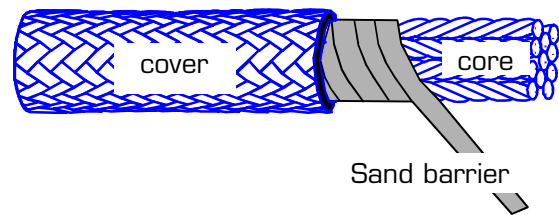


DEEPROPE® POLYESTER



Construction

The DeepRope® line for mooring applications is a so-called parallel core construction. This construction consists of three parts, namely the core elements, sand and mud barrier and the cover (see figure).

The core elements are three-strand ropes that are oriented parallel to the longitudinal axis of the rope. The three-strand core design is used, because of its strength efficiency and spliceability. Every sub-rope is spliced back into itself to make the rope more damage resistant.

Depending on the installation procedure there may be a potential risk that the rope is dropped on the seabed. Although this in itself has no effect on the rope it is possible that sea-bed particles may diffuse into the rope. These particles will have a deteriorating effect on the strength over the life of the rope due to their abrasive nature. To avoid this a filter material is inserted between the cover and the core. The filter stops particles of 5 µm or bigger. Typically the cover will be some seven millimetres thick. For special applications alternative materials and different thickness are also possible.

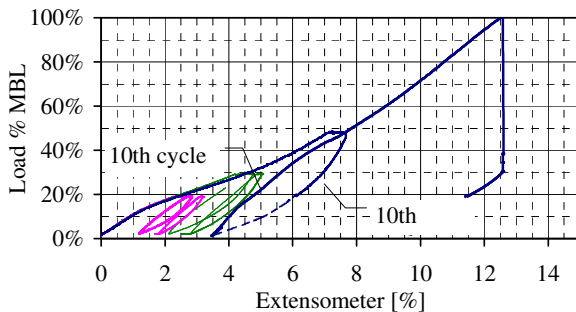
Material Properties

Polyester is a particularly reliable fibre with mechanical properties quite close to those of nylon. The abrasion resistance of polyester is better than that of nylon and so is the tension-tension fatigue performance. Since both fibres are quite similar to polyester should generally be preferred. In favour of nylon is its lower density (1,14 vs 1,38) and higher energy absorption.

Features

➤ Materials	Polyester
➤ Construction	load-bearing cores with a protective cover of polyester yarn
➤ Treatment	Marine finish
➤ Colour of Rope	White with marker yarns
➤ Approx. Spec. Density	1,38 non floating
➤ Melting point	251°C
➤ Abrasion Resistance	Excellent
➤ U.V. resistance	Excellent, due to jacket
➤ Temperature resistance	120°C max continuous
➤ Chemical resistance	Good, bases and solvents may have a mild effect
➤ Water uptake	± 30%
➤ Dry & wet conditions	Wet strength equals dry strength
➤ Range of use	Deepwater moorings

Initial to 20%, 30% & 50 % MBL & break test



Overleaf: Dynamic Modulus based on type approval tests for BV and PetroBras:

1. cycling between 10-30% MBL
2. cycling between 20-30% MBL
3. cycling between 40-50% MBL

DeepRope® Polyester mooring line; strength table

Material: Acordis Polyester 855TN
 Total weight is in air:
 conform ISO (@1- 2% MBL)

Minimum Breaking Load in spliced condition
 Submerged weight is in seawater (= 1,05 kg/l)
 conform PetroBras spec. (@20% MBL)

Produkt Code	Diam mm	MBL		Total weight [kg/m]		Submerged weight		Stiffness [kN]		
		tf	kN	@2% MBL	@20%MB L	@2% MBL	@20%M BL	EA ¹	EA ²	EA ³
449.113.320	113	380	3723	8,80	8,62	2,11	2,06	7,19E+04	8,43E+04	1,10E+05
449.117.320	117	414	4061	9,49	9,30	2,27	2,22	7,84E+04	9,20E+04	1,20E+05
449.126.320	126	483	4738	10,86	10,63	2,60	2,54	9,15E+04	1,07E+05	1,40E+05
449.130.320	130	518	5077	11,54	11,30	2,76	2,70	9,80E+04	1,15E+05	1,50E+05
449.133.320	133	552	5415	12,21	11,96	2,92	2,86	1,05E+05	1,23E+05	1,60E+05
449.137.320	137	587	5754	12,88	12,62	3,08	3,02	1,11E+05	1,30E+05	1,70E+05
449.141.320	141	621	6092	13,56	13,27	3,24	3,17	1,18E+05	1,38E+05	1,80E+05
449.144.320	144	656	6430	14,22	13,92	3,40	3,33	1,24E+05	1,46E+05	1,90E+05
449.147.320	147	690	6769	14,89	14,58	3,56	3,49	1,31E+05	1,53E+05	2,00E+05
449.151.320	151	725	7107	15,55	15,23	3,72	3,64	1,37E+05	1,61E+05	2,10E+05
449.154.320	154	759	7446	16,22	15,87	3,88	3,80	1,44E+05	1,69E+05	2,20E+05
449.157.320	157	794	7784	16,88	16,52	4,04	3,95	1,50E+05	1,76E+05	2,30E+05
449.160.320	160	828	8123	17,54	17,17	4,19	4,10	1,57E+05	1,84E+05	2,40E+05
449.163.320	163	863	8461	18,20	17,81	4,35	4,26	1,63E+05	1,92E+05	2,49E+05
449.166.320	166	897	8800	18,86	18,45	4,51	4,41	1,70E+05	1,99E+05	2,59E+05
449.169.320	169	932	9138	19,51	19,09	4,67	4,57	1,76E+05	2,07E+05	2,69E+05
449.172.320	172	966	9476	20,17	19,73	4,82	4,72	1,83E+05	2,15E+05	2,79E+05
449.175.320	175	1001	9815	20,82	20,37	4,98	4,87	1,89E+05	2,22E+05	2,89E+05
449.177.320	177	1035	10153	21,47	21,01	5,13	5,02	1,96E+05	2,30E+05	2,99E+05
449.180.320	180	1070	10492	22,13	21,65	5,29	5,18	2,03E+05	2,38E+05	3,09E+05
449.183.320	183	1104	10830	22,78	22,29	5,45	5,33	2,09E+05	2,45E+05	3,19E+05
449.185.320	185	1139	11169	23,43	22,92	5,60	5,48	2,16E+05	2,53E+05	3,29E+05
449.188.320	188	1173	11507	24,08	23,56	5,76	5,63	2,22E+05	2,61E+05	3,39E+05
449.190.320	190	1208	11846	24,72	24,19	5,91	5,78	2,29E+05	2,68E+05	3,49E+05
449.193.320	193	1242	12184	25,37	24,82	6,07	5,94	2,35E+05	2,76E+05	3,59E+05
449.195.320	195	1277	12522	26,02	25,45	6,22	6,09	2,42E+05	2,84E+05	3,69E+05
449.198.320	202	1290	12656	27,72	27,13	6,63	6,49	2,48E+05	2,91E+05	3,79E+05
449.200.320	211	1310	12855	28,58	27,98	6,84	6,69	2,55E+05	2,99E+05	3,89E+05
449.203.320	214	1344	13185	29,24	28,62	6,99	6,84	2,61E+05	3,07E+05	3,99E+05
449.205.320	216	1378	13514	29,90	29,27	7,15	7,00	2,68E+05	3,14E+05	4,09E+05
449.207.320	219	1411	13844	30,56	29,91	7,31	7,15	2,74E+05	3,22E+05	4,19E+05
449.210.320	221	1445	14173	31,22	30,55	7,47	7,31	2,81E+05	3,29E+05	4,29E+05
449.212.320	223	1478	14503	31,88	31,20	7,62	7,46	2,87E+05	3,37E+05	4,39E+05
449.214.320	226	1512	14833	32,53	31,84	7,78	7,61	2,94E+05	3,45E+05	4,49E+05
449.221.320	233	1613	15822	34,50	33,76	8,09	7,92	3,14E+05	3,68E+05	4,79E+05
449.227.320	239	1714	16810	36,46	35,67	8,56	8,38	3,33E+05	3,91E+05	5,09E+05
449.233.320	246	1814	17799	38,41	37,58	9,03	8,84	3,53E+05	4,14E+05	5,39E+05
449.239.320	252	1915	18788	40,36	39,49	9,50	9,29	3,72E+05	4,37E+05	5,69E+05
449.245.320	258	2016	19777	42,31	41,39	9,96	9,75	3,92E+05	4,60E+05	5,99E+05

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