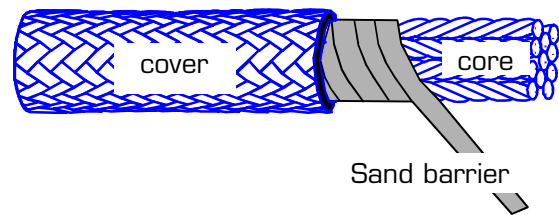


## DEEPROPE® POLYESTER



### 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.

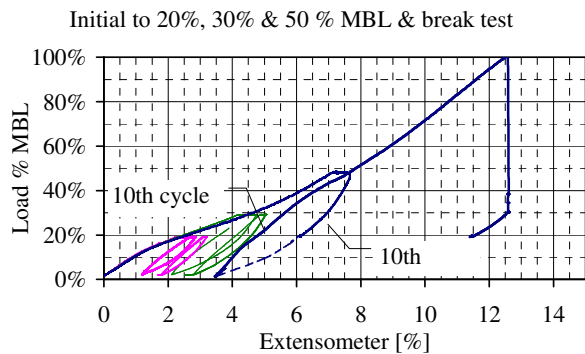
Depending on the installation procedure there may be a potential risk that the rope is dropped on the seabed. Although this in itself has no effect on the rope it is possible that sea-bed particles may diffuse into the rope. These particles will have a deteriorating effect on the strength over the life 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

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



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 inch	MBL		Total weight [lb/ft/m]		Submerged weight		Stiffness [kips]		
		tf	kips	@2% MBL	@20%MBL	@2% MBL	@20%MBL L	EA <sup>1</sup>	EA <sup>2</sup>	EA <sup>3</sup>
449.113.32	4,45	380	837	5,92	5,80	1,41	1,39	1,62E+04	1,89E+04	2,47E+04
449.117.32	4,62	414	913	6,38	6,25	1,53	1,49	1,76E+04	2,07E+04	2,69E+04
449.126.32	4,95	483	1065	7,30	7,15	1,74	1,71	2,06E+04	2,41E+04	3,14E+04
449.130.32	5,10	518	1141	7,75	7,59	1,85	1,82	2,20E+04	2,58E+04	3,36E+04
449.133.32	5,25	552	1217	8,21	8,03	1,96	1,92	2,35E+04	2,76E+04	3,59E+04
449.137.32	5,40	587	1293	8,66	8,48	2,07	2,03	2,50E+04	2,93E+04	3,81E+04
449.141.32	5,54	621	1369	9,11	8,92	2,18	2,13	2,64E+04	3,10E+04	4,04E+04
449.144.32	5,67	656	1445	9,56	9,36	2,29	2,24	2,79E+04	3,27E+04	4,26E+04
449.147.32	5,80	690	1521	10,01	9,79	2,39	2,34	2,94E+04	3,44E+04	4,49E+04
449.151.32	5,93	725	1597	10,45	10,23	2,50	2,45	3,08E+04	3,62E+04	4,71E+04
449.154.32	6,06	759	1673	10,90	10,67	2,61	2,55	3,23E+04	3,79E+04	4,93E+04
449.157.32	6,18	794	1749	11,34	11,10	2,71	2,65	3,38E+04	3,96E+04	5,16E+04
449.160.32	6,31	828	1825	11,79	11,53	2,82	2,76	3,52E+04	4,13E+04	5,38E+04
449.163.32	6,42	863	1901	12,23	11,97	2,92	2,86	3,67E+04	4,31E+04	5,61E+04
449.166.32	6,54	897	1978	12,67	12,40	3,03	2,97	3,82E+04	4,48E+04	5,83E+04
449.169.32	6,65	932	2054	13,11	12,83	3,14	3,07	3,96E+04	4,65E+04	6,06E+04
449.172.32	6,77	966	2130	13,55	13,26	3,24	3,17	4,11E+04	4,82E+04	6,28E+04
449.175.32	6,88	1001	2206	13,99	13,69	3,35	3,27	4,26E+04	4,99E+04	6,50E+04
449.177.32	6,98	1035	2282	14,43	14,12	3,45	3,38	4,41E+04	5,17E+04	6,73E+04
449.180.32	7,09	1070	2358	14,87	14,55	3,56	3,48	4,55E+04	5,34E+04	6,95E+04
449.183.32	7,19	1104	2434	15,30	14,97	3,66	3,58	4,70E+04	5,51E+04	7,18E+04
449.185.32	7,30	1139	2510	15,74	15,40	3,76	3,68	4,85E+04	5,68E+04	7,40E+04
449.188.32	7,40	1173	2586	16,18	15,83	3,87	3,79	4,99E+04	5,85E+04	7,62E+04
449.190.32	7,50	1208	2662	16,61	16,25	3,97	3,89	5,14E+04	6,03E+04	7,85E+04
449.193.32	7,60	1242	2738	17,05	16,68	4,08	3,99	5,29E+04	6,20E+04	8,07E+04
449.195.32	7,69	1277	2814	17,48	17,10	4,18	4,09	5,43E+04	6,37E+04	8,30E+04
449.198.32	7,93	1290	2844	18,63	18,23	4,45	4,36	5,58E+04	6,54E+04	8,52E+04
449.200.32	8,32	1310	2889	19,21	18,80	4,59	4,50	5,73E+04	6,72E+04	8,75E+04
449.203.32	8,42	1344	2963	19,65	19,23	4,70	4,60	5,87E+04	6,89E+04	8,97E+04
449.205.32	8,52	1378	3037	20,09	19,67	4,81	4,70	6,02E+04	7,06E+04	9,19E+04
449.207.32	8,61	1411	3111	20,54	20,10	4,91	4,81	6,17E+04	7,23E+04	9,42E+04
449.210.32	8,71	1445	3185	20,98	20,53	5,02	4,91	6,31E+04	7,40E+04	9,64E+04
449.212.32	8,80	1478	3259	21,42	20,96	5,12	5,01	6,46E+04	7,58E+04	9,87E+04
449.214.32	8,89	1512	3333	21,86	21,39	5,23	5,12	6,61E+04	7,75E+04	1,01E+05
449.221.32	9,16	1613	3556	23,18	22,68	5,44	5,32	7,05E+04	8,27E+04	1,08E+05
449.227.32	9,42	1714	3778	24,50	23,97	5,75	5,63	7,49E+04	8,78E+04	1,14E+05
449.233.32	9,67	1814	4000	25,81	25,25	6,07	5,94	7,93E+04	9,30E+04	1,21E+05
449.239.32	9,92	1915	4222	27,12	26,53	6,38	6,24	8,37E+04	9,82E+04	1,28E+05
449.245.32	10,16	2016	4444	28,43	27,81	6,69	6,55	8,81E+04	1,03E+05	1,35E+05

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