

PRODUCT INFORMATION

TEXTILE ROPE

atlas®

A Speciality

Comments on
synthetic wire rope

It was the first time the public was informed about the ideal mooring rope for automatic mooring winches. Before then there were wire ropes made of steel, which provided high dimensional stability, excellent surface pressure resistance and sturdiness. However, they were heavy, stiff, prone to rusting and very inelastic. And there were synthetic fibre ropes, which were flexible, light and elastic. But their dimensional stability was poor, surface pressure resistance low and they were not so robust. Aiming to merge the advantages of both these seemingly irreconcilable material types, Bayer AG Leverkusen, in partnership with SELDIS, began experiments on 'Atlas perlon wire rope'. The result was a rope made from synthetic wires with rope core and strand core of synthetic fibre material, manufactured for dimensional stability and surface pressure resistance, using materials imparting flexibility, optimised elasticity and corrosion resistance, plus excellent elongation and dynamic load resistance. Above all it was ideal for use on automatic winches.

Today, on writing these lines almost fifty years later, there is still nothing to contradict these claims.



Seite 20 - Hamburger Abendblatt

Atlastrose



Ein Mann kann das jetzt von den Farbenfabriken Bayer A.G. entwickelte Atlasstauwerk um den Poller eines Tankriesen belegen. Dieser Perlon-Draht von 220 m Länge hat eine Bruchfestigkeit von etwa 55 t und wiegt nur 350 kg. Die Farbenfabriken Bayer haben zusammen mit der Hamburger Firma Rudolf Seldis und der Esso-Tankschiffs-Reederei GmbH, auf der 47 000 t tragenden „Esso Stuttgart“ eine Atlasstrosse und eine Flaggenleine ein Jahr lang unter härtesten Bedingungen und guten Ergebnissen getestet.

Ships...

Shown here: typical ropes used on board

Newspaper article in the Hamburger Abendblatt from 12th April 1960

Three good reasons for the original...

Life

The flexural properties of ATLAS ropes are remarkable. The diagramson 'Dynamic Bending' under 'Textile Ropes Compared' at the end of this chapter show the results of tests conducted at the Technical University of Stuttgart according to which ATLAS is best equipped for an extremely long life, assuming proper handling and usage. Rope deflection is recommended over smooth surfaces and bending radii of three to four times the rope diameter (ratio pulley or roller diameter to rope diameter 6:1 to 8:1).

Safety

A tensile test on an ATLAS rope after ten years' service on a container ship showed the rope to have 85% nominal breaking strength of a new rope.

Recommendation

Hardly a case is known where ship management and crew have not explicitly requested ATLAS ropes for winch operations when placing repeat orders.

atlas®

6-strand cross-lay

Nominal Rope-Size (~mm Ø)	Nominal Rope Circ. ~" inch	Rope Weight ~ kg/m	Minimum Breaking Force		Nominal Breaking Force	
			kN	kgf	kN	kgf
24	3	0,40	130	13300	146	14900
28	3½	0,52	168	17100	188	19200
32	4	0,65	220	22400	247	25200
36	4½	0,83	260	26500	291	29700
40	5	1,00	310	31600	347	35400
44	5½	1,25	420	42800	471	48000
48	6	1,48	500	51000	560	57100
52	6½	1,60	540	55100	605	61700
56	7	2,00	665	67800	745	76000
60	7½	2,17	700	71400	784	80000
62	7¾	2,35	791	80700	885	90300
64	8	2,45	810	82600	908	92600
68	8½	2,80	941	96000	1050	107000
70	8¾	3,10	1030	105000	1150	117000
72	9	3,35	1080	110000	1200	122000
78	9¾	3,64	1200	122000	1350	138000
84	10½	4,25	1400	143000	1570	160000
90	11¼	5,05	1650	168000	1850	189000
96	12	5,85	1900	194000	2130	217000

Material: Polyamide wire over Polyamide-Multifil
 Specific Gravity: 1,14
 Melting Point: 250°C
 Operating Temperature: 80°C (max./continuous use)

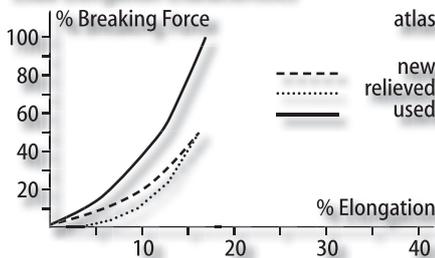
Perfect...

Flexural stability, dynamic strength, wear resistance, all optimised, plus high breaking force, very good dimensional stability and balanced elasticity; there is nothing better on winches. Attention: Choose duraflo® when a rope must float. Choose atlas plus when superior resistance to cyclic bending is required.



Textile Ropes

Load-Elongation Characteristics



atlas® plus

6-strand cross-lay

Nominal Rope-Size (~mm Ø)	Nominal Rope Circ. ~" inch	Rope Weight ~ kg/m	Minimum Breaking Force		Nominal Breaking Force	
			kN	kgf	kN	kgf
48	6	1,48	500	51000	568	57900
52	6½	1,60	540	55100	613	62500
56	7	2,00	665	67800	755	77000
60	7½	2,17	700	71400	795	81100
62	7¾	2,35	791	80700	897	91500
64	8	2,45	810	82600	920	93800
68	8½	2,80	941	96000	1070	109000
70	8¾	3,10	1030	105000	1170	119000
72	9	3,35	1080	110000	1230	125000
78	9¾	3,64	1200	122000	1370	140000
84	10½	4,25	1400	143000	1600	163000

Material: Polyamide wire over Polyamide-Multifil
 Specific Gravity: 1,14
 Melting Point: 250°C
 Operating Temperature: 80°C (max./continuous use)

The rope weight is defined as the linear rope mass under pretension, approximate limit deviation +2/-0%. The nominal rope size is the approximate rope diameter in mm, the nominal rope circumference the approximate rope circumference in inches. The minimum breaking force is calculated according to EN ISO 2307; the nominal breaking force is the mean of regularly conducted tests. Minimum breaking forces determined according to current ISO standard. (Test result meets requirement if break occurs either at 100% of relevant value when linear (unspliced), or minimum 90% at splice).