SAVITRI
TELECOM SERVICES

Electronic Marker

The 3M Electronic Marker System (EMS) may help save telecommunications companies time and money by allowing utility field crews to quickly pinpoint the location of all types of buried facilities including buried splices, fiber optic facilities, service drops and manholes. Using EMS markers during construction, installation and maintenance virtually eliminates the time consuming search for "lost" facilities.

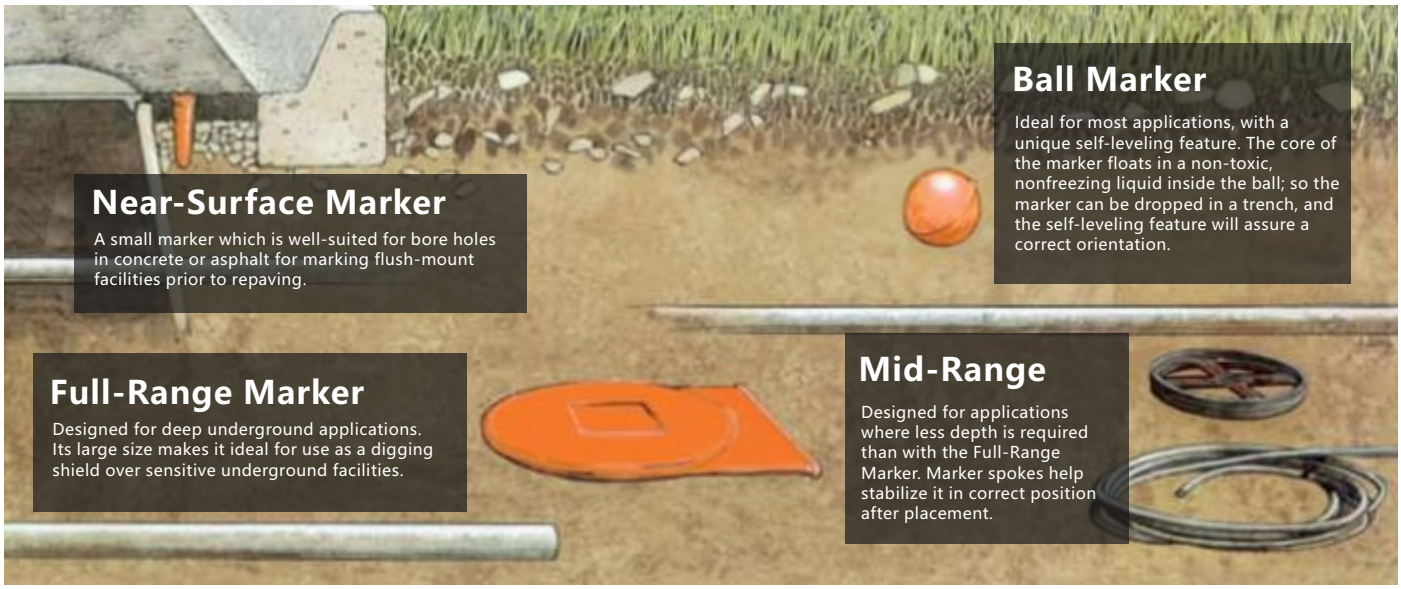
MARKERS THAT LAST

With our Full-Range, Mid-Range, Ball and Near-Surface Markers, there is a marker to meet almost every need. A four-inch Disk marker is also available for marking hand holes. These markers easily attach to lids or covers over flush-mounted facilities. Markers are passive antennas with no internal power source to run down. Their water-resistant, polyethylene shells are impervious to minerals, chemicals and the temperature extremes normally found underground.

3M ID MARKERS

3M iD markers are designed to provide an accurate, convenient, long-lasting method of marking underground assets. In addition, these markers may be programmed to include customer-specific information such as facility data, type of application, material type and size, placement date and other important details.

3M™ Electronic Marker System for the Telecommunications industry



THE SAFE CHOICE

There is no guesswork with the 3M Electronic Marker System. 3M markers operate even in the presence of metal conduit or pipe, metallic conductors, fences, AC power lines and electronic markers of other utilities. All EMS markers are color-coded to APWA standards for visual reference and each utility has its own frequency. For telephone utilities, all markers are orange in color. EMS signals provide positive identification of each utility, thus helping to reduce the risk of accidentally locating and excavating other buried facilities.

3M POWER UTILITY MARKERS

Product Name	Description	Stock Number
 3M™ EMS Near-Surface Marker **1432**	Near-Surface Marker - designed to provide an accurate, convenient, long-lasting method of marking underground and street-access facilities.	80610230312
 3M™ iD Near-Surface Marker **1432-XR/iD**	3M iD markers may be programmed to include customerspecific information such as facility data, type of application, material type and size, placement date and other important details.	80611321292
 3M™ Disk Marker **1411-XR**	Extended Range Disk Marker - designed to provide an easy, accurate method of locating flush-mounted facilities which become covered by backfill or other obstructions, such as snow or overgrown vegetation. (Do Not Direct Bury)	80611161185
 3M™ iD Disk Marker **1411-XR/iD**	3M iD markers may be programmed to include customerspecific information such as facility data, type of application, material type and size, placement date and other important details. (Do Not Direct Bury)	80611303514
 3M™ EMS 4" Ball Marker **1401-XR**	Extended Range Ball Marker - provides self-levelling design providing accurate, horizontal position regardless of how it is placed in the ground and making the job of precisely locating easier.	80611161136
 3M™ iD Ball Marker **1421-XR/iD**	3M iD markers may be programmed to include customerspecific information such as facility data, type of application, material type and size, placement date and other important details.	80611142193
 3M™ EMS Mid-Range Marker **1421-XR/iD**	Mid Range Marker - designed to provide an accurate, convenient, long-lasting method of marking underground power facilities.	80610221915
 3M™ EMS Full-Range Marker **1250**	Full-Range Marker - designed to provide an accurate, convenient, long-lasting method of marking underground power facilities.	80610221017
 3M™ iD Full-Range Marker **1250-XR/iD**	3M iD markers may be programmed to include customerspecific information such as facility data, type of application, material type and size, placement date and other important details.	80611321235

ELECTRICAL SPECIFICATIONS

	3M iD Markers Read Range		3M iD Passive Markers Read Range*
	With a U.S. Locator	With a Export (CE) Locator	
Near Surface	3 ft (0.9 m)	10 cm	2 ft (0.6 m)
Ball Marker	5 ft (1.5 m) 5 ft (1.5 m)	1.2 m (Tel, Gas, WW, Comm) 1.0 m (Pwr, Wtr)"	
Mid Range	N/A	N/A	6 ft (2 m)
Full Range	9 ft (2.75 m)	2.2 m	8 ft (2.4 m)

THE EMS TELECOMMUNICATIONS SERIES CAN BE USED TO MARK:

- Buried splices
- Load coils
- Fiber optic facilities
- Hand holes
- Manholes
- Service drops
- Conduit stubs
- Bends
- Cable paths — fiber
- Slack loops

THE EMS TELECOMMUNICATIONS SERIES CAN BE USED TO MARK:

3M™ Dynatel™ offers the following electronic marker and multipurpose locators.

3M™ Dynatel™ Marker Locator 1420-iD

3M™ Dynatel™ Cable/Pipe and Marker Locator 2250M-iD

3M™ Dynatel™ Cable/Pipe/Fault and Marker Locator 2273M-iD

SAVITRI TELECOM SERVICES | Growing While Empowering

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