Teufelberger · Redaelli

Cranes & Industrial

High Performance Steel Wire and Fiber Ropes



Explanation of symbols

Segments



Building & construction industry



Ports industry

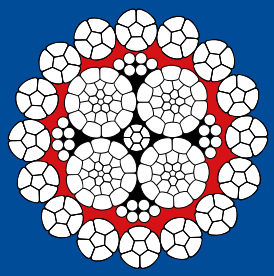


Offshore industry



Industrial cranes

Cross-section



- PLASTFILL® insert
- Active core lubrication

WARNING

Using these products may prove hazardous. Therefore, never use our products for purposes other than those they were designed for. Customers must ensure that all persons using these products are familiar with their correct use and the related necessary safety precautions. Please bear in mind that any of these products may inflict harm when used incorrectly or subjected to excessive loads.

SUPERFILL®, PLASTFILL®, DUOFILL®, Evolution TK®, Flexpack®, soLITE®, Teufelberger®, Redaelli® and 拖飞宝® are internationally registered trademarks of Teufelberger Group. Subject to technical changes and typesetting and printing errors.

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Mobile crane erects a wind turbine in eastern Austria.



We are Teufelberger



Teufelberger Group CEO:
Florian Teufelberger

Family-owned for 7 generations

1,400

employees

14

locations around the globe

One Company – Infinite Possibilities

What started back in 1790 as a simple shop making hemp ropes has since evolved into a globally successful group of enterprises developing custom-tailored solutions for fiber ropes, steel wire ropes, and strapping. The continuity and stability of our family-owned group make us a reliable partner. We support you in tackling your day-to-day challenges and cooperate with you in the spirit of mutual respect and equality.

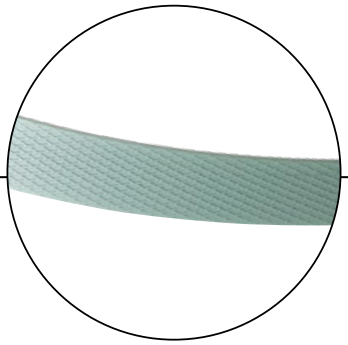
Global network and market proximity

Our global network and our 14 locations around the globe, with production sites in Austria, Italy, Poland, Thailand, the Czech Republic and the US, enable us to cooperate closely with our customers and to cater to the specific needs of the various markets in which the Teufelberger Group is present.

It's our joint success
that counts







Fiber Rope

Safety & Rescue Ropes
Treecare & Forestry Ropes
Yachting Ropes & Kite Lines
Industrial Fiber Ropes
Climbing Ropes

Wire Rope

Cableway Ropes
Crane & Industrial Ropes
Offshore Ropes
Mining Ropes
S&S / Teci
Tensostructures

Strapping Solutions

PET Strapping
PP Strapping
better.collect

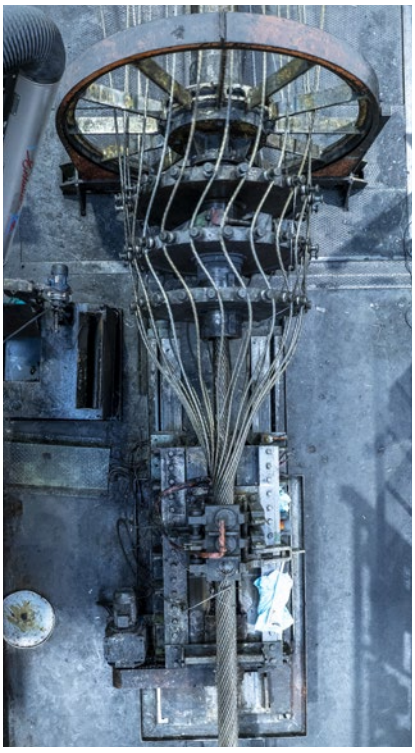
Innovative products of superior quality

Our expertise in a wide range of technologies has generated numerous synergies between our various divisions, much to the benefit of our customers. By assigning five percent of our workforce to research and development, we ensure that our customers have always access to cutting-edge technologies. In addition to ensuring the consistently high quality of all our products across all segments, we also attach great importance to upholding social and environmental standards in our day-to-day work.

Solutions that fit your needs

We at Teufelberger-Redaelli develop and produce high performance steel wire ropes in close cooperation with our customers. Together, we develop solutions that create added value by enhancing the efficiency and safety of your applications.

Being a family enterprise, we attach particular importance to building successful, long-standing business relationships. Our task is not limited to the delivery of premium-quality steel wire ropes. Rather, our experts in product development, application technology and sales support you throughout your entire work process.



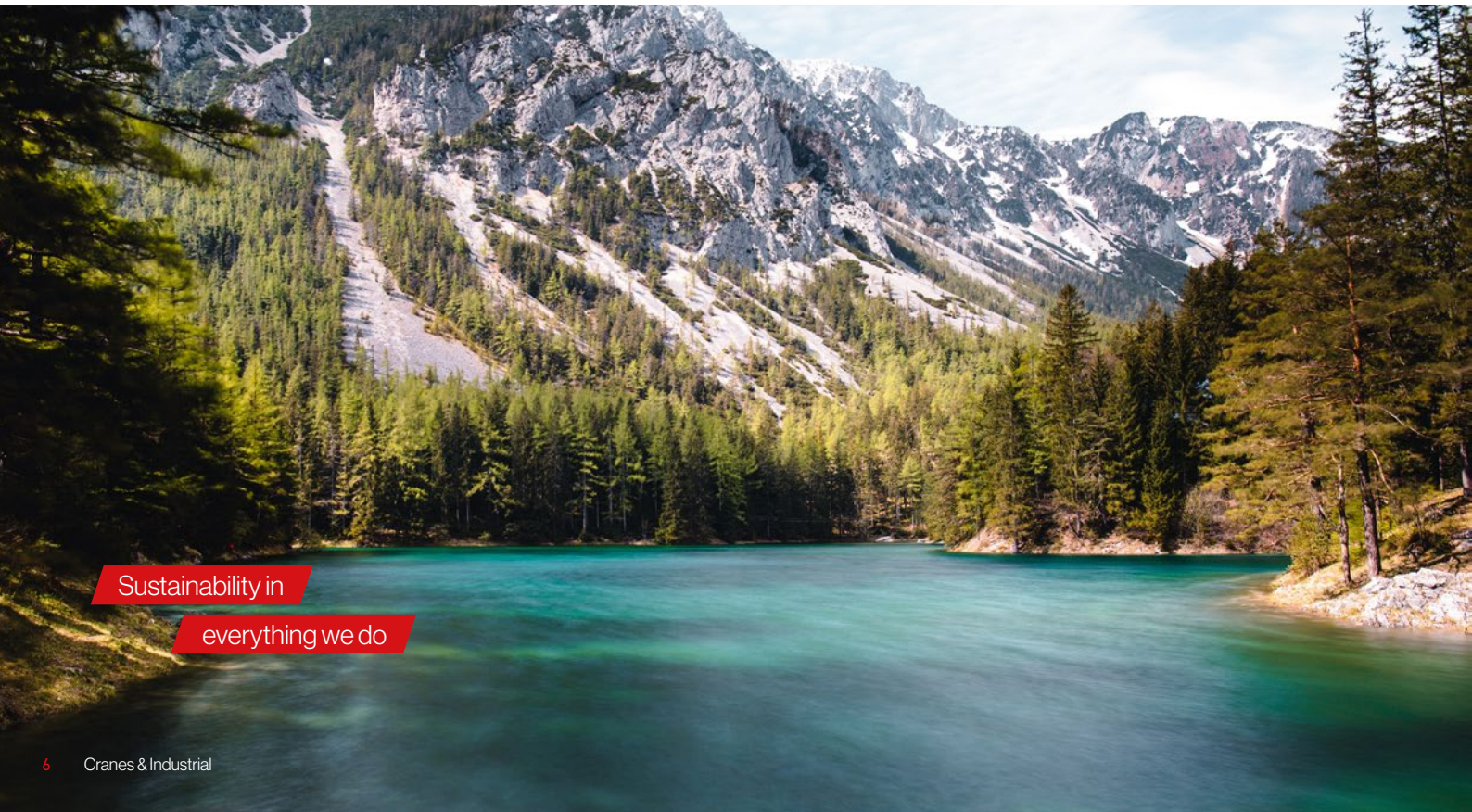
Sustainability at Teufelberger

Our commitments

With its Agenda 2030 for Sustainable Development, the United Nations has set a milestone for the future when it comes to spurring worldwide economic progress in harmony with social justice and the ecological limits of our planet. Based on the goals of this agenda, Teufelberger has developed five relevant, group-wide commitments in order to promote sustainability:

1 To **create** added **value** for employees and the region

2 To **protect** our **resources**



Teufelberger, a 7th generation family-run business, looks back on more then 230 years of company history. Its continued successful development over such a long period of time has only been made possible through resource-saving and sustainable thinking and acting. “Sustainability in everything we do” has been a principle guiding us since 1790. In order to ensure the future existence of our company, we are now setting the course for the future, with a strong focus on sustainability.

3 To **use** energy **sustainably**

4 To increase **safety** and **security**

5 To achieve **progress** through **innovation** and **technology**

Our goals

An essential part of a successful sustainability strategy is to set ambitious goals and to pursue them consistently. Teufelberger has defined the following group goals for the period until 2030:

- to reduce our company’s carbon footprint by 35 %
- to reduce production waste by 20 %
- to only use electric power generated from renewable energy sources
- to only use packaging made from recycled materials
- to implement sustainability plans for all departments
- to promote lifelong learning

In addition to these group-wide goals, every division has also defined various specific goals aligned with, and contributing toward, the group-wide goals. Going forward, the Wire Rope Division will be focussing on the following sustainability goals and projects:

To provide a fully electric infrastructure for its employees

Our vehicle fleet will consist of 100 % EVs. In order to put the necessary infrastructure in place, our plan is to equip one location per year with charging stations for EVs. In addition, we plan to provide e-bikes for travel to and from the local public transport network.

To equip our manufacturing sites with solar power systems

We go beyond electricity from renewable sources (where available) and move toward true sustainability and self-sufficiency.

To reduce production waste by 40 %

This results in an average scrap rate of 4 % of the input materials.

"Doing big small things" program

Every year, we will select at least one activity and one investment idea from employee suggestions in order to address the sustainability issue, take the employee perspective into account, and continuously improve our attractiveness as an employer (employer branding).

Segments that we serve

Steel wire ropes for highest demands – around the globe

All around the world, Teufelberger-Redaelli is renowned for the development, production and supply of innovative high-performance steel wire ropes that perform reliably in four key industry segments. Our ropes are engineered in close cooperation with system and crane manufacturers and a team of experts possessing extensive application expertise. Specifically designed for demanding applications, they excel through outstanding quality, longevity, and precise production processes. Tailor-made solutions and in-depth know-how ensure that our products deliver top-notch performances in the specific environments of the industries in which you operate.

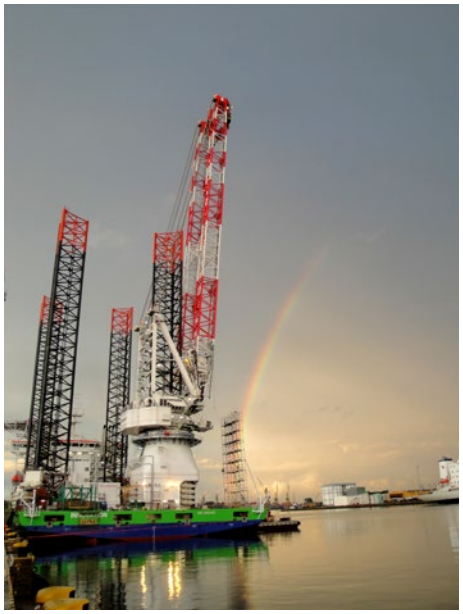
1. Building & construction industry

High loads and absolute reliability: Our steel wire ropes meet the highest technical requirements for cranes and hoists used in both building construction and specialist foundation engineering worldwide, ensuring smooth and safe operation.

2. Ports industry

Working around the clock and with high precision: Our ropes ensure the smooth and cost-effective handling of goods in ports around the world.

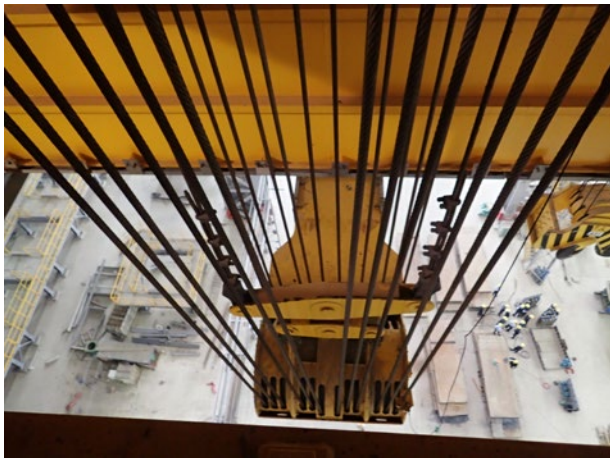
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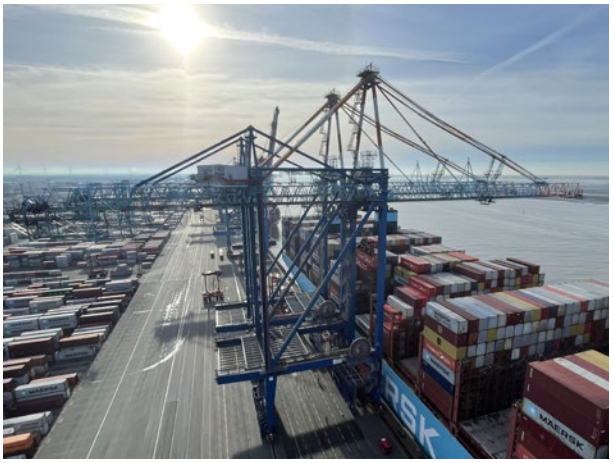
1



4



2



3. Offshore industry

Extreme conditions and maximum durability: For offshore use in the oil, gas, and wind power industries, our ropes offer maximum corrosion resistance, load-bearing capacity, and longevity.

4. Industrial cranes

Heat and continuous use: Our ropes are designed for extremely high loads and continuous use in steel mills and foundries. Even under extreme conditions, they perform reliably and efficiently.

Segment

Building & construction industry

Teufelberger-Redaelli is a listed Tier 1 supplier to the largest and most renowned OEMs in the crane and construction machinery sector.

Building & construction industry: Strong ropes for every construction site

In the building & construction industry, maximum load-bearing capacity and absolute reliability are crucial prerequisites. Our high performance steel wire ropes for cranes and hoists always ensure the required safety and efficiency, even in the most challenging conditions. Developed for continuous use at construction sites around the globe, they ensure trouble-free operation and maximum performance.

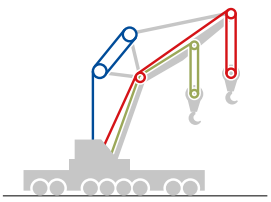
All-terrain & mobile crane

Hoist rope &
Auxiliary hoist rope:

- Evolution TK® 27 p. 22
- Evolution TK® 17 p. 24
- soLITE® p. 42

Boom hoist rope:

- Evolution P9 p. 54
- Evolution P9 BX p. 56
- Evolution QS816V p. 58
- Pack 9P p. 60



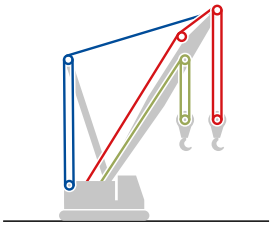
Crawler crane

Hoist rope &
Auxiliary hoist rope:

- Evolution TK® 27 p. 22
- Evolution TK® 17 p. 24

Boom hoist rope:

- Evolution P9 p. 54
- Evolution P9 BX p. 56
- Evolution QS816V p. 58
- Pack 9P p. 60



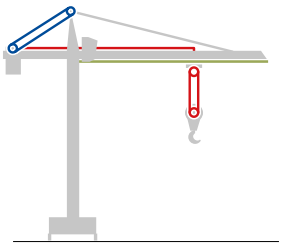
Tower crane

Hoist rope:

- Evolution TK® 27 p. 22
- Evolution TK® 17 p. 24
- Flexpack® p. 26
- TD 34 p. 30
- Iperpack p. 32
- soLITE® p. 42

Boom hoist rope & Trolley rope:

- Evolution QS816V p. 58
- Pack 9P p. 60
- Pack 1 p. 72
- 612W p. 84



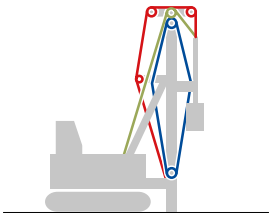
Rotary drilling rig

Hoist rope & Auxiliary hoist rope:

- Evolution TK® 16 p. 34
- Evolution TK® 18 p. 36
- Flexcon P p. 38
- soLITE® p. 42

Crowd rope:

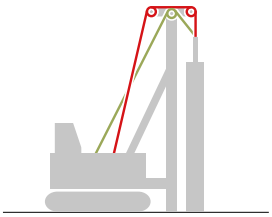
- Evolution P9 p. 54
- Evolution QS816V p. 58
- Pack 9P p. 60
- Pack 1 p. 72



Piling rig

Hoist rope & Auxiliary hoist rope:

- Evolution TK® 16 p. 34
- Flexcon P p. 38
- soLITE® p. 42



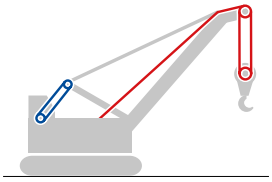
Duty cycle crawler

Hoist rope:

- Evolution TK® 16 p. 34
- Evolution TK® 18 p. 36
- Flexcon P p. 38

Boom hoist rope:

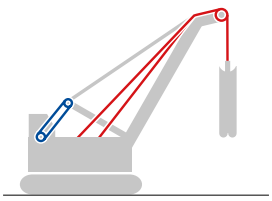
- Evolution P9 p. 54
- Evolution QS816V p. 58



Duty cycle crawler with diaphragm wall grab

Boom hoist rope & Grab rope:

- Evolution P9 p. 54
- Evolution QS816V p. 58
- Pack 9P p. 60
- Pack 1 p. 72



Duty cycle crawler with scraper

Hoist rope:

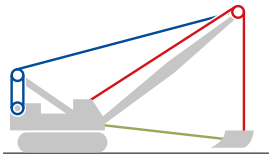
- Evolution TK® 16 p. 58

Boom hoist rope:

- Evolution P9 p. 54
- Evolution QS816V p. 58

Pulling rope:

- Evolution QS816V p. 58
- PS610F p. 82



Segment
Ports

High-performance ropes from Teufelberger-Redaelli keep containers and bulk goods in the world's busiest harbors in motion.



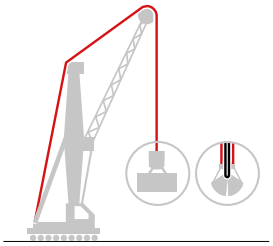
Reliable ropes for use in **ports**

In port operations, maximum precision and load-bearing capacity are key. Our high performance steel wire ropes were developed specifically for heavy-duty use in harbors and ensure efficient goods handling processes.

Mobile harbor crane

Hoist rope & Closing rope:

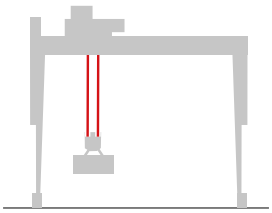
- Evolution QS816V p. 58
- Evolution Q8 p. 64
- Evolution Q9XT p. 62
- Keeport 8KP p. 66



ASC, RTG, RMG

Hoist rope:

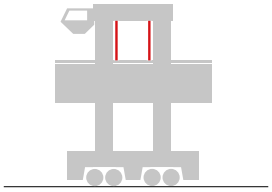
- Evolution QS816V p. 58
- Evolution Q8 p. 64
- Evolution Q810V p. 68
- Evolution Q9XT p. 62
- Keeport 8KP p. 66
- soLITE® p. 42



Straddle carrier

Hoist rope:

- Evolution QS816V p. 58
- Evolution Q8 p. 64
- Evolution Q810V p. 68
- Evolution Q9XT p. 62
- Keeport 8KP p. 66
- soLITE® p. 42



Ship-to-shore crane & ship unloader

Hoist rope:

- Evolution QS816V p. 58
- Keeport 8KP p. 66
- Pack 1 p. 72

Closing rope:

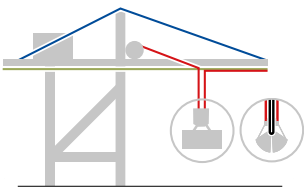
- Evolution QS816V p. 58
- Evolution Q8 p. 64
- Evolution Q810V p. 68
- Evolution Q9XT p. 62
- Keeport 8KP p. 66
- Pack 1 p. 72

Boom hoist rope:

- Evolution QS816V p. 58
- Keeport 8KP p. 66
- Pack 1 p. 72
- Red 1 p. 74

Trolley rope:

- Evolution QS816V p. 58
- Evolution Q8 p. 64
- Evolution Q810V p. 68
- Keeport 8KP p. 66
- Evolution Q812F p. 70
- Pack 1 p. 72



Segment

Offshore industry

Ropes from Teufelberger-Redaelli are used to explore new resources, promote renewable energies, and enable transcontinental data transmission.



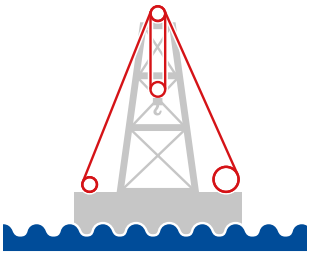
Steel wire ropes that master **offshore** challenges

Extreme depths, strong winds, and salty water: Offshore applications require the highest standards in terms of materials and technology. Our high-performance steel wire ropes are specifically designed to meet these challenges. They provide maximum load-bearing capacity, corrosion resistance, and longevity: for reliable top performances in the oil, gas, and wind power industries.

Offshore drilling rig

Drill line:

- Execution D6 p. 76
- Execution D6s p. 78



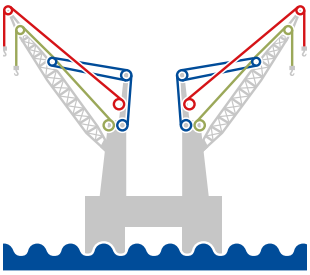
Ship & platform crane

Hoist rope &
Auxiliary hoist rope:

- Flexpack® p. 26
- Evolution TK® 16 p. 34
- Evolution TK® 18 p. 36
- soLITE® p. 42

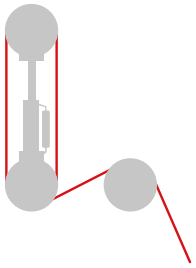
Boom hoist rope:

- Evolution P9 p. 54
- Evolution QS816V p. 58



Marine-riser-tensioner

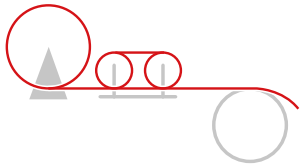
- Execution M6 p. 80



Subsea winch

Winch rope:

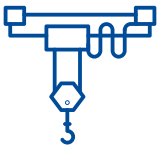
- Flexpack® p. 26
- Evolution TK® 16 p. 34
- Evolution TK® 18 p. 36



Segment

Industrial cranes

Our comprehensive expertise in fiber and steel wire ropes keeps goods in motion in industrial applications.



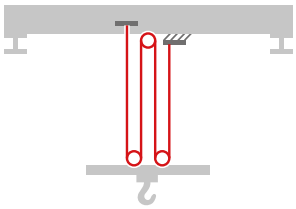
Robust ropes for continuous use in **industrial applications**

Where heat, dirt, and continuous operation reign, maximum load-bearing capacity and reliability are indispensable. Our high-performance steel wire and fiber ropes are specifically designed to meet the extreme requirements of industrial applications and offer maximum performance and longevity – even in the roughest of conditions.

Overhead crane

Hoist rope:

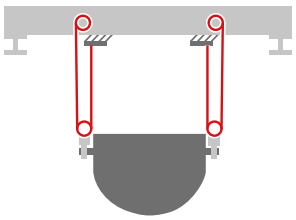
- soLITE® p. 42
- Evolution QS816V p. 58
- Evolution Q8 p. 64



Ladle and foundry crane

Hoist rope:

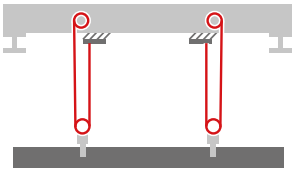
- Evolution QS816V p. 58
- Evolution Q9XT p. 62
- Evolution Q8 p. 64



Slab crane

Hoist rope:

- Evolution QS816V p. 58
- Evolution Q8 p. 64



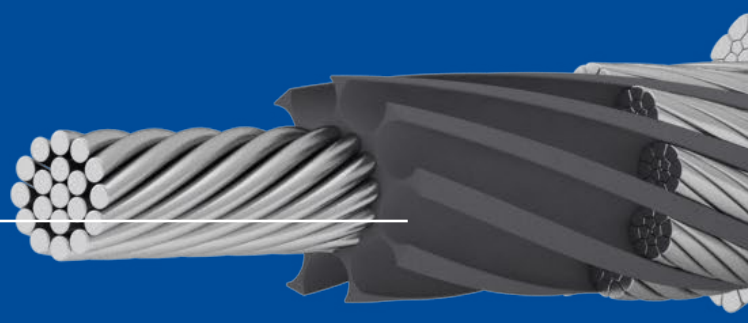
Our fiber ropes can also be used in the industrial cranes segment

- soLITE® p. 42
- HyperTEN / HyperTEN+ p. 46
- DuraTEN / DuraTEN+ p. 48
- rackLITE p. 86

A technology

that sets new standards

Making high-quality special-purpose steel wire ropes requires precision technologies and comprehensive know-how. That is why we rely on state-of-the-art processes and the highest quality standards, from research and development through to production. Our expertise in high-performance steel wire ropes forms the basis for top-notch performance and long-term success.



PLASTFILL® insert

The greased steel core is enclosed in a compact synthetic coat. This construction offers clear benefits:

- **Permanent lubrication** reduces friction between the core and the outer strands and increases longevity
- **High durability:** Protection against crushing, transverse pressure, environmental influences, and the ingress of dirt
- **Increased breaking force:** Reduced surface pressure within the rope increases its load-bearing capacity
- **Minimal wear:** The equally spaced, precise positioning of the strands reduces core degradation

Active core lubrication

A temperature-resistant special grease with optimized lubrication properties offers significant benefits:

- **Increased corrosion resistance:** The core remains reliably protected
- **Optimization of service life:** Reduced friction and optimum lubrication minimize wear

SUPERFILL® compaction technology

This special process compacts every single strand, significantly improving the rope's characteristics.

- **Higher loading limits:** Up to 30 % higher breaking forces than non-compacted ropes
- **Longer service life:** The reduced specific load enhances the durability of the strands
- **Low wear:** The smooth rope surface ensures excellent running behavior on sheaves and drums
- **High durability:** Protection against crushing in multi-layer spooling

DUOFILL® compaction technology

With DUOFILL®, our proprietary double compaction technology, both the individual strands and the entire rope are compacted in a special manufacturing process. This innovative method offers significant benefits:

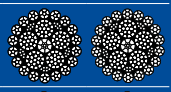
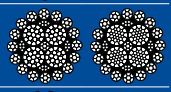
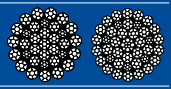
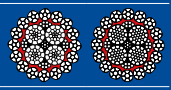
- **Maximum breaking force:** The compaction increases the metallic cross-section
- **Longer service life in multi-layer spooling:** Its extremely smooth surface makes this rope ideal for multi-layer applications involving high tensile forces
- **High dimensional stability:** Our ropes are resistant to crushing, even in extreme conditions



Galvanized wires

Our wires are galvanized ahead of the drawing process. This ensures exceptional precision, optimum stability, and a long service life. In combination with the PLASTFILL® technology, they feature excellent corrosion resistance for maximum performance, even in rough conditions.

Our rotation-resistant high-performance ropes

p. 22	Evolution TK® 27	
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© LIEBHERR



Liebherr HS 8100 Hydraulic
Duty cycle crawler



Unrivaled
breaking strength

Evolution TK® 27

The high-end hoist rope for extreme breaking forces in rope grade 1960. Its special construction provides all the necessary characteristics for use as a hoist rope in multi-layer spooling systems and for extreme lifting heights.

Specifications

- Lang's lay, right or left-handed
- 16-19 mm: 18xK6-IWRC(K), RCN 23-2, n=108
- 21-38 mm: 18xK7-IWRC(K), RCN 23-3, n=126
- Filling factor f=0.77

✓ Multi-layer spooling

✓ SUPERFILL®

Segments

Advantages

✓ Thanks to its innovative construction with strand and core compaction, this rope achieves an extraordinarily high breaking strength in grade 1960 N/mm² which can otherwise only be achieved with higher-strength wire material and nominal tensile strengths of 2160 N/mm²

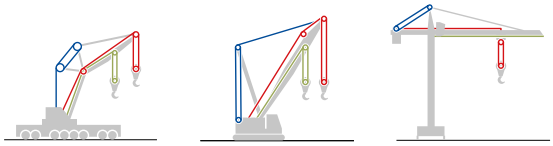
✓ Perfect spooling behavior due to high rope efficiency even without load. This enables a long service life for the steel wire rope, especially when lowering loads from great heights, e.g., when servicing and dismantling wind turbines

✓ The round rope surface with highly compacted 18 outer strands in grade 1960 gives the rope a particularly wear-optimized design which also reduces wear in crane components

✓ Perfect spooling behavior in multi-layer spooling due to maximum flexibility

✓ No twisting of the load, even in combination with enormous heights and heavy loads, thanks to the balanced rope construction

Applications

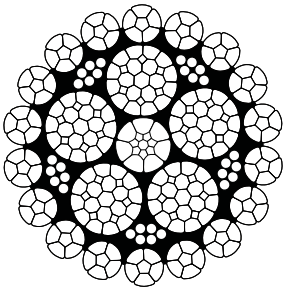


All-terrain & mobile crane | Crawler crane | Tower crane

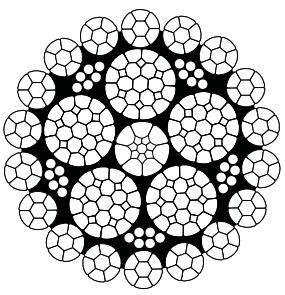
Technical specifications

Construction	Nominal Ø		Rope length mass		MBF at rope grade 1960	
	mm	inch	kg/m	lbs/ft	kN	lbf
18xK6-IWRC(K) RCN 23-2, n=108	16	5/8	1.29	0.87	268	60,249
	18		1.63	1.09	339	76,210
	19	3/4	1.82	1.22	378	84,978
18xK7-IWRC(K) RCN 23-3, n=126	21		2.24	1.50	462	103,862
	22		2.44	1.64	507	113,978
	22.23	7/8	2.49	1.67	517	116,226
	23		2.72	1.82	554	124,544
	24		2.90	1.95	603	135,560
	25		3.14	2.11	654	147,025
	25.4	1	3.17	2.13	657	147,699
	26		3.30	2.22	696	156,467
	28		3.95	2.66	821	184,568
	28.58	1 1/8	4.11	2.76	854	191,987
	30		4.53	3.04	942	211,770
	31.75	1 1/4	5.07	3.41	1,055	237,173
	32		5.16	3.47	1,072	240,995
	34		5.82	3.91	1,210	272,019
	36		6.52	4.38	1,357	305,066
	38	1 1/2	7.29	4.90	1,512	339,911

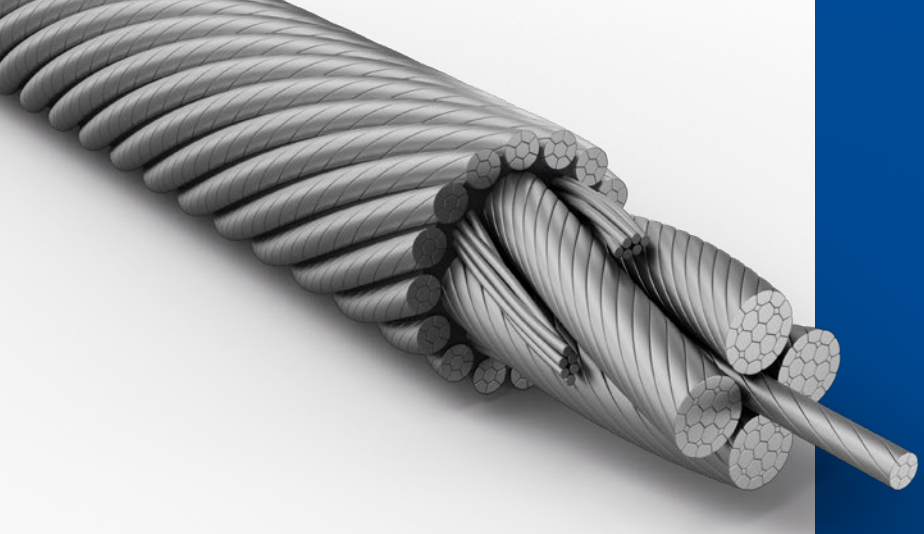
Technical values valid for lang lay ropes only, tolerance varies by nominal diameter.
The values are provided for guidance only. The metric figures shall prevail. The rope cross-section depicts a typical design and may vary within the product line.
Subject to further developments which may lead to changes in technical specifications. Subject to changes and errors.



Evolution TK® 27
16-19 mm



Evolution TK® 27
21-38 mm



Excellent
spooling efficiency

Evolution TK® 17

Thanks to its construction, our Evolution TK® 17 offers optimum all-round properties combined with extremely high breaking forces. This highly flexible hoist rope is designed for multi-layer spooling, even on small-diameter drums.

Specifications

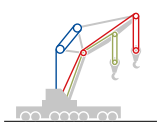
- Lang's lay, right or left-handed
- 10-34 mm: 16xK7-IWRC(K), RCN 23-2, n=112
- Filling factor f=0.75
- ✓ Multi-layer spooling
- ✓ SUPERFILL®

Segments

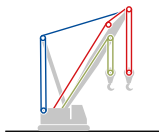
Advantages

- ✓ Excellent spooling behavior in multi-layer spooling systems, even with challenging requirements, due to precise diameter tolerances and high dimensional stability under lateral pressure
- ✓ Easy to install and perfect to handle during reeving thanks to the rope's very high flexibility
- ✓ Safe and problem-free transporting and handling of heavy loads, thanks to its very good torsional behavior even at high lifting heights
- ✓ Excellent service life thanks to high wear resistance in multi-layer spooling applications due to the compacted surface
- ✓ Provided with the right rope end termination by Teufelberger-Redaelli, this rope enables trouble-free operation

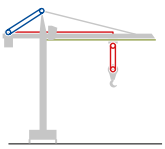
Applications



All-terrain & mobile crane



Crawler crane

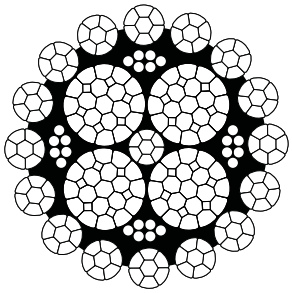


Tower crane

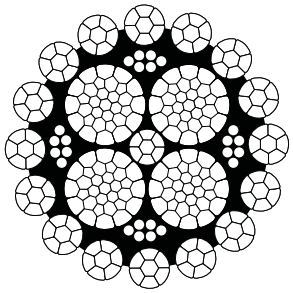
Technical specifications

Construction	Nominal Ø		Rope length mass		MBF at rope grade					
					1770		1960		2160	
	mm	inch	kg/m	lbs/ft	kN	lbf	kN	lbf	kN	lbf
16xK7-IWRC(K) RCN 23-2, n=112	10		0.50	0.34	86	19,334	95	21,357	103	23,155
	11	7/16	0.61	0.41	104	23,380	115	25,853	125	28,101
	12		0.72	0.49	124	27,876	137	30,799	149	33,497
	12.7	1/2	0.81	0.55	139	31,248	154	34,621	167	37,543
	13		0.85	0.57	146	32,822	161	36,194	175	39,342
	14	9/16	0.99	0.66	169	37,993	187	42,039	203	45,636
	15		1.13	0.76	194	43,613	215	48,334	233	52,380
	16	5/8	1.29	0.87	221	49,683	244	54,853	265	59,574
	17		1.45	0.98	249	55,977	276	62,047	299	67,218
	18		1.63	1.10	279	62,722	309	69,466	335	75,311
	19	3/4	1.81	1.22	311	69,916	345	77,559	382	85,877
	20		2.01	1.35	345	77,559	382	85,877	414	93,071
	21		2.22	1.49	380	85,427	421	94,645	456	102,513
	22		2.43	1.64	417	93,745	462	103,862	501	112,629
	22.23	7/8	2.48	1.67	426	95,769	472	106,110	511	114,877
	23		2.66	1.79	456	102,513	505	113,529	547	122,970
	24		2.91	1.96	496	111,505	550	123,645	596	133,986
	25		3.14	2.11	539	121,172	597	134,211	647	145,451
	25.4	1	3.24	2.18	556	124,994	616	138,482	668	150,172
	26		3.40	2.29	583	131,064	646	145,227	700	157,366
	27		3.67	2.46	628	141,180	696	156,467	754	169,506
	28		3.94	2.65	676	151,971	748	168,157	811	182,320
	28.58	1 1/8	4.11	2.76	704	158,265	780	175,351	845	189,964
	29		4.23	2.84	725	162,986	803	180,522	870	195,584
	30		4.53	3.04	776	174,452	859	193,111	931	209,297
	31.75	1 1/4	5.07	3.41	869	195,359	962	216,266	1,043	234,476
	32		5.15	3.46	883	198,506	977	219,638	1,060	238,297
	34		5.81	3.91	996	223,910	1103	247,964	1,196	268,871

Standard tolerance: +2.5 % to +4 %, other tolerance ranges and rope diameters are available upon request.
The values are provided for guidance only. The metric figures shall prevail. The rope cross-section depicts a typical design and may vary within the product line. Subject to further developments which may lead to changes in technical specifications. Subject to changes and errors.



Evolution TK® 17
10-24 mm



Evolution TK® 17
25-34 mm



Flexpack®

Repeatedly breaking the world record for the heaviest rope ever produced, the Flexpack® must be considered the best 35x7 construction for your application.

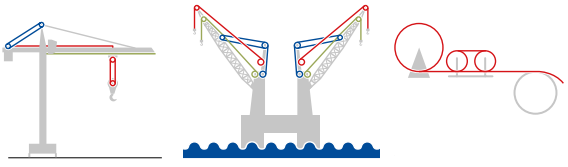
Specifications

- Ordinary or Lang's lay, right or left-handed
- 14-40 mm: 34(W)xK7, RCN 23-2, n=105,
  Filling factor f=0.84
- 41.28-76.2 mm: 39(W)xK7-WSC, RCN 23-3, n=126,
  Filling factor f=0.81

Segments



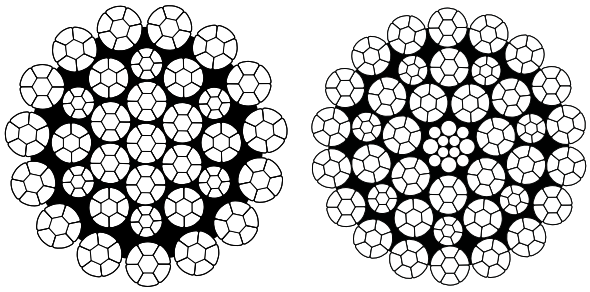
Applications



Tower crane

Ship &
platform crane

Subsea winch



Flexpack®
14-40 mm

Flexpack®
41.28-76.2 mm

Advantages

- ✓ Best value for money due to optimized rope structure
- ✓ Reliable and safe in use thanks to high breaking forces
- ✓ High wear resistance due to the use of large-diameter wires

Technical specifications

Construction	Nominal Ø		Rope length mass		MBF at rope grade					
					1770		1960		2160	
	mm	inch	kg/m	lbs/ft	kN	lbf	kN	lbf	kN	lbf
34(W)xK7 RCN 23-2, n=105 f=0.84	14		1.00	0.67	178	40,016	195	43,838	208	46,760
	15		1.14	0.77	205	46,086	224	50,357	239	53,729
	15.88	5/8	1.28	0.86	230	51,706	251	56,427	268	60,249
	16		1.30	0.87	233	52,380	255	57,326	272	61,148
	17		1.47	0.99	263	59,125	288	64,745	307	69,016
	18		1.65	1.11	295	66,319	323	72,613	344	77,334
	19	3/4	1.84	1.24	329	73,962	360	80,931	383	86,102
	20		2.03	1.36	364	81,830	398	89,474	415	93,296
	21		2.24	1.51	402	90,373	439	98,691	457	102,738
	22		2.46	1.65	441	99,141	482	108,358	502	112,854
	22.23	7/8	2.51	1.69	450	101,164	492	110,606	512	115,102
	23		2.69	1.81	482	108,358	527	118,474	548	123,195
	24		2.93	1.97	524	117,800	553	124,319	574	129,040
	25		3.18	2.14	569	127,916	600	134,885	622	139,831
	25.4	1	3.28	2.20	587	131,963	620	139,382	642	144,327
	26		3.44	2.31	616	138,482	649	145,901	673	151,296
	28		3.99	2.68	714	160,514	753	169,281	781	175,576
	28.58	1 1/8	4.15	2.79	744	167,258	785	176,475	813	182,770
	30		4.58	3.08	819	184,119	865	194,460	896	201,429
	31.75	1 1/4	5.13	3.45	918	206,375	968	217,615	1,004	225,708
	32		5.21	3.50	932	209,522	984	221,212	1,020	229,305
	34		5.88	3.95	1,053	236,724	1,110	249,538	1,151	258,755
	35	1 3/8	6.23	4.19	1,115	250,662	1,177	264,600	1,220	274,267
	36		6.59	4.43	1,180	265,275	1,245	279,887	1,291	290,228
	38	1 1/2	7.34	4.93	1,315	295,624	1,387	311,810	1,423	319,903
	40		8.14	5.47	1,457	327,547	1,537	345,531	1,577	354,524
39(W)xK7-WSC RCN 23-3, n=126 f=0.81	41.28	1 5/8	8.49	5.71	1,492	335,415	1,569	352,725		
	42		8.79	5.91	1,545	347,330	1,624	365,090		
	44		9.65	6.48	1,696	381,276	1,782	400,610		
	44.45	1 3/4	9.84	6.61	1,730	388,919	1,819	408,927		
	46		10.54	7.08	1,853	416,571	1,948	437,928		
	47.63	1 7/8	11.30	7.59	1,987	446,695	2,088	469,401		
	48		11.48	7.71	2,018	453,664	2,121	476,820		
	50		12.46	8.37	2,189	492,107	2,301	517,285		
	50.8	2	12.86	8.64	2,260	508,068	2,376	534,146		
	52		13.47	9.05	2,368	532,348	2,489	559,549		
	54	2 1/8	14.53	9.76	2,554	574,162	2,684	603,387		
	56		15.62	10.50	2,747	617,550	2,887	649,023		
	57.15	2 1/4	16.27	10.93	2,860	642,954	3,007	676,000		
	58		16.76	11.26	2,946	662,287	3,097	696,233		
	60		17.94	12.06	3,153	708,823	3,314	745,017		
	60.33	2 3/8	18.13	12.18	3,188	716,691	3,351	753,335		
	62		19.15	12.87	3,367	756,932	3,539	795,599		
	63.5	2 1/2	20.09	13.50	3,531	793,800	3,712	834,491		
	64		20.41	13.71	3,587	806,390	3,771	847,755		
	66		21.70	14.58	3,815	857,646	4,010	901,484		
	66.68	2 5/8	22.15	14.88	3,894	875,406	4,093	920,143		
	68		23.04	15.48	4,050	910,476	4,257	957,012		
	70	2 3/4	24.41	16.40	4,291	964,655	4,511	1,014,113		
	72		25.83	17.36	4,540	1,020,633	4,772	1,072,788		
	73	2 7/8	26.55	17.84	4,667	1,049,183	4,906	1,102,913		
	74		27.28	18.33	4,796	1,078,184	5,041	1,133,262		
	76		28.78	19.34	5,059	1,137,308	5,317	1,195,309		
	76.2	3	28.93	19.44	5,085	1,143,153	5,345	1,201,604		

Standard tolerance: +2 % to +4 %, other tolerance ranges and rope diameters are available upon request.
The values are provided for guidance only. The metric figures shall prevail. The rope cross-section depicts a typical design and may vary within the product line.
Subject to further developments which may lead to changes in technical specifications. Subject to changes and errors.


Teufelberger · Redaelli
WORLD'S
HEAVIEST
ROPE
Teufelberger Redaelli

200 years of record performance

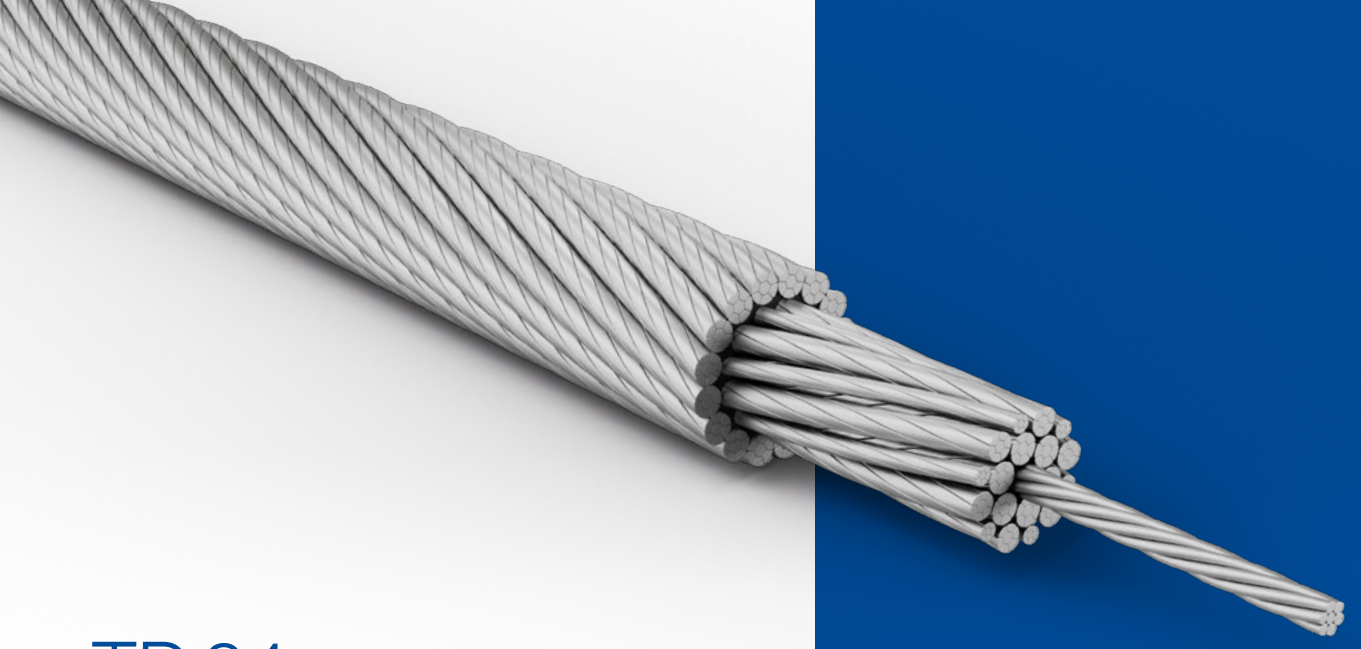
Guinness World Record

Records are made to be broken. Evey year, with our quality, innovation an high-tech expertise, we reach and surpass the highest benchmarks in the world. Even our own.

With more than 200 years experience as wire rope manufacturer, Teufelberger-Redaelli is one of the leading high-tech steel wire rope producer. Trieste plant is capable to produce presently the biggest state of the art steel wire ropes in the world. The location of the plant at the dockside of Trieste harbour allows the loading of the huge reels without any preliminary land transport.

Since 2010 Teufelberger-Redaelli and the record-breaking Flexpack® rope has been awared the Guinness world record in the engineering and technology arena for the heaviest wire rope ever manufactured in the world – fifth time in a row!

In 2023, Teufelberger-Redaelli once again broke the Guinness World Record with a 4,010.126 m long Flexpack® rope of the latest generation, which weighs almost 500 tons.



TD 34

The TD 34 was developed as an all-round and very low-rotation hoist rope. It boasts the characteristics of a compacted rope with high minimum breaking load ratings and good multi-layer spooling behavior.

Specifications

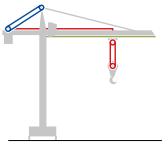
- Ordinary or Lang's lay, right or left-handed
- Standard: EN 12385-4
- 7-16 mm: 34(W)xK7-IWRC(K), RCN 23-2, n=112
- Filling factor f=0.72

Segments

Advantages

- ✓ High torsional strength
- ✓ High breaking force
- ✓ Consistently reliable results over time thanks to SUPERFILL® compaction technology
- ✓ The rope construction provides for high bending flexibility
- ✓ High wear resistance due to large wire diameter

Applications



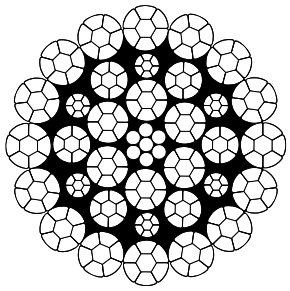
Tower crane

Technical specifications

Construction	Nominal Ø	Rope length mass		MBF at rope grade			
				1770		1960	
	mm	kg/m	lbs/ft	kN	lbf	kN	lbf
34(W)xK7 IWRC(K), RCN 23-2, n=112	7	0.23	0.15	40	8,992	44	9,892
	8	0.31	0.21	52	11,690	58	13,062
	9	0.39	0.26	66	14,837	74	16,636
	9.2	0.40	0.27	69	15,512	77	17,274
	10	0.48	0.32	82	18,434	91	20,458
	11	0.60	0.40	99	22,256	109	24,504
	12	0.71	0.48	118	26,527	131	29,450
	12.3	0.74	0.50	124	27,775	138	31,024
	13	0.83	0.56	138	31,024	154	34,621
	14	0.91	0.61	160	35,983	178	40,016
	16	1.26	0.85	209	46,998	233	52,380

Standard tolerance: +1 % to +4 %, other tolerance ranges and rope diameters are available upon request.
The values are provided for guidance only. The metric figures shall prevail. The rope cross-section depicts a typical design and may vary within the product line.
Subject to further developments which may lead to changes in technical specifications. Subject to changes and errors.

> “The TD 34: the universal hoist rope for mobile use on truck-mounted cranes.”



TD 34



Iperpack

Our Iperpack is a versatile, extremely low-rotation hoist rope of compacted design. It features good minimum breaking load ratings and application-tailored multi-layer spooling behavior.

Specifications

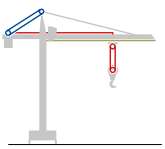
- Lay direction: Lang's lay, right-handed
- 10-34 mm: 27(W)xK7, RCN 23-2, n=105
- Filling factor f=0.79

Advantages

- ✓ Resistant to wear and crushing
- ✓ Consistently reliable results due to SUPERFILL® compaction technology
- ✓ Optimum balance between flexibility and strength

Segments

Applications

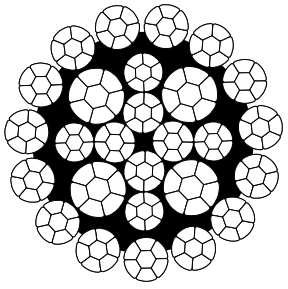


Tower crane

Technical specifications

Construction	Nominal Ø		Rope length mass		MBF at rope grade					
					1770		1960		2160	
	mm	inch	kg/m	lbs/ft	kN	lbf	kN	lbf	kN	lbf
27(W)xK7 RCN 23-2, n=105	10		0.49	0.33	83	18,749	92	20,772	98	22,031
	11.11	7/16	0.61	0.41	103	23,155	114	25,628	121	27,202
	12		0.71	0.48	120	26,977	133	29,900	142	31,923
	12.7	1/2	0.80	0.54	135	30,349	149	33,497	159	35,745
	13		0.83	0.56	141	31,698	156	35,070	166	37,318
	14		0.97	0.65	162	36,419	179	40,241	190	42,714
	15		1.11	0.75	185	41,590	205	46,086	218	49,008
	15.88	5/8	1.24	0.83	208	46,760	230	51,706	244	54,853
	16		1.26	0.85	211	47,435	234	52,605	248	55,753
	18		1.60	1.08	267	60,024	296	66,543	302	67,892
	19	3/4	1.78	1.20	298	66,993	330	74,187	337	75,761
	20		1.97	1.32	330	74,187	365	82,055	373	83,854
	22		2.39	1.61	399	89,699	442	99,366	452	101,614
	22.23	7/8	2.44	1.64	407	91,497	451	101,389	461	103,637
	24		2.84	1.91	475	106,784	526	118,250	537	120,722
	25.4	1	3.15	2.12	526	118,250	583	131,064		
	26		3.30	2.22	552	124,095	611	137,358		
	28		3.83	2.57	640	143,878	708	159,165		
	28.58	1 1/8	3.99	2.68	667	149,948	738	165,909		
	30		4.39	2.95	734	165,010	813	182,770		
	31.75	1 1/4	4.92	3.31	823	185,018	911	204,801		
	32		5.00	3.36	836	187,940	925	207,948		
	34		5.64	3.79	943	211,995	1045	234,925		

Standard tolerance: +2 % to +4 %, other tolerance ranges and rope diameters are available upon request.
The values are provided for guidance only. The metric figures shall prevail. The rope cross-section depicts a typical design and may vary within the product line.
Subject to further developments which may lead to changes in technical specifications. Subject to changes and errors.



Iperpack



High **flexibility** and
extreme **durability**

Evolution TK® 16

A manufacturing process that has been refined down to the smallest detail transforms highest-quality raw materials into our Evolution TK® 16. This rope impresses with its high flexibility and extreme durability.

Specifications

- Ordinary or Lang's lay, right or left-handed
- 8-30 mm: 16xK6-EPIWRC(K), RCN 23-1, n=96
- 31.75-42 mm: 16xK7-EPIWRC(K), RCN 23-2, n=112
- Filling factor f=0.74
- ✓ Multi-layer spooling
- ✓ SUPERFILL®
- ✓ PLASTFILL®

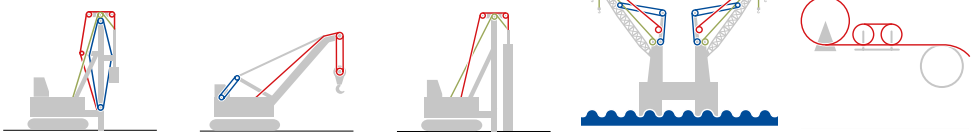
Segments



Advantages

- ✓ Extremely resistant to corrosion, external environmental influences, and the ingress of dirt thanks to the PLASTFILL® insert
- ✓ Excellent spooling behavior due to very high dimensional stability under lateral pressure, even in multi-layer spooling systems
- ✓ Highest operational safety due to high breaking forces and excellent torsional characteristics made possible by the harmoniously balanced rope structure
- ✓ Longer lifetime and maximized cost-effectiveness of rope-guiding components thanks to the wear-optimized and rope-friendly SUPERFILL® compaction of all strands
- ✓ Safe protection of core lubrication thanks to PLASTFILL® insert
- ✓ The SUPERFILL® compaction technology ensures consistently small diameter tolerances and perfect spooling behavior, even with long rope lengths

Applications

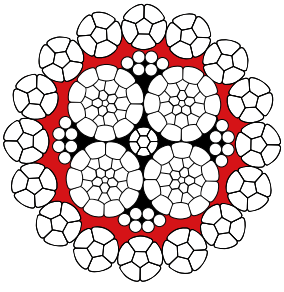


Rotary drilling rig | Duty cycle crawler | Piling rig | Ship crane & platform crane | Subsea winch

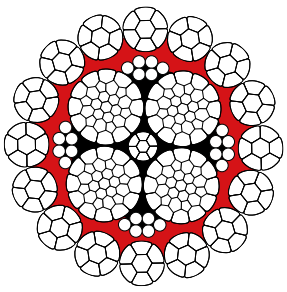
Technical specifications

Construction	Nominal ø		Rope length mass		MBF at rope grade					
					1770		1960		2160	
	mm	inch	kg/m	lbs/ft	kN	lbf	kN	lbf	kN	lbf
16xK6-EPIWRC(K) RCN 23-1, n=96	8	5/16	0.31	0.21	56	12,589	62	13,938	64	14,388
	9		0.40	0.27	71	15,961	79	17,760	81	18,210
	10		0.50	0.33	88	19,783	97	21,806	100	22,481
	11	7/16	0.60	0.40	106	23,830	117	26,303	121	27,202
	12		0.73	0.49	126	28,326	140	31,473	144	32,372
	12.7	1/2	0.81	0.54	142	31,923	157	35,295	162	36,419
	13		0.85	0.57	148	33,272	164	36,869	170	38,218
	14	9/16	0.99	0.67	172	38,667	190	42,714	197	44,287
	15		1.14	0.77	197	44,287	218	49,008	231	51,931
	16	5/8	1.29	0.87	224	50,357	250	56,202	263	59,125
	17		1.45	0.97	253	56,877	280	62,947	290	65,195
	18		1.60	1.08	284	63,846	314	70,590	333	74,861
	19	3/4	1.81	1.22	316	71,040	350	78,683	371	83,404
	20		2.03	1.37	350	78,683	388	87,226	401	90,148
	21		2.22	1.49	387	87,001	428	96,218	444	99,815
	22		2.49	1.68	424	95,319	469	105,435	487	109,482
	22.23	7/8	2.48	1.66	433	97,342	479	107,683	495	111,280
	23		2.65	1.78	463	104,087	513	115,327	530	119,149
	24		2.88	1.94	505	113,529	559	125,668	580	130,389
	25		3.16	2.12	546	122,746	605	136,009	639	143,653
	25.4	1	3.24	2.17	565	127,017	626	140,730	644	144,777
	26		3.35	2.25	592	133,087	656	147,475	675	151,746
	27		3.67	2.47	638	143,428	707	158,940	725	162,986
	28		3.93	2.64	686	154,219	760	170,855	780	175,351
	28.58	1 1/8	4.07	2.74	715	160,738	792	178,049	814	182,994
	29		4.14	2.78	737	165,684	816	183,444	835	187,715
	30		4.52	3.03	788	177,149	873	196,258	893	200,754
16xK7-EPIWRC(K) RCN 23-2, n=112	31.75	1 1/4	5.01	3.36	883	198,506	978	219,863	1,010	227,057
	32		5.09	3.42	897	201,654	993	223,235	1,035	232,677
	34		5.78	3.88	1,022	229,755	1,141	256,507	1,195	268,647
	35	1 3/8	6.08	4.09	1,073	241,220	1,188	267,073	1,210	272,019
	36		6.39	4.30	1,135	255,158	1,257	282,585	1,277	287,081
	38	1 1/2	7.17	4.82	1,236	277,864	1,369	307,763	1,472	330,919
	40		7.94	5.33	1,370	307,988	1,517	341,035	1,568	352,500
	42		8.80	5.92	1,510	339,462	1,672	375,881	1,729	388,695

Standard tolerance: +2 % to +4 %, other tolerance ranges and rope diameters are available upon request.
The values are provided for guidance only. The metric figures shall prevail. The rope cross-section depicts a typical design and may vary within the product line.
Subject to further developments which may lead to changes in technical specifications. Subject to changes and errors.



Evolution TK® 16
8-30 mm



Evolution TK® 16
31.75-42 mm



Excellent
dimensional stability

Evolution TK® 18

Evolution TK® 18 is our high-performance rope for deep foundation systems and the offshore industry. It is mainly used in extremely harsh conditions. This rope offers outstanding dimensional stability, high corrosion resistance, as well as ideal lubrication, especially thanks to its active core lubrication in combination with a PLASTFILL® insert.

Specifications

- Ordinary or Lang's lay, right or left-handed
- 16xK17F-EPIWRC(K), RCN 27, n=208
- Filling factor f=0.73
- ✓ Multi-layer spooling
- ✓ SUPERFILL®
- ✓ PLASTFILL®

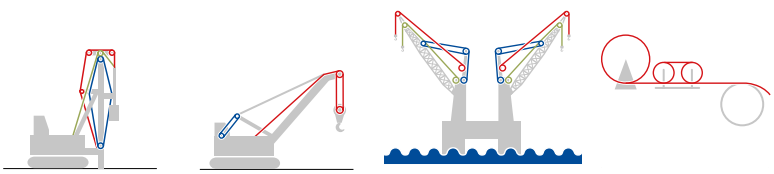
Segments



Advantages

- ✓ Extremely resistant to corrosion, external environmental influences, and the ingress of dirt thanks to its PLASTFILL® insert
- ✓ Excellent spooling characteristics thanks to very high dimensional stability under lateral pressure, even in multi-layer spooling operations
- ✓ Highest operational safety due to high breaking forces and excellent torsional characteristics made possible by the harmoniously balanced rope structure
- ✓ Longer lifetime and maximized cost-effectiveness of rope-guiding components thanks to the wear-optimized and rope-friendly SUPERFILL® compaction of all strands
- ✓ Safe protection of core lubrication thanks to PLASTFILL® insert
- ✓ The SUPERFILL® compaction technology ensures consistently small diameter tolerances and perfect spooling behavior, even with long rope lengths

Applications

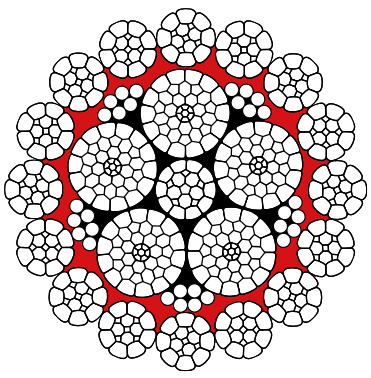


Rotary drilling rig | Duty cycle crawler | Ship crane & platform crane | Subsea winch

Technical specifications

Construction	Nominal Ø		Rope length mass		MBF at rope grade					
					1770		1960		2160	
	mm	inch	kg/m	lbs/ft	kN	lbf	kN	lbf	kN	lbf
16xK17F-EPIWRC(K) RCN 27, n=208	44		9.49	6.38	1,607	361,268	1,779	399,935	1,905	428,261
	44.45	1 3/4	9.63	6.47	1,641	368,911	1,817	408,478	1,944	437,029
	45		9.90	6.65	1,684	378,578	1,865	419,269	1,992	447,819
	46		10.33	6.94	1,758	395,214	1,960	440,626	2,078	467,153
	48		11.22	7.54	1,914	430,284	2,119	476,370	2,267	509,642
	50		12.23	8.22	2,076	466,703	2,299	516,836	2,460	553,030
	50.8	2	12.71	8.54	2,143	481,766	2,374	533,696	2,539	570,790
	51		12.70	8.54	2,155	484,463	2,386	536,394	2,559	575,286
	52		13.30	8.94	2,246	504,921	2,487	559,100	2,661	598,217
	54	2 1/8	14.36	9.65	2,422	544,487	2,682	602,938	2,925	657,566
	56		15.41	10.35	2,605	585,627	2,884	648,349	3,020	678,923
	57.15	2 1/4	16.01	10.76	2,711	609,457	3,002	674,876	3,214	722,536
	58		16.53	11.11	2,794	628,116	3,094	695,559	3,310	744,118
	60		17.71	11.90	2,990	672,179	3,311	744,342	3,542	796,273
	60.33	2 3/8	17.84	11.99	3,021	679,148	3,345	751,986	3,581	805,041
	63.5	2 1/2	19.77	13.28	3,346	752,211	3,706	833,142	3,968	892,042
	64		20.16	13.55	3,402	764,800	3,767	846,855	4,030	905,980
	65		20.85	14.01	3,500	786,831	3,876	871,359	4,085	918,345
	66		21.31	14.32	3,618	813,359	4,006	900,585	4,212	946,895
	66.68	2 5/8	21.80	14.65	3,690	829,545	4,086	918,569	4,299	966,454
	68		22.62	15.20	3,841	863,491	4,253	956,112	4,471	1,005,121
	70	2 3/4	24.10	16.20	4,070	914,972	4,507	1,013,214	4,655	1,046,486
	72		25.40	17.07	4,306	968,027	4,768	1,071,889	4,925	1,107,184
	73	2 7/8	26.13	17.56	4,423	994,330	4,897	1,100,889	5,063	1,138,208
	76		28.30	19.01	4,798	1,078,633	5,313	1,194,410	5,487	1,233,527

Standard tolerance: +2 % to +4 %, other tolerance ranges and rope diameters are available upon request.
The values are provided for guidance only. The metric figures shall prevail. The rope cross-section depicts a typical design and may vary within the product line.
Subject to further developments which may lead to changes in technical specifications. Subject to changes and errors.



Evolution TK® 18



Flexcon P

Teufelberger-Redaelli's Flexcon product line heralds a new steel wire rope era in the world of 35x7 constructions.

Specifications

- Ordinary and Lang's lay, right or left-handed
- 15-40 mm: 35(W)xK7, RCN 23-2, n=112
- Filling factor f=0.76
- 16 outer strands
- Single-layer and multi-layer spooling

✓ SUPERFILL®

✓ PLASTFILL®

Segments

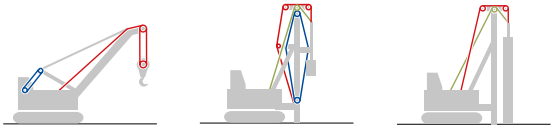
Advantages

✓ Rotation resistance, high strength, axial and radial rigidity, and flexibility: These characteristics make Flexcon P your wire rope of choice for high performance

✓ Its improved 35x7 design, based on compacted modular strands, represents the ideal combination to deliver top results in harsh environments

✓ Its high abrasion resistance, achieved by using large-diameter wires and the PLASTFILL® insert, make this rope extremely hardwearing in use cases involving large fleet angles

Applications



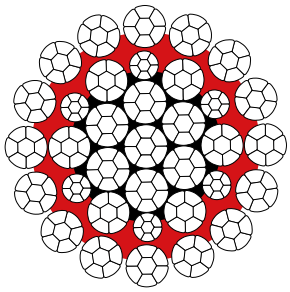
Duty cycle crawler | Rotary drilling rig | Piling rig

Technical specifications

Construction	Nominal Ø	Rope length mass		MBF at rope grade	
				1960	1960
	mm	kg/m	lbs/ft	kN	lbf
35(W)xK7 RCN 23-2, n=112	15	1.12	0.75	217	48,784
	16	1.28	0.86	247	55,528
	17	1.44	0.97	279	62,722
	18	1.61	1.08	313	70,365
	19	1.80	1.21	348	78,234
	20	1.99	1.34	386	86,776
	22	2.41	1.62	467	104,986
	24	2.87	1.93	543	122,071
	26	3.37	2.27	637	143,203
	28	3.91	2.63	739	166,134
	30	4.49	3.02	848	190,638
	32	5.10	3.43	965	216,941
	34	5.76	3.87	1,089	244,817
	36	6.46	4.34	1,221	274,492
	38	7.20	4.84	1,360	305,740
	40	7.97	5.36	1,507	338,787

Standard tolerance: +2 % to +4 %, other tolerance ranges and rope diameters are available upon request.
The values are provided for guidance only. The metric figures shall prevail. The rope cross-section depicts a typical design and may vary within the product line.
Subject to further developments which may lead to changes in technical specifications. Subject to changes and errors.

> “The Flexcon P stands for longevity and resistance: a rope that withstands even the toughest challenges.”



Flexcon P

Combining advantages from two worlds

Teufelberger is the world's leading rope manufacturer using both wire rope and fiber rope technologies. Together with our customers, Teufelberger has, over the last ten years, developed the soLITE® rope family: innovative high-strength fiber ropes for lifting purposes.



20 % greater payload

Thanks to its unique rope construction, soLITE® offers you the breaking strength of a steel wire rope with the same nominal diameter, while weighing only 20 % of such a steel wire rope. These 80 % in weight saving have a direct impact in terms of your payload. Simply by exchanging your crane's conventional rope for a soLITE® rope (and without having to change the sheaves), you enable your crane to lift up to 20 % more weight.

10 times longer

The patented 3-layer structure of the rope core has been proven to last up to 10 times longer than a conventional steel wire rope under maximum payload on a multi-layer winch. How come? The soLITE® rope cover is designed in such a way that it fills the voids between neighboring turns on the winch. This creates a gap-free surface in every layer, which markedly reduces lateral stresses in the rope on the winch. This works for up to 10 layers and 38.5 turns. In this way, we avoid the well-known problem of wire crushing that will kill your steel wire rope after only about 15 % of its potential lifetime when exposed to single-layer flexural fatigue stress.



Reliable indication of point of discard

According to ISO 4309, the point of discard of your steel wire rope is determined based on the number of broken wires, local damage patterns, or corrosion. Since fiber ropes do not exhibit any of these symptoms, soLITE® indicates the point of discard in the form of defined wear of the cover. In the user manual, you will be given clear instructions on what to look out for. No training is required. soLITE® was designed to retain 90 % of its breaking load and 60 % of its bending fatigue strength at 100 % wear. This level of safety is unmatched by any other comparable product in the industry. It is even safer than a steel wire rope.

14 years of lifetime

With soLITE®, we offer you a maximum rope lifetime of 14 years, i.e., up to 4 years in storage without a loss in performance, and then up to 10 years in use. This long service life has been proven through long-term validation in the crane segment.

No grease, no oil, no gloves

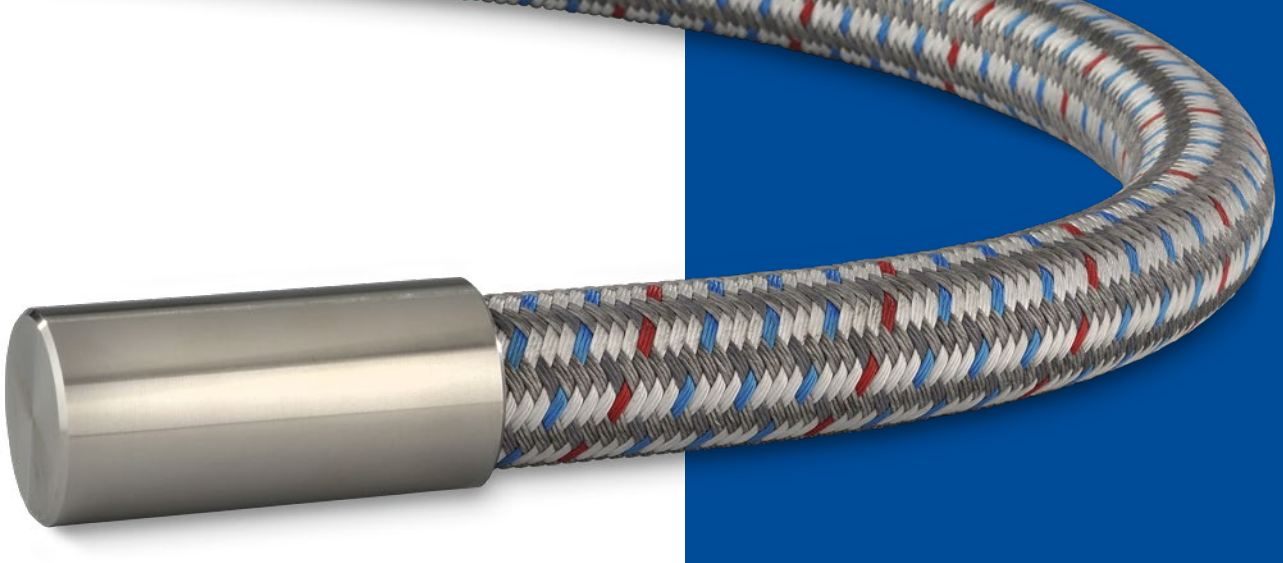
soLITE® already comes with all the required coatings, exactly where they are needed, to make sure that the rope will last for its entire defined lifetime. No grease or slippage on the crane boom, no need for gloves, no oil spray cans.

Smooth travel, no shaking of boom

The high-strength fibers used in soLITE® ensure a breaking strength that compares to that of your steel wire rope, but are not as stiff. Thus, soLITE® provides more elasticity and damping, making your crane much smoother to operate, with less boom wobble when fine-tuning the payload drop. These advantages become apparent during rope handling and reeving.

TÜV-certified

soLITE® is the only commercially available fiber hoist rope independently certified by TÜV and provided with an EC Declaration of Conformity so that you do not have to worry about compliance with regulations. soLITE® meets the current ISO TS 23624 and FEM 5.024 standards governing the use of fiber ropes on cranes.



soLITE®

Patented structure

This rope has a patented core with a low-rotation 3-layer construction modeled on steel wire ropes. It is made up of high-strength fibers whose breaking force compares to that of a steel wire rope of comparable diameter. This core is then provided with a high-strength cover ensuring a safe and readily visible point of discard. The result is a combination of the advantages of a high-performance steel wire rope and the advantages of high-strength fibers.

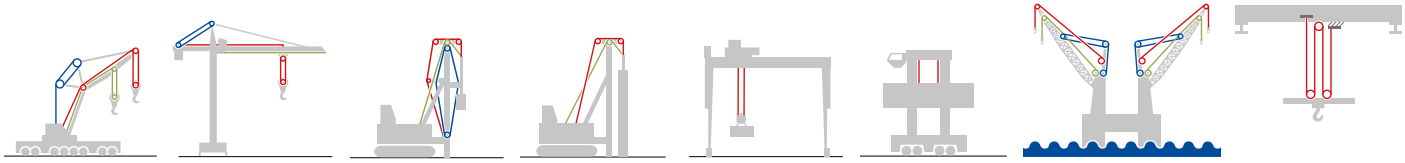
Segments



Advantages

- ✓ soLITE® offers you a breaking strength per diameter that almost matches that of your current steel wire rope, while weighing only about 20 % of your steel wire rope This has a 1:1 impact on the payload
- ✓ The patented 3-layer core has been proven to last up to 10 times longer than a conventional steel wire rope under maximum payload on multi-layer winches
- ✓ Smooth, vibration-free operation
- ✓ No wear of crane components such as sheaves and drums
- ✓ Environmentally friendly, no lubricants
- ✓ Easy detection of point of discard
- ✓ Easy to handle & TÜV-certified
- ✓ 14-year lifetime
- ✓ No grease, no oil, no gloves
- ✓ Smooth travel, no shaking of boom
- ✓ TÜV-certified

Applications



All-terrain & mobile crane | Tower crane | Rotary drilling rig | Piling rig | ASC, RTG, RMG | Straddle Carrier | Ship & platform crane | Overhead crane

Technical specifications

Nominal diameter	Minimum break load	Maximum work load	Weight	Rope modulus (longitudinal stiffness)	Diameter tolerance
mm	kN	kN	kg/m	N/mm²	%
20	222	55	0.31	70,000	2.5 %
22	294	73	0.39	70,000	2.5 %
25	422	110	0.52	70,000	2.4 %

Diameter tolerance 2.5 % matching the winch pitch. other rope diameters are available upon request.
The values are provided for guidance only. The metric figures shall prevail. Subject to further developments which may lead to changes in technical specifications. Subject to changes and errors.

> “The best from two worlds: The reliability and strength of a steel wire rope, combined with the light weight and cleanliness of a fiber rope.”

STS-Stronger Than Steel® technology

When looking for particularly high-performing ropes, one automatically thinks of steel wire ropes. But then there is STS-Stronger Than Steel®. Developed and designed by Teufelberger's development team, this fiber rope is not only significantly lighter than a steel wire rope, but also delivers considerably higher performance.

STS
STRONGER THAN STEEL

This is made possible by a combination of high-tech fibers, an optimized rope design, and an innovative pre-stretching process. This process lends highest breaking forces to the rope which, combined with minimal weight and diameter, make it ideally suited for a variety of industrial applications.





HyperTEN / HyperTEN+

with STS-Stronger Than Steel® Technology

This superlative fiber rope offers users minimal weight combined with highest breaking forces and reduced UHMWPE-typical creep. Produced with STS-Stronger Than Steel® technology. Optionally available with PES (HyperTEN+ Pro-P), UHMWPE (HyperTEN+ Pro-U) cover, or as XBO variant (HyperTEN+ XBO) offering compellingly high bending fatigue strength.

Specifications

- Diameter: 3-34 mm

Core:

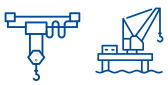
- HyperTEN: thermally pre-stretched UHMWPE
- HyperTEN+: thermally pre-stretched Dyneema®
- Each with STS – Stronger Than Steel® technology

Variants:

- HyperTEN / HyperTEN+: without cover
- HyperTEN Pro-P / HyperTEN+ Pro-P: with PES cover
- HyperTEN Pro-U / HyperTEN+ Pro-U: with UHMWPE cover

✓ For the lifting of loads, certification to Machinery Directive 2006/42/EC, as amended from time to time, is possible.

Segments



Colors



Core: dark-gray	HMPE Cover (Pro-U): red/white	PES Cover (Pro-P): orange/white

Other colors available on request.

Advantages of HyperTEN

- ✓ $^1/_7{}^{th}$ of the weight of comparable steel wire ropes
- ✓ Extremely high breaking force – higher than that of most commercially available steel wire ropes of the same diameter
- ✓ No corrosion, no contamination with rope grease
- ✓ Reduced injury risk, easy and quick to handle
- ✓ Flexible design
- ✓ Extremely high abrasion resistance due to smooth surface, especially when provided with a cover
- ✓ High bending fatigue strength and extremely long service life
- ✓ The kinetic energy released when the rope is damaged is considerably less than in steel wire ropes
- ✓ Very low initial and working stretch (already eliminated during production)
- ✓ Very smooth running behavior thanks to the extremely compact cross-section which provides high transverse pressure stability

Advantages of HyperTEN+

- ✓ Made from original Dyneema® SK78 fibers
- ✓ Highest possible breaking force – higher than that of most commercially available steel wire ropes of the same diameter
- ✓ Reduced UHMWPE-typical creep
- ✓ Completely abrasion resistant due to very smooth surface, especially when provided with a cover
- ✓ Features highest bending fatigue strength and extremely long lifetime. Compared to the standard fiber, the XBO variant ensures a 300-400 % longer lifetime in terms of bending cycles
- ✓ Very smooth running behavior thanks to the extremely compact cross-section which offers high transverse pressure stability

Technical specifications

Core Ø / Rope Ø without cover	**Rope Ø** with cover	**Weight** HyperTEN / HyperTEN+	HyperTEN Pro-P / HyperTEN+ Pro-P	HyperTEN Pro-U / HyperTEN+ Pro-U	**MBF***
mm	mm	g/m	g/m	g/m	kN
3	5	7	15	12	13
4	6	12	22	19	23
5	7	20	47	39	40
6	8	25	53	44	48
7	9	36	69	60	70
8	10	47	84	73	90
9	11	59	100	88	105
10	12	65	105	94	120
11	13	73	114	102	145
12	15	101	171	150	180
14	17	130	217	192	235
15	18	146	237	210	270
16	20	176	293	259	300
18	23	215	381	332	355
20	25	253	454	395	440
22	28	270	507	437	500
24	30	350	629	547	600

* Minimum breaking force spliced

Standard tolerance: ±3 %, other rope diameters are available upon request.
The values are provided for guidance only. The metric figures shall prevail. Subject to further developments which may lead to changes in technical specifications. Subject to changes and errors.

Scope of use of HyperTEN

Wherever highest breaking forces in combination with lowest weight and minimal stretch are needed (especially to replace identically dimensioned steel wire ropes without any modification of the equipment), for example:

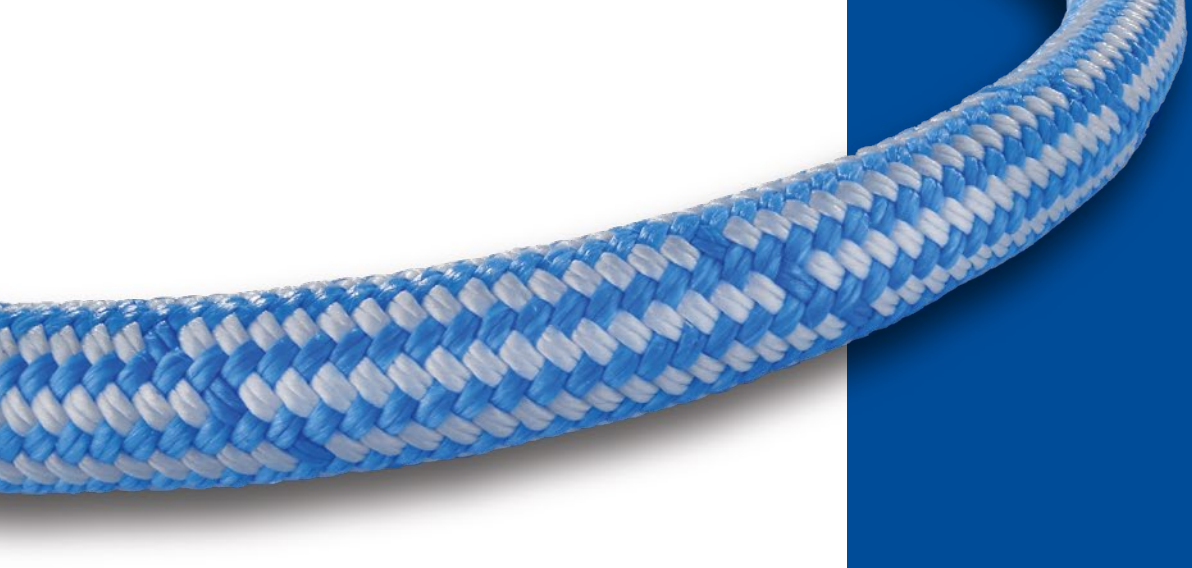
- ✓ Vehicle winches for off-road, maintenance, recovery and military vehicles
- ✓ Overhead line construction
- ✓ Motor winches
- ✓ Mounting ropes
- ✓ Pulling lines for ropeways

and many others

Scope of use of HyperTEN+

Industrial applications that require high breaking forces, bending fatigue strength, and minimal elongation in combination with minimal weight such as:

- ✓ Indoor cranes
- ✓ Lifting tackles / slings
- ✓ High-tech winches
- ✓ High-performance ropes for camera systems such as constant-tension winches (tugger winches)
- ✓ Storage and retrieval machines
- ✓ Static applications that allow minimal elongation and no creep



DuraTEN / DuraTEN+

Our high-strength fiber rope made from high-tech fibers offers a high level of strength in relation to its weight. Its high bending fatigue strength and long lifetime make this rope perfect for the high-end segment.

Specifications

- Diameter: 5–72 mm

Core:

- DuraTEN: UHMWPE
- DuraTEN+: Dyneema® SK78

Variants:

- DuraTEN / DuraTEN+: without cover
- DuraTEN Pro-P / DuraTEN+ Pro-P: with PES cover

✓ For the lifting of loads, certification to Machinery Directive 2006/42/EC, as amended from time to time, is possible.

Segments



Colors



Core:
dark-gray

PES Cover:
blue/white

Other colors available on request.

Advantages of DuraTEN

- ✓ 1/7th of the weight of comparable steel wire ropes, maximum breaking strength – comparable to that of a steel wire rope of the same diameter
- ✓ No corrosion, no contamination with rope grease
- ✓ No injury risk, easy and quick to handle
- ✓ Flexible design
- ✓ Highly abrasion resistant, especially when provided with a cover
- ✓ High bending fatigue strength and long service life
- ✓ The kinetic energy released when the rope is damaged is considerably less than in steel wire ropes

Advantages of DuraTEN+

DuraTEN+ offers all the benefits of DuraTEN, plus the following additional advantages:

- ✓ Made from original Dyneema® SK78 fibers
- ✓ Exhibits reduced UHMWPE-typical creep
- ✓ Offers very high bending fatigue strength and extremely long lifetime. Compared to the standard fiber, the XBO variant offers a 300-400 % longer lifetime in terms of bending cycles

Technical specifications

Core Ø / Rope Ø	**Rope Ø**	**Weight**		**MBF***
without cover	with cover	DuraTEN / DuraTEN+	DuraTEN Pro-P / DuraTEN+ Pro-P	
mm	mm	g/m	g/m	kN
5	7	15	35	21
6	8	20	42	35
7	9	27	52	43
8	10	34	61	55
9	11	44	75	72
10	12	54	88	85
11	13	65	101	107
12	15	76	137	125
14	17	107	179	160
16	20	144	259	220
18	23	183	332	275
22*	28	248	442	378
24*	30	291	508	436
26*	32	332	569	500
28*	34	392	653	591
30*	36	445	749	663
33*	40	502	902	738
35*	42	564	985	823
38*	44	620	1,050	912
40*	48	850	1,447	1,134
42*	50	1,042	1,657	1,343
48*	60	1,223	2,197	1,525
52*	64	1,510	2,610	1,810
56*	68	1,704	2,848	2,148
60*	72	1,914	3,106	2,353
64*	77	2,283	3,729	2,651
66*	82	2,405	4,255	2,800
72*	88	2,817	4,786	3,332

* Minimum breaking force spliced

Standard tolerance: ±3 %, other rope diameters are available upon request.
The values are provided for guidance only. The metric figures shall prevail. Subject to further developments which may lead to changes in technical specifications. Subject to changes and errors.

Scope of use of DuraTEN

Industrial applications that require high breaking forces, bending fatigue strength, and low elongation in combination with minimal weight such as:

- ✓ Vehicle winches for offroad, maintenance, recovery and military vehicles
- ✓ Overhead line construction
- ✓ Motor winches
- ✓ Mounting ropes
- ✓ and many others

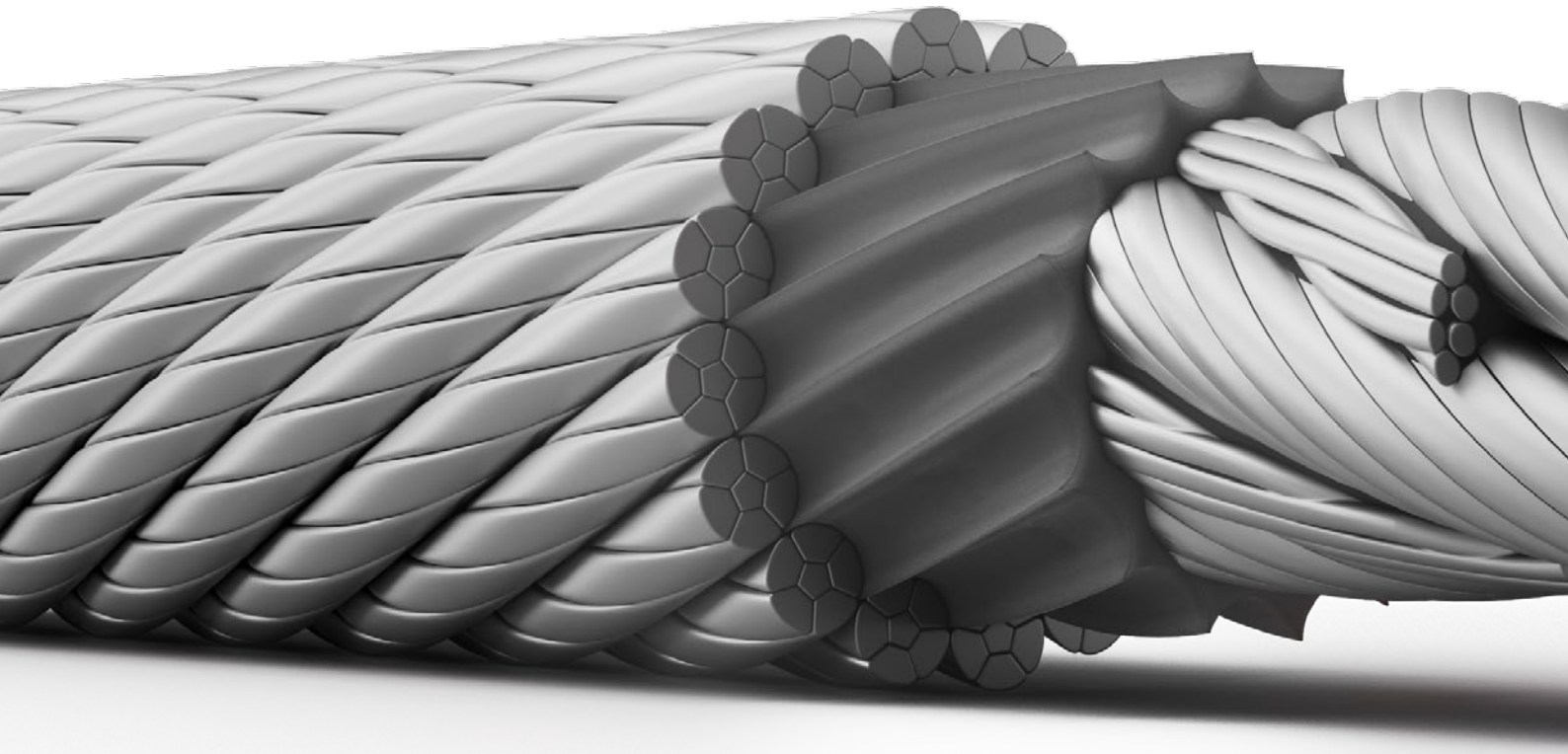
Scope of use of DuraTEN+

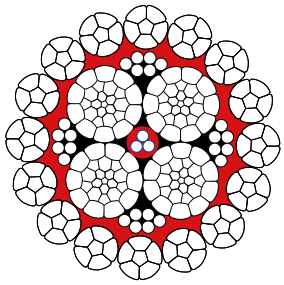
DuraTEN+ is used for industrial applications that require high breaking forces, bending fatigue strength, and low elongation in combination with minimal weight such as:

- ✓ Indoor cranes
- ✓ Lifting tackles / slings
- ✓ High-tech winches
- ✓ Static applications that allow minimal elongation and no creep

Rope and data transmission functionality

perfectly combined in a single product

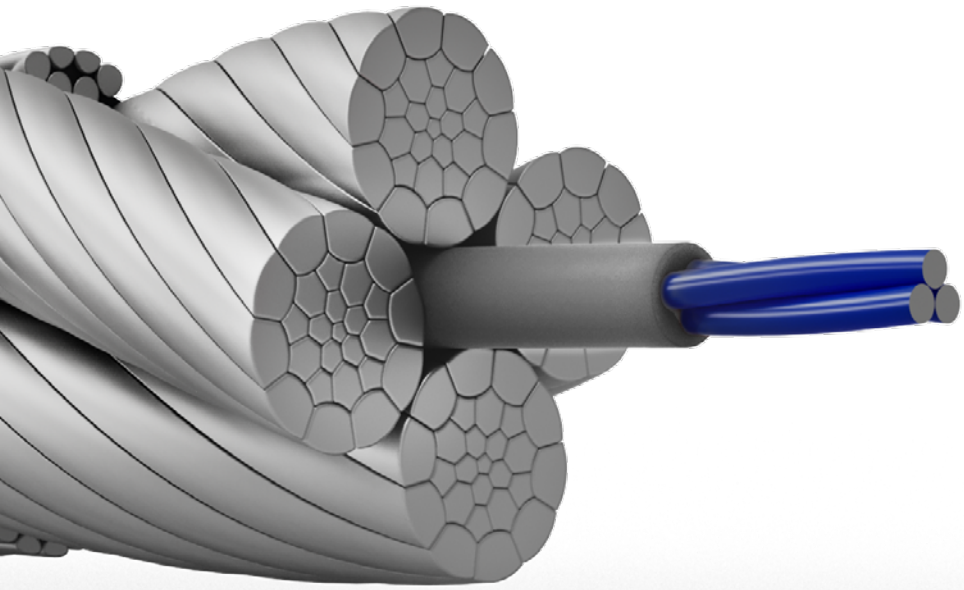




Evolution TK® Data

Our Evolution TK® Data combines a rotation-resistant rope and an integrated optical waveguide in a single product. This enables seamless data transmission via the hoist rope from the attachment point of the rope all the way to the winch, without the need for an additional cable. The optical waveguide is embedded in the steel wire rope which protects it from mechanical damage. This innovation is particularly well-suited for multi-layer spooling systems in the building & construction and offshore segments and can be implemented for all Evolution TK® ropes.

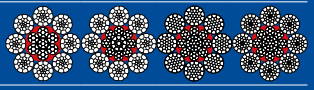
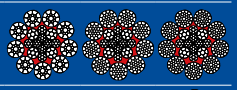
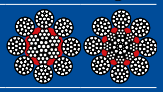
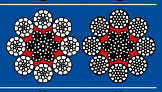
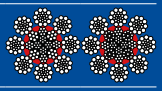
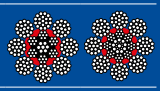
Evolution TK® Data is a custom-tailored project rope specifically adapted to the requirements of a variety of applications. Contact us if you need a rope with integrated data transmission functionality for your project: Together, we will find the best solution for your needs.





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Our non-rotation-resistant high-performance steel wire and fiber ropes

p. 54	Evolution P9	
p. 56	Evolution P9 BX	
p. 58	Evolution QS816V	
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p. 62	Evolution Q9XT	
p. 64	Evolution Q8	
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p. 70	Evolution Q812F	



Customized solutions for your needs

LHM, hoist rope, Evolution Q8, 46 mm

p. 72	Pack 1	
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p. 80	Execution M6	
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p. 84	612W	
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Evolution P9

Protection against external influences paired with maximum dimensional stability under lateral pressure: Our Evolution P9, a swaged high-performance rope, offers maximum dimensional stability and enormous breaking forces in combination with great flexibility. Its innovative 9-strand structure combined with Teufelberger-Redaelli's DUOFILL® compaction technology make all the difference.

Specifications

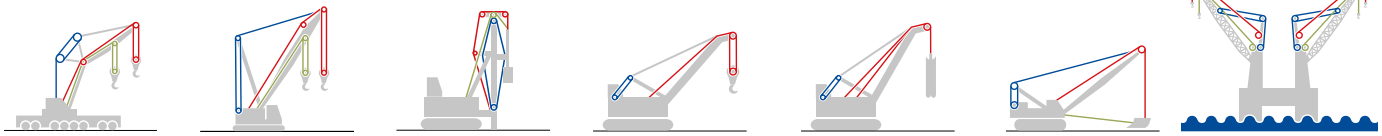
- Ordinary lay, right or left-handed
- 16-32 mm: K9xK19S-PWRC(K), RCN 05, n=171
- Filling factor f=0.77
- Use without swivel
- ✓ Multi-layer spooling
- ✓ SUPERFILL®
- ✓ PLASTFILL®
- ✓ DUOFILL®

Segments

Advantages

- ✓ Very high dimensional stability under lateral pressure thanks to DUOFILL® compaction technology
- ✓ The proven 9-strand structure of the double-parallel lay design guarantees a round and smooth surface, ensuring perfect results in single-layer and multi-layer spooling applications
- ✓ Enhanced safety: DUOFILL® compaction ensures very high breaking forces

Applications



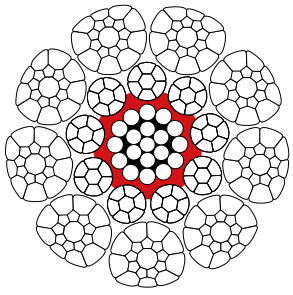
All-terrain & mobile crane | Crawler crane | Rotary drilling rig | Duty cycle crawler | Duty cycle crawler with diaphragm wall grab | Duty cycle crawler with scraper | Ship & platform crane

Technical specifications

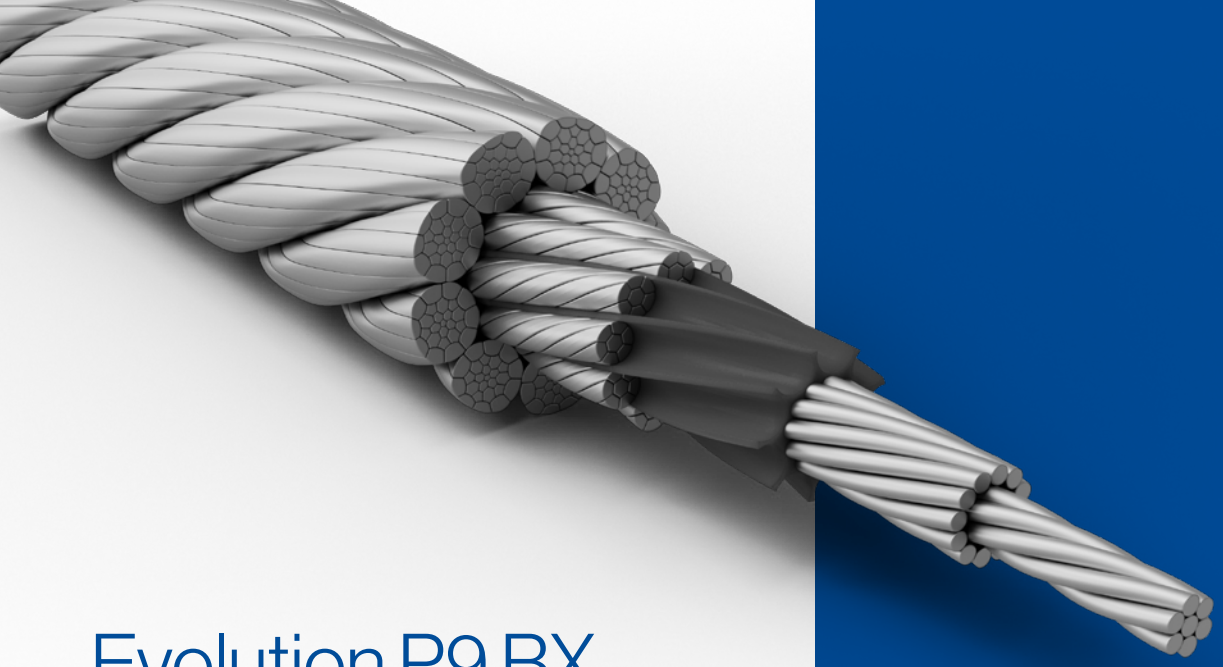
Construction	Nominal Ø		Rope length mass		MBF at rope grade					
					1770		1960		2160	
	mm	inch	kg/m	lbs/ft	kN	lbf	kN	lbf	kN	lbf
K9xK19S-PWRC(K) RCN 05, n=171	16	5/8	1.29	0.87	242	54,404	268	60,249	284	63,846
	18		1.63	1.10	306	68,792	339	76,210	359	80,706
	19	3/4	1.82	1.22	341	76,660	378	84,978	400	89,924
	20		2.02	1.36	378	84,978	419	94,195	443	99,590
	22		2.43	1.64	458	102,962	507	113,978	536	120,498
	22.22	7/8	2.48	1.67	467	104,986	517	116,226	547	122,970
	24		2.90	1.95	544	122,296	603	135,560	638	143,428
	25		3.14	2.11	591	132,862	654	147,025	693	155,793
	25.4	1	3.24	2.18	610	137,133	675	151,746	715	160,738
	26		3.40	2.28	639	143,653	708	159,165	749	168,382
	28		3.95	2.66	742	166,808	822	184,793	869	195,359
	28.58	1 1/8	4.12	2.77	772	173,553	854	191,987	905	203,452
	30		4.50	3.02	851	191,312	942	211,770	998	224,359
	31.75	1 1/4	4.97	3.34	939	211,096	1040	233,801	1094	245,941
	32		5.05	3.39	954	214,468	1056	237,398	1112	249,988

Standard tolerance: +2.5 % to +3.5 %, other tolerance ranges and rope diameters are available upon request.
The values are provided for guidance only. The metric figures shall prevail. The rope cross-section depicts a typical design and may vary within the product line.
Subject to further developments which may lead to changes in technical specifications. Subject to changes and errors.

“Maximum dimensional stability under lateral pressure, very high breaking forces, and perfect spooling results thanks to the innovative DUOFILL® technology.”



Evolution P9



Evolution P9 BX

The unique combination of flexibility and stability makes our Evolution P9 BX the high-performing boom hoist rope for challenging multi-layer winch systems (e.g., double winch).

By further developing our proven Evolution P9, we are setting new standards in spooling efficiency without compromising on breaking strength. The Evolution P9 BX has proven to be a powerful problem solver, even in extreme conditions.

Specifications

- Ordinary lay, right or left-handed
- 16-32 mm: K9xK26WS-PWRC(K), RCN 10, n=234
- Filling factor f=0.75
- Use without swivel

✓ SUPERFILL®

✓ PLASTFILL®

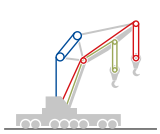
✓ DUOFILL®

Segments

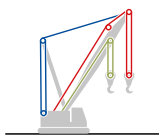
Advantages

- ✓ Optimized for multi-layer spooling on double-winch systems
- ✓ Very high bending flexibility (BX) on winches and sheaves with consistent breaking strength
- ✓ Long service life even in high-load conditions

Applications



All-terrain & mobile crane



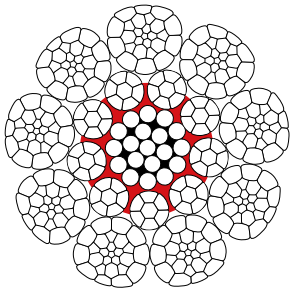
Crawler crane

Technical specifications

Construction	Nominal Ø		Rope length mass		MBF at rope grade*					
					1770		1960		2160	
	mm	inch	kg/m	lbs/ft	kN	lbf	kN	lbf	kN	lbf
K9xK26WS-PWRC(K) RCN 10, n=234	16	5/8	1.26	0.85	235	52,853	260	58,478	282	63,325
	18		1.60	1.07	297	66,772	329	73,892	356	80,027
	19	3/4	1.78	1.20	331	74,346	366	82,279	396	89,114
	20		1.97	1.33	366	82,330	405	91,119	439	98,693
	22		2.39	1.60	443	99,524	490	110,160	531	119,324
	22.22	7/8	2.43	1.64	452	101,516	500	112,365	541	121,713
	24		2.84	1.91	526	118,357	583	131,014	631	141,920
	25		3.08	2.07	571	128,387	632	142,121	685	153,955
	25.4	1	3.18	2.14	589	132,514	653	146,690	707	158,906
	26		3.33	2.24	618	138,827	684	153,681	741	166,481
	28		3.87	2.60	716	160,934	793	178,162	859	193,007
	28.58	1 1/8	4.03	2.71	746	167,652	826	185,600	894	201,067
	30		4.44	2.98	821	184,680	909	204,456	985	221,497
	31.75	1 1/4	4.97	3.34	920	206,800	1,018	228,951	1,077	248,038
	32		5.05	3.39	934	210,063	1,034	232,563	1,094	251,953

Standard tolerance: +2,5 % to +3,5 %, other tolerance ranges and rope diameters are available upon request.
The values are provided for guidance only. The metric figures shall prevail. The rope cross-section depicts a typical design and may vary within the product line.
Subject to further developments which may lead to changes in technical specifications. Subject to changes and errors.

> “The perfect combination of flexibility and stability for challenging multi-layer spooling applications in extreme conditions.”



Evolution P9 BX



Evolution QS816V

Its excellent resistance to adverse external influences is what sets this rope apart. It features Teufelberger-Redaelli's SUPERFILL® compaction technology which ensures high breaking forces and maximum safety in use. Its compacted core and a PLASTFILL® insert give this rope high dimensional stability under lateral pressure.

Specifications

- Lang's lay or ordinary lay, right or left-handed
- 10-42 mm: 8xK26WS-EPIWRC(K), RCN 09, n=208
- 44-50 mm: 8xK31WS-EPIWRC(K), RCN 11, n=248
- 50.8-66 mm: 8xK42WS-EPIWRC(K), RCN > 13, n=336
- Filling factor f=0.71
- Use without swivel
- Special core structure
- ✓ Multi-layer spooling
- ✓ SUPERFILL®
- ✓ PLASTFILL®

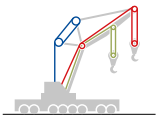
Advantages

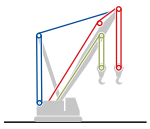
- ✓ Reliability and safety in use: very high breaking forces and high safety factor
- ✓ Improved permanent lubrication: The PLASTFILL® insert helps reduce wear in the core
- ✓ Long service life due to the wear-optimized design and the core-protecting PLASTFILL® insert
- ✓ Excellent spooling behavior on multi-layer spooling systems thanks to high dimensional stability under lateral pressure

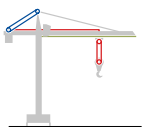
Segments

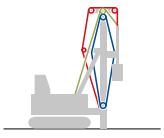


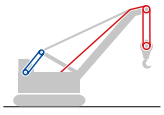
Anwendungen

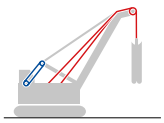

All-terrain & mobile crane

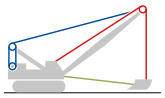

Crawler crane

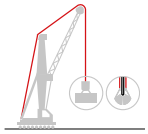

Tower crane

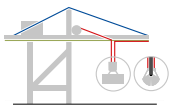

Rotary drilling rig

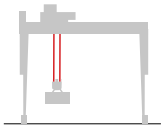

Duty cycle crawler

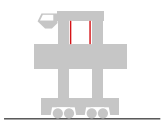

Duty cycle crawler with diaphragm wall grab

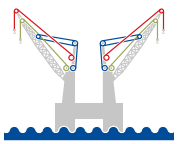

Duty cycle crawler with scraper

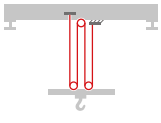

Mobile harbor crane

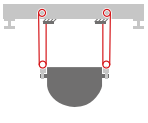

Ship-to-shore crane & ship unloader

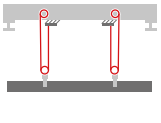

ASC, RTG, RMG

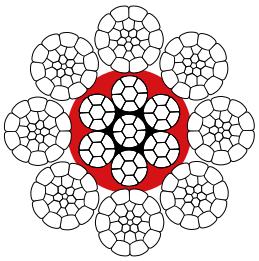

Straddle carrier

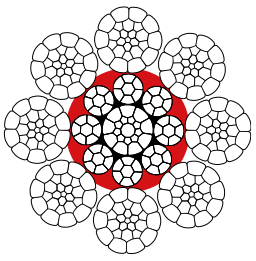

Ship & platform crane

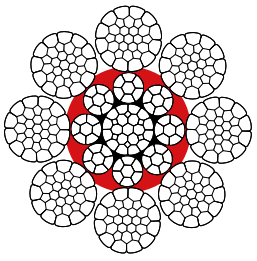

Overhead crane

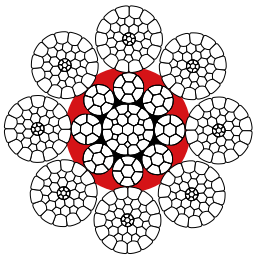

Ladle and foundry crane


Slab crane


Evolution QS816V 10-29 mm


Evolution QS816V 30-42 mm


Evolution QS816V 44-50 mm


Evolution QS816V 50,8-66 mm

Technical specifications

Construction	Nominal Ø		Rope length mass		MBF at rope grade					
					1770		1960		2160	
	mm	inch	kg/m	lbs/ft	kN	lbf	kN	lbf	kN	lbf
8xK26WS-EPIWRC(K) RCN 09, n=208	10		0.47	0.32	83	18,659	92	20,682	100	22,481
	11	7/16	0.57	0.38	101	22,706	112	25,179	121	27,202
	12		0.69	0.46	120	26,977	133	29,900	144	32,372
	12.7	1/2	0.77	0.52	135	30,349	149	33,497	161	36,194
	13		0.81	0.54	141	31,698	156	35,070	172	38,667
	14	9/16	0.93	0.62	163	36,644	181	40,690	198	44,512
	15		1.08	0.72	188	42,264	208	46,760	226	50,807
	16	5/8	1.21	0.81	214	48,109	236	53,055	256	57,551
	17		1.36	0.92	241	54,179	267	60,024	289	64,970
	18		1.54	1.03	270	60,698	299	67,218	324	72,838
	19	3/4	1.71	1.15	302	67,892	335	75,311	369	82,955
	20		1.88	1.26	334	75,086	369	82,955	402	90,373
	21		2.11	1.41	374	84,079	414	93,071	449	100,939
	22		2.32	1.56	408	91,722	451	101,389	497	111,730
	22.23	7/8	2.34	1.57	412	92,621	456	102,513	503	113,079
	23		2.52	1.70	445	100,040	492	110,606	543	122,071
	24		2.73	1.83	480	107,908	532	119,598	577	129,715
	25		2.96	1.99	521	117,125	577	129,715	633	142,304
	25.4	1	3.03	2.04	538	120,947	596	133,986	646	145,227
	26		3.21	2.16	564	126,792	624	140,281	678	152,420
	27		3.45	2.32	608	136,684	673	151,296	730	164,111
	28		3.73	2.51	656	147,475	726	163,211	800	179,847
	28.58	1 1/8	3.88	2.61	681	153,095	754	169,506	820	184,343
	29		3.99	2.68	701	157,591	777	174,677	847	190,413
	30		4.30	2.89	764	171,754	846	190,188	901	202,553
	31.75	1 1/4	4.70	3.16	841	189,064	931	209,297	1,009	226,832
	32		4.86	3.27	864	194,235	957	215,142	1,042	234,251
	34		5.48	3.68	964	216,716	1,068	240,096	1,157	260,104
	35		5.80	3.90	1,022	229,755	1,131	254,259	1,226	275,616
	36		6.18	4.16	1,081	243,018	1,197	269,096	1,297	291,577
	38		6.89	4.63	1,222	274,717	1,354	304,391	1,445	324,849
	40		7.67	5.16	1,342	301,694	1,486	334,066	1,601	359,919
	41		8.00	5.38	1,402	315,182	1,553	349,128	1,711	384,648
	42		8.46	5.69	1,482	333,167	1,641	368,911	1,766	397,013
8xK31WS-EPIWRC(K) RCN 11, n=248	44		9.10	6.11	1,615	363,066	1,788	401,958	1,938	435,680
	44.45	1 3/4	9.31	6.26	1,648	370,485	1,825	410,276	1,978	444,672
	46		10.00	6.72	1,765	396,788	1,954	439,277	2,118	476,145
	48		10.81	7.26	1,922	432,083	2,128	478,393	2,306	518,409
	50		11.71	7.87	2,085	468,727	2,309	519,084	2,502	562,472
8xK42WS-EPIWRC(K) RCN > 13, n=336	50.8	2	12.05	8.09	2,117	475,921	2,344	526,952	2,539	570,790
	52		12.61	8.47	2,218	498,626	2,456	552,131	2,661	598,217
	54	2 1/8	13.55	9.10	2,392	537,743	2,648	595,294	2,869	644,977
	56		14.59	9.81	2,572	578,209	2,848	640,256	3,086	693,760
	57.15	2 1/4	15.16	10.19	2,679	602,263	2,966	666,783	3,214	722,536
	58		15.61	10.49	2,759	620,248	3,055	686,791	3,310	744,118
	60		16.75	11.26	2,953	663,861	3,270	735,125	3,542	796,273
	60.33	2 3/8	16.89	11.35	2,985	671,055	3,305	742,994	3,581	805,041
	64		19.00	12.77	3,360	755,358	3,720	836,289	3,961	890,468
	66		20.23	13.60	3,573	803,242	3,956	889,344	4,212	946,895

Standard tolerance: +2 % to +4 %, other tolerance ranges and rope diameters are available upon request.
The values are provided for guidance only. The metric figures shall prevail. The rope cross-section depicts a typical design and may vary within the product line.
Subject to further developments which may lead to changes in technical specifications. Subject to changes and errors.



Pack 9P

The 9-strand structure with plastic coating & compaction ensures maximum wear resistance. This rope has demonstrated excellent performance characteristics when used as a crown rope on rotary drilling rigs in extremely harsh environments. It is also available as a non-plastic-infused variant.

Specifications

- Ordinary or Lang's lay, right or left-handed
- 14-40 mm: 9xK19S-EPIWRC(K), RCN 05, n=171
- 41.28-48 mm: 9xK31WS-EPIWRC(K), RCN 12, n=279
- 50-60 mm: 9xK36WS-EPIWRC(K), RCN 14, n=324
- Filling factor f=0.74
- Use without swivel

✓ SUPERFILL®

✓ PLASTFILL®

Advantages

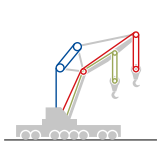
✓ Good fleet angle resistance thanks to PLASTFILL® technology

✓ Excellent resistance to bending cycles thanks to flexible rope structure

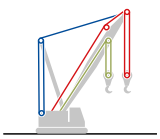
✓ Less abrasion on rope-guiding components thanks to smooth rope surface and 9-strand structure

Segments

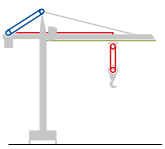
Applications



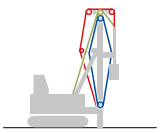
All-terrain & mobile crane



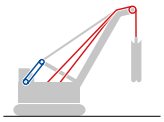
Crawler crane



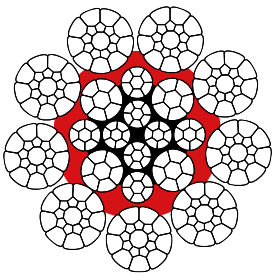
Tower crane



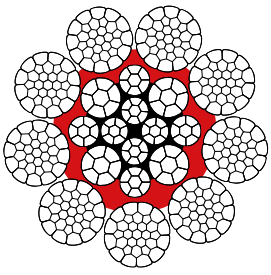
Rotary drilling rig



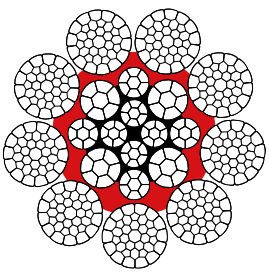
Duty cycle crawler with diaphragm wall grab



Pack 9P
14-40 mm



Pack 9P
41.28-48 mm



Pack 9P
50-60 mm

Technical specifications

Construction	Nominal Ø		Rope length mass		MBF at rope grade					
					1770		1960		2160	
	mm	inch	kg/m	lbs/ft	kN	lbf	kN	lbf	kN	lbf
9xK19S-EPIWRC(K) RCN 05, n=171	14		0.94	0.63	163	36,644	180	40,466	194	43,613
	15		1.08	0.73	187	42,039	207	46,535	223	50,132
	15.88	5/8	1.21	0.81	209	46,985	232	52,156	249	55,977
	16		1.23	0.83	212	47,659	235	52,830	253	56,877
	17		1.39	0.93	240	53,954	266	59,799	286	64,295
	18		1.56	1.05	269	60,474	298	66,993	320	71,939
	19	3/4	1.73	1.16	300	67,443	332	74,637	357	80,257
	20		1.92	1.29	332	74,637	368	82,730	396	89,024
	22		2.33	1.57	402	90,373	445	100,040	479	107,683
	22.23	7/8	2.37	1.59	410	92,172	454	102,063	489	109,932
	23		2.54	1.71	439	98,691	486	109,257	523	117,575
	24		2.77	1.86	478	107,459	529	118,924	570	128,141
	25		3.00	2.02	519	116,676	574	129,040	618	138,932
	25.4	1	3.10	2.08	535	120,273	593	133,312	638	143,428
	26		3.25	2.18	561	126,118	621	139,606	669	150,397
	28		3.77	2.53	651	146,351	721	162,087	775	174,227
	28.58	1 1/8	3.92	2.63	678	152,420	751	168,832	808	181,646
	30		4.32	2.90	747	167,932	827	185,917	855	192,212
	31.75	1 1/4	4.84	3.25	837	188,165	926	208,173	958	215,367
	32		4.92	3.31	850	191,088	941	211,545	973	218,739
	34		5.55	3.73	959	215,592	1,062	238,747	1,098	246,840
	35	1 3/8	5.89	3.96	1,017	228,631	1,126	253,135	1,164	261,678
	36		6.23	4.19	1,076	241,894	1,191	267,747	1,231	276,740
	38	1 1/2	6.94	4.66	1,198	269,321	1,327	298,321	1,372	308,438
	40		7.69	5.17	1,328	298,546	1,470	330,469	1,520	341,710
9xK31WS-EPIWRC(K) RCN 12, n=279	41.28	1 5/8	8.11	5.45	1,386	311,585	1,535	345,082	1,613	362,617
	42		8.40	5.64	1,435	322,601	1,589	357,221	1,670	375,431
	44		9.22	6.20	1,574	353,849	1,743	391,842	1,833	412,075
	44.45	1 3/4	9.41	6.32	1,607	361,268	1,779	399,935	1,870	420,393
	46		10.08	6.77	1,721	386,896	1,906	428,486	2,003	450,292
	47.63	1 7/8	10.80	7.26	1,845	414,773	2,043	459,285	2,148	482,890
	48		10.97	7.37	1,874	421,292	2,075	466,479	2,181	490,308
9xK36WS-EPIWRC(K) RCN 14, n=324	50		11.71	7.87	2,005	450,742	2,221	499,301	2,333	524,479
	50.8	2	12.09	8.12	2,070	465,355	2,292	515,262	2,408	541,340
	52		12.67	8.51	2,169	487,611	2,402	539,991	2,523	567,193
	54	2 1/8	13.66	9.18	2,339	525,828	2,590	582,255	2,721	611,705
	56		14.69	9.87	2,515	565,394	2,785	626,093	2,926	657,791
	57.15	2 1/4	15.30	10.28	2,620	588,999	2,901	652,171	3,047	684,993
	58		15.76	10.59	2,698	606,535	2,988	671,729	3,139	705,675
	60		16.86	11.33	2,888	649,248	3,198	718,939	3,359	755,133

Standard tolerance: +2 % to +4 %, other tolerance ranges and rope diameters are available upon request.
The values are provided for guidance only. The metric figures shall prevail. The rope cross-section depicts a typical design and may vary within the product line. Subject to further developments which may lead to changes in technical specifications. Subject to changes and errors.



Evolution Q9XT

It is especially on cranes used to move bulk goods where the Evolution Q9XT high-performance steel wire rope developed by Teufelberger-Redaelli unleashes its full performance potential. Its innovative, evolutionary structure with 4 core strands makes it extremely durable and long-lived.

Specifications

- Ordinary lay, right or left-handed
- 20-54 mm: 8xK31WS – EPIWRC, RCN 11, n=248
- Filling factor f=0.68
- Use without swivel

✓ Radial elastic core

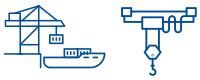
✓ SUPERFILL®

✓ PLASTFILL®

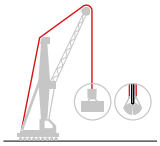
Advantages

- ✓ Trouble-free operation: Excellent absorption of shock loads due to eliminated king strand
- ✓ Extremely long lifetime: The high RCN number allows a large number of outer wire breaks
- ✓ Improved visibility of point of discard from the outside: Four center strands reduce the risk of damaging the rope core
- ✓ Long service life due to wear-optimized design and core-protecting PLASTFILL® insert

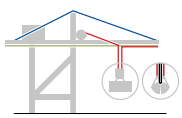
Segments



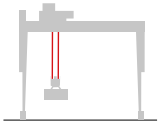
Applications



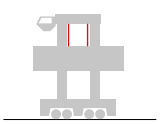
Mobile harbor crane



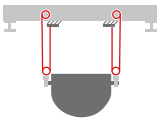
Ship-to-shore crane & ship unloader



ASC, RTG, RMG



Straddle Carrier

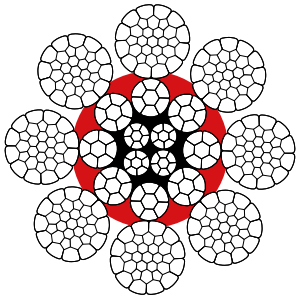


Ladle and foundry crane

Technical specifications

Construction	Nominal Ø		Rope length mass		MBF at rope grade 1770		1960	
	mm	inch	kg/m	lbs/ft	kN	lbf	kN	lbf
8xK31WS-EPIWRC(K) RCN 11, n=248	20		1.82	1.22	311	69,916	345	77,559
	21		2.02	1.36	343	77,109	380	85,427
	22		2.22	1.49	377	84,753	417	93,745
	22.23	7/8	2.26	1.52	385	86,551	426	95,769
	23		2.42	1.63	412	92,621	456	102,513
	24		2.64	1.77	448	100,714	497	111,730
	25		2.86	1.92	487	109,482	539	121,172
	25.4	1	2.96	1.99	502	112,854	556	124,994
	26		3.09	2.08	526	118,250	583	131,064
	27		3.34	2.24	568	127,691	628	141,180
	28		3.61	2.42	610	137,133	676	151,971
	28.58	1 1/8	3.74	2.52	636	142,978	704	158,265
	29		3.85	2.59	655	147,250	725	162,986
	30		4.12	2.77	701	157,591	776	174,452
	31.75	1 1/4	4.62	3.10	785	176,475	869	195,359
	32		4.69	3.15	797	179,173	883	198,506
	34		5.30	3.56	900	202,328	997	224,135
	35		5.61	3.77	954	214,468	1,056	237,398
	36		5.94	3.99	1,009	226,832	1,117	251,112
	38		6.62	4.45	1,124	252,685	1,245	279,887
	40		7.33	4.93	1,246	280,112	1,379	310,012
	41		7.70	5.17	1,309	294,275	1,449	325,748
	42		8.10	5.44	1,373	308,663	1,521	341,934
	44		8.88	5.97	1,507	338,787	1,669	375,206
	44.45	1 3/4	9.05	6.08	1,538	345,756	1,703	382,850
	46		9.69	6.51	1,647	370,260	1,824	410,052
	48		10.55	7.09	1,794	403,307	1,986	446,471
	50		11.45	7.70	1,946	437,478	2,155	484,463
	50.8	2	11.82	7.94	2,009	451,641	2,225	500,200
	52		12.39	8.32	2,105	473,223	2,331	524,030
	54	2 1/8	13.39	9.00	2,270	510,316	2,514	565,170

Standard tolerance: +2 % to +4 %, other tolerance ranges and rope diameters are available upon request.
The values are provided for guidance only. The metric figures shall prevail. The rope cross-section depicts a typical design and may vary within the product line.
Subject to further developments which may lead to changes in technical specifications. Subject to changes and errors.



Evolution Q9XT



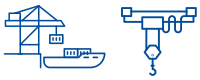
Evolution Q8

This high-performance hoist rope for harbor-specific and industrial applications impresses users with its superior longevity and high breaking strength, achieved thanks to SUPERFILL® compaction.

Specifications

- Ordinary lay, right or left-handed
- 12-54 mm: 8xK25F-EPIWRC, RCN 06, n=152
- Filling factor f=0.65
- Use without swivel
- ✓ SUPERFILL®
- ✓ PLASTFILL®

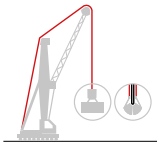
Segments



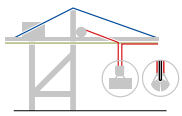
Advantages

- ✓ This rope caters perfectly to the requirements of the market: World-leading crane manufacturers rely on the Evolution Q8
- ✓ Increased flexibility: A filler construction that improves bendability
- ✓ Less core wear: Eight non-compacted core strands increase the flexibility of the core
- ✓ Long lifetime due to wear-optimized construction and core-protecting PLASTFILL® insert

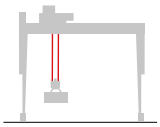
Applications



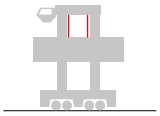
Mobile harbor crane



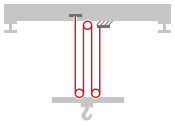
Ship-to-shore crane & ship unloader



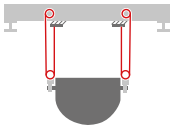
ASC, RTG, RMG



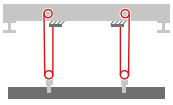
Straddle Carrier



Overhead crane



Ladle and foundry crane

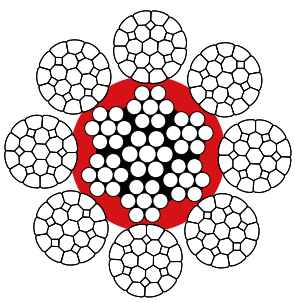


Slab crane

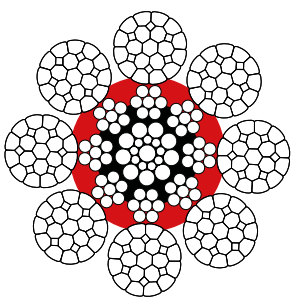
Technical specifications

Construction	Nominal Ø		Rope length mass		MBF at rope grade			
					1770		1960	
	mm	inch	kg/m	lbs/ft	kN	lbf	kN	lbf
8xK25F-EPIWRC RCN 06, n=152	12		0.64	0.43	110	24,729	122	27,427
	12.7	1/2	0.71	0.48	123	27,652	137	30,799
	13		0.74	0.50	129	29,000	143	32,148
	14	9/16	0.86	0.58	150	33,721	166	37,318
	15		0.99	0.67	172	38,667	190	42,714
	16	5/8	1.13	0.76	196	44,063	217	48,784
	17		1.27	0.86	221	49,683	245	55,078
	18		1.42	0.95	247	55,528	274	61,598
	19	3/4	1.59	1.07	276	62,047	306	68,792
	20		1.76	1.18	306	68,792	339	76,210
	21		1.94	1.30	337	75,761	373	83,854
	22		2.13	1.43	370	83,179	410	92,172
	22.23	7/8	2.17	1.46	378	84,978	418	93,970
	23		2.33	1.56	404	90,823	448	100,714
	24		2.54	1.71	441	99,141	502	112,854
	25		2.74	1.84	478	107,459	529	118,924
	25.4	1	2.84	1.91	493	110,831	546	122,746
	26		2.97	2.00	517	116,226	572	128,591
	27		3.21	2.16	557	125,219	617	138,707
	28		3.45	2.32	600	134,885	664	149,273
	28.58	1 1/8	3.59	2.41	625	140,506	692	155,568
	29		3.70	2.49	643	144,552	712	160,064
	30		3.99	2.68	688	154,669	762	171,304
	31.75	1 1/4	4.47	3.00	771	173,328	853	191,762
	32		4.54	3.05	783	176,025	867	194,909
	34		5.15	3.46	882	198,281	977	219,638
	35		5.43	3.65	937	210,646	1,037	233,127
	36		5.73	3.85	999	224,584	1,097	246,615
	38		6.40	4.30	1,104	248,189	1,223	274,941
	40		7.09	4.77	1,223	274,941	1,355	304,616
	41		7.43	4.99	1,285	288,879	1,423	319,903
	42		7.82	5.26	1,349	303,267	1,494	335,865
	44		8.64	5.81	1,480	332,717	1,639	368,462
	44.45	1 3/4	8.82	5.93	1,511	339,686	1,673	376,105
	46		9.44	6.35	1,618	363,741	1,792	402,858
	48		10.23	6.87	1,762	396,113	1,951	438,602
	50		11.15	7.49	1,912	429,835	2,117	475,921
	50.8	2	11.52	7.74	1,973	443,548	2,185	491,208
	52		12.07	8.11	2,067	464,680	2,289	514,588
	54	2 1/8	13.00	8.74	2,230	501,324	2,469	555,053

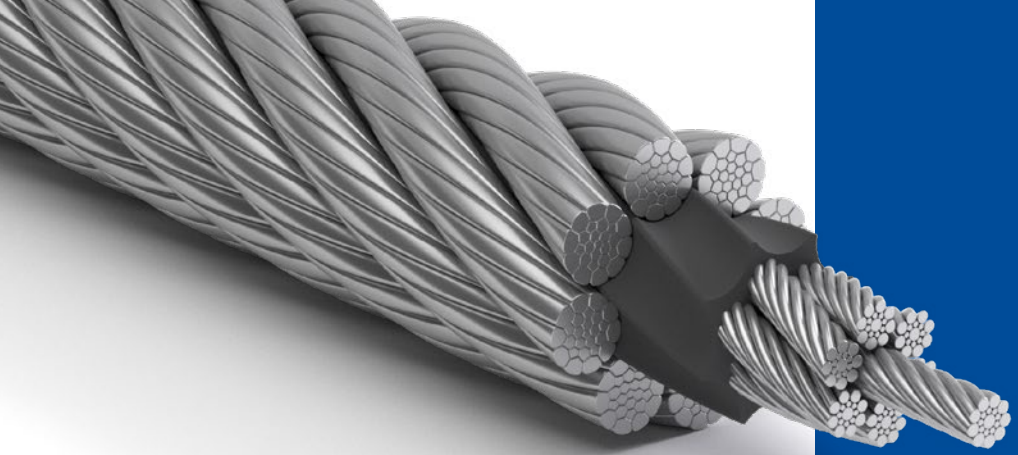
Standard tolerance: +0 % to +4 %, other tolerance ranges and rope diameters are available upon request.
The values are provided for guidance only. The metric figures shall prevail. The rope cross-section depicts a typical design and may vary within the product line.
Subject to further developments which may lead to changes in technical specifications. Subject to changes and errors.



Evolution Q8
12-29 mm



Evolution Q8
30-54 mm



Keeport 8KP

The jack-of-all-trades in Teufelberger-Redaelli's product portfolio for harbor applications. Impeccable performance thanks to high breaking forces, high wear resistance, and high stability under lateral pressure. The Keeport® guarantees consistent performance, great stability and load-bearing capacity.

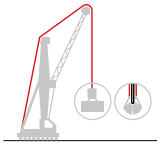
Specifications

- Ordinary lay, right or left-handed
- 15-48 mm: 8xK26WS-EPIWRC, RCN 09, n=208
- 50-66 mm: 8xK31WS-EPIWRC, RCN 11, n=248
- Filling factor f=0.7
- Galvanized finish
- Intensive lubrication for maritime applications
- Use without swivel
- ✓ SUPERFILL®
- ✓ PLASTFILL®

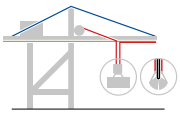
Segments



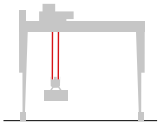
Applications



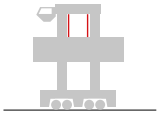
Mobile harbor crane



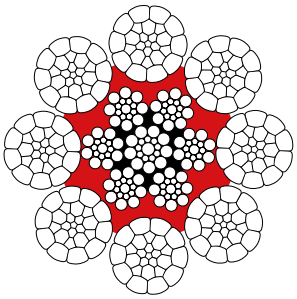
Ship to shore crane & ship unloader



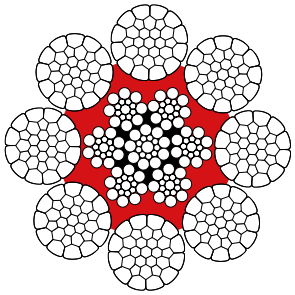
ASC, RTG, RMG



Straddle Carrier



Keeport 8KP
15-48 mm



Keeport 8KP
50-66 mm

Advantages

- ✓ Consistent performance throughout the entire service life. The plastification reduces internal friction and internal rope wear
- ✓ High stability in use cases involving fleet angles thanks to the well-balanced rope construction
- ✓ Optimum balance between flexibility and resistance, ideal degree of compaction

Technical specifications

Construction	Nominal Ø		Rope length mass		MBF at rope grade					
					1770		1960		2160	
	mm	inch	kg/m	lbs/ft	kN	lbf	kN	lbf	kN	lbf
8xK26WS-EPIWRC RCN 09, n=208	15		1.04	0.70	182	40,915	202	45,411	219	49,233
	15.88	5/8	1.16	0.78	204	45,861	226	50,807	245	55,078
	16		1.18	0.79	207	46,535	229	51,481	249	55,977
	17		1.33	0.89	234	52,605	259	58,226	281	63,171
	18		1.50	1.01	262	58,900	290	65,195	315	70,815
	19	3/4	1.67	1.12	292	65,644	323	72,613	351	78,908
	20		1.85	1.24	324	72,838	358	80,482	389	87,451
	22		2.24	1.51	392	88,125	434	97,567	470	105,660
	22.23	7/8	2.28	1.53	400	89,924	443	99,590	480	107,908
	23		2.44	1.64	428	96,218	474	106,559	514	115,552
	24		2.66	1.79	466	104,761	516	116,001	560	125,893
	25		2.89	1.94	506	113,753	560	125,893	608	136,684
	25.4	1	2.98	2.00	522	117,350	578	129,940	627	140,955
	26		3.12	2.10	547	122,970	606	136,234	657	147,699
	28		3.62	2.43	634	142,529	702	157,816	762	171,304
	28.58	1 1/8	3.77	2.53	661	148,599	732	164,560	794	178,498
	30		4.16	2.80	728	163,661	806	181,196	875	196,708
	31.75	1 1/4	4.66	3.13	816	183,444	903	203,002	980	220,313
	32		4.73	3.18	828	186,142	917	206,150	995	223,685
	34		5.34	3.59	935	210,196	1036	232,902	1124	252,685
	35	1 3/8	5.66	3.80	991	222,786	1098	246,840	1191	267,747
	36		5.99	4.03	1049	235,825	1161	261,003	1260	283,259
	38	1 1/2	6.67	4.48	1168	262,577	1294	290,903	1404	315,632
	40		7.39	4.97	1295	291,128	1433	322,151	1555	349,578
	42		8.15	5.48	1427	320,802	1580	355,198	1715	385,547
	44		8.94	6.01	1566	352,051	1734	389,819	1882	423,090
	44.45	1 3/4	9.13	6.14	1599	359,470	1770	397,912	1921	431,858
	46		9.77	6.57	1712	384,873	1896	426,238		
	47.63	1 7/8	10.48	7.04	1835	412,524	2032	456,812		
	48		10.64	7.15	1864	419,044	2064	464,006		
8xK31WS-EPIWRC RCN 11, n=248	50		11.60	7.79	2023	454,788	2240	503,572		
	50.8	2	11.97	8.04	2088	469,401	2312	519,758		
	52		12.54	8.43	2188	491,882	2423	544,712		
	54	2 1/8	13.53	9.09	2359	530,324	2613	587,426		
	56		14.55	9.78	2537	570,340	2810	631,713		
	57.15	2 1/4	15.15	10.18	2643	594,170	2926	657,791		
	58		15.60	10.48	2722	611,930	3014	677,574		
	60		16.70	11.22	2913	654,868	3225	725,009		
	60.33	2 3/8	16.88	11.34	2945	662,062	3261	733,102		
	62		17.83	11.98	3110	699,156	3444	774,242		
	63.5	2 1/2	18.70	12.57	3262	733,327	3613	812,235		
	64		19.00	12.77	3314	745,017	3670	825,049		
	66		20.20	13.57	3524	792,227	3903	877,429		

Standard tolerance: +2 % to +4 %, other tolerance ranges and rope diameters are available upon request.
The values are provided for guidance only. The metric figures shall prevail. The rope cross-section depicts a typical design and may vary within the product line.
Subject to further developments which may lead to changes in technical specifications. Subject to changes and errors.



Evolution Q810V

Its specifically designed 4-strand core optimizes the absorption of shock loads and vibrations. The PLASTFILL® insert keeps the core permanently lubricated and ensures exceptional longevity.

Specifications

- Ordinary lay, right or left-handed
- 12-36 mm: 8x26WS-EPIWRC, RCN 09, n=208
- Filling factor f=0.62
- Use without swivel
- ✓ PLASTFILL®

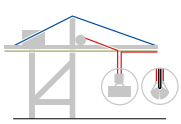
Segments



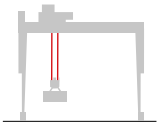
Advantages

- ✓ Optimized absorption of shock loads, impacts, and vibrations: The special design of the core prevents any protrusion of the core strands
- ✓ Outstanding bending fatigue strength thanks to the non-compacted rope design
- ✓ Adapts perfectly to complex reeving systems: excellent durability under short bending cycles and counterbends

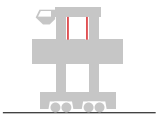
Applications



Ship to shore crane & ship unloader



ASC, RTG, RMG

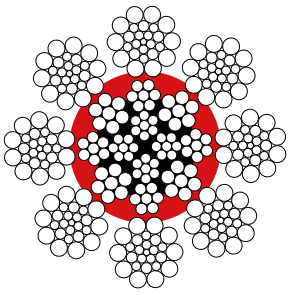


Straddle Carrier

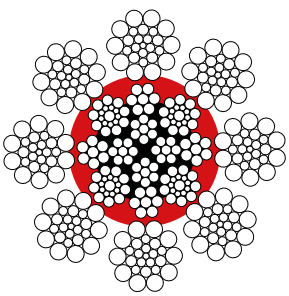
Technical specifications

Construction	Nominal Ø		Rope length mass		MBF at rope grade			
					1770		1960	
	mm	inch	kg/m	lbs/ft	kN	lbf	kN	lbf
8x26WS-EPIWRC RCN 09, n=208	12		0.62	0.42	106	23,830	117	26,303
	12.7	1/2	0.71	0.47	119	26,752	132	29,675
	13		0.74	0.50	125	28,101	138	31,024
	14	9/16	0.86	0.58	144	32,372	160	35,969
	15		0.98	0.66	166	37,318	184	41,365
	16	5/8	1.11	0.75	189	42,489	209	46,985
	17		1.26	0.85	213	47,884	236	53,055
	18		1.42	0.95	239	53,729	264	59,350
	19	3/4	1.58	1.06	266	59,799	295	66,319
	20		1.75	1.18	295	66,319	326	73,288
	21		1.93	1.30	325	73,063	360	80,931
	22		2.12	1.42	357	80,257	395	88,800
	22.23	7/8	2.16	1.45	364	81,830	403	90,598
	23		2.29	1.54	390	87,675	432	97,117
	24		2.54	1.71	424	95,319	470	105,660
	25		2.73	1.84	460	103,412	510	114,653
	25.4	1	2.82	1.90	475	106,784	526	118,250
	26		2.96	1.99	498	111,955	552	124,095
	27		3.19	2.14	537	120,722	595	133,761
	28		3.43	2.30	578	129,940	640	143,878
	28.58	1 1/8	3.57	2.40	602	135,335	666	149,723
	29		3.68	2.47	620	139,382	686	154,219
	30		3.95	2.66	663	149,048	734	165,010
	31.75	1 1/4	4.41	2.96	743	167,033	822	184,793
	32		4.50	3.02	754	169,506	835	187,715
	34		5.05	3.40	852	191,537	943	211,995
	35		5.36	3.60	903	203,002	999	224,584
	36		5.70	3.83	955	214,693	1,057	237,623

Standard tolerance: +2 % to +4 %, other tolerance ranges and rope diameters are available upon request.
The values are provided for guidance only. The metric figures shall prevail. The rope cross-section depicts a typical design and may vary within the product line.
Subject to further developments which may lead to changes in technical specifications. Subject to changes and errors.



Evolution Q810V
12-23 mm



Evolution Q810V
24-36 mm



Evolution Q812F

This 8-strand steel wire rope is mainly used as a trolley rope in harbors. The PLASTFILL® insert firmly embeds the outer strands in the plastic bed, resulting in a longer service life.

Specifications

- Ordinary lay, right or left-handed
- 12-54 mm: 8x25F-EPIWRC, RCN 06, n=152
- Filling factor f=0.63
- Use without swivel
- ✓ PLASTFILL®

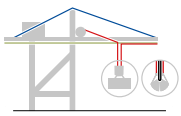
Segments



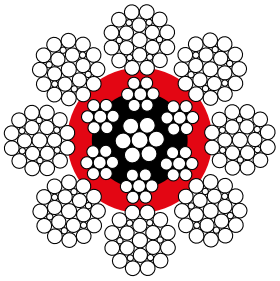
Advantages

- ✓ Good flexibility: The filler construction improves bendability
- ✓ Minimal internal wear: 8 non-compacted core strands increase the core's flexibility
- ✓ Improved permanent lubrication: The PLASTFILL® insert reduces wear in the core

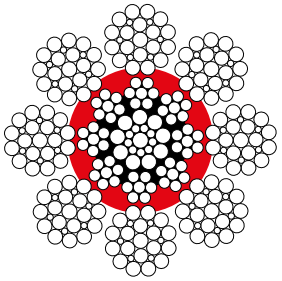
Applications



Ship to shore crane
& ship unloader



Evolution Q812F
12-29 mm

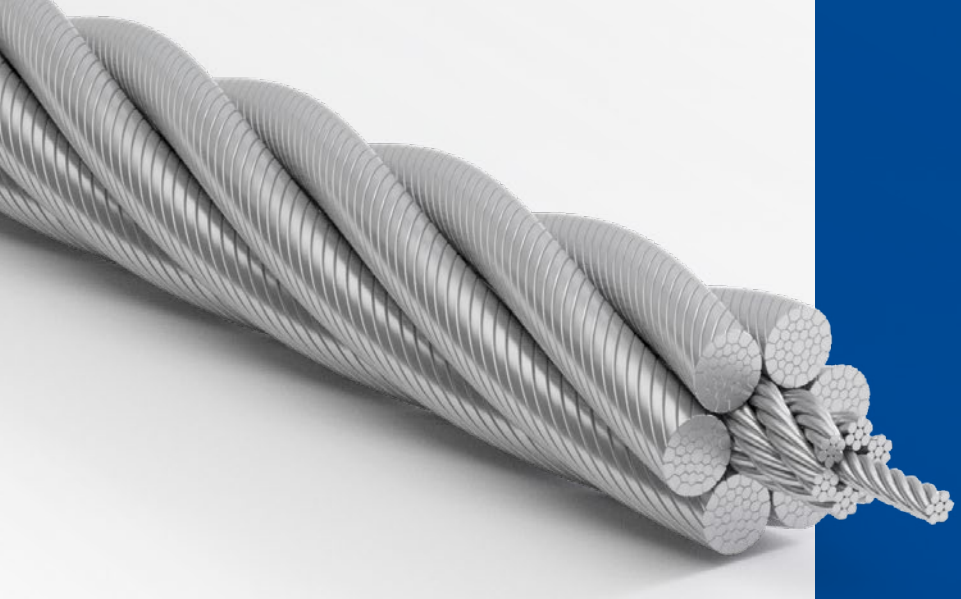


Evolution Q812F
30-54 mm

Technical specifications

Construction	Nominal Ø		Rope length mass		MBF at rope grade			
					1770		1960	
	mm	inch	kg/m	lbs/ft	kN	lbf	kN	lbf
8x25F-EPIWRC RCN 06, n=152	12		0.63	0.42	108	24,279	120	26,977
	12.7	1/2	0.71	0.48	121	27,202	134	30,124
	13		0.74	0.50	127	28,551	140	31,473
	14	9/16	0.86	0.58	147	33,047	163	36,644
	15		0.98	0.66	169	37,993	187	42,039
	16	5/8	1.12	0.75	192	43,163	213	47,884
	17		1.27	0.85	217	48,784	240	53,954
	18		1.42	0.95	243	54,629	269	60,474
	19	3/4	1.58	1.06	271	60,923	300	67,443
	20		1.75	1.18	300	67,443	333	74,861
	21		1.93	1.30	331	74,412	367	82,505
	22		2.12	1.43	363	81,606	402	90,373
	22.23	7/8	2.17	1.46	371	83,404	411	92,396
	23		2.32	1.56	397	89,249	440	98,916
	24		2.50	1.68	432	97,117	479	107,683
	25		2.74	1.84	469	105,435	520	116,901
	25.4	1	2.83	1.90	484	108,808	536	120,498
	26		2.96	1.99	507	113,978	562	126,343
	27		3.19	2.15	547	122,970	606	136,234
	28		3.43	2.31	589	132,412	652	146,575
	28.58	1 1/8	3.58	2.40	613	137,808	679	152,645
	29		3.68	2.48	631	141,854	699	157,141
	30		3.97	2.66	676	151,971	748	168,157
	31.75	1 1/4	4.42	2.97	757	170,180	838	188,390
	32		4.49	3.01	769	172,878	851	191,312
	34		5.06	3.40	868	195,134	961	216,041
	35		5.37	3.61	920	206,824	1,018	228,856
	36		5.68	3.82	973	218,739	1,077	242,119
	38		6.33	4.25	1,084	243,693	1,200	269,771
	40		7.03	4.72	1,201	269,996	1,330	298,996
	41		7.36	4.95	1,262	283,709	1,397	314,058
	42		7.73	5.19	1,324	297,647	1,466	329,570
	44		8.48	5.70	1,453	326,647	1,609	361,718
	44.45	1 3/4	8.66	5.82	1,483	333,392	1,642	369,136
	46		9.30	6.25	1,588	356,997	1,759	395,439
	48		10.12	6.80	1,730	388,919	1,915	430,509
	50		10.95	7.36	1,877	421,966	2,078	467,153
	50.8	2	11.30	7.60	1,937	435,455	2,145	482,215
	52		11.84	7.96	2,030	456,362	2,248	505,371
	54	2 1/8	12.79	8.59	2,189	492,107	2,424	544,937

Standard tolerance: +2 % to +4 %, other tolerance ranges and rope diameters are available upon request.
The values are provided for guidance only. The metric figures shall prevail. The rope cross-section depicts a typical design and may vary within the product line.
Subject to further developments which may lead to changes in technical specifications. Subject to changes and errors.



Pack 1

High resistance to wear and loads, long service life, and high flexibility: these are the main characteristics of our Pack 1 rope. Its good torsional stability and high breaking force make the Pack 1 a reliable and trusted rope for any type of use. It is also available as a plastic-filled variant.

Specifications

- Ordinary lay, right or left-handed
- 16-66 mm: 6xK36WS-IWRC, RCN 09, n=216
- Filling factor f=0.68
- Use without swivel

✓ SUPERFILL®

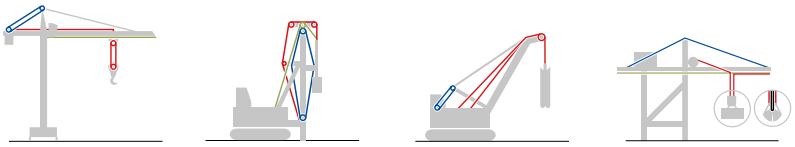
Segments



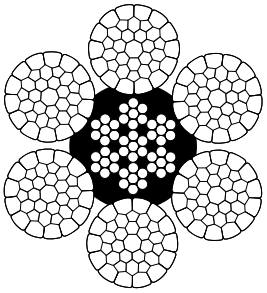
Advantages

- ✓ Cost-effective 6-strand rope construction for applications with market-conforming line pulls
- ✓ Robust and proven rope construction ensuring high resistance to crushing and harsh environments
- ✓ The SUPERFILL® compaction technology ensures consistently small diameter tolerances and perfect spooling behavior, even with long rope lengths

Applications



Tower crane | Rotary drilling rig | Duty cycle crawler with diaphragm wall grab | Ship to shore crane & ship unloader



Pack 1

Technical specifications

Construction	Nominal Ø		Rope length mass		MBF at rope grade					
					1770		1960		2160	
	mm	inch	kg/m	lbs/ft	kN	lbf	kN	lbf	kN	lbf
6xK36WS-IWRC RCN 09, n=216	16		1.14	0.77	194	43,613	215	48,334	235	52,830
	17		1.29	0.87	219	49,233	242	54,404	266	59,799
	18		1.44	0.97	245	55,078	272	61,148	298	66,993
	19	3/4	1.61	1.08	274	61,598	303	68,117	332	74,637
	20		1.78	1.20	303	68,117	336	75,536	368	82,730
	22		2.15	1.44	367	82,505	406	91,272	445	100,040
	22.23	7/8	2.20	1.48	374	84,079	415	93,296	454	102,063
	23		2.35	1.58	401	90,148	444	99,815	486	109,257
	24		2.56	1.72	436	98,017	483	108,583	530	119,149
	25		2.78	1.87	474	106,559	524	117,800	575	129,265
	25.4	1	2.87	1.93	489	109,932	541	121,622	593	133,312
	26		3.01	2.02	512	115,102	567	127,467	622	139,831
	28		3.49	2.35	594	133,537	658	147,924	721	162,087
	28.58	1 1/8	3.63	2.44	619	139,157	685	153,994	751	168,832
	30		4.00	2.69	682	153,320	755	169,731	828	186,142
	31.75	1 1/4	4.49	3.02	764	171,754	846	190,188	927	208,398
	32		4.56	3.06	776	174,452	859	193,111	942	211,770
	34		5.14	3.45	876	196,933	970	218,065	1,063	238,972
	35	1 3/8	5.45	3.66	928	208,623	1,028	231,104	1,126	253,135
	36		5.77	3.88	982	220,762	1,087	244,367	1,192	267,972
	38	1 1/2	6.43	4.32	1,094	245,941	1,211	272,244	1,328	298,546
	40		7.12	4.78	1,212	272,468	1,342	301,694	1,471	330,694
	41.28	1 5/8	7.58	5.09	1,291	290,228	1,430	321,477	1,567	352,276
	42		7.85	5.27	1,336	300,345	1,480	332,717	1,622	364,640
	44		8.61	5.79	1,467	329,795	1,624	365,090	1,780	400,160
	44.45	1 3/4	8.79	5.91	1,497	336,539	1,658	372,733	1,817	408,478
	46		9.42	6.33	1,603	360,369	1,775	399,036	1,946	437,478
	47.63	1 7/8	10.09	6.78	1,719	386,447	1,903	427,811	2,086	468,951
	48		10.25	6.89	1,746	392,516	1,933	434,556	2,118	476,145
	50		11.12	7.47	1,894	425,788	2,097	471,424		
	50.8	2	11.48	7.71	1,955	439,501	2,165	486,711		
	52		12.03	8.08	2,049	460,634	2,269	510,091		
	54	2 1/8	12.97	8.72	2,209	496,603	2,446	549,883		
	56		13.95	9.37	2,376	534,146	2,631	591,472		
	57.15	2 1/4	14.53	9.76	2,475	556,402	2,740	615,977		
	58		14.97	10.06	2,549	573,038	2,822	634,411		
	60		16.02	10.76	2,727	613,054	3,020	678,923		
	60.33	2 3/8	16.19	10.88	2,758	620,023	3,054	686,567		
	62		17.10	11.49	2,912	654,644	3,225	725,009		
	63.5	2 1/2	17.94	12.06	3,055	686,791	3,383	760,529		
	64		18.23	12.25	3,103	697,582	3,436	772,444		
	66		19.38	13.02	3,300	741,870	3,655	821,677		

Standard tolerance: +2 % to +4 %, other tolerance ranges and rope diameters are available upon request.
The values are provided for guidance only. The metric figures shall prevail. The rope cross-section depicts a typical design and may vary within the product line.
Subject to further developments which may lead to changes in technical specifications. Subject to changes and errors.



Red 1

This is the all-purpose wire rope (6x36 class) within the Teufelberger-Redaelli product portfolio. Manufactured exclusively from wire made in Europe, it meets the prerequisites of maximum reliability and consistent quality. Reliable, handling-friendly and suitable for all common rope applications. It is also available as a plastic-filled variant.

Specifications

- Ordinary lay, right or left-handed
- 16-66 mm: 6x36WS-IWRC, RCN 09, n=216
- Filling factor f=0.62
- Use without swivel

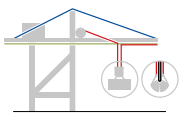
Segments



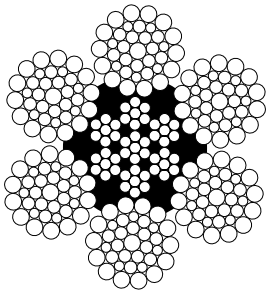
Advantages

- ✓ Cost-effective 6-strand construction for applications with market-conforming line pulls
- ✓ Consistent quality meeting European manufacturing standards
- ✓ Made from high-quality wire

Applications



Ship to shore crane
& ship unloader

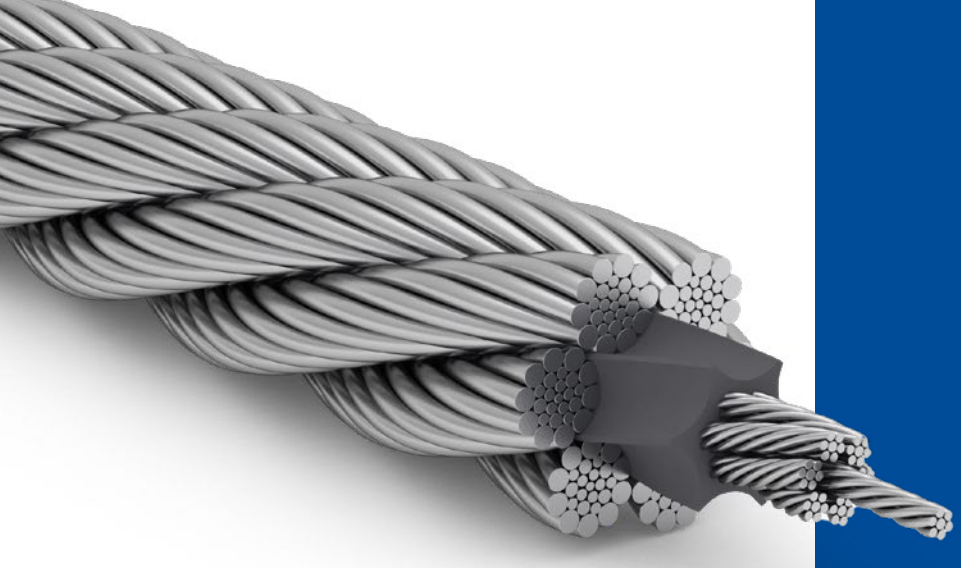


Red 1

Technical specifications

Construction	Nominal Ø		Rope length mass		MBF at rope grade					
					1770		1960		2160	
	mm	inch	kg/m	lbs/ft	kN	lbf	kN	lbf	kN	lbf
6x36WS-IWRC RCN 09, n=216	16		1.08	0.73	180	40,466	199	44,737	216	48,559
	17		1.22	0.82	203	45,636	225	50,582	244	54,853
	18		1.37	0.92	227	51,032	252	56,652	274	61,598
	19	3/4	1.53	1.03	253	56,877	281	63,171	305	68,567
	20		1.69	1.14	281	63,171	311	69,916	338	75,985
	22		2.05	1.38	340	76,435	376	84,528	409	91,947
	22.23	7/8	2.09	1.40	347	78,009	384	86,327	417	93,745
	23		2.24	1.51	371	83,404	411	92,396	447	100,490
	24		2.44	1.64	404	90,823	448	100,714	487	109,482
	25		2.65	1.78	439	98,691	486	109,257	528	118,699
	25.4	1	2.73	1.83	453	101,838	502	112,854	545	122,521
	26		2.86	1.92	475	106,784	526	118,250	571	128,366
	28		3.32	2.23	550	123,645	609	136,909	662	148,824
	28.58	1 1/8	3.46	2.33	573	128,816	635	142,754	690	155,118
	30		3.81	2.56	632	142,079	700	157,366	760	170,855
	31.75	1 1/4	4.27	2.87	708	159,165	784	176,250	852	191,537
	32		4.34	2.92	719	161,638	796	178,948	865	194,460
	34		4.89	3.29	812	182,545	899	202,103	977	219,638
	35	1 3/8	5.19	3.49	860	193,336	952	214,018	1,035	232,677
	36		5.49	3.69	910	204,576	1,007	226,383	1,095	246,166
	38	1 1/2	6.11	4.11	1,014	227,956	1,123	252,460	1,220	274,267
	40		6.77	4.55	1,123	252,460	1,244	279,662	1,352	303,942
	41.28	1 5/8	7.22	4.85	1,196	268,871	1,325	297,872	1,440	323,725
	42		7.47	5.02	1,238	278,313	1,371	308,213	1,490	334,965
	44		8.20	5.51	1,359	305,515	1,505	338,337	1,636	367,787
	44.45	1 3/4	8.37	5.62	1,387	311,810	1,536	345,307	1,669	375,206
	46		8.96	6.02	1,485	333,841	1,645	369,811	1,788	401,958
	47.63	1 7/8	9.61	6.46	1,593	358,121	1,764	396,563	1,917	430,959
	48		9.76	6.56	1,617	363,516	1,791	402,633	1,947	437,703
	50		10.59	7.12	1,755	394,540	1,943	436,804	2,112	474,796
	50.8	2	10.93	7.34	1,812	407,354	2,006	450,967	2,180	490,083
	52		11.45	7.69	1,898	426,687	2,102	472,548	2,284	513,464
	54	2 1/8	12.35	8.30	2,047	460,184	2,267	509,642		
	56		13.28	8.92	2,202	495,029	2,438	548,084		
	57.15	2 1/4	13.83	9.29	2,293	515,487	2,539	570,790		
	58		14.24	9.57	2,362	530,999	2,615	587,875		
	60		15.24	10.24	2,527	568,092	2,799	629,240		
	60.33	2 3/8	15.41	10.36	2,555	574,387	2,829	635,985		
	62		16.28	10.94	2,699	606,759	2,988	671,729		
	63.5	2 1/2	17.07	11.47	2,831	636,434	3,135	704,776		
	64		17.34	11.65	2,876	646,551	3,184	715,792		
	66		18.44	12.39	3,058	687,466	3,386	761,203		

Standard tolerance: +2 % to +4 %, other tolerance ranges and rope diameters are available upon request.
The values are provided for guidance only. The metric figures shall prevail. The rope cross-section depicts a typical design and may vary within the product line. Subject to further developments which may lead to changes in technical specifications. Subject to changes and errors.



Execution D6

This high-performance steel wire rope was designed to withstand bending stresses under continuous load. It is synonymous with ultimate reliability. Ensuring the constant availability of offshore drilling rigs and avoiding unscheduled downtimes is what customers operating such systems expect. The Execution D6 high performance steel wire rope meets these expectations on offshore drilling platforms where the breaking forces of non-compacted ropes prove sufficient.

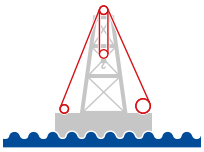
Specifications

- Ordinary or Lang's lay, right or left-handed
- 25.4-38.1 mm: 6x19S-EPIWRC, RCN 04, n=114
- 41.28-57.15 mm: 6x26WS-EPIWRC, RCN 06, n=156
- Filling factor f=0.6
- Use without swivel
- ✓ PLASTFILL®

Segments



Applications



Offshore drilling rig

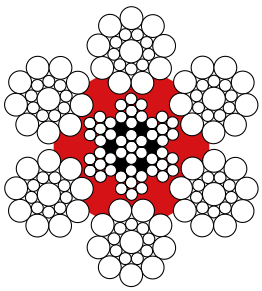
Advantages

- ✓ Robust and extremely resistant to the ingress of dirt thanks to the PLASTFILL® insert placed around the core
- ✓ High operational safety thanks to this rope's excellent performance under reverse bending cycles
- ✓ Extremely cost-effective due to the cost-optimized non-compacted rope construction
- ✓ Perfect spooling in reeving arrangements thanks to the flexibility provided by this rope's construction
- ✓ Low sensitivity to vibrations due to the PLASTFILL® insert which also ensures the permanent lubrication of the core and provides corrosion protection for bright rope versions

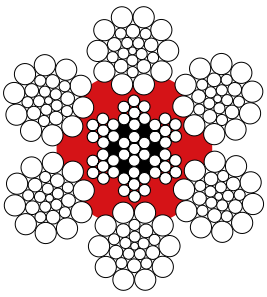
Technical specifications

Construction	Nominal Ø		Rope length mass		MBF (metric)			MBF (imperial)	
					1770	1960	2160	EIP	EEIP
	mm	inch	kg/m	lbs/ft	kN	kN	kN	shton	shton
6x19S-EPIWRC RCN 04, n=114	25.4	1	2.73	1.83	439	487	525	55	59
	28.58	1 1/8	3.45	2.32	556	616	665	69	75
	31.75	1 1/4	4.26	2.86	687	760	821	85	92
	35	1 3/8	5.17	3.47	834	924	998	104	112
	38.1	1 1/2	6.13	4.12	989	1,095	1,182	123	133
6x26WS-EPIWRC RCN 06, n=156	41.28	1 5/8	7.25	4.87	1,175	1,301		132	146
	44.45	1 3/4	8.41	5.65	1,362	1,509		153	170
	47.63	1 7/8	9.65	6.48	1,564	1,732		176	195
	50.8	2	10.97	7.37	1,779	1,970		200	221
	54	2 1/8	12.37	8.31	2,011	2,226		226	250
	57.15	2 1/4	13.90	9.34	2,252	2,494		253	280

Standard tolerance: 0 % to +4 %, other tolerance ranges and rope diameters are available upon request.
The values are provided for guidance only. The metric figures shall prevail. The rope cross-section depicts a typical design and may vary within the product line.
Subject to further developments which may lead to changes in technical specifications. Subject to changes and errors.



Execution D6
25.4-38.1 mm



Execution D6
41.28-57.15 mm



Execution D6s

The Execution D6s is designed for enormous bending cycles in reeving arrangements in combination with high loads which makes it perfect for offshore drilling rigs. Ensuring the permanent availability of offshore drilling rigs and avoiding unscheduled downtimes are the basic prerequisites platform operators expect high performance steel wire ropes to meet. Our Execution D6s has been living up to these expectations on the drilling rigs of leading manufacturers for many years.

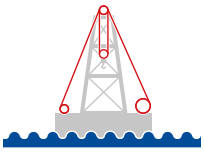
Specifications

- Ordinary or Lang's lay, right or left-handed
- 35-47.63 mm: 6xK26WS-EPIWRC, RCN 06, n=156
- 50.8-57.15 mm: 6xK31WS-EPIWRC, RCN 08, n=186
- Filling factor f=0.67
- Use without swivel
- ✓ Multi-layer spooling
- ✓ PLASTFILL®
- ✓ SUPERFILL®

Segments



Applications



Offshore drilling rig

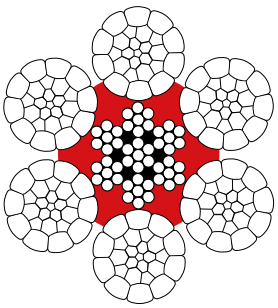
Advantages

- ✓ Long service life thanks to a particularly high resistance to shock loads
- ✓ Low rope wear due to SUPERFILL® compaction of core strands and outer strands
- ✓ High operational safety thanks to this rope's excellent performance under reverse bending cycles
- ✓ Excellent value for money due to minimal downtimes ensured by the 6-strand rope construction combined with periodical slip-and-cut programs
- ✓ Low sensitivity to vibrations due to the PLASTFILL® insert which also ensures the permanent lubrication of the core and provides corrosion protection for bright rope versions

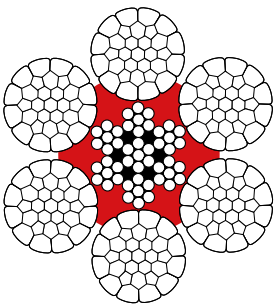
Technical specifications

Construction	Nominal Ø		Rope length mass		MBF at rope grade 1960	
	mm	inch	kg/m	lbs/ft	kN	tonnes
6xK26WS-EPIWRC RCN 06, n=156	35	1 3/8	5.45	3.66	1,050	107
	38.1	1 1/2	6.45	4.33	1,245	127
	41.28	1 5/8	7.60	5.11	1,461	149
	44.45	1 3/4	8.82	5.93	1,694	173
	47.63	1 7/8	10.14	6.81	1,945	198
6xK31WS-EPIWRC RCN 08, n=186	50.8	2	11.61	7.80	2,213	226
	54	2 1/8	13.19	8.86	2,500	255
	56		14.13	9.49	2,689	274
	57.15	2 1/4	14.76	9.92	2,800	286

Standard tolerance: 0 % to +4 %, other tolerance ranges and rope diameters are available upon request.
The values are provided for guidance only. The metric figures shall prevail. The rope cross-section depicts a typical design and may vary within the product line.
Subject to further developments which may lead to changes in technical specifications. Subject to changes and errors.



Execution D6s
35-47.63 mm



Execution D6s
50.8-57.15 mm



Execution M6

On floating oil platforms, active heave compensation systems (MRT – Marine-riser-tensioner) are essential installations that compensate the wave motion of the ocean and ensure the smooth and profitable operation of the platform. On such systems, the ropes run around sheaves in adverse conditions and under continuous load in order to retain the platform in its position. SUPERFILL® and PLASTFILL® make this 6-strand marine riser tensioner rope your perfect choice for safe and profitable operations on offshore platforms.

Specifications

- Lang's lay, right or left-handed
- 38.1-47.63 mm: 6xK36WS-EPIWRC, RCN 09, n=216
- 50.8-63.5 mm: 6xK41WS-EPIWRC, RCN 11, n=246
- 66.68-73 mm: 6xK46WS-EPIWRC, RCN 12, n=276
- Filling factor f=0.65
- Use without swivel

✓ PLASTFILL®

✓ SUPERFILL®

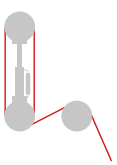
Segments



Advantages

- ✓ Excellent performance under reverse bending cycles and very high flexibility due to outer strands with a greater number of wires
- ✓ Resistant to corrosion thanks to high-quality raw materials and the permanent lubrication of the core provided by the PLASTFILL® insert
- ✓ Longer service life due to the low-wear construction and permanent lubrication of the core provided by the PLASTFILL® insert
- ✓ Operational safety thanks to the high breaking forces achieved by the rope-friendly SUPERFILL® compaction process

Applications

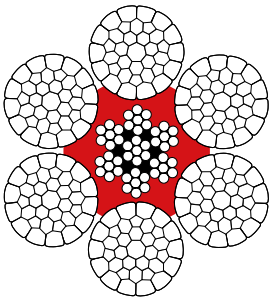


Marine-riser-tensioner

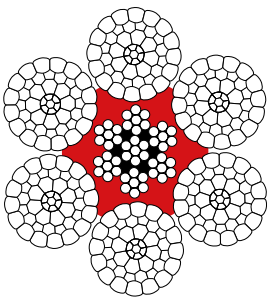
Technical specifications

Construction	Nominal Ø		Rope length mass		MBF at rope grade					
					1570		1670		1770	
	mm	inch	kg/m	lbs/ft	kN	tonnes	kN	tonnes	kN	tonnes
6xK36WS-EPIWRC RCN 09, n=216	38.1	1 1/2	6.35	4.27	990	101	1,053	107	1,116	114
	41.28	1 5/8	7.43	4.99	1,162	118	1,236	126	1,310	134
	44.45	1 3/4	8.63	5.80	1,347	137	1,433	146	1,519	155
	47.63	1 7/8	9.91	6.66	1,547	158	1,645	168	1,744	178
6xK41WS-EPIWRC RCN 11, n=246	50.8	2	11.25	7.56	1,760	179	1,872	191	1,984	202
	54	2 1/8	12.73	8.55	1,988	203	2,115	216	2,242	229
	57.15	2 1/4	14.23	9.56	2,227	227	2,369	242	2,511	256
	60.33	2 3/8	15.88	10.67	2,482	253	2,640	269	2,798	285
	63.5	2 1/2	17.59	11.82	2,750	280	2,925	298	3,100	316
6xK46WS-EPIWRC RCN 12, n=276	66.68	2 5/8	19.46	13.08	3,032	309	3,225	329	3,418	349
	69.85	2 3/4	21.35	14.35	3,327	339	3,539	361	3,751	382
	73	2 7/8	23.31	15.66	3,634	371	3,865	394	4,097	418

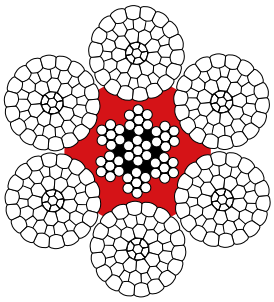
Standard tolerance: 0 % to +4 %, other tolerance ranges and rope diameters are available upon request.
The values are provided for guidance only. The metric figures shall prevail. The rope cross-section depicts a typical design and may vary within the product line.
Subject to further developments which may lead to changes in technical specifications. Subject to changes and errors.



Execution M6
38.1-47.63 mm



Execution M6
50.8-63.5 mm



Execution M6
66.68-73 mm



PS610F

The PS610 F is a 6-strand round-stranded rope featuring SUPERFILL® technology and a PLASTFILL® insert. Its particularly robust design with a plastified fiber insert makes this compacted steel wire rope a perfect dragline for scraper systems or an ideal excavator rope on Duty cycle crawler in gravel pits.

Specifications

- Ordinary and Lang's lay
- 16-40 mm: 6xK21F-SFC, RCN 03, n=96
- Filling factor f=0.63
- ✓ Multi-layer spooling
- ✓ SUPERFILL®
- ✓ PLASTFILL®

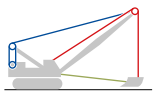
Segments



Advantages

- ✓ Extreme wear and shock resistance due to the special rope structure with a flexible fiber core, thick outer wires, and a high degree of compaction
- ✓ Breakproof plastic compound core
- ✓ Permanently greased fiber core without egress of grease

Applications

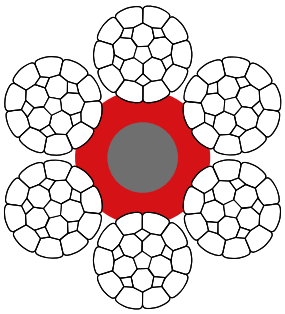


Duty cycle crawler with scraper

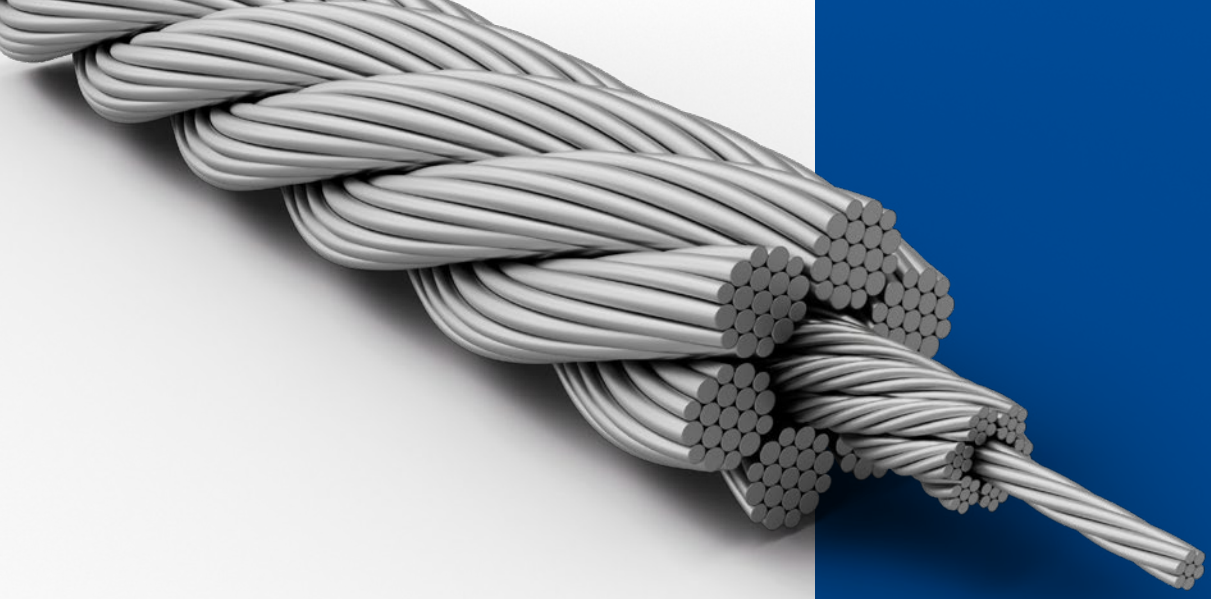
Technical specifications

Construction	Nominal Ø		Rope length mass		MBF at rope grade 1770	
	mm	inch	kg/m	lbs/ft	kN	lbf
6xK21F-SFC RCN 03; n=96	16	5/8	1.04	0.70	198	44,512
	17		1.17	0.79	223	50,132
	18		1.31	0.88	250	56,202
	19	3/4	1.46	0.98	279	62,722
	20		1.62	1.09	309	69,466
	21		1.79	1.20	340	76,435
	22		1.95	1.31	373	83,854
	22.23	7/8	2.00	1.35	381	85,652
	23		2.14	1.44	408	91,722
	24		2.33	1.57	444	99,815
	25		2.53	1.70	482	108,358
	25.4	1	2.61	1.76	498	111,955
	26		2.73	1.83	522	117,350
	27		2.95	1.98	562	126,343
	28		3.18	2.13	605	136,009
	28.58	1 1/8	3.31	2.22	630	141,630
	29		3.42	2.30	649	145,901
	30		3.64	2.45	694	156,017
	31.75	1 1/4	4.08	2.74	778	174,901
	32		4.15	2.79	790	177,599
	34		4.68	3.15	892	200,530
	35		4.96	3.33	945	212,444
	36		5.24	3.52	1,000	224,809
	38		5.85	3.93	1,114	250,437
	40		6.49	4.36	1,234	277,414

Standard tolerance: +1 % to +4 %, other tolerance ranges and rope diameters are available upon request.
The values are provided for guidance only. The metric figures shall prevail. The rope cross-section depicts a typical design and may vary within the product line.
Subject to further developments which may lead to changes in technical specifications. Subject to changes and errors.



PS610F



612W

The optimized special construction gives the 612W steel wire rope low-twist and low-tension characteristics.

Specifications

- Ordinary lay
- 6-10 mm: 6x19W–IWRC, RCN 04
- Number of wires in outer strands: 114
- Filling factor f=0.571

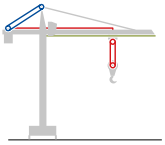
Advantages

- ✓ Easy-to-handle thanks to low-twist and low-tension stranding
- ✓ Above-average lifetime thanks to flexible construction and greased steel core
- ✓ Reduced corrosion due to galvanization

Segments



Applications



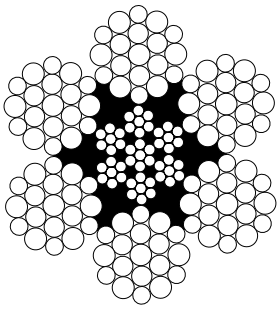
Tower crane

Technical specifications

Construction	Nominal Ø	Rope length mass[1]		MBF at rope grade[2]	
				1960	
	mm	kg/m	lbs/ft	kN	lbf
6x19 W–IWRC, n=114, RCN 04	6	0.14	0.10	25	5,620
	6.5	0.20	0.13	30	6,744
	7	0.23	0.16	34	7,644
	8	0.26	0.17	45	10,116
	9	0.32	0.22	57	12,814
	10	0.40	0.27	70	15,737

Standard tolerance: +0 % to +4 %, other tolerance ranges and rope diameters are available upon request.
The values are provided for guidance only. The metric figures shall prevail. The rope cross-section depicts a typical design and may vary within the product line.
Subject to further developments which may lead to changes in technical specifications. Subject to changes and errors.

> “Reliable functionality paired with high cost-effectiveness.”



612W



rackLITE

The rackLITE is specifically designed to safely lift loads in intralogistics without the need for lubrication or maintenance. It offers innovative rope technology, particularly for use in storage and retrieval systems (S/R systems). Thanks to its laid rope core made from high-strength polymer fibers, it achieves a service life several times longer than that of a comparable steel wire rope (up to 1,500,000 bending cycles at maximum load in accordance with EN 528). This reduces the number of replacement intervals required or renders them obsolete. The low rope weight considerably simplifies the rope changing procedure, and it is possible to implement significantly smaller approach distances/drive trains in warehouses.

The rackLITE combines high breaking force with low weight and was specifically developed for storage and retrieval systems. It provides the same breaking force as a steel wire rope, but with a significantly lighter dead weight. This reduces the time needed for a rope changing procedure in a high-bay warehouse to one working hour, thereby increasing the efficiency of storage and retrieval processes

Specifications

- Diameter: 11-20 mm
- Lengths: variable, made to customer requirements
- Material: optionally PES, UHMWPE, or to customer requirements
- Rope end termination: to EN 528, EN 14492-2, or EN 13411, or individually adapted to your system. We are happy to assist you in the selection process.

Segments



Applications

The rackLITE was developed for use in high-bay warehouses requiring not only high breaking forces, but also high bending fatigue strength and zero maintenance.

- Specifically developed for storage and retrieval systems (S/R systems)
- Suitable for the lifting of guided loads (non-rotation resistant 1x7 construction)

Advantages

- ✓ **Maintenance-free:** The rackLITE was developed specifically for the safe lifting of loads in intralogistics without the need for lubrication and maintenance. This reduces the number of replacement intervals required or renders them obsolete. The low rope weight considerably simplifies the rope changing procedure, and it is possible to implement significantly smaller approach distances/drive trains in warehouses.

- ✓ **Long service life:** The rackLITE offers innovative rope technology, particularly for use in storage and retrieval systems (S/R systems). Thanks to its laid rope core made from high-strength polymer fibers, it achieves a service life several times longer than that of a comparable steel wire rope (up to 1,500,000 bending cycles at maximum load in accordance with EN 528).

- ✓ **Optimum adaptability to existing and new equipment**: Existing equipment can be easily converted as the rackLITE fits on standard S/R systems (drums and pulleys) and requires only minimal preparatory work. This means that you will get the same breaking strength as with steel wire ropes, while also benefiting from a virtually infinite service life and easier and faster rope changing procedures.

Technical specifications

Nominal Ø	MBF
mm	kN
10	99
11	115
12	135
13	155
14	175
15	215
16	234
17	254
18	292
20	354

Diameter tolerance 2.5 % matching the winch pitch, other rope diameters are available upon request.
The values are provided for guidance only. The metric figures shall prevail. Subject to further developments which may lead to changes in technical specifications. Subject to changes and errors.

> “We at Teufelberger assist you with the risk assessment of your entire equipment according to the Machinery Regulation (EU) 2023/ 1230 to ensure the safety and conformity of your systems.”

New equipment benefits from a smaller drive train that reduces the upper dead space in the warehouse and thus helps save space. Due to their low dead weight, even smaller-diameter ropes are suited for use in storage and retrieval systems.

A focus on perfection

Compelling quality

At Teufelberger-Redaelli, quality down to the smallest detail is our paramount priority. We employ state-of-the-art analysis methods, test equipment, and laboratory facilities to test the performance and durability of our raw materials and high-performance steel wire ropes. No matter whether these efforts are directed at determining a product's lifetime in reality-based conditions, or the consistency in the degree of efficiency achieved, or the level of safety through breaking force and torsional behavior tests, our ultimate aim is clear: to develop ropes that meet the highest demands.

75 %

Our unique testing and simulation capabilities enable us to remedy 75 % of potential defects before starting the actual field tests.



From raw materials to high-performance ropes: our test methods, step by step



1. Raw materials testing

Individual wire testing

Premium-quality wire is essential to the production of high performance steel wire ropes. That is why we apply the highest standards when selecting our wire suppliers. Every wire is rigorously tested and evaluated down to the smallest detail to provide you with consistent quality on which you can rely.

Lubricant testing

The functional lubrication of high-performance steel wire ropes requires a perfectly adjusted lubricant composition. Lubricants must adhere to the ropes without losing their effectiveness, even in extreme temperatures and varying operating conditions. To achieve maximum performance and longevity, we employ special tests to check the lubricants' adhesiveness and determine the most suitable lubricants and their correct dosage.



2. Product quality testing

Detailed insights into the interior

In order to ensure the quality and performance expected of our high-performance steel wire ropes, we go one step further: In our laboratories, we analyze the ropes down to the smallest detail. Using state-of-the-art methods such as micro-hardness testing and various microscopic examinations (e.g., with reflected light and stereo microscopes), we are able to probe deep into the structure of the ropes. No detail remains undetected. These in-depth analyses are key for the development of ropes that are reliable and durable, even in extreme conditions.

MRT method (magnetic rope testing): Bringing the innermost parts to the surface

Using this method, we analyze in a non-destructive manner what happens inside the rope under heavy load. This enables us to precisely identify damage mechanisms and develop ropes whose discard criteria are recognizable from the outside.

Electronic measuring equipment for efficiency testing: Precision with a big impact

The smooth lifting and lowering of the hook block requires maximum efficiency, especially in rope drive systems that include a large number of sheaves. Using an electronic measuring method, we test the efficiency of our high-performance steel wire ropes as a function of tensile load. This allows us to simulate realistic scenarios, e.g., by using different sheaves. This detailed analysis provides us with conclusive data, e.g., clear indicators for the selection of optimized components such as a lighter hook block.

Flexural fatigue strength testing machines: Endurance testing

Right from the development phase, we take all the relevant factors that have an impact on the service life of our high-performance steel wire ropes into account, e.g., the use of plastic or steel sheaves, different fleet angles, or different loads. Our bending fatigue testing machines provide us with accurate data regarding a rope's point of discard and service life that allow us to develop particularly durable and reliable ropes.






Tensile testing machines: Breaking forces and torsional behavior accurately analyzed

While many manufacturers need to rely on external institutes for analyzing rotation properties and breaking forces, we at Teufelberger-Redaelli have various in-house test facilities at our disposal. This allows us to quickly and efficiently conduct tests with tensile forces of up to 3,000 kN and torques of up to 14,000 Nm.

Highly reliable breaking strength ratings are crucial for the safety of steel wire ropes. And that is why we not only monitor these ratings continuously when developing and manufacturing our ropes, but also when fitting the rope end terminations, in order to gather conclusive and statistically relevant data. After all, only suitable and correctly fitted rope end terminations make a rope complete. This is why we also conduct fatigue tests on our own tensile testing machines to test the influence of the rope end termination on the breaking force.

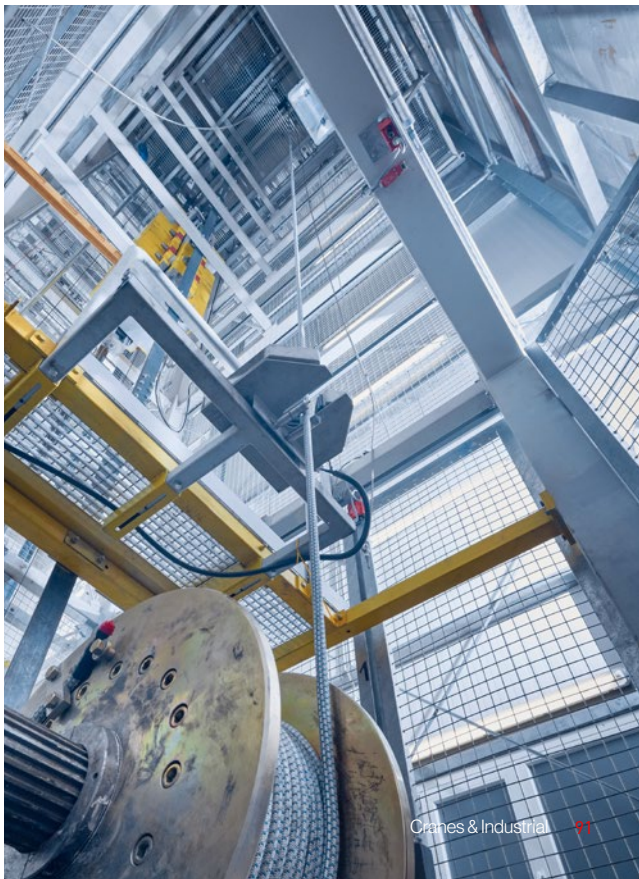
The rotational behavior of a hoist rope has a significant impact on the rope's performance and efficiency. Therefore, it is an important parameter for the lifting and lowering of loads that should be accurately determined in advance. On our tensile testing machine, we simulate reality-based application-specific loads. In this context, we analyze:

- the torsion factor
- the torsion angle under load
- torsional stiffness
- the restoring torque
- the behavior of the rope in case of torsion caused by external influences

Multi-layer spooling test rig: Crane ropes endurance testing

Developed in close cooperation with leading crane manufacturers, our specifically developed crane rope test rigs simulate real-life operating conditions for high-performance steel wire ropes. On them, we test aspects such as:

- wear in multi-layer spooling arrangements
- fleet angles
- plastic or steel sheaves
- spooling behavior in connection with different D/d ratios
- temperature variations
- different groove geometries



More than just ropes:

Customer service that creates bonds

Teufelberger-Redaelli's commitment to quality extends far beyond the technical parameters of a high-performance wire rope. Our wide-ranging customer service offerings make all the difference. From the first consultation to detailed calculations and through to the selection of the most suitable rope for your crane system: you can always count on our support. Our strong customer focus means that we deliver more than just a product. We deliver solutions that fit your needs.

Our mission is clear: to provide our customers not only with a top-notch rope, but also with service offerings that meet their highest expectations. Whether it is for training, technical advice, or maintenance: count on our network of experts to help and support you every step of the way.

Our service offerings:

- ✓ Rope training
- ✓ Technical consulting & rope inspections
- ✓ Field tests
- ✓ Socketing directly at your site

With us, you have a partner who understands and meets your needs – anytime, and anywhere.


mm/inch
OFF
ON
ZERO
MaxiFlex

Rope trainings

Knowledge that keeps your systems running



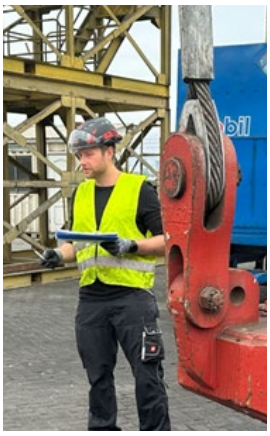
In our training courses, you will:

- ✓ learn to understand rope types and constructions and to choose the right ropes for your needs
- ✓ acquire in-depth knowledge of how to install ropes properly
- ✓ learn how to determine the point of discard according to ISO 4309
- ✓ acquire knowledge regarding the correct storage and care of ropes
- ✓ learn how to improve your handling of ropes through hands-on exercises
- ✓ receive socketing training for permanently secure terminations
- ✓ gather insights into single-layer and multi-layer spooling
- ✓ learn about needs-focused practice-based problem solutions

Practice-based training for your daily challenges

Ensuring the smooth functioning of your systems at a predictable cost is no easy task. More than 430 years of combined experience in the production, installation and testing of ropes make us at Teufelberger-Redaelli experts in this regard.

Our practice-based and comprehensive training courses equip you with the know-how you need to get the most out of your ropes. Our experienced field engineers will provide you with both theoretical knowledge and practical tips that you can directly apply in your daily work.



> With our training programs, we make you fit for your job and ensure that your rope systems will always work reliably and efficiently.”

Technical consulting

Consulting that goes the extra mile, either in person at your site or remotely



Teufelberger-Redaelli offers you on-site as well as off-site consulting, attuned to your needs and challenges. Our experts assist you in selecting the right rope for demanding applications and help you find solutions to specific problems.



Off-site consulting

Technical consulting to help you choose the right rope

Choosing the right rope requires a precise analysis of requirements and operating conditions. This is where we assist you with sound technical advice. Our structured solution-finding process ensures that all your requirements are factored in and translated into a custom-tailored, efficient solution.

The technical consulting cycle

Simplified illustration of a solution-finding process following a specific customer inquiry to resolve a problem:



On-site consulting

Rope inspection directly on your system

Our on-site consulting (rope inspection) is advantageous in that it allows us to assess all external influences directly on the crane. This enables us to quickly identify the causes of any problematic rope behavior and derive targeted measures.





Our rope inspections go way beyond just casting a glance at a rope's surface. Rather, we document all relevant influences and possible damage mechanisms and prepare a detailed analysis of the rope's condition. Following that, further laboratory analyses can be carried out to gain even deeper insights into the condition and remaining service life of your rope. This way, we make sure that you will always obtain the best possible performance and level of safety.



Field tests: Field-proven solutions for maximum rope performance

We offer you the option of having our qualified team of application engineers professionally accompany your field tests. We will work with you to optimize the rope design to achieve the best possible service life. Our application engineers and rope designers work closely together to ensure optimum rope performance. Through careful test preparation, team-oriented execution, and continuous documentation of the rope's performance, we ensure that you will benefit from the rope's efficient operation over the long term.

Our commitment to
optimum rope construction
and performance

Customized rope end terminations

from standard to special solutions

A high-quality rope requires the right rope end termination. Teufelberger-Redaelli offers you a wide range of options.



Our portfolio comprises standard rope end terminations made in socketing or swaging processes according to EN 13411. In addition, we also develop custom-tailored solutions for crane-specific requirements.

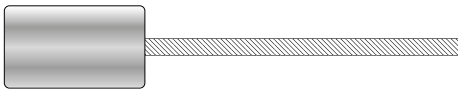
As an experienced partner for OEM pouch socket systems, we offer our customers individually adapted swaged or socketed solutions. As a one-stop shop, we support our customers throughout the entire process, from the design phase to component testing, and guarantee that what is placed on the market is safe.

For easy installation, we also offer tried-and-tested pull-in aids such as the Teufelberger-Redaelli Pull Eye that enables quick and efficient rope installation.



Standard rope end terminations to EN 13411

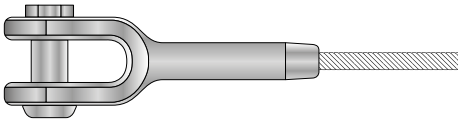
Ferrule/Socket



Swaged threaded stud



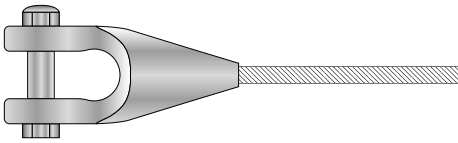
Swaged open socket



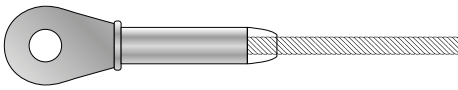
Swaged threaded sleeve



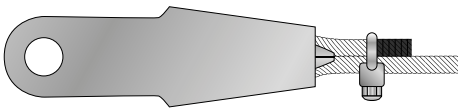
Open spelter socket



Swaged closed eye socket



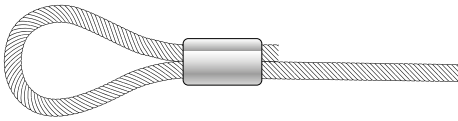
Open wedge socket



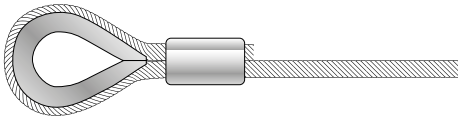
Spliced eye



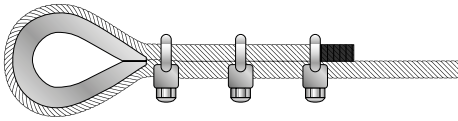
Swaged eye



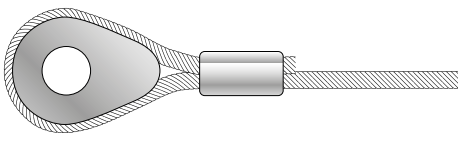
Swaged eye with thimble



Thimble with wire rope grip



Swaged solid thimble



On-site socketing solutions

Quick repairs for minimal downtime

In the event that an on-site repair of the rope end termination becomes necessary, we offer you an efficient socketing solution in order to keep periods of undesirable downtime to a minimum. Our experienced fitters have the expertise to install a new rope end termination within a very short time so that crane operations can be resumed as quickly as possible. This helps us ensure a rapid response and maximized uptime.







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