



Mandals Tubeman L has been specifically designed for trenchless rehabilitation of Industrial pressure pipelines transporting sewage, drain water, hydrocarbons, such as fuels, gasoline, natural gas, oil, and other non-aggressive liquids and gases. The liner is designed for low-pressure systems.

With Mandals Tubeman L we offer a more sustainable solution for the rehabilitation of old pipelines with minimal disruption to traffic, pedestrians, and the environment in general, with an improved CO₂ footprint and HSE performance. The hose liner is flexible in terms of the diameter variation of the original pipe, effortlessly passing bends even at long section lengths.

Standard lengths available:

1"(DN25) - 6" (DN150): 600m

8"(DN200 - 14" (DN350) : 400m

Advantages / Feature / Design

Mandals AS supplies the liner leak-proof tested, and tape wrapped in a "U"-shape. Prior to installation a regular cleaning procedure is required of the host pipe and condition controlled by CCTV inspection.

The liner is pulled through the host pipe by using a winch and can be installed in pipes having bends up to 45° (R/D ≥5)¹. No steaming is needed to cure the liner, only a small amount of pressure is required to break the tape. Thereafter the liner is recoupled and connected again to the existing infrastructure and the system will be ready to be put back in operation.

Mandals Tubeman L is a semi-structural, stand-alone liner which will absorb all internal pressure while in operation. The liner is manufactured using a

thermoplastic polyether-based polyurethane (TPU) with excellent wear & tear properties, outstanding hydrolysis resistance and resistance against microbiological attack.

The "extrusion through the weave" production technology gives excellent bonding between cover and lining as well as firmly encapsulating the circular woven polyester reinforcement.

Max. recommended operational temperature will depend on type of fluid. Service Lifetime will depend on several important factors such as proper and correct installation, condition of the existing pipe, type of medium pumped through the liner, temperature, etc.

Low Pressure - Industrial Pipes

Nominal Pipe size		Tubeman L / Technical Hose Data											
		Internal Diameter		Wall Thickness		Nominal Weight		Max. Working Pressure (MWP)		Min. Burst Pressure (BP) (ISO1402)		Actual Total Tensile Strength	
Inch	DN-mm	Inch	mm	Inch	mm	lbs/ft	Kg/m	psi	bar	Psi	Bar	lbs x 1000	kg x 1000
1"	25	0.80 (+0.02)	19.8 (+0.5)	0.05 ±0.004	1.2 ± 0.10	0.06	0.09	260	18	650	45	1.6	0.7
2 1/2"	65	2.00 (+0.08)	51.0 (+2.0)	0.11 ± 0.008	2.8 ± 0.20	0.33	0.52	320	22	800	55	6.4	2.9
3"	80	2.50 (+0.08)	65.0 (+2.0)	0.12 ± 0.008	3.0 ± 0.20	0.41	0.70	320	22	800	55	8.6	3.9
4"	100	3.00 (+0.08)	76.0 (+2.0)	0.13 ± 0.010	3.3 ± 0.25	0.57	0.85	260	18	650	45	11.9	5.4
5"	125	4.00 (+0.10)	102.0 (+2.5)	0.13 ± 0.010	3.4 ± 0.25	0.85	1.28	260	18	650	45	16.1	7.3
6"	150	4.50 (+0.12)	113.0 (+3.0)	0.14 ± 0.010	3.6 ± 0.25	1.03	1.54	260	18	650	45	22.9	10.3
8"	200	6.10 (+0.16)	154.0 (+4.0)	0.16 ± 0.012	4.0 ± 0.30	1.63	2.45	260	18	650	45	45.9	20.7
10"	250	7.60 (+0.20)	193.0 (+5.0)	0.17 ± 0.014	4.2 ± 0.35	2.09	3.14	255	17	640	44	57.5	25.9
12"	300	8.90 (+0.20)	227.0 (+5.0)	0.17 ± 0.014	4.4 ± 0.35	2.47	3.70	200	14	490	35	66.4	29.9
14"	350	10.80 (+0.20)	274.0 (+6.0)	0.18 ± 0.014	4.6 ± 0.35	3.22	4.8	175	12	435	30	78.8	35.5

Notes:

(1) Will depend on Operating Pressure and the R/D ratio. A higher R/D and/or Operating Pressure can allow a higher bend angle.