

**BRIDON**

# Offshore Oil and Gas Exploration

High performance rope solutions for the  
world's most demanding applications



# Market leading rope solutions for offshore exploration

Global technology leader in the manufacture of  
wire and rope solutions for the  
world's most demanding applications

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# Challenge us to save on your rope operating costs

Our rope experts are waiting to assist you with valuable advice on rope selection, use and eventual discard.

## Call us now to find out how

[www.bridon.com](http://www.bridon.com)





## WHY CHOOSE BRIDON?

For more than 100 years, Bridon has been committed to manufacturing excellence, leading the field in engineered superior rope solutions, offering unrivalled products developed specifically to minimise operating costs and maximise productivity.

There can be no compromise on the quality of rope you choose, at Bridon we understand that safety and operating costs are critical to your business, that's why we are continuously investing in our expertise to ensure the highest standards in the development of wire and rope solutions.

**It has never been so important to choose the best rope, so make sure you make the right choice.**

**Come and talk to us to ensure you have the ultimate performing product.**

**Your success is our success**



## BRIDON ENGINEERED

At Bridon we set our manufacturing standards higher than the industry standards, producing our own wire used in the manufacture of our ropes to ensure exceptional quality control. Therefore, we can adjust manufacturing requests to meet exacting requirements for specific applications and ensure incredible unrivalled performance.

At the Bridon Technology Centre, a world leading centre of excellence in steel and synthetic fibre rope technology development and testing, we harness the wealth of knowledge acquired by serving global industries for more than a century.

We add to this significant investments in personnel, test equipment and forensic laboratories. This is a clear demonstration of Bridon's commitment towards next generation, innovative rope technology and development to meet the ever increasing demands and challenges of the markets we serve.

The Bridon Technology centre will accelerate the development of rope technology which will increase the safety, performance and operational life of ropes working in demanding and hostile environments, specifically designed for Oil and Gas, Mining, Construction and Fishing sectors.

## BRIDON ASSURED

We focus on the quality of our reputation as strongly as we focus on the quality of our rope. Our business values, industry leadership, customer service, and technical expertise are respected around the globe. We're constantly researching and developing. We offer the most in-depth unrivalled range of wire rope products for Oil & Gas, Mining, Construction and Fishing sectors.

Quality control systems have been developed and implemented which combine process control and product inspection ensuring that only fully conforming product progresses through manufacturing. Records of these activities are maintained and include full traceability to the raw materials used.

At Bridon we are constantly striving to improve our existing products and services in order to satisfy the dynamic markets we serve. Since we control our production process from raw material to finished product, every step of manufacturing is subject to improvement and innovation.

**It has never been so important to choose the best rope, so make sure you make the right choice.**

**Come talk to us to ensure you have the ultimate performing product.**

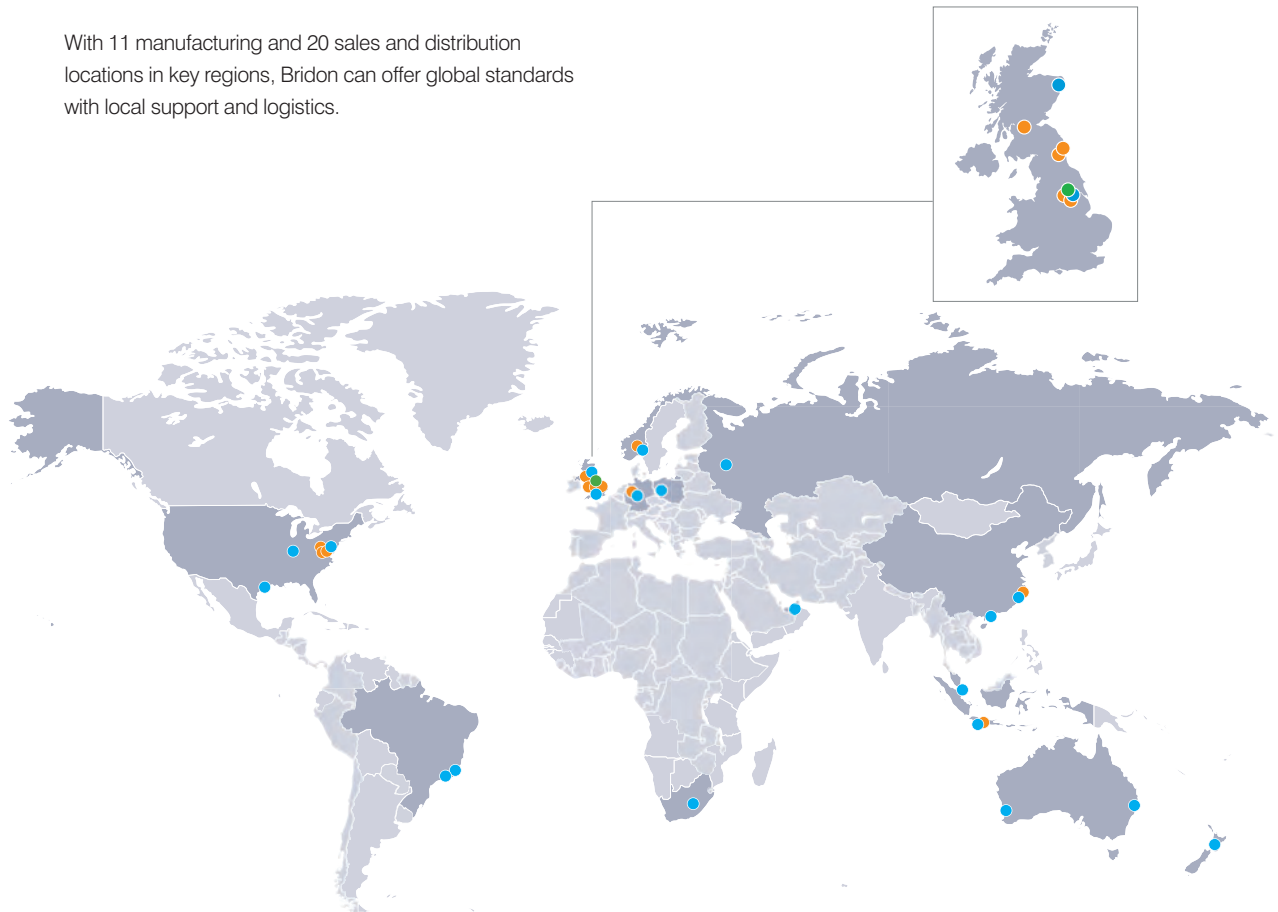
**Your success is our success**



# Global Experience Local Support

Bridon have been manufacturing ropes for over 200 years during which time the company has developed and established rope technology that has been proven across many demanding global industrial sectors including; Oil & Gas, Mining, Construction and Fishing.

With 11 manufacturing and 20 sales and distribution locations in key regions, Bridon can offer global standards with local support and logistics.



● Global HQ and Bridon Technology Centre ● 20 Sales and Distribution Hubs ● 11 Manufacturing Locations





## A proud heritage of innovation

An unrivalled heritage of rope technology development from more than two centuries has seen the company establish market leading products globally for lifting, mooring and drilling applications.

Bridon continue to innovate and push the boundaries of rope performance to new heights and ensure steadfast reliability when drilling deep.

# Bridon Technology Centre

Offering, Wire & Synthetic Rope Forensic Analysis and Mechanical Testing.

The Bridon Technology Centre (BTC) is a world leading centre of excellence for rope technology development, testing, analysis and verification. The BTC is equipped with unique equipment capable of testing steel/synthetic ropes and wires. BTC has extensive forensic analysis laboratory facilities and specialists capable of conducting detailed forensic evaluation of new or retired ropes.

BTC accelerates Bridon's new product development, involving the latest rope technologies to increase safety, performance and operational life of ropes working in demanding and hostile environments typical to our core markets in the Oil and Gas, Mining, and Construction sectors.

**BRIDON**  
TECHNOLOGY CENTRE



# Rope technology development and testing

## Forensic Analysis

- Non destructive examination using (NDE) magnetic resonance test (MRT) to generate trace reports
  - Condition assessment on ropes via visual examination of lubrication, corrosion, mode of wire breaks and general wear and tear, both externally and internally. Geometrical measurements of rope diameter and lay length.
  - Mechanical tests on wire sample taken from the rope to evaluate strength, ductility and compare residual wire properties against 'as manufactured' values. Calculated residual aggregate breaking strength of the rope from wire strengths.
  - Corrosion assessment to establish residual galvanised zinc coating remaining on wires. Determine zinc coat weight followed by detailed metallurgical examination of wire cross sections to evaluate extent of corrosion into structure.
  - Metallurgical assessment of wire condition including detailed visual examination of the wire surface, fracture face and steel microstructure to determine the cause of damage.
  - Chemical analysis to determine carbon/sulphur content or full elemental split down to determine quality/grade of steel used in rope manufacture.
- and change in diameter over load. Undertake post break strip down of sample to determine failure modes (shear/ductile) within sample. Conduct tests with third party witness. In house breaking capacity up to 800 tonnes.
- The multilayer rope spooling test machine (MLS) simulates rope deterioration (crushing and cross over damage) that is typically seen on winch drums spooling at high speeds with several layers of rope on the drum. Fitted with 'Lebus' grooves the MLS machine can spool 'on' and 'off' up to several layers of rope at a maximum of 32 tonnes of rope load in varying vertical and horizontal fleet angle configurations.
  - BTC has two torque/turn machines capable of simulating rope torque and rotational characteristics under load with a maximum axial load capacity of 150 tonnes the machines can capture generated torque/turn data against load and can also induce turn/torque into the rope.
  - BTC is equipped with four bend fatigue machines which can repeatedly cycle rope around a sheave (pulley) to either a selected rope discard criteria or to complete failure. The machine is used to evaluate products against each other or in cases to quantify residual fatigue life left in rope after service. The machine typically uses 20:1 bend ratios and can test ropes up to 100 mm in diameter at maximum loads up to 160 tonnes. Additionally one of our machines can simulate cyclic loading and reverse bend fatigue cycle.

## Mechanical Testing

- Destruction tests to establish residual breaking strength of both steel and fibre ropes. Generate rope breaking load curve, measure rope modulus

# Bridon On-Site Services



Bridon On-Site Services provide expert operational support to help you get the optimum performance from your ropes. Our highly competent rope technicians and engineers offer flexible services to suit your needs.

## Choose from:

- Total Rope Solutions
- Rope Inspection and Non-Destruction Examination (NDE) Services
- Installation & Rope Commissioning Supervision Services
- Rope Splicing, Rigging and Termination Services
- Rope Pressure Lubrication and Corrosion Protection Services



## Global Support

Bridon On-Site Services cover an extensive range of applications globally, including:

- Equipment Hire; NDE devices, Motorised Reel Stands & Winches
- Periodic and annual examinations including NDE and rope sample testing
- Flexibility - outsource engineers by day, week or project
- Manufacturing records & certification management
- Post-retirement examination & feedback systems

## Training

Learn from the experts, in addition to our extensive service & rental equipment portfolio, we also build tailored training packages to meet specific customer needs or complete rope management courses covering;

- Examination
- Lubrication & Corrosion Protection
- Installation
- Termination



# Expert support to maximise rope life

From initial specification through installation and maintenance Bridon can offer expert advice and On-Site Services to ensure your ropes provide safe reliable performance even in the most demanding applications.



**Would you like to know more?**

Visit us at  
[www.bridon.com](http://www.bridon.com)



An artistic underwater photograph showing several thick, dark steel wire ropes extending from the top towards the bottom. The ropes are covered in numerous small, glistening water droplets. Sunlight filters down from the surface, creating a bright, shimmering effect at the top of the frame. The overall color palette is dominated by deep blues and greens, with highlights from the sunlight.

# Steel Wire Rope

a complex machine



Commonly represented by a simple single line on an engineering drawing, a wire rope is actually a complex machine with hundreds of independent interacting component wires.

The design and quality of materials and manufacturing techniques used in the production of each component determines the characteristics and potential performance of the rope.

The basic elements and component strength members of a steel wire rope are the individual wires.

The next stage in the construction of a wire rope is to manufacture rope strands from spinning wires together helically.

Wire rope is rightly classified as a complex machine. Consider that in dynamic applications the strands and individual wires need to be able to repeatedly move relative to their neighbours in order to bend, straighten and extend to share load across the full cross section of the rope.

Optimum performance for critical applications can only be achieved from understanding and carefully considering the characteristics and engineering of the rope selected. A brief introduction of typical rope constructions follows.

## Definitions, designations and classifications

An example of rope nomenclature for the rope shown in Fig 2., follows

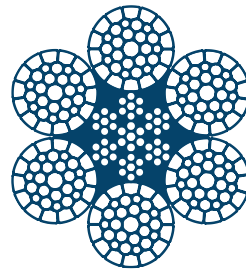
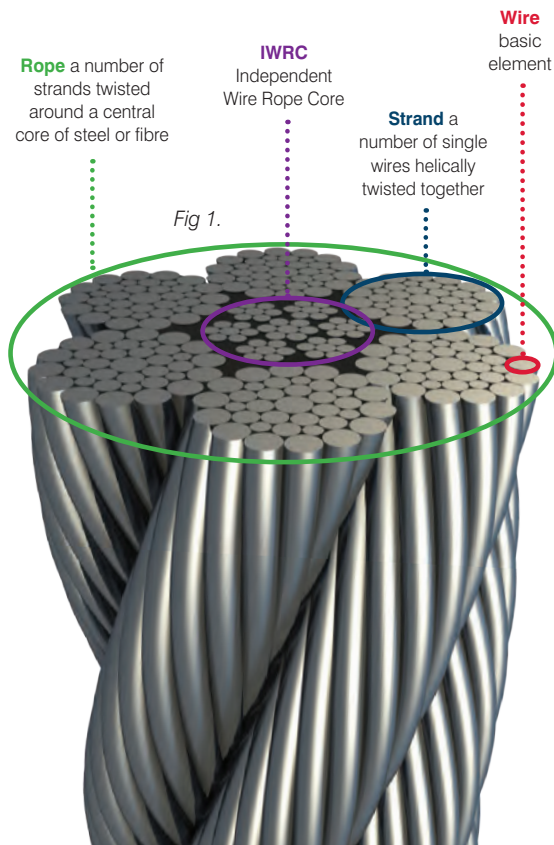
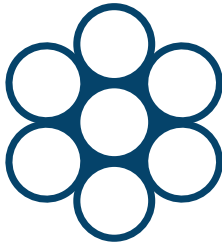


Fig 2.

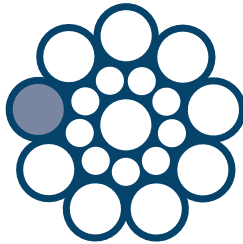
### 22 6xK36WS -IWRC 1960 U sZ

<b>22</b>	mm Nominal rope diameter
<b>6</b>	Number of strands
<b>K</b>	Dyform / compacted
<b>36</b>	Strand construction (1-7-7+7-14)
<b>WS</b>	Strand format (Warrington seale)
<b>IWRC</b>	Core FC, NFC, SFC, SPC, WC, WSC, IWRC, IWRC(K), EPIWRC, PWRC, PWRC(K)
<b>1960</b>	Rope grade 1960N/sq.mm(1770, 1960, 2160, etc)
<b>U</b>	Surface finish of wire (U uncoated, A or B galvanised, A(Zn/Al), B(Zn/Al))
<b>sZ</b>	Type of lay & direction (sZ, zS, zZ, sS, aS, aZ, Z & S)

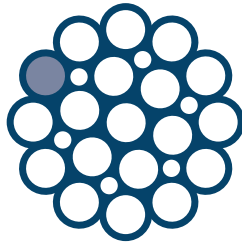
# Equal lay Strand Constructions



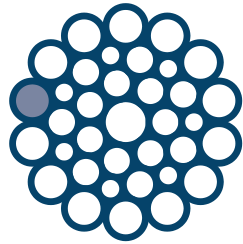
7-wires (1-6)



Seale 19S(1-9-9)



Filler 25F(1-6-6F-12)



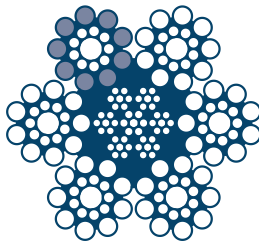
Warrington Seale  
36WS(1-7-7+7-14)

# 6 Stranded Rope Constructions

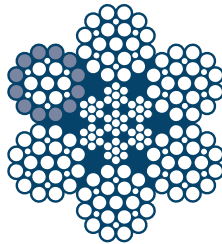
for example nominal diameter 22mm



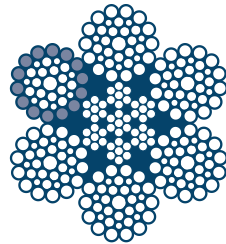
6x7  
Outer wire 2.2mm<sup>2</sup>  
Metallic area 3.8mm<sup>2</sup>



6x19S  
Outer wire 1.8mm<sup>2</sup>  
Metallic area 2.5mm<sup>2</sup>



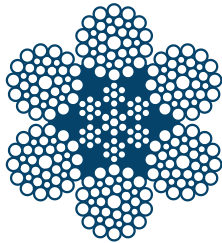
6x25F  
Outer wire 1.5mm<sup>2</sup>  
Metallic area 1.8mm<sup>2</sup>



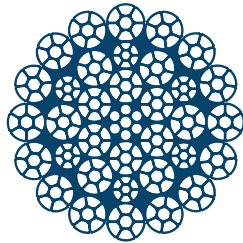
6x36WS  
Outer wire 1.3mm<sup>2</sup>  
Metallic area 1.3mm<sup>2</sup>

# Steel Wire Rope Constructions

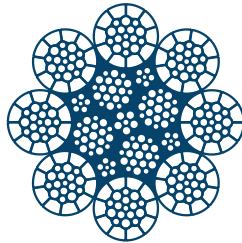
for dynamic applications there are typically 3 main types of construction as shown below



Single Layer  
  
Blue Strand



Multi-layer  
Rotation resistant  
Dyform 34LR



Parallel closed  
  
DSC 8

## Resistance to Rotation

It is important to determine whether there is a requirement to use a low rotation or rotation resistant rope. Such ropes are often referred to as multi-strand ropes. 6 or 8 strand rope constructions are usually selected unless load rotation on a single part system or “cabling” on a multi-part reeving system are likely to cause operational problems. See Fig 3.

When loaded, steel wire ropes will generate;

**“Torque” generated if both ends are fixed**

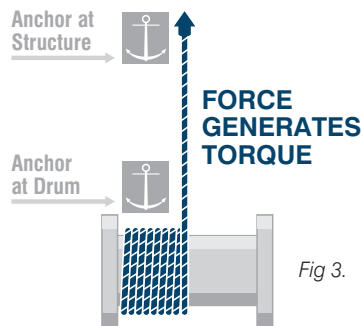


Fig 3.

The torque or turn generated will increase as the load applied increases. The degree to which a wire rope generates torque or turn will be influenced by the construction of the rope. Having recognised what can happen when a rope is loaded it is necessary to select the correct type of rope.

It should be noted that all ropes will rotate to some degree when loaded. The diagram below serves to illustrate the differences in rotational properties between the four basic types of stranded rope.

**“Turn” exhibited if one end is unrestrained**

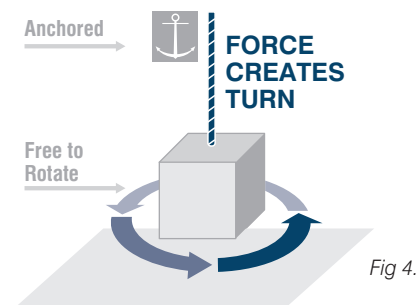
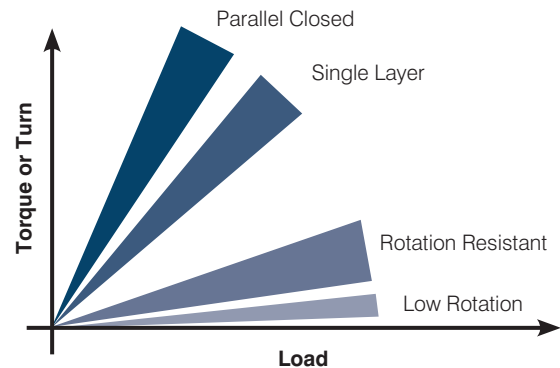


Fig 4.

It should be noted that all ropes will rotate to some degree when loaded. The diagram below serves to illustrate the differences in rotational properties between the four basic types of stranded rope.



## Steel Wire Rope Constructions

A load held by a single layer ropes such as 6 and 8 strand rope will rotate, therefore to prevent loads spinning in single fall systems rotation resistant or low rotation ropes that resist the tendency to rotate are specified for lifting applications.

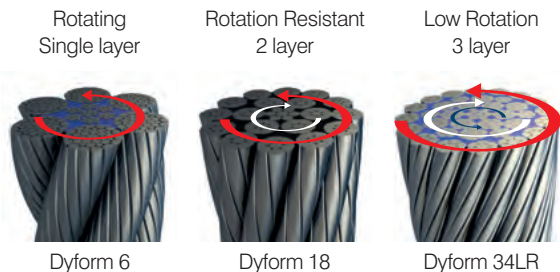


Fig 6.



## Optimising Rope Designs

As with any machine the quality materials, effective design and controls of manufacturing processes of the constituent parts are critical to the operational performance of the end product. However, maximising all properties is not possible, hence, as with all engineering, rope design is the art of intelligent compromise.

The primary building block for the rope is wire. Available tensile strength and ductility for a given wire size are governed by chemistry, metallurgy, process restrictions and the level of control of manufacturing processes.

It is the role of the rope designer to use their skill and experience to make the intelligent compromise between these factors to successfully achieve the desired rope performance.

Large wires provide an excellent bearing surface for robust performance; however their lower tensile strength, inferior fatigue performance and shorter resultant rope length limit their use. To make longer lengths of rope an increased number of smaller diameter wires and strands are required. Larger diameter ropes have an increased steel cross section to develop the necessary higher strengths.

Smaller wires offer greater flexibility and improved rope bend fatigue performance, but present a smaller surface area which generally reduces abrasion resistance; hence rope construction is modified through lay type to provide effective wear performance.

Rope design is not just about the steel, but also the gaps (see Fig 8.) that are retained within the construction to allow the necessary internal movement. The gaps are created by the angles at which the strands are laid into the rope.

The balancing of these gaps in the rope is essential to enable effective load sharing. The design of these gaps becomes more complex in multi-strand ropes where consideration of additional layers is also required.

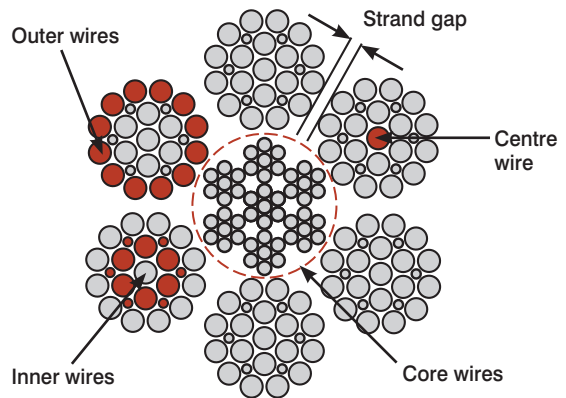


Fig 8.

## Rope Lay Direction

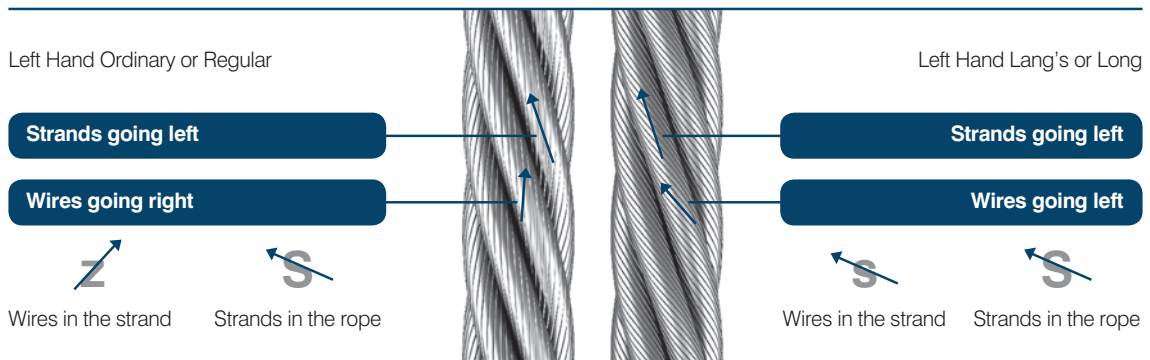
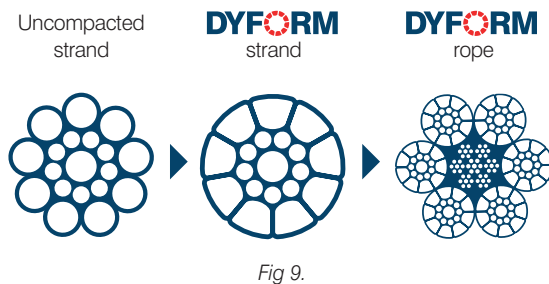


Fig 7.

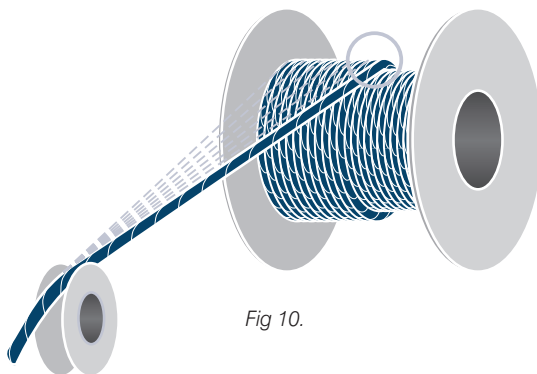
## Dyform: Rope Compaction

Bridon manufacture ropes using a unique dyforming process that compacts the strands as shown in Fig 9. The smooth surface of the “Dyform” product provides improved rope to sheave contact leading to reduced wear on both rope and sheave. Increased cross-sectional steel area and improved inter - wire contact ensures that the rope will operate with lower internal stress levels resulting in longer bending fatigue life and lower costs.



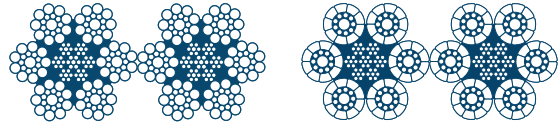
## Resistance to Abrasive Wear

Abrasive wear can take place between rope and sheave and between rope and drum but the greatest cause of abrasion is often through “interference” at the drum.



If abrasion is determined to be a major factor in rope deterioration then a wire rope with relatively large outer wires.

Non Dyform wire rope on adjacent drum laps can cause point contact and accelerated wear. Selection of a Dyform product will reduce abrasion through improved contact of the smooth surfaces, creating better contact and longer rope life.



Dyform ropes also reduce rope to sheave abrasion through increased contact of the periphery of the rope with the sheave as shown in Fig 11.

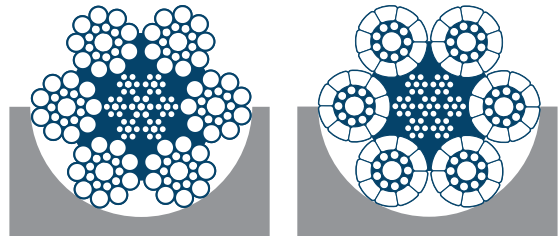


Fig 11.

## Crush Resistance

In multi-layer coiling applications where there is more than one layer of rope on the drum it is essential to install the rope with some back tension. Bridon recommends a minimum installation tension of between 2.5% and 10% of the minimum breaking force of the rope.

If this is not achieved, or in certain applications where high pressure on underlying rope layers is inevitable e.g. a boom hoist rope raising a boom from the horizontal position, severe crushing damage can be caused to underlying layers.

# DYFORM Bristar

The pinnacle of performance is provided by our unique Dyform Bristar ropes delivering the following key benefits

The Dyform rope construction reduces sheave wear and point to point loading which combined with the superior dynamic structural stability provided by the Bristar core ensures exceptional performance, setting the standard in drilling applications.

## High Performance Construction

- Significantly increases fatigue life and wear resistance

## Greater Internal Rope Protection

- Reduces the effects of shock loading
- Enhanced core life

## Greater Rope Density and Strength

- Reduces rope crushing
- Improves drum spooling
- Increases equipment safety factors

## Improved Surface Contact Area

- Reduces rope, sheave and drum wear

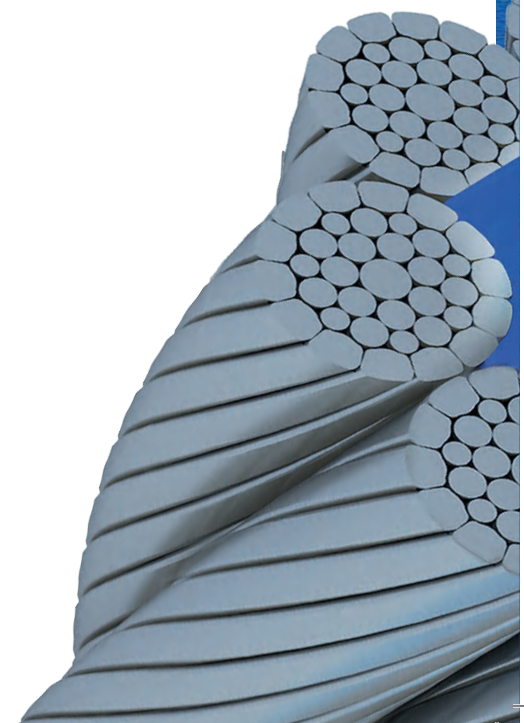
## Taking you the Extra Ton Miles

Bridon's inquest reports on fully worked drilling lines deliver a recommendation to our customers on how they may optimise the ton mile performance of their ropes.

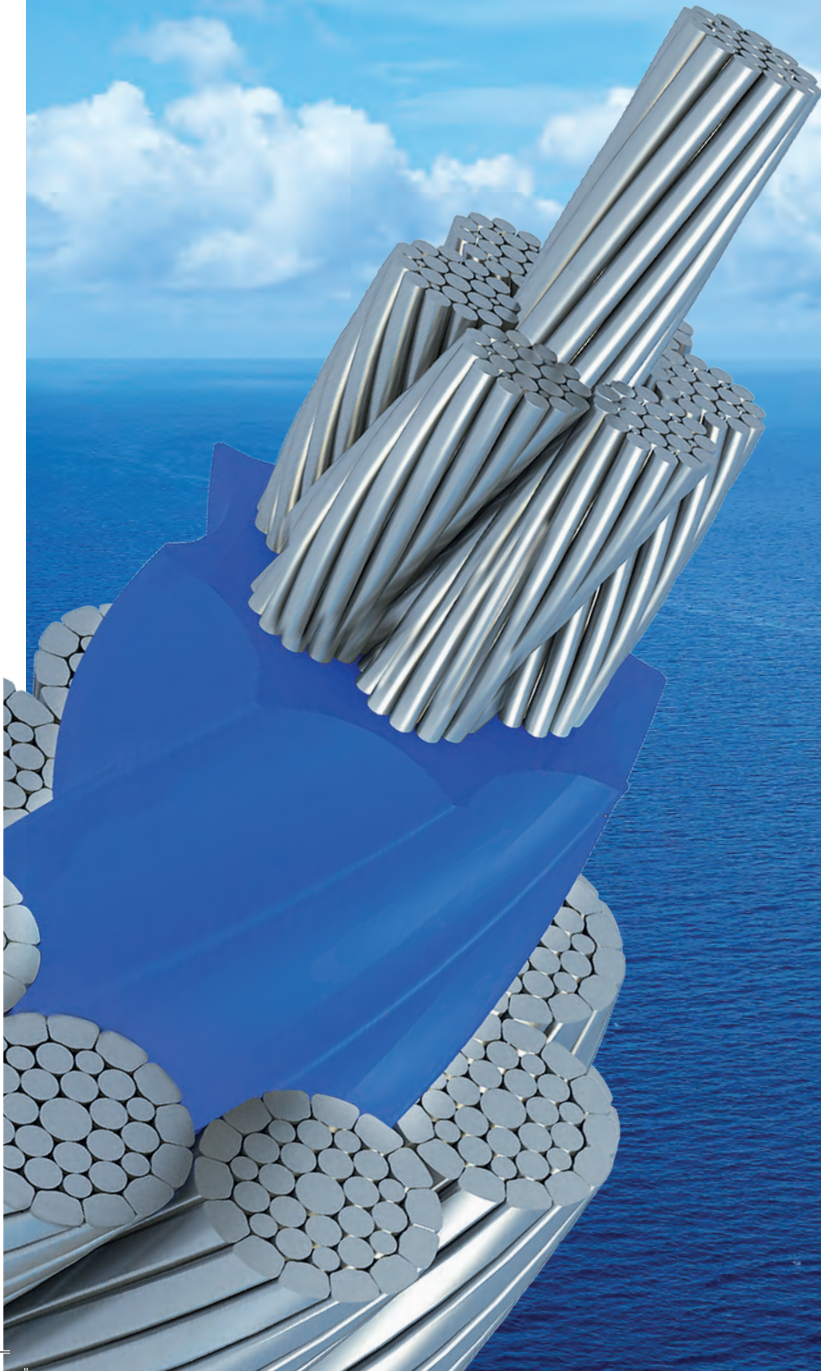
Working in collaboration with customers to increase ton mile life, Bridon offers examination/assessment of customer working rope samples that have been cut and compared to the condition of a new rope. Our BTC facility offers forensic analysis and inquest reports to provide rope condition assessment.

Challenge us to save on your rope operating costs. Call us now to find out how.

[www.bridon.com](http://www.bridon.com)







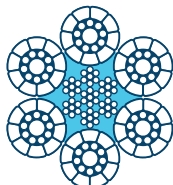




# Drilling Lines

# Product selection

## Drilling Lines



### **Dyform Bristar 6x19 Class to API 9A**

#### Market Leading Performance Benefits

Superior abrasion and wear resistance

Crush resistant

Corrosion protected IWRC

Even load distribution

Reduced internal friction

Increased bend fatigue resistance

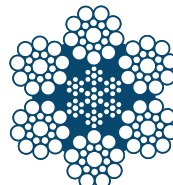
Improved torsional stability

Enhanced strength to diameter ratio

Improved diameter tolerance

**Improved ton-mile performance**

**DYFORM  
Bristar**



### **6x19 Class to API 9A**

#### Benefits

High quality six strand drilling line

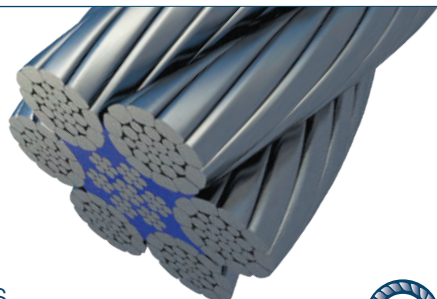
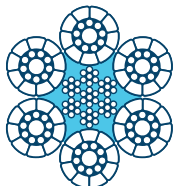
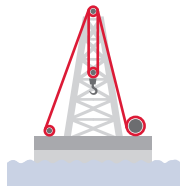
Excellent resistance to wear

Fully lubricated

API Standard ton-mile performance



# Dyform Bristar 6x19 Class to API 9A



## High Performance Drilling Lines

Bridon's conventional six-strand drilling lines deliver excellent ton-mile performance. The pinnacle of drilling line performance is provided by our unique Bristar core drilling lines.

Dyform rope construction reduces sheave wear and point loading which combined with the superior dynamic structural stability provided by the Bristar core delivers exceptional performance and sets the standard for drilling applications.

## Benefits

- Superior abrasion & wear resistance
- Crush resistant
- Corrosion protected IWRC
- Even load distribution
- Reduced internal friction
- Increased bend fatigue
- Improved torsional stability
- Enhanced strength to diameter ratio
- Improved diameter tolerance

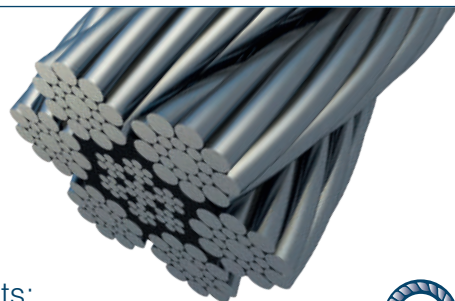
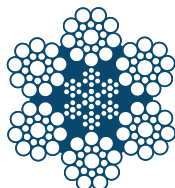


Rope Diameter		Approximate Mass		Minimum Breaking Force (Fmin)			Axial stiffness @20% load		Torque Generated at 20% Load				Metallic cross section	
		In air (M)		Dyform Bristar					Ordinary		Lang's			
in	mm	kg/m	lbs/ft	kN	Tonnes	Tons	MN	MIbs	N.m	lbs.ft	N.m	lbs.ft	mm²	in²
1	25.4	2.84	1.91	514	52.4	57.7	34	8	180	133	n/a	n/a	334	0.518
1 1/8	28.6	3.60	2.42	652	66.4	73.2	44	10	257	190	n/a	n/a	424	0.657
1 1/4	31.8	4.45	2.99	805	82.1	90.5	54	12	353	261	n/a	n/a	524	0.812
1 3/8	34.9	5.36	3.60	970	104	109	65	15	467	345	n/a	n/a	631	0.979
1 1/2	38.1	6.39	4.29	1156	123	130	78	17	608	448	n/a	n/a	752	1.17
1 5/8	41.3	7.51	5.04	1359	144	153	91	20	774	571	n/a	n/a	884	1.37
1 3/4	44.5	8.71	5.85	1577	170	177	106	24	969	714	n/a	n/a	1026	1.59
1 7/8	47.6	9.97	6.70	1805	184	203	121	27	1185	874	n/a	n/a	1174	1.82
2	50.8	11.4	7.63	2055	224	231	138	31	1441	1063	n/a	n/a	1338	2.07
2 1/8	54.0	12.8	8.62	2323	250	261	156	35	1731	1276	n/a	n/a	1512	2.34
2 1/4	57.2	14.4	9.67	2606	274	293	175	39	2057	1517	n/a	n/a	1696	2.63
2 1/2	63.5	17.7	11.9	3212	327	361	215	48	2814	2075	n/a	n/a	2090	3.24
2 3/4	69.9	21.5	14.4	3762	383	423	261	59	3629	2676	n/a	n/a	2533	3.93
3	76.2	25.5	17.2	4471	456	502	310	70	4701	3467	n/a	n/a	3010	4.67

Note: Tonnes = 1000kg Tons = 2000lbs

This table is for guidance purposes only with no guarantee or warranty (express or implied) as to its accuracy. The products described may be subject to change without notice, and should not be relied on without further advice from Bridon.

# 6x19 Class to API 9A



## Premium Quality Drilling Lines

Bridon's Steel core drilling line products are robust and offer excellent abrasion and fatigue resistance to optimise performance on winches and sheaves.

A proprietary blocking and lubrication medium provides corrosion resistance with the additional protection of a drawn galvanised finish. Premium quality drilling lines for demanding Oil & Gas applications, Bridon the benchmark for reliability.

## Benefits:

- High quality six strand rope
- Excellent resistance to wear
- Fully lubricated
- Steel Core
- Good ton-mile performance



Rope Diameter		Nominal rope length mass (M)		Minimum Breaking Force (Fmin)						Axial Stiffness at 20% Load		Nominal metallic cross-sectional area (A)	
				EIPS grade			EEIPS grade						
in	mm	kg/m	lbs/ft	kN	Tonnes	Tons	kN	Tonnes	Tons	MN	Mlbs	mm²	in²
1	25.4	2.76	1.85	460	46.9	51.7	506	51.6	56.9	30.1	6.64	290	0.449
1.1/8	28.6	3.49	2.34	579	59.0	65.0	636	64.9	71.5	38.2	8.42	367	0.569
1.1/4	31.8	4.30	2.89	711	72.5	79.9	782	79.7	87.9	47.2	10.4	454	0.704
1.3/8	34.9	5.20	3.49	854	87.1	96.0	943	96.2	106	56.9	12.5	547	0.848
1.1/2	38.1	6.20	4.16	1015	103	114	1113	113	125	67.8	14.9	652	1.010
1.5/8	41.3	7.27	4.88	1175	120	132	1299	132	146	79.6	17.6	766	1.187
1.3/4	44.5	8.43	5.66	1362	139	153	1504	153	169	92.5	20.4	889	1.378
1.7/8	47.6	9.67	6.49	1549	158	174	1709	174	192	106	23.3	1017	1.577
2	50.8	11.01	7.39	1762	180	198	1931	197	217	121	26.6	1159	1.796
2.1/8	54	12.42	8.34	1967	200	221	2163	220	243	136	30.0	1309	2.029
2.1/4	57.2	13.93	9.35	2198	224	247	2421	247	272	153	33.7	1469	2.277

Note: Tonnes := 1000kg Tons := 2000lbs

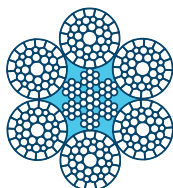
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# MRT Lines



# Product selection

## MRT Lines



### Dyform Bristar 6

#### Benefits

Superior abrasion and wear resistance

Superior abrasion & wear resistance

Crush resistant

Corrosion protected IWRC

Even load distribution

Reduced internal friction

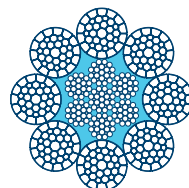
Accurate diameter tolerance

Increased bend fatigue

Improved torsional stability

Enhanced strength to diameter ratio

**DYFORM**  
**Bristar**



### Dyform Bristar 8

#### Benefits

Superior abrasion and wear resistance

Superior abrasion & wear resistance

Crush resistant

Corrosion protected IWRC

Even load distribution

Reduced internal friction

Accurate diameter tolerance

Increased bend fatigue

Improved torsional stability

Enhanced strength to diameter ratio

**DYFORM**  
**Bristar**

# Dyform Bristar 6



## Market Leading MRT Lines

The constant cycling of marine riser tensioner ropes over sheaves demands that ropes used for this application are flexible and highly-resistant to bend fatigue.

Dyform rope construction reduces sheave wear and point loading which combined with the superior dynamic structural stability provided by the Bristar core delivers exceptional performance and sets the standard for marine riser tensioner applications.

## Benefits:

- Superior abrasion & wear resistance
- Crush resistant
- Corrosion protected IWRC
- Even load distribution
- Reduced internal friction
- Accurate diameter tolerance
- Increased bend fatigue
- Improved torsional stability
- Enhanced strength to diameter ratio

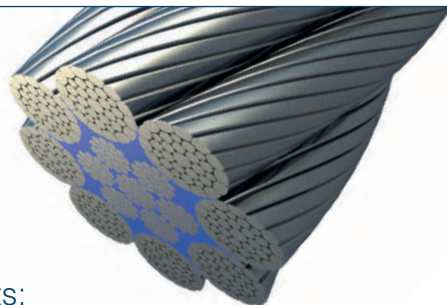
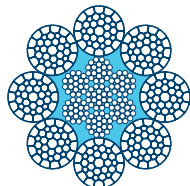
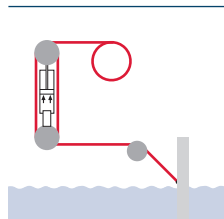


Rope Diameter		Approximate Mass		Minimum Breaking Force (Fmin)			Axial stiffness @20% load		Torque Generated at 20% Load		Metallic cross section	
		In air		Dyform Bristar					Lang's Lay			
in	mm	kg/m	lbs/ft	kN	Tonnes	Tons	MN	Mlbs	kN.m	lbs.ft	mm²	in²
1 3/4	44.5	8.79	5.91	1486	172	167	105	24	1.4	1062	1024	1.59
2	50.8	11.5	7.72	1941	198	218	138	31	2.1	1585	1338	2.07
	52	12.0	8.09	2034	207	228	144	32	2.3	1700	1402	2.17
2 1/8	54	13.0	8.72	2194	239	246	156	35	2.6	1904	1512	2.34
2 1/4	57.2	14.5	9.77	2370	269	266	174	39	3.0	2177	1693	2.62
2 1/2	63.5	17.9	12.1	2926	312	329	215	48	4.1	2987	2090	3.24
2 3/4	69.9	21.7	14.6	3546	361	398	261	59	5.4	3984	2533	3.93
2 7/8	73.0	23.7	15.9	3867	405	434	285	64	6.2	4538	2762	4.28
3	76.2	25.8	17.4	4214	430	473	310	70	7.0	5161	3010	4.67

Note: Tonnes = 1000kg Tons = 2000lbs

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# Dyform Bristar 8



## Market Leading MRT Lines

The constant cycling of marine riser tensioner ropes over sheaves demands that ropes used for this application are flexible and highly-resistant to bend fatigue.

Dyform rope construction reduces sheave wear and point loading which combined with the superior dynamic structural stability provided by the Bristar core delivers exceptional performance and sets the standard for marine riser tensioner applications.

## Benefits:

- Superior abrasion & wear resistance
- Crush resistant
- Corrosion protected IWRC
- Even load distribution
- Reduced internal friction
- Accurate diameter tolerance
- Increased bend fatigue
- Improved torsional stability
- Enhanced strength to diameter ratio



Rope Diameter		Approximate Mass		Minimum Breaking Force (Fmin)			Axial stiffness @20% load		Torque Generated at 20% Load		Metallic cross section	
		In air							Dyform Bristar			
in	mm	kg/m	lbs/ft	kN	Tonnes	Tons	MN	Mlbs	kN.m	lbs.ft	mm²	in²
1 3/4	44.5	8.79	5.91	1486	155	167	105	24	1.4	1062	1024	1.59
2	50.8	11.5	7.72	1941	198	218	138	31	2.1	1585	1338	2.07
	52	12.0	8.09	2034	207	228	144	32	2.3	1700	1402	2.17
2 1/8	54	13.0	8.72	2194	239	246	156	35	2.6	1904	1512	2.34
2 1/4	57.2	14.5	9.77	2370	269	266	174	39	3.0	2177	1693	2.62
2 1/2	63.5	17.9	12.1	2926	312	329	215	48	4.1	2987	2090	3.24
2 3/4	69.9	21.7	14.6	3546	361	398	261	59	5.4	3984	2533	3.93
2 7/8	73.0	23.7	15.9	3867	405	434	285	64	6.2	4538	2762	4.28
3	76.2	25.8	17.4	4214	430	473	310	70	7.0	5161	3010	4.67

Note: Tonnes = 1000kg Tons = 2000lbs

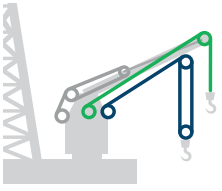
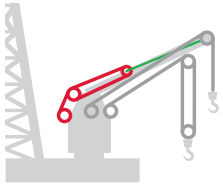
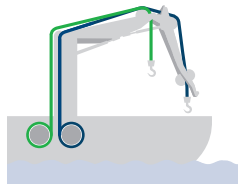
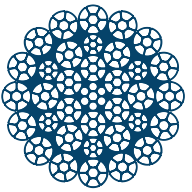
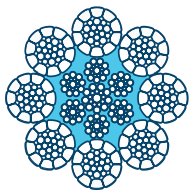
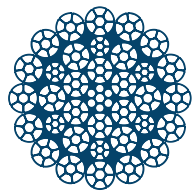
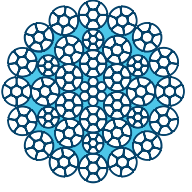
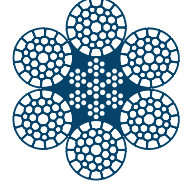
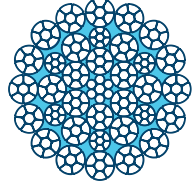
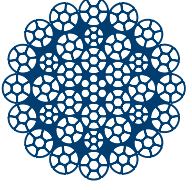
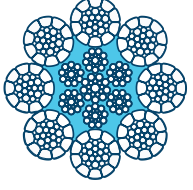
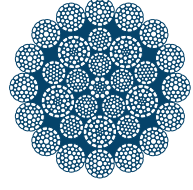
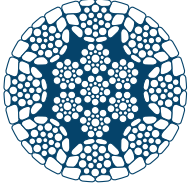
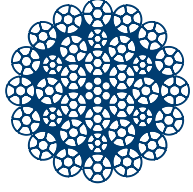
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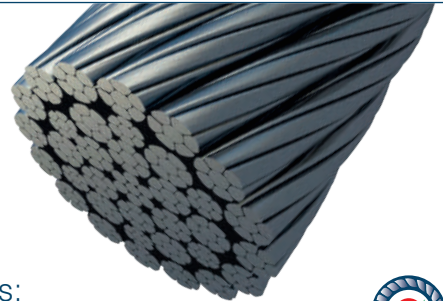
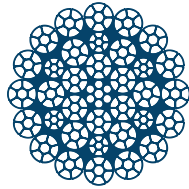
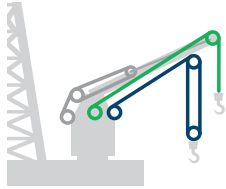
A large red and white lattice crane on an offshore platform is lifting a long, red, rectangular metal beam over the ocean. The crane's boom extends diagonally from the bottom left towards the top right. The beam is suspended by several ropes and is positioned horizontally above the water. The background shows a clear blue sky and a calm sea. The text "Crane Ropes" is overlaid in white on the right side of the image.

# Crane Ropes

# Rope application selection

Main and Auxiliary Hoist	Boom Hoist	Knuckleboom Crane/ Subsea Crane
		
		
<b>Dyform 34LR</b>	<b>Dyform Bristar 8</b>	<b>Dyform 34LR</b>
		
<b>Dyform 34LR PI</b>	<b>Dyform 6</b>	<b>Dyform 34LR PI</b>
		
<b>Dyform 34LR Max</b>	<b>Dyform 8PI</b>	<b>Hydra Plus</b>
		
	<b>Dyform 8 MAX</b>	<b>Dyform 34LR Max</b>

# Dyform 34LR



## High Performance Crane Ropes

Dyform 34LR multi-strand ropes are recommended for high lifting operations. Exceptional 'low rotational' properties and a high steel fill factor provides high strength, crush resistance, improved fatigue performance and low stretch.

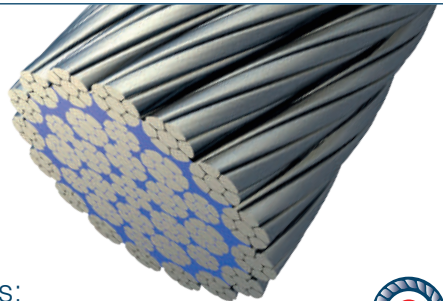
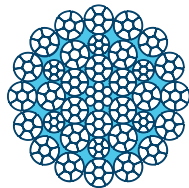
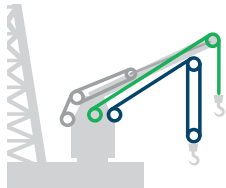
High performance offshore crane ropes from Bridon, a brand proven in the most demanding global Oil & Gas applications.

## Benefits:

- Low rotation engineered rope
- High strength
- Reduced rope sheave wear
- Accurate diameter for multi-layer coiling
- Long service life, reduced down time
- Crush resistant
- Ideal for single-part & multi-part reeving



# Dyform 34LR PI



## High Performance Crane Ropes

Dyform 34LR PI multi-strand ropes are recommended for high lifting operations. Exceptional 'low rotational' properties and a high steel fill factor provides high strength, crush resistance and low stretch.

The engineered polymer core further enhances fatigue performance beyond that of the standard 34LR.

Premium quality offshore crane ropes from Bridon, a brand proven in the most demanding global Oil & Gas applications.

## Benefits:

- Low rotation engineered rope
- High strength
- Reduced rope sheave wear
- Accurate diameter for multi-layer coiling
- Long service life, reduced down time
- Crush resistant
- Ideal for single-part & multi-part reeving
- Improved fatigue resistance
- Corrosion protected core





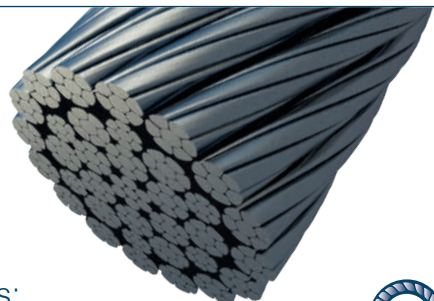
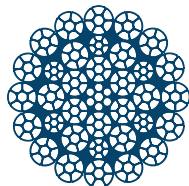
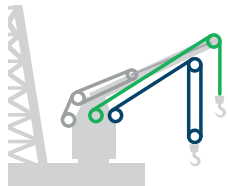
# Dyform 34LR/34LR PI

Rope Diameter	Approx. nominal length mass	Minimum Breaking Force (Fmin)				Axial stiffness @20% load	Torque generated @20% load		Metallic cross section
		EIPS / 1960 grade		EEIPS / 2160 grade			Ordinary	Lang's	
mm	kg/m	kN	Tonnes	kN	Tonnes	MN	N.m	N.m	mm²
Dyform 34x7									
10	0.50	87.1	8.9	96	9.8	5.7	1.39	3.1	58
11	0.61	105	10.7	116	11.8	6.9	1.85	4.2	70
12	0.72	125	12.7	138	14.0	8.2	2.40	5.4	83
13	0.85	147	14.9	162	16.5	9.7	3.06	6.9	98
14	0.98	170	17.3	188	19.1	11.2	3.8	8.6	113
15	1.13	196	19.9	216	22.0	12.8	4.7	10.5	129
16	1.28	223	22.7	245	24.9	14.6	5.7	12.8	147
17	1.45	251	25.5	277	28.2	16.5	6.8	15.4	166
18	1.62	282	28.7	311	31.7	18.5	8.1	18.2	187
19	1.81	314	32.0	346	35.2	20.6	9.6	21.5	208
20	2.00	348	35.4	384	39.1	22.8	11.1	25.1	231
21	2.21	384	39.1	423	43.1	25.2	12.9	29.0	254
22	2.42	421	42.9	464	47.3	27.6	14.8	33.4	279
23	2.65	461	47.0	508	51.8	30.2	16.9	38.1	305
24	2.88	502	51.1	553	56.3	32.9	19.2	43.3	332
25	3.13	544	55.4	600	61.1	35.7	21.7	49.0	360
26	3.38	589	60.0	649	66.1	38.6	24.5	55.1	390
27	3.65	635	64.7	700	71.3	41.6	27.4	61.7	421
28	3.92	683	69.6	753	76.7	44.8	30.6	68.8	452
29	4.21	733	74.7	807	82.2	48.0	34.0	76.5	485
30	4.50	784	79.9	864	88.1	51.4	37.6	84.7	519
32	5.12	892	90.9	983	100	58.5	45.6	102	591
34	5.78	1000	101	Not applicable in these sizes		66.0	54.8	123	667
35	6.13	1060	108			70.0	59.7	134	707
36	6.48	1120	114			74.0	65.0	146	748
38	7.22	1250	127			82.5	76.5	172	833
40	8.00	1390	141			91.4	89.2	200	924
Dyform 34x19									
42	8.82	1618	165	Not applicable in these sizes		101	109	245	1025
44	9.68	1776	181			111	125	281	1125
46	10.6	1941	198			122	143	321	1230
48	11.5	2113	215			133	162	365	1339
50	12.5	2293	234			144	183	413	1453

Note: Tonnes = 1000kg Tons = 2000lbs

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# Dyform 34LR Max



## High Performance Crane Ropes

The Bridon Endurance brand - High quality performance wire ropes for the lifting industry.

Our world leading manufacturing capabilities are accompanied by a high level of quality assurance and in-house expertise in research and development and design engineering.

## Benefits:

- Low rotation engineered rope
- Recommended for high lifting operations
- High breaking force
- Reduced rope sheave wear
- Accurate diameter, recommended for multi-layer spooling
- Suitable for single part and multi-part reeving
- Long service life
- Resistance to bending fatigue
- Reduced elongation



# Dyform 34LR Max

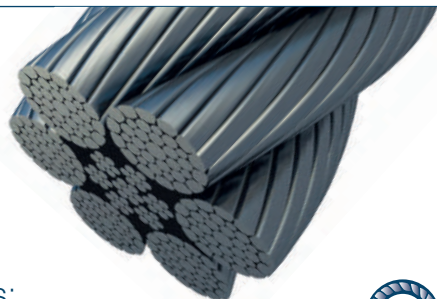
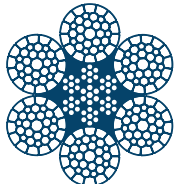
Diameter		Nominal length mass		Minimum Breaking Force		
				MAX		
mm	inch	kg/m	lb/ft	kN	Tons (short)	Tons (metric)
12.0		.740	.498	153	17.2	15.6
	1/2	.842	.566	171	19.2	17.4
13.0		.887	.596	179	20.1	18.3
14.0		1.04	.702	208	23.4	21.2
	9/16	1.09	.733	216	24.3	22.0
15.0		1.21	.814	239	26.9	24.4
	5/8	1.37	.919	272	30.6	27.7
16.0		1.37	.919	272	30.6	27.7
17.0		1.58	1.06	307	34.5	31.3
18.0		1.78	1.20	344	38.7	35.1
19.0		1.99	1.34	385	43.3	39.3
	3/4	1.99	1.34	385	43.3	39.3
20.0		2.21	1.49	424	47.7	43.2
22.0		2.69	1.81	524	58.9	53.4
	7/8	2.69	1.81	524	58.9	53.4
24.0		3.20	2.15	611	68.7	62.3
	1	3.36	2.26	684	76.9	69.7
26.0		3.56	2.39	705	79.2	71.9
28.0		4.11	2.76	814	91.5	83.0
	1 1/8	4.55	3.06	848	95.3	86.5
30.0		5.02	3.37	935	105	95.3
	1 1/4	5.57	3.74	1085	122	111
32.0		5.57	3.74	1085	122	111
34.0		6.32	4.25	1180	133	120
	1 3/8	6.79	4.56	1240	139	126
36.0		7.11	4.78	1320	148	135
38.0		7.95	5.34	1480	166	151
	1 1/2	8.07	5.42	1480	166	151
40.0		8.82	5.93	1630	183	166
	1 5/8	9.46	6.36	1730	194	176
42.0		9.72	6.53	1780	200	182
44.0		10.6	7.12	1930	217	197
	1 3/4	10.8	7.29	1930	217	197
46.0		11.6	7.77	2120	238	216
	1 7/8	12.4	8.30	2300	259	235
48.0		12.6	8.44	2300	259	235
50.0		13.6	9.17	2500	281	255
	2	14.0	9.43	2560	288	261
52.0		14.9	10.0	2720	306	277

Note: Tonnes = 1000kg Tons = 2000lbs

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# Dyform 6



## High Performance Crane Ropes

Dyform 6 ropes are recommended for Boom hoist & Pendant applications providing superior crush resistance.

## Benefits:

- Enhanced bend fatigue
- High temperature lubricant option
- Superior crush resistance
- Accurate diameter tolerance
- Long life, reduced lifetime costs
- Recommended for multi-layer coiling

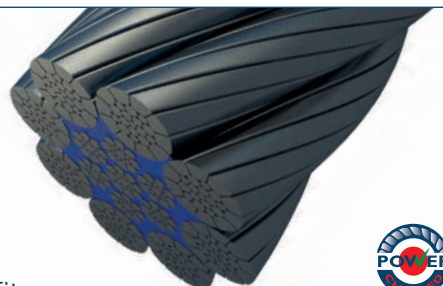
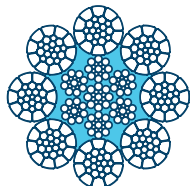


Diameter	Nominal length mass	Minimum Breaking Force						Axial stiffness @20% load	Torque generated @20% load		Metallic cross section
		IP/1770		EIP/1960		EEIP/2160			Ordinary	Lang's	
mm	kg/m	kN	t	kN	t	kN	t	MN	Nm	Nm	mm²
16	1.17	193	19.6	213	21.7	235	23.9	13.7	47.2	74.6	133
17	1.32	218	22.2	241	24.5	266	27.1	15.4	56.6	89.5	150
18	1.48	244	24.8	270	27.5	298	30.3	17.3	67.2	106	168
19	1.65	272	27.7	301	30.6	332	33.8	19.3	79.1	124	187
20	1.83	301	30.6	334	34.0	368	37.5	21.4	92.2	145	208
22	2.21	365	37.2	404	41.1	445	45.3	25.9	122	194	251
24	2.63	434	44.2	481	49.0	530	54.0	30.8	159	251	299
26	3.09	510	52.0	565	57.6	622	63.4	36.2	202	320	351
28	3.58	591	60.2	655	66.7	722	73.6	41.9	253	399	407
30	4.11	679	69.2	752	76.6	828	84.4	48.2	311	491	468
32	4.68	772	78.7	855	87.1	943	96.1	54.8	377	597	532
34	5.28	872	88.9	966	98.5	1060	108	61.9	453	716	601
36	5.92	978	99.7	1080	110	1190	121	69.4	538	850	673
38	6.60	1080	110	1200	122	1330	135	77.3	632	999	750
40	7.31	1200	122	1330	135	1470	149	85.7	738	1160	832
42	8.06	1330	135	1470	149	1620	165	94.4	854	1340	917
44	8.84	1460	148	1610	164	1780	181	103.0	982	1550	1000
46	9.67	1590	162	1760	179	1940	197	113.0	1120	1770	1100
48	10.53	1730	176	1920	195	2120	216	123.0	1270	2010	1190
50	11.42	1880	191	2080	212	2300	234	133.0	1440	2270	1300

Larger sizes are available on request.

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# Dyform 8PI



## High Performance Crane Ropes

Dyform 8PI ropes are recommended for Boom hoist & Pendant applications providing superior crush resistance.

## Benefits:

- Lower downtime
- Flexible eight strand construction
- High temperature lubricant available
- Robust crush resistant Dyform construction
- Recommended for multi-layer spooling
- Reduced lifetime costs

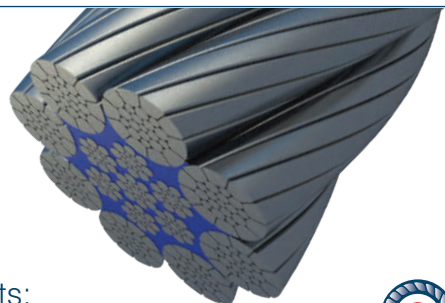
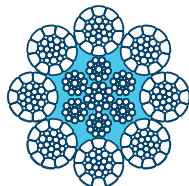


Diameter		Nominal length mass		Minimum Breaking Force						Axial stiffness @20% load	Torque generated @20% load		Metallic cross section
				EIP/1960			EEIP/2160				Ordinary	Lang's	
mm	inch	kg/m	lb/ft	kN	Tons (short)	Tons (metric)	kN	Tons (short)	Tons (metric)	MN	Nm	Nm	mm²
20.0		1.88	1.27	353	39.7	36.0	369	41.5	37.6	21.3	98.8	127	214
22.0		2.28	1.53	427	48.0	43.5	446	50.1	45.5	25.8	132	169	258
	7/8	2.33	1.56	427	48.0	43.5	446	50.1	45.5	26.3	136	175	264
24.0		2.71	1.82	508	57.1	51.8	531	59.7	54.1	30.7	171	220	308
	1	3.04	2.04	569	64.0	58.0	595	66.9	60.7	34.3	203	261	345
26.0		3.18	2.14	596	67.0	60.8	623	70.0	63.5	36.0	217	280	361
28.0		3.69	2.48	691	77.7	70.5	723	81.3	73.7	41.7	271	349	419
	1 1/8	3.85	2.58	720	80.9	73.4	753	84.6	76.8	43.5	289	371	436
30.0		4.24	2.85	794	89.2	81.0	830	93.3	84.6	47.9	334	430	481
	1 1/4	4.75	3.19	903	102	92.1	944	106	96.3	53.6	396	509	538
32.0		4.82	3.24	903	102	92.1	944	106	96.3	54.5	405	521	547
34.0		5.44	3.66	1020	115	104	1070	120	109	61.5	486	625	617
	1 3/8	5.75	3.86	1080	121	110	1130	127	115	64.9	527	678	651
36.0		6.10	4.10	1140	128	116	1200	135	122	69.0	577	742	692
38.0		6.80	4.57	1270	143	130	1330	149	136	76.8	679	873	771
	1 1/2	6.84	4.59	1270	143	130	1330	149	136	77.3	684	880	775
40.0		7.54	5.06	1410	158	144	1480	166	151	85.2	792	1020	854
	1 5/8	8.02	5.39	1500	169	153	1570	176	160	90.7	870	1120	910
42.0		8.31	5.58	1560	175	159	1630	183	166	93.9	917	1180	942
44.0		9.12	6.13	1710	192	174	1790	201	183	103	1050	1360	1030
	1 3/4	9.31	6.25	1710	192	174	1790	201	183	105	1090	1400	1060
46.0		9.97	6.70	1870	210	191	1950	219	199	113	1210	1550	1130
	1 7/8	10.7	7.18	2030	228	207	2130	239	217	121	1340	1720	1210
48.0		10.9	7.29	2030	228	207	2130	239	217	123	1370	1760	1230
50.0		11.8	7.91	2210	248	225	2310	260	236	133	1550	1990	1340

Additional sizes are available on request.

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A diagram of a crane arm. The arm is composed of several segments. A red path is highlighted, starting from a hook at the end of the arm, moving through a joint, and ending at a hook on the left. A green path is also highlighted, starting from a hook at the end of the arm, moving through a joint, and ending at a hook on the right. The crane is mounted on a grey base.



Dyform Bristar 8 ropes are recommended for Boom hoist & Pendant applications.

### Benefits:

- Enhanced bend fatigue
- High breaking force
- Flexible eight strand construction
- High temperature lubricant option
- Superior crush resistance
- Accurate diameter tolerance
- Long life, reduced lifetime costs
- Reduced stretch
- Corrosion protected core
- Recommended for multi-layer coiling

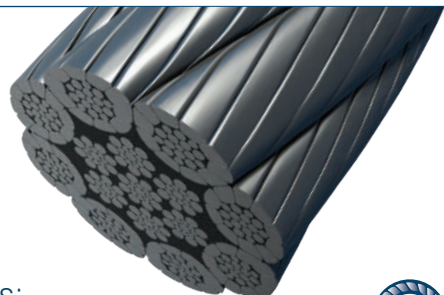
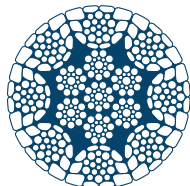


Rope Diameter		Approx. mass		Minimum Breaking Force (Fmin)						Axial Stiffness at 20% Load		Torque Generated at 20% Load				Metallic cross section	
		In air		EIPS / 1960 grade			2160 grade					Ordinary		Lang's			
mm	in	kg/m	lbs/ft	kN	Tonnes	Tons	kN	Tonnes	Tons	MN	Mlbs	N.m	lbs/ft	N.m	lbs/ft	mm2	in²
24	1	2.69	1.82	506	51.6	57.1	531	54.1	59.7	30.0	6.9	161	126	208	162	300	0.477
25.4		3.01	2.04	566	57.7	63.9	594	60.5	66.8	33.5	7.7	189	149	243	192	335	0.534
26		3.16	2.14	594	60.5	67.0	623	63.5	70.0	35.2	8.1	205	160	264	206	352	0.560
28	1 1/8	3.66	2.48	689	70.2	77.7	722	73.6	81.2	40.7	9.4	257	200	330	257	408	0.649
28.6		3.82	2.59	718	73.2	81.0	753	76.7	84.7	42.4	10	268	213	344	274	426	0.677
30		4.21	2.84	791	80.6	89.2	829	84.5	93.2	46.9	11	316	246	406	316	469	0.745
31.8	1 1/4	4.71	3.20	889	90.6	100	932	95.0	105	52.6	12	366	293	471	376	526	0.837
32		4.78	3.24	900	91.7	101	944	96.2	106	53.2	12	383	298	493	384	533	0.848
34		5.40	3.65	1010	102	115	1060	108	120	60.2	14	460	358	591	460	602	0.957
34.9	1 3/8	5.69	3.85	1064	109	121	1116	114	126	63.4	15	485	387	623	498	634	1.01
36		6.06	4.10	1130	115	128	1190	121	134	67.5	16	546	425	702	546	675	1.07
38		6.75	4.56	1260	128	143	1330	135	150	75.1	17	642	500	826	642	752	1.20
38.1	1 1/2	6.79	4.59	1266	129	144	1337	136	150	75.4	17	645	504	830	647	756	1.20
40		7.48	5.06	1400	142	159	1470	149	166	83.3	19	749	583	963	749	833	1.32
42		8.25	5.58	1550	158	175	1620	165	183	91.8	21	867	675	1110	867	918	1.46
44		9.05	6.12	1700	173	192	1780	181	201	100	23	997	776	1280	997	1000	1.60
46		9.90	6.69	1860	189	210	1950	198	219	110	25	1140	886	1460	1139	1100	1.75
48		10.69	7.28	2020	205	228	2120	216	239	119	28	1290	1007	1660	1295	1190	1.91
50		11.60	7.90	2190	223	248	2300	234	259	130	30	1460	1138	1880	1463	1300	2.07

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# Dyform 8 MAX



## High Performance Crane Ropes

The Bridon Endurance brand - High quality performance wire ropes for the lifting industry.

Our world leading manufacturing capabilities are accompanied by a high level of quality assurance and in-house expertise in research and development and design engineering.

## Benefits:

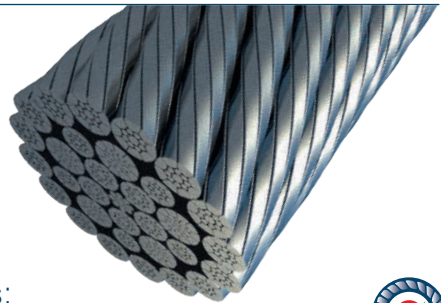
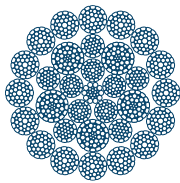
- Superior crush resistance
- Better fatigue life
- Excellent service life
- Lower downtime
- Recommended multi-layer spooling



Diameter		Nominal length mass		Minimum Breaking Force		
				MAX		
mm	inch	kg/m	lbs/ft	kN	Tons (short)	Tons (metric)
24.0	1	2.88	1.94	544	61.1	55.5
26.0		3.23	2.17	610	68.6	62.2
28.0		3.38	2.27	639	71.8	65.2
30.0	1 1/8	3.92	2.64	741	83.3	75.6
32.0		4.09	2.75	773	86.9	78.8
34.0		4.50	3.03	851	95.7	86.8
36.0	1 1/4	5.04	3.39	968	109	98.7
38.0		5.12	3.44	968	109	98.7

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# HydraPlus



## High Performance Ropes

HydraPlus, the next generation of precision engineered multi-stand ropes deliver exceptional low rotation performance and provide the highest strength to diameter ratio within the Hydra range.

Ideal for the large capacity multi-layer winching arrangements typical to sophisticated offshore heavy-lift cranes, the robust Dyform construction provides high radial stiffness and superior crush resistance.

Excellent multi-layer spooling characteristics and resistance to crushing are essential for reliable rope performance in these applications where load is applied directly to the reeled rope on its storage winch which can create considerable radial forces, crushing the underlying lower layers.

The right rope lubrication is vital to reliable performance, that's why we tailor the lubrication applied in the manufacture of our Hydra range to deliver optimum lubrication over a wide range of operating temperatures including elevated temperatures typical to heave compensation systems.

High performance offshore heavy-lift and subsea deployment ropes from Bridon, a brand proven in the most demanding global Oil & Gas applications.

## Benefits:

- Tailored lubrication package
- Engineered low rotation
- High strength
- Reduced elongation
- Accurate diameter tolerance
- Superior crush resistance
- Long service life
- Recommended for multi-layer coiling



# HydraPlus

Rope diameter	Approximate mass		Minimum breaking force (F <sub>min</sub> )		Axial stiffness @20% load	Torque generated @20% load	Metallic cross section
	In air	Submerged				Lang's lay	
mm	kg/m	kg/m	kN	Tonnes	MN	N.m	mm <sup>2</sup>
50	12.5	11.1	2296	234	161	689	1399
52	13.5	11.9	2482	253	174	774	1514
54	14.6	12.9	2678	273	188	868	1632
56	15.5	13.7	2845	290	199	956	1730
58	16.8	14.9	3021	308	216	1051	1880
60	18.0	15.9	3237	330	232	1165	2015
62	19.3	17.1	3463	353	247	1288	2152
63.5	20.2	17.9	3639	371	260	1387	2257
66	21.8	19.3	3924	400	280	1554	2438
72	26.0	23.0	4621	471	334	1996	2902
76	28.9	25.6	5150	525	372	2349	3233
82.6	33.2	29.4	5808	592	426	2878	3708
88.9	38.4	34.0	6661	679	494	3553	4295
90	39.4	34.9	6818	695	506	3682	4402
96	44.8	39.6	7760	791	576	4470	5009
100	48.6	43.0	8339	850	625	5003	5435
102	50.6	44.8	8731	890	650	5343	5655
109	57.7	51.0	9810	1000	743	6416	6457
115	64.2	56.8	10693	1090	827	7378	7187
121	71.2	63.0	11821	1205	915	8582	7957
128	79.6	70.4	13244	1350	1024	10171	8905
132	84.7	74.9	14028	1430	1089	11110	9470
135	88.6	78.4	15009	1530	1139	12158	9905
138	92.6	81.9	15304	1560	1190	12671	10350
142	98.4	87.1	16187	1650	1264	13791	10990
148	106.9	94.6	17658	1800	1373	15680	11940
152	112.8	99.8	18786	1915	1448	17133	12593
160	124.9	110.5	20307	2070	1605	19494	13953
170	141.0	124.8	22906	2335	1811	23364	15752
180	158.1	139.9	25702	2620	2031	27758	17660
>180	Please contact Bridon for further details						

Note: Tonnes = 1000kg Tons = 2000lbs

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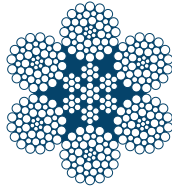


# Anchor Lines & Rig Tethers



# Product selection

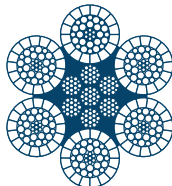
## Anchor Lines



### Diamond Blue

#### Benefits

- Combines strength & flexibility
- Good fatigue resistance
- Premium Quality
- Abrasion & wear resistant
- Long service life, reduced down time
- Corrosion resistant

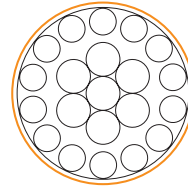


### Dyform DB2K

#### Benefits

- Enhanced strength to diameter ratio
- Premium Quality
- Abrasion & wear resistant
- Long service life, reduced down time
- Improved diameter tolerance
- Corrosion resistant
- Superior Crush resistance

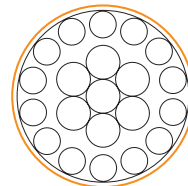
## Rig Tethers



### Superline Polyester

#### Benefits

- High strength efficiency
- Balanced construction
- Protective braided jacket
- Long service life
- Low maintenance
- Easy handling

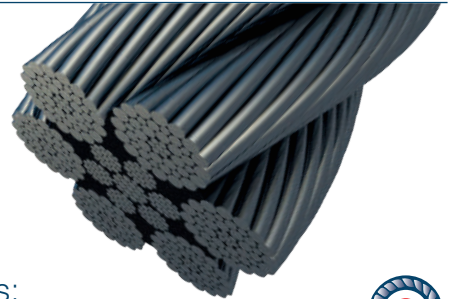
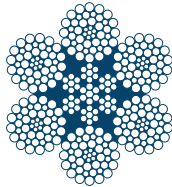
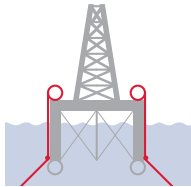


### Superline Steelite / Steelite Extra

#### Benefits

- Enhanced strength to diameter ratio
- Balanced construction
- Protective braided jacket
- Light weight
- Long service life
- Low maintenance
- Easy handling

# Diamond Blue



## High Strength Anchor Lines

Bridon's high-strength steel anchor line products are robust and offer excellent abrasion and fatigue resistance to optimise performance on winches and sheaves.

A proprietary lubrication medium provides corrosion resistance with the additional protection of a drawn galvanised finish.

Premium quality Anchor lines for demanding Oil & Gas applications, Bridon the benchmark for reliability

## Benefits:

- Combines strength & flexibility
- Good fatigue resistance
- Premium Quality
- Abrasion & wear resistant
- Long service life, reduced down time
- Corrosion resistant





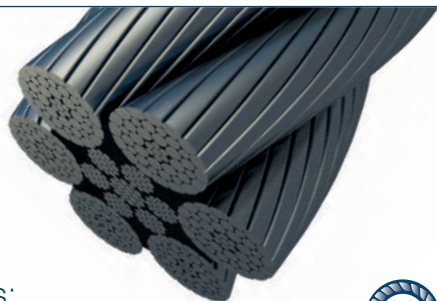
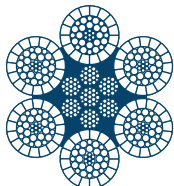
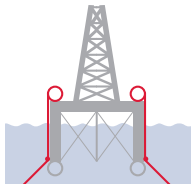
# Diamond Blue

Rope Diameter		Nominal rope length mass (M)				Minimum Breaking Force (Fmin)			Axial Stiffness at 20% Load		Torque Generated at 20% Load		Nominal metallic cross-sectional area (A)	
		In air (M)		Submerged		1960 grade					Ordinary Lay			
mm	in	kg/m	lbs/ft	kg/m	lbs/ft	kN	Tonnes	Tons	MN	MIbs	kN.m	lbs/ft	mm²	in²
52		11.7	7.86	10.2	6.84	2231	227	251	140	31	1.51	1112	1338	2.074
54	2 1/8	12.6	8.48	11.0	7.38	2406	245	270	151	33	1.69	1245	1443	2.236
56		13.6	9.12	11.8	7.93	2587	264	291	163	36	1.88	1389	1552	2.405
57.2	2 1/4	14.2	9.51	12.3	8.28	2699	275	303	170	37	2.01	1480	1619	2.509
60		15.6	10.5	13.6	9.11	2970	303	334	187	41	2.32	1708	1781	2.761
60.3	2 3/8	15.7	10.6	13.7	9.20	3000	306	337	189	42	2.35	1734	1799	2.789
63.5	2 1/2	17.5	11.7	15.2	10.2	3326	339	374	209	46	2.75	2025	1995	3.093
64		17.7	11.9	15.4	10.4	3379	344	380	213	47	2.81	2073	2027	3.141
66.7	2 5/8	19.3	12.9	16.8	11.3	3670	374	413	231	51	3.18	2347	2201	3.412
68		20.0	13.4	17.4	11.7	3815	389	429	240	53	3.37	2487	2288	3.546
69.9	2 3/4	21.2	14.2	18.4	12.4	4031	411	453	254	56	3.66	2701	2418	3.747
72		22.4	15.1	19.5	13.1	4277	436	481	269	59	4.00	2952	2565	3.976
76		25.0	16.8	21.8	14.6	4765	486	536	300	66	4.71	3471	2858	4.430
76.2	3	25.1	16.9	21.9	14.7	4790	488	538	302	67	4.75	3499	2873	4.453
80		27.7	18.6	24.1	16.2	5280	538	593	333	73	5.49	4049	3167	4.908
82.6	3 1/4	29.5	19.8	25.7	17.3	5629	574	633	354	78	6.04	4457	3376	5.233
84		30.6	20.5	26.6	17.8	5821	593	654	367	81	6.36	4687	3491	5.412
88		33.5	22.5	29.2	19.6	6389	651	718	402	89	7.31	5389	3832	5.939
88.9	3 1/2	34.2	23.0	29.8	20.0	6520	665	733	411	91	7.54	5556	3911	6.061
92		36.6	24.6	31.9	21.4	6559	669	737	440	97	7.85	5785	4188	6.491
95.3	3 3/4	39.3	26.4	34.2	23.0	7038	717	791	472	104	8.72	6430	4494	6.965
96		39.9	26.8	34.7	23.3	7142	728	803	479	106	8.91	6573	4560	7.068
100		43.3	29.1	37.7	25.3	7750	790	871	520	115	10.1	7429	4948	7.669
101.6	4	44.7	30.0	38.9	26.1	8000	815	899	536	118	10.6	7791	5108	7.917
108	4 1/4	50.5	33.9	43.9	29.5	8306	847	934	606	134	11.7	8598	5771	8.946
114.3	4 1/2	56.6	38.0	49.2	33.0	9303	948	1046	679	150	13.8	10193	6464	10.020
120.7	4 3/4	63.1	42.4	54.9	36.8	10374	1057	1166	757	167	16.3	12003	7208	11.173
127	5	69.8	46.9	60.8	40.8	11485	1171	1291	838	185	19.0	13982	7981	12.370

Note: Tonnes = 1000kg Tons = 2000lbs

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# Dyform DB2K



## High Strength Anchor Lines

Dyform DB2K offers enhanced strength to diameter ratio enabling optimum utilisation of limited volume winch arrangements.

Increased surface area of Dyformed strands improves stress distribution enabling superior crush & abrasion resistance.

Premium quality anchor lines from Bridon, a brand proven in the most demanding global Oil & Gas applications.

## Benefits:

- Enhanced strength to diameter ratio
- Premium Quality
- Abrasion & wear resistant
- Long service life, reduced down time
- Improved diameter tolerance
- Corrosion resistant
- Superior Crush resistance



# Dyform DB2K

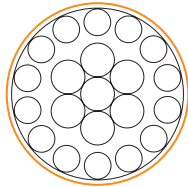
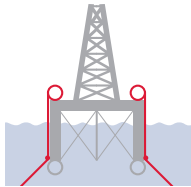
Rope Diameter		Nominal rope length mass (M)				Minimum Breaking Force (Fmin)			Axial Stiffness at 20% Load		Torque Generated at 20% Load		Nominal metallic cross-sectional area (A)	
		In air (M)		Submerged		1960 grade					Ordinary			
mm	in	kg/m	lbs/ft	kg/m	lbs/ft	kN	Tonnes	Tons	MN	MIbs	kN.m	lbs/ft	mm²	in²
52		12.2	8.22	10.7	7.2	2396	244	269	146	32	1.62	1194	1402	2.173
54	2 1/8	13.2	8.87	11.5	7.7	2583	263	290	157	35	1.81	1337	1512	2.343
56		14.2	9.54	12.4	8.3	2778	283	312	169	37	2.02	1491	1626	2.520
57.2	2 1/4	14.8	10.0	12.9	8.7	2899	295	326	176	39	2.16	1589	1696	2.629
60		16.3	10.9	14.2	9.5	3189	325	358	194	43	2.49	1834	1866	2.893
60.3	2 3/8	16.5	11.1	14.3	9.6	3221	328	362	196	43	2.53	1862	1885	2.922
63.5	2 1/2	18.3	12.3	15.9	10.7	3572	364	402	217	48	2.95	2174	2090	3.240
64		18.6	12.5	16.1	10.8	3629	370	408	221	49	3.02	2226	2123	3.291
66.7	2 5/8	20.2	13.5	17.5	11.8	3941	402	443	240	53	3.42	2520	2306	3.575
68		20.9	14.1	18.2	12.2	4096	418	460	249	55	3.62	2670	2397	3.715
69.9	2 3/4	22.1	14.9	19.3	12.9	4329	441	487	263	58	3.93	2900	2533	3.926
72		23.5	15.8	20.4	13.7	4593	468	516	279	62	4.30	3170	2687	4.165
76		26.2	17.6	22.8	15.3	5117	522	575	311	69	5.06	3728	2994	4.641
76.2	3	26.3	17.7	22.9	15.4	5144	524	578	313	69	5.10	3757	3010	4.666
80		29.0	19.5	25.2	16.9	5670	578	637	345	76	5.90	4348	3318	5.143
82.6	3 1/4	30.9	20.8	26.9	18.1	6044	616	679	368	81	6.49	4786	3537	5.482
84		32.0	21.5	27.8	18.7	6251	637	703	380	84	6.83	5033	3658	5.670
88		35.1	23.6	30.5	20.5	6861	699	771	418	92	7.85	5787	4014	6.222
88.9	3 1/2	35.8	24.0	31.1	20.9	7002	714	787	426	94	8.09	5967	4097	6.350
92		38.3	25.7	33.4	22.4	7321	746	823	456	101	8.76	6456	4388	6.801
95.3	3 3/4	41.1	27.6	35.8	24.0	7856	801	883	490	108	9.73	7176	4708	7.298
96		41.7	28.0	36.3	24.4	7971	813	896	497	110	9.95	7336	4778	7.405
100		45.3	30.4	39.4	26.5	8430	859	948	539	119	11.0	8081	5184	8.035
101.6	4	46.8	31.4	40.7	27.3	8702	887	978	557	123	11.5	8475	5351	8.294

Note: Tonnes = 1000kg Tons = 2000lbs

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# Superline Polyester



## Fibre Tethers

Bridon Superline Polyester (MODU) provides a lightweight synthetic tether for MODU's.

A thicker construction of the braided jacket provides enhanced protection and improves handling performance.

High performance synthetic tethers for critical Oil & Gas applications, Bridon the benchmark for reliability.

## Benefits:

- High strength efficiency
- Balanced construction
- Protective braided jacket
- Long service life
- Low maintenance
- Easy handling



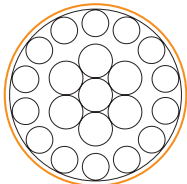
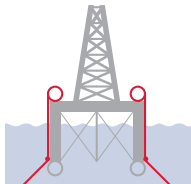
# Superline Polyester

Nominal Diameter		MBL		Approximate Mass				Post installation Drift Stiffness		Intermediate Stiffness		Storm Stiffness	
				In Air		Submerged							
in	mm	kN	kips	kg/m	lbs/ft	kg/m	lb/ft	MN	10³ kips	MN	10³ kips	MN	10³ kips
5 5/16	135	3924	882	11.4	7.7	2.9	1.9	51.0	11.5	105.9	23.8	109.9	24.7
5 13/16	147	4905	1102	13.6	9.1	3.4	2.3	63.8	14.3	132.4	29.8	137.3	30.9
6 1/4	158	6180	1389	15.8	10.6	4.0	2.7	80.3	18.1	166.9	37.5	173.0	38.9
6 5/8	169	6965	1565	18.1	12.2	4.5	3.1	90.5	20.3	188.1	42.3	195.0	43.8
7	178	7848	1764	20.2	13.6	5.1	3.4	102.0	22.9	211.9	47.6	219.7	49.4
7 5/16	186	8829	1984	22.1	14.9	5.5	3.7	114.8	25.8	238.4	53.6	247.2	55.6
7 15/16	194	9810	2205	24.1	16.2	6.0	4.1	127.5	28.7	264.9	59.5	274.7	61.7

Note: Tonnes = 1000kg Tons = 2000lbs

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# Superline Steelite / Steelite Extra



## Fibre MODU Tethers

Bridon Superline Steelite/Steelite Xtra provides a lightweight synthetic tether for MODU's.

A thicker construction of the braided jacket provides enhanced protection and improves handling performance.

High performance synthetic tethers for critical Oil & Gas applications, Bridon the benchmark for reliability.

## Benefits:

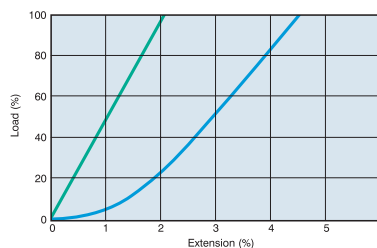
- Enhanced strength to diameter ratio
- Balanced construction
- Protective braided jacket
- Light weight
- Long service life
- Low maintenance
- Easy handling



<b>Material:</b>	Dyneema®, high modulus polyethylene
<b>Construction:</b>	Superline
<b>Colour:</b>	Superline - White
<b>Markers:</b>	Blue and lime - Steelite Blue and pink - Steelite Xtra
<b>Relative Density:</b>	0.97 to 1.15 depending on diameter and jacket material (Check with sales office for specific details)

<b>Maximum continuous working temperature:</b>	65°C
<b>Torque Properties:</b>	Torque Balanced
<b>Shrinkage (Cold Water):</b>	0%
<b>Water Uptake:</b>	Low
<b>UV Resistance:</b>	Very Good
<b>Abrasion Resistance:</b>	Excellent

Load v Extension



● Worked Superline ● New Superline

Dyneema® is a registered trademark of Royal DSM N.V.



# Superline Steelite / Steelite Extra

Nominal Diameter		Rope Circumference		Nominal Mass		Steelite			Steelite Xtra		
				In Air		Minimum breaking force (F min)			Minimum breaking force (F min)		
mm	in	mm	in	kg/m	lb/ft	kN	Tonnes	Tons	kN	Tonnes	Tons
28	1 1/8	88	3 1/2	0.46	0.31	466	47.5	52.3	608	62.0	68.3
30	1 7/32	94	3 3/4	0.48	0.32	503	51.3	56.5	657	67.0	73.8
32	1 5/16	101	4	0.67	0.45	593	60.4	66.6	687	70.0	77.1
34	1 13/32	107	4 1/4	0.73	0.49	674	68.7	75.7	814	83.0	91.5
36	1 1/2	113	4 1/2	0.77	0.52	722	73.6	81.1	912	93.0	102
40	1 5/8	126	5	0.87	0.59	883	90.0	99.2	1109	113	125
44	1 3/4	138	5 1/2	1.04	0.70	1050	107	118	1315	134	148
48	2	151	6	1.38	0.93	1236	126	139	1609	164	181
52	2 1/8	163	6 1/2	1.73	1.16	1442	147	162	1903	194	214
56	2 1/4	176	7	1.90	1.28	1658	169	186	2237	228	251
60	2 1/2	188	7 1/2	2.08	1.40	1893	193	213	2570	262	289
64	2 5/8	201	8	2.45	1.65	2384	243	268	3012	307	338
68	2 13/16	214	8 1/2	2.66	1.79	2639	269	296	3365	343	378
72	3	226	9	2.85	1.92	2963	302	333	3718	379	418
76	3 1/16	239	9 1/2	3.16	2.12	3335	340	375	4189	427	471
80	3 1/8	251	10	3.34	2.24	3659	373	411	4473	456	503
88	3 1/2	276	11	4.24	2.85	4444	453	499	5278	538	593
96	3 3/4	302	12	4.92	3.31	5229	533	587	6131	625	689
104	4 1/8	327	13	6.01	4.04	6141	626	690	7289	743	819
112	4 3/8	352	14	7.01	4.71	7191	733	808	8152	831	916
120	4 3/4	377	15	9.18	6.17	8231	839	925	9349	953	1050

Note: Tonnes = 1000kg Tons = 2000lbs

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The Hydra Plus product range offers the next generation of precision engineered multi-strand ropes designed to deliver exceptional low rotation performance for specialist deepwater deployment equipment.

Optimised high strength to diameter ratio  
Tailored lubrication package  
Engineered rotation characteristics  
Excellent crush resistance  
Performance to support optimum service life

**Hydra** 

Precision engineered ultra  
deep water rope solutions



**www.bridon.com**

**HONG KONG**

Phone: +852 240 11 166

Email: sales@bridon.com.hk

**CHINA**

Phone: +86 571 8581 8780

Email: sales@bridonhangzhou.com

**INDONESIA**

Phone: +62 21 883 1566

Email: sales@bridon.co.id

**SINGAPORE**

Phone: +65 6546 4611

Email: bluestrand@bridon.com.sg

**AUSTRALIA**

Phone: +61 418 884 522

Email: salesaustralia@bridon.com

**NEW ZEALAND**

Phone: +64 9 274 4299

Email: sales@bridon.com

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ISO 9001  
BUREAU VERITAS  
Certification

N° UK7000072



Bridon's products are manufactured under controls that conform to quality management system ISO 9001

Bridon operates environmental management systems which, where required by legislation or risk, comply with the requirements of EN ISO 14001:2004 and are assessed and registered by accredited certification bodies.

Before using any products contained within this brochure read, understand and follow the guidance given in ISO 4309:2004 Cranes - Wire Ropes - Care, Maintenance, Installation, Examination and Discard.

For Offshore Cranes refer to API RP 2D Recommended Practice for Operation and Maintenance of Offshore Cranes.

