

SECTION 33 4020

UNDERGROUND UTILITY MARKING TAPE

PART 1 – GENERAL

1.1 SECTION INCLUDES

A. Requirements for furnishing and installing metallic (detectable) and non-metallic (non-detectable) marking tape over buried pipelines and conduits.

B. REFERENCES

1. A.P.W.A. - American Public Works Association.

1.2 SUBMITTALS

A. In accordance with requirements of the general provisions of the Contract, submit the following:

1. Two sets of manufacturer's literature on the materials, colors and printing specified herein, shall be submitted to the Engineer for review.

3.2 DESCRIPTION

A. General

1. Marking tape to be installed over all pipe lines and conduits installed under this Contract.
2. Marking tape for non-ferrous pipe or conduits to be detectable, magnetic type.
3. Marking tape for ferrous pipe or conduits to be non-detectable, non-magnetic type.
4. Tape to be 6 inches wide.

PART 2 – PRODUCTS

2.1 MANUFACTURERS

A. Underground utility marking tape to be:

1. Detectable: Magnatec by THOR Enterprises, Inc., Sun Prairie, WI.
2. Non-detectable: Shieldtec by THOR Enterprises, Inc., Sun Prairie, WI.
3. Or product deemed equal by the Engineer.

3.2 MATERIALS

A. Detectable Underground Utility Marking Tape

1. Minimum overall thickness: 5.0 mil (0.005").
2. Aluminum foil core: 35 gauge (0.00035") minimum.
3. Foil visible from both sides of tape.
4. Protective plastic jacket applied to both sides of foil.
5. Jacket adhesive applied directly to the film and foil.
6. No printing to extend to the edges of the tape.
7. No dilutants, pigments or contaminants in the adhesive.
8. Adhesive formulated to resist degradation by elements normally found in soil.

- B. Non-detectable Underground Utility Marking Tape
 - 1. Minimum overall thickness: 4.0 mil (0.004”).
 - 2. Polyethylene plastic film: 100% virgin, low density acid and alkali-resistant.
 - 3. Printing: Permanent, black, environmentally safe.
 - 4. Coloring: color-fast, lead free, organic pigments suitable for direct burial and prolonged exposure to the elements normally found in soil.
- C. Marking
 - 1. Tape to be printed with “BURIED *UTILITY* LINE BELOW” replacing the word “*UTILITY*” with the word “WATER,” “SEWER,” “DRAIN,” “ELECTRIC,” “GAS,” or otherwise appropriate, repeating continuously every 30 inches maximum.
- D. Color Code in accordance with A.P.W.A. Standards as follows:

1. Safety Red	Electric power and high voltage lines
2. High Visibility Safety Yellow	Gas and oil distribution/Transmission
	Dangerous materials/Steam
3. Safety Alert Orange	Fiber optic/telephone/CATV
4. Safety Precaution Blue	Water and irrigation lines
5. Safety Green	Sewer/storm/sanitary systems/non-potable water
6. Safety Brown	Force mains and effluent lines
7. Alert Purple	Reclaimed and effluent re-use lines

PART 3 – EXECUTION

3.1 INSTALLATION

- A. Install marking tape directly above the pipe line or conduit tape is to identify, approximately 18 inches to 24 inches below the proposed finished grade.
- B. Install marking tape in accordance with manufacturer’s recommendations.
- C. Install marking tape over existing utilities disturbed by the Contractor’s operation.

END OF SECTION