

# 3M™ Electronic Marker System (EMS) Ball Markers

The 3M™ Ball Marker makes the job of precisely locating underground facilities easier. Other buried markers can be disturbed by backfill dirt or installed improperly so they don't stay positioned correctly. The 3M ball marker's unique self-leveling design ensures the marker is always in an accurate, horizontal position regardless of how it is placed into the ground.

The addition of the new 3M-iD markers provides additional functionality by enabling facility data to be stored in the marker to ensure positive identification of facilities. The pre-programmed unique serial number integrates with back office mapping and GIS systems when used for mapping new and legacy assets and points of special interest for construction and maintenance applications.

The ball marker is buried over key facilities during construction or maintenance. Later, the marker is easily and accurately located using a 3M™ Dynatel™ Locator. The locator transmits a signal to the buried marker. The marker returns the signal to the locator, indicating the marker's exact position. The compact electronic locator gives both a visual reading and an audible tone.

Second Generation  
iD Markers providing  
4X Memory



3M™ Electronic Marker System (EMS)  
XR/iD Ball Markers

| Features                           | Benefits                                                                                                                                |
|------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------|
| Accurate even in congested areas   | Helps eliminate mislocates                                                                                                              |
| Underground marker                 | Protected from damage from above-ground environment                                                                                     |
| Durable                            | Long-lasting passive antenna encased in waterproof shell helps identify underground facilities for years to come                        |
| Frequency- and color-coded         | Helps identify specific utility                                                                                                         |
| Easy to Use                        | Minimal training                                                                                                                        |
| RFID capability                    | Positive identification using facility information                                                                                      |
| Physical Specifications            |                                                                                                                                         |
| Size                               | 4" diameter sphere (10.4 cm diameter)                                                                                                   |
| Weight                             | Net: 0.7 lb. (0.35 kg)/ Shipping: 24 lb. (10.4 kg)                                                                                      |
| Packaging                          | 30 per carton                                                                                                                           |
| 3M iD Markers Read Range           | With a 'U' model (U.S.) locator: 5 ft. (1.5 m)<br>With a 'E' model (Export, CE) locator:<br>1.2 m (Tel, Gas, WW, Comm)/1.0 m (Pwr, Wtr) |
| 3M Passive Markers Detection Range | 5 ft (1.5 m)                                                                                                                            |
| Environmental Specifications       |                                                                                                                                         |
| Operating Temperature              | -4°F to 122°F (-20°C to 50°C)                                                                                                           |
| Storage Temperature                | -40°F to 158°F (-40°C to 70°C)                                                                                                          |



# 3M™ Ball Markers

| Image                                                                               | Product                        | Application                         | Stock Number |
|-------------------------------------------------------------------------------------|--------------------------------|-------------------------------------|--------------|
|    | 3M™ EMS Ball Marker 1401-XR    | Telecommunications industry         | 80611161136  |
|    | 3M™ iD Ball Marker 1421-XR/iD  | Telecommunications industry         | 80611142193  |
|    | 3M™ EMS Ball Marker 1402-XR    | Power industry                      | 80611161144  |
|    | 3M™ iD Ball Marker 1422-XR/iD  | Power industry                      | 80611142201  |
|    | 3M™ EMS Ball Marker 1403-XR    | Water industry                      | 80630000323  |
|    | 3M™ iD Ball Marker 1423-XR/iD  | Water industry                      | 80611143225  |
|    | 3M™ EMS Ball Marker 1404-XR    | Wastewater industry                 | 80630000331  |
|    | 3M™ iD Ball Marker 1424-XR/iD  | Wastewater industry                 | 80611143233  |
|    | 3M™ EMS Ball Marker 1405-XR    | Gas industry                        | 80630000257  |
|   | 3M™ iD Ball Marker 1425-XR/iD  | Gas industry                        | 80611143241  |
|  | 3M™ EMS Ball Marker 1407-XR    | Cable TV and communications         | 80611161151  |
|  | 3M™ EMS Ball Marker 1427-XR/iD | Cable TV and communications         | 80611142219  |
|  | 3M™ EMS Ball Marker 1408-XR    | General purpose and reclaimed water | 80611168354  |
|  | 3M™ iD Ball Marker 1428-XR/iD  | General purpose and reclaimed water | 80611142227  |

## 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 products 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 iD Electronic Marker Products: When installed in accordance with 3M's installation instructions, 3M warrants iD Electronic Markers for a period of ten (10) years from the date of purchase of the product, to be free from defects in material and manufacture, provided iD Electronic Markers are located with 3M™ Dynatel™ Locators or other brand locators as may be designated by 3M in writing. This warranty does not extend to iD Electronic Markers that have 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 OF FITNESS FOR A PARTICULAR PURPOSE.** If the iD Marker is found to be defective within the warranty period, your exclusive remedy shall be, at 3M's options, to repair or replace the iD Markers or refund the purchase price. **Except where prohibited by law, 3M will not be liable for any indirect, special, incidental or consequential loss or damage arising from this 3M product, regardless of the legal theory asserted.**

### Conditional Lifetime Warranty

3M provides the following Conditional Limited Warranty for its Electronic Marker Products (non-iD versions only): When installed in accordance with 3M's installation instructions, 3M warrants Electronic Markers for the lifetime of the product, to be free from defects in material and manufacture, provided the Electronic Markers are located with 3M™ Dynatel™ Locators or other brand locators as may be designated by 3M in writing. This warranty does not extend to Electronic Markers that have 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 OF FITNESS FOR A PARTICULAR PURPOSE.** If the Electronic Marker is found to be defective during the normal lifetime of the product, your exclusive remedy shall be, at 3M's options, to repair or replace the Electronic Markers or refund the purchase price. **Except where prohibited by law, 3M will not be liable for any indirect, special, incidental or consequential loss or damage arising from this 3M product, regardless of the legal theory asserted.**



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