



PTS NOVA

*Marking and locating
of underground infrastructure*

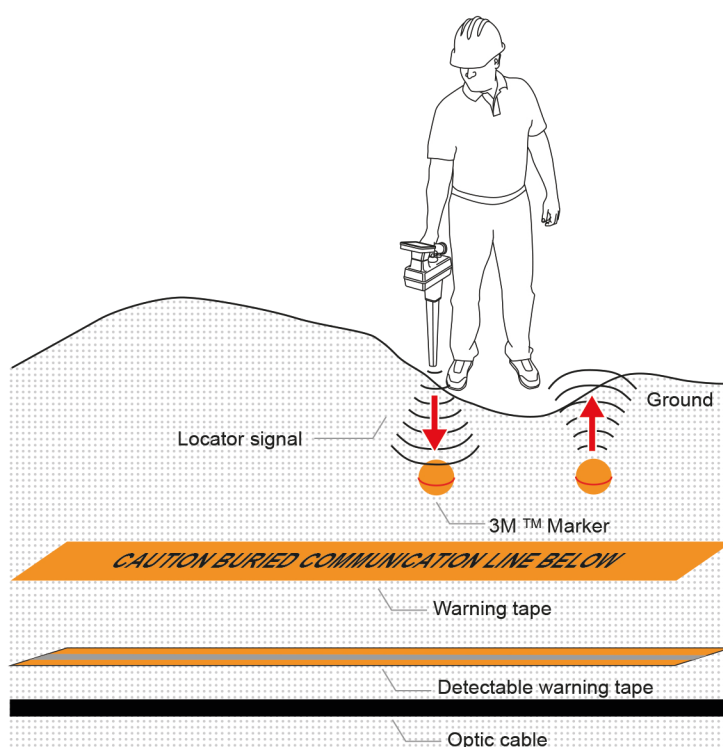


// telecommunication

It's very important to properly mark and protect underground infrastructure. Increasing number of underground telecommunication lines makes locating and maintenance of each, the more difficult. Using high quality materials and solutions lengthen the protection time.
Our offer includes:

Warning tapes	Made from polyethylene, orange, with message „CAUTION BURIED COMMUNICATION LINE BELOW“
Warning and detection tapes	Made from polyethylene, orange, in addition to printed message, they contain steel insert or isolated wire/cord
Electromagnetic markers	Professional-use devices used to locate and detect key underground infrastructure/ points of interest
Cable backup trays	Made from high durability polyethylene, used for storing excess telecommunication/ optic cable
Locators	Devices used to locate and setup electromagnetic markers and underground cables
3M products	As a 3M company agent, we can offer a wide variety of their products, dedicated for telecommunication
Posts	Made from high durability PE, orange posts mark the telecommunication line's route, above the ground level. It's possible to mount an information board on top of each post, to ensure detailed information is visible
Connectors	It's a set of items used to connect the steel insert in order to maintain stable connection and ensure success of future locating of possible breaks. Set contains: steel plaque through which you need to interweave the steel inserts, pieces of self-amalgamating tape, to isolate the connection, and instruction of how to do it, step by step

Marking of the underground telecommunication network



Preparing on the basis of 3M™ materials.

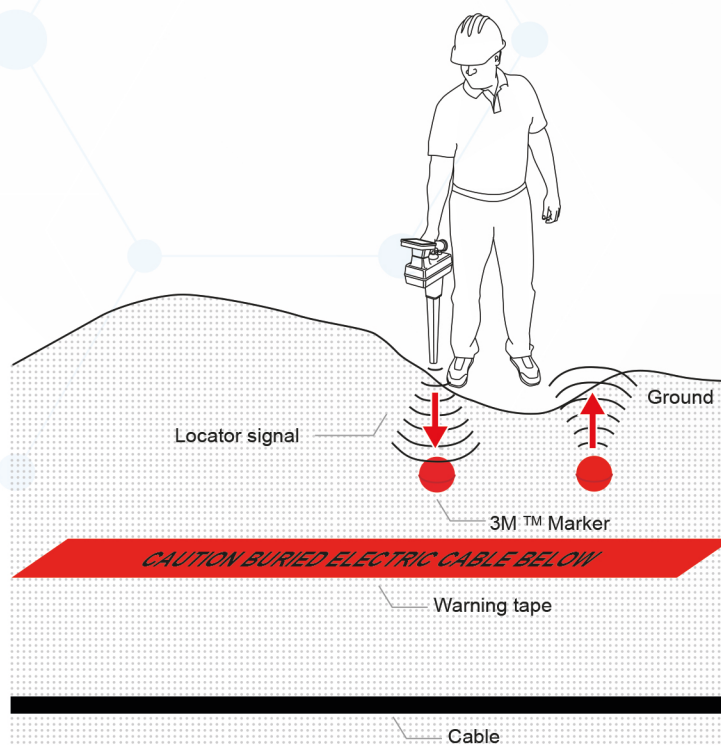


// energy

Due to high danger of damaging underground energy cables, their marking is of utmost importance. Currently we are dealing with multiple standards of marking said cable lines. New solutions are being introduced each day, and in order to keep the pace, we are offering the best materials which include:

Warning tapes (cable tapes)	Produced in two basic colors: blue , dedicated for marking underground cable lines of rated voltage up to and including 1 kV and red , dedicated for marking underground cable lines of rated voltage above 1 kV. Due to differences in standards regarding marking of underground cable lines, we are able to provide our clients with wide variety of tapes and other high durability solutions for marking and securing underground energy infrastructure
Electromagnetic markers	Professional-use devices used to locate and detect key underground infrastructure/ points of interest
Locators	Devices used to locate and program electromagnetic markers and underground cables
Cable backup trays	Made from high durability polyethylene, used for storing excess cable
Posts	Made from high durability PE, red posts mark the underground cables route, above the ground level. It's possible to mount an information board on top of each post, to ensure detailed information is visible

Marking of the underground energy cables



Preparing on the basis of 3M™ materials.

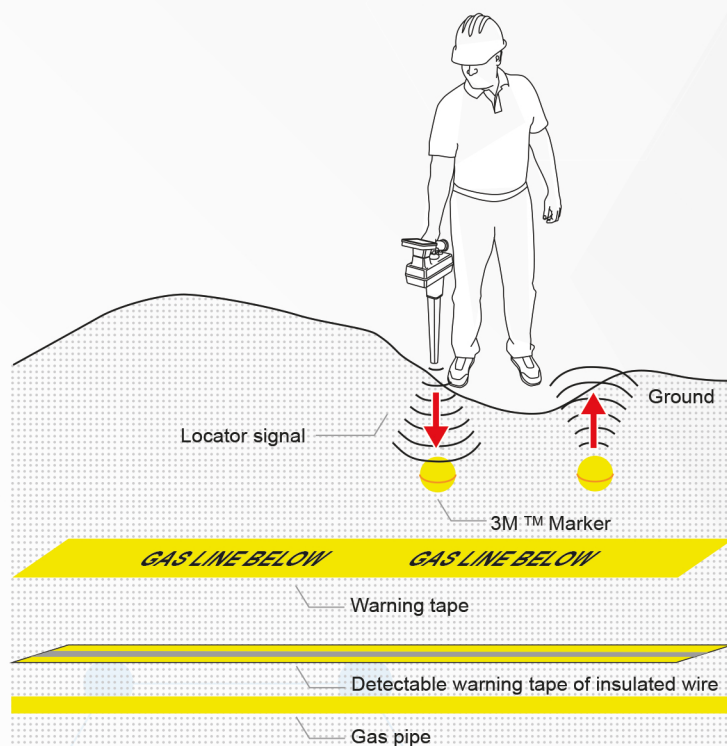


// gas

Gas industry has the highest number of regulations regarding the materials used for marking. Necessity of reliable marking of gas lines comes from a direct threat to human life, in case of damage to the gas pipeline. Due to different standards of building the gas pipelines, individually tailored solutions are needed. To meet these requirements, we offer a wide range of products for marking and locating underground gas infrastructure, such as:

Warning tapes	Tapes made of polyethylene in yellow, with print in accordance with current ST-IGG standards
Detectable warning tapes	Tapes containing the locating factor in the form of a steel insert or wire in the insulation
Electromagnetic markers	Devices used to locate crucial points along the route of the marked gas pipeline
Locators	Devices used to locate and program electromagnetic markers
Posts	Made of plastic in yellow, have a flattened top that allows the installation of a information plate
Connectors	It's a set of items used to connect the steel insert in order to maintain stable connection and ensure success of future locating of possible breaks. Set contains: steel plaque through which you need to interweave the steel inserts, pieces of self-algalanating tape, to isolate the connection, and instruction of how to do it, step

Marking of the underground gas network



Preparing on the basis of 3M™ materials.

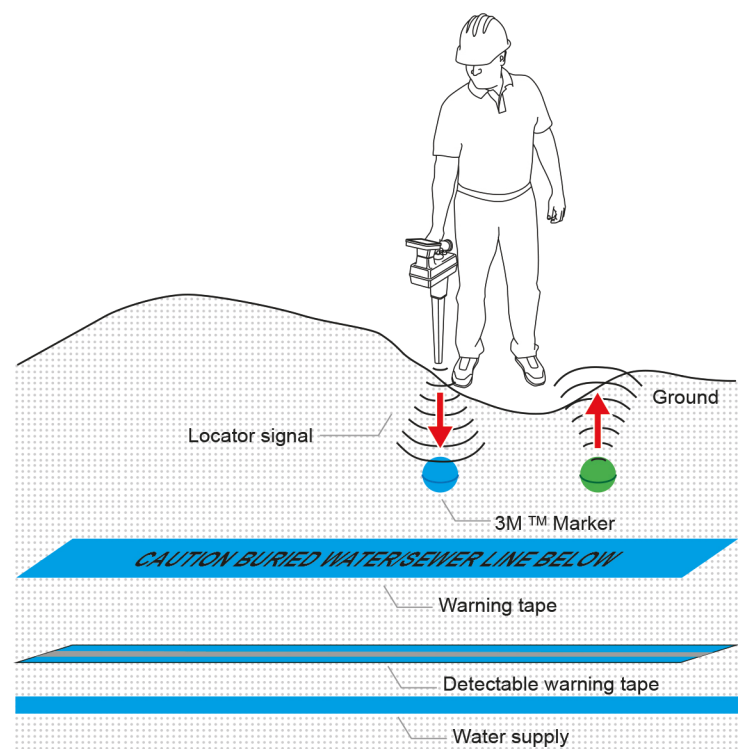


// water & sewage

The increasing number of water and sewage investments in recent years is a challenge in terms of proper marking of their underground course. Growing density of underground lines makes it more difficult to identify and locate their routes. The currently applied solutions, despite the fact that they have been unchanged for years, fulfill their task and can be found in our offer:

Warning tapes	Tapes made of polyethylene, with message. Individual print accepted only after prior approval
Detectable warning tapes	Tapes containing the localizing factor in the form of a steel insert
Electromagnetic markers	Used for marking and locating of crucial points on the route of a marked water supply or underground sewage system
Locators	Devices used to locate and program electromagnetic markers
Posts	Made of plastic resistant to weather conditions, in blue, are used to mark the route of the water supply or sewage system, above the earth surface. The flattened top of the post allows the installation of an information plate
Connectors	Used to connect detectable warning tapes with a steel insert. Correct connection of the steel insert is necessary for the successful subsequent localization of possible damage or interruptions

Marking of the underground water supply and waste network



Preparing on the basis of 3M™ materials.










markers

3M™ EMS-ID

With our Full-Range, Mid-Range, Ball and Near-Surface Markers, there is a marker to meet almost every need. 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. A four-inch Disk marker is also available for marking handholes. These markers easily attach to nonmetallic lids or covers over flush-mounted facilities.

THE SMART CHOICE

A feature exclusive to the Dynatel EMS locator is the ability to read, write and lock programmed information into 3M™ Electronic iD Marker System. 3M iD Locators are able to pinpoint the depth and location of existing models of properly installed underground passive EMS markers — easily differentiating between standard frequencies. Detailed information can be read, stored with date/time stamp and transmitted back to your PC for enhanced resource management through a standard RS232 serial port or USB port. As referenced in a previous section, the iD Locators are now compatible with selected GPS/GIS instruments to greatly simplify the mapping process.

	Telephone	Power	CATV	General	Water	Wastewater Purpose	Gas	Read Range*
Color								
ID EMS ID Ball Marker	1421-XR/ID	1422-XR/ID	1427-XR/ID	1428-XR/ID	1423-XR/ID	1424-XR/ID	1425-XR/ID	5 ft. (1.5m)
EMS ID Near-Surface	1432-XR/ID	1433-XR/ID	1437-XR/ID	1438-XR/ID	1434-XR/ID	1435-XR/ID	1436-XR/ID	2 ft. (0.6 m)
EMS ID Full-Range	1250-XR/ID	1251-XR/ID	N/A	1248-XR/ID	1252-XR/ID	1253-XR/ID	1254-XR/ID	8 ft. (2.4 m)
Non-ID Ball Marker XR	1401-XR	1402-XR	1407-XR	1408-XR	1403-XR	1404-XR	1405-XR	5 ft. (1.5 m)
Near-Surface Marker	1432	1433	N/A	N/A	1434	1435	1436	2 ft. (0.6 m)
Mini-Marker	1255	1256	N/A	N/A	1257	1258	1259	6 ft. (1.8 m)
Full-Range	1250	1251	N/A	N/A	1252	1253	1254	8 ft. (2.4 m)



* Read range specifies maximum distance from locator probe using 3M™ Dynatel™ Locator 1420-ID. Read range may vary on export models-refer to product bulletins.



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