

Table G.
RESULT of EXPERIMENTS made to ascertain the relative DURABILITY and WEAR of NEW ZEALAND and MANILLA ROPE.—Wellington, March and April, 1871.

Description of Rope.	CIRCUMFERENCE.				LENGTH.						WEIGHT.				No. of days run.	No. of feet run, at 4,575 per hour.	No. of miles run.	Durability, per cent.
	Before Experiment.	After Experiment.	Loss, per cent.	Loss at chafe opposite splice, per cent.	Before Experiment.	Maximum Stretch.	Per centage of Stretch.	Maximum Shrink.	Per centage of Shrink.	Before Experiment.	After Experiment.	Loss or gain.	Per centage of loss or gain.					
Dry { Manilla New Zealand (white) " (tarred)	1.43	1.25	13	22	ft. in. 17 8	ft. in. 0 5.5	2.6	ft. in. 0 1	.47	oz. drs. 13 10.8	oz. drs. 10 14.2	Not accurately noted.	- 2 12.6	20	915,000	173.3	100	
	1.56	1.25	20	28	18 3	0 7.75	3.5	0 3.25	1.5	16 2.4	15 8.9	- 0 9.5	- .3	28	1,281,000	242.6	134	
	1.56	1.34	14	22	18 4	1 4.75	7.6	0 0.75	.34	Not accurately noted.	13 9.9	12 3.8	- 1 6.1	15	686,250	129.9	74	
	1.43	1.12	22	22	18 2	0 4	1.9	1 11	11.0	16 14.8	17 0.4	+ 0 1.6	+ 0.6	22	1,006,500	190.6	110	
Wet { Manilla New Zealand (white) ... " (tarred)	1.56	1.18	24	28	18 2	1 0.75	6.1	1 0.5	6.0	13 9.9	12 3.8	- 1 6.1	- 10	20	915,000	173.3	100	
	1.56	1.34	14	22	18 1	1 4.5	7.9	0 8	3.8	16 14.8	17 0.4	+ 0 1.6	+ 0.6	19	869,250	164.6	95	

The ropes were run over pulleys fixed on a horizontal shaft at Messrs. Kebbell's mill, and through a block below, to which a 56lb. weight was attached. Circumference of pulleys, 15½ inches; grooved out to a diameter of 2½ inches.

The ropes were wetted with salt water poured on them till they would absorb no more, and the wetting was repeated every fourth day, after the ropes had apparently dried.

The New Zealand ropes were machine made, from Lloyd's Steam Rope Works, near Auckland, and are valued at £45 per ton. The Manilla was purchased in Wellington, and was the best of the size that could be procured. The results show that the New Zealand white rope, when kept dry will last 60 per cent. longer than tarred rope of the same make, and 34 per cent. longer than the Manilla, but chafes more by 10 per cent, and is more susceptible to change of weather. When wetted with salt water the Manilla lasted better than New Zealand by 10 per cent., but had 5 per cent. excess of shrinkage.