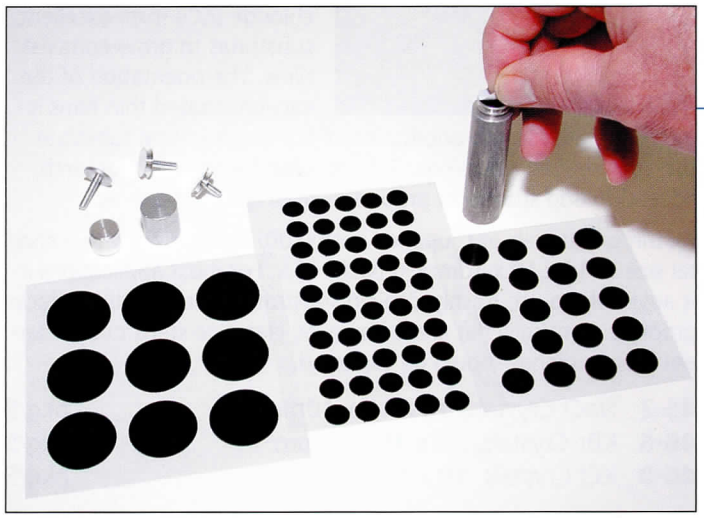
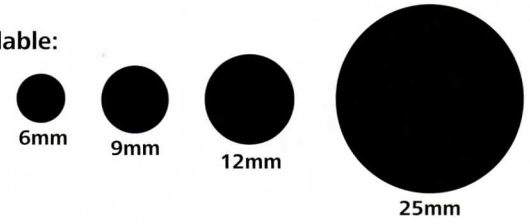
# Conductive Tabs, Tapes and Sheets

## ■ PELCO Tabs™, Double-Coated, Conductive

*new types added*



**4 Sizes Available:**




The simplicity of application, and smooth, clean surfaces of the static-free PELCO Tabs™, Carbon Conductive Tabs are a significant improvement compared to many of the other common adhesives that have been used in microscopy mounting. Both tab sides have a thick conductive adhesive (conductive inner film is 35µm and the adhesive is 45µm on each side for a total of 125µm [5 mils]) with a liner on both sides, a transparent liner and white liner respectively. They are ready for immediate use. On the other hand, the top liner does not have to be removed until the sample is ready to be mounted. This reduces possible contamination. Outgassing is negligible.

Application of the tab to a mount or surface may be done slowly and carefully to maintain surface smoothness.

The conductive adhesive is a carbon filled acrylic glue, free of solvents. It can be removed from the specimen mount with ethyl acetate, ethanol, isopropanol or alcohols. Temperature maximum is 60°C (140°F). Small impurities of Si, Sb, S and very small impurities of Fe, Mg and Na can be found.

This product may also be used for gunshot residue analysis.

Many laboratories use these tabs for SEM in a large diversity of applications. Refrigeration will increase shelf life but a warm up period of one hour is then required before use. The specimen should be placed on the surface under the white liner. M T

(Use Spectro-Pure Tabs where necessary – see following).

**16084-6** PELCO Tabs™, Carbon Conductive Tabs, 6mm OD . . . . . .pkg/100

**16084-3** PELCO Tabs™, Carbon Conductive Tabs, 9mm OD . . . . . .pkg/98

**16084-1** PELCO Tabs™, Carbon Conductive Tabs, 12mm OD . . . . . .pkg/100

**16084-2** PELCO Tabs™, Carbon Conductive Tabs, 25mm OD . . . . . .pkg/54

## ■ "Spectro Tabs" When you need higher purity carbon

A need existed for a tab with a purer composition in situations such as X-ray analysis. The EDX graph (see our web site) shows a cleaner and smoother surface for those applications that require critical composition study.

**16084-4** Spectro Tabs, higher purity conductive carbon tabs, 12mm OD . . . . . .pkg/120

## ■ PELCO® Image Tab™, 260µm (10mil) Carbon Conductive Tabs, Double Coated

Back by popular demand, the thicker PELCO® Image Tab is a return to the stiff 260µm (10mil) thick smooth conductive tab. Though not as conductive or sticky as the current 4mil PELCO Tabs™, the PELCO® Image™ Tab is suitable as a photographic background and is repositionable. This tab is also suitable for Jet Scan applications where the tab must be removed and archived. The PELCO® Image™ Tab's surface is less prone to bubbling and cracking when metal coated under vacuum and thus better than the 125µm (5mil) PELCO Tab™ as a photographic background for small particles like pollen and insect parts.

Both sides of the 200µm thick conductive polycarbonate base have 30µm thick conductive glue. Total thickness is 260µm with a liner on both sides. Protection for handling, storage and shipping is provided on one side by the transparent liner sheet and on the other side by the white liner cover.

The conductive adhesive is a carbon-filled acrylic glue, free of solvents. It can be removed from the specimen mount with ethyl acetate, ethanol, isopropanol or alcohols. Temperature maximum is 60°C (140°F). Small impurities of Ni, Cu, Si, Sb, S, Na, P and very small impurities of Fe and Mg can be found. Refrigeration will increase shelf life but a warm-up time of 1 hour is then required before use.

**16084-20** PELCO® Image Tabs™,12mm O.D. . . . .pkg/100

M = MSDS on web page
T = Tech Note on web page

## ■ Carbon Conductive Tape, Double-Coated

Both sides of the 200µm thick conductive polycarbonate base have 30µm thick conductive glue. Total thickness is 260µm.

Protection for handling, storage and shipping is provided on one side by the 25µm thick, transparent liner and on the other side by the 40µm thick, white liner.

The conductive adhesive is a carbon-filled acrylic glue, free of solvents. It can be removed from the specimen mount with ethyl acetate, ethanol, isopropanol or alcohols. Temperature maximum is 60°C (140°F). Small impurities of Cu, Si, Sb, S, Na, P and very small impurities of Fe and Mg can be found. Refrigeration will increase shelf life but a warm-up time of 1 hour is then required before use. Sizes are 12mm and 25mm W x 5m L (½" and 1" x 5.46 yd) with a core diameter of 76mm (3"). Also available in sheet form: 65 W x 300mm L (2.5" x 11.8").

Please observe that 16084-9 carbon conductive tape, 65mm wide, might be applied for particle collection and analysis in clean rooms or other purposes.

**16084-7** Carbon Conductive Tape, 12mm W x 5m L each
**16084-8** Carbon Conductive Tape, 25mm W x 5m L each
**16084-9** Carbon Conductive Tape in **sheet form**, 65mm W x 300mm L . . . . . .each

## ■ Carbon Conductive Tape, Double-Coated

These carbon tapes are conductive and may be used conveniently for scanning electron microscopy or EDS applications.

This is the same material as the PELCO Tabs™, Carbon Conductive Tabs (previous page), but in tape form. The tape form allows for special application uses such as custom sizes, cut-outs and shapes. The purity of this tape is identical to the standard tab form at top of previous page.

Both sides of the tape have a thick conductive adhesive (conductive inner film is 35µm and the adhesive is 45µm on each side for a total of 125µm [5 mils]) with a white liner. The double adhesive and conductive design permits quick mounting of samples without using liquid or colloidal adhesives.

The tape is relatively solid and non-porous and does not absorb small samples. The variety of widths affords efficient application to various specimen mount surface sizes. Thickness is 0.16mm. Available in four widths. Can be used down to -20°C (-4°F) and temperature maximum is 60°C (140°F). Available in 8, 12, 20 and 50mm W x 20m L (.31, .47, .79 and 1.96" x 21.8 yd). Core diameter is 76mm (3").

**16073** Carbon Tape, 8mm W x 20m L . . . . . .each
**16073-1** Carbon Tape, 12mm W x 20m L . . . . . .each
**16073-2** Carbon Tape, 20mm W x 20m L . . . . . .each
**16073-3** Carbon Tape, 50mm W x 20m L . . . . . .each

## ■ 3M™ XYZ-Axis Electrically Conductive Tape, type 9712

3M™

This tape is an isotropically conductive pressure sensitive tape. It conducts electricity through the thickness (Z-axis) and in the plane of the adhesive (X, Y planes) and is ideal for EMI/RFI shield and parts attachment to metal surfaces. The tape consists of a high performance 3M™ adhesive loaded with conductive fibers. The result is a double-sided tape providing good adhesion and electrical performance. The conductive fibers in Tape 9712 also provide improved handling performance. The conductive fibers in the tape also provide improved handling characteristics. It is economically favorable.

- **Improved adhesion** creates a solid bond and allows attachment of dissimilar materials
- **Easy handling** - more solid tape, conductive fibers reinforced and easier to remove

The conductive fibers (Ni) extend above the adhesive ensuring a solid electrical connection between parts. It is less suitable for mounting small or powder-like specimens because of the fibers in the adhesive and topographic surface.

Adhesive Type: . . . . . .Filled Acrylic
Filler Type: . . . . . .Conductive Fibers
Release Liner: . . . . . .Silicone-Treated Polycoated Kraft Paper
Approx. Thicknesses:
Tape Only . . . . . .0.005" (0.127mm)
Release Liner . . . . . .0.004" (0.10mm)

Bonding surfaces must be clean and dry to obtain maximum results. Isopropyl alcohol is recommended as a cleaning solvent. (Be careful to read the manufacturer's precautions and directions for use when handling cleaning solvents.) If necessary Scotch-Brite™ pads (see Materials Science section for a full listing to these pads) may be used to slightly abrade surfaces that are very smooth. M T

| Resistance Type 9712 | | | | |
|---|---|---|---|---|
| **Substrate Tested** | **Aluminum/ Aluminum** | **Aluminum/ Stainless Steel** | **Copper/ Aluminum** | **Copper/ Copper** |
| **Type 9712** | **<24Ω** | **<21.5Ω** | **<16Ω** | **<.66Ω** |

Based upon four wire (Kelvin probe) resistance measurements made with crossed pieces of Foil/Type 9712 Rigid plate construction using a 1.0" x 1.0" square piece of 3M™ Tape Type 9712. The rigid metal surface was prepared with a Scotch-Brite™ pad to roughen the surface and cleaned with isopropyl alcohol. (See "Materials Science" for Scotch-Brite™)

**16081** 3M™ Type 9712 XYZ Axis Electrically Conductive, Double-Sided Tape, 6.35mm W x 32.9m L (¼" x 36 yd) . . . . . .each
**16081-2** 3M™ Type 9712 XYZ Axis Electrically Conductive, Double-Sided Tape, 12.7mm W x 32.9m L (½" x 36 yd) . . . . . .each
**16081-4** 3M™ Type 9712 XYZ Axis Electrically Conductive, Double-Sided Tape, 25mm W x 32.9m L (1" x 36 yd) . . . . . .each

## 3M™ XYZ Axis Tape, Electrically Conductive, Double Sided, type 9713

3M™

Magnification of fibers

3M™

SEM micrograph of fiber in adhesive

This tape is an isotropically conductive pressure sensitive tape. It conducts electricity through the thickness (Z-axis) and in the plane of the adhesive (X, Y planes) and is ideal for EMI/RFI shield and parts attachment to metal surfaces. The tape consists of a high performance 3M™ adhesive loaded with conductive fibers. The result is a double-sided tape providing good adhesion and electrical performance. The conductive fibers in Tape 9713 also provide improved handling performance. The conductive fibers in the tape also provide improved handling characteristics.

- **Improved adhesion** - creates a solid bond and allows attachment of dissimilar materials
- **Easy handling** - more solid tape, conductive fibers reinforced and easier to remove
- **High conductivity** - creates solid electrical bridges

Due to the high electrical conductivity and excellent bonding properties, this tape is suited for bonding conductive samples on SEM specimen mounts or directly on SEM specimen holders. They can be used under clean room conditions. The conductive fibers (Ni) extend above the adhesive ensuring a solid electrical connection between parts. It is less suitable for mounting small or powder-like specimens because of the fibers in the adhesive and topographic surface. Tape 9713 is convenient to use, has good handling properties and liner release.

Bonding surfaces must be clean and dry to obtain maximum results. Isopropyl alcohol is recommended as a cleaning solvent. (Be careful to read the manufacturer's precautions and directions for use when handling cleaning solvents.) If necessary Scotch-Brite™ pads (see Materials Science section for a full listing to these pads) may be used to slightly abrade surfaces that are very smooth.

This tape should be applied between 60°F and 100°F (15°C - 38°C). Tape application below 50°F (10°C) is not recommended because the adhesive will be too firm to set the substrates resulting in low adhesion. Warming the substrates to 100°F (38°C) facilitates adhesion. Once properly applied, low temperature holding power is generally satisfactory.

| Resistance Type 9713 | | | | |
|---|---|---|---|---|
| **Substrate Tested** | **Aluminum/ Aluminum** | **Aluminum/ Stainless Steel** | **Copper/ Aluminum** | **Copper/ Copper** |
| **Type 9713** | **<2.5Ω** | **<2.0Ω** | **<1.0Ω** | **<0.5Ω** |

Based upon four wire (Kelvin probe) resistance measurements made with crossed pieces of Foil/Type 9713/Rigid plate construction using a 1.0" x 1.0" square piece of 3M™ Tape Type 9713. The rigid metal surface was prepared with a Scotch-Brite™ pad to roughen the surface and cleaned with isopropyl alcohol. (See "Materials Science" for Scotch-Brite™)

XYZ tapes come on a 76mm (3") plastic core. Sizes offered are 1/2", 1" and 4" in width and 36 yards in length (12.7mm, 25mm, and 102mm wide x 32.9 meters in length). M T

**16081-82** 3M™ Type 9713 XYZ Axis Electrically Conductive, Double-Sided Tape, 12.7mm W x 32.9m L (½" x 36 yd) . . . . . .each

**16081-83** 3M™ Type 9713 XYZ Axis Electrically Conductive, Double-Sided Tape, 25mm W x 32.9m L (1" x 36 yd) . . . . . .each

**16081-85** 3M™ Type 9713 XYZ Axis Electrically Conductive, Double-Sided Tape, 102mm W x 32.9m L (4" x 36 yd) . . . . . .each

## 3M™ 9703 Electrically-Conductive Adhesive Transfer Tape Z-Axis (Anisotropic) Conductivity

This is a pressure sensitive adhesive (PSA) transfer tape filled with conductive particles, which allow interconnection between substrates through the adhesive thickness ("Z-axis") but are spaced far enough apart for the product to be electrically insulating in the plane of the adhesive. It may be used to connect, bond and ground flex circuits, PCB's and EMI/RFI shields and gaskets. Tape 9703 should be applied between -20 to +40°C (-4°F to 104°F). Contact resistance is less than 5 ohms through the adhesive layer. Low outgassing (125°C, 24 hours at 2 x $10^6$ Torr) - Total Mass Loss (TML) 0.7%. Apply at room temperatures; no thermal bonding required. The tape comes on a standard 76mm dia. (3") plastic core; thickness of the liner is 0.1mm, adhesive is 0.05mm. T

**16081-10** 3M™ Z-Axis Electrically Conductive, 9703 Adhesive Transfer Tape, 6.35mm x 32.9m (¼" x 36 yd) . . . . . .each

**16081-11** 3M™ Z-Axis Electrically Conductive, 9703 Adhesive Transfer Tape, 12.7mm x 32.9m (½" x 36 yd) . . . . . .each

## 3M™ Copper Conductive Tape, Double Coated

This tape retains the features of 16072, while enabling the investigator to attach objects directly to the top surface of the tape. The adhesive is conductive. The tape is useful, for example, in attaching insects for SEM investigation. Dimensions are 12.7mm W x 16.4m L (½" x 18 yd). Core diameter is 76mm (3"). M T

**16074** 3M™ Copper Conductive Tape, Double-Coated, 12.7mm W x 16.4m L (½" x 18 yd) . .each

M = MSDS on web page T = Tech Note on web page

## ■ 3M™ Copper Conductive Tapes Single Adhesive Surface"

The tape is easily cut to size and may be quickly applied to a specimen mount or other surface. Carbon or metallic coating normally is applied to the sample and mount. An electrical discharge bridge is then completed from sample, through the copper and its conductive glue to the grounded specimen mount. The tape is dead soft copper with a conductive acrylic adhesive. It is supplied on a removable liner for easy handling and cutting. The tape offers excellent conductivity through the foil backing.

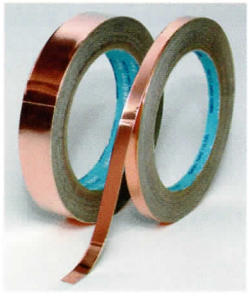
This tape is 6.3mm W x 16.46m L (¼" x 18 yd) or 12.7mm W x 16.46m L (½" x 18 yd) and the core diameter is 76mm (3"). M T

Foil Thickness: 0.04mm (.0016")
Total Thickness: 0.07mm (.0028")
Resistance through Adhesive: 0.005 ohm

**16072** 3M™ Copper Conductive Tape, 6.3mm W x 16.46m L (¼" x 18 yd) . . . . . .each

**16072-1** 3M™ Copper Conductive Tape, 12.7mm W x 16.46m L (½" x 18 yd) . . . . . .each

## ■ Copper Tape, with Nickel Single Adhesive Surface

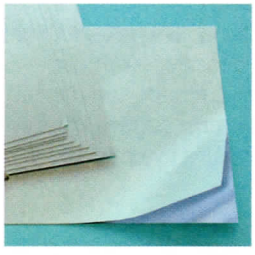


SEM conductive tape, electrically conductive with a clean, smooth background. Nickel is embedded in the adhesive. Overall thickness is .075 mm (3.0 mil), adhesive is 0.040mm (1.6 mil). Conductive resistivity is 0.004 ohm/square. Available in 8 and 20mm W x 20m L (.315" and .787" x 21.9 yd). Core diameter is 76mm (3").

**16067** Copper/Nickel Tape, 8mm W x 20m L . . . . .each

**16067-1** Copper/Nickel Tape, 20mm W x 20m L . . . .each

## ■ Silver Conductive Sheet, Double Adhesive Coated



This highly electrically conductive sheet is suitable for cutting and sizing to samples, with application to SEM and conductive pads.

Highly conductive: Resistivity only 0.002 ohm/5mm².

Little outgas under vacuum. Will not absorb or penetrate specimens, as liquid adhesives might absorb. Silver Sheet Size: 50mm W x 120mm L x 0.125mm thick (1.97" x 4.72" x 5 mil).

**16086-1** Silver Conductive Sheet, 50 x 120mm . . . .pkg/5

## ■ 3M™ Aluminum Conductive Tape Single Adhesive Surface

*single coated conductive smooth surface*

Scotch® 1170 tape is dead soft aluminum, is easily cut to size and may be quickly applied to a specimen mount or other surface. Carbon or metallic coating normally is applied to the sample and mount. Foil Thickness: 0.05 mm (2.0 mil). Total Thickness (foil + adhesive): 0.081mm (3.2 mil). Electrical Resistance through adhesive: 0.010 ohm. Available in: 6.3mm, 12.7mm and 25.4mm W x 16.4m L (¼", ½" and 1" x 18 yd). Core diameter is 76mm (3"). T

**16071** 3M™ Aluminum Conductive Tape, 6.3mm W x 16.4m L (¼" x 18 yd) . . . . . .each

**16071-1** 3M™ Aluminum Conductive Tape, 12.7mm W x 16.4m L (½" x 18 yd) . . . . . .each

**16071-2** 3M™ Aluminum Conductive Tape, 25.4mm W x 16.4m L (1" x 18 yd) . . . . . .each


## ■ 3M™ Cleanroom, High Temperature, ESD Tape

This tape has a high temperature polyimide film backing and silicone adhesive. It is specially treated for enhanced electrostatic discharge performance (electrostatic dissipative). Translucent gold. It can be used up to 243°C (500°F). Standard 76mm (3") plastic core. Thickness 2.7 mil (0.07mm). T *see Vinyl Clearnroom Tape p.000*

**16081-30** 3M™ Cleanroom Tape, ESD, 6.35mm x 32.9m (¼" x 36 yd) . . . . . .each

**16081-31** 3M™ Cleanroom Tape, ESD, 12.7mm x 32.9m (½" x 36 yd) . . . . . .each

**16081-31-2** 3M™ Cleanroom Tape, ESD, 19mm x 32.9m (¾" x 36 yd) . . . . . .each

**16081-32** 3M™ Cleanroom Tape, ESD, 24.5mm x 32.9m (1" x 36 yd) . . . . . .each

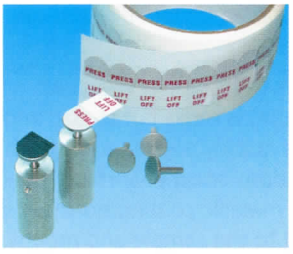
## ■ Carbon Conductive Sheet, Double Adhesive Coated

This electrically conductive sheet is suitable for cutting and sizing to samples, with application to SEM Energy Dispersive Spectrometry (EDS) X-ray studies. This product provides little outgassing under vacuum. It won't absorb or penetrate specimens, as liquid adhesives might. Sheet size: 50mm W x 120mm L x 0.16mm thick (1.97" x 4.72" x 6.3 mil).

**16085-1** Carbon Conductive Sheet, 50 x 120mm . .pkg/10

M = MSDS on web page
T = Tech Note on web page

## ■ Conductive Lift-N-Press Adhesive Tabs, Double-Sided



Composed of a thin film of strong conductive adhesive approx. ½" (12.7mm) dia.; >99% transparent to EDS, with 0.6% nickel and <0.3% copper content. To apply, place "Press" portion of tab on SEM mount surface, lift "Lift Off" tab and peel, slightly rotating tab when lifting. Can be cut to size as desired.

**16083** Conductive Lift-N-Press, roll/250 . . . . . .each

## Nonconductive Tabs and Tapes

## ■ 3M™ Polyimide Film Tape, Low Static


Low Static Polyimide Film Tape, with or without liner versions, 2.7 mil (0.07 mm), polyimide-film backed silicone adhesive tape with unique and extremely good electrostatic discharge properties. Flame retardant, chemical and radiation resistant. Temperature range –73° to 260°C (–100° to 500°F). Translucent gold-amber. Standard 76mm (3") core. Thickness 2.7 mil (0.07mm). T

**With Liner**

**16081-57** 3M™ Polyimide Lo Stat Tape 5433, with liner, 24.5mm x 32.9m (1" x 36 yd) . . . . . .each

**16081-58** 3M™ Polyimide Lo Stat Tape 5433, with liner, 49mm x 32.9m (2" x 36 yd) . . . . . .each

**Without Liner**

**16081-61** 3M™ Polyimide Lo Stat Tape 5419, without liner, 6.35mm x 32.9m (¼" x 36 yd) . . . . .each

**16081-63** 3M™ Polyimide Lo Stat Tape 5419, without liner, 12.7mm x 32.9m (½" x 36 yd) . . . . .each

## ■ 3M™ Tape 5413, Kapton® Base Hi Temp

A tape consisting of a Kapton® polyimide film and silicone adhesive designed for high temperature applications. Exhibits better adhesion to difficult surfaces. Temperature use range is -79° to 260°C (-100° to 500°F). The film thickness is 1.0 mil (0.03mm), total tape thickness is 2.7 mils (0.07mm). Standard 76mm (3") plastic core. Diverse applications besides elevated temperatures are: protection of contacts on PCB's during wave solder or dip solder process, masking during vacuum deposition and positioning tape for cryo applications. T

*Kapton® is a registered trademark of E.I. Dupont de Nemours Co*

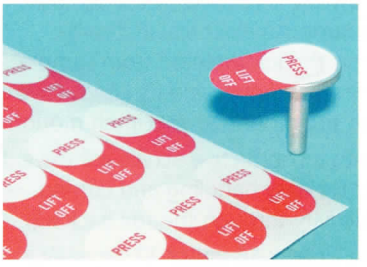
**16089-6** 3M™ Kapton® Tape, 19 x 32.9m (¾" x 36 yd) . . . . . .each

**16089-8** 3M™ Kapton® Tape, 2.5cm x 32.9m (1" x 36 yd) . . . . . .each

**16089-12** 3M™ Kapton® Tape, 5cm x 32.9m (2" x 36 yd) . . . . . .each

## Nonconductive Tabs and Tapes

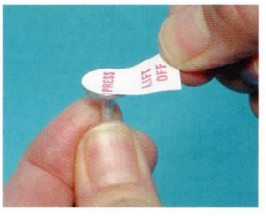
## ■ Adhesive Tabs




Composed of a thin film of strong nonconductive adhesive. Size of adhesive area is 11mm 7/16" (11mm) diameter which is appropriate for ½" SEM pin and cylinder mounts. Place the press portion of the tab on an SEM mount surface. After pressing, pull tab up and a thin layer of adhesive is left on the mount surface. Contents: 72 sheets, total of 2,592 tabs. Nonconductive.

**16079** Adhesive Tabs, box/2,592 . . . . . .each

## ■ Lift-N-Press, Nonconductive

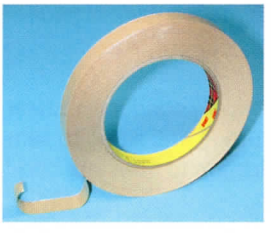



A new, improved adhesive tab composed of a thin film of strong, nonconducting, ½" (12.7mm) diameter adhesive which has these properties:

- Fits ½" SEM pin and cylinder mounts
- Smoother background
- High strength adhesive
- Better particle detection
- Adhesive only 25um thick
- Easy dispensing roll
- Longer shelf life

**16082** Nonconductive Lift-N-Press, roll/500 . . . . . .each

## ■ 3M™ 465 Adhesive Transfer Tape



This tape is clear, ½" x 60 yards and ¾" x 36 yards in length, has an adhesive thickness of 2.0mil (0.002") (50µm) and is clear. The 2-sided acrylic adhesive (high tack) also has a 4.0mil (100µm) 60 lb. densified Kraft paper liner. The adhesive film on the paper liner transfers to most surfaces on contact. Remove the liner and the adhesive remains in place. Used for mounting or attaching. 76mm (3") core.

**16077** 3M™ 465 Adhesive Transfer Tape, 12.7mm W x 54.8m L (½" x 60 yd) . . . . . .each

**16077-2** 3M™ 465 Adhesive Transfer Tape, 19mm W x 32.9m L (¾" x 36 yd) . . . . . .each

T = Tech Note on web page

## ■ 3M™ 410B Adhesive Tape (Double-Coated)

This tape uses a natural rubber system that offers good to excellent adhesion to many types of surfaces. It is a paper tape with a thickness of 5 mils (127µm). Standard 76mm (3") core.

**16075** 3M™ 410B Double-Coated Paper Tape, 12.7mm W x 32.9m L (½" x 36 yd) . . . . . .each
**16075-2** 3M™ 410B Double-Coated Paper Tape, 19mm W x 32.9m L (¾" x 36 yd) . . . . . .each
**16075-4** 3M™ 410B Double-Coated Paper Tape, 25mm W x 32.9m L (1" x 36 yd) . . . . . .each

## ■ 3M™ Double-Coated Tape, 665 No Liner, Nonconductive


This 3M™ 665 is a transparent tape coated with permanent adhesive on both sides and is photo safe. This tape is usable right off the roll with no liner to remove. Pulls off the roll smoothly and cuts easily. It resists drying out and fits into standard 76mm (3") core dispensers.

**16076-1** 3M™ 665 Double-Coated Tape, 6.35mm W x 22.86m L (¼" x 25 yd) . . . . . .each
**16076-2** 3M™ 665 Double-Coated Tape, 12.7mm W x 22.86m L (½" x 25 yd) . . . . . .each
**16078** 3M™ 665 Double-Coated Tape, 19mm W x 32.9m L (¾" x 36 yd) . . . . . .each
**16076-4** 3M™ 665 Double-Coated Tape, 25mm W x 32.9m L (1" x 36 yd) . . . . . .each

## ■ 3M™ Double-Coated Tape, 666


3M™ 666 is a transparent tape coated with permanent adhesive on both sides and is photo safe. The tape has a slit plastic removable liner on one side and is perforated for repairing continuous forms and other applications. It resists drying out and has a standard 76mm (3") core. Nonconductive.

**16080** 3M™ Double-Coated Tape, 666 19mm W x 32.9m L (¾" x 36 yd) . . . . . .each
**16080-1** 3M™ No. 666 Double-Coated Tape, 9.5mm W x 32.9m L (⅜" x 36 yd) . . . . . .each
**16080-2** 3M™ No. 666 Double-Coated Tape, 12.7mm W x 32.9m L (½" x 36 yd) . . . . . .each
**16080-3** 3M™ No. 666 Double-Coated Tape, 25mm W x 32.9m L (1" x 36 yd) . . . . . .each

## ■ 3M™ Repositionable Tape, 666 Clear


This new 666 tape can be repositioned or removed. It has a medium tack adhesive on both sides of the tape. Good adhesive anchorage to the film carrier provides one-piece tape removal from many surfaces. Slight side-to-side adhesion differential, therefore specific side removal can be accomplished if applied properly. It has a UPVC film carrier.

12.7mm x 65.8m L (½" x 72 yd). Standard 76mm (3") core.

**16080-6** 3M™ Doubled-Coated Repositionable Tape, 12.7mm x 65.8m L (½" x 72 yd) . . . . . .each

## ■ 3M™ Circuit Plating Tape, 1280


3M™ 1280 has a red color, 3.6 mil (0.091mm) total thickness and is a polyester film tape with silicone and rubber blend adhesive. This tape is used for printed circuit board masking during electroplating.

It is a low stretch polyester film for machine as well as hand application. Elongation (break or yield) is 125%. Backing thickness is 0.9mil (0.02mm). The polyester backing reduces stretch and recovery of tape and associated uneven "stop-off" line.

A thick adhesive coating reduces undercutting because adhesive helps block out solutions between fingers.

Mask many printed wiring boards during solder stripping and precious metal plating of fingers. This tape can be used for splicing silicone treated papers. This tape generally performs better when no ovens are used to heat tape and boards.

Withstands temperatures from 40° to 170°F (4° to 77°C).

**16081-3** 3M™ Circuit Plating Tape, 1280, 19mm W x 65.8m L (¾" x 72 yd) . . . . . .each

## ■ 3M™ Silver Tape, Nonconductive

Silver polyester tape is used for making ultramicrotome boats, and for other applications. The tape is 1.0mil (0.025mm) thick. Acrylic adhesive is used. Standard 76mm (3") plastic core.

9.5 and 12.7mm W x 32.9m L (⅜" and ½" x 36 yd)

**114-1** 3M™ Silver Polyester Tape, 9.5mm W x 65.8m L (⅜" x 72 yd) . . . . . .each
**114-12** 3M™ Silver Polyester Tape, 12.7mm W x 65.8m L (½" x 72 yd) . . . . . .each

## 3M™ Weather Resistant Film Tape, 838


*long term weather resistant and protecting applications*

This tape can be used for many long-term weather resistant and protecting requirements. It is a white Tedlar®* PVD with acrylic adhesive.

- Good aging properties because it contains no plasticizers.
- It remains tough and flexible over a broad temperature range.
- The properties of "Tedlar®" film include excellent resistance to weathering, outstanding mechanical properties and inertness toward a wide variety of chemicals, solvents and staining agents.
- Tedlar® film tape is strong, flexible and fatigue resistant.
- Can be certified to meet Mil Spec MIL-T-22085, Amendment 3, Type IV.

Temperature use range: -100° to 225°F (-73° to 107°C)

Further typical physical properties are listed on 3M™ Technical Sheet.

**16081-5** 3M™ Weather Resistant Film Tape, 25mm W x 65.8mm L (1" x 72 yd) . . . . . .each

**16081-6** 3M™ Weather Resistant Film Tape, 38mm W x 65.8mm L (1-½" x 72 yd) . . . . .each

**16081-7** 3M™ Weather Resistant Film Tape, 50mm W x 65.8mm L (2" x 72 yd) . . . . . .each

## 3M™ Cleanroom Vinyl Tape, 1251


This is a multipurpose vinyl tape, with a rubber adhesive. It is available in transparent, white, and yellow. It is a general purpose cleanroom (class 100) tape on a plastic core, thickness 5.2 mils (0.13mm).
12.7mm & 19mm W x 32.9m L (½" & ¾" x 36 yd).

**16081-40** 3M™ Cleanroom Vinyl Tape, transparent, 12.7mm W x 32.9m L (½" x 36 yd) . . . . .each

**16081-41** 3M™ Cleanroom Vinyl Tape, transparent, 19mm W x 32.9m L (¾" x 36 yd) . . . . . .each

**16081-46** 3M™ Cleanroom Vinyl Tape, white, 12.7mm W x 32.9m L (½" x 36 yd) . . . . .each

**16081-47** 3M™ Cleanroom Vinyl Tape, white, 19mm W x 32.9m L (¾" x 36 yd) . . . . . .each

**16081-51** 3M™ Cleanroom Vinyl Tape, yellow, 12.7mm W x 32.9m L (½" x 36 yd) . . . . .each

**16081-52** 3M™ Cleanroom Vinyl Tape, yellow, 19mm W x 32.9m L (¾" x 36 yd) . . . . . .each

## Scotch® Magic™ Tape, 810


This is the original matte finish invisible tape. It is the preferred tape for office, laboratory-office, industrial-office, shop-office, schools and home use. It disappears on paper and will not show on copies. Pulls off the roll smoothly and easily. Resists splitting and tearing. Easy to handle and apply; resists yellowing and drying out.

**114-91** Scotch® Magic™ Tape, 12.7mm W x 32.9m L (½" x 36 yd) . . . . . .each

**114-9** Scotch® Magic™ Tape, 19mm W x 32.9m L (¾" x 36 yd) . . . . . .each

**114-92** Scotch® Magic™ Tape, 25.4mm W x 32.9m L (1" x 36 yd) . . . . . .each

## Scotch® Desktop Tape Dispenser

Weighted Scotch™ desk dispenser C60 with 1 roll of Scotch™ Magic™ tape. Disappears on paper. Pulls off the roll smoothly and cuts easily. Resists splitting and tearing.

*Special Value*

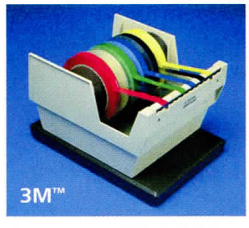
**114-3** Scotch® Desktop Tape Dispenser, roll of Scotch™ Magic™ Tape included . . . . . .each

## PTFE Tape


Pure, unsintered, contains no adhesive. Seals small crevices, conforming to surface irregularities, threads, joints. Use for ground glass joints, desiccators, freeze drying equipment. Facilitates later joint removal. 0.08mm thick.

**2082** PTFE Tape, 12.7mm W x 13.21m L (½" x 520") . . . . . .each

## 3M™ Multiple Tape Dispenser




*neat tape storage*

Holds multiple tape rolls with a 76mm (3") inside diameter core; up to 15.2cm (6") total width. The special weight holds the dispenser steady during pulling/cutting. Maximum roll outside diameter 17.5cm (6-⅞").

**114-4** 3M™ Multiple Tape Dispenser . . . . . .each