



Mandals Aquaman PE L is a polyethylene (PE) based semi-structural Liner solution designed to effectively rehabilitate drinking water mains and service lines using pulled-in-place pipe technology. The liner is drinking water approved, with excellent hydrolysis and microbiological resistance, and is designed for a lifespan of more than 50 years.

With Mandals Aquaman PE L we offer a more sustainable solution for the rehabilitation of old leaking and contaminating pipelines with minimal disruption to traffic, pedestrians, and the environment in general. The liner is flexible in terms of the diameter variation of the original pipe, effortlessly passing bends even at long section lengths.



Installation

Mandals supplies the leak-proof tested liner already tape-wrapped in a "U"-shape. A regular cleaning procedure, including CCTV inspection, is required of the host pipe prior to installation.

The liner is pulled through the host pipe by using a winch. It can be installed in pipes with bends up to 45° (R/D ≥5). No steaming is needed to cure the liner on-site. Only a small amount of pressure is required to break the tape. Thereafter the liner is re-coupled and connected again to the existing infrastructure and the system is ready to be put back into operation.

Features

- Approved for transfer of potable water.
- Lightweight and easy to install.
- Flexible polyethylene material suitable for bending.
- Dampen pressure hammer effect.
- Leak-proof tested structural tubing solution, supplied in a tape wrapped "U"-shape ready for installation.

Construction

- A high tensile polyester reinforcement jacket enveloped by a flexible polyethylene lining and cover material resistant to many chemicals, ozone, and abrasion.
- The polyethylene is extruded through a circular woven reinforcement made from filament polyester yarn.
- A strong bond between cover and lining prevents delamination, as well as firmly encapsulating the reinforcing polyester.

Properties

- Color options: Uncolored (standard), Blue (NSF-61 and AS/NSZ).
- Maximum operational temperature is +23° (+73°F) at a pH range 4-9 (limited by drinking water approvals).
- Expected minimum service lifetime is 50 years¹.
- NSF/ANSI/CAN 61, AS/NZS 4020 and KTW-BWGL drinking water approved.

Aquaman PE L

Article Number	-	PEL020	PEL025	PEL040	PEL080	PEL100	PEL125	PEL150	PEL200	PEL250	PEL300	PEL350
Nominal Pipe size DN	mm	20	25	40	80	100	125	150	200	250	300	350
	Inch	3/4	1	1 1/2	3	4	5	6	8	10	12	14
Inner Diameter ²	mm	16	21	32	65	76	102	113	154	193	227	274
	Inch	0.63	0.83	1.26	2.5	3	4	4.5	6.1	7.6	8.9	10.8
Wall Thickness	mm	1.2	1.4	1.6	3.0	3.3	3.4	4.0	4.0	4.2	4.4	4.6
	Inch	0.05	0.06	0.06	0.12	0.13	0.13	0.16	0.16	0.17	0.17	0.18
Nominal Weight (hose only)	kg/m	0.07	0.09	0.10	0.7	0.85	1.28	1.4	2.45	3.14	3.70	4.80
	lbs/ft	0.05	0.06	0.15	0.41	0.57	0.85	0.94	1.63	2.09	2.47	3.22
Burst Pressure (BP)	bar	45	45	45	45	45	42	42	42	42	35	30
	psi	650	650	650	650	650	610	610	610	610	490	435
Maximum Working Pressure ³	bar	18	18	18	18	18	17	17	17	17	14	12
	psi	260	260	260	260	260	245	245	245	245	200	175
Actual Total Tensile Strength	x1000 kg	0.9	1.2	2.0	4.1	5.7	7.5	10.5	22.0	27.0	31.6	39.5
	x1000 lbs	2.0	2.7	4.4	9.0	12.7	16.6	23.1	48.4	59.6	69.7	87.0
Length Extension at WP	%	<0.5	-2	-2.5	<1	<0.5	<1	<1	<0.5	<1.5	<1.5	<2
Outer Diameter at 10% of BP ³	mm	20.5	25 (±0.5)	39 (±1)	72 (±2)	85 (±1.5)	110 (±1.5)	131.5 (±1.5)	180 (-1 +3)	215 (-1 +5)	250 (-2 +6)	300 (-2 +6)
	Inch	0.81	1	1.53	2.83	3.35	4.33	5.18	7.09	8.46	9.84	11.8
Outer Diameter at max WP ³	mm		29.5 (±0.5)	45 (±1)	75 (±2)	89 (±1.5)	117 (±1.5)	145 (±1.5)	197 (-1 +3)	236 (-1 +5)	271 (-2 +6)	328 (-2 +6)
	Inch		1.16	1.77	3.0	3.5	4.61	5.71	7.76	9.29	10.7	12.9

Note: ¹Service lifetime will depend on factors such as correct installation, condition of the existing pipe, dosage of and type of disinfectants used. ²Tolerance range based on ISO1307 Type C. ³Values are for hose only; allowed working pressure can't exceed pressure rating of coupling. For questions about chemical resistance please check mandals.com/support.