



OFFSHORE, HARBOUR & SHIPPING COMPANIES

SPECIAL STEEL WIRE ROPES



B Bishop Lifting
Products, Inc.
www.Lifting.com



TOGETHER IN MOTION



INDEX

About TEUFELBERGER 4

High-performance steel wire ropes 9

Offshore ropes 10

Ropes for harbour mobile cranes 11

Ropes for loading cranes 12

Ropes for shipboard cranes 13

Recommended steel wire ropes 14

EVOLUTION EVOLUTION TK 16 16

PERFECTION PERFECTION TK 15 18

EVOLUTION QS 816 V (G) 20

PERFECTION QS 816 V PROTECT 22

PERFECTION QS 814 VG 24

EVOLUTION EVOLUTION Q8 26

WARNING

Using the products may be dangerous. Our products must not be used for other than the intended purposes. The customer has to ensure that the user is familiar with the correct application and the necessary precautions. Please bear in mind that every product may cause damage when used improperly or when overstressed. Reserved to technical changes, typesetting errors, and misprints.

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. Over 800 dedicated employees work for customers in more than 100 countries.

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. But we are also constantly moving in another sense of the word: the quick response to the requirements of our customers as well as the continual improvement, innovation and diversification of our products are inherent to our corporate culture and reflect the dynamics that distinguishes us.

Close cooperation with our customers and suppliers, the creation of synergies offered by the

three technologies as well as the closeness of the family-owned enterprise to its employees are further examples of what makes us unique.

We understand ourselves as a provider of solutions for the optimized use of high-grade products that ensure our international customers that their processes come off smoothly and their objectives are achieved. Superior know-how, new technologies and comprehensive service ensure top quality and reliability. In our three technologies wire rope, fiber rope and extrusion we set standards in more than 100 countries.

The TEUFELBERGER Group



WIRE ROPE

- Crane ropes for cranes in the building industry, in harbours, on boats 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, treecare
- 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-quality steel wire ropes in all aspects of production, research & development, 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 your requirements at 100%.

Two production sites with modern machinery, an own research and development department along with close cooperation with our subsidiaries ensure that our know-how is transferred optimally into your success. From petroleum industry to harbours, building sites and forestry, to ropeways for passengers and goods – TEUFELBERGER's special

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. We give research & development top priority which is in a decentralized company structure to exploit synergies. Our quality awareness is evident by fulfilling ISO 9001 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. We issue certification reports for ABS, DNV, API, BV, RINA, GL, LR, RS, NKK, and CGS 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 wherever required.

Expert consultancy

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

Delivery reliability

TEUFELBERGER's management of orders ensures optimal processing in production and logistics.

Research and development

Increasing customer requirements are challenging us. 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 know-how provides essential advantages in use and effective cost savings. Our special steel wire ropes achieve outstanding service life, provide best possible safety for persons and devices and reduce maintenance, replacement and organization costs.

PLASTIFILL™ 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 reduced friction in the rope

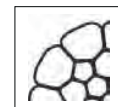
The strands are embedded in the synthetic coat during the stranding process.

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

SUPERFILL® COMPACTION TECHNOLOGY

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



With
SUPERFILL®



Without
SUPERFILL®

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 PLASTIFILL™ technology provides for extreme resistance against corrosion.



TEUFELBERGER SEIL GES.M.B.H.

HIGH-PERFORMANCE STEEL WIRE ROPES

High-performance steel wire ropes made by TEUFELBERGER belong to 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 get a high-quality high-performance TEUFELBERGER product which, as usual, offers you great value for money.

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 highest breaking forces, exceptionally long service lives in the roughest conditions, and top-level performance for the respective types of use, they 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 on our testing facility for crane ropes and also in cooperation with our partners (leading crane manufacturers), form the basis for continued de-

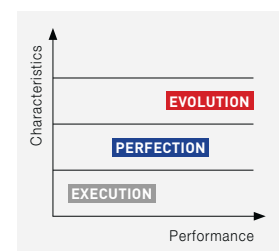
velopment and improvement in this product class. EVOLUTION ropes made by TEUFELBERGER are your product of choice if highest performance is what you are looking for.

PERFECTION

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

EXECUTION

Products of this category are special 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 provides an ideal springboard for your entry into the world of „special steel wire ropes“.



OFFSHORE ROPES



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 far away from the coast, 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 all over the world.

YOUR BENEFIT

- **Best reliability**
Our special steel wire ropes for offshore cranes distinguish themselves by highest reliability under most challenging conditions.
- **Highest safety standards**
Extremely high breaking forces – especially provided by SUPERFILL® compaction technology – stand for highest safety in daily operations.
- **Great resistance against corrosion**
Our special ropes with PLASTFILL™ technology have plasticized rope cores and galvanized wires which provide for highest 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 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 in your rope's service life, reduction of standstill periods and maintenance costs – this means that total costs, when compared to the device's service life, are considerably reduced.

PRODUCT PROGRAM

Non-rotating ropes:

EVOLUTION TK 16

Ordinary lay or lang's lay rope, suitable as hoist rope in multi- or single-layer winding

Non-rotation resistant ropes:

QS 816 VG

8 strand lang's 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's lay rope especially developed as riser tensioner rope

ROPES FOR HARBOUR MOBILE CRANES



Worldwide handling of goods is continually increasing every year. Herefore the harbours operate on the boarder to their capacity limit although 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 highest 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 highest operation performance, by properly absorbing dynamic forces – especially in grabbing operations – we have developed our 8 strand radial-elastic structured ropes.
- **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.

PRODUCT PROGRAM

Non-rotation resistant ropes:

QS 816 V

8 strand ordinary lay rope, suitable as hoist rope

QS 816 V Protect

8 strand lang's lay rope with radial elastic inner rope, suitable as hoist rope and closing rope in grabbing operations

EVOLUTION Q8

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

ROPES FOR LOADING 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' extraordinary breaking forces – especially provided by the SUPERFILL® compaction technology – ensure highest safety for your application.
- **Profitability**

Harbour cranes are often used round the clock – to their limits. Long-term experience has resulted in our gaining specific knowledge as to 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. To counteract this and achieve highest operation performance, by properly absorbing dynamic forces – especially in grabbing operations – we have developed our 8 strand radial-elastic structured ropes.
- **High 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.

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's 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 SHIPBOARD 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 highest safety for your application.
- **Best resistance against corrosion**

Our ropes with PLASTIFILL™ 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 whilst achieving optimal operation performance, by properly absorbing dynamic forces – especially in grabbing operations – we have developed our special steel radial-elastic structured ropes.
- **Worldwide availability**

A worldwide network of suppliers with decentralized storage of stock ensures that our customers are optimally supplied with spare parts regardless where a ship is located.

PRODUCT PROGRAM

Non-rotating ropes:

PERFECTION TK 15

Ordinary lay or lang's lay rope, especially suitable as hoist rope

EVOLUTION TK 16

Ordinary lay or lang's 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

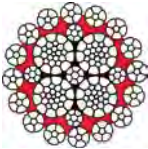
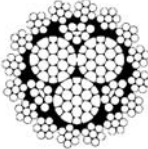
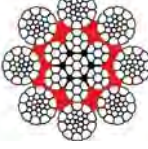
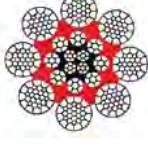
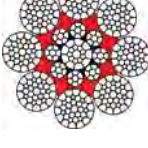

QS 816 VG

8 strand lang's 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®	PLASTIFILL™
	EVOLUTION TK 16	8 – 42 mm	one of the worldwide hoist ropes with highest breaking forces and best flexibility	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
	PERFECTION TK 15	7 – 24 mm	extremely flexible with a high torque balance; for the highest lifting	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	QS 816 V (G)	10 – 50 mm	best bending cycle performance and high form stability against lateral pressure	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
	QS 816 V PROTECT	32 – 48 mm	high flexibility and shock resistance, best form stability against lateral pressure	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
	QS 814 VG	44,45 – 63,50 mm 1 3/4" – 2 1/2"	the riser tensioner rope with a high number of wires providing optimum flexibility	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
	EVOLUTION Q8	12 – 48 mm	Very long service life and also usable in multi-layer winding	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>



OFFSHORE



HARBOUR
MOBILE
CRANE



LOADING
CRANE
CONTAINER
CRANE



SHIPBOARD
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 many 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.

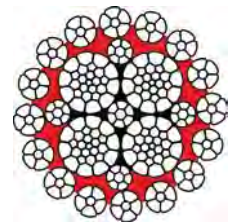
* Lays lay ropes may only be used for multi-layer winding (on the drum) or must be subjected to regular, non-destructive testing procedures.

Further diameters upon request

EVOLUTION TK 16



Revolutionary design, high-quality materials and perfectly coordinated production processes – EVOLUTION TK 16 combines 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 provide 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. And, 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
- Shipboard cranes
- Cable-dredgers
- Special civil engineering facilities
- and more

SPECIFICATIONS

MULTI-LAYER WINDING

Ordinary lay (also available in lang's lay), right or left lay
 12 – 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 (12 – 30 mm),
 112 (32 – 42 mm)



SUPERFILL®

PLASTFILL™



Nominal Ø	Weight		Minimum breaking force					
	mm (inch)	kg/m	lbs	1770 N/mm ²		1960 N/mm ²		2160 N/mm ²
			kN	lbs	kN	lbs	kN	lbs
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	740,0	166.359	796,0	178.948
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	on request	
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	on request	
36,00	6,65	14,66	1.072,0	240.995	1.187,0	266.848	on request	
38,00 (= 1 1/2")	7,35	16,20	1.237,0	278.089	1.369,0	307.763	on request	
40,00	8,13	17,92	1.317,0	296.073	1.458,0	327.771	on request	
42,00	8,97	19,78	1.452,0	326.423	1.608,0	361.493	on request	

EVOLUTION
TK 16
Technical
Data

⚠ ATTENTION

Our rope recommendations are non-binding but based on many 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.
* Lays lay ropes may only be used for multi-layer winding (on the drum) or must be subjected to regular, non-destructive testing procedures.

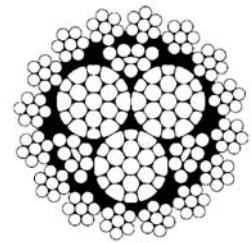
Further diameters upon request

NEW!

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. Non-rotating. 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 life time 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's lay, right or left lay
16 x 7-IWRC (K)
8 – 22 mm: RCN 23-2
Rope grades: 1770 / 1960 / 2160
Number of wires in the outer strands: 112



SUPERFILL®

PLASTIFILL™

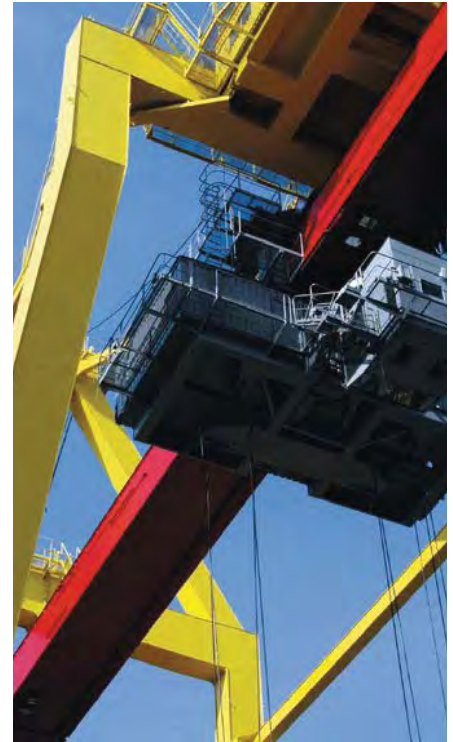


Nominal Ø	Weight		Minimum breaking force					
	mm (inch)	kg/m	lbs	1770 N/mm ²		1960 N/mm ²		2160 N/mm ²
			kN	lbs	kN	lbs	kN	lbs
7,00	0,23	0,51	36,5	8.206	40,4	9.082	42,9	9.644
8,00 (= 5/16")	0,31	0,68	47,6	10.701	52,80	11.870	56,00	12.589
9,00	0,37	0,82	60,3	13.556	66,8	15.017	70,8	15.916
9,20	0,39	0,86	62,9	14.140	69,7	15.669	76,8	17.265
10,00	0,45	0,99	74,4	16.726	82,4	18.524	87,4	19.648
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	119,0	26.752	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	167,0	37.543	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	428,0	96.218	475,0	106.784	504,0	113.304

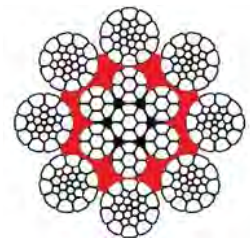
PERFECTION
TK 15
Technical
Data

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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's lay
 10 – 48 mm: 8 x K26WS EPIWRC (K), left and right lay
 10 – 48 mm: RCN 9
 Rope grades: 1770 / 1960 / 2160
 Number of wires in the outer strands: 208



SUPERFILL® PLASTFILL™



Nominal Ø mm (inch)	Weight		Minimum breaking force					
	kg/m	lbs	1770 N/mm ²		1960 N/mm ²		2160 N/mm ²	
			kN	lbs	kN	lbs	kN	lbs
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	on request	
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	on request	
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	on request	
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	on request	
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	on request	
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	on request	
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	on request	
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	

QS 816 V (G)
Technical
Data

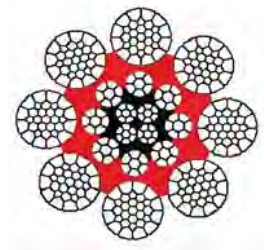
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Further diameters upon request

QS 816 V PROTECT



The extreme high number of wires in the outer strands provide optimum resistance with maximal elasticity for this galvanized rope. TEUFELBERGER's SUPERFILL® compaction technology ensures high breaking forces, translating to great operational safety. Its use – even in the inner rope – results in best resistance against abrasion, a stable diameter and a long service life.



YOUR BENEFIT

- **Simple handling** and best winding characteristics on the drum
- **High flexibility** – due to the extra high number of wires
- **Reliability and safety** in operation – due to extremely high breaking forces
- **Significant cost reduction** – due to reduced rope abrasion and increased service life with less maintenance expense
- **Trouble-free operation** – due to outstanding absorption of dynamic forces such as knocks and vibrations
- **Long service life** – due to smoother rope surface resulting from SUPERFILL® compaction technology

FIELD OF APPLICATION

- Hoist rope for**
- Mobile harbour cranes
 - Industrial cranes
 - Bridge cranes
 - STS bridges

SPECIFICATIONS

MULTI-LAYER WINDING

Ordinary lay, right or left lay
 10 – 48 mm: 8 x K31WS – EPIWRC (K)
 10 – 48 mm: RCN 11
 Rope grade: 1960
 Number of wires in the outer strands: 248



SUPERFILL® PLASTIFILL™



Nominal Ø	Weight		Minimum breaking force 1960 N/mm ²		
	mm (inch)	kg/m	lbs	kN	lbs
32,00 (= 1 1/4")	4,70	2,13	855,0	192.212	
36,00	6,08	2,76	1.068,0	240.096	
44,00	8,95	4,06	1.609,0	361.718	
48,00	10,47	4,75	1.878,0	422.191	

QS 816 V
PROTECT
Technical
Data

⚠ ATTENTION

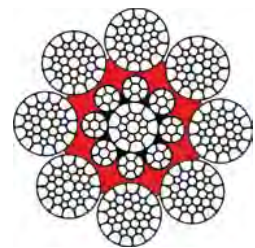
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Further diameters upon request

QS 814 VG



Galvanized lang's lay rope 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 – due to SUPERFILL® compaction technology
- **Protection** through permanent lubrication provided by PLASTIFILL™ insert

FIELD OF APPLICATION

Special developed riser tensioner rope

SPECIFICATIONS

MULTI-LAYER WINDING

Lang's lay
 44,5 – 63,5 mm: 8 x K36WS - EPIWRC (K)
 44,5 – 63,5 mm: RCN 13
 Rope grades: 1770 / 1960
 Number of wires in the outer strands:
 < 57 mm: 288, > 57 mm: 376



SUPERFILL®

PLASTIFILL™

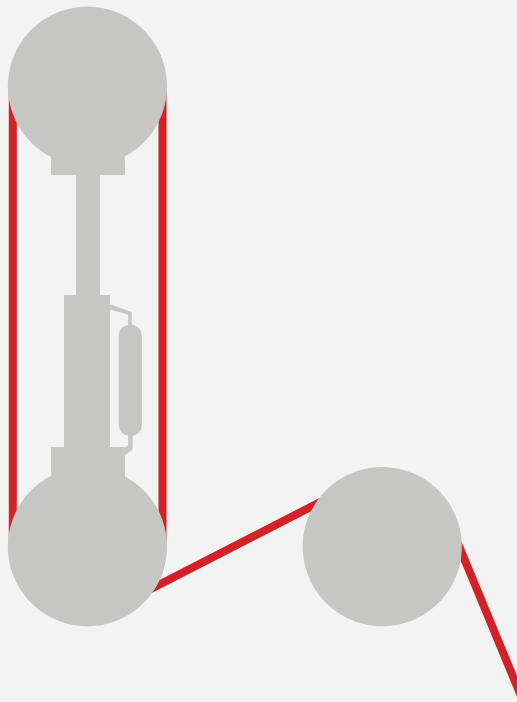


Nominal Ø	Weight		Minimum breaking force			
			1770 kN/mm ²		1960 kN/mm ²	
mm (inch)	kg/m	lbs	kN	lbs	kN	lbs
44,45 (= 1 3/4")	9,12	20,11	1.598,6	359.371	1.770,0	397.912
50,80 (= 2")	11,90	26,24	1.937,2	435.510	2.145,2	482.259
53,98 (= 2 1/8")	13,40	29,54	2.187,4	491.741	2.422,2	544.526
57,15 (= 2 1/4")	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

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 as the Marine environment. Riser Tensioner rope perfectly meets all requirements demanded of it with its unique structure.



⚠ ATTENTION

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Further diameters upon request

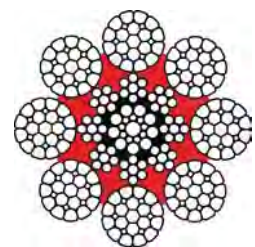
Please note our special maintenance manual for MRT-ropes.

NEW!

EVOLUTION Q8



Endurance is everything. EVOLUTION Q8 – the high-performance hoisting rope for harbour cranes and industrial applications – impresses with its exceptionally long service life and high breaking strength. Due to its innovative outer compaction. EVOLUTION Q8. Lasts much longer!



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 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 vis-à-vis 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 its long and faultless use in permanent operation and helps 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

8 x K25F-EPIWRC (K)
RCN 6
Rope grades: 1770 / 1960
Number of wires in outer strands: 200



SUPERFILL® PLASTIFILL™



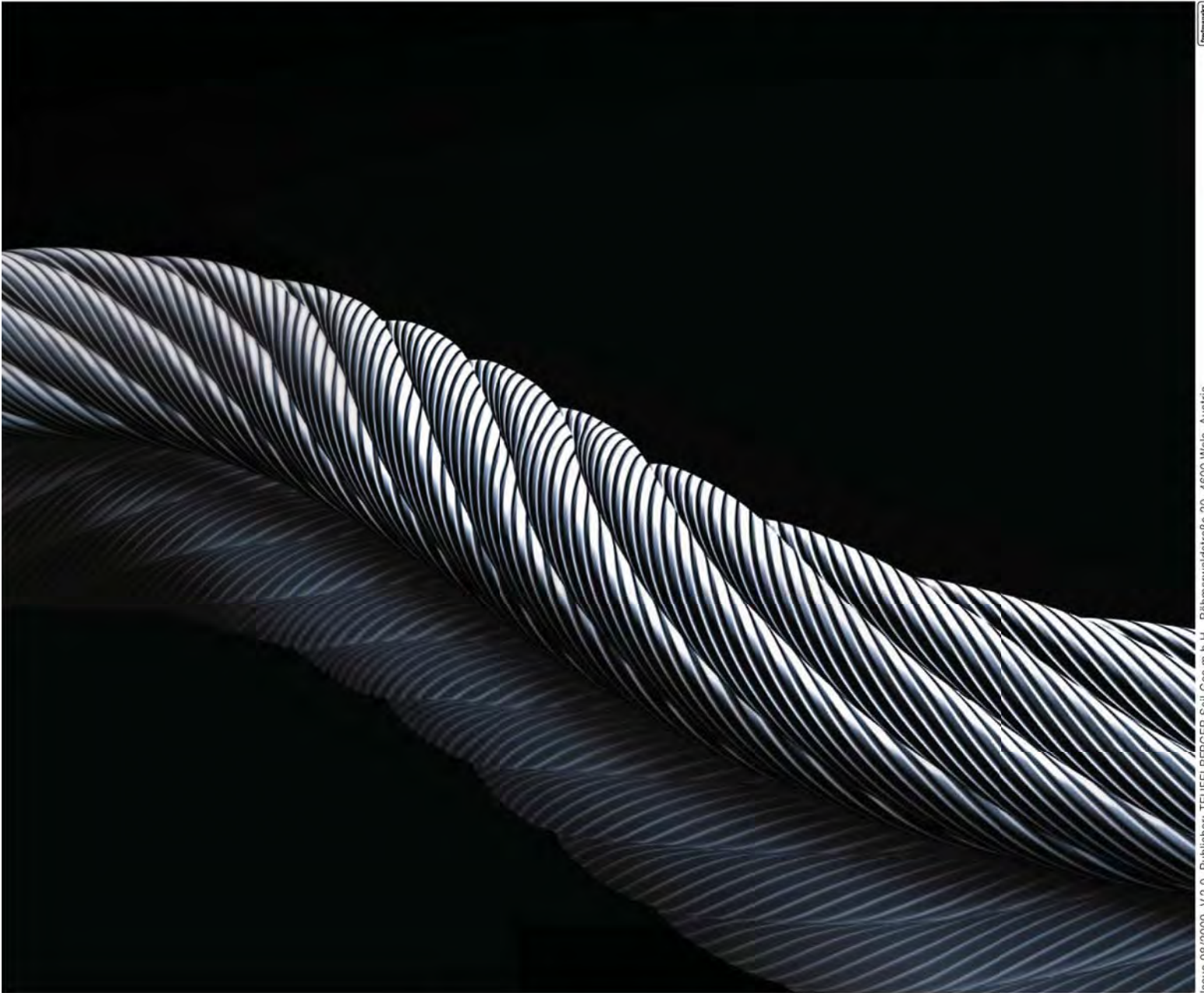
Nominal Ø	Weight		Minimum breaking force			
			1770 kN/mm ²		1960 kN/mm ²	
mm (inch)	kg/m	lbs	kN	lbs	kN	lbs
12,00	0,67	1,47	110,2	24.768	122,0	27.427
14,00 (= 9/16")	0,91	2,00	149,9	33.701	166,0	37.318
16,00 (= 5/8")	1,19	2,61	196,0	44.055	217,0	48.784
18,00	1,50	3,31	247,4	55.626	274,0	61.598
20,00	1,85	4,08	306,1	68.822	339,0	76.210
22,00 (= 7/8")	2,29	5,05	370,3	83.237	410,0	92.172
24,00	2,49	5,49	440,7	99.072	488,0	109.707
25,00	2,71	5,96	477,9	107.429	529,0	118.924
26,00	2,92	6,44	516,6	116.125	572,0	128.591
28,00	3,55	7,83	599,6	134.803	664,0	149.273
30,00	4,14	9,13	688,1	154.698	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	5,97	13,15	990,7	222.709	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 (= 1 3/4")	8,95	19,73	1.480,1	332.744	1.639,0	368.462
46,00	9,80	21,60	1.618,3	363.805	1.792,0	402.858
48,00	10,65	23,48	1.761,9	396.085	1.951,0	438.602

EVOLUTION Q8 Technical Data

⚠ ATTENTION

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Further diameters upon request



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TOGETHER IN MOTION

Problemlöser

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