

SPECIFICATIONS FOR PIPELINE WARNING TAPE

Revised on 25-08-2020

Pipeline Warning Tape Specification

1. For Non Metallic Pipe lines

All pipelines shall be marked with an acid and alkali resistant polyethylene detectable warning tape with a minimum width of 150mm along the center of the pipe line. When the pipe diameter is greater than 150mm the polyethylene/PVC tapes shall be laid in parallel with the detectable tape. It shall consist of all accessories necessary for installation at the chambers, splicing, junctions etc. The tape shall be blue colour for water mains and red colour for sewer mains. It shall be clearly marked in black lettering in both English, Sinhala & Tamil languages. The printed words shall be bold, capital letters throughout its length at the intervals not exceeding 1m with the words,

“NWSDB”	CAUTION! WATER MAINS BELOW ප්‍රවේශමෙන්! ජල නළ පහතින් එලා ඇත அவதானம்! நீர் குழாய் கீழே
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or

“NWSDB”	CAUTION! SEWER MAINS BELOW ප්‍රවේශමෙන්! මල අපවහන නළ පහතින් එලා ඇත அவதானம்! கழிவு நீர்க் குழாய்
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The tapes shall be placed during backfilling of the pipeline trench at a 300 mm above the pipeline or as indicated on the drawings. When the pipe diameter greater than 150mm, two or more polyethylene/PVC tapes shall be laid in parallel with the detectable tape at the edges of the pipe line as required.

The tape shall have a minimum strength of 125 kg/sq. cm in the longitudinal direction and 105 kg/sq. cm transversely. The minimum thickness of the tape shall be not less than 0.4 mm comprising of minimum polyethylene sealing layer of 0.1mm, minimum aluminum foil of 0.075 mm.

The warning tape shall meet the following requirements.

- Minimum ultimate tensile strength at break (longitudinal and transverse) shall be 10 MN/m² as determined by BS 2782 method 301E.

- Minimum Elongation shall be 300% (Longitudinal) and 350% (Transverse).
- Shall be resistant to chemical attack from the ground conditions with pH ranging from 3.0 to 9.0.

The metallic conductor(S) shall be either aluminum foil having a width of not less than 50 mm and a thickness of not less than 0.075 mm or stainless steel wires. The aluminum foil shall be not less than 99.5% pure. The foil/wires shall be totally enclosed within the Polyethylene/PVC laminate such that the edges of the foil are totally protected against corrosive attack. The aluminum foil/wires shall be detectable from the ground surface using a buried cable detector. The manufacturer of the tape shall provide methods for joining and terminating the tape to enable a low resistance connection to be made to the foil/wires. Electrical connection points (Aluminium foil connection) shall be made at each chamber or each discontinuations of tape along the pipeline route.

2. For all Metallic Pipe lines

All metallic pipelines shall be marked with an acid and alkali resistant Polyethylene/PVC warning tape with a minimum width of 150mm along the center of the pipe line. When the pipe diameter is greater than 150mm two or more polyethylene/PVC tapes shall be laid at the edges of the pipe line as required in parallel with the tape laid along the center. It shall consist of all accessories necessary for installation at the chambers, splicing, junctions etc. The tape shall be blue colour for water mains and red colour for sewer mains. It shall be clearly marked in black lettering in both English, Sinhala & Tamil languages. The printed words shall be bold, capital letters throughout its length at the intervals not exceeding 1m with the words,

“NWSDB”	CAUTION! WATER MAINS BELOW ප්‍රවේශමෙන්! ජල නළ පහතින් එලා ඇත அவதானம்! நீர் குழாய் கீழே
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“NWSDB”	CAUTION! SEWER MAINS BELOW ප්‍රවේශමෙන්! මල අපවහන නළ පහතින් එලා ඇත அவதானம்! கழிவு நீர்க் குழாய்
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The tape shall be placed during backfilling of the pipeline trench at a depth 300 mm above the pipe line.

The tape shall have a minimum strength of 125 kg/sq.cm in the longitudinal direction and 105 kg/sq. cm transversely. The minimum thickness of the tape shall be not less than 0.4 mm.

The warning tape shall meet the following requirements.

- Minimum ultimate tensile strength at break (longitudinal and transverse) shall be 10 MN/m² as determined by BS 2782 method 301E.
- Minimum Elongation shall be 300% (Longitudinal) and 350% (Transverse).
- Shall be resistant to chemical attack from the ground conditions with pH ranging from 3.0 to 9.0.