

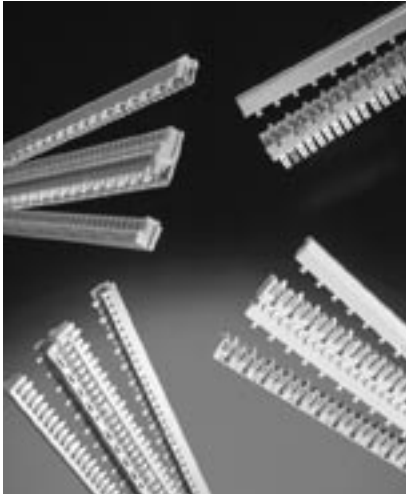


# 710 Splicing System



Also Classified by Underwriters  
Laboratories in accordance  
with TIA/EIA 568-A,  
Cat. 5 Transmission.

# 3M™ 710 Splicing System



2

Critical to the reliability of copper conductor communication systems are good splices, points where electrical impulses pass through splice connectors as voice and data signals connect sender with receiver.

For over 25 years, 710 modular splice connectors have been used on a world-wide basis to improve splicing productivity, increase efficiency of copper conductor cable.

Modular in design, the 3M 710 system electrically joins multiple pairs of copper conductor cable concurrently, with modules capable of splicing five or twenty-five pairs at a time.

3M 710 modules contain an IDC (insulation displacement connection) device. Electrical connections are made by metallic contact elements that displace the insulation creating a contact point between the conductor and contact element. This design provides a gas-tight connection.

Strain relief is achieved through design features unique to the 710 system. Plastic sheath retention grip points known as “bat wings” and “cathedral windows” maintain retention on the conductor insulation. Load bearing is handled by the molded part as opposed to the metal contact element.

**Modules are available in 5 and 25-pair configurations**

## **Modules are available for straight, half-tap and bridge splicing**

Several splice module configurations allow multiple options when designing a communications system. Straight connectors permit the joining of conductors when making a straight splice. Half-tap modules permit the joining of two cables but can also be used for rearranging and transferring cables without interruption of service while bridge modules are used in conjunction with either straight or half-tap connectors.

## **Modules may be used to splice 22 to 26 AWG conductors**

Multiple pairs (5 or 25) of PIC, PVC, pulp or paper insulated copper conductors are quickly and easily spliced at one time. 3M 710 connectors may be used to splice conductors ranging in size between 22 to 26 AWG (.65 mm to 0.4 mm).

## **All 710 connectors are manufactured from fire retardant plastic**

Fire retardant engineering grade plastic is used in the manufacture of all connectors. 3M 710 connectors may be used in the outside plant for aerial, underground or buried applications or for making connections in central office main frame distribution systems.

## **All 710 modules are available either dry or filled**

Dry connectors are universal in application and may be used with PIC, PVC, pulp or paper insulated conductors. For maximum moisture protection, filled connectors are used with either PIC or PVC insulated conductors.

## **Sealant is an integral part of 710 splice connectors**

Each 710 filled connector contains its own waterproof compound that is pressed outward when the module body and index strip or cap are pressed together. The preloaded compound fills all voids, when properly installed, to eliminate air or

moisture pockets that could surround the contacts and/or conductors. It's a superior design that affords a high degree of integrity for moisture protection as well as maximizing the space constraints that may be confronted by the splicer.

## **Easy modular splice maintenance**

Each module cap may be reopened without loss of customer service while one pair may be removed and replaced with another without others being disturbed (the index strip cannot be opened).

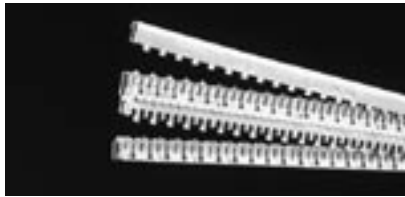
## **Modules consist of a minimum amount of metal component parts**

Contact elements are the only metal components within 710 module bodies. The metal, utilized for contact element fabrication, is resistant to various forms of localized corrosion, stress corrosion cracking and pitting. In addition, the contact elements will not produce significant galvanic corrosion in wet or humid conditions even if other metals are present.

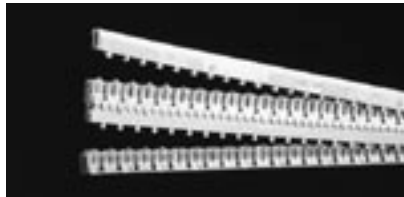
## **The 710 system consists of a complete complement of tools, supplies and replacement parts**

### **Applications**

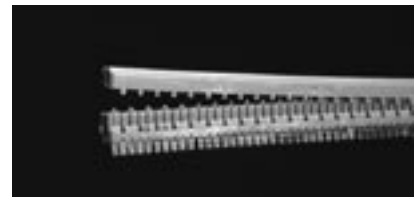
- Aerial closures
- Underground/vault closures
- Direct buried closures
- Encapsulated closures
- Building distribution systems
- Central office/main frame distribution



3



4



5

### Half-Tap Connectors —

Permit the joining of two cables (straight splice) or one cable to through cable conductors without interruption of service (half-tap splice).

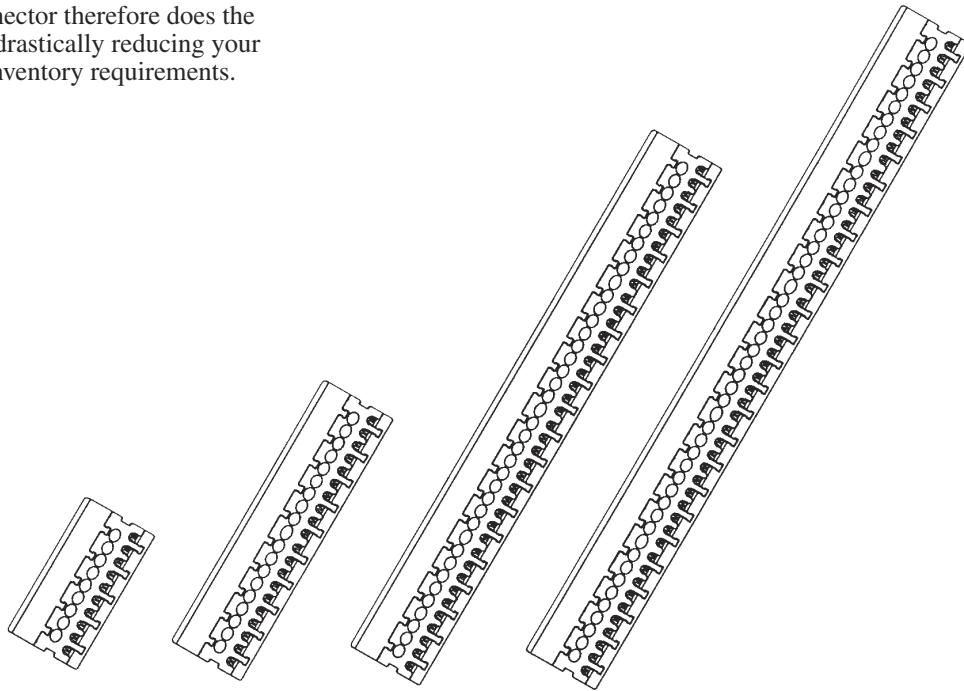
One connector therefore does the job of two, drastically reducing your connector inventory requirements.

### Straight Connectors —

Used for making a straight or through splice. A full plastic “skirt” protects cut conductor ends from moisture attack.

### Bridge Connectors —

Exposed contact elements are accepted by either a straight or half-tap module for bridging applications.



## Half-Tap Modules

5-PAIR	10-PAIR	20-PAIR	25-PAIR	Description	Insulation	Application	AWG
<b>Dry Splice Connectors</b>							
3M™ 710-SD1-5	3M™ 710-SD1-10	3M™ 710-SD1-20	3M™ 710-SD1-25	Straight or half-tap connector <sup>+</sup>	PIC/PVC Pulp or Paper	Dry	24/26 (0.5 - 0.4)
3M™ 710-BD1-5	3M™ 710-BD1-10	3M™ 710-BD1-20	3M™ 710-BD1-25	Bridge connector	PIC/PVC Pulp or Paper	Dry	22/26 (0.65 - 0.4)
<b>Filled Splice Connectors</b>							
3M™ 710-SCI-5	3M™ 710-SC1-10	3M™ 710-SC1-20	3M™ 710-SC1-25	Straight connector	PIC/PVC	Filled	24/26 (0.5 - 0.4)
3M™ 710-TC1-5	3M™ 710-TC1-10S	3M™ 710-TC1-20	3M™ 710-TC1-25	Straight or half-tap connector <sup>+</sup>	PIC/PVC	Filled	24/26 (0.5 - 0.4)
3M™ 710-BC1-5	3M™ 710-BC1-10	3M™ 710-BC1-20	3M™ 710-BC1-25	Bridge connector	PIC/PVC	Filled	22/26 (0.65 - 0.4)
<b>Large Gauge Filled Splice Connectors</b>							
--	--	--	3M™ 710-SCL-25	Straight connector	PIC/PVC	Filled	22/24 (0.65 - 0.5)
--	--	--	3M™ 710-TCL-25	Straight or half-tap connector <sup>+</sup>	PIC/PVC	Filled	22/24 (0.65 - 0.5)

<sup>+</sup> Half-tap cover recommended after tap removal.

# 3M™ 710 25-pair Cutter Presser Tool



6

## Splice 25-pair 3M 710 straight, straight/half-tap and bridge connectors

### Features:

- May be used to splice 22/26 AWG (0.65 - 0.40 mm) copper conductor cable
- Complete mechanical design, no hydraulic equipment required for splicing
- Completely hand operated.
- Lightweight, aluminum die cast components
- Reliable, few moving parts.
- Tool is color coded for easy pair identification
- Economically cost effective
- 710 tool may be used to splice straight, straight/half-tap and bridge connectors
- Cutting blades are located in the 710 tool, not in the connector module. The same straight/half-tap connector may be used for straight or half-tap splicing with the same tool and splice module
- No wire retention guides are required Bat wings and cathedral windows securely hold wires while splicing.
- Conductor group holder positively positions conductor groups in convenient proximity to the module assembly channel for easy cable organization during splicing
- Complete set of maintenance hand tools and mounting hardware is available
- Patented
  - A color coded strip, on front of the splicing channel, is in close proximity to connector modules. Color coded peak projections, on each connector module, make for easy color matching of conductor pairs during splicing.



3M™ 710 Kit (710-UTK25A)

7



710-UT25A (Tool only)

8



# 3M™ 710 5-pair Hand Presser

## Features

- May be used to splice 22/26 AWG (0.65 - 0.40 mm) copper conductor cable
- Virtually maintenance free
- Reliable, few moving parts
- Lightweight and compact
- Completely hand operated
- Wide variety of holders available to splice 5 or 25-pair 710 splice modules, five pairs at a time
- May be used to splice straight, half-tap and bridge connectors
- Completely portable, excellent for splicing in areas where space and



5-pair Hand Presser

11

tool function is critical such as in aerial splicing or small footway boxes



5-pair Hand Presser kit (710-HTK05A)

12

- Complete set of associated mounting hardware available

## Mounting Hardware



13

### Tool Mounting Kit

A multi-piece set designed to mount and support all splicing tools on splicers boxes, pedestals or racking. (710-TMK10-A)



14

### Tripod for Splicing Tools

A one-piece telescoping tripod used for floor supporting splicing tools. (710-TPK10)

## Accessories



15

### Insertion Cutting Tool

For cutting and terminating one conductor pair at a time in a 710 connector module. This facilitates rearrangement of the modular splice when space is limited or for individual pair maintenance. (710-ICT10)



16

### Bridge to Splice Presser

For insertion and pressing of 710 bridge connector modules into half-tap or straight splice connector modules. (710-BSP10-L)



17

### Bridge Removal Tool

For removing bridge connectors from the connector module. (710-BRT10A)

## Accessories (cont.)



18

### Half-Tap Cover

Used to cover and seal the removed half-tap cable pairs following the cutting operation with the conductor wire cut-off tool. (710-HTC-25)



19

### Cap Removal Tool

For removal of caps from connector modules to rearrange pairs or perform maintenance wire work. (710-CRT10)



20

### Conductor Wire Cut-off Tool

For cutting off through-conductor wires that will no longer be used after half-tapping. All wires are cut individually in a single operation to eliminate the possibility of shorting and interrupting service. (710-CCT10)



21

### Test Leads

For testing one conductor pair at a time through bridge access ports on all 710 modules. (710-AP121)

3M and MS<sup>2</sup> are trademarks of 3M Company.

### Important Notice

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.

### Warranty; Limited Remedy; Limited Liability.

This product will be free from defects in material and manufacture for a period of one year from the date of purchase. 3M MAKES NO OTHER WARRANTIES INCLUDING, BUT NOT LIMITED TO, ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. If this product

is defective within the warranty period stated above, your exclusive remedy shall be, at 3M's option, to replace or repair the 3M product or refund the purchase price of the 3M product. Except where prohibited by law, 3M will not be liable for any loss or damage arising from this 3M product, whether direct, indirect, special, incidental or consequential regardless of the legal theory asserted.



### Communication Markets Division 3M Telecommunications

6801 River Place Blvd.  
Austin, TX 78726-9000  
800/426 8688  
FAX 800/626 0329  
<http://www.3M.com/telecom>



40% Pre-consumer waste paper  
10% Post-consumer waste paper

Litho in USA.

© 3M 2004 80-6110-1851-8