



# Datawell Rubber Cords

Datawell - Oceanographic Instruments

## Datawell Rubber cords

The Datawell rubber cords originally designed to make a flexible mooring for the Datawell Waverider and Directional Waverider buoys have found many maritime applications. Nowadays rubber cord mooring ranges from small spar buoys via large navigation buoys to pontoons. Keeping pace with the extension of application the variety of diameter and elasticity of the rubber has been expanded over the years.

All rubber cords are made of natural rubber, known for its excellent abrasion, tear strength and creep properties.

The standard rubber cord is made of rubber with a hardness of 45 Shore A, a maximum elongation of 400 % (resulting in a total length of 5 times the original length  $\lambda = 5$ ). The rubber itself has a maximum elongation of at least 500 %. Datawell has rubber cords of different diameters (27 and 35 mm) with a hardness of 45 Shore A. The elongation/force table corresponding to these diameters is shown below.

Elongation [%]	$\lambda$	Force [Kg]	
		27 mm	35 mm
0	1	0	0
100	2	50	100
200	3	110	230
300	4	250	500
400	5	500	1000

Datawell also provides rubber cords with a diameter of 50 mm and a hardness of 60 Shore A.

Elongation [%]	$\lambda$	Force [Kg]
0	1	0
100	2	300
200	3	800
300	4	2000

Standard lengths of the rubber cords on stock are 15 m and 30 m.



For reasons of buoy survival it is possible to attach a safety line parallel to the rubber cord. The standard safety lines are:

- 2.000 Kg polypropylene
- 2.000 Kg Dyneema
- 8.000 Kg Nylon
- 15.000 Kg Dyneema

The polypropylene and Dyneema safety lines come in action at  $\lambda = 4$ , the Nylon safety line at  $\lambda = 3$ , absorbing shocks while the Nylon stretches to  $\lambda = 4$ .





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## Rubber cords available

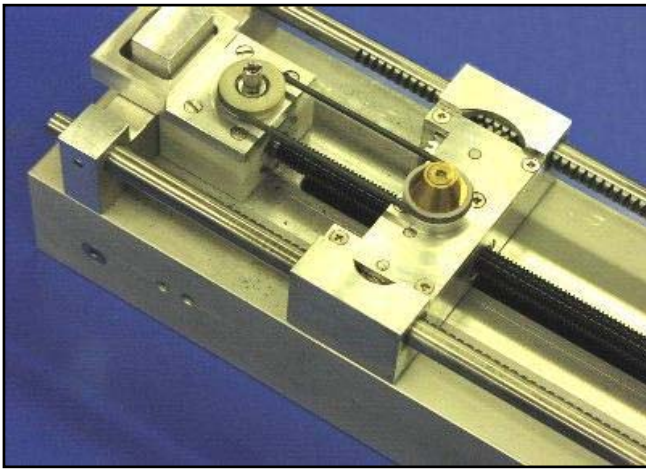
Diameter [mm]	Hardness [Shore A]	Max Elongation [%]	Max Force [Kg]	Max length available [m]
27	45	400	500	30
35	45	400	1000	30
35	60	350	1000	30
50	60	350	2000	15

## Test procedure

From each batch of rubber cords a sample is tested for:

- tensile strength
- tear strength
- elongation at break

From each batch a cord is elongated to four times the original length. After 24 hours in this situation it is released and examined for cuts and other defects.



## In operation

Rubber cord plus terminal after three years in operation

