

3M Science.
Applied to Life.™

3M Electrical Markets Division

Stay on the right path.

Locate plastic pipe and conduit quickly, easily and accurately with the newly expanded 3M™ Electronic Marker System (EMS) Portfolio.

● 3M™ EMS Caution Tape 7600 Series

● 3M™ EMS Rope 7700 Series



The fast, reliable way to locate pipe & conduit

From pipelines to fiber networks, your high-value buried assets can be vulnerable to damage during excavating or trenching. That's why, for over 30 years, utilities have used 3M electronic marker technology to accurately track and manage these underground installations. Our innovative system of locators and programmable ID markers makes it easier to find, mark and map buried assets – helping avoid costly mistakes.

Now, we're expanding our portfolio of electronic marker solutions with a revolutionary approach to locating plastic pipes and conduit path.

NEW! 3M™ EMS Caution Tape 7600 Series and 3M™ EMS Rope 7700 Series

Based on our proven EMS portfolio, our newest path marking technology is an effective alternative to tracer wire and test stations. Available in two configurations – tape and rope – this marking system allows continuous path location when used with a 3M™ Dynatel™ Locator 7000 Series.

System Benefits

- Virtually eliminates the need to install tracer wire
- No access points or connections required
- Lasts the life of underground asset
- Increased location accuracy may help with regulatory compliance, while offering productivity gains in installation
- Does not provide a path for lightning
- Signal path maintained even if cut or damaged
- Unique identification for each utility type
- Corrosion resistant, maintenance free
- Simpler locator operation
- Accurate even in harsh field conditions

A new approach to path marking

3M™ Electronic Marker System (EMS) Caution Tape 7600 Series

3M™ EMS Caution Tape 7600 Series uses a new EMS marker technology embedded into a caution tape for installation near or above the buried facility. The markers require no batteries and there is no need to hook up an external transmitter or search for access points. The markers work independently, so even if a section of Caution Tape is cut or removed, the other markers on the tape continue to provide accurate location information. Easily identifiable by color, each version of 3M EMS Caution tape is tuned to a frequency specific to that utility (gas, telco or wastewater). It can be buried down to 2 ft (0.61 m), and is ideal for early detection/warning due to this low depth.

3M™ Electronic Marker System (EMS) Rope 7700 Series

3M™ EMS Rope 7700 Series incorporates an EMS marker installed into a polyester rope every eight feet and can be quickly installed above the pipe/cable or within conduit.

3M EMS Rope is tough enough to be installed down to 4 ft. (1.2 m) through rugged terrain. The EMS Rope is tuned to a frequency specific to gas, telco or water, and provides durability for plowing or Horizontal Directional Drilling (HDD) applications, since the system continues to function even if it is fully cut during the installation process.



3M™ EMS Caution Tape 7600 Series

Product Number	Product Description	3M ID
7605-XR-CT-GAS	EMS Caution Tape 6", 400 m roll, English	80-6116-1196-5
7604-XR-CT-WW	EMS Caution Tape 6", 400 m roll, English	80-6116-1198-1
7601-XR-CT-TEL	EMS Caution Tape 6", 400 m roll, English	80-6116-1195-7
7701-R-Tel	EMS Rope, In Conduit, Telephone, 300 m roll	80-6116-1243-5
7701-HTS-Tel	EMS Rope, HTS, Telephone, 300 m roll	80-6116-1103-1
7705-HTS-Gas	EMS Rope, HTS, Gas, 300 m roll	80-6116-1318-5
7703-HTS-WTR	EMS Rope, HTS, Water, 300 m roll	80-6116-1105-6

3M™ EMS Rope 7700 Series

Product Information

Description	6 mil PE film with 3M EMS Markers for locating
Part Number	7600 Series
Material	Polyethylene
Colors	Yellow, Orange, Green
Gauge	6 mil (+/- 10%)
Roll Diameter (max.)	6 in. (0.15 m)
Length	1,312 ft. (400 m) Roll
Density*	0.920 g/cc (6.0 mil)
Tensile Strength at Break (psi)/with markers attached*	MD 1307 (+/- 5%) TD 377 (+/- 5%)
Elongation (%)*	MD 7.8 TD 12.7
Tear Strength (g)*	MD 440 TD 1200

3M™ EMS Rope 7700 SeriesRope with 3M EMS Markers for locating
Inside conduit HTS – Direct bury, HDD

7700 Series	Polyester
White w/Yellow, White w/Orange, White w/Blue	0.66 in. (0.17 mm) Standard 0.91 in. (23 mm) HTS
984 ft. (300 m) Rope	<10

Physical Specifications

Weight	44 lbs. @ 6 in. wide	38 lbs. for 7701-R-Tel 70 lbs. for all other spools
Maximum Burial Depth**	2.0 ft. (0.61 m)	4 ft. (1.2 m)
Marker Spacing (nominal)	8 ft. (2.4 m)	8 ft. (2.4 m)
Spool Size	19.5 in. diameter x 12 in. (0.5 m diameter x 0.3 m)	11.5 in. diameter x 10.5 in. (0.29 m diameter x 0.27 m)
Spool Hole (diameter)	3.0 in. (76 mm)	1.75 in. (44 mm)
Compliance	FCC, CE, C-Tick	FCC, CE, C-Tick
Compatibility	3M™ Dynatel™ Locators 7400 and 7500 Series	3M™ Dynatel™ Locators 7400 and 7500 Series

Environmental Specifications

Operating Temperature	-4°F to 122°F (-20°C to 50°C)	-4°F to 122°F (-20°C to 50°C)
Storage Temperature	-4°F to 149°F (-20°C to 65°C)	-4°F to 149°F (-20°C to 65°C)

*Based on average production **Using 3M™ Dynatel™ Locators 7000 Series

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Important Notice: All statements, technical information, and recommendations related to 3M's products are based on information believed to be reliable, but the accuracy or completeness is not guaranteed. Before using this product, you must evaluate it and determine if it is suitable for your intended application. You assume all risks and liability associated with such use. Any statements related to the product which are not contained in 3M's current publications, or any contrary statements contained on your purchase order shall have no force or effect unless expressly agreed upon, in writing, by an authorized officer of 3M.

Conditional Limited Warranty: 3M provides the following Conditional Limited Warranty for its EMS Caution Tape 7600 Series and EMS Rope 7700 Series Products: When installed in accordance with 3M's installation instructions, 3M warrants EMS Caution Tape and EMS Rope for a period of one (1) year from the date of purchase of the product, to be free from defects in material and manufacture, provided EMS Caution Tape and EMS Rope are located with 3M™ Dynatel™ Locators or other brand locators as may be designated by 3M in writing. This warranty does not extend to EMS Caution Tape and/or EMS Rope that has been subjected to misuse or improper application or that have been repaired or altered by others. **3M MAKES NO OTHER WARRANTIES INCLUDING BUT NOT LIMITED TO ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.** If the EMS Caution Tape and/or EMS Rope is found to be defective within the warranty period, your exclusive remedy shall be, at 3M's options, to repair or replace the EMS Caution Tape and/or EMS Rope or refund the purchase price. **Except where prohibited by law, 3M will not be liable for any direct, indirect, special, incidental or consequential loss or damage arising from this 3M product, regardless of the legal theory asserted.**



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