

3M CATV Product Solutions



Install Confidence.



From headend to fiber node to customer premises, CATV operators rely on 3M for unmatched value in the physical-media layer.

TIMELY SOLUTIONS.

Exploding consumer demand for more content, greater speed and new communication protocols presents multiple system operators (MSOs) with new opportunities as well as new challenges. These challenges include responding to demand for new triple play services, retaining and growing your customer base, and generating increased revenue — all while using the existing cable plant with minimum change.

3M understands these goals and offers a set of solutions to deliver reliable bandwidth and meet next generation, full-service CATV network requirements.

END TO END.

Headend costs are driving cable providers to consolidate resources and update their facilities with hybrid/fiber cable to bring the advantages of high bandwidth, low noise and low susceptibility to interference closer to the user. Network performance, reliability and maintenance efficiency are critically important as MSOs vie for triple play leadership. 3M products reliably link fiber, copper and coax networks for high-volume, interactive voice, data and video traffic, supporting the cable network dependably from headend all the way to customer premises.



PROVEN PRODUCTS
SUPPORTED BY
EXPERIENCED
SPECIALISTS.

Profitability and long-term competitive strength in the evolving triple play market depend on active network development, careful technology choices and effective resource management.

3M is uniquely equipped to help MSOs meet these objectives with a market-focused quality/reliability proposition that strongly supports profit objectives.

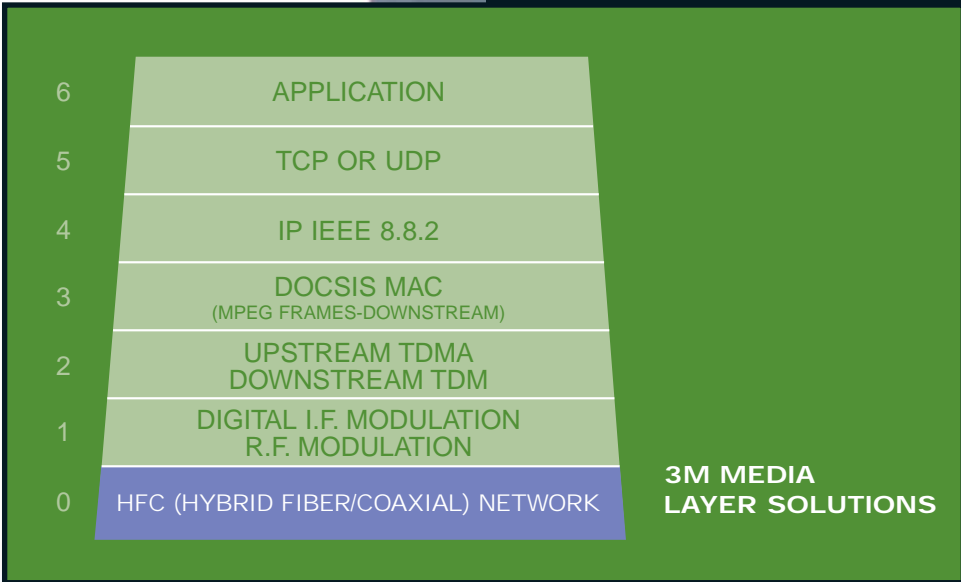
With 3M as a resource, you can assemble and implement effective, future-proofed physical-media solutions that meet market demands for the long term.

The extensive 3M portfolio of integrated products and systems is supported by long experience in the communications industry and global manufacturing, training and technical service resources.

- An Extended Portfolio of High Quality, Reliable Products
- Training and Technical Support Services
- Decades of Communications Industry Experience
- Diversified Capabilities and Strong Global Resources
- Six Sigma Processes for Reliable Products and Services
- Corporate Stability and Responsibility



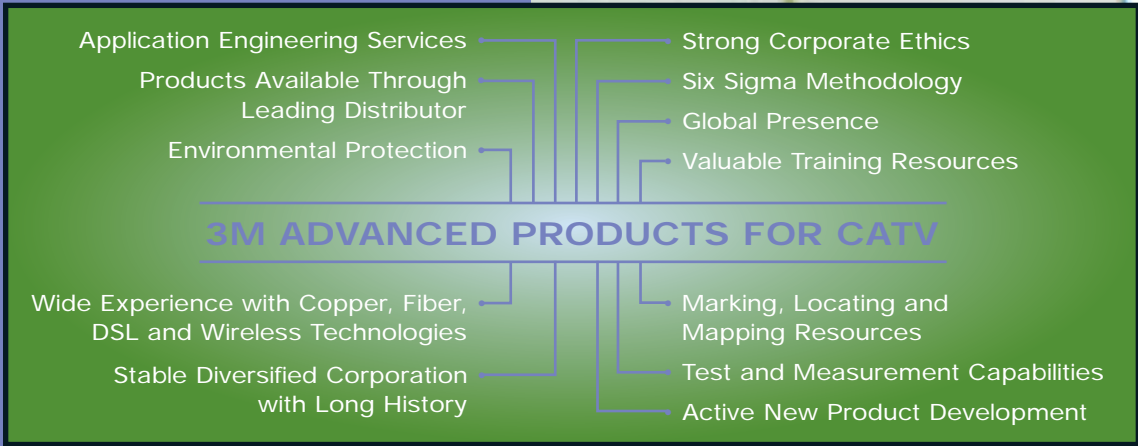
3M MASTERS THE
CATV PIPELINE WITH
PROVEN RESOURCES.



The Data Over Cable Service Interface Specification (DOCSIS) defines the seven layers that describe the functionality of a cable network, from physical connections to customer applications, including signal details and transfer protocols.

The Hybrid Fiber/Coaxial (HFC) network base of the DOCSIS specification is the physical infrastructure on which CATV operation rests, and 3M provides a full universe of capabilities to support MSOs at the headend, in the outside plant and at customer premises. 3M is uniquely equipped to provide a turn-key optical pipeline and help make interactive, high bandwidth services a reality for CATV providers.

3M SUPPORTS
ADVANCED PRODUCTS
AND SYSTEMS WITH
VALUABLE ASSETS
FOR MSOs.



3M's fiber interconnect resources for CATV networks can leverage existing infrastructure or support development of completely new networks, and these products and systems are enhanced by a full spectrum of sustaining assets.

3M has decades of experience in telecommunications, a full and growing product portfolio and the industry's strongest research and development resources. Today, more than 50 million CATV subscribers in the U.S. enjoy reliable service supported by 3M network solutions.

With support from 3M, MSOs and network equipment manufacturers can assemble and implement effective, reliable and future-proofed CATV solutions that meet the growing demand for bandwidth and content, and protect the customer base.



SIX SIGMA — A VALUABLE BUSINESS ASSET.

3M uses six sigma methodology as a roadmap to breakthrough performance. This approach to improving business performance focuses on a common methodology for quality improvement with the goal of improving all company processes. The global 3M deployment of six sigma improves performance across the company to the significant benefit of our MSO customers.

PRECISE FACILITIES MANAGEMENT WITH DIAGNOSTIC AND MARKING AND LOCATING TECHNOLOGIES.

Full-featured devices such as the 3M™ Dynatel™ Tester 946DSP enable CATV installation and maintenance crews to efficiently qualify and troubleshoot inside wiring. Test results can be stored and uploaded to a PC for efficient record keeping.



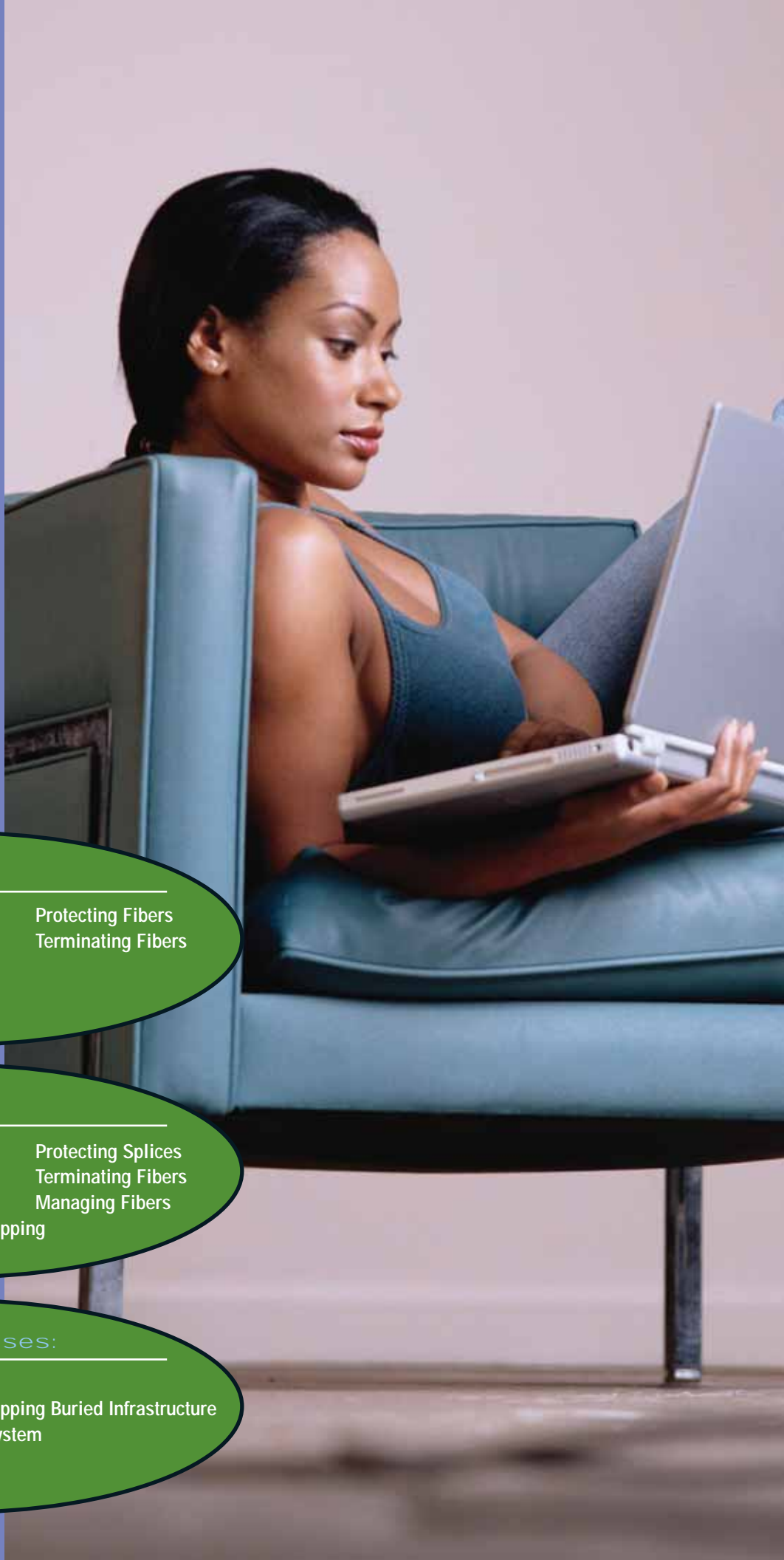
Proprietary 3M™ Dynatel™ Locating and Marking Products precisely locate buried facilities for accurate, safe excavation and maintenance productivity. Marked facilities can be quickly spotted and identified to avoid accidental damage. Crews easily determine what a marked underground feature is, who it belongs to, who placed it and when it was placed — without excavation. Marking of buried CATV facilities can be matched with Global Positioning System coordinates for mapping, database enhancement and highly efficient infrastructure management.



3M SOLUTIONS MEET INTERCONNECTION NEEDS ACROSS THE CATV PHYSICAL-MEDIA LAYER.

The 3M product family contributes to the reliability of all outside plant configurations, whether facilities are aerial, in a cabinet, direct buried, or contained in underground conduit. Product designs focus on ease of installation and low maintenance together with the highest reliability.

These products and systems are proven through years of use, but new solutions in the portfolio satisfy the latest requirements. All of 3M's physical media layer products are widely available through leading distributors.



Headend:



Managing Fibers
Identifying Fibers
Splicing Fibers

Protecting Fibers
Terminating Fibers

Outside Plant:



Splicing Fibers
Protecting Fibers
Identifying/Marking Fibers
Marking, Locating and Mapping
Buried Infrastructure

Protecting Splices
Terminating Fibers
Managing Fibers

Customer Premises:



Terminating Copper Wires
Marking, Locating and Mapping Buried Infrastructure
Connecting to an Alarm System
Testing POTs Lines

3M PRODUCT CATEGORIES

3M™ DYNATEL™ LOCATING AND MARKING PRODUCTS

Portable marker locators program and subsequently locate buried markers to identify the buried component, its depth, placement date, owner, and other useful details. 3M identification marking can be incorporated with GPS and GIS information for detailed, highly precise mapping.



3M™ DYNATEL™ DIAGNOSTIC TEST EQUIPMENT

Proven subscriber loop test products from 3M handle loop diagnostics, cable tracing, fault locating, transmission testing and combination test/terminal applications.



FIBER OPTIC MANAGEMENT AND DISTRIBUTION SYSTEMS

3M™ Fiber Distribution and Management Systems offer economical and highly organized options for managing and protecting high-density fiber optic installations.



FIBER OPTIC SPLICES AND CONNECTORS

The extensive 3M family of discrete and multi-fiber splices and tools provides for permanent, low-loss optical fiber splices throughout the CATV network.



FIBER OPTIC CLOSURES, DOME CLOSURES, TRAYS AND ACCESSORIES

The full line of 3M splice cases, closures, dome closures, terminals and network accessories enable MSOs to install and protect fiber splice assemblies quickly and effectively.



COPPER SPLICING PRODUCTS

3M discrete and modular connectors feature the dependable U-element insulation displacement contact developed by 3M more than 30 years ago. Supported by a complete line of tools, accessories, terminals and closures.



NETWORK ACCESSORIES

Useful network accessories include fire protection products, marking and labeling products, and a full range of splicing, insulating, sealing and reflective tapes.



PROVEN PRODUCTS — INTEGRATED SOLUTIONS.

Services such as carrier-class telephony, high-speed internet access, VoIP, direct broadcast TV, real-time duplex video and video-on-demand represent substantial revenue opportunities for cable companies and network suppliers.

3M is uniquely equipped to work with MSOs and support physical-media layer performance with interoperable world-class products, tools, training and technical support.

TOOLS FOR EFFECTIVE MAINTENANCE AND TROUBLE-SHOOTING OF COPPER FACILITIES.

Effective customer premises line qualification and test capabilities are crucial to your success in this era of triple play demand, particularly as levels of craft experience and technical expertise decline.

3M™ Dynatel™ Test Devices offer functions from loop diagnostic routines to fault locating, transmission testing and combination test/terminal capabilities. These rugged, robust units, in their distinctive yellow cases, are designed to withstand extreme and demanding field conditions. They represent another important asset in the 3M toolkit for MSO support.

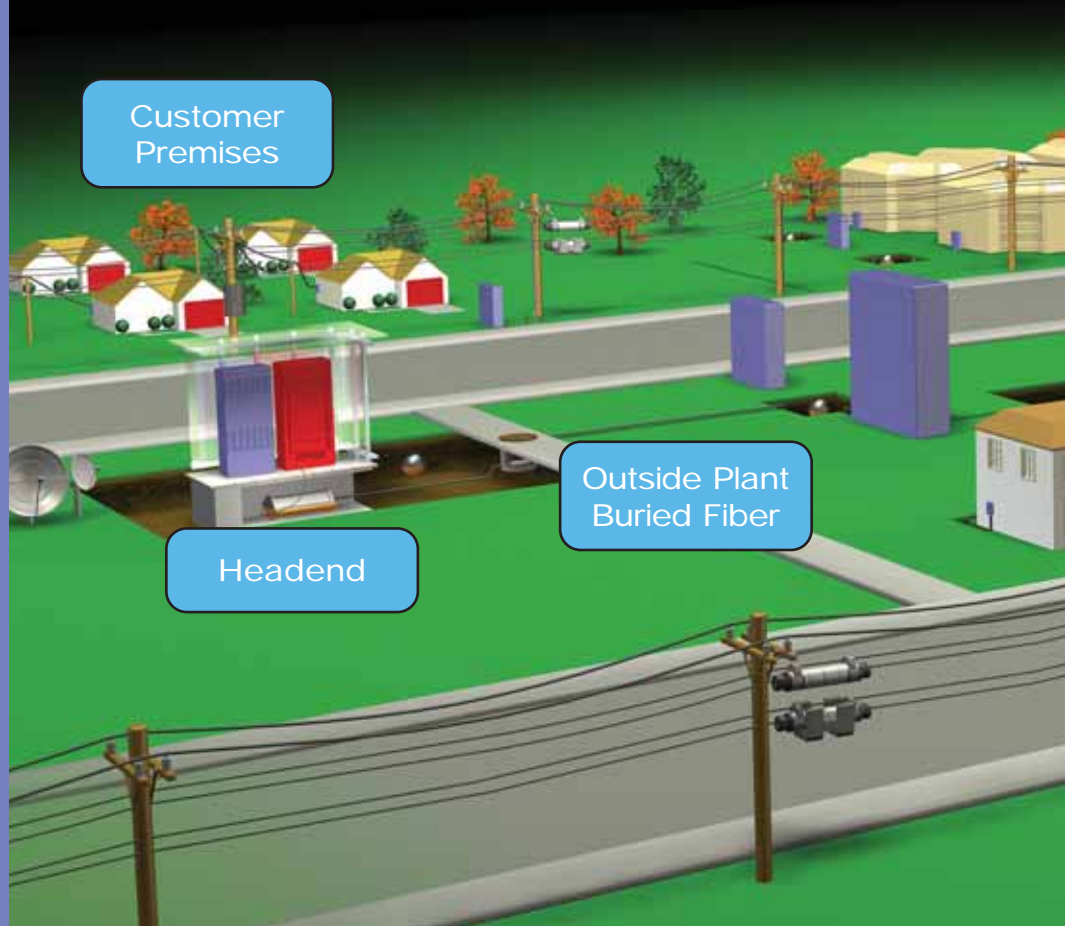
3M PRODUCTS AND SERVICES FOR CATV NETWORKS

HEADEND

- Fiber Management and Distribution Systems
- Holding and Fastening Products
- 3M™ Fibrlok™ Multi-Fiber Optical Splicing Systems
- Fiber Connector Termination Kits and Accessories

FIBER NODE

- Fiber Management and Distribution Systems
- Fiber Optic Closures
- Fiber Optic Splices and Connectors
- Fiber Optic Splice Terminals
- Holding and Fastening Products
- Insulating, Splicing, Sealing, Reflective and Specialty Tapes
- 3M™ ScotchCode™ Marker and Label Products
- Fiber Connector Termination Kits and Accessories

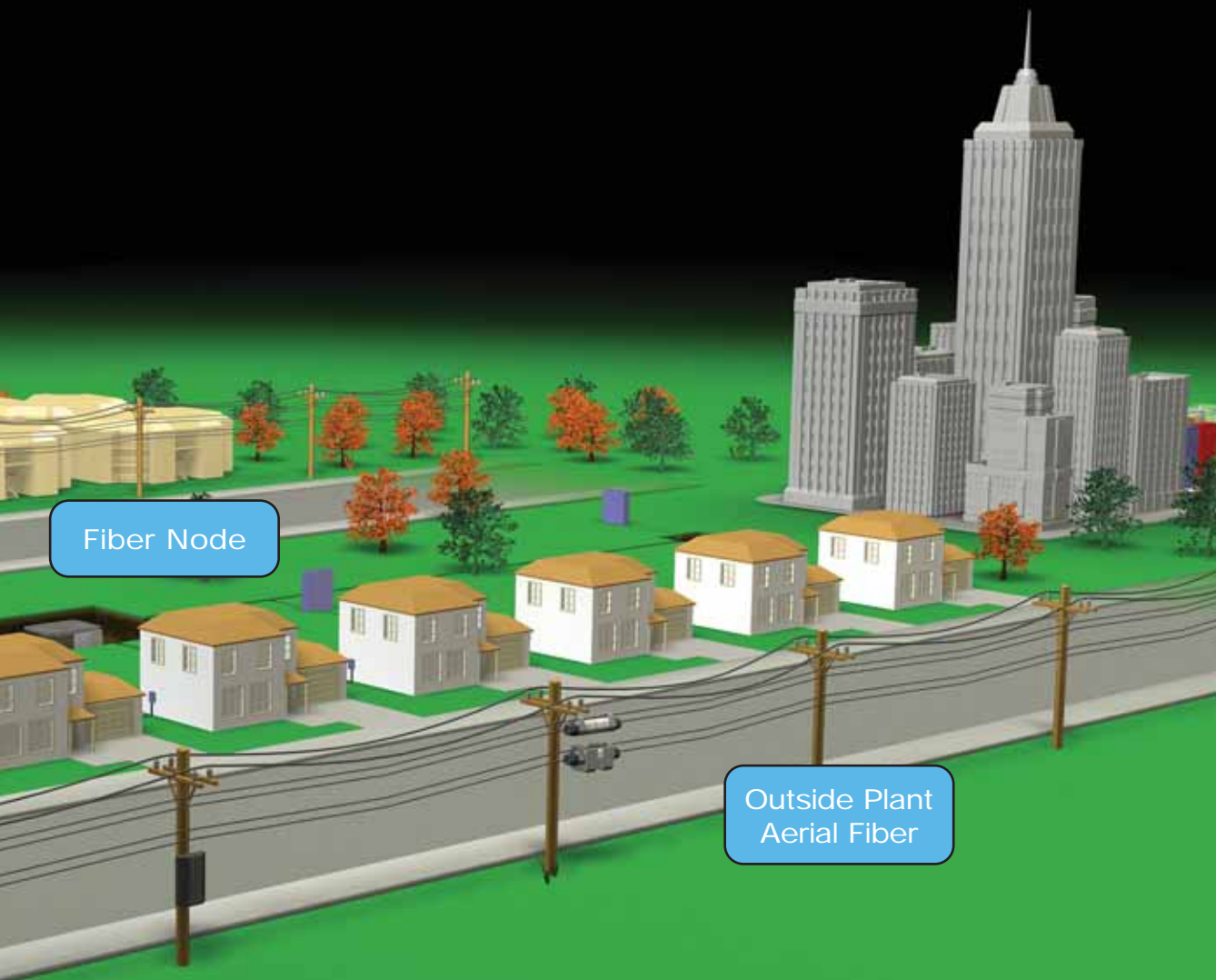


OUTSIDE PLANT

Fiber Management and Distribution Systems
Copper Connectors and Tools
Insulating, Splicing, Sealing, Reflective and Specialty Tapes
Fiber Optic Closures
Fiber Optic Splices and Connectors
Fiber Optic Splice Terminals
Holding and Fastening Products
3M™ ScotchCode™ Marker and Label Products
Fiber Connector Termination Kits and Accessories
3M™ Dynatel™ Marking, Locating and Diagnostic Test Equipment

CUSTOMER PREMISES

3M™ Scotchlok™ Connectors and Tools
3M™ Dynatel™ Diagnostic Test Equipment



Fiber Node

Outside Plant
Aerial Fiber

Cable MSOs and their equipment suppliers can get a head start on optimized network development for triple play leadership with product and development resources from 3M, including the benefits of the most broadly based, functional and reliable line of products available for the physical-media layer, supported with long experience, product and corporate stability, global distribution, training support and responsive technical service.

Contact your local 3M representative for more information,
or call the 3M Communication Markets Division at: 800/426 8688.
www.3M.com/CATV

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