

The logo for Teufelberger-Redaelli, featuring a stylized blue 'T' with a red horizontal bar at its base, followed by the company name in a blue sans-serif font.

Teufelberger · Redaelli

STEEL INDUSTRY

High performance steel wire ropes



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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.

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Teufelberger-Redaelli:

Leading in High Performance Steel Wire Ropes with Added Value

The essence of Teufelberger-Redaelli

We at Teufelberger-Redaelli understand your day-to-day challenges and solve them together with you. We develop and produce high performance steel wire ropes that create added value by enhancing the efficiency and safety of your applications. Expect more: of our innovative steel wire ropes, our services, our experienced experts in development, application engineering, and sales – all around the globe. Being a family enterprise, we attach great importance to successful, long-standing business relationships. Our commitment does not begin and end solely with the supply of premium quality steel wire ropes, but we also accompany you throughout your work processes when it comes to optimizing efficiency and costs.

Service and support prior to and after steel wire rope selection

We know that high-performance steel wire ropes are able to unleash their full potential only if crane systems have been set up optimally and if the ropes have been installed correctly. Therefore, we also provide support during project planning, installation, and subsequent careful handling to maximize rope lifetimes. For our structural cable systems we provide site installation and tensioning, inspection and maintenance. After all, the purchasing costs are just the tip of the iceberg.

Application-specific, field-proven expertise and product portfolio

At Teufelberger-Redaelli you don't need to worry about making the right choices, as we can handle that for you. Our specialists know what matters in connection with your application and are therefore able to provide you with a clear product recommendation. Every single application requires a specific, custom-tailored solution.

Rotation-resistant and non-rotation-resistant high performance steel wire ropes from Teufelberger-Redaelli are used for a variety of applications such as:

- heavy-duty lifting applications in construction, cargo handling in harbors and on ships
- cranes in offshore and onshore oil & gas exploration
- mining
- ropeways for the transport of passengers and goods
- cable systems for the civil engineering tensile structures
- forestry cranes and winches
- personal protective equipment against falls from a height

Four manufacturing sites for steel wire ropes and a combined total of more than 425 years of rope-making experience tally up to a unique wealth of expertise and an unmatched and proven production standard. The resulting high degree of flexibility allows us to keep delivery times to a minimum.



GETTING THE BEST TOTAL COST OF OWNERSHIP

Customers from around the globe have, for many years and in various climatic conditions, relied on quality made by Teufelberger-Redaelli. Time and time again, we have modified and adapted the characteristics of our high-performance steel wire ropes in order to provide our customers with the best and most cost-effective solution.

Today's goods for lifting are heavier than ever. The lifting heights are getting higher, which poses a huge challenge not only for the cranes, but even more so for wire ropes. Teufelberger-Redaelli high-performance steel wire ropes support the cranes and deep foundation machines with maximum flexibility and best efficiency for smooth and long-term operation.

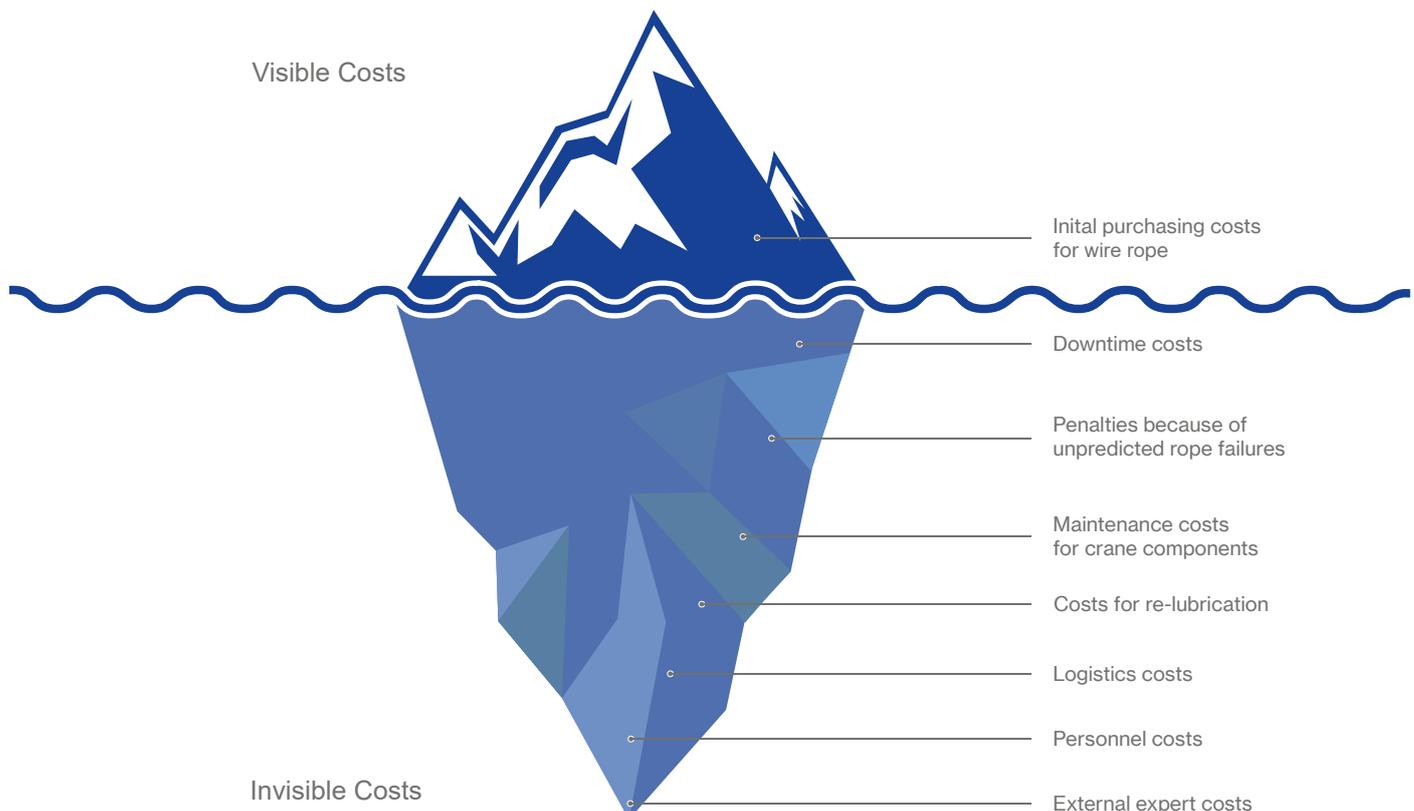
Using the right quality of wire ropes in operation saves money by reducing your operational costs. Any machine down-time increases inefficiency. Therefore the investment in a Teufelberger-Redaelli high-performance steel wire rope pays off. Every day!

What matters most?

- ✓ Higher efficiency
- ✓ Reduced costs
- ✓ High wear resistance
- ✓ High resistance to shock loads
- ✓ Robustness against twisting
- ✓ Fast availability
- ✓ Safety in use

Know your costs along the way

The initial purchasing costs for a wire rope are just the tip of the iceberg. Teufelberger-Redaelli will help you limit costs that may arise along the way.



TECHNOLOGY - THE BASIS OF FLAWLESS PERFORMANCE

In manufacturing, research & development, as well as marketing & sales, Teufelberger-Redaelli focuses exclusively on high quality special purpose steel wire ropes. Breakthrough technologies and top quality products form the basis for a long lasting, successful relationship. The following short summary gives you a glimpse of our in-depth knowledge and understanding of high performance wire ropes.

PLASTFILL® INSERT

The lubricated steel core is covered in a tight synthetic coat. This provides the following advantages:

- Long service life due to the permanent lubrication and the reduction of friction between the rope's core and its outer strands
- Resistance to compression and lateral pressure as well as to environmental influences and the ingress of dirt
- Higher breaking forces due to reduced surface pressures in the rope
- Reduced internal abrasion thanks to the exact positioning of strands with consistent clearances between them

ACTIVE CORE LUBRICATION

Temperature resistant special grease with significantly improved lubrication properties:

- Higher resistance against corrosion of the core
- Improved service life due to optimal lubrication and the reduction of friction of the rope core

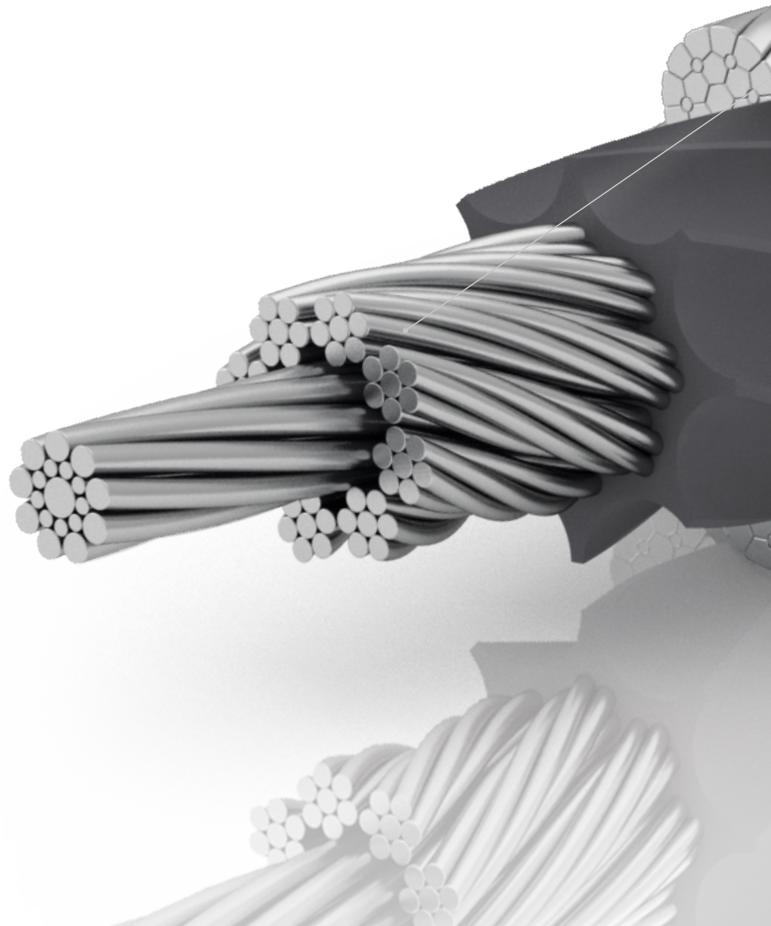
SUPERFILL® COMPACTION TECHNOLOGY

Each rope strand is compacted by a special process, which significantly improves the rope's properties:

- Up to 30 % greater breaking forces than non-compacted ropes
- Prolonged service life due to lower specific loading
- Less abrasion on the rope and on reels and drums due to the rope's smooth surface
- Resistance against crushing in multilayer operations

GALVANIZED WIRES

Our steel wires are galvanized before they are drawn in order to achieve high wire precision. This ensures optimal stability and service life. In combination with the PLASTFILL® technology, this galvanization ensures exceptional corrosion resistance.



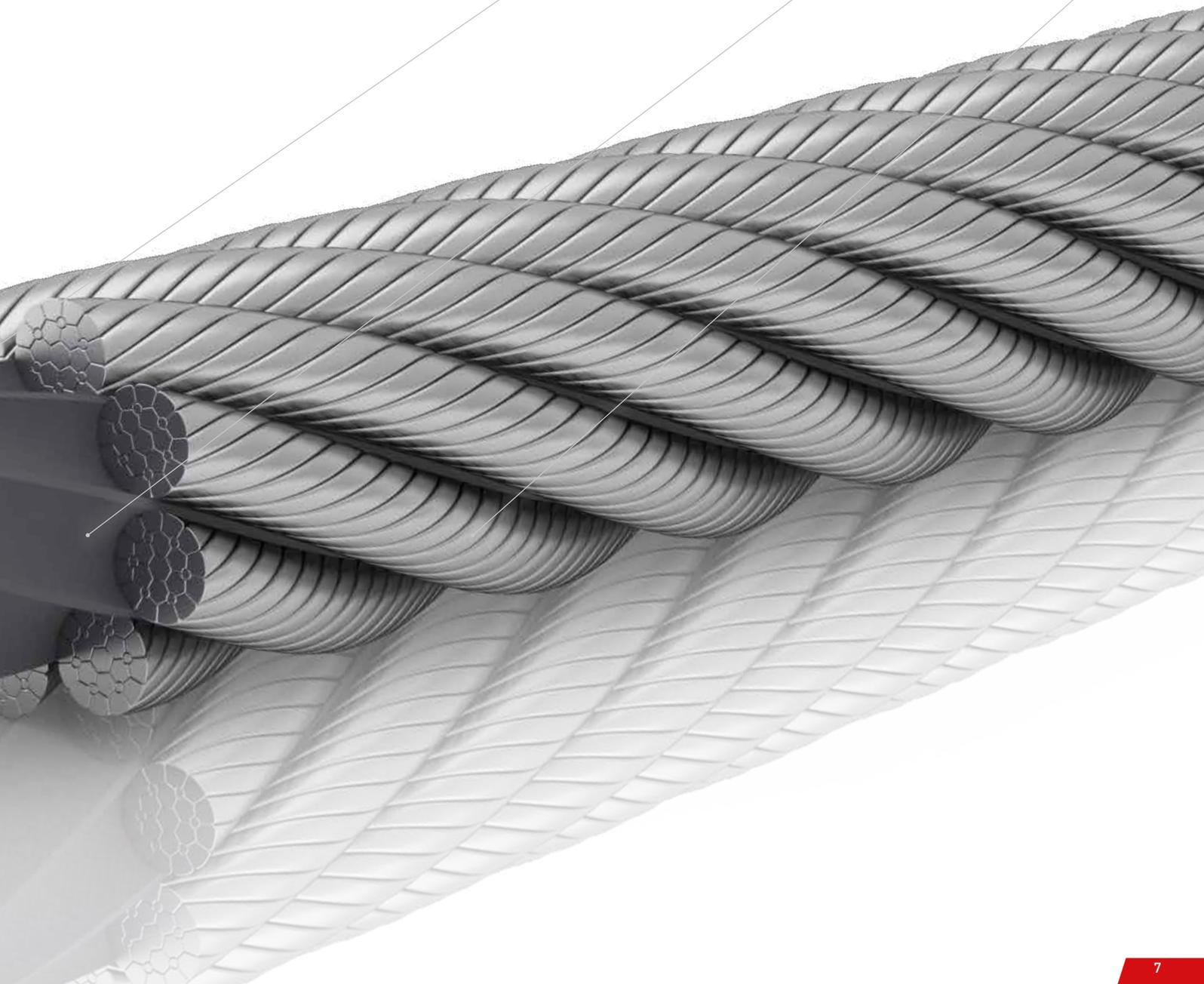
Our technology. Your benefit.

Long service life, flexibility, quality, perfect spooling, rotation resistance, breaking force, safe and reliable in use.

GALVANIZED WIRES

PLASTFILL®

SUPERFILL®



EVOLUTION QS 816 V

Extreme resistance to negative external influences distinguishes this rope from others. SUPERFILL® compaction technology developed by Teufelberger-Redaelli provides high breaking forces and highest safety in use. Compaction in the core and a PLASTFILL® insert ensure stability against lateral pressure.

ULTIMATE BREAKING FORCE

Specifications

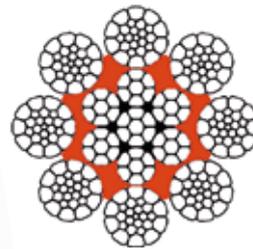
- Ordinary lay or lang's lay, right or left lay
- 12 – 42mm: 8 x K26WS – EPIWRC (K), RCN 09
- 44 – 50mm: 8 x K31WS – EPIWRC (K), RCN 11
- 50.8 – 60.33 mm: 8 x K42WS – EPIWRC (K), RCN >13
- Use without rope swivel

- ✓ SUPERFILL®
- ✓ PLASTFILL®



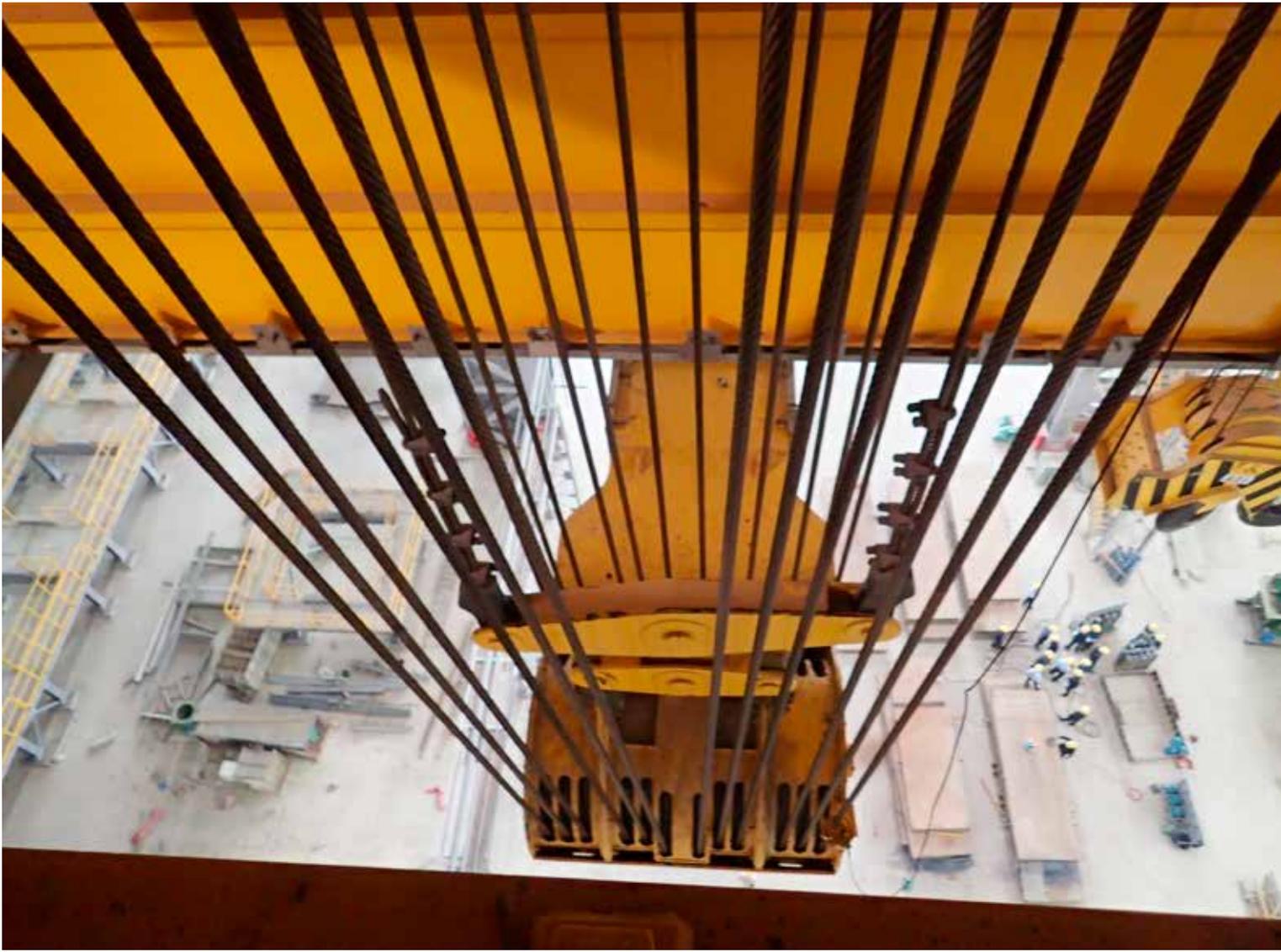
Benefits

- Reliability and safety during operation: extremely high breaking forces and high safety factor
- Less abrasion: highest degree of compaction in the market
- Improved permanent lubrication: PLASTFILL® impregnation leads to less wear in the core



Technical data

Construction	Nominal Ø		Weight		Minimum breaking force at rope grade			
	mm	inch	kg/m	lbs/ft	1770		1960	
					kN	lbs	kN	lbs
8xK26WS- EPIWRC(K)	12		0.67	0.45	120	27,002	133	29,900
	14		0.91	0.61	163	36,752	181	40,697
	16	5/8	1.19	0.80	214	48,003	236	53,156
	18		1.51	1.01	270	60,754	299	67,275
	19	3/4	1.68	1.13	302	67,692	335	74,958
	20		1.86	1.25	334	75,005	369	83,056
	21		2.06	1.38	374	82,693	414	91,569
	22		2.26	1.52	408	90,756	451	100,498
	22.23	7/8	2.30	1.55	412	92,621	456	102,564
	24		2.68	1.80	480	108,007	532	119,601
	25		2.91	1.96	521	117,195	577	129,775
	25.40	1	3.01	2.02	538	120,975	596	133,961
	26		3.15	2.12	564	126,758	624	140,365
	28		3.65	2.46	656	147,009	726	162,790
	28.58	1 1/8	3.81	2.56	681	153,109	754	169,544
	29		3.92	2.63	701	157,697	777	174,625
	30		4.39	2.95	764	168,760	846	186,876



Construction	Nominal Ø		Weight		Minimum breaking force at rope grade			
	mm	inch	kg/m	lbs/ft	1770		1960	
					kN	lbs	kN	lbs
8xK26WS-EPIWRC(K)	31.75	1 1/4	4.92	3.30	841	189,023	931	209,314
	32		4.99	3.36	864	192,012	957	212,623
	34		5.64	3.79	964	216,763	1,068	240,032
	36		6.32	4.25	1,081	243,015	1,197	269,101
	38	1 1/2	7.04	4.73	1,222	270,767	1,354	299,832
	40		7.80	5.24	1,342	300,018	1,486	332,224
	42		8.60	5.78	1,482	330,770	1,641	366,277
8xK31WS-EPIWRC(K)	44		9.36	6.29	1,615	363,022	1,768	395,291
	44.45	1 3/4	9.55	6.42	1,648	370,486	1,794	403,418
	46		10.23	6.87	1,765	396,774	1,949	432,043
	48		11.14	7.49	1,922	432,027	2,093	470,429
	50		12.09	8.12	2,085	468,779	2,271	510,448
8xK42WS-EPIWRC(K)	50.80	2	12.43	8.35	2,117	475,835	2,344	526,913
	52		13.02	8.75	2,218	498,581	2,456	552,101
	54	2 1/8	14.04	9.43	2,392	537,671	2,648	595,387
	56		15.10	10.15	2,572	578,236	2,850	640,306
	57.15	2 1/4	15.73	10.57	2,679	602,228	2,966	666,874
	58		16.20	10.88	2,759	620,276	3,055	686,859
	60		17.33	11.65	2,953	663,791	3,270	735,045
60.33	2 3/8	17.52	11.77	2,985	671,001	3,305	743,030	

KEEPORT® 8KP

The allrounder within the Teufelberger-Redaelli product range for industrial applications. Perfect performance because of high breaking forces, high wear resistance, and high crushing resistance. KEEPORT® guarantees consistent performance, and high stability and load capacity.

ALLROUNDER

Specifications

- Ordinary lay configuration, right and left hand lay
- 16 – 60 mm: 8 x K26WS – EPIWRC, RCN 09
- Galvanized finish
- Intensive lubrication for maritime applications
- Use without rope swivel

- ✓ SUPERFILL®
- ✓ PLASTFILL®

Benefits

- Reliable lifetime results: plastification reduces internal friction and internal wear of the rope components
- High stability against fleet angles: extremely balanced rope design
- Optimum balance between flexibility and resistance: ideal degree of compaction
- Perfectly applicable on RTG and STS cranes: right mixture of bending fatigue and robustness



KEEPORT® is the result of in-depth research and a thorough field analysis on the customers' level of satisfaction with commercially available products. The customer-driven development represents a perfect balance between outstanding product reliability and the fulfillment of customer needs.

Maurizio Meleddu - Head of R&D, Teufelberger-Redaelli

Technical data

Construction	Nominal Ø		Weight		Minimum breaking force at rope grade			
	mm	inch	kg/m	lbs/ft	1770		1960	
					kN	lbf	kN	lbf
8xK26WS-EPIWRC	16	5/8	1.18	0.79	204	45,763	225	50,675
	20		1.84	1.23	318	71,504	352	79,180
	22		2.23	1.50	385	86,520	426	95,808
	22.23	7/8	2.27	1.53	393	88,299	435	97,778
	24		2.65	1.78	458	102,966	507	114,019
	25.40	1	2.97	2.00	513	115,329	568	127,709
	26		3.11	2.09	538	120,842	595	133,814
	28		3.61	2.42	623	140,149	690	155,193
	28.58	1 1/8	3.75	2.52	649	145,964	719	161,632
	30		4.14	2.78	716	160,885	792	178,155
	31.75	1 1/4	4.63	3.11	802	180,202	888	199,546
	32		4.71	3.17	814	183,051	902	202,701
	34		5.31	3.57	919	206,648	1,018	228,830
	36		5.96	4.00	1,031	231,674	1,141	256,543
	38	1 1/2	6.64	4.46	1,148	258,131	1,271	285,840
	40		7.36	4.94	1,272	286,018	1,409	316,720
8xK26WS-EPIWRC	42		8.12	5.45	1,403	315,334	1,553	349,184
	44		8.90	5.98	1,539	346,081	1,705	383,231
	44.45	1 3/4	9.08	6.10	1,571	353,196	1,740	391,110
	46		9.73	6.54	1,683	378,258	1,863	418,862
	48		10.60	7.12	1,832	411,865	2,029	456,077
	50		11.49	7.72	1,988	446,902	2,201	494,875
	50.80	2	11.87	7.98	2,052	461,318	2,272	510,838
	52		12.43	8.36	2,150	483,370	2,381	535,257
	54	2 1/8	13.41	9.01	2,319	521,267	2,568	577,222
	56		14.42	9.69	2,494	560,594	2,761	620,771
	57.15	2 1/4	15.02	10.09	2,597	583,855	2,876	646,529
	58		15.47	10.39	2,675	601,352	2,962	665,904
	60		16.55	11.12	2,863	643,540	3,170	712,620
	60.33	2 3/8	16.74	11.25	2,894	650,530	3,204	720,361

EVOLUTION Q8

EVOLUTION Q8 – the high performance hoisting rope – impresses with its exceptionally long service life and high breaking strength due to its innovative SUPERFILL® compaction. EVOLUTION Q8 lasts much longer!

ENDURANCE IS EVERYTHING

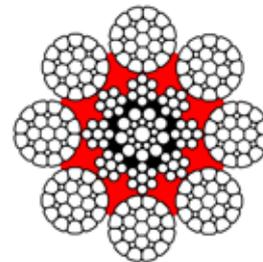
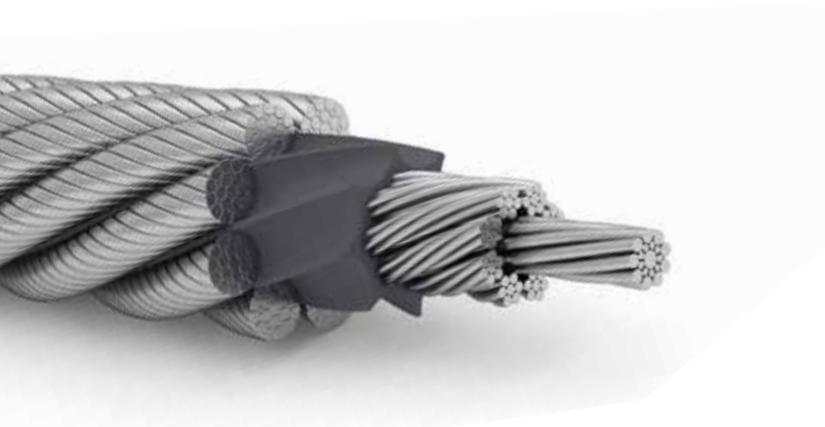
Specifications

- Ordinary lay, right or left lay
- 14 – 54 mm: 8 x K25F – EPIWRC, RCN 06
- Use without rope swivel

- ✓ SUPERFILL®
- ✓ PLASTFILL®

Benefits

- This rope caters exactly to market requirements: OEM approved for several years
- Increased flexibility: filler construction improves bending capacities
- Reduced inner wire breaks: 8 uncompact core strands increase flexibility of center
- Improved permanent lubrication: PLASTFILL® impregnation leads to less wear in the core



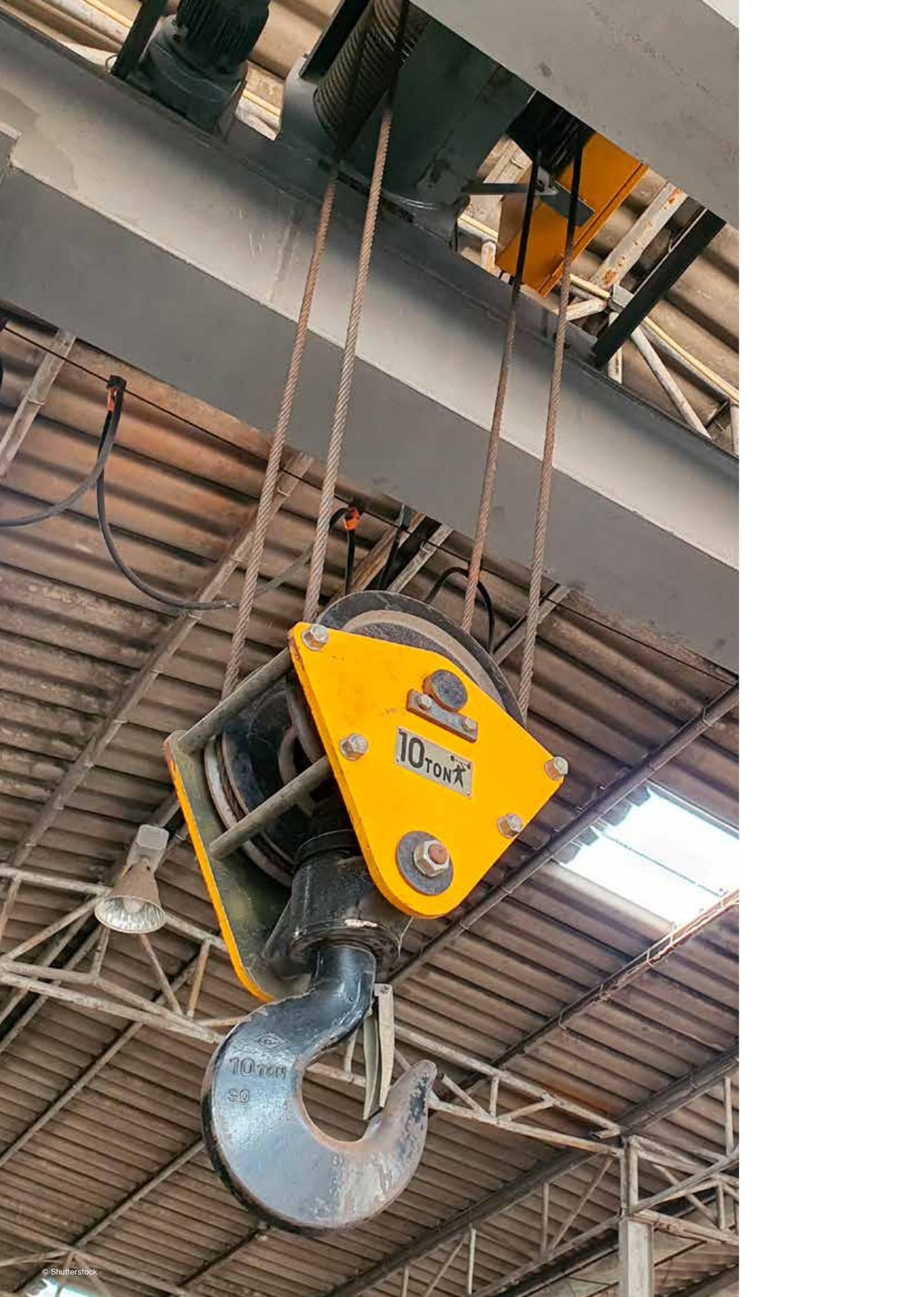
Technical data

Construction	Nominal Ø		Weight		Minimum breaking force at rope grade			
	mm	inch	kg/m	lbs/ft	1770 kN	1960 lbs	1960 kN	1960 lbs
8xK25F-EPIWRC	14		0.86	0.58	150	33,721	166	37,318
	16	5/8	1.13	0.76	196	44,063	217	48,784
	18		1.42	0.95	247	55,528	274	61,598
	20		1.76	1.18	306	68,792	339	76,210
	21		1.94	1.30	337	75,802	373	83,938
	22		2.13	1.43	370	83,179	410	92,172
	22.23	7/8	2.17	1.46	378	84,903	418	94,017
	24		2.54	1.71	441	99,141	502	112,854
	25		2.74	1.84	478	107,459	529	118,924
	25.40	1	2.84	1.91	493	110,894	546	122,798
	26		2.97	2.00	517	116,226	572	128,591
	28		3.45	2.32	600	134,885	664	149,273
	28.58	1 1/8	3.59	2.41	624	140,350	691	155,416
	30		3.99	2.68	688	154,669	762	171,304
	31.75	1 1/4	4.47	3.00	771	173,271	853	191,871
	32		4.54	3.05	783	176,025	867	194,909



© Shutterstock

Construction	Nominal Ø		Weight		Minimum breaking force at rope grade			
	mm	inch	kg/m	lbs/ft	1770		1960	
					kN	lbs	kN	lbs
8xK25F-EPIWRC	34		5.15	3.46	882	198,281	977	219,638
	36		5.73	3.85	999	224,584	1,097	246,615
	38	1 1/2	6.40	4.30	1,104	248,203	1,223	274,846
	40		7.09	4.77	1,223	275,017	1,355	304,539
	42		7.82	5.26	1,349	303,206	1,494	335,754
	44		8.64	5.81	1,480	332,717	1,639	368,462
	44.45	1 3/4	8.82	5.93	1,511	339,612	1,673	376,067
	46		9.44	6.35	1,618	363,710	1,792	402,752
	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
	50.80	2	11.52	7.74	1,973	443,575	2,185	491,190
	52		12.07	8.11	2,067	464,779	2,289	514,670
	54	2 1/8	13.00	8.74	2,230	501,324	2,469	555,053



EVOLUTION Q 810 V

Optimizes the absorption of shock loads, knocks and vibrations due to its especially developed rope construction with the 4-strand core. The PLASTFILL® insert provides permanent lubrication of the steel core and results in an extremely long service life.

COUNTLESS BENDINGS

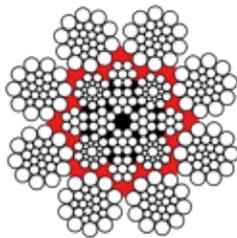
Specifications

- Ordinary lay, right or left lay
- 12 – 32 mm: 8 x 26WS – EPIWRC, RCN 09
- Use without rope swivel

- ✘ Multilayer spooling
- ✘ SUPERFILL®
- ✔ PLASTFILL®

Benefits

- Optimized absorption of shock loads, impacts and vibrations: no core protrusion because of special steel core
- Outstanding bending fatigue resistance: enabled by uncompacted rope design
- Perfect fit on complex reeving systems: excellent resistance against short bending cycles and counter-bendings



Technical data

	Nominal Ø		Weight		Minimum breaking force at rope grade			
	mm	inch	kg/m	lbs/ft	1770		1960	
					kN	lbs	kN	lbs
8x26WS-EPIWRC	12		0.62	0.42	105	23,605	116	26,078
	14		0.82	0.55	140	31,473	155	34,845
	16	5/8	1.09	0.73	188	42,264	208	46,760
	18		1.35	0.91	230	51,706	253	56,877
	20		1.68	1.13	281	63,171	311	69,916
	22	7/8	2.00	1.34	349	78,458	386	86,776
	24		2.41	1.62	413	92,846	457	102,738
	26		2.82	1.89	483	108,583	535	120,273
	28		3.28	2.20	569	127,916	630	141,630
	30		3.67	2.47	628	141,180	695	156,242
	32	1 1/4	4.39	2.95	729	163,886	807	181,421

PACK[®] 9P

The 9-strand design with its plastification & compactation ensures highest resistance against wear. The rope has proven its outstanding performance as a crowd rope on piling rigs under harshest conditions.

MIGHTY STRONG ALLROUNDER

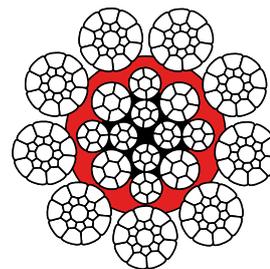
Specifications

- Ordinary or lang lay, right or left lay
- 9xK19S-EPIWRC(K), RCN 05
- Use without rope swivel

- ✓ SUPERFILL[®]
- ✓ PLASTFILL[®]

Benefits

- Excellent wear resistance: enabled by 9-strand construction
- Good fleet angle resistance: due to PLASTFILL[®] technology
- Outstanding bending cycles: flexible rope design
- Less abrasion: supported by the rope's smooth surface



“Quality is not a matter of chance but the result of well-engineered operational procedures, precise analyses and comprehensive tests. Day after day I thoroughly enjoy the task of ensuring that the creation of a rope and all the steps required before it's actually used follow and meet the highest standards.”

Johann Schwabeneder - QM coordinator for steel wire ropes

Technical data

Construction	Nominal Ø		Weight		Minimum breaking force at rope grade			
	mm	inch	kg/m	lbs/ft	1960		2160	
					kN	lbf	kN	lbf
9xK19S- EPIWRC(K)	8		0.31	0.21	58	13,112	63	14,230
	9		0.40	0.27	74	16,595	80	18,010
	9.53	3/8	0.45	0.30	83	18,587	90	20,172
	10		0.49	0.33	91	20,487	99	22,234
	11		0.59	0.40	110	24,789	120	26,904
	12		0.71	0.47	131	29,501	142	32,018
	12.7	1/2	0.79	0.53	147	33,044	160	35,862
	13		0.83	0.56	154	34,623	167	37,576
	14		0.96	0.65	179	40,155	194	43,579
	15		1.10	0.74	205	46,096	223	50,027
	15.88	5/8	1.24	0.83	230	51,631	249	56,034
	16		1.26	0.84	233	52,447	253	56,920
	17		1.42	0.95	263	59,208	286	64,257
	18		1.59	1.07	295	66,378	320	72,040
	19		1.77	1.19	329	73,959	357	80,266
	19.05	3/4	1.78	1.20	331	74,348	359	80,689
	20		1.96	1.32	365	81,949	387	86,955
	21		2.16	1.45	402	90,348	426	95,867
	22		2.38	1.60	441	99,158	468	105,215
	22.23	7/8	2.42	1.63	450	101,196	478	107,378
	23		2.60	1.74	482	108,377	512	114,997
	24		2.83	1.90	525	118,006	557	125,214
	25		3.07	2.06	570	128,045	604	135,866
	25.4	1	3.17	2.13	588	132,175	624	140,249
26		3.32	2.23	616	138,493	654	146,953	
27		3.58	2.40	664	149,351	705	158,475	
28		3.85	2.59	714	160,619	758	170,431	
28.58	1 1/8	4.01	2.69	744	167,284	790	177,503	
29		4.13	2.77	766	172,297			
30		4.42	2.97	820	184,384			
31		4.72	3.17	876	196,881			
31.75	1 1/4	4.95	3.32	919	206,523			
32		5.03	3.38	933	209,788			
33		5.34	3.59	992	223,105			
34		5.67	3.81	1,053	236,831			
34.93	1 3/8	5.99	4.02	1,112	249,893		On special request.	
35		6.01	4.04	1,116	250,967			
36		6.36	4.27	1,181	265,513			
37		6.72	4.52	1,248	280,469			
38		7.09	4.76	1,316	295,834			
38.1	1 1/2	7.12	4.79	1,323	297,393			
39		7.47	5.02	1,386	311,609			
40		7.85	5.28	1,458	327,794			

PACK[®] 1P

Flexibility, resistance to mechanical wear and high breaking force: these are the qualities a compacted 6-strand wire rope with plastified steel core must possess. This 6-strand rope with SUPERFILL[®] compaction technology and a PLASTFILL[®] insert combines all these characteristics for the smooth operation of cranes.

SIMPLY STRONG

Specifications

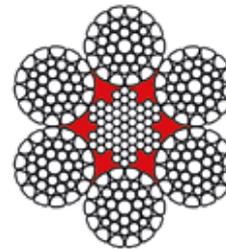
- Ordinary lay, right or left lay
- 16 – 30 mm: 6 x K26WS – EPIWRC, RCN 06
- 32 – 40 mm: 6 x K31WS – EPIWRC, RCN 08
- 42 – 56 mm: 6 x K41WS – EPIWRC, RCN 11
- Use without rope swivel

- ✓ SUPERFILL[®]
- ✓ PLASTFILL[®]



Benefits

- Consistent product quality: state of the art manufacturing standard
- Reduced wear of sheaves and drums: due to internal and external lubrication
- Comparatively high breaking force: SUPERFILL[®] technology increases metallic cross section
- Reduced internal wear: PLASTFILL[®] technology protects steel core



Technical data

Construction	Nominal Ø		Weight		Minimum breaking force at rope grade			
	mm	inch	kg/m	lbs/ft	1960	1960	2160	2160
					kN	lbs	kN	lbs
6xK26WS-EPIWRC	16		1.18	0,79	213	47,840	235	52,722
	18		1.49	1.00	269	60,548	297	66,726
	19	3/4	1.66	1.11	300	67,462	331	74,346
	20		1.84	1.23	333	74,750	366	82,378
	22		2.22	1.49	402	90,448	443	99,677
	22.23	7/8	2.27	1.52	411	92,307	453	101,727
6xK31WS-EPIWRC	24		2.68	1.80	479	107,641	528	118,624
	25.40	1	3.01	2.02	536	120,565	591	132,867
	26		3.15	2.12	562	126,328	619	139,219
	28		3.65	2.45	634	142,441	698	156,976
	28.58	1 1/8	3.81	2.56	660	148,351	727	163,489
	30		4.19	2.82	727	163,516	802	180,202
	31.75	1 1/4	4.70	3.16	815	183,150	898	201,838
	32		4.77	3.21	828	186,045	912	205,030
	34		5.39	3.62	934	210,028	1,030	231,459
	36		6.04	4.06	1,047	235,464	1,154	259,491
38	1 1/2	6.73	4.52	1,167	262,353	1,286	289,124	
40		7.46	5.01	1,293	290,696	1,425	320,359	



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Construction	Nominal Ø		Weight		Minimum breaking force at rope grade			
	mm	inch	kg/m	lbs/ft	1960		2160	
					kN	lbs	kN	lbs
6xK41WS-EPIWRC	42		8.22	5.52	1,390	312,556	1,532	344,450
	44		9.02	6.06	1,526	343,032	1,682	378,035
	44.45	1 3/4	9.21	6.19	1,557	350,085	1,716	385,808
	46		9.86	6.63	1,668	374,926	1,838	413,183
	48		10.74	7.21	1,816	408,237	2,001	449,893
	50		11.65	7.83	1,970	442,965	2,171	488,166
	50.80	2	12.03	8.08	2,034	457,253	2,242	503,912
	52		12.60	8.47	2,131	479,111	2,349	528,000
	54	2 1/8	13.59	9.13	2,298	516,674	2,533	569,396
	56		14.61	9.82	2,472	555,655	2,724	612,355

RED 1

The general-purpose wire rope (6x36-class) within the Teufelberger-Redaelli product portfolio. It fulfills the demand for highest reliability and constant quality by being made entirely of wires produced in Europe. Reliable and easy to handle. Suitable for all common rope applications.

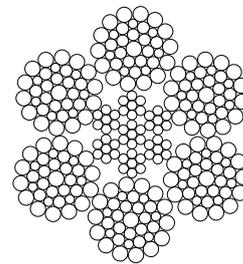
FIT FOR PURPOSE

Specifications

- Ordinary lay configuration, right and left hand lay
- 10 – 40 mm: 6 x 36WS – IWRC, RCN 09
- 42 – 54 mm: 6 x 41WS – IWRC, RCN 11
- Available on demand: version with plasticised steel core - Red1P
- Use without rope swivel

Benefits

- Constant quality: European manufacturing standards
- First choice for boom hoist ropes: made of high-class wires
- Reduced installation and maintenance efforts: heavy lubrication during each production step



Technical data

Construction	Nominal Ø		Weight		Minimum breaking force at rope grade			
	mm	inch	kg/m	lbs/ft	1770		1960	
					kN	lbs	kN	lbs
6x36WS-IWRC	16	5/8	1.09	0.73	177	39,762	196	44,031
	18		1.38	0.93	224	50,324	248	55,726
	19	3/4	1.53	1.03	249	56,071	276	62,090
	20		1.70	1.14	276	62,129	306	68,798
	22		2.06	1.38	334	75,176	370	83,246
	22.23	7/8	2.10	1.41	341	76,721	378	84,957
	24		2.45	1.65	398	89,466	441	99,069
	25.40	1	2.74	1.84	446	100,208	494	110,964
	26		2.87	1.93	467	104,998	517	116,269
	28		3.33	2.24	542	121,772	600	134,844
	28.58	1 1/8	3.47	2.33	564	126,825	625	140,439
	30		3.83	2.57	622	139,790	689	154,796
	31.75	1 1/4	4.28	2.88	696	156,574	771	173,382
	32		4.35	2.92	707	159,050	783	176,123
	34		4.91	3.30	779	175,217	863	194,026
36		5.51	3.70	874	196,437	968	217,524	



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Construction	Nominal Ø		Weight		Minimum breaking force at rope grade			
	mm	inch	kg/m	lbs/ft	1770		1960	
					kN	lbs	kN	lbs
6x36WS-IWRC	38	1 1/2	6.14	4.13	974	218,870	1,078	242,364
	40		6.80	4.57	1,079	242,515	1,195	268,548
	42		7.50	5.04	1,160	260,757	1,290	289,969
	44		8.23	5.53	1,273	286,183	1,416	318,243
	44.45	1 3/4	8.40	5.64	1,299	292,066	1,445	324,786
6x41WS-IWRC	46		8.99	6.04	1,391	312,790	1,547	347,831
	48		9.79	6.58	1,515	340,581	1,685	378,735
	50		10.60	7.12	1,644	369,554	1,828	410,954
	50.80	2	11.00	7.39	1,697	381,474	1,887	424,210
	52		11.50	7.73	1,778	399,710	1,977	444,488
	54	2 1/8	12.40	8.33	1,800	404,620	2,015	453,099



DISCARD CRITERIA

The discard criteria for special steel wire ropes of Teufelberger-Redaelli are defined according to:

- ISO 4309
- API 2D FIFTH EDITION

This includes: reduction of rope diameter, corrosion and wire breaks. For assessing the discard condition based on wire breaks, the rope category number (RCN) is used. For special steel wire ropes of Teufelberger-Redaelli, this number is listed in the following tables.

Type of design	Diameter range mm	RCN*	n**
EVOLUTION QS 816 V	12 - 42	09	208
	44 - 50	11	248
	50.8 - 60.33	> 13	336
KEEPPORT® 8KP	16 - 60	09	208
EVOLUTION Q8	14 - 54	06	200
EVOLUTION Q 810 V	12 - 32	09	208
PACK® 9P	8 - 56	05	171
PACK® 1P	16 - 30	06	156
	32 - 40	08	186
	42 - 56	11	246
RED1	10 - 40	09	216
	42 - 54	11	246

* RCN = Rope Category Number **n = Number of outer strands and total number of load-bearing wires in the outer layer of strands in the rope

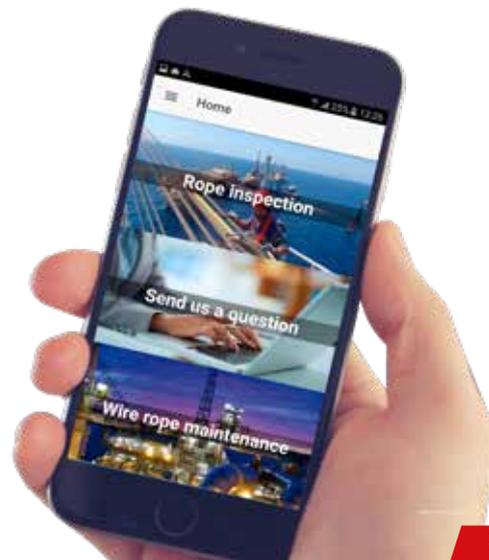
DETERMINING THE RIGHT POINT OF DISCARD WITH THE SIDIS APP

SIDIS (Simply Discard) provides assistance in determining the current condition of a crane rope and calculates the level of wear according to the discard criteria stipulated in ISO 4309. This makes the app an ideal tool for inspectors, maintenance managers and all those who inspect steel wire ropes for companies.

Save time and costs with a quick and comfortable crane rope inspection:

- Quick entry of the required rope data
- Convenient inspection of all crane rope types by means of stored RCN numbers – Teufelberger-Redaelli steel wire ropes can be added easily via a selection list
- Easy determination of the point of discard by means of traffic light system
- Support of your controlling department through rope related evaluations
- Processing of rope evaluations by exporting the data as PDF or sending them by e-mail

Download it for free now!



THE RIGHT END TERMINATION

A true high quality rope must always include the right end termination. Teufelberger-Redaelli offers a large range of standard end terminations made in casting or swaging processes according to EN 13411. Apart from conventional terminations, our assembling departments are also equipped to process crane specific terminations.

Teufelberger-Redaelli Pull-Eye

The first reeving aid with a guaranteed WLL (Working Load Limit) for Teufelberger-Redaelli steel wire ropes. A large number of crane ropes are provided with a so called "reeving aid" at their outer end in order to facilitate their installation on the winch drum of the crane or other mechanical handling devices. In most cases, these end terminations are welded, swaged, or otherwise fitted to the rope. Typically, rope end terminations, such as Becket Loops, Becket Eyes, welded chain links, pulling sleeves and the like, will also include a thinner pulling rope. It should be clearly understood that the use of these end terminations introduces a risk of damage or personal injury if not properly controlled and fitted to the wire rope in a competent manner.

The Teufelberger-Redaelli Pull-Eye helps: Teufelberger-Redaelli is one of the first rope manufacturers providing the weld-connected pull-eye corresponding to the requirements of ISO 16841 with guaranteed WLL (working load limit). Each rope end fitted with the Teufelberger-Redaelli Pull-Eye is provided with a safety tag in the form of a pictogram indicating the WLL. This ensures that the person who installs the rope will know for sure what the applicable maximum load is.

WLL Teufelberger-Redaelli Pull-Eye

Nominal Size	Rope Ø [mm]	WLL [t]
5	15 – 19	0.35
6	20 – 24	0.5
7	25 – 27	0.75
8	28 – 35	1
10	36 – 45	1.5
13	46 – 56	2.5
16	57	5



WE LEAVE NOTHING TO CHANCE

People's safety - and sometimes even their lives - depend on the reliability of steel wire ropes. For the selection of a high performance steel wire rope, reliable specifications such as breaking force, discard criteria, but also rotating characteristics, service life, and spooling characteristics are key for multilayer spooling use. Each parameter has a direct impact on the total operating costs.

If you notice certain behavior of a rope when using it on site, it will be too late. Therefore, we at Teufelberger-Redaelli consider all conceivable aspects like design, ambient temperatures, reeving systems, as well as specific applications right from the start when developing a rope. Using one-of-a-kind and state-of-the-art systems for testing and analyzing allows us to thoroughly examine every detail of the rope. This is how we develop premium high performance steel wire ropes excelling in each specific application.

- ✓ Precise planning: CAD
- ✓ Service life under scrutiny: bending fatigue testing machines
- ✓ Turning the inside out: the MRT-method (Magnetic Rope Testing)
- ✓ Precision with a big impact: electronic measuring equipment for efficiency testing
- ✓ Determining breaking forces and analyzing torsional behavior: tensile testing machines

Excelling through partnerships

Intensive partnerships with a sizable number of key users are clear examples of our focus on our customers' needs. Also, the long-standing cooperation with universities and research institutions ensures the lively exchange of ideas toward the development of new and existing products.

Rope end terminations subjected to endurance testing: dynamic fatigue tests and tensile testing machines

By means of dynamic fatigue tests and tensile testing machines, we analyze the influence of rope end terminations on the breaking forces of our high performance steel wire ropes. Our unique technical equipment allows us to carry out tests up to 3000 kN. Only suitable and correctly mounted rope end terminations make a rope complete. The information obtained ensures that the different rope types manufactured by Teufelberger-Redaelli work safely and reliably in combination with the right termination.



SERVICES ALONG THE WAY - WE GLADLY SHARE OUR EXPERTISE

The quality of the right solution is usually not only driven by the technical features of the high performance wire rope itself, but also by the services that come with it. Teufelberger-Redaelli supports you right from the beginning when you are looking for the perfect solution by providing calculations and technical advice to make sure that the rope fits your entire crane system.

Teufelberger-Redaelli's network of experts provides competent support close to you. We share our expertise during installation, but also when maintenance work is necessary.

24 h Hotline: +43 (0) 7242 615 1388

On and off field trainings

Your everyday challenge is to ensure the smooth performance of your equipment at predictable costs. More than 425 years of experience in the manufacture, installation and inspection of ropes has made Teufelberger-Redaelli what it is today - the best in rope handling.

In concise, yet comprehensive training, our experienced field engineers will share their expertise with you. Training sessions are vivid lessons offering theoretical and practical knowledge. The skills you can develop in this training are e.g.:

- Understand rope types and constructions to make the right choice
- Profound knowledge about installing ropes properly
- Know when the rope has to be discarded according to ISO 4309
- Know how to store the rope appropriately
- Improve your rope handling experience through practical lessons
- Socketing training
- Key insights into multilayer spooling
- Troubleshooting according to your needs

Become a certified rope specialist



soLITE® - THE INNOVATION FOR LIFTING APPLICATIONS

TEUFELBERGER, the mother company of Teufelberger-Redaelli, is the only rope specialist worldwide that is leading in both, the wire rope and the fiber rope world. In a joint effort spanning several years, TEUFELBERGER and Liebherr, one of the world's leading crane manufacturers, developed soLITE®, a ground breaking, innovative high strength fiber rope for challenging lifting applications, especially for use on tower, mobile, and crawler cranes.

Patented soLITE® construction

soLITE® is a fiber rope featuring a unique, innovative, and patented fiber-rope based steel wire rope construction. We designed soLITE® by using the best, extremely lightweight, high strength synthetic fiber. The impressive result is a combination of the advantages of a high performance steel wire rope with those of a high strength fiber rope.

soLITE® sets standards in determining point of discard for fiber ropes

While the point of discard for steel wire ropes can be determined reliably based on the number of broken wires, damage symptoms, or corrosion, this has so far not been possible for fiber ropes. For soLITE®, the point of discard can be determined redundantly through the defined wear of cover and a bending cycle counter on the crane.

In effect since 2017, the FEM 5.024 standard defines guidelines, particularly regarding the point of discard for the safe use of high performance fiber ropes on cranes. At the time when the point of discard has been reached, soLITE®, thanks to its construction, still has 100 % of its breaking load. This makes soLITE® even safer than a steel wire rope.

soLITE® convinces in the wire rope world

High performance steel wire ropes are undoubtedly a good solution for many use scenarios. However, soLITE® offers you unbeatable advantages for many challenging lifting applications such as on tower, mobile, or crawler cranes.

- ✓ 80 % lower rope weight. Hence, lighter hook block and thus 10 % greater loading capacity than with steel wire rope
- ✓ Environmentally friendly – no lubricants
- ✓ No wear on crane components such as sheaves and drums
- ✓ Many times longer rope lifetime
- ✓ Higher crane availability
- ✓ Easy detection of point of discard
- ✓ Great ease of handling



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