3M™ Scotchkote™
Infrastructure Protection Products

Protection You Can Count On

3M™ Scotchkote™ 50 years of protection

Meeting your coating needs
for more than 50 years.

3M

Header piping for a water purification plant illustrates the types of complex shapes that can be coated with 3M™ Scotchkote™ Coatings.

Application of 3M™ Scotchkote™ Epoxy Coating on rebar.

3M™ Scotchkote™ FBE Coating covers all surfaces if this valve assembly.

Stacked pipe with 3M™ Scotchkote™ Coating ready for installation.

Proven Performance for Corrosion Protection

3M, a leader in functional epoxy coating technology, offers a complete line of 3M™ Scotchkote™ Powder Coatings engineered for optimum corrosion protection of metal in the harshest environments, including saltwater, wastewater, petrochemicals, solvents and corrosive gases. Several of these coatings also help provide enhanced properties for operation at elevated temperature, mechanical damage protection, compression, wear, abrasion, and cavitation resistance. Scotchkote heat-cured fusion bonded epoxy coatings are 100 percent solids; thermosetting materials that achieve a high bond to metal surfaces as a result of a heat generated chemical reaction. They can be applied by fluidized bed, flocking (air spray), or electrostatic spray and are available through a worldwide network of applicators. 3M also provides several Scotchkote high-build liquid epoxy coatings for field application as primary corrosion protection coatings or as easy field repair materials for Scotchkote Fusion Bonded Epoxy (FBE) coatings. Surface primers are available to enhance chemical resistance and raise temperature operating range.

Scotchkote Fusion Bonded Epoxy Coatings

Feature	Benefit
Resistant to Cathodic Disbondment	Long term performance under a range of service conditions and temperatures.
Excellent chemical resistance	Long term performance in a variety of soil conditions.
Abrasion, gouge and impact resistant	Added protection for bores, river crossings, rough handling and applications requiring mechanical damage resistance.
High adhesion to metal	Resistant to soil stress.
Thermosetting	Resistant to penetration and will not cold flow under pressure. Does not soften at elevated temperature.
Balanced gel and flow characteristics	Enhanced coating continuity and application on metal.
Sag Resistant	Excellent coverage on sharp edges.
Machinable	Can meet close tolerances.
Lightweight	Lower shipping costs.
Compatible with other coating systems	Can be overcoated with other materials for UV protection. Provides an excellent base coat for multilayer pipe coating systems.
Plant Applied	Controlled application conditions.
NSF and AWWA Standard C213 Approved (Several specific products only)	Good for potable water applications.
Established network of applicators	Widely available for pipeline (external and internal), reinforcing steel and custom coating applications.

How to Specify 3M™ Scotchkote™ Coatings

It is possible for applicators to apply powder coatings by various methods. Please consult your 3M Infrastructure Protection Division Sales Representative or customer service representative for the names and capabilities of local applicators. Key application steps to consider when writing specifications are as follows:

- Remove oil and grease
- Abrasive blast to near white metal
- Remove blast media dust
- Inspect for surface imperfections, such as weld spatter and smooth by grinding (does not apply to reinforcing steel)
- Acid or deionized water wash (optional) to remove residual inorganic contaminants.
- Preheat parts to suggested application temperature
- Apply Scotchkote coating to the specified thickness
- Electrically inspect for continuity
- Repair as required

Pipe rehabilitation completed using 3M™ Scotchkote™ FBE Coating – and repaired with 3M™ Scotchkote™ Liquid Epoxy Coating.

Industry Standards and Specifications

Pipe (External)	
CSA Z245.20/06	Canadian Standards Association External Fusion Bond Epoxy Coating for Steel Pipe/External Polyethylene Coating for Pipe
NFA 49-711	French standard for steel tubes, three-layer external coating based on polypropylene by extrusion
NACE RP0394	National Association of Corrosion Engineers Standard Recommended Practice, Application, Performance, and Quality Control of Plant-Applied, Fusion bonded Epoxy External Pipe Coating
NAPCA Bulletin 12-78	National Association of Pipe Coating Applicators External Application Procedures for Plant Applied Fusion bonded Epoxy (FBE) To Steel Pipe
AWWA C213	American Water Works Association Standard for Fusion-Bonded Epoxy Coating For The Interior and Exterior of Steel Water Pipelines
ISO 21809-2&3	International Standard for Buried or Submerged Pipelines
Reinforcing Steel	
AASHTO M 284/M 284M	Standard Specification for Epoxy Coated Reinforcing Bars
AASHTO T 253	Standard Method of Test for Coated Dowel Bars
ASTM A 775/A 775M	American Society for Testing Materials Standard Specification For Epoxy-Coated Reinforcing Steel
ASTM A 884/A 884M	American Society For Testing Materials Standard Specification For Epoxy-Coated Steel Wire and Welded Wire Fabric for Reinforcing Steel
ASTM A 934/A 934M	American Standard Specification for Epoxy- Coated Prefabricated Steel Reinforcing Bars
ASTM D 3963/D	
D 3963M - 01	
NACE RP0395	National Association of Corrosion Engineers Standard Recommended Practice Epoxy-Coated Steel Reinforcing Bars
Piles	
STM A 950/A 950M	American Society For Testing Materials Standard Specification For Fusion bonded Epoxy-Coated Structural H-Piles and Sheet Piles
ASTM A 972//A 972M	American Society For Testing Materials Standard Specification For Fusion bonded Epoxy-Coated Pipe Piles
Pipes (Internal)	
NSF/ANSI	Standard 61, Drinking Water System Components, for use with potable water.
API 5RL2	American Petroleum Institute for Gas Pipe Internal Flow liners

*Specifications and Standards usually include the year in which they were last changed as part of the specification designator. These dates have not been included in the list.

Factory Applied Fusion Bonded and Liquid Epoxy Coatings

The Alliance Pipeline in Minnesota was coated with 3M™ Scotchkote™ Coating 6233.

Pipeline coated with 3M™ Scotchkote™ Fusion Bonded Epoxy Coating

3M™ Scotchkote™ Fusion Bonded Epoxy Coating 6233P

3M™ Scotchkote™ Fusion Bonded Epoxy Coating 6233P is a high performance fusion bonded epoxy powder coating which incorporates 3M's proprietary advanced adhesion promotion technologies. 3M's patented technology is an advanced formula designed for improved cathodic disbondment and adhesion during long term testing but also more consistency in final coating appearance. Meets CSA-Z245.20, NACE RP 0394 and ISO 21809-2&3

3M™ Scotchkote™ Fusion Bonded Epoxy Coating 6233

3M™ Scotchkote™ Fusion Bonded Epoxy Coating 6233 is a fusion bonded epoxy powder coating utilizing special adhesion promoting agents to enhance cathodic disbondment resistance. Scotchkote coating 6233 helps protect even under the stress of changing temperatures and soil compaction.

3M™ Scotchkote™ Fusion Bonded Epoxy Coatings 226N/226N+

3M™ Scotchkote™ Fusion Bonded Epoxy Coatings 226N/226N+ helps provide the same properties as the Scotchkote coating 6233 with improved damage resistance. They meet the requirements of CSA-Z245.20.

3M™ Scotchkote™ Fusion Bonded Epoxy Coating 6258

3M™ Scotchkote™ Fusion Bonded Epoxy Coating 6258 is a one part, heat curable, thermosetting coating designed to promote superior adhesion to steel and epoxy novolak resins that significantly raise the glass transition temperature of the coating. These benefits make this a suitable standalone coating and as a liner for downhole tubing.

3M™ Scotchkote™ Fusion Bonded Epoxy Coating 6171

3M™ Scotchkote™ Fusion Bonded Epoxy Coating 6171 is a one-part, heat curable, thermosetting, powdered epoxy coating designed for coating the interior of production tubing, internal gathering pipe, and fittings. When applied over a primer, Scotchkote coating 6171 FBEC meets Saudi Aramco seawater and sour gas service requirements.

3M™ Scotchkote™ Fusion Bonded Epoxy Coating 626 Series

3M™ Scotchkote™ Fusion Bonded Epoxy Coating 626 series offers solutions to address new challenges and needs for high-temperature pipeline coatings in the oil and gas industry. These Scotchkote coatings help protect oil and gas pipelines against corrosion while they operate at high temperatures. 3M™ Scotchkote™ Fusion Bonded Epoxy Coating 626-120 can operate up to 115° C as a standalone coating. 3M™ Scotchkote™ Fusion Bonded Epoxy Coating 626-140 can withstand temperatures up to 135° C as a standalone coating, and 3M™ Scotchkote™ Fusion Bonded Epoxy Coating 626-155 can withstand temperatures up to 150° as a standalone coating.

Fusion Bonded Epoxy Overcoating (Dual Layer Systems)

3M™ Scotchkote™ FBE Overcoatings possess select characteristics that impart unique properties for special applications and service conditions. They are compatible with all Scotchkote FBE corrosion protection coatings and are applied immediately after the primary coating in a continuous process. When properly applied, the result is a Dual Layer System that is chemically bonded at the layered interface. Most pipe coating applicators have the capability of providing these systems.

Gouge test simulates the stresses on a coating during a horizontal pipe pull. The coating sample is dragged under a weighted bit and the gouge depth is measured. Photo courtesy of Technical Inspection Services Inc.

3M™ Scotchkote™ Fusion Bonded Epoxy Coating 6352

3M™ Scotchkote™ Fusion Bonded Epoxy Coating 6352 is an extremely hard, mechanically strong overcoating designed to help protect the primary corrosion coat from damage during pipeline directional drilling applications, bores, river crossing, and installation in rough terrain. Gouge and abrasion resistance properties have been maximized in the development of this dense coating material. Scotchkote coating 6352 also retains a high degree of flexibility that easily exceeds specification limits of steel for field bending. Scotchkote coating 6352 over a corrosion coating also helps provide enhanced performance in hot wet applications. Meets requirements of AWWA C213.

3M™ Scotchkote™ Fusion Bonded Epoxy 207R

3M™ Scotchkote™ Fusion Bonded Epoxy Coating 207R is a rough overcoating. Restricted flow and optimized components produce a granular finish on all Scotchkote pipe-coating products where increased surface roughness is required. Scotchkote overcoating 207R was specifically developed to help provide added traction for guide/feed wheels used in the installation of offshore pipelines. It reduces slippage between fusion bonded epoxy and a concrete overcoat and helps provide safer footing. Bendability exceeds requirements of ANSI B31.4 or B31.8 Codes.

Application of 3M™ Scotchkote™ Coating 207R to pipe.

Pipe coated with 3M™ Scotchkote™ Fusion Bonded Epoxy as the primary layer, polypropylene copolymer adhesive and polypropylene overcoating.

Multi-layer Polyolefin Coating Systems

Multilayer polyolefin systems consist of a base corrosion protection layer of fusion bonded epoxy, a polyethylene or polypropylene copolymer adhesive intermediate layer, and a topcoat of polyethylene or polypropylene. These combinations take advantage of the low moisture permeation and toughness characteristics of polyolefins and the low oxygen permeation and adhesion properties of fusion bonded epoxy. Selection of the proper base coating is critical because it is the foundation of the system and significant to its overall performance capability. During application, an adhesive layer is extruded onto 3M™ Scotchkote™ FBE Primer. A second extruder applies the topcoat to the specified thickness while the adhesive is still molten.

3M™ Scotchkote™ Fusion Bonded Epoxy Coating 226N/226N+

3M™ Scotchkote™ Fusion Bonded Epoxy Coating 226N/226N+ is a premier, high-performance epoxy coating powder base coating for three-layer polyolefin coating systems. Scotchkote coating 226N/226N+ employs special adhesion promoting agents that help improve cathodic disbondment performance in all service conditions, especially hot, wet environments. A range of gel and cure times are available for optimum bonding of the polyolefin adhesive layer. Scotchkote coating 226N/226N+ also offers superior protection as a stand alone coating.

Liquid Primers

Liquid primers are sometimes used with these coatings to enhance performance properties in particularly severe environments, such as those encountered in downhole oil production. Proper selection of internal coatings depends upon pipe size, type and service conditions. Contact your 3M sales or customer service representative for further information.

3M™ Scotchkote™ Liquid Phenolic Primer 345

3M™ Scotchkote™ Liquid Phenolic Primer 345 is designed specifically for application to metal surfaces prior to top coating with Scotchkote FBE coatings. When properly applied, Scotchkote primer 345 and topcoat systems help provide excellent resistance to CO2, H2S, CH4, petroleum distillates, and brine at elevated temperatures and pressures.

3M™ Scotchkote™ Water Based Primer 500N

3M™ Scotchkote™ Water Based Primer 500N is a water-based metal treatment designed to increase adhesion of fusion bonded epoxy coatings. Properly applied to blast-cleaned steel, it helps provide protection for metal surfaces and a uniform bonding base for increased coating performance. This primer significantly improves hot water resistance, autoclave resistance, and cathodic disbondment and salt spray resistance of the coating. It is easily applied with minimal application equipment and promotes a chemically uniform steel surface condition.

Pump volutes protected against corrosion with 3M™ Scotchkote™ FBE Coating 134.

Application of 3M™ Scotchkote™ FBE Coating 134 custom coating on a turbine.

Rebar coated with 3M™ Scotchkote™ FBE Coating 413 being used in a bridge project

Internal and Custom Coating

3M™ Scotchkote™ FBE Coatings are available with extended gel, flow and cure characteristics for application to the interior surfaces of pipe. In some cases, existing pipeline or custom coating products may have been adapted for internal use by modifying these properties. Scotchkote FBE coatings can be applied to a variety of parts for corrosion protection. Example applications include valves, pumps, tapping saddles, pipe appurtenances, manifolds, sewage aerators, tanks and pipe hangars.

3M™ Scotchkote™ Fusion Bonded Epoxy 134 (green)

3M™ Scotchkote™ Fusion Bonded Epoxy Coating 134 (green) is designed for flock, fluid bed or electrostatic spray application. Because of the long gel time (up to 2.5 minutes at 350ºF/177ºC), Scotchkote coating 134 maximizes the time of application so that large surface areas or parts with complex recesses can be coated without overspray or laminations. Balanced formula and controlled viscosity allow high thickness build and edge coverage without sag or drips. This coating can also be applied cold electrostatically. Scotchkote coating 134 has been used extensively in the wastewater industry since 1965. Scotchkote coating 134 meets the requirements of AWWA Standard C213, for valves and appurtenances.

3M™ Scotchkote™ Fusion Bonded Epoxy Coating 135

3M™ Scotchkote™ Fusion Bonded Epoxy Coating 135 (gray) provides the same properties as the Scotchkote coating 134

Transportation & Construction Infrastructure Protection Coatings

Reinforcing Steel Coatings

3M has been a market leader for epoxy coated reinforcing steel since it first brought the innovation of epoxy coated rebar to the market in 1972. More reinforcing steel in roads, bridges, and other structures have been coated with 3M™ Scotchkote™ Fusion Bonded Epoxy Coatings than any other epoxy coating product. Our coating materials have been used in conjunction and as standalone corrosion protection systems to help protect rebar, dowel bar/dowel bar baskets, welded wire fabric/wire mesh, mechanical splicing, and spirals. 3M provides materials that exceed test requirements in accordance with industry standards and apply consistently in most types of coating plants and steel configurations.

3M™ Scotchkote™ Fusion Bonded Epoxy Rebar Coating 413

3M™ Scotchkote™ Fusion Bonded Epoxy Rebar Coating 413 is formulated to help provide superior flexibility for shop or field fabrication that exceeds current AASHTO and ASTM bend requirements. Scotchkote FBE rebar coating 413 is resistant to corrosive agents such as deicing salts, airborne salt spray, seawater, harsh chemicals, acid rain, carbonation, contaminated aggregate and concrete additives. Components have been carefully selected and balanced to maintain consistency and productivity control in all application plants. Cure is by residual heat. Scotchkote FBE rebar coating 413 meets all standards for coating of reinforcing steel prior to fabrication.

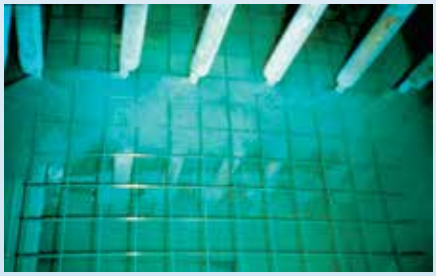
3M™ Scotchkote™ Fusion Bonded Epoxy Rebar Coating 413 Spray Grade

3M™ Scotchkote™ Fusion Bonded Epoxy Rebar Coating 413SG Spray Grade Coating is designed for application on welded wire fabric, mesh, chair assemblies, dowel baskets, cable-tensioning hardware, screw anchors and coupling devices. The coating possesses high flow capability without sag for maximum penetration into wire intersections and coverage on sharp weld cusps. Gel and cure time and have been extended to aid in this process, therefore the coating must be post baked. Scotchkote FBE rebar coating 413 spray grade meets all standards for coating of reinforcing steel prior to fabrication.

Rebar coated with 3M™ Scotchkote™ FBE 413

3M™ Scotchkote™ Fusion Bonded Epoxy Rebar Coating 413Y

3M™ Scotchkote™ Fusion Bonded Epoxy Rebar Coating 413Y is formulated to help provide superior flexibility for shop or field fabrication that exceeds current AASHTO and ASTM bend requirements. Scotchkote FBE rebar coating 413Y is resistant to corrosive agents such as deicing salts, airborne salt spray, seawater, harsh chemicals, acid rain, carbonation, contaminated aggregate and concrete additives. Components have been carefully selected and balanced to maintain consistency and productivity control in all application plants. Cure is by residual heat. Scotchkote FBE rebar coating 413Y meets all standards for coating of reinforcing steel prior to fabrication. When used in conjunction with arc sprayed zinc anode primers the coating exceeds the requirements of ASTM A 1055.



3M™ Scotchkote™ FBE 413 spray grade being applied to wire mesh

3M™ Scotchkote™ Fusion Bonded Epoxy Rebar Coating 426

3M™ Scotchkote™ Fusion Bonded Epoxy Rebar Coating 426 meets the rigid standards of ASTM A 934/934 M for coating of reinforcing steel in “after-fab” application. Like Scotchkote pipe-coating materials, Scotchkote FBE rebar coating 426 incorporates special adhesion promoting agents for enhanced corrosion protection and chemical resistance properties making it suitable for marine or harsh environments. These materials are specially formulated for use in a variety of straight bar and custom applications with prefabricated steel part configurations and accessories. Scotchkote FBE rebar coating 426 is available in two gel/cure times for application to straight or prefabricated rebar sections.

3M™ Scotchkote™ Fusion Bonded Epoxy Rebar Coating 426

Rebar Patch Compound

3M™ Scotchkote™ Liquid Epoxy 413/215 and 413/215 Cold Weather Grade Patch Compounds

3M™ Scotchkote™ Liquid Epoxy 413/215 and 413/215 Cold Weather Grade (CWG) Patch Compounds are two-part, ambient-temperature cure, thermosetting, liquid epoxy coatings. They are designed for the repair of damage to 3M™ Scotchkote™ Fusion Bonded Epoxy 413 Coatings. Scotchkote 413/215 patch compound can be applied by brush or spray. The coating has a long pot life (8 hrs at 70ºF/21ºC) and is easily applied in the plant or field. Scotchkote 413/215 patch compound (CWG) is applied primarily by brush and can be used at temperatures as low as 5ºF/-15ºC.

Coatings for Driven Piles

Driven piles are a total engineering solution. The design, installation and quality assurance that are part of each driven pile combine to eliminate guesswork and produce a known, reliable and cost-effective product that can accommodate a wide variety of subsurface conditions. Driven piles coated with 3M™ Scotchkote™ Fusion Bonded Epoxy Coatings are ideally suited for marine and other near-shore applications. This coating is very effective for not only pipe pile but also H and sheet pile components as well as for reinforcing steel. The coating system has proven to be very durable and potential damage to it from the handling, transportation or driving is relatively easy to repair and is normally localized at the point of damage with little or no additional pull off.

3M™ Scotchkote™ Fusion Bonded Epoxy Coating 6233P

3M™ Scotchkote™ Fusion Bonded Epoxy Coating 6233P is a high performance fusion bonded epoxy powder coating which incorporates 3M's proprietary advanced adhesion promotion technologies. 3M's patented technology is an advanced formula designed for improved cathodic disbondment and adhesion during long term testing but also more consistency in final coating appearance.

3M™ Scotchkote™ Fusion Bonded Epoxy Coating 6233

3M™ Scotchkote™ Fusion Bonded Epoxy Coating 6233 is a fusion bonded epoxy powder coating utilizing special adhesion promoting agents to enhance cathodic disbondment resistance. Protects even under the stress of changing temperatures and soil compaction.

Pipe piling coated with 3M™ Scotchkote™ FBE 6233

Field-applied Liquids

Two-Part Liquid Coatings for Pipeline Rehabilitation, Girthwelds, and Pipeline Repair

Designed to complement 3M™ Scotchkote™ Fusion Bonded Epoxy Coatings, 3M™ Scotchkote™ Field Applied Coatings extend 3M's legacy of protection to the field.

3M™ Scotchkote™ Liquid Epoxy Coating 323

3M™ Scotchkote™ Liquid Epoxy Coating 323 is a 100% solids, two-part epoxy liquid coating designed to help protect pipelines and other metal surfaces from corrosion. Engineered to help provide excellent adhesion and chemical resistance. Applied by brush, roller, cartridge, or plural component spray equipment. Excellent adhesion, easy to apply, and color matched to many 3M™ Scotchkote™ Fusion Bonded Epoxy Coatings.

3M™ Scotchkote™ Liquid Epoxy Coating 327

3M™ Scotchkote™ Liquid Epoxy Coating 327 is a 100% solids, two-part epoxy system designed to help protect steel pipe and other metal surfaces from the harsh affects of corrosion for temperatures down to 50°F/10°C. Cold weather doesn't mean you have to compromise on performance or easy application!

3M™ Scotchkote™ Abrasion Resistant Epoxy Coating 328

3M™ Scotchkote™ Abrasion Resistant Epoxy Coating 328 is a 100% solids, two-part epoxy system designed for directional drilling, rocky terrain, or other applications that require a rugged coating. Combining a traditional liquid epoxy with enhanced abrasion resistance, flexibility, and impact resistance, an AREC coating can be used in place of a conventional Abrasion Resistant Overcoat (ARO) or as a primary corrosion protection coating.

3M™ Scotchkote™ Liquid Urethane Coating 352

3M™ Scotchkote™ Liquid Urethane Coating 352 is a 100% solids, two-part urethane system designed to help protect buried steel structures from the harsh effects of corrosion. With a fast cure time and excellent flexibility, it is an excellent solution for applications that require fast turn-around and good chemical resistance. Can be applied in temperatures down to -5°C/14°F.

Cleaning pipe to a white finish for a rehab project.

3M™ Scotchkote™ Liquid Epoxy Coating 323 being applied to a pipe for a rehabilitation project.

Completed pipe coating rehabilitation using 3M™ Scotchkote™ Liquid Epoxy Coating.

3M™ Scotchkote™ Spray System HSS-450

3M™ Scotchkote™ Spray System HSS-450 is intended for use in a wide variety of spray applications using 3M™ Scotchkote™ Liquid Epoxy Coating 323 and 3M™ Scotchkote™ Liquid Epoxy Coating 327. It is designed for use where fast and easy setup, no clean up, minimal material waste and essentially no equipment maintenance are highly desirable.

Completed pipe coating rehabilitation using 3M™ Scotchkote™.

3M™ Scotchrap™ Corrosion Protection Tapes

Field Applied Patch Sticks

Hot Melt Patch Compounds

3M™ Scotchkote™ Hot Melt Patch Compound 226P is a heat-bondable polymeric repair material in stick form for plant or field touch up and repair of Scotchkote FBE coatings. It is designed for minor damage, small pinholes and nicks. Scotchkote Patch Compound 226P is easily applied and is quick setting for immediate installation and handling.

Field Applied Tapes

3M™ Scotchrap™ Corrosion Protection Tapes

3M™ Scotchrap™ Corrosion Protection Tapes are tough, polyvinyl chloride based tapes with special high tack adhesives formulated to resist corrosion of metal fittings, field joints, and electrical conduit systems. They are resistant to corrosive salt water, soil acids, alkalis and salts, common chemicals, chemical vapors and exposure to outdoor weathering and sunlight. They are also resistant to impact, abrasions, punctures, and tears.

3M™ Scotchrap™ Corrosion Protection Tape 50

3M™ Scotchrap™ Corrosion Protection Tape 50 is a highly conformable, all weather 0.254mm (10mil) thick tape designed for application over a wide temperature range.

3M™ Scotchrap™ Corrosion Protection Tape 51

3M™ Scotchrap™ Corrosion Protection Tape 51 provides similar qualities in a thicker, 0.508mm (20mil) tape.

3M™ Scotchrap Pipe Primer

3M™ Scotchrap™ Pipe Primer is a quick-dry, non-sag rubber based primer that permeates metal surface pits and irregularities, preparing the surface for tape application. Compatible with the special adhesives on Scotchrap tapes, it enhances adhesion.

Locators, Markers and Caution Tape

3M™ Dynatel™ Locators

3M™ Dynatel™ Locators combine simple interfaces, large backlit high-resolution graphics, excellent balance and ergonomics with precision locating capabilities to help you quickly and accurately identify underground assets. Dynatel locators can be used to trace pipe and cable paths, locate sheath faults, provide accurate pipe, cable or Sonde depth measurements, locate buried electronic markers, read/write to 3M iD Markers and interface with GPS instruments to create accurate maps of underground facilities. Dynatel locators are available in a range of configurations from fully-featured pipe, cable, fault and electronic marker locators to basic cable avoidance systems.

3M™ Electronic Markers

It takes just minutes to learn to use the 3M™ Electronic Marker System (EMS), and finding buried markers is just as easy. The locator transmits an RF signal to the buried marker. The marker reflects the signal back to the locator, and the location is indicated with both a visual meter reading and an audible tone.

3M offers several varieties of electronic marker and multipurpose locators to meet your needs, offering different types and ranges, and the markers are also available in two forms - Passive and iD. Both options are designed to help provide an accurate, convenient, long-lasting method of marking underground assets. Passive markers are designated by industry to mark points of interest. iD markers perform the same function, but can also 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™ EMS Caution Tape

3M™ Electronic Marking System Caution Tape uses a new 3M EMS marker technology embedded into a caution tape, for installation near or above the buried facility, helping provide continuous path location.

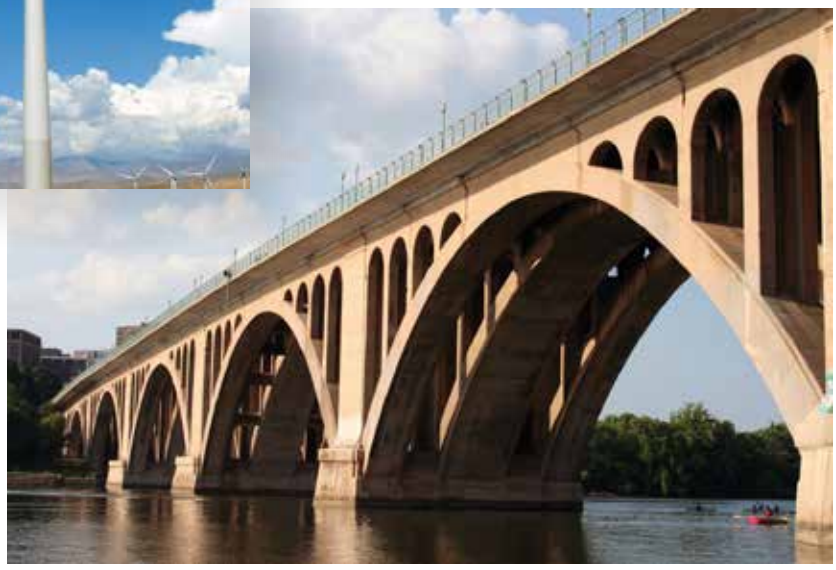
- Eliminates need to install tracer wire
- No access points or connections required
- Locate without the need of a transmitter
- Unique identification for each utility type
- Low installed costs
- Tape does not provide a path for lightning
- Signal path maintained even if the tape is cut or damaged
- Product design life - up to 50 years

3M™ Scotchkote™ Liquid Coatings and Repair Products for Maintenance and Corrosion Protection

3M™ Scotchkote™ Liquid Coatings are high performance protective coatings for the oil, gas, water, transportation, power, mining and construction industries. These coatings help provide long-term protection of buildings, structures and equipment operating in industrial and aggressive environments. In addition to protective coatings, the Scotchkote™ product line includes a wide range of engineering repair systems to maintain and extend the life of valuable structures and industrial machinery.

The product range includes:

- Corrosion Protection Systems
- Chemical Protection Systems
- Concrete Repair Systems
- Metal Repair Systems
- Ceramic Repair Systems
- Rubber Repair Systems
- Floor Repair/Resurfacing Systems



Handling & Safety Precautions
Read all Health Hazard, Precautionary, and First Aid statements found in theMaterial Safety Data Sheet, and/or product label prior to handling or use.

Ordering Information/Customer Service
For ordering technical or product information, or a copy of the Material Safety Data Sheet, call:
Phone: 800/722-6721
Fax: 877/601-1305
Data sheets and MSDS can be found on the website.

Shipping and Storage
Scotchkote FBE Powder Coatings are finely ground powders that react when heated. They do not contain solvents. Products are very shelf stable but may become unusable if exposed to temperatures above 80°F/27°C for extended periods of time. Handling precautions for individual Scotchkote coatings are described on product data sheets and materials safety data sheets.

Important Notice

All statements, technical information and recommendations related to 3M Products are based on information believed to be reliable, but the accuracy or completeness is not guaranteed. Before using the 3M Product, you must evaluate it and determine if it is suitable for your intended application. Because conditions of Product use are outside of our control and vary widely you assume all risks and liability associated with such use. Any Product-related statements not contained in current 3M publications, or any contrary statements contained in your purchase order, shall have no force or effect unless expressly agreed to in writing by an authorized officer of 3M.

Warranty; Limited Remedy; Limited Liability.
3M warrants that Product will conform to 3M published specifications upon shipment. If Product is proven not to have met the specifications your exclusive remedy and 3M's sole obligation will be, at 3M's option, to replace the Product or to refund the purchase price of the Product. **EXCEPT WHERE PROHIBITED BY LAW, THIS WARRANTY IS MADE IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, ANY IMPLIED WARRANTY OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE OR THOSE ARISING FROM A COURSE OF DEALING, CUSTOM OR USAGE OF TRADE.** Buyer is an expert in its field and is responsible for determining if Products are suitable for a particular purpose or application. 3M has no obligation under this warranty with respect to any Product that has failed due to inadequate or improper storage, handling, surface preparation, application, or maintenance; failure to follow Product instructions; or alteration or damage to the Product caused by accident, neglect, or misuse. **EXCEPT WHERE PROHIBITED BY LAW, IN NO EVENT SHALL 3M BE LIABLE FOR ANY DIRECT, INDIRECT, SPECIAL, INCIDENTAL OR CONSEQUENTIAL LOSS OR DAMAGES (INCLUDING LOST PROFITS) ARISING FROM THIS PRODUCT, REGARDLESS OF THE LEGAL THEORY ASSERTED.**

Infrastructure Protection Division
6801 River Place Blvd.
Austin, TX 78726-9000
www.3M.com/corrosion

Please recycle. Printed in USA

80-6111-8637-2