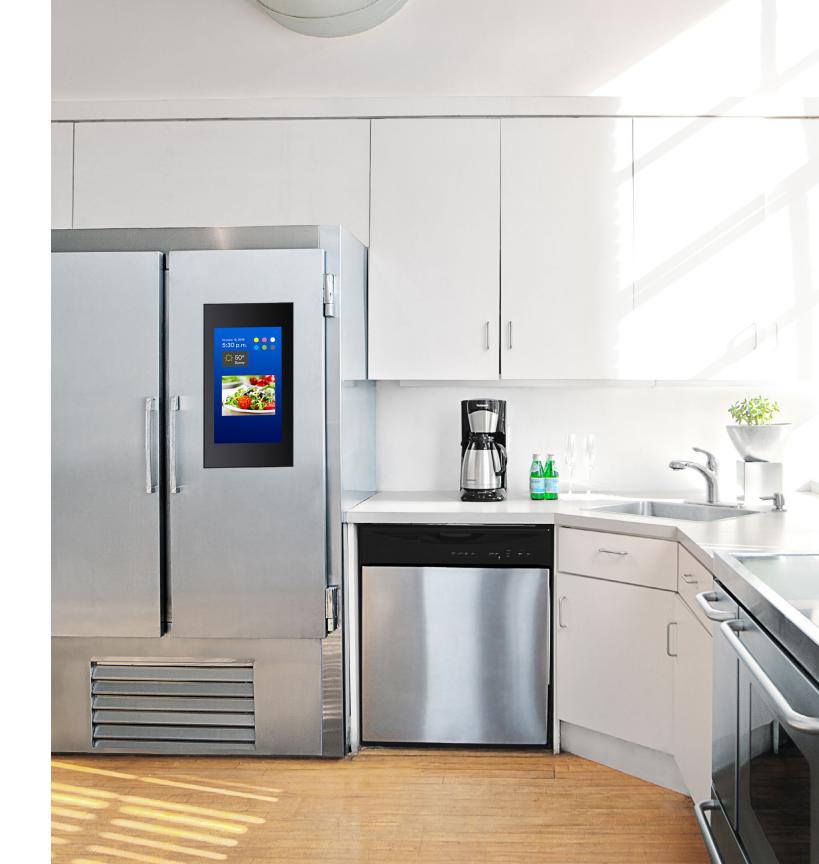


### **Appliances**

#### **Innovative Solutions for the Appliance Industry**

People want appliances that are durable, quiet, energy efficient and stylish. That's why designers and engineers all over the world look to 3M's advanced tapes, adhesives and other technologies to solve a wide range of manufacturing challenges: From reducing dryer noise and vibrations, to securing windows in oven doors, stabilizing refrigerator coils, attaching HVAC insulation, bonding membrane switches to microwaves and much more.



### Refrigerator

Refrigerator have become much more than simply boxes to preserve food. Part message board, part entertainment center, part refreshment dispensary, they are the centerpieces of the modern kitchen. That's why designers are always looking for new ways to make them even more indispensable to consumers. 3M innovations can help.

Securely attach cooling coils to inner surface before foaming with

3M<sup>™</sup> Aluminum Foil Tape 425

To prevent movement during foaming, attach vacuum insulation panel with <u>3M</u>™\_\_

Adhesive Transfer
Tape 468MP

Secure door(s) during shipping with Scotch® Clean Removal Filament Tape 8915

Attach decorative trim to interior surfaces of refrigerator to both high and low surface energy materials, including plastics and metals, with 3M™ Scotch-Weld™ Structural Plastic

Adhesive DP8010

Secure racks, shelves and instructions during assembly and shipment Scotch® Clean Removal Strapping Tape 8899HP

Secure doors during assembly and shipment with <u>Scotch</u>

<u>Clean Removal Strapping</u>

Tape 8899HP.

Secure drinking water tubing to back of unit with <u>Scotch</u>®\_Clean Removal Strapping
Tape 8899HP

Securely attach touch panel with <u>3M™ Adhesive Transfer</u>
<u>Tape 468MP</u>. Use 3M™
Adhesive Transfer Tape
9471LE for FPC Bonding.

Splice EPDM gaskets
with <u>3M™ Scotch-Weld™</u>
<u>Plastic & Rubber Instant</u>
Adhesive PR100

Securely attach logo to front of door with 3M™ VHB™ Tape RP25

Securely attach glass panel to front of refrigerator with 3M™ Scotch-Weld™ PUR Easy Adhesive TS230 or 3M™ VHB™ Tape RP45

Keep foam from escaping through access holes during foaming process with 3M<sup>™</sup> Venting Tape 3294

Secure power cord during assembly and shipping with Scotch® Clean Removal Strapping Tape 8899HP

Attach decorative trim to plastic drawers and shelves with <u>3M</u><sup>™</sup>\_
Adhesive Transfer Tape 9453LE

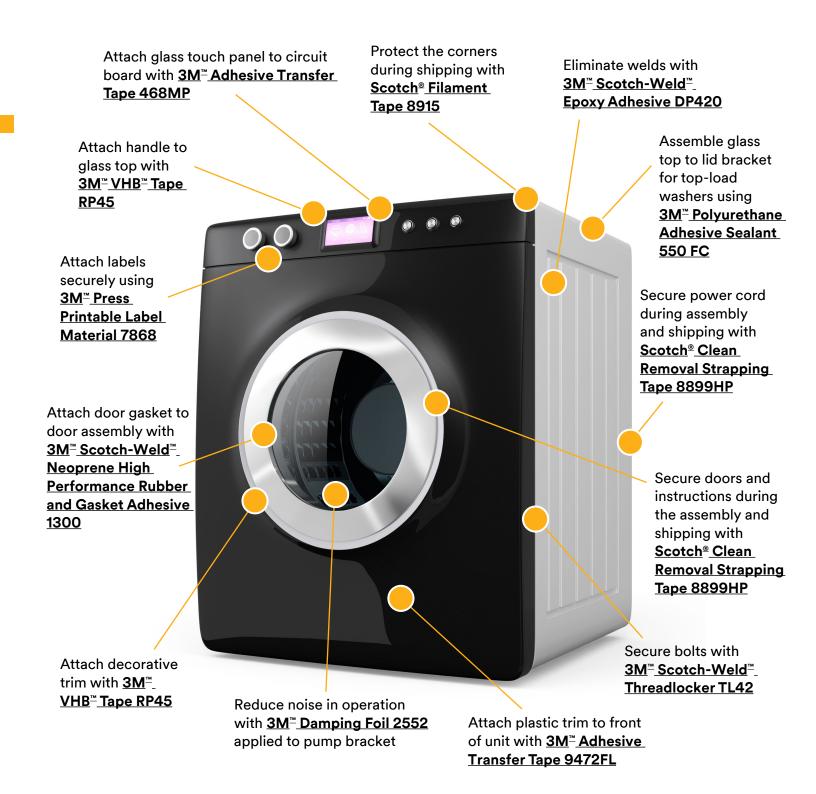
For VIP Panel Bonding use

3M™ Double Coated Tissue

Tape 9448A

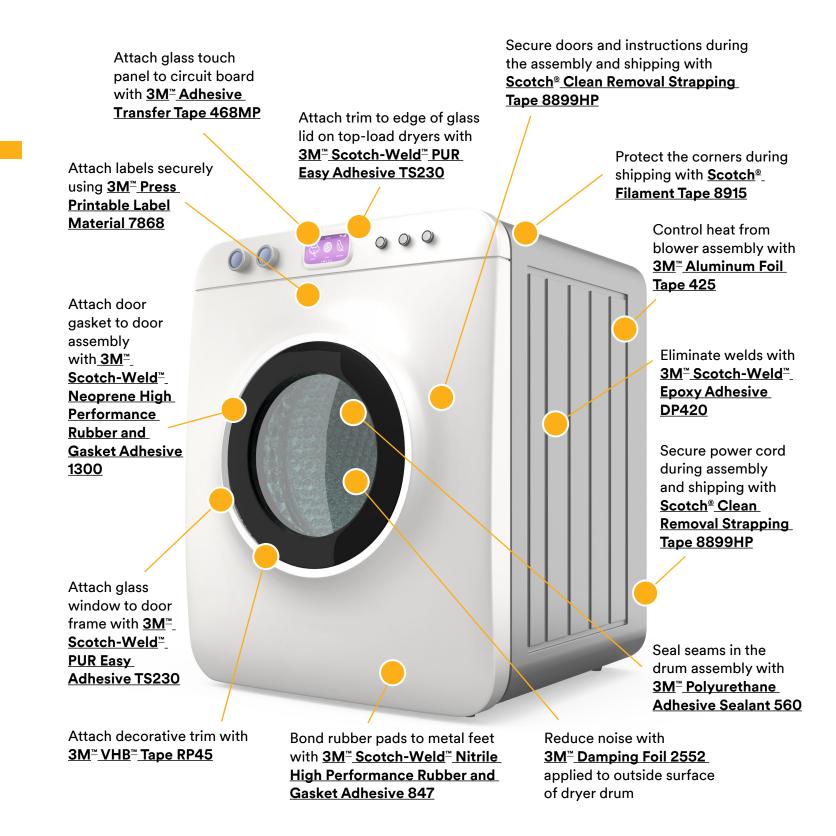
#### Washers

New energy rules and a major shift from top-loading to frontloading models are changing the game in washer design. Quieter operation, odor-prevention capabilities, steam features and even dust mite elimination are just a few of the latest innovations that designers are building in—with the help of 3M technologies.



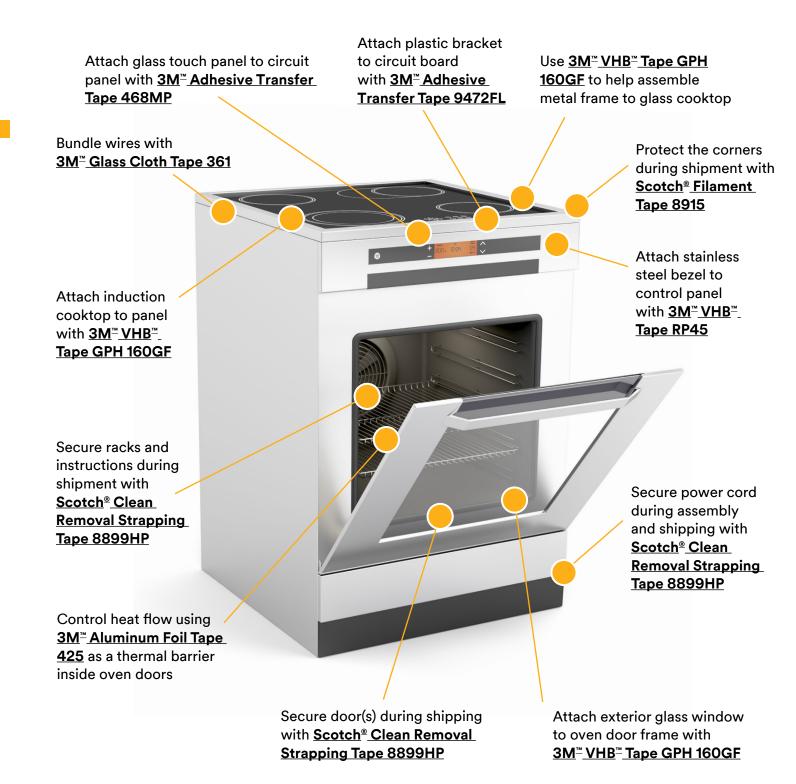
### **Dryers**

Dryers have come a long way from their days of doing dirty, dusty basement duty. Now consumers are looking for stylish design, energy efficiency and a host of other features to help make wardrobe management faster and easier.



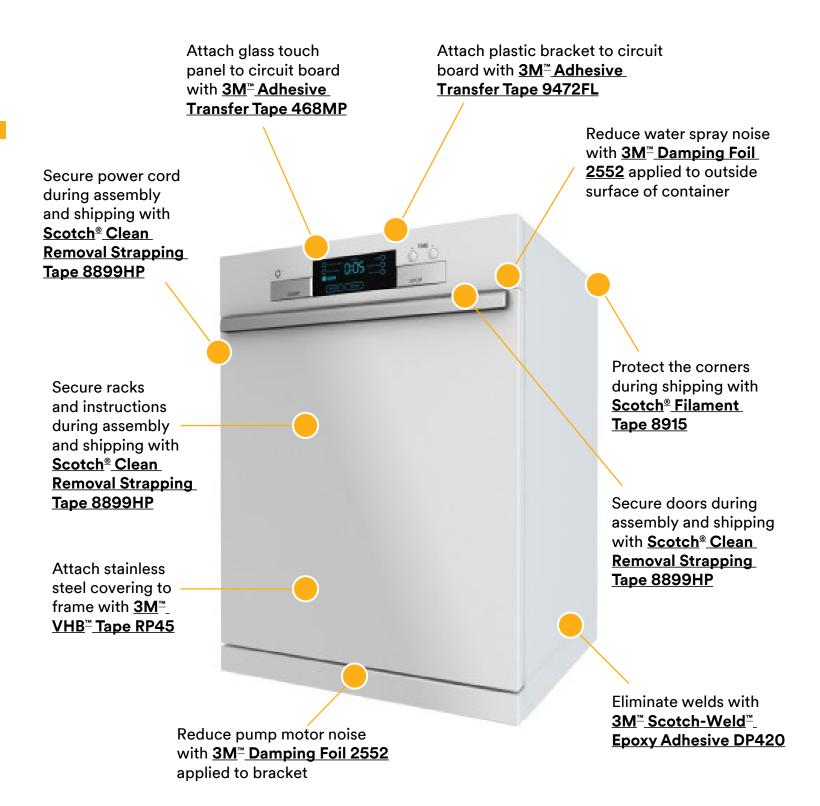
### Ovens/Cooktops

Despite their history as utilitarian food preparation tools, ovens and cooktops are changing rapidly. From digital touch screen controls to ceramic or glass surfaces and magnetic induction heating, these kitchen necessities are undergoing a renaissance in design limited only by the imagination of designers.



### Dishwashers

Noisy, oversized and clumsy, dishwashers of the past were always more helpful than beautiful. Now a new generation of demanding consumers are forcing designers to give these homely kitchen workhorses a technological makeover. Enter the beautiful, quiet, stylish dishwasher, brought to you in part by 3M technologies.



### Shipping/Packaging

A well-designed appliance deserves a well-thought-out packaging and shipping strategy to help keep it in perfect condition, from the manufacturing floor all the way to your customers' homes. 3M industrial adhesives and tapes are easy to integrate into your processes and cover every area of your product including surfaces, accessories, accompanying papers, drawers, shelving and more. That means fewer damaged products and more satisfied customers.

Keep invoices, packing lists and shipping orders safe and secure throughout the shipping process with 3M<sup>™</sup> Non-Printed Zipper Closure Packing List Envelopes NPX-XL

Use <u>Scotch® Clean Removal</u>
<u>Strapping Tape 8899HP</u> to
adhere protective Styrofoam®
Brand Spacers to large
appliances before shipping

Protect the corners during shipping with Scotch® Filament
Tape 8915

Secure doors, drawers and shelves with <u>Scotch® Clean</u> <u>Removal Strapping</u> <u>Tape 8899HP</u> Secure racks, electric coils and power cords for shipment with Scotch®
Clean Removal
Strapping Tape
8899HP

Seal basiloid boxes with Scotch® Filament Tape
890RCT, which features very high tensile strength and an aggressive, modified rubber adhesive

Seal carton boxes with <u>3M</u><sup>™</sup> Hot Melt Adhesive <u>3762 LM</u>

Securely close a wide variety of boxes and cartons—including recycled corrugate— with Scotch® Box Sealing Tape 375

#### 3M<sup>™</sup> VHB<sup>™</sup> RP45

3M™ VHB™ Tape RP45 is a conformable, double-sided, pressure-sensitive, closed-cell acrylic foam tape with a paper liner. This permanent assembly tape bonds high and medium surface energy substrates. Provides handling convenience, cushioning, damping and impact resistance. Applications include: bonding a logo to an oven, LCD display frame attachment, washing machine touch panel bonding, bonding a logo to a refrigerator, etc. For more information <u>click here</u>.



- High strength
- Durable
- Clean appearance



#### 3M<sup>™</sup> VHB<sup>™</sup> RP25

3M<sup>™</sup> VHB<sup>™</sup> Tape RP25F is a very conformable, gray, doublesided, pressure-sensitive, closed-cell acrylic foam tape. This permanent assembly tape bonds high and medium surface energy substrates, including many metal, plastic and painted materials. Provides handling convenience, cushioning, damping and impact resistance. For more information <u>click here</u>.



- High strength
- Durable
- Clean appearance



## Scotch® Clean Removal Strapping Tape 8899HP

Featuring a high strength, tensilized polypropylene backing with a proprietary 3M pressure-sensitive rubber adhesive, Scotch® Clean Removal Strapping Tape 8899HP provides superior shear strength and balanced adhesion, clean removal and stain resistance on surfaces such as painted metals, stainless steel, plastic and glass. For more information **click here**.



- Proprietary 3M pressuresensitive rubber adhesive that bonds firmly yet removes cleanly and resists staining
- Special polypropylene film backing provides proper stiffness and resists abrasion, moisture and scuffs
- Easy to apply, saves time and eliminates the need for rework
- Available in a variety of widths and colors to fit your manufacturing and shipping applications
- Typical applications include bundling, strapping, box closing, narrow width coil closure and securing a variety of components during shipment



## Scotch® Clean Removal Filament Tape 8915

Scotch® Clean Removal Filament Tape 8915 is a clear polypropylene backing reinforced with glass yarn filaments with a synthetic rubber resin adhesive. For more information **click here**.



- Non-staining, clean removable adhesive
- Synthetic rubber adhesive bonds firmly to a wide variety of application surfaces
- High strength filament reinforced tape
- Typical applications include bundling, strapping, box closing, and securing a variety of components during shipment



### 3M<sup>™</sup> Scotch-Weld<sup>™</sup> Threadlocker TL42

3M<sup>™</sup> Scotch-Weld<sup>™</sup> Threadlocker TL42 provides vibration, corrosion and shock resistance for fasteners in assembled form. This medium-strength anaerobic adhesive is dispensed as a one-component product. For more information <u>click here</u>.



- Fills and seals threads completely to help stop corrosion, rust, and leaks
- Helps maintain torque
- Removable with hand tools
- Securely holds dissimilar metals
- Helps keeps equipment and production up and running



#### 3M<sup>™</sup> Polyurethane Adhesive Sealant 560

3M™ Polyurethane Adhesive Sealant 560 is a high-strength, single-component, moisture-curing, gap-filling polyurethane adhesive that creates high strength bonds on a wide variety of materials including plastics, metals, fiberglass and wood. For more information <u>click here</u>.



- High strength bonding to replace mechanical fasteners and rivets
- Permanently elastic to allow joint movement
- 50-60 minute skin time; paintable, once skin forms
- Good UV resistance



## 3M<sup>™</sup> Scotch-Weld<sup>™</sup> PUR Easy Adhesive TS230

3M<sup>™</sup> Scotch-Weld<sup>™</sup> PUR Easy Adhesive TS230 is a one-component, 100% solids, moisture curing, structural adhesive for bonding wood and select plastics. For more information <u>click here</u>.



- Long open and set times
- Multisubstrate bonder
- 100% solids



### 3M<sup>™</sup> Scotch-Weld<sup>™</sup> Structural Plastic Adhesive DP8010

3M™ Scotch-Weld™ Structural Plastic Adhesive DP8010 Blue is a two-part acrylic adhesive specially formulated to bond many low surface energy plastics, including many grades of polypropylene, polyethylene, and thermoplastic elastomers (TPEs) without special surface preparation. For more information **click here**.



- 10 minute work life
- Structurally bonds polyolefins without surface preparation
- Medium viscosity



### 3M<sup>™</sup> Hot Melt Adhesive 3762 LM

3M<sup>™</sup> Hot Melt Adhesive 3762 LM is a 100% solids thermoplastic adhesive with excellent "Hot Tack," It bonds well to corrugated and display materials. Made from components listed as indirect food additives under FDA regulation for adhesives. For more information <u>click here</u>.

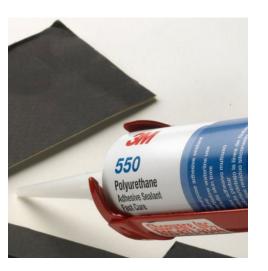


- Packaging adhesive
- Excellent hot tack
- 100% solids
- Low Melt (LM) adhesives are designed for low temperature application and heat sensitive substrates



### 3M<sup>™</sup> Polyurethane Adhesive Sealant 550 FC

3M™ Polyurethane Adhesive Sealant 550 FC is a fast-curing polyurethane designed to seal and bond many substrates in a wide variety of applications. For more information **click here**.



- Paintable multipurpose adhesive sealant
- 75 minute skin time
- Sealing, bonding, caulking, waterproofing and damping



## 3M<sup>™</sup> Adhesive Transfer Tape 468MP

This industry-standard adhesive transfer tape features a high performance 200MP acrylic adhesive on a 4.2 mil, 58 lb. polycoated kraft liner. With excellent die-cut and process capabilities, 3M™ Adhesive Transfer Tape 468MP is the easy solution for attaching graphics or nameplates and general industrial joining. For more information **click here**.



- Delivers exceptional peel and shear strength for metals and HSE plastics
- 58# polycoated kraft paper (PCK) liner offers a high strength bond for splicing and laminating applications
- Thicker adhesives improve wet-out and adhesion on textured surfaces
- Provides very high resistance to solvents and humidity



## 3M<sup>™</sup> Adhesive Transfer Tape 9453LE

Designed for moderately textured or embossed plastic surfaces, 3M™ Adhesive Transfer Tape 9453LE provides outstanding adhesion to Low Surface Energy (LSE) plastics such as polypropylene, powder-coated paints and even oily metals. It features a 3.5 mil, 300LSE acrylic adhesive on a 4.2 mil, 58 lb. polycoated kraft paper liner. For more information <u>click here</u>.



- Excellent quick stick
- High temperature holding power (up to 300°F)
- Clear, custom roll sizes available



# 3M<sup>™</sup> Adhesive Transfer Tape 9472FL

3M<sup>™</sup> Adhesive Transfer Tape 9472FL is a 5.0 mil, 300LSE acrylic adhesive on a 2.0 mil polyester film liner. Engineered for reliable adhesion to textured surfaces, it is excellent for applications that need high initial adhesion. For more information <u>click here</u>.



- Thick adhesive (5 mil) ensures positive bonding to textured Low Surface Energy (LSE) plastics, powder coatings and oily metals
- Good chemical and moisture resistance
- Ideal as a film liner



#### 3M<sup>™</sup> Scotch-Weld<sup>™</sup> Nitrile High Performance Rubber and Gasket Adhesive 847

A premium-quality, multipurpose adhesive, 3M™ Scotch-Weld™ Nitrile High Performance Rubber and Gasket Adhesive 847 develops strong, flexible bonds with exceptional resistance to most fuels and oil. It bonds very rapidly to a wide variety of substrates, but is especially effective on plastics and rubbers, gasketing materials and leather. For more information click here.



- Quick drying and flexible
- Heat and solvent reactivatable
- Resistant to fuels and oils
- Curable with heat
- For a non-flammable, no VOC alternative try 3M<sup>™</sup> Fastbond<sup>™</sup> 30.



#### 3M<sup>™</sup> Scotch-Weld<sup>™</sup> Neoprene High Performance Rubber and Gasket Adhesive 1300

One of 3M's most versatile rubber and gasket adhesives. Use it for bonding most rubber and gasketing materials to most metal, baked enamel, wood, plastics and neoprene, SBR and butyl rubber. A yellow, solvent-type synthetic, rubber-based adhesive, 3M™ Scotch-Weld™ Neoprene High Performance Rubber and Gasket Adhesive 1300 provides high immediate bond strength and good heat resistance. For more information <u>click here.</u>



- Fast drying and heat resistant for rubber and metal
- Easy to brush or spray on
- Meets MIL-M-82288 and MMM-A-121
- For a non-flammable, no VOC alternative, try 3M<sup>™</sup> Fastbond<sup>™</sup> 30.



### 3M<sup>™</sup> Press Printable Label Material 7868

Delivering industry-leading performance for polyester bar code label stock, 3M™ Press Printable Label Material 7868 features one of 3M's most universal adhesives for harsh environments. A 2.0 mil gloss white polyester facestock united with 1.1 mil acrylic adhesive 350 on a 55 lb. densified kraft liner provides ultimate adhesion in a wide range of applications. For more information **click here.** 

- Gloss topcoat offers excellent abrasion and chemical resistance
- Printable polyester is compatible with many types of ribbons and flexographic ink systems, including thermal transfers
- Superior adhesion to Low Surface Energy (LSE) plastics, smooth powder-paint coatings and oily metal surfaces
- Excellent high temperature performance
- Available with many facestocks from polyester, polypropylene and vinyl to pharmaceutical papers or synthetics
- UL recognized and CSA accepted



#### 3M™ Glass Cloth Tape 361

3M™ Glass Cloth Tape 361 is ideal for applications requiring high temperature resistance, high adhesion and a very strong, abrasion-resistant and puncture-resistant backing, such as masking protection in thermal spray operations or permanent sealing of high temperature ducts or chambers and high temperature HVAC sealing. Tough, strong and durable, it is composed of a white, 7.5 mil (0.14 mm) glass cloth tape with a silicone adhesive. For more information **click here**.

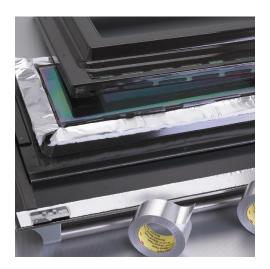


- Able to withstand temperatures up to 450°F (intermittent 550°F or higher, depending on the type and duration of the heat source)
- Can be certified to meet
   F.A.R. 25.853 flame-resistant specifications
- Can be removed cleanly with little or no stain
- Ideal for fabric splicing, seaming or sealing panels, heavy-duty masking, bundling, holding, harness wrapping or welding backup



## 3M™ Aluminum Foil Tape 425

A durable, dead-soft, 4.6 mil (0.12mm) aluminum foil tape with a pressure-sensitive acrylic adhesive, 3M™ Aluminum Foil Tape 425 resists flames, moisture, weather, UV degradation and chemicals. Thermally conductive and highly conformable, the 2.8 mil foil backing reflects both heat and light. It is widely used in aerospace, appliance and automotive applications— both indoors and out—to help optimize heating and cooling efficiency. For more information click here.



- A very low moisture vapor transmission rate makes this tape a good sealant
- Good candidate as a maskant in electroplating of aluminum because it will not contaminate the bath
- Meets U.L. 746C, U.L. 723,
   F.A.R. 25.853(a)
- Ideal for general purpose holding, patching and sealing applications, as a moisture barrier in "white goods" appliances, and to mechanically hold wires and cooling coils



### 3M<sup>™</sup> Damping Foil Tape 2552

Use 3M™ Damping Foil Tape 2552 to help maximize heating and cooling efficiency as well as damp vibrations on metal and plastic surfaces. This thermally conductive, heat reflective tape is designed for application to vibrating panels and support members. It consists of a room temperature, pressure-sensitive viscoelastic polymer (5.0 mil ISD 112) on a dead-soft aluminum foil (10.0 mil). The unique combination of viscoelastic polymer and an aluminum foil backing (a constrained layer damper, or CLD) has been proven exceptionally effective at controlling resonant vibrations. For more information click here.



- Absorbs and dissipates vibration, and reduces noise and metal fatigue
- Wide effective temperature range for damping: -25°F to 175°F (-32°C to 80°C)
- Liner allows die-cut capability
- Pressure-sensitive adhesive simplifies application
- Wide range of applications, including trucks, buses, trains, appliances, HVAC, aircraft, aerospace and die-cut aluminum foil parts—almost anywhere plastic or metal contact with materials can result in potentially damaging vibration



### 3M<sup>™</sup> Venting Tape 3294

Commonly used to cover openings in the cabinets of Refrigerator and freezers during the foam-in-place manufacturing process, 3M™ Venting Tape 3294 features a pink, 5.0 mil (0.13 mm) non-woven fabric backing with an acrylic adhesive. The air-permeable, non-woven backings are designed to help keep insulation inside the door and appliance cavities, while eliminating voids. Strip coated, it allows air and gases to escape while keeping solids (such as urethane foam) in place. For more information **click here.** 



- Ideal for venting applications that require high outgassing rates
- Allows confinement and outgassing of foam insulation
- Non-woven backing ensures conformability and porosity, high air gas permeability and good burst strength
- Pressure-sensitive adhesive requires no additional holding, helping reduce labor costs on the assembly line



#### 3M™ VHB™ Tape GPH 160GF

The new 3M™ VHB™ Tape GPH series is a permanent bonding solution that can replace traditional mechanical fasteners and liquid adhesives in challenging, high temperature applications. It uses a conformable, acrylic foam core to provide a good balance of strength and conformability. The 3M™ VHB™ Tape GPH series has excellent temperature resistance, making it ideal for permanent bonding where high temperature tolerance is needed, including applications that undergo a powder coat or liquid painting process. For more information click here.



- Good adhesion to high and medium surface energy materials (metals, glass, plastics) as well as many coated or painted surfaces
- Excellent temperature resistance (short term 230°C and long term 150°C)
- Good solvent resistance
- High initial tack providing strong immediate handling strength
- Conformable foam offers good gap filling and stress relaxation



## Scotch® Box Sealing Tape 375

The top performer in the Scotch® Brand packaging tape line, Scotch® Box Sealing Tape 375 securely closes a wide variety of boxes and cartons, including those with high recycled content. The tough yet flexible polypropylene backing flexes under stress for a tight seal, while resisting abrasion, moisture, chemicals and scuffing to hold strong throughout the shipping process. For more information **click here.** 



- Ideal for tightly sealing over-packed and heavyweight packages
- Adhesive sticks to a variety of surfaces on contact, including recycled corrugate
- Backing resists nicks, abrasions, moisture and scuffing
- Easily conforms around edges and on rough surfaces to form a tight seal
- Available with custom printing for security and/or branding



### Scotch® Filament Tape 890RCT

A high performance tape reinforced with continuous fiberglass yarn, Scotch® Filament Tape 890RCT has very high tensile strength. The tough, clear polyester backing provides excellent abrasion, moisture and scuff resistance. The synthetic rubber adhesive is designed to provide excellent adhesion to hard-to-stick-to surfaces such as recycled corrugate. For more information <u>click here.</u>



- Excellent abrasion and scuff resistance is ideal for heavyduty bundling and other demanding applications
- Typical applications include basiloid appliance lifting, heavy-duty bundling, strapping and coil closure



### 3M<sup>™</sup> Non-Printed Zipper Closure Packing List Envelopes NPX-XL

Keep your invoices, packing lists and shipping orders safe and secure throughout the shipping process with 3M™ Non-Printed Zipper Closure Packing List Envelopes NPX-XL. Featuring an oil- and water-resistant polyethylene backing with a natural rubber adhesive, these envelopes are designed to withstand the toughest handling conditions. For more information <u>click here.</u>

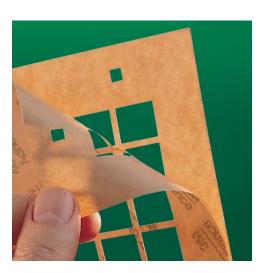


- Keeps packing lists secure during shipping
- Protects important documents from water and oil damage
- Adhesive sticks on contact to almost any surface
- Zippered for fast, easy opening



## 3M<sup>™</sup> Adhesive Transfer Tape 9471LE

Our 3M<sup>™</sup> Adhesive Transfer Tape 9471LE is a versatile, market proven, 2 mil (0.05 mm) transfer tape on a release liner. Featuring 3M<sup>™</sup> 300LSE acrylic adhesive, this tape has a long and proven history of reliably bonding a wide variety of similar and dissimilar materials such as metals, most plastics, glass, papers and painted surfaces. For more information **click here.** 



- Excellent bond to low surface energy substrates including powder coatings and plastics such as polypropylene (PP)
- High adhesion to metals and high surface energy materials, making it suitable for bonding dissimilar substrates
- Adhesive provides excellent holding power and anti-lifting properties
- Good resistance to industrial chemicals, consumer chemicals, moisture and humidity

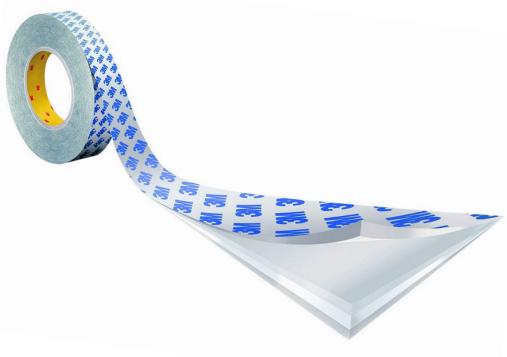


## 3M<sup>™</sup> Double Coated Tissue Tape 9448A

3M™ Double Coated Tissue Tape 9448A is a 0.15 mm double sided tape with a medium firm acrylic adhesive on a tissue carrier that provides dimensional stability, improved handling and ease of die-cutting and laminating. The adhesive provides excellent peel strength adhesion, with good high temperature holding power to a variety of surfaces. For more information <u>click here.</u>



- Medium-firm acrylic adhesive system featuring high initial adhesion
- Good high temperature holding power
- Nameplate bonding, plastic film lamination/bonding, splicing, and foam bonding
- Adhering, joining, affixing, bonding, mounting, holding, laminating, and attaching



### 3M<sup>™</sup> Scotch-Weld<sup>™</sup> Plastic & Rubber Instant Adhesive PR100

3M™ Scotch-Weld™ Plastic & Rubber Instant Adhesive PR100 is a low viscosity instant adhesive. Our PR100 instant adhesive is formulated to give exceptional performance on difficult-to-bond substrates, such as EPDM, nylon, polypropylene and polyethylene with use of an appropriate primer. Once applied, the glue has fast handling time and cure to keep jobs moving quickly. For more information click here.



- Bonds to a number of substrates, including plastics and rubbers
- Precise application: pinch container for a precise drop or squeeze for a steady bead
- Low viscosity adhesive is easily applied from the bottle
- Strong, durable and long lasting bond on a variety of substrates



### 3M™ Scotch-Weld™ Epoxy Adhesive DP420

3M™ Scotch-Weld™ Epoxy Adhesive DP420 is a toughened, two-part epoxy structural adhesive that provides good strength along with high impact and fatigue resistance to meet demanding bonding challenges. 3M™ Scotch-Weld Epoxy Adhesive DP420 can replace mechanical fasteners, screws, rivets and spot welds in many applications. For more information <u>click here.</u>



- High peel and shear strength maintains lasting bond at high and low temperatures
- Toughened for impact and fatigue resistance
- 20 minute work life provides time for positioning and adjustment
- Adhesive cures at room temperature, making it a convenient and easy to use solution for challenging applications



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