Tubeman M
Datasheet

T0201-01-05-2

Mandals Tubeman M 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 medium pressure systems.

With Mandals Tubeman M 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. Tubeman M has a lower pressure series in Tubeman L

Installation

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 re-coupled and connected again to the existing infrastructure and the system is ready to be put back into operation.

Construction

- Mandals Tubeman M is a semi-structural, stand-alone liner which will absorb all internal pressure while in operation.
- The "extrusion through the weave" production technology gives excellent bonding between thermoplastic polyether-based polyurethane cover and lining as well as firmly encapsulating the circular woven aramid reinforcement.

Features

- Resistant to a wide range of chemicals.
- Full diameter recovery after pressure release.
- Excellent hydrolysis and fungus resistance.
- Outstanding wear and tear properties.
- 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.

Properties

- Length up to 400m.
- Color options: Black (standard).
- Different coupling options available.
- Max. recommended operational temperature is +30°C (86°F), but the actual fluid transferred will determine whether that temperature is appropriate. For higher temperature requirements, special polymer grades can be considered.

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Article Number	Nominal Pipe Size DN		Inner Diameter[2]		Wall Thickness		Nominal Weight		Maximum Working Pressure[3]		Burst Pressure		Actual Total Tensile Strength	
-	inch	mm	inch	mm	inch	mm	lbs/ft	kg/m	psi	bar	psi	bar	X1000 lbs	X1000 kg
TMM150	**6**	150	4.84	123.0	0.18	4.6	1.40	2.10	812	56	2030	140	100	45
TMM200	**8**	200	6.57	154.0	0.18	4.6	1.93	2.90	580	40	1450	100	137	62
TMM250	**10**	250	8.35	212.0	0.18	4.6	2.51	3.76	435	30	1088	75	172	77
TMM300	**12**	300	10.16	258.0	0.18	4.6	3.00	4.50	377	26	928	64	211	95
TMM350	**14**	350	11.70	297.0	0.18	4.6	3.47	5.20	290	20	725	50	242	109

Note: [1]The sharpest bend angle and corresponding R/D ratio of the pipeline system will impact and set the Maximum Working Pressure (MWP) recommended. A 45° bend (R/D = 5.5) will entail a 45% reduction of recommended MWP of the rehabilitated pipeline system. [2]Tolerance range based on ISO1307 Type C. [3]Values are for hose only; allowed working pressure can not exceed coupling pressure rating. For questions about chemical resistance please check mandals.com/support.