500
013	72	320,00	110.000
013	80	395,00	129.000
013	88	478,00	152.000
013	96	569,00	183.000

*UNSPliced BREAK LOAD (ALL TESTS ARE IN ACCORDANCE WITH ISO 2307)



BENEFITS / FEATURES

- HIGH STRENGTH
- EXCELLENT SHOCK ABSORPTION
- HIGH STRETCH
- DURABLE
- SOFT HAND
- EASY TO SPLICE



LUPP® TWIST



015 LUPP® TWIST



BENEFITS / FEATURES

- ECONOMICALLY PRICED
- EASY TO SPLICE
- MODERATE ELONGATION
- BUOYANT

APPLICATIONS

- DOCK LINE
- TOWING LINE

SPECIFICATIONS

MATERIAL	100% HT POLYPROPYLENE FIBER
TYPE	A
SPECIFIC GRAVITY	0,91 KG/DM ³
CONSTRUCTION	3 STRAND
UV RESISTANCE	SUFFICIENT
CHEMICAL RESISTANCE	VERY GOOD
MELTING POINT	165°C
CRITICAL TEMPERATURE	80°C
ELONGATION AT BREAK	APPROX.%23
FIBER WATER ABSORPTION	NONE
WET ABRASION	SUFFICIENT
DRY ABRASION	SUFFICIENT
COLOUR	BLACK - WHITE - NAVY BLUE
STANDARD	EN ISO 1346
LENGTH	100-200 M ORANGE SPOOL OR COIL

OTHER COLOURS ON REQUEST

ART.NO	DIA (Ø)	WEIGHT (kg / 100 m)	B.LOAD (kgf)*
015	4	0,73	280
015	5	1,13	430
015	6	1,63	600
015	8	2,89	1.080
015	10	4,52	1.625
015	12	6,51	2.265
015	14	8,86	3.225
015	16	11,60	4.310
015	18	14,60	5.350
015	20	18,10	6.500
015	22	21,90	7.740
015	24	26,00	9.060
015	26	30,60	10.500
015	28	35,40	12.900
015	30	40,70	14.600
015	32	46,30	16.400
015	36	58,60	20.100
015	40	72,30	24.300
015	48	104,00	33.700
015	56	142,00	44.600
015	64	185,00	56.800
015	72	234,00	70.200
015	80	289,00	86.000
015	88	350,00	102.000
015	96	417,00	120.000

*UNSPLICED BREAK LOAD (ALL TESTS ARE IN ACCORDANCE WITH ISO 2307)





LUPES® CORD



BENEFITS / FEATURES
DOES NOT HARDEN
SOFT HAND
LOW STRETCH

APPLICATIONS

ALL-ROUND CORDS

SPECIFICATIONS

MATERIAL	COVER : HT POLYESTER FIBER CORE : HT POLYESTER FIBER
SPECIFIC GRAVITY	1,38 KG/DM ³
CONSTRUCTION	COVER : 16 - 32 PLAITED - CORE : 12-16 PLAITED
UV RESISTANCE	EXCELLENT
CHEMICAL RESISTANCE	GOOD
MELTING POINT	256°C
CRITICAL TEMPERATURE	170°C
WORKING STRETCH	<6%
FIBER WATER ABSORPTION	APPROX. %1-2
WET ABRASION	GOOD
LENGTH	100-200 M ORANGE SPOOL OR COIL

OTHER COLOURS & LARGE DIAMETERS UPON REQUEST

ART.NO	DIA (Ø)	WEIGHT (kg / 100 m)	B.LOAD (kgf)*
607	2	0,32	90
607	2,5	0,50	125
607	3	0,72	180
607	4	1,27	310
607	5	2,00	480
607	6	2,87	680

*UNSPliced BREAK LOAD (ALL TESTS ARE IN ACCORDANCE WITH ISO 2307)

LUPP® CORD



BENEFITS / FEATURES
MODERATE ELONGATION
DOES NOT HARDEN
BUOYANT
ECONOMICALLY PRICED

APPLICATIONS

THROW LINE

SPECIFICATIONS

MATERIAL	COVER : HT POLYPROPYLENE FIBER CORE : HT POLYPROPYLENE FIBER
SPECIFIC GRAVITY	0,91 KG/DM ³
CONSTRUCTION	COVER : 16 - 32 PLAITED - CORE : 12-16 PLAITED
UV RESISTANCE	SUFFICIENT
CHEMICAL RESISTANCE	VERY GOOD
MELTING POINT	165°C
CRITICAL TEMPERATURE	80°C
WORKING STRETCH	<8%
FIBER WATER ABSORPTION	NONE
WET ABRASION	SUFFICIENT
LENGTH	100-200 M ORANGE SPOOL OR COIL

OTHER COLOURS & LARGE DIAMETERS UPON REQUEST

ART.NO	DIA (Ø)	WEIGHT (kg / 100 m)	B.LOAD (kgf)*
309	2	0,18	70
309	2,5	0,28	105
309	3	0,40	150
309	4	0,73	280
309	5	1,13	430
309	6	1,63	600

*UNSPliced BREAK LOAD (ALL TESTS ARE IN ACCORDANCE WITH ISO 2307)



APPLICATIONS

ALL-ROUND CORDS

SPECIFICATIONS

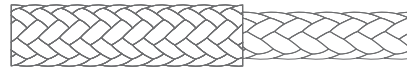
MATERIAL	COVER : HT POLYAMIDE FIBER CORE : HT POLYAMIDE FIBER
SPECIFIC GRAVITY	1,14 KG/DM ³
CONSTRUCTION	COVER : 16 - 32 PLAITED - CORE : 12-16 PLAITED
UV RESISTANCE	VERY GOOD
CHEMICAL RESISTANCE	GOOD
MELTING POINT	218°C
CRITICAL TEMPERATURE	130°C
WORKING STRETCH	<12%
FIBER WATER ABSORPTION	APPROX. %3-4
WET ABRASION	SUFFICIENT
LENGTH	100-200 M ORANGE SPOOL OR COIL

OTHER COLOURS & LARGE DIAMETERS UPON REQUEST

ART.NO	DIA (Ø)	WEIGHT (kg / 100 m)	B.LOAD (kgf)*
108	2	0,25	120
108	2,5	0,40	135
108	3	0,60	195
108	4	1,05	330
108	5	1,60	510
108	6	2,24	730

*UNSPliced BREAK LOAD (ALL TESTS ARE IN ACCORDANCE WITH ISO 2307)

108 LUPA® CORD

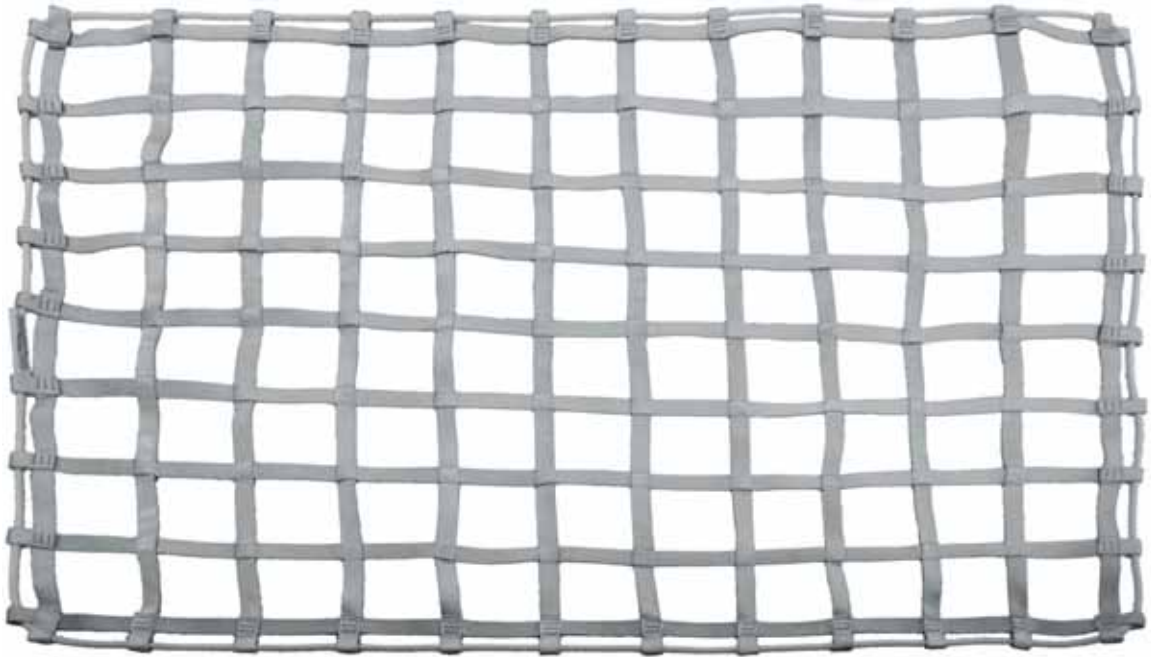


BENEFITS / FEATURES

- HIGH STRENGTH
- EXCELLENT SHOCK ABSORPTION
- HIGH STRETCH
- DURABLE
- SOFT HAND



HELICOPTER SAFETY NET

**HSN-30**
HELICOPTER SAFETY NET

- SPECIAL GREY COLOR THAT COMPLIES WITH SHIPS
- SPECIFICALLY DESIGNED FOR NAVY AND OFFSHORE HELICOPTER LANDING DECK IN ORDER TO AVOID ANY INTERFERENCE WITH HELICOPTER OPERATIONS AND TO PREVENT PERSONNEL FALLING OVERBOARD
- MADE OF HIGH TENACITY WEBBING
- WEBBING IS SELF-EYED, MANUFACTURED WITHOUT STITCHING
- COMES WITH SAME COLOR OF EDGE ROPE

STANDARD: NATO & NATIONAL MILITARY SPEC



TOWING / RESCUE





DYNE K® SBF WINCHLINE

APPLICATIONS

WINCH LINE

SPECIFICATIONS

MATERIAL	COATED DYNEEMA® SK 75/78
SPECIFIC GRAVITY	0,97 KG/DM ³
CONSTRUCTION	12 STAND BRAIDED
UV RESISTANCE	EXCELLENT
CHEMICAL RESISTANCE	EXCELLENT
MELTING POINT	147°C
CRITICAL TEMPERATURE	65°C
WORKING STRETCH	<1%
FIBER WATER ABSORPTION	NONE
WET ABRASION	EXCELLENT
DRY ABRASION	EXCELLENT
STANDARD	ISO 10325
LENGTH	25 M OR 30 M IN BAG

OTHER COLOURS & LARGE DIAMETERS UPON REQUEST

ART.NO	DIA	WEIGHT		B.LOAD
	(Ø)	(kg/25m)**	(kg/30m)**	(kgf)*
035	6	1,35	1,50	3.375
035	8	1,80	2,00	5.940
035	10	2,40	2,70	9.360
035	12	3,16	3,60	13.500

*SPliced BREAK LOAD (ALL TESTS ARE IN ACCORDANCE WITH ISO 2307)

** THIMBLE & HOOK INCLUDED IN THE WEIGHT



035 DYNE K® SBF WINCHLINE



BENEFITS / FEATURES

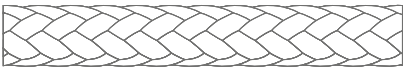
- LIGHT WEIGHT
- DURABLE
- VERY LOW STRETCH
- VERY HIGH STRENGTH
- 2,4 METER POLYESTER COVER
- HIGHLY DURABLE THERMO-PLASTIC AQUEOUS PU COATED STEEL TUBE THIMBLE + POWDER COATED HOOK (HUBERT WALTERMANN)
- SUPERIOR BENDING FATIGUE (SBF)



Dyneema®



005 - 505 DYNE K® 78 / 99



BENEFITS / FEATURES
SUPERIOR ABRASION RESISTANCE
EXCELLENT BREAKING LOAD (SK99)
BUOYANT
DURABLE
VERY LOW STRETCH
LIGHTWEIGHT
EASY TO SPLICE
DOES NOT KINK

APPLICATIONS
WINCH LINE
TOWING LINE

SPECIFICATIONS	
MATERIAL	COATED DYNEEMA® SK 78/99
SPECIFIC GRAVITY	0,97 KG/DM ³
CONSTRUCTION	12 STRAND BRAIDED
UV RESISTANCE	EXCELLENT
CHEMICAL RESISTANCE	EXCELLENT
MELTING POINT	147°C
CRITICAL TEMPERATURE	65°C
WORKING STRETCH	<1%
FIBER WATER ABSORPTION	NONE
WET ABRASION	EXCELLENT
DRY ABRASION	EXCELLENT
STANDARD	ISO 10325
LENGTH	100-200 M ORANGE SPOOL OR COIL

OTHER COLOURS & LARGE DIAMETERS UPON REQUEST

ART.NO	DIA (Ø)	WEIGHT (kg / 100 m)	B.LOAD (kgf)*	
			SK78 (ART.NO: 005)	SK99 (ART.NO: 505)
005 - 505	2	0,28	425	502
005 - 505	3	0,62	950	1.121
005 - 505	4	1,05	1.650	1.947
005 - 505	5	1,60	2.600	3.068
005 - 505	6	2,30	3.750	4.425
005 - 505	8	4,00	6.600	7.788
005 - 505	10	6,10	10.400	12.272
005 - 505	12	8,70	15.000	17.700
005 - 505	14	11,70	20.400	24.072
005 - 505	16	15,10	26.520	31.294
005 - 505	18	19,00	31.620	37.312
005 - 505	20	23,20	38.760	45.737
005 - 505	22	28,10	45.900	54.162
005 - 505	24	33,10	53.000	62.540

*UNSPliced BREAK LOAD (ALL TESTS ARE IN ACCORDANCE WITH ISO 2307)





APPLICATIONS

- WINCH LINE
- TOWING LINE

SPECIFICATIONS

MATERIAL	COATED DYNEEMA® SK 78
SPECIFIC GRAVITY	0,97 KG/DM³
CONSTRUCTION	12 STRAND BRAIDED
UV RESISTANCE	EXCELLENT
CHEMICAL RESISTANCE	EXCELLENT
MELTING POINT	147°C
CRITICAL TEMPERATURE	65°C
WORKING STRETCH	<1%
FIBER WATER ABSORPTION	NONE
WET ABRASION	EXCELLENT
DRY ABRASION	EXCELLENT
STANDARD	ISO 10325
LENGTH	100-200 M ORANGE SPOOL OR COIL

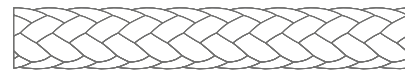
OTHER COLOURS & LARGE DIAMETERS UPON REQUEST

ART.NO	DIA (Ø)	WEIGHT (kg / 100 m)	B.LOAD (kgf)*
			SK78 (ART.NO: 406)
406	2	0,34	495
406	3	0,75	1.100
406	4	1,26	1.920
406	5	1,92	3.000
406	6	2,75	4.400
406	8	4,80	7.700
406	10	7,30	11.500
406	12	10,45	17.500
406	14	14,00	23.750
406	16	18,00	30.900
406	18	22,80	36.800
406	20	27,80	45.000
406	22	33,70	53.500
406	24	39,70	61.750

*UNSPliced BREAK LOAD (ALL TESTS ARE IN ACCORDANCE WITH ISO 2307)



406 DYNE K® LS



BENEFITS / FEATURES

- SUPERIOR ABRASION RESISTANCE
- EXCELLENT BREAKING LOAD
- BUOYANT
- DURABLE
- EXTREMELY LOW STRETCH
- LIGHTWEIGHT
- DOES NOT KINK



LUPA® SQUARE



016 LUPA® SQUARE



BENEFITS / FEATURES

- HIGH STRENGTH
- EXCELLENT SHOCK ABSORPTION
- HIGH STRETCH
- DURABLE
- SOFT HAND
- DOES NOT KINK
- EASY TO SPLICE

APPLICATIONS

KINETIC ENERGY RECOVERY ROPE (KERR)

SPECIFICATIONS

MATERIAL	100% HT POLYAMIDE FIBER
TYPE	L
SPECIFIC GRAVITY	1,14 KG/DM ³
CONSTRUCTION	8 STRAND PLAITED (4X2)
UV RESISTANCE	VERY GOOD
CHEMICAL RESISTANCE	GOOD
MELTING POINT	218 °C
CRITICAL TEMPERATURE	130 °C
ELONGATION AT BREAK	APPROX.%30-35
FIBER WATER ABSORPTION	APPROX.%3-4
WORKING STRETCH	FAIR
COLOUR	BLACK - WHITE - NAVY BLUE
WET ABRASION	FAIR
DRY ABRASION	EXCELLENT
STANDARD	EN ISO 1140
LENGTH	4,5 M - 6M OR 9 M

OTHER COLOURS & LARGE DIAMETERS UPON REQUEST

ART.NO	DIA	WEIGHT	LENGTH	B.LOAD
	(Ø)	(kg/100m)	(m)	(kgf)*
016	12	8,88	4,5	3.000
016	18	20,00	6-9	6.875
016	24	35,50	6-9	12.000
016	30	55,50	9	19.000
016	36	80,00	9	27.500

*UNSPliced BREAK LOAD (ALL TESTS ARE IN ACCORDANCE WITH ISO 2307)



GUIDELINES & RECOMMENDATIONS

- 12 MM ROPES FOR LIGHT WEIGHT VEHICLES, SUBARU (ALL WHEEL DRIVE)
- 18 MM ROPES FOR LAND ROVER (FREELANDER), TOYOTA RAV4, LOWER WEIGHT PICK UP
- 24 MM ROPES FOR JEEP (ALL MODELS), LAND ROVER DEFENDER - DISCOVERY - RANGE ROVER, TOYOTA, HUMMER H1-H2-H3, SPORTSMOBILE, HEAVY EXPEDITION VEHICLES
- 30 MM ROPES FOR MRAP (MILITARY), HEAVY MOTORHOMES, BUSES, COACHES
- 36 MM ROPES FOR FULL SIZE SEMI TRACKS



bluesign

LUPA® ROUND

APPLICATIONS

KINETIC ENERGY RECOVERY ROPE (KERR)

SPECIFICATIONS

MATERIAL	100% HT POLYAMIDE FIBER
TYPE	T
SPECIFIC GRAVITY	1,14 KG/DM ³
CONSTRUCTION	12 STRAND PLAITED
UV RESISTANCE	VERY GOOD
CHEMICAL RESISTANCE	GOOD
MELTING POINT	218 °C
CRITICAL TEMPERATURE	130 °C
ELONGATION AT BREAK	APPROX. %30-35
FIBER WATER ABSORPTION	APPROX. %3-4
WORKING STRETCH	FAIR
COLOUR	BLACK - WHITE - NAVY BLUE
WET ABRASION	FAIR
DRY ABRASION	EXCELLENT
STANDARD	-
LENGTH	100-200 M ORANGE SPOOL OR COIL

OTHER COLOURS & LARGE DIAMETERS UPON REQUEST

ART.NO	DIA (Ø)	WEIGHT (kg/100m)**	LENGTH (m)	B.LOAD (kgf)*
216	12	8,88	4,5	3.000
216	18	20,00	6-9	6.875
216	24	35,50	6-9	12.000
216	30	55,50	9	19.000
216	36	80,00	9	27.500

*UNSPliced BREAK LOAD (ALL TESTS ARE IN ACCORDANCE WITH ISO 2307)



216 LUPA® ROUND



GUIDELINES & RECOMMENDATIONS

- 12 MM ROPES FOR LIGHT WEIGHT VEHICLES, SUBARU (ALL WHEEL DRIVE)
- 18 MM ROPES FOR LAND ROVER (FREELANDER), TOYOTA RAV4, LOWER WEIGHT PICK UP
- 24 MM ROPES FOR JEEP (ALL MODELS), LAND ROVER DEFENDER - DISCOVERY - RANGE ROVER, TOYOTA, HUMMER H1-H2-H3, SPORTSMOBILE, HEAVY EXPEDITION VEHICLES
- 30 MM ROPES FOR MRAP (MILITARY), HEAVY MOTORHOMES, BUSES, COACHES
- 36 MM ROPES FOR FULL SIZE SEMI TRACKS

BENEFITS / FEATURES

- VERY HIGH STRENGTH
- EXCELLENT SHOCK ABSORPTION
- HIGH STRETCH
- DURABLE
- SOFT HAND
- DOES NOT KINK
- EASY TO SPICE

INSERTION / EXTRACTION





APPLICATIONS

PERSONNEL INSERTION AND EXTRACTION

SPECIFICATIONS

MATERIAL	100% SPUN POLYAMIDE FIBER
TYPE	L
SPECIFIC GRAVITY	1,14 KG/DM ³
CONSTRUCTION	8 STRAND PLAITED (4X2)
UV RESISTANCE	VERY GOOD
CHEMICAL RESISTANCE	GOOD
MELTING POINT	218 °C
CRITICAL TEMPERATURE	130 °C
ELONGATION AT BREAK	APPROX.%30-35
FIBER WATER ABSORPTION	APPROX.%3-4
WORKING STRETCH	FAIR
COLOUR	MILITARY GREEN-DESERT SAND
WET ABRASION	FAIR
DRY ABRASION	EXCELLENT
STANDARD	MILL-F-44422
LENGTH	30-60-90-120 FEET COIL

OTHER COLOURS & LARGE DIAMETERS UPON REQUEST

ART.NO	DIA (Ø)	WEIGHT (kg/100m)	B.LOAD (kgf)
051	32	42,00	7.500
051	40	60,00	10.000
051	44*	77,00	12.000

*DIA IF NOT UNDER LOAD: Ø 50 MM

051 LUPA® FAST ROPE



LOOP TYPES



FAST ROPE-M



FAST ROPE-SE



BENEFITS / FEATURES

- EXCELLENT SHOCK ABSORPTION
- HIGH STRETCH
- DURABLE
- SOFT HAND
- DOES NOT KINK
- EASY TO SPICE

RAPPELING





APPLICATIONS

ABSEILING

SPECIFICATIONS

MATERIAL	COVER : HT POLYESTER FIBER INNERCOVER : - CORE: COATED HT POLYESTER FIBER
SPECIFIC GRAVITY	1,38 KG/DM ³
CONSTRUCTION	COVER: 32 PLAITED CORE: 12-16 PLAITED
UV RESISTANCE	EXCELLENT
CHEMICAL RESISTANCE	GOOD
MELTING POINT	256 °C
CRITICAL TEMPERATURE	170°C
WORKING STRETCH	<4%
FIBER WATER ABSORPTION	APPROX. %1-2
WET ABRASION	GOOD
DRY ABRASION	GOOD
STANDARD	ISO 10547
LENGTH	100-200 M ORANGE SPOOL OR COIL

OTHER COLOURS & LARGE DIAMETERS UPON REQUEST

ART.NO	DIA (Ø)	WEIGHT (kg / 100 m)	B.LOAD (kgf)*
307	4	1,27	400
307	5	2,00	625
307	6	2,87	1.200
307	8	5,10	1.700
307	10	7,97	2.560
307	12	11,50	3.600
307	14	15,60	4.800
307	16	20,40	6.500
307	18	25,80	8.200
307	20	31,90	10.000

*UNSPliced BREAK LOAD (ALL TESTS ARE IN ACCORDANCE WITH ISO 2307)



307 LUPES® LS TIGHT



BENEFITS / FEATURES

- OUTSTANDING FLEXIBILITY
- HIGH BREAKING LOAD
- EASY TO SPLICE
- DOES NOT KINK
- SHARES THE LOAD EQUALLY BETWEEN COVER AND CORE
- STRETCHES LESS THAN THE STANDARD POLYESTER



LUPA® TARGET



APPLICATIONS

TARGET ROPE

SPECIFICATIONS

MATERIAL	100% HT POLYAMIDE FIBER
TYPE	-
SPECIFIC GRAVITY	1,14 KG/DM ³
CONSTRUCTION	COVER : 32 PLAITED / CORE : 3x16 PLAITED
UV RESISTANCE	VERY GOOD
CHEMICAL RESISTANCE	GOOD
MELTING POINT	218°C
CRITICAL TEMPERATURE	130°C
ELONGATION AT BREAK	APPROX.%30-35
FIBER WATER ABSORPTION	APPROX. %3-4
WET ABRASION	SUFFICIENT
DRY ABRASION	GOOD
COLOUR	WHITE
STANDARD	-
LENGTH	500 M ORANGE SPOOL OR COIL

OTHER COLOURS ON REQUEST



ART.NO	DIA	WEIGHT	B.LOAD
	(Ø)	(kg / 100 m)	(kgf)*
508	11,7 (±0,6)	7,65 (±6,5)	2.340

*UNSPliced BREAK LOAD (ALL TESTS ARE IN ACCORDANCE WITH ISO 2307)



BENEFITS / FEATURES

- HIGH STRENGTH
- EXCELLENT SHOCK ABSORPTION
- HIGH STRETCH
- DURABLE
- SOFT HAND
- DOES NOT KINK



LUPA® STATIC

- DESIGNED FOR RESCUE OPERATIONS AND ROPE ACCESS TECHNIQUES
- MADE OF HIGH TENACITY POLYAMIDE FIBER (S/Z TWIST)
- FORMED BY CORE AND PROTECTOR COVER
- EXCELLENT HAND-GRIP FEATURE
- HIGH RESISTANCE AGAINST ABRASION
- HIGH UV RESISTANCE
- IDENTIFICATION TAPE INSERTED (WITH INFORMATION OF RELATIVE STANDARD, TYPE OF ROPE, BRAND)

DIA	: 10,5 MM
STANDARD	: EN 1891
TYPE	: A
WEIGHT	: 67 GR/M
BREAKING STRENGTH	: 27 KN
BREAKING STRENGTH WITH KNOT:	18 KN
STATIC STRETCHING	: % 2,7
SHEATH SLIPPAGE	: 0
WET TENSILE STRENGTH	: % 3,3
KNOT FLEXIBILITY	: 1
STITCHED EYES STRENGTH	: 24 KN
EIGHT KNOT STRENGTH	: 16 KN

STANDARD LENGTHS

- 50, 100, 150 & 200 METER PLAIN BLACK

LUPA® ACCESSORY

- DESIGNED FOR RESCUE OPERATIONS, ROPE ACCESS TECHNIQUES AND DIFFICULT WORK ENVIRONMENTS
- MADE OF HIGH TENACITY POLYAMIDE FIBER (S/Z TWIST)
- FORMED BY CORE AND PROTECTOR COVER
- EXCELLENT HAND-GRIP FEATURE
- HIGH RESISTANCE AGAINST ABRASION
- HIGH UV RESISTANCE
- IDENTIFICATION TAPE INSERTED (WITH INFORMATION OF RELATIVE STANDARD, TYPE OF ROPE, BRAND)

DIA	: 11 MM
STANDARD	: EN 1891
TYPE	: A
WEIGHT	: 78 GR/M
BREAKING STRENGTH	: 38 KN
BREAKING STRENGTH WITH KNOT:	20,75 KN
STATIC STRETCHING	: % 2,7
SHEATH SLIPPAGE	: 0
WET TENSILE STRENGTH	: % 3,3
KNOT FLEXIBILITY	: 1
STITCHED EYES STRENGTH	: 25 KN
EIGHT KNOT STRENGTH	: 16 KN

STANDARD LENGTHS

- 50, 100, 150 & 200 METER PLAIN BLACK

HARNESSES



FALL ARREST & WORK POSITIONING SUSPENSION HARNESSSES



P-455 YO D BLACK FALL ARREST & WORK POSITIONING SUSPENSION HARNESS

- FULL BODY HARNESS SHOULD BE USED AS A COMPONENT IN PERSONAL FALL ARREST, ROPE ACCESS, RESTRAINT, WORK POSITIONING, CLIMBING, CONTROL DESCENT AND RESCUE
- BACK AND CHEST D-RINGS FOR FAST, EASY AND SAFE CONNECTION TO THE OTHER ELEMENTS OF A PERSONAL FALL ARREST SYSTEM
- INCORPORATED CHEST ASCENDER PROVIDES AN EASY AND SECURE ATTACHMENT POINT AND MAKES CLIMBING UP THE ROPE SMOOTHER AND MORE EFFECTIVE
- 2 PIECES OF WAIST D-RINGS FOR WORK POSITIONING
- 1 PIECE OF D-RINGS IN ABDOMINAL AREA FOR WORKING IN SUSPENSION
- SUSPENSION TRAUMA STRAPS
- MAXIMUM COMFORT BY VIRTUE OF BREATHING, ANTIBACTERIAL, ERGONOMIC BACK, WAIST, LEG AND SHOULDER PADS
- SPECIAL DESIGN ALUMINUM D RINGS
- STAINLESS STEEL AB-45 AUTOMATIC LEG BUCKLES FOR FAST CONNECTION AND RELEASE
- UV RESISTANT HIGH STRENGTH BONDED TYPE YARNS AND CONTRASTIVE COLOR SEWING FOR QUICK EYE CONTROL
- 4 PIECES OF GEAR LOOPS

SIZE : S/M, L/XL, XXL
WEIGHT : 2.420 GR (S/M), 2.510 GR (L/XL), 2.630 GR (XXL)
COLOR : BLACK
STANDARD : EN 361, EN 358, EN 813, EN 12277



P-455 Y BLACK FALL ARREST & WORK POSITIONING SUSPENSION HARNESS

- FULL BODY HARNESS SHOULD BE USED AS A COMPONENT IN PERSONAL FALL ARREST, ROPE ACCESS, RESTRAINT, WORK POSITIONING, CLIMBING, CONTROL DESCENT AND RESCUE
- BACK AND CHEST D-RINGS FOR FAST, EASY AND SAFE CONNECTION TO THE OTHER ELEMENTS OF A PERSONAL FALL ARREST SYSTEM
- 2 PIECES OF WAIST D-RINGS FOR WORK POSITIONING
- 1 PIECE OF D-RINGS IN ABDOMINAL AREA FOR WORKING IN SUSPENSION
- SUSPENSION TRAUMA STRAPS
- MAXIMUM COMFORT BY VIRTUE OF BREATHING, ANTIBACTERIAL, ERGONOMIC BACK, WAIST, LEG AND SHOULDER PADS
- SPECIAL DESIGN ALUMINUM D RINGS
- STAINLESS STEEL AB-45 AUTOMATIC BUCKLES
- UV RESISTANT HIGH STRENGTH BONDED TYPE YARNS AND CONTRASTIVE COLOR SEWING FOR QUICK EYE CONTROL
- 2 PIECES OF PVC COATED GEAR LOOPS

SIZE : S/M, L/XL, XXL
WEIGHT : 1.878 KG (S/M), 1.970 KG (L/XL), 2.079 KG (XXL)
COLOR : BLACK
STANDARD : EN 361, EN 358, EN 813, EN 12277

BOSUN'S CHAIRS



TS-30
SUSPENSION TRAUMA STRAPS

- DESIGNED TO PREVENT SUSPENSION TRAUMA WHILE A WORKER IS AWAITING RESCUE
- HELPS SUSPENDED USERS TO OVERCOME THE POTENTIAL NEGATIVE HEALTH IMPACTS OF SUSPENSION TRAUMA
- MADE OF 30 MM HIGH TENACITY WEBBING
- COMES WITH FAST ADJUSTABLE BUCKLES ATTACHED TO THE WEBBING

WEIGHT : 188 GR
COLOR : BLACK



STAR



STAR COMFORT

STAR
BOSUN'S CHAIR

- IDEAL FOR WORKING SHORT OR EXTENDED PERIODS IN SUSPENSION; WINDOWS CLEANING, MAINTENANCE, PAINTING ETC.
- 3 PIECES OF GEAR LOOPS
- DOES NOT PROVIDE ANY FALL PROTECTION AND MUST BE USED WITH AN APPROPRIATE FALL ARREST AND RESCUE SYSTEM

WEIGHT : 1.420 GR
COLOR : BLACK

STAR COMFORT
BOSUN'S CHAIR

- IDEAL FOR WORKING SHORT OR EXTENDED PERIODS IN SUSPENSION; WINDOWS CLEANING, MAINTENANCE, PAINTING ETC.
- WIDE SITTING AREA PROVIDES COMFORTABLE SITTING AND WORKING POSITION
- WEBBING LADDER FOR RESTING
- 3 PIECES OF GEAR LOOPS
- DOES NOT PROVIDE ANY FALL PROTECTION AND MUST BE USED WITH AN APPROPRIATE FALL ARREST AND RESCUE SYSTEM

WEIGHT : 1.530 GR
COLOR : BLACK



ACB-40B
CLIMBING & RAPPELLING BELT

- DESIGNED FOR TACTICAL SITUATIONS WITH LONG HANG TIME
- QUICK ADJUST BUCKLES TO ACCOMMODATE A VARIETY OF SIZING REQUIREMENTS
- MADE OF 40 OR 45 MM HIGH TENACITY POLYESTER WEBBING
- 1 PCS OF ALUMINUM K-13/3A TRIPLE ACTION KARABINER

SIZE : S/M, L/XL, XXL
WEIGHT : 439 GR
COLOR : BLACK
STANDARD : ISO 9001: 2008

ACB-40D
CLIMBING & RAPPELLING BELT

- DESIGNED FOR TACTICAL SITUATIONS WITH LONG HANG TIME
- QUICK ADJUST BUCKLES TO ACCOMMODATE A VARIETY OF SIZING REQUIREMENTS
- MADE OF 40 OR 45 MM HIGH TENACITY POLYESTER WEBBING
- 1 PCS OF ALUMINUM K-13/3A TRIPLE ACTION KARABINER

SIZE : S/M, L/XL, XXL
WEIGHT : 536 GR
COLOR : DESERT
STANDARD : ISO 9001: 2008

RAPPELING BELTS & LANYARDS



RB-45B



RB-40D

RB-45B
RAPPELING BELT

- DESIGNED FOR EMERGENCY RAPPEL
- MADE OF 40 MM (DESERT) OR 45 MM (BLACK) HIGH TENACITY POLYESTER WEBBING
- QUICK ADJUST BUCKLES TO ACCOMMODATE A VARIETY OF SIZING REQUIREMENTS
- FRO V-RING IS USED FOR ATTACHMENT POINT
- AVAILABLE IN BLACK AND DESERT COLOR

SIZE : S/M, L/XL, XXL
WEIGHT : 242 GR
COLOR : BLACK
STANDARD : ISO 9001: 2008

RB-40D
RAPPELING BELT

- DESIGNED FOR EMERGENCY RAPPEL
- MADE OF 40 MM (DESERT) OR 45 MM (BLACK) HIGH TENACITY POLYESTER WEBBING
- QUICK ADJUST BUCKLES TO ACCOMMODATE A VARIETY OF SIZING REQUIREMENTS
- FRO V-RING IS USED FOR ATTACHMENT POINT
- AVAILABLE IN BLACK AND DESERT COLOR

SIZE : S/M, L/XL, XXL
WEIGHT : 322 GR
COLOR : DESERT
STANDARD : ISO 9001: 2008



DL-25B



DL-25D

DL-25B
RAPPELING LANYARD WITH EYE

- MADE OF HIGH TENACITY POLYESTER WEBBING
- 5 ATTACHMENT LOOPS
- TOTAL LENGTH IS 57 CM
- AVAILABLE IN BLACK AND DESERT COLOR

WEIGHT : 53,50 GR
COLOR : BLACK
STANDART : ISO 9001: 2008

DL-25D
RAPPELING LANYARD WITH EYE

- MADE OF HIGH TENACITY POLYESTER WEBBING
- 5 ATTACHMENT LOOPS
- TOTAL LENGTH IS 57 CM
- AVAILABLE IN BLACK AND DESERT COLOR

WEIGHT : 53,50 GR
COLOR : DESERT
STANDARD : ISO 9001: 2008



I-451
RESCUE HARNESS

- 1 PIECE OF SPECIAL DESIGN ABDOMINAL ALUMINIUM D-RING FOR FAST, EASY AND SAFE CONNECTION TO THE OTHER ELEMENTS OF A PERSONAL FALL ARREST SYSTEM
- MAXIMUM COMFORT BY VIRTUE OF BREATHING, ANTIBACTERIAL, ERGONOMIC WAIST AND LEG PADS
- STAINLESS STEEL QB-45 QUICK BUCKLES FOR FAST CONNECTION AND RELEASE
- UV RESISTANT HIGH STRENGTH BONDED TYPE YARNS AND CONTRASTIVE COLOR SEWING FOR QUICK EYE CONTROL
- 2 PIECES OF GEAR LOOPS

SIZE : S/M, L/XL
WEIGHT : 900 GR (S/M), 970 GR (L/XL)
COLOR : BLACK
STANDARD : EN 12277



I-451 A
CLIMBING HARNESS

- 1 PIECE OF ABDOMINAL ANHORAGE POINT
- MAXIMUM COMFORT BY VIRTUE OF BREATHING, ANTIBACTERIAL, ERGONOMIC WAIST AND LEG PADS
- STAINLESS STEEL QB-45 QUICK BUCKLES FOR FAST CONNECTION AND RELEASE
- UV RESISTANT HIGH STRENGTH BONDED TYPE YARNS AND CONTRASTIVE COLOR SEWING FOR QUICK EYE CONTROL
- 4 PIECES OF GEAR LOOPS

SIZE : S/M, L/XL
WEIGHT : 600 GR (S/M), 660 GR (L/XL)
COLOR : BLACK
STANDARD : EN 12277

ENERGY ABSORBER LANYARD



E-3 W SERIES
TWIN – LEG SHOCK ABSORBING WEBBING LANYARD

- TWIN-LEG MODEL ALLOWS USER TO KEEP ONE LEG ATTACHED TO THE ANCHORAGE WHILE THE OTHER LEG IS ALWAYS READY TO BE HOOKED TO THE NEXT ANCHORAGE
- MADE OF HIGHLY RESISTANT POLYESTER WEBBING
- BUILT-IN ENERGY ABSORBER LIMITS THE FALL ARREST FORCE IN A FALL SITUATION BY TEARING SPECIFIC SEAMS
- ZIPPERED FABRIC CASE PROTECTS THE ENERGY ABSORBER FROM ABRASION AND OTHER DAMAGES WHILE ALLOWING FOR REGULAR INSPECTION OF THE ABSORBER
- STITCHED IN PROFESSIONAL CNC MACHINES BY BONDED TYPE UV AND DUST RESISTANT HIGH TENACITY YARN

MODELS

- **E-3 W K-4A/K-2** BOTTOM : K-2 TYPE CARABINER
 TOP : K-4A TYPE CARABINER
- **E-3 W K-6/K-2** BOTTOM : K-2 TYPE CARABINER
 TOP : K-6 TYPE CARABINER

LENGTH : 1, 2 & 2 MT
STANDARD : EEN 354, EN 355, EN 362, EN 12275

CARABINER OPTIONS

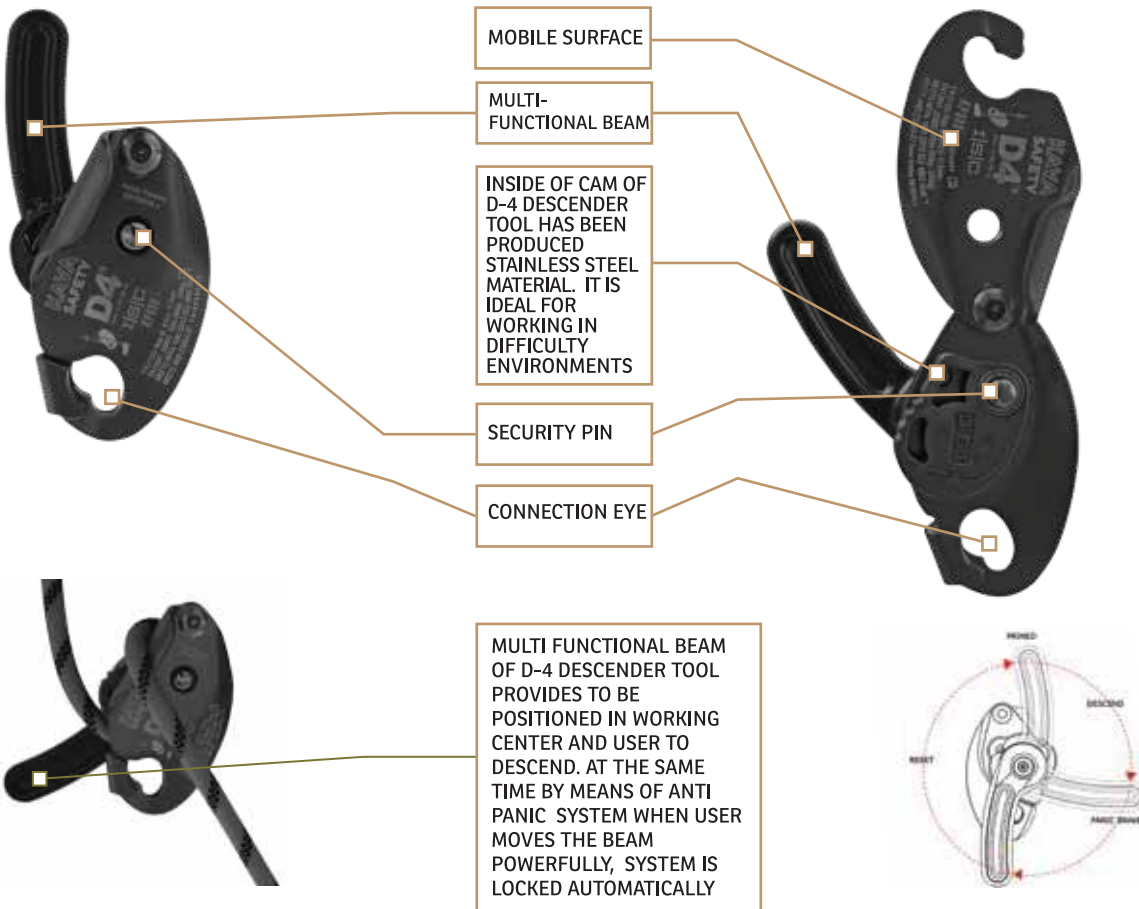


NOTE: FOR MORE INFORMATION PLEASE CHECK SECTION: CARABINERS



HARDWARE (METAL COMPONENTS)





D-4 DESCENDER (ANTI-PANIC SYSTEM)

- D4 CONTROLLED DESCENDER TOOL IS DESIGNED FOR WORKING ON ROPE. D4 ENABLES A UNIQUE MOVEMENT IN VERTICAL, HORIZONTAL AND ANGLED WORKS ON ROPE
- IT WILL BE ATTACHED OR DEDUCTIBLE TO SYSTEM IN ANY POINT OF ROPE
- THE PROGRESSIVE CAM WORKS BY WAY OF ONE CAM OPERATING INSIDE ANOTHER CAM
- IN THE WORKING WITH ROPE, THE GAP ON ROPE IS TAKEN EASILY.
- IT CAN WORK BY HANDS FREE IN LOCK POSITION AND CAN GET WORK POSITION
- IT OWNS D4 240 KG WORK WEIGHT. MEANING OF THIS IS AVAILABLE FOR RESCUE WORK WITHOUT BEING REQUIRED TO EXTRA FRICTION.
- THE HANDLE MECHANISM IS DESIGNED TO ROTATE THROUGH 360° MAKING ITS USE EASIER AND SIMPLER. THE HANDLE ITSELF IS MADE FROM ALUMINUM RATHER THAN PLASTIC AND IS COATED IN A SPECIALLY CHOSEN PAINT WHICH PROVIDES EXTRA GRIP
- THE HANDLE ROTATION IS ACCOMPANIED BY AUDIBLE CLICKS WHICH HELP THE USER IDENTIFY THE CORRECT POSITION OF THE HANDLE
- BY MEANS OF ANTI-PANIC SYSTEM, WHEN THE USER WINDS UP STRONGLY, SYSTEM IS LOCKED AUTOMATICALLY

- THE OUTER BODY IS MADE OF HIGH STRENGTH ALUMINUM MATERIAL.
- INNER CAM IS MADE OF STAINLESS STEEL MATERIAL.
- MINIMUM BREAKING STRENGTH IS 16 KN.

ROPE DIA : Ø 10,5 – 11,5 MM
WEIGHT : 655 GR
STANDARD : EN 12841, EN 341, ANSI Z359, NFPA 1983

ASCENDERS & CARABINERS



A-1L

A-1R

A-1
JUMAR (LEFT & RIGHT)

- IT IS USED FOR ASCENDING ON A ROPE
- ALUMINUM ALLOY MATERIAL
- TOP CAPTIVE EYES ARE TO BE USED WITH PULLEYS OR ROPE GRABS
- LOWER CAPTIVE EYE IS TO BE USED WITH WEBBING LADDER
- OUTER COATING IS FOR COMFORTABLE HAND GRIP

ROPE DIAMETER : Ø 8 -13 MM
WEIGHT : 238 GR
COLOR : COLOR
STANDARD : EN 567, UIAA

PRODUCT TYPES

A-1 L : IT IS FOR LEFT HAND
A-1 R : IT IS FOR RIGHT HAND



SE-15



SE-30

SE-15
ADJUSTABLE WEBBING
FOOT LOOP

- EASY TO USE FOR ASCENDING
- HIGH STRENGTH OF 25 MM POLYESTER WEBBING
- EASILY ADJUSTED LENGTH WITH QB-25 QUICK BUCKLES
- BONDED TYPE HIGH TENACITY SEWING

DIMENSION : 1,5 M
STRENGTH : 23 KN
COLOR : BLACK
WEIGHT : 180 GR

SE-30
ADJUSTABLE ETRIER

- REINFORCED STEPS FOR DURABILITY AND EASE OF USE WHEN ASCENDING A ROPE OR AID CLIMBING IN ROPE ACCESS
- HIGH STRENGTH OF 25 MM POLYESTER WEBBING
- EASILY ADJUSTABLE QB-25 QUICK BUCKLES
- BONDED TYPE HIGH TENACITY SEWING
- 3 STEP WITH TOP ADJUSTMENT

DIMENSION : 1,5 M
STRENGTH : 23 KN
COLOR : BLACK
WEIGHT : 185 GR



K-13/2A



K-13/3A



K-13/SL

K-13 SERIES
ASYMMETRICAL
ALUMINUM CARABINER

- SPECIALLY ADAPTED FOR ATTACHING EQUIPMENT
- EXCELLENT STRENGTH - TO - WEIGHT RATIO
- KEYLOCK SYSTEM HELPS PREVENT SNAGGING OF THE CARABINER DURING MANEUVERS
- RED INDICATOR PROVIDES A VISUAL WARNING WHEN THE CARABINER IS UNLOCKED (ON SCREW-LOCK VERSION)

STRENGTH : 22 KN
GATE OPENING : 21 MM
COLOR : BLACK
WEIGHT : 82 GR (K-13/SL),
 86 GR (K-13/2A),
 87 GR (K-13/3A)
STANDARD : EN 362, EN 12275

LOCKING TYPES

- **K-13/SL** SCREW LOCKING
- **K-13/2A** DOUBLE ACTION - AUTO LOCKING
- **K-13/3A** TRIPLE ACTION - AUTO LOCKING

DESCENDERS



D-13

DESCENDERS



D-8

ROPE GRAB



RP400



D-9



D-13 BELAY DEVICE

- USED TO CONTROL A ROPE DURING BELAYING
- ULTRA-COMPACT DESIGN IS EASY TO USE AND DOESN'T TAKE UP MUCH SPACE
- ACT AS A FRICTION BRAKE, SO THAT WHEN A CLIMBER FALLS WITH ANY SLACK IN THE ROPE, THE FALL IS BROUGHT TO A STOP
- BREAKING STRENGTH: 23 KN
- MADE OF ALUMINUM ALLOY MATERIAL

ROPE DIMENSION : Ø 8 -13 MM
WEIGHT : 270 GR
COLOR : BLACK

RP400 PRO ALLP DESCENDER

- THE PRO ALLP DESCENDER IS A SPECIALIST MULTI-FUNCTION DEVICE
- ADJUSTABLE, SCREW CONTROLLED DESCENDER
- AUTO-LOCK CONTROLLED DESCENDER (WITH VARIABLE MAXIMUM SPEED SETTING)
- IT CAN BE USED FOR RESCUE WORK
- BREAKING STRENGTH: 30 KN
- IT IS MADE OF ALUMINUM ALLOY MATERIAL
- IT IS 316 GRADE STAINLESS STEEL MATERIAL
- OUTER FRAME IS MADE OF ALUMINUM MATERIAL

ROPE DIMENSION : Ø 10,5 – 12,7 MM
WEIGHT : 580 GR
COLOR : BLACK
STANDARD : EN 12841-B

D-8 FIGURE 8

- EASE OF USE FOR DESCENDING
- FOR EASY DESCENDING ON SINGLE OR DOUBLE ROPES
- BREAKING STRENGTH: 30 KN
- MADE OF ALUMINUM ALLOY MATERIAL

ROPE DIMENSION : Ø 8 -13 MM
WEIGHT : 119 GR
COLOR : BLACK
STANDARD : EN 795 CLASS B, EN 12278

D-9 BENT EAR FIGURE 8

- IT ENABLES DESCENT BY USING RESCUE FIGURE 8 DESCENDER MORE CONTROLLED
- BREAKING STRENGTH: 40 KN
- IT IS MADE OF ALUMINUM ALLOY MATERIAL

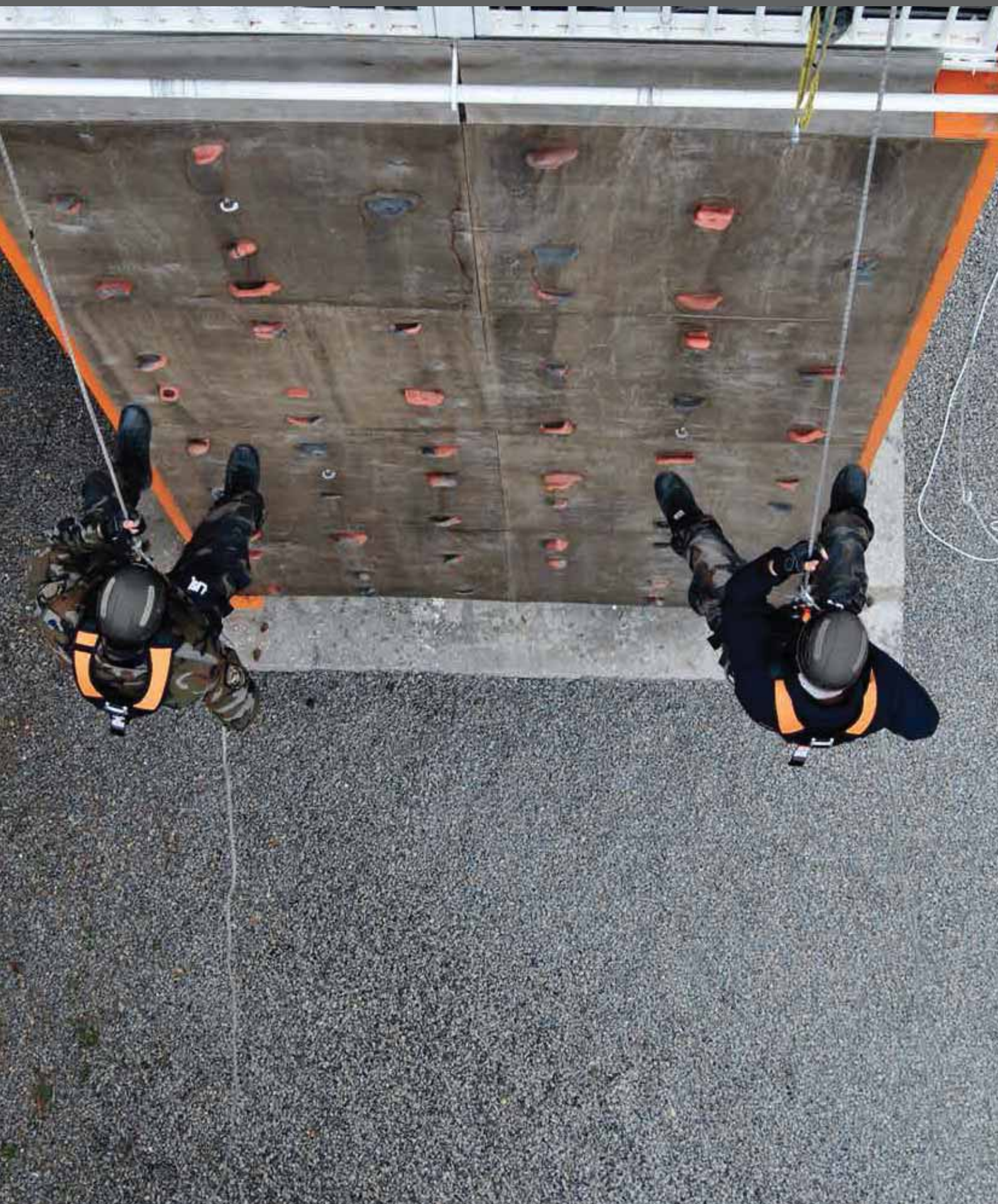
ROPE DIMENSION : Ø 8 -13 MM
WEIGHT : 270 GR
COLOR : BLACK
STANDARD : EN 795 CLASS B, EN 12278

RP-500 ROCKER ROPE GRAB

- DESIGNED FOR USE WITHOUT A SHOCK -ABSORBER
- CAN BE FITTED TO THE ROPE AT ANY POINT
- CAN BE USED HANDS-FREE, WHEN TRAVELLING UP AND DOWN THE ROPE
- THE ROCKER CAN ALSO BE USED AS A ROPE ADJUSTER ON A WORK POSITIONING LANYARD (IN ACCORDANCE WITH EN358)
- THE ROCKER IS FITTED WITH NON-AGGRESSIVE 'ROPE FRIENDLY' CAM FACES

WEIGHT : 164 GR
MATERIAL : ALUMINUM
ROPE DIA : Ø 10,5 – 12,7 MM (USE ONLY WITH ROPE CERTIFICATED ACCORDING TO EN 1891 TYPE A)
STANDARD : CE EN 353-2; CE EN358; CE EN 12841-A
COLOR : BLACK

ACCESSORIES





H-13 ISLAND INDUSTRIAL HELMET

- IT IS IDEAL FOR RESCUE OPERATION AND WORKS AT HEIGHT
- SLOTS FOR EAR PROTECTORS FIXING
- ADJUSTABLE AND REMOVABLE CHINSTRAP
- VENTILATION WITH 2 VENTS

COLOR	: BLACK
SIZE	: 54/62 CM
WEIGHT	: 400 GR
OUTER SHELL	: THERMO ABS
INNER SHELL	: HIGH TENACITY POLYSTYRENE EPS FOAM
STANDARD	: EN 397

ACCESSORIES



SHORT VISOR

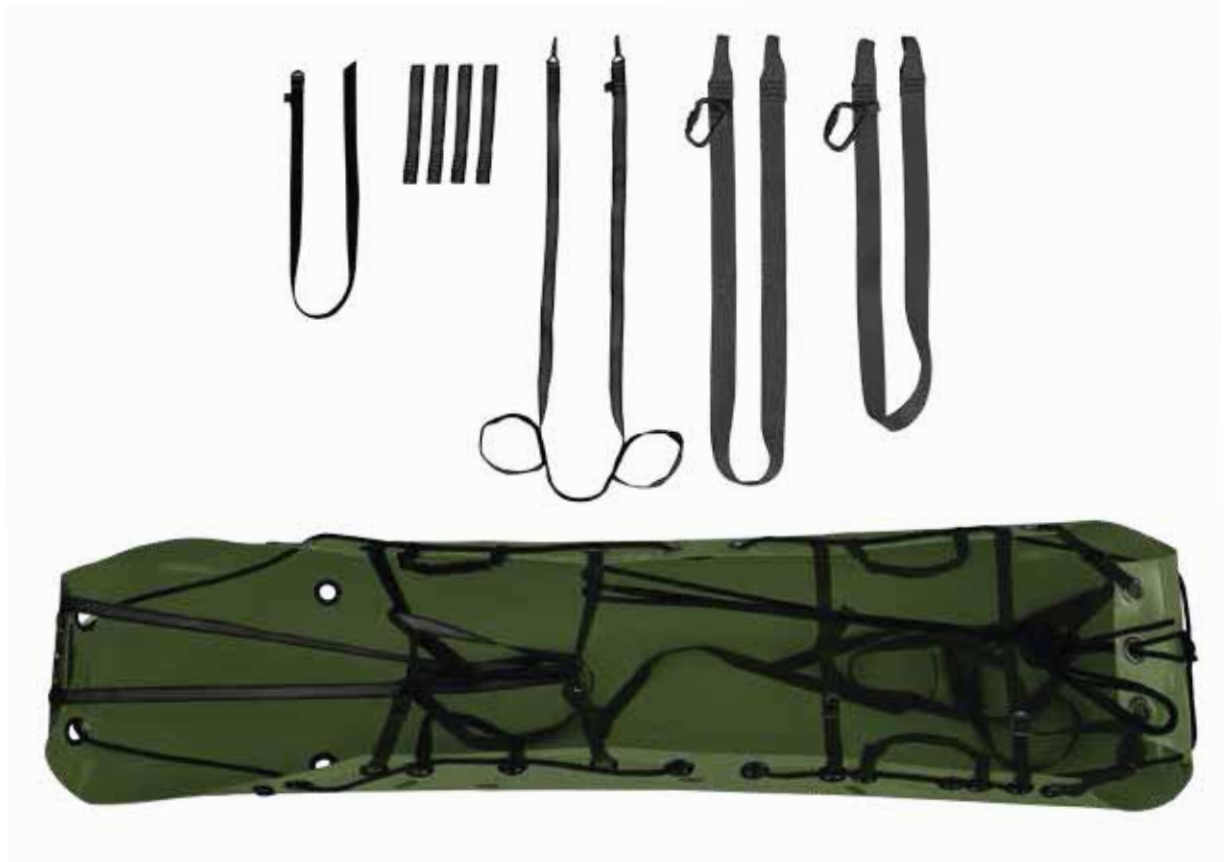


LONG VISOR



VISOR+EAR MUFFS

STRETCHER



RL-10 CONIC STRETCHER

- IDEAL FOR CONFINED SPACE, HIGH ANGLE OR TECHNICAL RESCUE, AND TRADITIONAL LAND BASED APPLICATIONS
- EQUIPPED WITH 2 PIECES OF 35 KN SLINGS FOR HORIZONTAL HOISTING BY HELICOPTER OR VERTICAL HOISTING IN CAVES OR INDUSTRIAL CONFINED SPACES
- WHEN THE PATIENT IS PACKAGED THE STRETCHER BECOMES RIGID
- MAIN BODY IS MADE OF HIGH STRENGTH POLYETHYLENE MATERIAL
- EYELETS RIVETS ON THE BELTS ARE MADE OF STAINLESS STEEL
- 1 PIECE OF 23 KN STRENGTH VERTICAL EVACUATION ROPE
- 4 PIECES OF HANDLES (2FOR EACH ON LEFT AND RIGHT SIDE OF THE STRETCHER)
- 4 PIECES OF SLINGS TO BE CONNECTED ON EYELETS RIVETS
- 1 PCS OF 50 KN TRIPLE ACTION KARABINER
- THE STRETCHER IS ROLLED FOR STORAGE IN A TOUGH BACKPACK WHICH IS INCLUDED WITH THE SYSTEM
- STRETCHER DIA IS 27 CM AND LENGTH IS 93 CM WHEN ROLLED
- STRETCHER BACKBAG SIZES:
31 CM X 95 CM (DIA X LENGTH), STRETCHER SIZES 27X 93 X 250 CM (DIA X WIDTH X LENGTH)

WEIGHT : 8,4 KG
STANDARD : EN 1865
COLOR : KHAKI





FRB-60 FAST ROPE BAG

- DESIGNED TO CARRY FAST ROPE AND TECHNICAL EQUIPMENT
- MADE OF 1900 DENIER WATER PROOF FABRIC
- 2 PCS OF SHOULDER PADS
- CARRYING HANDLES ON BOTH SIDES
- 2 X OF AB-45 AUTOMATIC BUCKLES FOR RELEASING THE ROPE AND BAG DURING OPERATION

WEIGHT: 2 KG
DIA : 35 CM
HEIGHT : 60 CM
VOLUME: 57 L



BG-15 CARRYING BAG

- PRODUCED FROM HIGH TENACITY WATER PROOF CLOTH
- CONCEALABLE BACK STRAP PADS
- ADDITIONAL SHOULDER STRAP IF NEEDED
- MATERIAL SPACE SEPARATED WITH ZIPPER
- WALLET, PASSPORT SPACE

WEIGHT: 1.248 GR
WIDTH : 30 CM
LENGTH: 110 CM
HEIGHT : 45 CM
VOLUME: 58,5 L



MB-30 MATERIAL CARRYING BAG

- TWO LARGE, COMFORTABLE CARRYING HANDLES
- ADJUSTABLE STRAP FOR CARRYING BANDOLIER STYLE
- INTERIOR RING CAN BE USED AS ATTACHMENT POINT FOR ROPE
- WATERPROOF FABRIC
- BAG REMAINS UPRIGHT AND HAS AN EXTERIOR FOLDING LID SYSTEM THAT ALLOWS EASY ACCESS TO THE CONTENTS OF THE BAG

WEIGHT: 1.198 GR
DIA : 30 CM
HEIGHT: 54 CM
VOLUME: 38 L



MB-20

MB-10

MB-20 MATERIAL CARRYING BAG

- TWO LARGE, COMFORTABLE CARRYING HANDLES
- ADJUSTABLE STRAP FOR CARRYING BANDOLIER STYLE
- INTERIOR RING CAN BE USED AS ATTACHMENT POINT FOR ROPE
- WATERPROOF FABRIC
- BAG REMAINS UPRIGHT AND HAS AN EXTERIOR FOLDING LID SYSTEM THAT ALLOWS EASY ACCESS TO THE CONTENTS OF THE BAG

WEIGHT: 805 GR
DIA : 25 CM
HEIGHT: 40 CM
VOLUME: 20 L

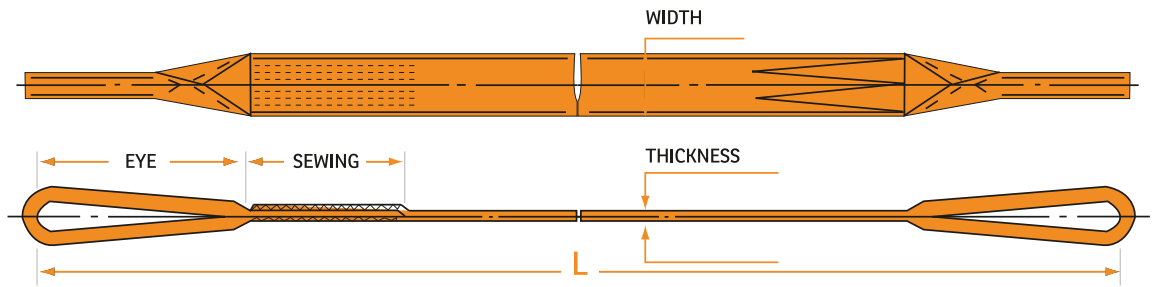
MB-10 MATERIAL CARRYING BAG

- TWO LARGE, COMFORTABLE CARRYING HANDLES
- ADJUSTABLE STRAP FOR CARRYING BANDOLIER STYLE
- INTERIOR RING CAN BE USED AS ATTACHMENT POINT FOR ROPE
- WATERPROOF FABRIC
- BAG REMAINS UPRIGHT AND HAS AN EXTERIOR FOLDING LID SYSTEM THAT ALLOWS EASY ACCESS TO THE CONTENTS OF THE BAG

WEIGHT: 405 GR
DIA : 21 CM
HEIGHT: 30 CM
VOLUME: 10 L



LE-1 BAND WEBBING SLING



SPECIFICATIONS

MATERIAL	100% HT POLYESTER WEBBING
STANDARD	EN 1492-1+A1
SAFETY FACTOR	7:1

BENEFITS / FEATURES

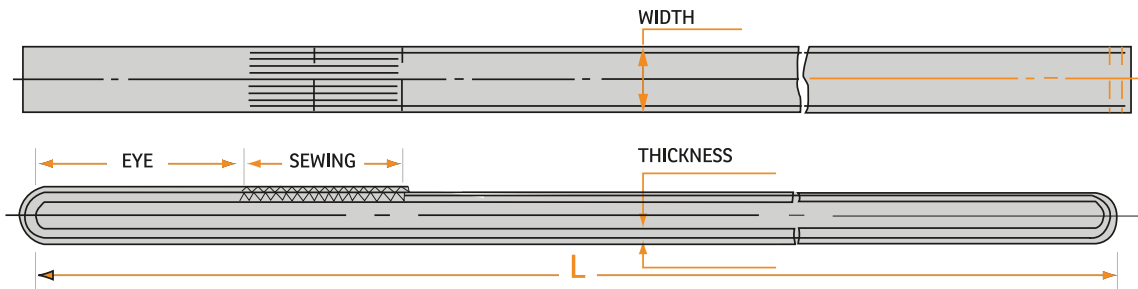
- HIGH QUALITY PRODUCT WITH THE 7:1 SAFETY FACTOR
- PRODUCED FROM THE HIGH STRENGTH POLYESTER WEBBING
- VARIOUS SIZES AVAILABLE FOR EVERY APPLICATION
- NOT SLIPPERY
- HIGH RESISTANCE TO CHEMICAL AND OIL CONTAMINATION
- CUSTOM MADE SLINGS FOR SPECIFIC APPLICATIONS MAY BE MADE TO CUSTOMER SPECIFICATIONS
- VARIOUS COLOUR ARE AVAILABLE
- OUR BAND WEBBING SLINGS ARE SOLD WITH HOOK BRAND
- HOOK® IS THE REGISTERED BRAND NAME OF KAYA GROUP

	WITH (mm)	WORKING LOAD (kg 100 %)	WORKING LOAD (kg 80 %)	WORKING LOAD (kg 200 %)	ANGLE (0-45°) WORKING LOAD (kg)	ANGLE (45-60°) WORKING LOAD (kg)	BREAKING LOAD (kg)	WORKING LOAD (kg)	LENGTH (m)
VIOLET	30-50	1000	800	2000	1400	1000	7000	1000	1-10
GREEN	70	2000	1600	4000	2800	2000	14000	2000	2-10
YELLOW	90	3000	2400	6000	4200	3000	21000	3000	2-10
GREY	120	4000	3200	8000	5600	4000	28000	4000	4-10
RED	150	5000	4000	10000	7000	5000	35000	5000	4-10
BROWN	180	6000	4800	12000	8400	6000	42000	6000	4-10
BLUE	250	8000	6400	16000	11200	8000	56000	8000	5-10
ORANGE	300	10000	8000	20000	14000	10000	70000	10000	5-10

1. FLAT EYE
2. REVERSED EYE
3. FOLDED EYE 1/2 WIDTH FROM 1 SIDE
4. FOLDED EYE 1/2 WIDTH FROM 2 SIDES
5. FOLDED EYE 1/3 WIDTH

U	0° 100%	△	60° 85%
	30° 95%		90° 70%
△	45° 90%	△	120° 50%






LE-2 ROUND WEBBING SLING









SPECIFICATIONS

MATERIAL	100% HT POLYESTER WEBBING
STANDARD	EN 1492-2+A1
SAFETY FACTOR	7:1
BENEFITS / FEATURES	
HIGH QUALITY PRODUCT WITH THE 7:1 SAFETY FACTOR	
PRODUCED FROM THE HIGH STRENGTH POLYESTER WEBBING	
VARIOUS SIZES AVAILABLE FOR EVERY APPLICATION	
NOT SLIPPERY	
HIGH RESISTANCE TO CHEMICAL AND OIL CONTAMINATION	
CUSTOM MADE SLINGS FOR SPECIFIC APPLICATIONS MAY BE MADE TO CUSTOMER SPECIFICATIONS	
VARIOUS COLOUR ARE AVAILABLE	
OUR ROUND WEBBING SLINGS ARE SOLD WITH HOOK BRAND	
HOOK® IS THE REGISTERED BRAND NAME OF KAYA GROUP	



									
	WITH (mm)	WORKING LOAD (kg 100 %)	WORKING LOAD (kg 80 %)	WORKING LOAD (kg 200 %)	ANGLE (0-45°) WORKING LOAD (kg)	ANGLE (45-60°) WORKING LOAD (kg)	BREAKING LOAD (kg)	WORKING LOAD (kg)	LENGTH (m)
VIOLET	25	1000	800	2000	1400	1000	7000	1000	1-10
GREEN	50	2000	1600	4000	2800	2000	14000	2000	2-10
YELLOW	75	3000	2400	6000	4200	3000	21000	3000	2-10
GREY	100	4000	3200	8000	5600	4000	28000	4000	4-10
RED	125	5000	4000	10000	7000	5000	35000	5000	4-10
BROWN	150	6000	4800	12000	8400	6000	42000	6000	4-10
BLUE	200	8000	6400	16000	11200	8000	56000	8000	5-10
ORANGE	250	10000	8000	20000	14000	10000	70000	10000	5-10

	0° 100%		60° 85%
	30° 95%		90° 70%
	45° 90%		120° 50%



TECHNICAL APPENDIX

OVERVIEW PROPERTIES

FIBERS	POLYAMIDE 6 & 6.6 (PA)	POLYESTER (PES)	POLYPROPYLENE MULTIFILAMENT (PP)	POLYPROPYLENE (HIGH TENACITY) (HTPP)
BRAND NAME	NYLON® PERLON® ENKALON®	DIOLEN® TREVERIA® DACRON®	HOSTALEN® SOFTLENE® LEOLENE®	LEOLENE® AROVA® BETELON®
TENACITY OF YARN (CN/DTEX)	7-9	7-9	APP.6	APP.8
SPECIFIC GRAVITY (KG/DM ³)	1,14	1,38	0,91	0,91
REDUCTION IN TENACITY WHEN WET (%)	10-15	0	0	0
WATER ABSORPTION (%)	1-7	0,5-2	0	0
KNOT STABILITY (%)	60-65	55-60	55-65	55-65
UV RESISTANCE	VERY GOOD	EXCELLENT	GOOD ONLY WHEN TREAT	GOOD ONLY WHEN TREAT
BREAKING STRETCH (%)	14-28	10-18	14-17	15-16
CREEP	SLIGHT CREEP UNDER LOAD	HARDLY MEASURABLE	CREEPS AT HIGH LOADS	CREEPS AT HIGH LOADS
RESISTANCE TO ABRASION	EXCELLENT	EXCELLENT	SUFFICIENT	SUFFICIENT
WASHING TEMPERATURE (°C)	50-60	50-60	30	30
RESISTANCE TO ACIDS (%)	GOOD	GOOD	VERY GOOD	VERY GOOD
RESISTANCE TO PETROLEUM BASED PRODUCTS	EXCELLENT	EXCELLENT	EXCELLENT	EXCELLENT
RESISTANCE TO SOLVENTS	FORMIC ACID & ACETIC ACID AT HIGH TEMPERATURE	PHENOLS, CRESOLS, ZINC CHLORIDE	MINIMAL REACTION	MINIMAL REACTION
RESISTANCE TO ALKALI	GOOD RESISTANT AGAINST WEAK SOLUTIONS	GOOD AT ROOM TEMPERATURE	GOOD RESISTANT AGAINST WEAK SOLUTIONS	GOOD RESISTANT AGAINST WEAK SOLUTIONS
INSULATING PROPERTIES	VERY GOOD	VERY GOOD	EXCELLENT	EXCELLENT
HIGHEST TEMPERATURE (°C)	130	170	80	80
MELTING POINT (°C)	218	256	165	165

CHEMICAL RESISTANCE

CHEMICALS	TEST CONDITIONS			RESIDUAL STRENGTH				
	CONCENTRATION	TEMPERATURE	EXPOSURE	TYPE OF FIBRE				
	CHEMICAL TO WATER %	DEG °C	HOURS	POLYAMIDE	POLYESTER	POLYPROPYLENE	ARAMID	HMPE
ACIDS								
HYDROCHLORIC	34%	20°C	100	0%	70%	100%	95%	100%
NITRIC	66%	20°C	100	0%	100%	100%	95%	95%
SULPHURIC	96%	20°C	100	0%	100%	100%	40%	90%
FORMIC	90%	20°C	100	0%	95%	100%	90%	100%
ACETIC	100%	20°C	10	85%	95%	100%	100%	100%
ALKALIS								
CAUSTIC SODA	40%	20°C	100	50%	0%	90%	90%	100%
CAUSTIC SODA	20%	70°C	150	100%	0%	100%	85%	90%
CAUSTIC POTASH	40%	20°C	100	90%	0%	90%	90%	100%
SOLVENTS								
TRICHLOROETHYLENE	100%	30°C	150	100%	95%	80%	100%	100%
CARBON TETRACHLORIDE	100%	20°C	150	100%	100%	100%	98%	100%
BENZENE	100%	70°C	150	100%	100%	100%	98%	95%
METACRESOL	100%	100°C	40	0%	0%	100%	80%	100%
OXIDISING AGENTS								
HYDROGEN PEROXIDE	10%	20°C	100	0%	100%	90%	95%	100%

THIS TABLE SHOWS THE RESIDUAL STRENGTHS OF SYNTHETIC FIBRES AFTER CHEMICAL EXPOSURE UNDER SPECIFIC CONDITIONS.

OVERVIEW PROPERTIES

POLYETHYLENE (PE)	HIGH MODULUS POLYETHYLENE (UHMWPE)	ARAMID	LIQUID CRYSTAL POLYMER (LCP)	POLYBENZOXAZOLE (PBO)	FIBERS
LUPOLEN® WETALEN®	DYNEEMA® SPECTRA®	TWARON® TECHNORA® KEVLAR® HERACRON®	VECTRAN®	ZYLON®	BRAND NAME
APP.4,5	35	20-25	20	37	TENACITY OF YARN (CN/DTEX)
0,95	0,97	1,44	1,41	1,52	SPECIFIC GRAVITY (KG/DM³)
0	0	0	0	0	REDUCTION IN TENACITY WHEN WET (%)
0	0	2-5	1	0,6	WATER ABSORPTION (%)
50-60	35-50	30-35	30-50	35-55	KNOT STABILITY (%)
GOOD	EXCELLENT	POOR	POOR	POOR	UV RESISTANCE
10-19	3,8	3,4	3,3	2,8	BREAKING STRETCH (%)
CREEPS AT HIGH LOADS	CREEPS AT HIGH LOADS	HARDLY MEASURABLE	IMMEASURABLE	IMMEASURABLE	CREEP
SUFFICIENT	VERY GOOD	UNSATISFACTORY	GOOD	UNSATISFACTORY	RESISTANCE TO ABRASION
30	30	80-90	60	50	WASHING TEMPERATURE (°C)
EXCELLENT	EXCELLENT	PARTIALLY GOOD RESISTANCE	EXCELLENT	GOOD	RESISTANCE TO ACIDS (%)
EXCELLENT	EXCELLENT	EXCELLENT	EXCELLENT	EXCELLENT	RESISTANCE TO PETROLEUM BASED PRODUCTS
MINIMAL REACTION	MINIMAL REACTION	MINIMAL REACTION	MINIMAL REACTION	MINIMAL REACTION	RESISTANCE TO SOLVENTS
EXCELLENT	EXCELLENT	PARTIALLY GOOD	VERY GOOD	VERY GOOD	RESISTANCE TO ALKALI
EXCELLENT	EXCELLENT	EXCELLENT	EXCELLENT	EXCELLENT	INSULATING PROPERTIES
70	70	350	200	500	HIGHEST TEMPERATURE (°C)
140	147	500 DECOMPOSES	300	650 DECOMPOSES	MELTING POINT (°C)

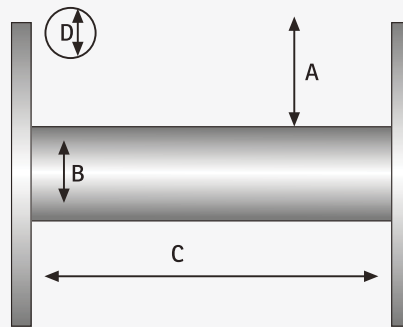
TYPICAL CHARACTERISTIC OF MATERIALS

MATERIALS	SPECIFIC GRAVITY	SPECIFIC MODULUS N/TEX	SPECIFIC STRENGTH N/TEX	DYNAMIC COEFFICIENT OF FRICTION AGAINST METAL	MELTING POINT °C	OTHER CHARACTERISTIC
POLYESTER	1,38	10	0,84	0,12 - 0,15	256	EXCELLENT WET INTERNAL ABRASION RESISTANCE
POLYAMIDE	1,14	4	0,84	0,10 - 0,12	218	10-15% WET STRENGTH LOSS. FAIR WET INTERNAL ABRASION RESISTANCE
POLYPROPYLENE	0,91	8	0,73	0,15 - 0,22	165	LOW STRENGTH. FLOAT ON WATER
POLYPROPYLENE/ POLYETHYLENE (MIXED POLYOLEFIN)	0,92-0,94	9	0,84	0,10 - 0,15	140	BETTER ABRASION RESISTANCE THAN POLYPROPYLENE. FLOAT ON WATER
POLYESTER/POLYOLEFIN DUAL FIBRES	0,99-1,14	10	0,80	0,10 - 0,15	256 - 140	VERY GOOD WET/DRY ABRASION RESISTANCE.
POLYAMIDE MONO AND FIBRE MIXTURE	0,98-1,14	4	0,84	0,10 - 0,12	165 - 218	GOOD ABRASION RESISTANCE FOR USE ON WINCHES
POLYESTER/POLYPROPYLENE MELT MIXTURE	0,99	8	0,80	0,12 - 0,15	173	STRONGER THAN POLYPROPYLENE. FLOAT ON WATER
ARAMID	1,44	49	2,03	0,15	500	POTENTIAL AXIAL COMPRESSION FATIGUE PROBLEMS, BUT THESE CAN BE OVERCOME. LONG TENSION-TENSION FATIGUE LIFE
LCP (LIQUID CRYSTAL POLYMER)	1,40	60	2,40	0,13	300	HIGH STRENGTH AND LOW STRETCH. LONG TERM DURABILITY TO FATIGUE
UHMWPE (HIGH MODULUS POLYETHYLENE)	0,97	110	3,50	0,07	147	LOW MELTING POINT. FLOAT ON WATER. LONG TENSION-TENSION FATIGUE LIFE
STEEL WIRE	7,85	26	0,18	0,23	1600	CORRODES. HEAVY. MODERATE TENSION-TENSION FATIGUE LIFE.

SUGGESTED MOORING ROPES FOR VARIOUS CLASSES OF VESSELS

PASSANGER VESSELS , RO-RO, CAR-CONTANIER CARRIERS		PP NORMAL	LUPP® HIGH TENACITY	TANKER ROPE (%25-%75)	TANKER ROPE (%50-%50)	LUPA® SQUARE
∅						
DWT	3.-5.000 DWT	56	48	48	44	44
	5.-12.000 DWT	60	52	52	48	48
	12.-25.000 DWT	64	56	56	52	52
	25.-40.000 DWT	72	60	60	56	56
	40.-80.000 DWT	76	64	64	60	60
	ABOVE 80.000 DWT	80	68	68	64	64
BULKCARRIERS , TANKERS		PP NORMAL	LUPP® HIGH TENACITY	TANKER ROPE (%25-%75)	TANKER ROPE (%50-%50)	LUPA® SQUARE
∅						
DWT	5.-10.000 DWT	56	48	48	44	44
	10.-20.000 DWT	60	52	52	48	48
	20.-40.000 DWT	64	56	56	52	52
	40.-80.000 DWT	72	60	60	56	56
	80.-150.000 DWT	76	64	64	60	60
	150.-250.000 DWT	80	68	68	64	64
	ABOVE 250.000 DWT	88	72	72	68	68

ROPE LENGTH ACCORDING TO DIAMETER & REEL SIZE



ROPES LENGTH (METER) :
$$\frac{(A+B) \cdot A \cdot C \cdot \pi \cdot 10^6}{d^2}$$

A,B,C: (METER) : D: (MM)



CONVERSION TABLE

TO CONVERT		MULTIPLY BY	TO CONVERT	MULTIPLY BY
WEIGHT	POUNDS TO GRAMS	453592	GRAMS TO POUNDS	0,002205
	POUNDS TO KILOGRAMS	0,4536	KILOGRAMS TO POUNDS	2,20462
	TONS TO KILOGRAMS	1016,05	KILOGRAMS TO TONS	0,0009842
	POUNDS TO OUNCES	16	OUNCES TO POUNDS	0,0625
	POUNDS / 100 FEET TO GRAMS / METERS	14,8816394	GRAMS / METERS TO POUNDS / 100 FEET	67,0969
STRENGTH	KILOGRAMS TO KILONEWTONS	0,0098	KILONEWTONS TO KILOGRAMS	101.972
	TONS TO NEWTONS	9810	NEWTONS TO TONS	0,000102
LENGTH	INCHES TO MILIMETRES	25,40	MILIMETERS TO INCHES	0,03937
	FEET TO METRES	0,3048	METRES TO FEET	3,208
	FEET TO INCHES	12	INCHES TO FEET	0,833
	YARDS TO METRES	0,9144	METRES TO YARDS	1,0936
	YARDS TO FEET	3	FEET TO YARDS	0,3333
	MILES TO KILOMETRES	1,6093	KILOMETRES TO MILES	0,6214
	CIRC. INCHES TO DIAMETRE MILIMETERS	8	DIAMETRE MILIMETERS TO CIRC. INCHES	0,125
AREA	SQUARE FEET TO SQUARE METRES	0,0929	SQUARE METRES TO SQUARE FEET	10,7639
	SQUARE YARDS TO SQUARE METRE	0,8361	SQUARE METRES TO SQUARE YARDS	1,1960
VOLUME	GALLONS TO LITRES	4546	LITRES TO GALLONS	0,22
TEX-SYSTEM	DENIER	WT. IN G/9000 M	TEX TO DTEX	10
	TEX	WT. IN G/1000 M	DEN TO TEX	0,1111
	DTEX	WT. IN G/10.000 M	CN/DTEX	GR/DEN



STANDARDS	
STANDARDS OF ROPES	
EN ISO 9554	FIBRE ROPES - GENERAL SPECIFICATIONS
EN ISO 1968	FIBRE ROPES AND CORDAGE - VOCABULARY
EN ISO 2307	FIBRE ROPES - DETERMINATION OF CERTAIN PHYSICAL AND MECHANICAL PROPERTIES
EN ISO 1140	FIBRE ROPES - POLYAMIDE - 3, - 4 AND - 8 STRAND ROPES
EN ISO 1141	FIBRE ROPES - POLYESTER - 3, - 4 AND - 8 STRAND ROPES
EN ISO 1346	FIBER ROPES - POLYPROPYLENE - 3, - 4 AND - 8 STRAND ROPES
EN ISO 1181	FIBRE ROPES - MANILA AND SISAL - 3,- 4 AND - 8 STRAND ROPES
ISO 10547	POLYESTER FIBRE ROPES - DOUBLE BRAID CONSTRUCTION
ISO 10554	POLYAMIDE FIBRE ROPES - DOUBLE BRAID CONSTRUCTION
ISO 10572	MIXED POLYOLEFIN FIBRE ROPES
ISO 10325	FIBRES ROPES - HIGH MODULUS POLYETHYLENE - 8 STRAND BRAIDED ROPES, 12 STRAND BRAIDED ROPES AND COVERED ROPES
ISO 10556	FIBRES ROPES OF POLYESTER/POLYOLEFIN DUAL FIBRES
EN 1891	PERSONEL PROTECTIVE EQUIPMENT FOR THE PREVENTION OF FALLS FROM A HEIGHT - LOW STRETCH KERNMANTEL ROPES
EN 892	MOUNTAINEERING EQUIPMENT - DYNAMIC MOUNTAINEERING ROPES - SAFETY REQUIREMENTS AND TEST METHODS
EN 564	MOUNTAINEERING EQUIPMENT - ACCESSORY CORD - SAFETY REQUIREMENTS AND TEST METHODS
STANDARDS OF ROPES	
MIL-DTL 24050E	POLYAMIDE FIBRE ROPES - DOUBLE BRAID CONSTRUCTION
STANDARDS OF SLINGS	
EN 1492-1+A1	TEXTILE SLINGS - SAFETY - PART 1: FLAT WOVEN WEBBING SLINGS, MADE OF MAN - MADE FIBERS FOR GENERAL PURPOSE USE
EN 1492-2+A1	TEXTILE SLINGS - SAFETY - PART 2 : ROUND SLINGS, MADE OF MAN - MADE FIBERS FOR GENERAL PURPOSE USE



Germanischer Lloyd

KAYA IS HAVING CERTIFICATED ALL PPE PRODUCTS BY TÜV SÜD – GERMANY AND HAS CE QUALITY ASSURANCE SYSTEM CERTIFICATE ISSUED BY THE SAME NOTIFIED BODY ACCORDING TO ARTICLE 11, B, NO. 1(C) OF COUNCIL DIRECTIVE 89/686/EEC FOR PERSONAL PROTECTIVE EQUIPMENT.

BY THIS CERTIFICATE WHICH REQUIRES PERIODICAL SURVEILLANCE THE NOTIFIED BODY CERTIFIES THAT THE HOLDER OF THIS CERTIFICATE MAINTAINS QUALITY SYSTEM, WHICH ENSURES THAT THE PPE MANUFACTURED CONFORMS TO APPROVED MODEL.

FOR THE PRODUCTS WHICH ARE NOT PPE KAYA HAVE TYPE APPROVAL AND INSPECTION CERTIFICATES FROM GERMANISCHER LLOYD.

KAYA ALSO HAVE AN INTEGRATED MANAGEMENT SYSTEM CERTIFICATE ISSUED BY TÜV THÜRNGEN ACCORDING TO ISO 9001:2008 FOR QUALITY MANAGEMENT, ISO 14001:2004 FOR ENVIRONMENTAL MANAGEMENT AND BS OHSAS 18001:2007 FOR OCCUPATIONAL HEALTH AND SAFETY MANAGEMENT.

KAYA TESTS ITS PRODUCTS IN ITS IN-HOUSE LABORATORY.

ALL KAYA PRODUCTS ARE INSURED AGAINST PRODUCTION DEFECTS BY "PRODUCT LIABILITY INSURANCE"



PRODUCT SERVICE







Clever Solutions since 1861

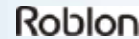
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