OFFSHORE, HARBOUR & SHIPPING COMPANIES

SPECIAL STEEL WIRE ROPES

Teufelberger®

TOGETHER IN MOTION

TABLE OF CONTENTS

⚠ WARNING

The use of these products may be 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 can cause harm, when they are used incorrectly or overstrained.

TEUFELBERGER SEIL GES.M.B.H.

TOGETHER IN MOTION

Success through perfection. The name TEUFELBERGER stands for a dynamic group of companies with three strategic business divisions and more than 200 years of experience. Our 750 dedicated associates serve customers in more than 100 countries worldwide.

Together in motion. Whether for transport, fixing or securing of people and goods – our ropes, strapping materials and twines provide for movement while keeping things together. We are also constantly moving in another sense of the word. We move quickly to respond to customer requiremetns and continually improve innovate and diversify our products which are inherent to our corporate culture and reflect the dynamic that continues to distinguish us today.

Close cooperation with our customers and suppliers and the creation of synergies through our three technologies in a close family-owned enterprise are further examples of what makes TEUFELBERGER unique.

We are a provider of solutions for the optimized use of high-grade products that ensure our international customer´ processes run smoothly and their objectives are achieved. Superior knowledge, new technologies and comprehensive service ensure top quality and reliability. Through our technologies in wire rope, fiber rope and extrusion, we are setting the standards in more than 100 countries.

The TEUFELBERGER Group

WIRE ROPE

- Crane ropes for cranes in the construction industry, in harbours, on ships and offshore platforms
- Ropeway ropes for passenger and material ropeways as well as winch ropes for slope groomers
- Rope and safety: equipment for lifting, conveying and securing

FIBER ROPE

- Yachting ropes for motorboats and sailing boats
- Technical fiber ropes for industrial applications, technical winches and forestry applications
- Fall protection: harnesses and ropes for industrial applications and tree care
- Composite Braiding: composite fiber architecture for automotive, aeronautics and general industry

FIBERS & PLASTICS

- Strapping products for automatic packaging machines: for strapping of cans, papers, building materials, wood, fiber bales
- Baler twines for the rational mechanical harvesting of straw and hay

TEUFELBERGER SEIL GES.M.B.H.

SUCCESS THROUGH PERFECTION

TEUFELBERGER Seil Ges.m.b.H. fully concentrates on special high-performance steel wire ropes in all aspects of production, research & development and marketing & sales activities: Top quality products are the basis of our success.

We care more for our customers – is the mission of the TEUFELBERGER Seil Ges.m.b.H. Close cooperation with our suppliers, joint development work with OEMs and highly qualified staff ensure that our products fulfill 100 % of customer requirements.

Two production sites with modern machinery, an in-house research and development department and working closely with our subsidiaries ensures that our knowledge base is transferred optimally into your success. From the oil industry to harbours, construction sites and forestry, to ropeways for passengers and goods – TEUFELBERGER's high-performance steel wire ropes and systems for personal safety are perfectly tailored to fit your field of application.

The power of innovation and quality awareness for the benefit of our customers.
Long-term cooperation with universities and research institutions, and numerous key-users in the aftermarket, stand for our focus on customer requirements. Research & development is given top priority within a decentralized company structure to exploit synergies. Our dedication to quality is evident by fulfilling ISO 9001 requirements as well as compliance to industry-specific standards.

TEUFELBERGER SEIL GES.M.B.H.

FULL POWER AROUND THE CLOCK

The power of innovation and quality awareness for the benefit of our customers.
Long-term experience, research & development and exceptional quality have made us one of the leading rope producers in the world.

Expertise
Our special steel wire ropes are designed for fulfilling the requirements of your application in an optimal way. Worldwide reference projects serve to award our work. Certification reports for ABS, DNV, API, BV, RINA, GL, LR, RS, NKK, and CGS are available according to your requirements.

Highest Quality
Only high-strength material and state-of-the-art production processes are used for our products.

Service Around the Clock
Our 24-hour hotline and top service teams ensure that our experts are available within the shortest time possible worldwide.
24-hour hotline: +43 (0) 7242-615-388

Expert Consultants
TEUFELBERGER's network of consultants ensures that expert support is always close to you. Our staff is specially trained for your application which translates into cooperative development for the most useful answer to any issues which may occur.

Delivery Reliability
TEUFELBERGER's management of orders ensures optimal processing for production and logistics.

Research and development
Developing a superior product to meet customer requirements is challenging for us but our R&D department provides permanent product improvement in terms of safety, reliability and service life.

TEUFELBERGER SEIL GES.M.B.H.

TECHNOLOGIES FOR YOUR BENEFIT

Our expertise in high-performance wire rope provides essential advantages in use and effective cost savings for customers. Our high-performance steel wire ropes achieve outstanding service life, provide the best possible safety for persons and devices, and reduces maintenance, replacement and organization costs.

PLASTFILL™ INSERT

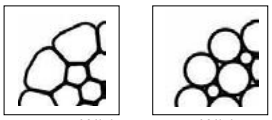
The lubricated steel core is enclosed in a tight synthetic coat.

Advantages:
- Long service life through permanent lubrication
- Resistance against pressing and lateral pressure
- Higher breaking forces through optimized friction in the rope

The strands are embedded in the synthetic coat during the stranding process.

Advantages:
- Exact strand position with consistent interstices for reduced internal abrasion
- Equal load shares at all components due to optimized construction

SUPERFILL® COMPACTION TECHNOLOGY



With SUPERFILL® Without SUPERFILL®

Our compaction method has been developed in close cooperation with universities and independent research institutions. Each rope strand is compacted in a specific procedure with the aim of significantly improving the rope's properties:

- Up to 30% more breaking forces than non-compacted ropes
- Prolonged service life due to reduced nominal stress
- Use of smaller rope diameters of the same breaking load (important for new crane constructions)
- Smooth rope surface result in reduced abrasion on rope, sheaves and drums
- A continuous constant wire rope diameter tolerance for long lengths

GALVANIZED STEEL WIRES

Our steel wires are galvanized before they are drawn in order to achieve high wire precision. This ensures optimal stability and service life. Galvanization in combination with our PLASTFILL™ technology provides for extreme resistance against corrosion.


BREMERHAVEN
PANAMA

TEUFELBERGER SEIL GES.M.B.H.

HIGH-PERFORMANCE STEEL WIRE ROPES

High-performance steel wire ropes made by TEUFELBERGER are among the very best worldwide. To make it easier for our customers to choose the right steel rope for their specific purpose, we have now divided our existing product portfolio into three separate product classes: EVOLUTION, PERFECTION, and EXECUTION.

These product classes differ in their technical features, achieve different performance levels, and are therefore marketed in different price segments. TEUFELBERGER's new product classification makes it easier for you to find the right steel wire rope for your specific purpose. Yet, no matter which rope you choose, you will always receive the highest quality high-performance TEUFELBERGER product which, as usual, offers customers a great value.

Products of the various product classes are characterized by the following features:

EVOLUTION

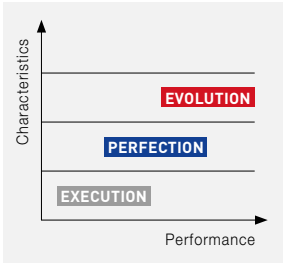
The ropes of our premium class are global market leaders in their respective product categories. Constituting an ideal combination of the highest breaking forces, exceptionally long service lifes in the roughest conditions, and top-level performance for the respective types of use, EVOLUTION ropes achieve a substantial improvement of the total cost of ownership (TCO) – in spite of the required higher initial investment. Intensive in-house and external testing, both at our testing facility for crane ropes and also in cooperation with leading crane manufacturers, form the basis for continued development and improvement in this product class. EVOLUTION ropes made by TEUFELBERGER are the product of choice if the highest level of performance is what your project demands.

PERFECTION

High-performance steel wire ropes of this product class also feature extremely high breaking forces that are typically higher than those of comparable competitor products. In addition, service life and performance were improved considerably. In light of the somewhat lower cost of investment as compared to our EVOLUTION class ropes, what you get is excellent value for the money and high operational reliability in rough environments.

EXECUTION

Products of this category are high-performance steel wire ropes as well, offering a significantly better performance and higher breaking forces than conventional standard ropes. Generally, these ropes are compacted, have an optimized structure, and constitute an excellent choice if what you are looking for is a marked improvement in performance as compared to standard ropes. The lower cost of investment for EXECUTION wire ropes provides an ideal springboard for entry into the world of „high-performance steel wire ropes".



ROPES FOR **OFFSHORE APPLICATIONS**

Demanding the highest and permanent use in extreme environmental conditions is characteristic for offshore cranes and riser tensioner applications. High device disposability is very important offshore, while safety and reliability are crucial factors for both crane plants and the steel wire ropes in use. TEUFELBERGER ropes serve to demonstrate these factors daily on numerous platforms throughout the world.

YOUR BENEFIT

- **Best Reliability**
  Our high-performance steel wire ropes for offshore cranes distinguish themselves by providing the highest levels of reliability under the most challenging of conditions.
- **Highest Safety Standards**
  Extremely high breaking forces – especially provided by SUPERFILL® compaction technology – stands for the highest levels of safety in daily operations.
- **Great Resistance Against Corrosion**
  Our special ropes with PLASTFILL™ technology have plasticized rope cores and galvanized wires which provide for the highest levels of resistance against corrosion in the inner rope. Additionally, a special grease provides for optimal lubrication of all components.
- **Worldwide Availability**
  A worldwide network of suppliers with decentralized storage facilities ensures that our customers have a peak supply of spare parts.
- **Reduced Total Costs of Ownership**
  All of the above factors combined, translate into a significant increase the service life of the wire rope, the reduction of standstill periods and the reduction in maintenance costs. This that total cost, when compared to the device's service life, are considerably reduced.

PRODUCT PROGRAM

Rotation resistant ropes:

EVOLUTION TK 16
Ordinary lay or lang lay rope, suitable as hoist rope in multi- or single-layer winding

EVOLUTION TK 18
Ordinary lay or lang lay rope, suitable as hoist rope in multi- or single-layer winding for heavy lifting applications

Non-rotation resistant ropes:

QS 816 VG
8 strand lang lay rope, recommended as boom hoist rope exclusively in multi-layer winding

QS 816 V
8 strand ordinary lay rope especially suitable as boom hoist rope in single-layer winding

QS 814 VG
8 strand lang lay rope especially developed as riser tensioner rope

ROPES FOR **HARBOUR MOBILE CRANES**

Worldwide handling of goods is continually increasing every year. Therefore, the harbours operate on the edge of maximum capacity despite already working day and night. In order to make profitable use of these devices: 24 hours a day, 365 days a year, safety and reliability are crucial for ropes used on harbour mobile cranes.

YOUR BENEFIT

- **Highest Safety**
  The loading capacity of modern cranes is constantly increasing. The extraordinary breaking forces – especially provided by the SUPERFILL® compaction technology – of our steel wire ropes ensure the highest levels of safety for your application.
- **Enhanced Profitability**
  Harbour mobile cranes are often used 365 days a year. Long-term experience has resulted in our gaining specific knowledge as to the requirements for the long service life of steel wire ropes. TEUFELBERGER ropes contribute to a significant reduction of total costs when it comes to the duration of use of your device.
- **Shock Resistance**
  The use of crane loads of various strengths cannot be avoided in modern cargo-handling. To counteract this and achieve the highest operation performance, we have developed an 8-strand radial-elastic structured rope to properly absorb dynamic forces - especially in grabbing operations.
- **Resistance Against Corrosion**
  Our ropes with PLASTFILL™ technology have a plasticized rope core and galvanized wires which provide the highest levels of resistance against corrosion to the inner and outer rope. Furthermore, all components are optimally lubricated with a special grease.

PRODUCT PROGRAM

Non-rotation resistant ropes:

QS 816 V

8 strand ordinary lay rope, suitable as hoist rope

EVOLUTION Q8

8 strand ordinary lay rope, suitable as hoist rope, extraordinary life time

ROPES FOR **PORT CRANES**

Different harbour applications such as ship-to-shore cranes, van carriers or AGVs (automated guided vehicles) have one thing in common: a non-scheduled standstill of a crane may cause loss and high costs. Backup cranes are rarely – if ever – available. A steel wire rope requires high service life reserves until the next planned crane inspection. TEUFELBERGER has specialized in these requirements.

YOUR BENEFIT

- **Highest Safety**
  The loading capacity of modern cranes is constantly increasing. Our steel wire ropes' SUPERFILL® compaction technology ensures extraordinary breaking forces as well as the highest level of safety for your application.
- **Profitability**
  Harbour cranes are often used around the clock and are constantly pushed to their limits. Long-term industry experience has resulted in our gaining specific knowledge of the requirements for long service life of steel wire ropes. TEUFELBERGER ropes contribute to a significant reduction of total costs when it comes to the duration your device's operation.
- **Great Shock Resistance**
  The use of crane loads of various strengths cannot be avoided in modern day cargo-handling. Our 8-strand radial-elastic structured ropes are made to counteract this and achieve the highest operation performance, by properly absorbing dynamic forces especially in grabbing operations.
- **High Resistance Against Corrosion**
  Our ropes with PLASTFILL™ technology have a plasticized rope core and galvanized wires which provide the highest levels of resistance against corrosion to the inner and outer rope. Furthermore, all components are optimally lubricated with a special grease.

PRODUCT PROGRAM

Non-rotation resistant ropes:

QS 816 V
8 strand ordinary lay rope, suitable as traversing rope, hoist and boom hoist rope in multi- and single-layer winding

QS 816 VG
8 strand lang lay rope, suitable as hoist and boom hoist rope in multi-layer winding

EVOLUTION Q8
8 strand ordinary lay rope, suitable as hoist rope, extraordinary life time

ROPES FOR **DECK CRANES**

The quick loading and unloading of ships is a prerequisite for reducing needless costs and for profitable operation. The use of high-performance steel wire ropes significantly contributes to the high reliability of shipboard cranes: 24 hours a day, 365 days a year.

YOUR BENEFIT

- **Highest Safety**
  The safety factor is of major significance for modern shipboard cranes. The extraordinary breaking forces of our steel wire ropes – especially provided by the SUPERFILL® compaction technology – ensure the highest safety for your application.
- **Best Resistance Against Corrosion**
  Our ropes with PLASTFILL™ technology have a plasticized rope core and galvanized wires which provide highest resistance against corrosion to the inner and outer rope. Furthermore, all components are optimally lubricated with a special grease.
- **Great Shock Resistance**
  The use of crane loads of various strengths cannot be avoided in modern day cargo-handling. To counteract this problem while also achieving optimal operation performance, we have developed our special steel radial-elastic structured ropes to properly absorb dynamic forces. These forces are particularly important in grabbing operations.
- **Worldwide Availability**
  A worldwide network of suppliers with decentralized storage facilities of stock ensures that our customers are optimally supplied with spare parts regardless where a ship is located.

PRODUCT PROGRAM

Rotation resistant ropes:

PERFECTION TK 15
Ordinary lay or lang lay rope,
especially suitable as hoist rope

EVOLUTION TK 16
Ordinary lay or lang lay rope, suitable
as hoist rope in multi- and single-layer winding

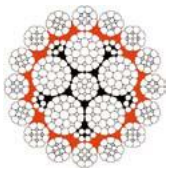
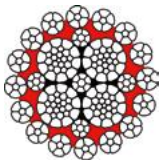
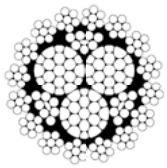
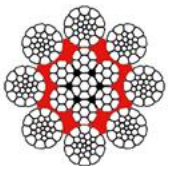
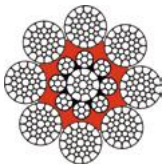
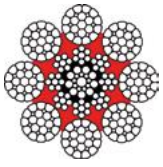
Non-rotation resistant ropes:

QS 816 V
8 strand ordinary lay rope, suitable as hoist and
boom hoist rope in multi- and single-layer winding

QS 816 VG
8 strand lang lay rope, especially suitable as
hoist and boom hoist rope in multi-layer winding

OFFSHORE, HARBOUR & SHIPPING COMPANIES

RECOMMENDED STEEL WIRE ROPES

	ROPE	DIAMETER	CHARACTERISTICS	SUPERFILL®	PLASTFILL™
	**EVOLUTION TK 18**	44 - 70 mm	Hoist ropes with one of the highest breaking forces worldwide and the best flexibility for best spooling / lifetime performance	☑	☑
	**EVOLUTION TK 16**	8 – 42 mm	Hoist ropes with one of the highest breaking forces and most flexibility worldwide	☑	☑
	**PERFECTION TK 15**	7 – 24 mm	Extremely flexible with a high torque balance; for the highest lifting.	☑	☐
	**QS 816 V (G)**	10 – 50 mm	Best bending cycle performance and high form stability against lateral pressure.	☑	☑
	**QS 814 VG**	44,45 – 69,85 mm 1 3/4" – 2 3/4"	The riser tensioner rope with a high number of wires providing optimum flexibility.	☑	☑
	**EVOLUTION Q8**	12 – 48 mm	Very long service life and usable in multi-layer winding.	☑	☑

OFFSHORE

HARBOUR MOBILE CRANE

PORT CRANE CONTAINER CRANE

DECK CRANE

VAN CARRIER

Hoist rope

Boom hoist rope

Closing rope

Tie rope/ mounting rope

Traversing rope

Riser-tensioner Rope

Preferred selection

Alternative selection

⚠ ATTENTION

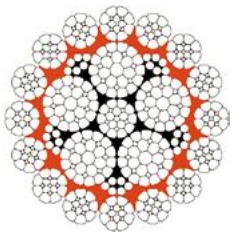
Our rope recommendations are non-binding but based on numerous years of experience. Please note the special characteristics of your system and contact us to find the best rope for you. Subject to technical changes as well as written and print errors.
* Lang lay ropes may only be used for multi-layer winding (on the drum) or must be subjected to regular, non-destructive testing procedures.

Further diameters upon request

NEW!

EVOLUTION TK 18

The EVOLUTION TK 18 is our new high-performance rope for large cranes, e.g. in the offshore and shipping industry. EVOLUTION TK 18 has been developed for cranes which operate under even the harshest conditions. This rope offers best in class breaking forces, high flexibility and is the first choice for larger diameters between 44 and 70 mm.



YOUR BENEFIT - PRODUCT ADVANTAGES

- **High Flexibility**
  Even in larger diameters this rope is very flexible and enables optimal spooling results for multi-layer winding enabling extremely challenging lifting operations to be performed.
  Advantages for the customer:
  - Optimal spooling results
  - Easier handling during mounting
  - Smooth operations during extremely challenging lifting operations
- **New Rope Structure (1)**
  With the new rope structure of the innovative EVOLUTION TK 18 resistance to prevent internal damages is increased.
  With our innovative PLASTFILL™ and SUPERFILL® technology very high minimum breaking forces can be achieved. At the same time, the constriction pressure on the inner rope is, in comparison with other constructions, reduced. Also the proactive core lubrication with a high drop point reduces the internal fretting corrosion.
  Advantages for the customer:
  - Longer service life - reduces costs and increases profitability
  - Highest breaking forces which increases safety
  - Constant MBF during operation
- **Lowest Twist at High Torsional Stability**
  For large cranes, the rotation resistance of a rope becomes even more important. The new EVOLUTION TK 18 is the perfect solution by offering the lowest twist in its class.
  Advantages for the customer:
  - Lowest twist in its class ensures safe and efficient handling
- **Highest Wear Resistance (2)**
  Longer wear resistance is achieved by using outer wires with larger diameters and compacting each strand using the SUPERFILL® Technology
  Advantages for the customer:
  - Longer service life – aids in cutting costs and increases profitability
  - Excellent suitability for heave compensation (only regular lay ropes)

FIELD OF APPLICATION

- Heavy duty offshore cranes
- Subsea winches
- Heavy lift-ship cranes
- Other special cranes which require ropes with large diameters

Nominal Ø	Weight in air		Weight submerged		Minimum breaking force 1960 N/mm²	
mm	kg/m	lbs/m	kg/m	lbs/m	kN	metr. to
44	9,75	21,50	8,29	18,28	1.781	182
46	10,60	23,37	9,04	19,93	1.946	198
48	11,10	24,47	9,42	20,77	2.114	215
50	12,50	27,56	10,66	23,50	2.299	234
52	13,50	29,76	11,56	25,49	2.487	254
54	14,30	31,53	12,20	26,90	2.683	274
56	15,50	34,17	13,11	28,90	2.884	294
58	16,55	36,49	14,06	31,00	3.094	315
60	17,56	38,71	15,00	33,07	3.311	338
62	18,90	41,67	16,04	35,36	3.536	360
64	20,00	44,09	17,06	37,61	3.767	384
66	21,25	46,85	18,12	39,95	4.007	408
68	22,50	49,60	19,19	42,31	4.253	434
70	23,86	52,60	20,36	44,89	4.507	459

EVOLUTION TK 18 Technical Data

⚠ ATTENTION

Our rope recommendations are non-binding but based on numerous years of experience. Please note the special characteristics of your system and contact us to find the best rope for you. Subject to technical changes as well as written and print errors.
* Lang lay ropes may only be used for multi-layer winding (on the drum) or must be subjected to regular, non-destructive testing procedures.

Further diameters upon request

SPECIFICATIONS

MULTI-LAYER WINDING ☑

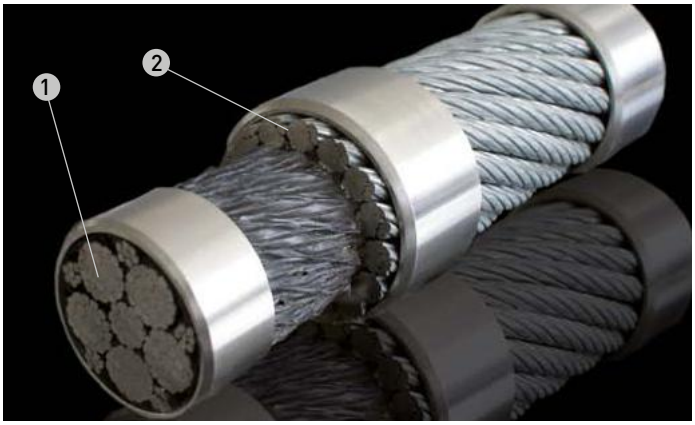
Ordinary lay (also available in lang´s lay), left or right lay

44 - 70 mm: 16 x K17F - EPIWRC(K), RCN 27

Rope grade: 1960

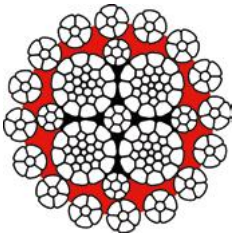
Number of wires in the outer strands: 272

SUPERFILL® ☑ PLASTFILL™ ☑



EVOLUTION TK 16

Revolutionary design, high-quality materials and perfectly coordinated production processes – EVOLUTION TK 16 meets all the characteristics your application requires: highest breaking forces and best flexibility.



YOUR BENEFIT

- **Highest Breaking Forces Worldwide**
  This new type of rope structure and the SUPERFILL® compaction technology provides the best breaking forces worldwide for strand-compacted ropes. This results in increased safety when in operation.
- **Lowest Twist at High Torsion Stability**
  The excellent torsion behavior of this rope facilitates the easy transportation of loads.
- **Increased Flexibility**
  The flexibility of this rope facilitates optimal spooling conditions for multi-layer winding enabling extremely challenging lifting operations to be performed. The rope also absorbs high dynamic strain.
- **Longer Service Life, Increased Profitability**
  The structure of this rope is intended for long-term use. By further improving the process of production the high quality of our hoist rope production has been increased. The PLASTFILL™ insert between the inner rope and outer strands provides additional protection against corrosion and ensures outstanding resistance against extreme environmental conditions. Your decision to choose EVOLUTION TK 16 affirms increased productivity, long-term cost reduction and added competitiveness.

FIELD OF APPLICATION

Hoist rope for all crane installations such as:

- Offshore cranes
- Deck cranes
- Cable-dredgers
- Special civil engineering facilities
- and more

SPECIFICATIONS

MULTI-LAYER WINDING ☑

Ordinary lay (also available in lang lay), right or left lay
8 – 30 mm: 16 x K6 – EPIWRC (K), RCN 23-1
32 – 42 mm: 16 x K7 – EPIWRC (K), RCN 23-2
Rope grades: 1770 / 1960 / 2160
Number of wires in the outer strands: 96 (8 – 30 mm), 112 (32 – 42 mm)

SUPERFILL® ☑ PLASTFILL™ ☑

Nominal Ø	Weight		Minimum breaking force					
			1770 N/mm²		1960 N/mm²		2160 N/mm²	
mm (inch)	kg/m	lbs/m	kN	lbs/m	kN	lbs/m	kN	lbs/m
8,00 (= 5/16“)	0,34	0,75	54,0	12.140	59,0	13.264	64,0	14.388
10,00	0,50	1,10	82,0	18.434	91,0	20.458	98,0	22.031
12,00	0,74	1,63	120,0	26.977	133,0	29.900	144,0	32.372
13,00	0,86	1,90	141,0	31.698	156,0	35.070	170,0	38.218
14,00 (= 9/16“)	1,01	2,23	163,0	36.644	181,0	40.690	197,0	44.287
15,00	1,16	2,56	194,0	43.613	215,0	48.334	231,0	51.931
16,00 (= 5/8“)	1,32	2,91	221,0	49.683	244,0	54.853	263,0	59.125
17,00	1,50	3,31	241,0	54.179	267,0	60.024	290,0	65.195
18,00	1,68	3,70	279,0	62.722	309,0	69.466	333,0	74.861
19,00 (= 3/4“)	1,85	4,08	312,0	70.140	345,0	77.559	371,0	83.404
20,00	2,08	4,59	338,0	75.985	374,0	84.079	401,0	90.148
21,00	2,25	4,96	373,0	83.854	413,0	92.846	444,0	99.815
22,00 (= 7/8“)	2,51	5,53	408,0	91.722	452,0	101.614	487,0	109.482
22,23 (= 7/8“)	2,54	5,60	426,0	95.769	472,0	106.110	506,0	113.753
23,00	2,75	6,06	445,0	100.040	493,0	110.831	533,0	119.823
24,00	2,96	6,53	483,0	108.583	535,0	120.273	580,0	130.389
25,00	3,15	6,94	537,0	120.722	595,0	133.761	639,0	143.653
25,40 (= 1“)	3,31	7,30	541,0	121.622	599,0	134.661	644,0	144.777
26,00	3,48	7,67	567,0	127.467	627,0	140.955	675,0	151.746
27,00	3,74	8,25	609,0	136.909	674,0	151.521	725,0	162.986
28,00	4,05	8,93	655,0	147.250	725,0	162.986	780,0	175.351
28,57 (= 1 1/8“)	4,14	9,13	668,0	150.172	744,0	167.258	814,0	182.994
29,00	4,27	9,41	701,0	157.591	777,0	174.677	835,0	187.715
30,00	4,62	10,19	749,0	168.382	830,0	186.591	893,0	200.754
32,00 (= 1 1/4“)	5,24	11,55	853,0	191.762	944,0	212.220	1.016,0	228.405,8
34,00	5,90	13,01	958,0	215.367	1.061,0	238.522	1141,0	256.507
36,00	6,65	14,66	1.072,0	240.995	1.187,0	266.848	1.277,0	287.081
38,00 (= 1 1/2“)	7,35	16,20	1.237,0	278.089	1.369,0	307.763	1.472,0	330.919
40,00	8,13	17,92	1.317,0	296.073	1.458,0	327.771	1.568,0	352.500
42,00	8,97	19,78	1.452,0	326.423	1.608,0	361.493	1.729,0	388.695

EVOLUTION TK 16 Technical Data

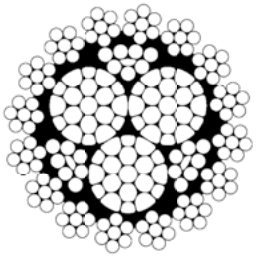
⚠ ATTENTION

Our rope recommendations are non-binding but based on numerous years of experience. Please note the special characteristics of your system and contact us to find the best rope for you. Subject to technical changes as well as written and print errors.
* Lang lay ropes may only be used for multi-layer winding (on the drum) or must be subjected to regular, non-destructive testing procedures.

Further diameters upon request

PERFECTION TK 15

Rotation is a thing of the past – the future is called PERFECTION TK 15. Check out this perfect combination of exceptional torsional stability, and high breaking strength, excellent durability and optimum spooling. The new generation of high-performance hoisting ropes for construction cranes has arrived. **PERFECTION TK 15. Rotation resistant. Cost-efficient. Safe.**



YOUR BENEFIT

- **Higher Minimum Breaking Force (approx. + 10%)**
  An entirely new rope construction, combined with higher compaction, substantially enhanced breaking strength vis-à-vis TK 12 and comparable competitor products.
- **Longest Service Life (approx. + 15%)**
  In the crane rope testing facility, the new PERFECTION TK 15 reaches – compared to its predecessor product – a 15% longer service life until reaching the discard criteria. Also in practical use, a significant improvement of the service life of the product compared to competitor products was observed.
- **Excellent torsional behavior and best performance**
  PERFECTION TK 15 achieves a markedly improved torsional behavior, especially at large hoisting heights (e.g. on tower cranes) and heavy loads. This allows the user to move goods with high precision. Above all, even in difficult conditions the rope winds up perfectly on the drum and ensures long-term and faultless continuous use.
- **Increased flexibility in handling**

FIELD OF APPLICATION

Hoisting rope for:

- Tower cranes
- Mobile cranes
- Cable-operated excavators
- Pile drivers

SPECIFICATIONS

MULTI-LAYER WINDING ☑

Ordinary and lang lay, right or left lay
7- 24 mm: 16 x 7 – IWRC (K), RCN 23-2
Rope grades: 1770 / 1960 / 2160
Number of wires in the outer strands: 112

SUPERFILL® ☑ PLASTFILL™ ☐

Nominal Ø	Weight		Minimum breaking force					
			1770 N/mm²		1960 N/mm²		2160 N/mm²	
mm (inch)	kg/m	lbs/m	kN	lbs/m	kN	lbs/m	kN	lbs/m
7,00	0,23	0,51	36,5	8.206	40,4	9.082	43,0	9.667
8,00 (= 5/16“)	0,31	0,68	49,0	11.016	53,0	11.915	56,0	12.589
9,00	0,37	0,82	60,0	13.489	67,0	15.062	71,0	15.961
9,20	0,39	0,86	62,9	14.140	69,7	15.669	76,8	17.265
10,00	0,45	0,99	74,0	16.636	82,0	18.434	87,0	19.558
11,00 (= 7/16“)	0,54	1,19	90,0	20.233	100,0	22.481	106,0	23.830
12,00	0,64	1,41	108,0	24.279	118,0	26.527	126,0	28.326
13,00	0,81	1,79	126,0	28.326	140,0	31.473	148,0	33.272
14,00 (= 9/16“)	0,91	2,01	146,0	32.822	162,0	36.419	172,0	38.667
15,00	1,07	2,36	168,0	37.768	186,0	41.814	197,0	44.287
16,00 (= 5/8“)	1,16	2,56	191,0	42.938	211,0	47.435	224,0	50.357
17,00	1,32	2,91	215,0	48.334	239,0	53.729	253,0	56.877
18,00	1,46	3,22	241,0	54.179	267,0	60.024	284,0	63.846
19,00 (= 3/4“)	1,64	3,62	269,0	60.474	298,0	66.993	316,0	71.040
20,00	1,88	4,14	298,0	66.993	330,0	74.187	350,0	78.683
21,00	2,01	4,43	328,0	73.737	364,0	81.830	386,0	86.776
22,00 (= 7/8“)	2,20	4,85	360,0	80.931	399,0	89.699	423,0	95.094
23,00	2,40	5,29	394,0	88.575	436,0	98.017	463,0	104.087
24,00	2,69	5,93	429,0	96.443	475,0	106.784	504,0	113.304

PERFECTION TK 15 Technical Data

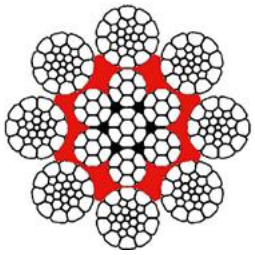
⚠ ATTENTION

Our rope recommendations are non-binding but based on numerous years of experience. Please note the special characteristics of your system and contact us to find the best rope for you. Subject to technical changes as well as written and print errors.
* Lang lay ropes may only be used for multi-layer winding (on the drum) or must be subjected to regular, non-destructive testing procedures.

Further diameters upon request

QS 816 V (G)

Extreme resistance to negative external influences distinguish this rope from others. TEUFELBERGER's SUPERFILL® compaction technology ensures high breaking forces, translating to optimum operational safety. The design of the inner rope and the PLASTFILL™ result into best stability against lateral pressure.



YOUR BENEFIT

- **Reliability and safety** during operation – due to extremely high breaking forces
- **Cost reduction –** due to reduced rope abrasion, longer service life and reduced maintenance intervals
- **Trouble-free operation –** resulting from excellent absorption of knocks and vibrations
- **Long service life –** due to smoother rope surfaces
- **Optimal winding characteristics** – resulting from high form stability against lateral pressure
- **Improved permanent lubrication –** due to PLASTFILL™ insert

FIELD OF APPLICATION

Hoist rope for mobile harbour cranes or container cranes

Boom hoist rope for offshore cranes, shipboard cranes or cable-dredgers

Hoist, grab and pendant rope for diggers and devices for civil engineering

Guy rope for tower yarders

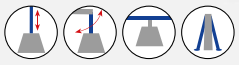
Carrying rope for wood liners

Hoist rope for cable crane installations

SPECIFICATIONS

MULTI-LAYER WINDING ☑

QS 816 V in ordinary lay, QS 816 V G in lang lay, left and right lay
10 – 42 mm: 8 x K26WS – EPIWRC (K), RCN 9
44 – 50 mm: 8 x K31WS – EPIWRC (K), RCN 11
Rope grades: 1770 / 1960 / 2160
Number of wires in the outer strands: 208 (10 – 42 mm)
258 (44 – 50 mm)



SUPERFILL® ☑ PLASTFILL™ ☑

QS 816 V (G) Technical Data

Nominal Ø	Weight		Minimum breaking force					
			1770 N/mm²		1960 N/mm²		2160 N/mm²	
mm (inch)	kg/m	lbs/m	kN	lbs/m	kN	lbs/m	kN	lbs/m
10,00	0,46	1,01	81,0	18.209,5	89,0	20.008	98,0	22.031
11,00 (= 7/16“)	0,55	1,21	97,0	21.806	107,0	24.055	118,0	26.527
12,00	0,69	1,52	117,0	26.303	129,0	29.000	143,0	32.148
13,00	0,81	1,79	141,0	31.698	156,0	35.070	172,0	38.667
14,00 (= 9/16“)	0,93	2,05	162,0	36.419	179,0	40.241	198,0	44.512
15,00	1,06	2,34	185,0	41.590	205,0	46.086	226,0	50.807
16,00 (= 5/8“)	1,20	2,65	210,0	47.210	232,0	52.156	256,0	57.551
17,00	1,35	2,98	235,0	52.830	261,0	58.675	287,0	64.520
18,00	1,55	3,42	263,0	59.125	291,0	65.419	321,0	72.164
19,00 (= 3/4“)	1,71	3,77	302,0	67.892	335,0	75.311	369,0	82.954
20,00	1,89	4,17	330,0	74.187	365,0	82.055	402,0	90.373
21,00	2,15	4,74	374,0	84.079	414,0	93.071	457,0	102.738
22,00 (= 7/8“)	2,34	5,16	408,0	91.722	451,0	101.389	497,0	111.730
23,00	2,54	5,60	445,0	100.040	492,0	110.606	543,0	122.071
24,00	2,75	6,06	467,0	104.986	517,0	116.226	570,0	128.141
25,00	2,97	6,55	518,0	116.451	574,0	129.040	633,0	142.304
25,40 (= 1“)	3,02	6,66	528,0	118.699	584,0	131.288	644,0	144.777
26,00	3,19	7,03	555,0	124.769	615,0	138.257	678,0	152.420
27,00	3,51	7,74	595,0	133.761	659,0	148.149	727,0	163.436
28,00	3,72	8,20	656,0	147.475	726,0	163.211	800,0	179.847
28,57 (= 1 1/8“)	3,98	8,77	672,0	151.072	745,0	167.483	820,0	184.343
29,00	3,98	8,77	694,0	156.017	768,0	172.653	847,0	190.413
30,00	4,37	9,63	764,0	171.754	846,0	190.188	897.0	201.653
31,00	4,62	10,19	778,0	174.901	862,0	193.785	on request	
32,00 (= 1 1/4“)	4,90	10,80	864,0	194.235	957,0	215.142	1.015,0	228.181
33,00	5,15	11,35	893,0	200.754	989,0	222.336	on request	
34,00	5,59	12,32	945,0	212.444	1.046,0	235.150	1.130,0	254.034
36,00	6,36	14,02	1.071,0	240.770	1.186,0	266.623	on request	
38,00 (= 1 1/2“)	7,03	15,50	1.222,0	274.716	1.354,0	304.391	on request	
40,00	7,81	17,22	1.342,0	301.694	1.486,0	334.066	on request	
41,00	8,12	17,90	1.382,0	310.686	1.531,0	344.182	on request	
42,00	8,60	18,96	1.482,0	333.167	1.641,0	368.911	on request	
44,00	9,24	20,37	1.596,0	358.795	1.768,0	397.462	on request	
46,00	10,21	22,51	1.760,0	395.664	1.949,0	438.153	on request	
48,00	10,78	23,77	1.848,0	415.447	2.046,0	459.959	on request	
50,00	12,36	27,25	1.987,0	446.695	2.200,0	494.580	on request	

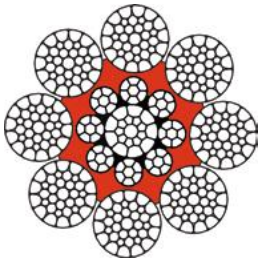
⚠ ATTENTION

Our rope recommendations are non-binding but based on numerous years of experience. Please note the special characteristics of your system and contact us to find the best rope for you. Subject to technical changes as well as written and print errors.
* Lang lay ropes may only be used for multi-layer winding (on the drum) or must be subjected to regular, non-destructive testing procedures.

Further diameters upon request

QS 814 VG

Galvanized lang lay rope used for riser tensioners. Extreme bending fatigue performance is the strong point of this rope. SUPERFILL® compaction technology ensures highest breaking forces and thus maximum safety levels during operation. The application of this technology – even in the inner rope – generates optimum form stability against lateral pressure.



YOUR BENEFIT

- **Reliability and safety** during operation – due to highest breaking forces
- **Cost reduction –** due to reduced rope abrasion, longer service life and prolonged maintenance intervals
- **Excellent bending fatigue performance and high flexibility –** due to the 8 strand construction and the high number of wires
- **Highest resistance against corrosion** – due to galvanized wires
- **Longer service life** – due to the smooth rope surface – with SUPERFILL® compaction technology
- **Protection** through permanent lubrication provided by PLASTFILL™ insert

FIELD OF APPLICATION

Special developed riser tensioner rope

SPECIFICATIONS

MULTI-LAYER WINDING ☐

Langs lay
44,5 – 63,5 mm: 8 x K36WS - EPIWRC (K), RCN 13
69,85 mm: 8 x K47WS - EPIWRC (K)
Rope grades: 1770 / 1960
Number of wires in the outer strands: < 64 mm: 288
> 64 mm: 376

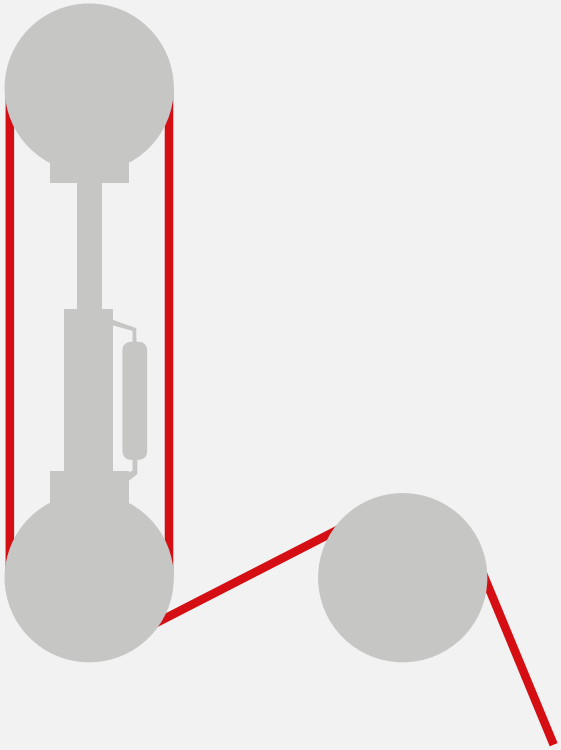
SUPERFILL® ☑ PLASTFILL™ ☑

Nominal Ø	Weight		Minimum breaking force			
			1770 kN/mm²		1960 kN/mm²	
mm (inch)	kg/m	lbs/m	kN	lbs/m	kN	lbs/m
44,45 (= 1 3/4“)	9,12	20,11	1.598,6	359.371	1.770,0	397.912
50,80 (= 2“)	11,90	26,24	1.937,2	435.510	2.145,2	482.259
53,98 (= 2 1/8“)	13,40	29,54	2.187,4	491.741	2.422,2	544.526
57,15 (= 2 1/4“)	14,50	31,97	2.451,8	551.192	2.715,0	610.359
63,50 (= 2 1/2“)	18,70	41,23	3.026,9	680.484	3.351,9	753.530
64	19,30	42,55	–	–	3.600,0	809.308
69,85 (= 2 3/4“)	22,88	50,44	3.340,0	750.861	–	–

QS 814 VG Technical Data

RISER TENSIONER

Riser tensioners are important installations on floating oil platforms in order to balance out permanent sea disturbances. The steel wire ropes used for these balancing movements are permanently exposed to tensile load and high bending cycles. These specific requirements can only be met by top-quality ropes. The galvanized rope QS 814 VG has especially been developed for use in such harsh environments. Riser tensioner rope perfectly meets all requirements demanded of it with its unique structure.



⚠ ATTENTION

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* Lang lay ropes may only be used for multi-layer winding (on the drum) or must be subjected to regular, non-destructive testing procedures.

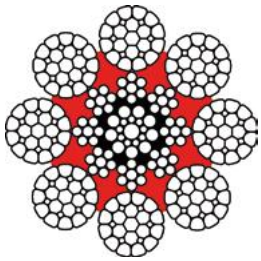
Further diameters upon request

Please note our special maintenance manual for MRT-ropes.

NEW!

EVOLUTION Q8

Endurance is everything. EVOLUTION Q8 – the high-performance hoisting rope for harbour cranes and industrial applications impresses with exceptionally long service life and high breaking stength due to the innovative outer compaction. EVOLUTION Q8 outlasts the competition!



YOUR BENEFIT

- **Highest Service Life (up to + 40%)**
  Compared to conventional and similar products, our new EVOLUTION Q8 exhibits, in the test lab as well as in practical use, a full-service life until reaching the discard criteria which is up to 40% longer, especially with single-layer winding.
- **Higher Minimum Breaking Force (approx. + 5%)**
  Due to an innovative rope design in combination with compacted outer strands, the breaking strength was increased considerably compared to conventional 8x25 steel ropes (approx. + 20%) and in comparison to competitor products (approx. + 5%).
- **Best Performance with Multi-layer Winding**
  As a result of the compacted outer strands, EVOLUTION Q8 is ideal for multi-layer winding even under difficult conditions. This permits a long and faultless use in permanent operation and aids in reducing downtime to a minimum.

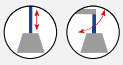
FIELD OF APPLICATION

- Van carrier
- Harbour mobile cranes
- RTG cranes
- RMG cranes
- Ship-to-shore cranes
- Loading bridges
- Pontoon cranes
- Grab excavators
- Indoor cranes with low lifting height

SPECIFICATIONS

MULTI-LAYER WINDING ☑

Ordinary lay (also available in lang lay), left and right lay
12 - 48 mm: 8 x K25F – EPIWRC (K), RCN 6
Rope grades: 1770 / 1960
Number of wires in outer strands: 200



SUPERFILL® ☑ PLASTFILL™ ☑

Nominal Ø	Weight		Minimum breaking force			
			1770 kN/mm²		1960 kN/mm²	
mm (inch)	kg/m	lbs/m	kN	lbs/m	kN	lbs/m
12,00	0,67	1,47	110,0	24.729	122,0	27.427
14,00 (= 9/16“)	0,91	2,00	150,0	33.721	166,0	37.318
16,00 (= 5/8“)	1,19	2,61	196,0	44.055	217,0	48.784
18,00	1,50	3,31	247,0	55.528	274,0	61.598
20,00	1,85	4,08	306,0	68.792	339,0	76.210
22,00 (= 7/8“)	2,29	5,05	370,0	83.179	410,0	92.172
24,00	2,49	5,49	441,0	99.141	488,0	109.707
25,00	2,71	5,96	478,0	107.459	529,0	118.924
26,00	2,92	6,44	517,0	116.226	572,0	128.591
28,00	3,55	7,83	600,0	134.885	664,0	149.273
30,00	4,14	9,13	688,0	154.669	762,0	171.304
32,00 (= 1 1/4“)	4,62	10,19	783,0	176.015	867,0	194.909
34,00	5,35	11,80	884,1	198.753	979,0	220.088
36,00	5,81	13,15	991,0	222.786	1.097,0	246.615
38,00 (= 1 1/2“)	6,69	14,74	1.104,4	248.289	1.223,0	274.941
40,00	7,41	16,33	1.223,6	275.087	1.355,0	304.616
42,00	8,17	18,01	1.349,2	303.306	1.494,0	335.864
44,00	8,92	19,73	1.480,0	332.717	1.639,0	368.462
46,00	9,80	21,60	1.618,3	363.805	1.792,0	402.858
48,00	10,55	23,48	1.762,0	396.113	1.951,0	438.602

EVOLUTION Q8
Technical Data

⚠ ATTENTION

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Further diameters upon request

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