3M Science. Applied to Life.™

Ready to go further.

3M Converter Markets

Selection Guide | February 2020

Creative precision.

3M's legacy of innovation drives the continual improvement of our adhesive technologies. Pair that with the tools and technical support we provide, and you're on your way to quickly finding the products that meet your precise requirements.

3M's industry-leading adhesive technologies, added to your own expertise, will help increase production efficiency and improve product performance, appearance, and identification. Partner with 3M to create converted parts that are perfect for your customer's designs.

Trust 3M Converter Markets as your source for tapes, films, release liners, reclosable fasteners, labeling materials, flexographic mounting systems, graphic solutions and more.

Expect performance.
Spec 3M.

Persistent Innovation.

It's all about helping customers around the globe increase their production efficiency and improve product performance, appearance and identification.

3M Converter Solution Tools – just a click away.

Compare bonding products based on your specifications using our online Bonding Product Comparison Tool. 3M design specialists can provide additional insight into these options, plus make recommendations tailored to your specific needs.

Let's work together. 3M products are constantly evolving to better meet customer needs. If you need help finding the right product for your solutions, get in touch with us.

Information Access – 24/7

From product information and educational materials to our selector tools, you'll find our online resources invaluable.

3M.com/Converter
3M.com/Doublesidedtape
3M.com/ThinBondingSelector

Make a winning combination with the 3M TSR Program.

When you're digging into a new project, reach out to your 3M Specialist who will work with you on initial testing of an adhesive design solution.

Thin Bonding App

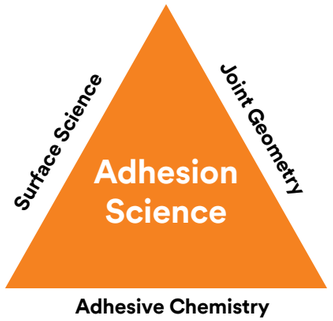
iOS Android

Give 3M a Call
1-800-831-0658
Monday – Friday
8 a.m. to 5 p.m. Central Time

Chat with us
Monday – Friday
8 a.m. to 5 p.m. Central Time

Send us a Message
Find "Support Link" at
3M.com/Converter.
We will respond to your email request in 24–48 hours.

The science of adhesion.



Bonding and Assembly eLearning Academy
Our website offers courses that will expand your knowledge of bonding solutions: how they work, what might go wrong and products to consider for various applications.

Adhesion Science consists of three equally essential parts which combine to form the basis of adhesive selection and adhesive engineering: Surface Science, Adhesive Chemistry, and Joint Geometry.

Learn more about how adhesives work and how you can help them perform better. Go to 3m.com/bonding-and-assembly and click on "The Science of Adhesion" link.

Surface energy ranges.

Metal Surfaces (High Surface Energy)

mJ/m²	Surfaces
1103	Copper
840	Aluminum
753	Zinc
526	Tin
458	Lead
700 – 1100	Stainless Steel
250 – 500	Glass Porcelain

High Surface Energy Plastics (HSE)

mJ/m²	Surfaces
50	Polyimide Industrial Film
47	Phenolic
46	Nylon
45	Alkyd Enamel
43	Polyester
43	Epoxy Paint

mJ/m²	Surfaces
43	Polyurethane Paint
42	ABS
42	Polycarbonate
39	PVC Rigid
38	Modified PPE Resin
38	Acrylic

Low Surface Energy Plastics (LSE)

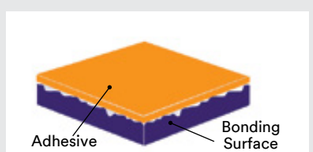
mJ/m²	Surfaces
37	PVA
36	Polystyrene
36	Acetal
33	EVA
31	Polyethylene
29	Polypropylene
28	Polyvinyl Fluoride Film
18	PTFE
Broad Range	Powder Coated Paints

As a rule of thumb, the higher the surface energy, the greater the strength of adhesion.
Note: These values are provided as a guide. Formulation modifications can substantially alter surface energies.

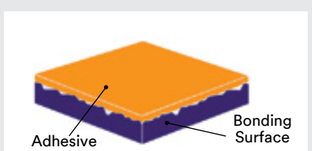
Secure bonding. It's all about adhesive surface contact.

Applying firm pressure to the bond increases adhesive flow and contact for more secure bonding. Time and temperature will typically further increase contact and adhesion values.

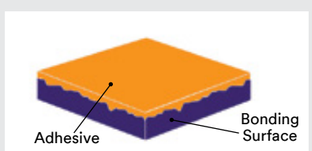
1 Initial Contact (Minimal Contact)



2 After Rubdown (More Contact)



3 After Dwell Time (Excellent Contact)



Interactive Table of Contents

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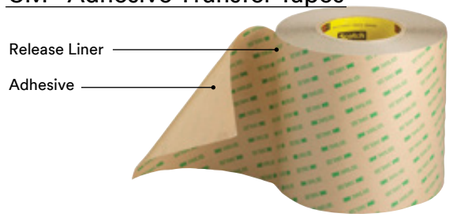
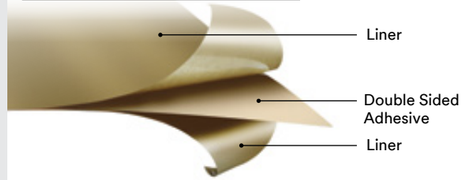
Expect performance. Spec 3M.

Pressure Sensitive Adhesive Constructions

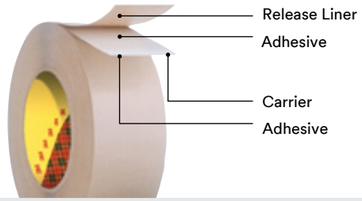
3M™ Adhesive Transfer Tapes



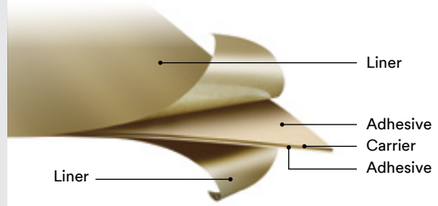
3M™ Double-lined Adhesive Transfer Tapes — Sheets



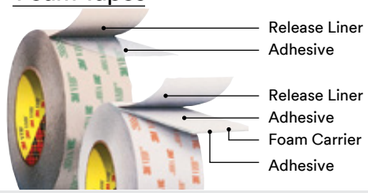
3M™ Double Coated Tapes



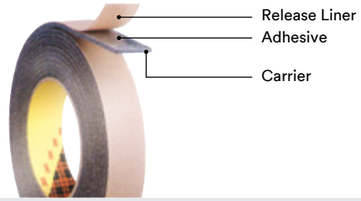
3M™ Double Coated Spacers — Sheets



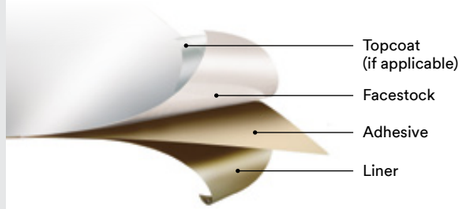
3M™ VHB™ and Double Coated Foam Tapes



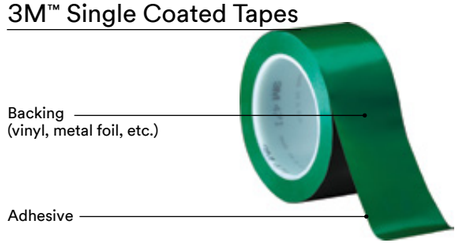
3M™ Single Coated Foam Tapes



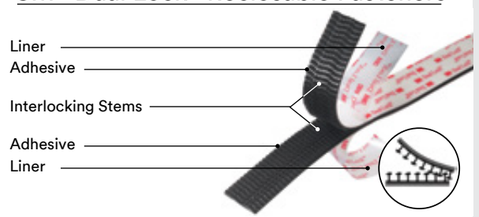
3M™ Durable Label Materials



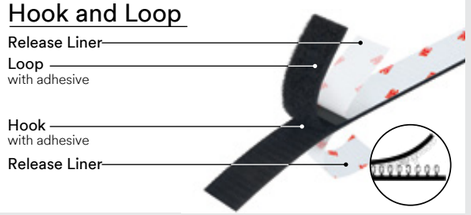
3M™ Single Coated Tapes



3M™ Dual Lock™ Reclosable Fasteners



3M™ Reclosable Fasteners — Hook and Loop



Double Sided Tapes

Make your design a reality.

Whether you're bonding similar or different substrates, our double sided tapes provide the strength, conformability, adhesion and aesthetic requirements you need to make your project successful.

Learn more at:
3M.com/DoubleSidedTape

Bond glass to plastic.
Help make sales soar with anti-lifting, drop-resistant 3M™ Double Coated Tape 93015LE.

Tapes created for performance.

A double sided tape has pressure-sensitive adhesive exposed on both sides, allowing two parts to be bonded together by the tape between them. A carrier that holds adhesive can range from a film as thin as a fraction of a millimeter up to a thick foam that helps damp vibrations. Pressure sensitive adhesives can meet specific needs from low-tack, which allows for repositioning, all the way up to permanent bonding solutions. A double sided tape that has a carrier can be produced with the same adhesive on both sides, or with different adhesives to meet the bonding requirements of different substrates.

Benefits of a 3M™ Double Sided Tape.

While the characteristics of adhesive families and individual tapes vary, double sided tapes generally offer these benefits to your production.

Faster Assembly Time

Tape is easy to apply by hand or with automation. No waiting for adhesive to cure or mechanical fastening to be completed.

Design Flexibility

Conformability, gap filling, invisible bond lines–the flexible design options you need.

Immediate Handling Strength

Immediate handling strength with no cure time. Assembled parts move faster to the next step.

LSE and Dissimilar Materials Bonding

Versatile for lightweight designs and hard-to-stick-to surfaces.

Clean Asthetics and Reduced Product Bulk

Virtually invisible bond lines without protruding fasteners. Replaces mechanical fasteners with thinner, lighter materials.

Moisture Intrusion Prevention

Provides adhesion to both substrates, helping prevent moisture from penetrating the bond.

Making the best choice for the needed performance.

What materials are you bonding? How will the assembly be used?

- Type of substrate or hard-to-bond materials
- Bonding dissimilar materials
- Configuration of your part (design/shape)
- Appearance and aesthetic considerations
- Need for disassembly for maintenance or service

How will the product be processed?

- Need high-speed bonding
- Need to be able to reposition
- Will be subjected to vibration
- Requires heat and/or pressure for bonding
- Desire to cut costs, increase production, or simplify operation

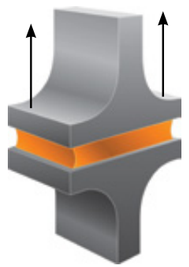
How do you need the adhesive to perform?

- Match strength to stresses/ combination of stresses: tensile, shear, cleavage and peel
- Flexibility
- Maintain surface integrity
- Bond and seal
- Resist harsh environmental conditions

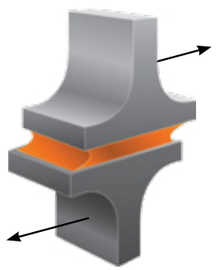
Learn more at: 3M.com/DoubleSidedTape

Design for challenges.

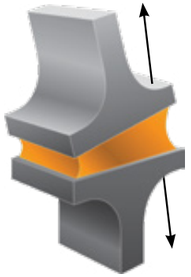
Regardless of the joint type used, it's important to understand the different stresses that are imparted onto a bonded assembly.



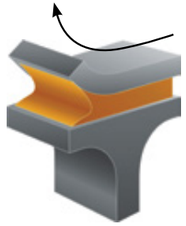
Tensile is pull exerted equally over the entire joint. Pull direction is straight and away from the adhesive bond.



Shear is pull directed across the adhesive, forcing the substrates to slide over each other.



Cleavage is pull concentrated at one edge of the joint, exerting a prying force on the bond. The other edge of the joint is theoretically under zero stress.



Peel is concentrated along a thin line at the edge of the bond where one substrate is flexible. Once peeling has begun, the stress line stays out in front of the advancing bond separation.

Thin, clean designs made easy.

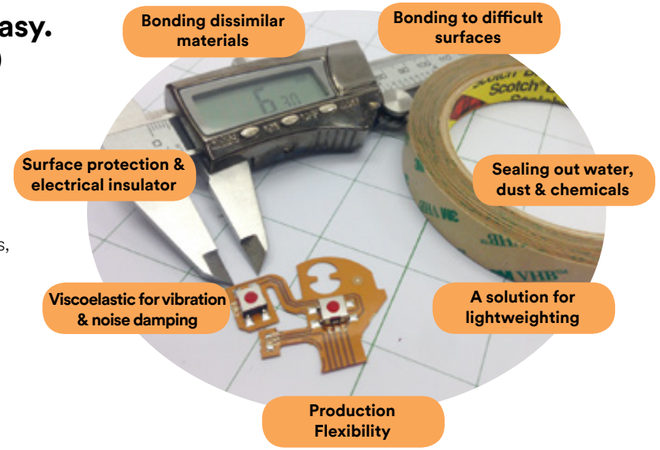
Pressure Sensitive Adhesives (PSA)

A quick peel and stick that offers consistent bondline thickness.

PSAs easily distribute loading over the entire bondline. They are low odor so no ventilation is needed. Plus, there's no curing required.

Production flexibility: Hand apply, ATG, die cuts, automation, or roll-to-roll processing.

Learn more at: 3M.com/Bonding



3M Go-To Adhesives

The bond between concept and reality.

Acrylic adhesives open the door to solving the challenges of speed, strength and product shelf life. Now it's time to dream bigger. 3M Go-To Adhesives are flagged throughout this catalog with the red circle next to product numbers.

3M™ High-Performance Acrylic Adhesive

100MP

Higher peel strength than most acrylic formulations. Exceptional shear strength, even at high temperatures.

Video Brochure

3M™ High-Strength Acrylic Adhesive

200MP

Shear strength with versatility for bonding a variety of commonly used substrates. Great for outdoor applications and repeat use.

Video Brochure

3M™ Low Surface Energy Acrylic Adhesive

300LSE

For hard-to-bond surfaces. Great solution for dissimilar material bonding. Holds securely and performs reliably—giving you more freedom to imagine. To design. To build.

Video Brochure

3M™ High-tack Acrylic Adhesive

300MP

The best choice for hard-to-bond and textured materials such as foams and textiles.

Video Brochure

Giving you more freedom to imagine.

Attach. Seal. Reduce noise. Expand your materials—and your design possibilities. Advanced adhesives keep it together under the harshest of conditions, while you feel the thrill of defying creative limitations.

Built for extremes. Indoor and out.

100MP

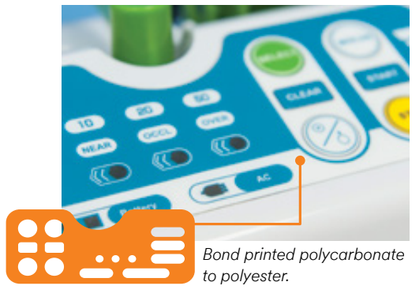
Adhesives that deliver in high temperatures and other challenging environments. Exceptional sheer strength even at elevated temperatures; outstanding solvent resistance.

Bond metal to metal.

Brought together by design.

200MP

Best for bonding metals and high surface energy substrates. Anti-lifting for precision and staying-power performance on curved surfaces.



Bond printed polycarbonate to polyester.

Thin can do what you can imagine.

300LSE

Make your design a reality. Bond plastic to metals. Rubber to plastic. Even foam to chrome. Open your mind to new design possibilities.

Bond metal speaker mesh to plastic.

It's a textured world. Design for it.

300MP

Attach, seal, reduce noise. This adhesive is best for bonding foam, fabric, carpet, particle board, fiberglass, vinl and melamine.

Attach fabric to metal.

	Adhesive Transfer Tapes	Double Coated Tapes
Product page		
100MP	16	–
200MP	16, 20	22
300LSE	18, 20	22
300MP	18	22-23

Expect performance. Spec 3M.

Adhesive Families

Color coded to make cross referencing between charts easier.

100 High Temperature Acrylic
- Up to 450°F (232°C) short-term heat resistance and excellent solvent resistance.
- High peel strength compared to other acrylic formulations.
- Exceptional shear strength even at elevated temperatures.
- Exhibits low outgassing characteristics.

100MP High Performance Acrylic
- Up to 500°F (260°C) short-term heat resistance and outstanding solvent resistance.
- Higher peel strength than most other acrylic formulations.
- Exceptional shear strength even at elevated temperatures.

100HT Ultra High Temperature Acrylic
- Up to 550°F (288°C) short-term heat resistance and outstanding solvent resistance.
- Higher peel strength than most other acrylic formulations.
- Exceptional shear strength even at elevated temperatures.

200MP High Performance Acrylic
- Up to 400°F (204°C) short-term heat resistance and excellent solvent resistance.
- Outstanding adhesion to metal and high surface energy plastics.
- Excellent shear strength to resist slippage and edge lifting.
- Short-term repositionability for placement accuracy.

220 Industrial Acrylic
- Up to 350°F (177°C) short-term heat resistance and good chemical resistance.
- Good shear strength and chemical resistance for general purpose industrial applications.
- Good adhesion to most metal and high surface energy plastics.

290 Low Outgassing Acrylic
- Up to 450°F (232°C) short-term heat resistance.
- Exceeds most OEM specifications for outgassing and long-term performance.
- High peel strength compared to other acrylic formulations.
- Exceptional shear strength even at elevated temperatures.

300 High Strength Acrylic
- Up to 250°F (121°C) short-term heat resistance.
- High initial adhesion especially to low surface energy plastics.
- Quick flowing to speed lamination of textured plastics, foams, fabrics and coated papers.

300FR Flame Retardant
- Meets various flame retardancy standards such as UL94 V-2, F.A.R. 25.853, and FMVSS 302.
- Similar adhesive properties to adhesive 300 family.
- Good adhesion to a wide variety of surfaces including LSE plastics, foams and fabrics.

300LSE Low Surface Energy Acrylic
- Up to 300°F (149°C) short-term heat resistance.
- Outstanding adhesion to low surface energy plastics, powder coated paints and lightly oiled metals.
- Good chemical and humidity resistance.

300MP High-tack Acrylic
- Up to 250°F (121°C) short-term heat resistance for automotive interior applications.
- Designed especially to bond most plastics, fabrics and foams

300SF Solventless
- Excellent initial adhesion.
- Ideal for use on coated papers and other smooth surface materials.
- Manufactured using a solventless adhesive coating process.

Acid Free
- Provides a consistently strong bond across a range of temperatures up to 180°F (82°C).
- PH balance between 7.0 and 8.5 so it will not discolor and damage papers, photographs and other acid sensitive materials.

340 High-tack Acrylic
- Up to 180°F (82°C) short-term heat resistance.
- Good bonding to foam and other substrates.
- High-tack adhesive.
- Medium shear strength.

Go-To Product

Note: This technical information and data should be considered representative or typical only and should not be used for specification purposes.

350 High Performance Acrylic
- Up to 450°F (232°C) short-term heat resistance.
- Excellent solvent resistance and adhesion to LSE materials.

360 Acrylic Adhesive
- Up to 250°F (121°C) short-term heat resistance.
- Outstanding adhesion to polypropylene and LSE plastics as well as HSE materials.
- Very quick bonding dwell time to achieve full adhesion level.

375 High Performance Double Coated
- Up to 300°F (149°C) short-term heat resistance.
- Good adhesion to both high and low surface energy substrates.
- Excellent initial tack.

400 Acrylic Adhesive
- Up to 250°F (121°C) short-term heat resistance.
- Good low temperature performance and peel strength on many surfaces.
- Excellent adhesion to uncoated papers.
- Clarity and UV resistance for window label applications.

420 Acrylic Adhesive
- Up to 300°F (149°C) short-term heat resistance.
- High-tack adhesive.

700 Series Synthetic Rubber
- Up to 200°F (93°C) short-term heat resistance.
- Good adhesion to low surface energy substrates.
- For indoor and room temperature applications.

800 Series Natural Rubber
- Up to 200°F (93°C) short-term heat resistance.
- Offers good adhesion to a variety of surfaces.
- For indoor and room temperature applications.

900R Miscellaneous Rubber Adhesive Group
- Excellent initial adhesion and high bond to a variety of foams.
- Utility rubber-based adhesive ideal for the foam fabricating industry.

1000 Series Repositionable Acrylic
- Good holding to many surfaces.
- Clean removal.

2000MP Optically Clear Acrylic
- Visual accuracy — light transmission > 99%, free of birefringence, refractive index of 1.47.
- High cohesive and peel strengths.
- High temperature, humidity and UV light resistance.
- Long-term durability without yellowing, delaminating or degrading.

Electrically Conductive
- Good initial tack, non-corrosive adhesive.
- Built-in conductive tape.
- Helps reinforce tape.
- Low electrical resistance with good conductivity.

Low VOC Acrylic
- Low emission adhesives that meet indoor air quality standards for automotive and construction markets.
- Low odor.

Plasticizer Resistant
- Bonds to many flexible vinyls.
- Outstanding resistance to effects of plasticizer migration.

Screen Printable Adhesive
- For selective placement of pressure sensitive adhesive using screen print technology.
- Available as UV curable or water based.

Silicone Adhesive
- Up to 500°F (260°C) short-term heat resistance.
- Outstanding solvent resistance.
- Adheres to silicone without priming.

Thermally Conductive
- High-performance acrylic adhesive with highly conductive ceramic particles.
- For an extremely reliable thermal interface.
- Highly conformable.

Note: This technical information and data should be considered representative or typical only and should not be used for specification purposes.

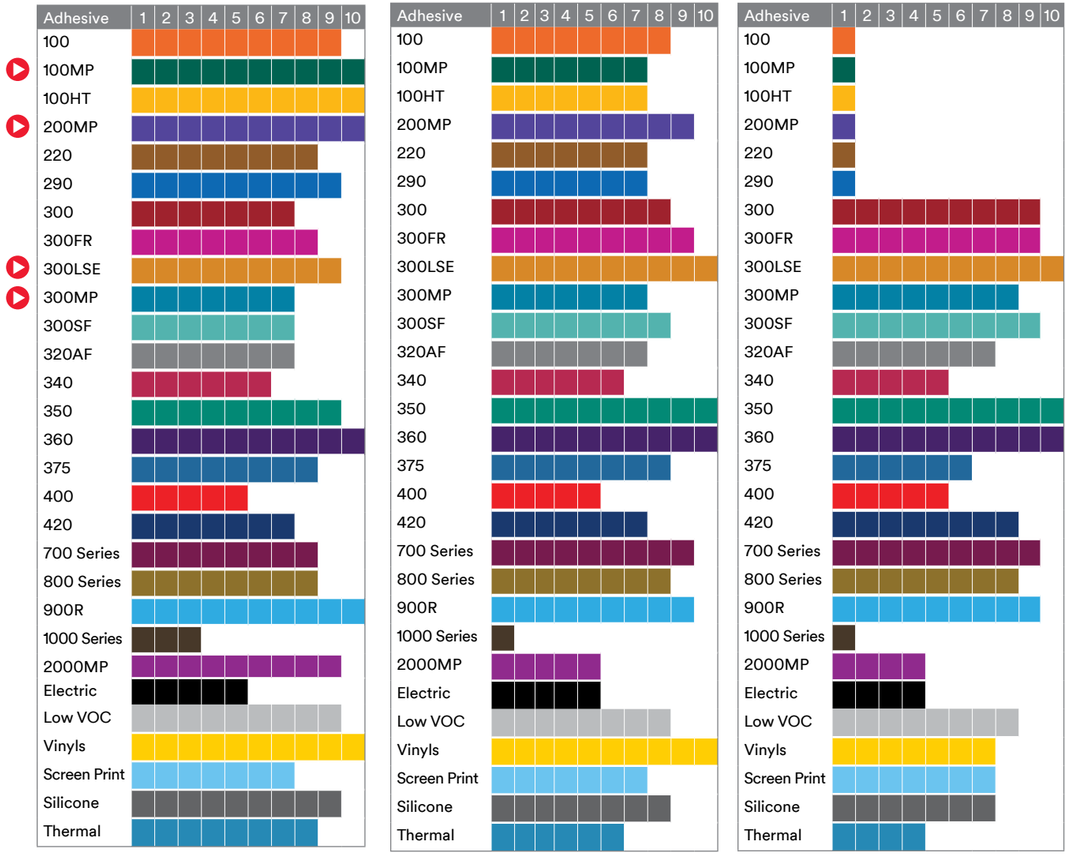
3M™ Double Sided Tapes Selection Guide Based on Surface Energy

These charts are based on relative adhesion within each given surface energy category.

Metals	Surface Energy (Dynes/cm)
Copper	1103
Aluminum	840
Zinc	753
Tin	526
Lead	543

High Surface Energy (HSE) Plastics	Surface Energy (Dynes/cm)
Polyimide	50
Phenolic	47
Nylon®	46
Alkyd Enamel	45
Polyester	43
Epoxy Paint	43
Polyurethane	43
ABS	42
Polycarbonate	42
PVC	39
Modified PPE Resin	38
Acrylic	38

Low Surface Energy (LSE) Plastics	Surface Energy (Dynes/cm)
PVA	37
Polystyrene	36
Acetal	36
EVA	33
Polyethylene	31
Polypropylene	29
PVF	28
PTFE	18
Powder Coatings	Broad Range



Values: 1 = Lowest Performance; 10 = Highest Performance

Rankings are a general guide. Adhesives should be tested with actual components to ensure acceptable performance.

Go-To Product

Note: This technical information and data should be considered representative or typical only and should not be used for specification purposes.

Adhesive Properties

Adhesive Family	Adhesive Properties: Peel Initial	Peel Ultimate	Shear Room Temp.	Shear 150°F	Adhesion to: Metal	HSE Plastic	LSE Plastic	Environmental Performance Resistance to: Chemical	Ultra Violet	Plasti-cizers	Humidity	Temperature °F (°C): Minimum Application	Service Low[1]	Service High[1]
Acrylic Adhesives														
100	3	9	10	10	9	8	1	9	10	5	10	50 (10)	-40 (-40)	450 (232)
100MP	4	10	10	10	10	7	1	10	10	5	10	50 (10)	-40 (-40)	500 (260)
100HT	4	10	10	10	10	7	1	10	10	5	10	50 (10)	-40 (-40)	550 (288)
200MP	4	10	10	10	10	9	1	9	10	5	10	50 (10)	-40 (-40)	400 (204)
220	4	8	10	9	8	7	1	8	10	4	8	50 (10)	-40 (-40)	350 (177)
290	3	9	10	10	9	8	1	9	10	5	10	50 (10)	-40 (-40)	350 (177)
300	6	7	4	1	7	8	9	6	7	3	8	50 (10)	-40 (-40)	250 (121)
300FR	6	7	4	1	8	9	9	6	7	3	8	50 (10)	-40 (-40)	250 (121)
300LSE	7	9	8	8	9	9	10	8	7	4	9	50 (10)	-40 (-40)	300 (149)
300MP	6	7	8	8	7	7	8	7	7	3	9	50 (10)	-40 (-40)	250 (121)
300SF	6	7	4	1	7	8	9	6	7	3	8	50 (10)	-40 (-40)	350 (177)
320AF	7	7	4	1	7	7	7	6	6	3	8	50 (10)	-40 (-40)	250 (121)
340	6	7	6	5	6	6	5	7	7	4	9	50 (10)	-40 (-40)	180 (82)
350	7	9	8	8	9	10	10	8	7	4	9	50 (10)	-40 (-40)	450 (232)
360	10	10	8	5	10	10	10	8	7	4	8	50 (10)	-40 (-40)	250 (121)
375	6	8	8	8	8	8	6	7	7	5	8	50 (10)	-10 (-23)	300 (149)*
400	4	5	5	4	5	5	5	5	10	4	8	50 (10)	-60 (-51)	250 (121)
420	5	6	10	10	7	7	8	6	10	2	9	32 (0)	-40 (-40)	300 (149)
Rubber Adhesives														
700 Series	7	9	10	2	8	9	9	2	4	1	9	50 (10)	-40 (-40)	200 (93)
800 Series	9	10	6	2	8	8	8	1	1	1	1	50 (10)	-40 (-40)	180 (82)
900R	10	10	5	4	10	9	9	4	4	3	1	50 (10)	-40 (-40)	200 (93)
Other Adhesives														
1000 Series	2	3	3	3	3	1	1	2	7	3	4	50 (10)	-20 (-29)	250 (121)
2000MP Series	4	6	6	5	9	5	4	7	10	5	10	50 (10)	-40 (-40)	350 (177)
Electric	3	5	5	4	5	5	4	7	7	5	10	50 (10)	-20 (-29)	160 (71)
Low VOC (Acrylic)	7	10	8	7	9	8	8	8	8	5	10	50 (10)	-40 (-40)	350 (177)
Vinyls	4	6	5	5	10	10	7	5	7	10	10	50 (10)	-40 (-40)	250 (121)
Screen Printable	5	6	6	5	7	7	7	5	6	4	5	50 (10)	-40 (-40)	300 (149)
Silicone	4	5	10	8	9	8	7	10	10	3	10	40 (4)	-60 (-51)	500 (260)
Thermally Conductive	3	5	5	4	8	6	4	7	7	5	10	50 (10)	20 (-6.7)	185 (85)

[1]Reflects lowest service temperature that bond holds and highest temperature for short periods (minutes, hours).
*Service temperature dependent on carrier. See technical data page for further information.

Values: 1 = Lowest Performance; 10 = Highest Performance

Rankings are a general guide. Adhesives should be tested with actual components to ensure acceptable performance.

Go-To Product

Note: This technical information and data should be considered representative or typical only and should not be used for specification purposes.

Liner Reference Chart

3M offers paper and film release liners in a number of different constructions and weights to meet various process requirements.

Paper liners include densified kraft (DK) to reduce the edge burr on metal plates and for rotary processing, Extended DK liners (XL) and polycoated kraft (PCK) for moisture stability to resist wrinkling and curling are also available on selected tapes.

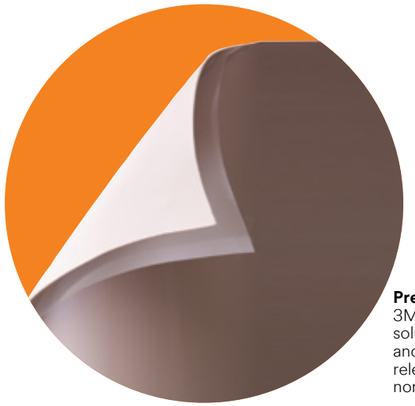
Film liners add strength in high-speed processing and dispensing and are available for clean room processing. They also offer high clarity for graphic inspection.

Basis Weight	Caliper Mils	Liner Type	Description	High Tensile Strength	Humidity Resistance	Rotary Processing	Kiss Cutting	Steel Rule
Paper Liners								
43#	2.5	Densified Kraft (DK)	Silicone treated on one side for use as a second liner to protect adhesive during selective die-cutting. Printable.			■		
55#	3.2	Densified Kraft (DK)	Caliper-controlled hard liner for consistent base in rotary printing and die-cutting of labels.			■	■	■
60#	3.5	Densified Kraft (DK)	Hard dense liner reduces edge burr in hand tool processing of metal plates.			■	■	■
62#	3.7	Densified Kraft (DK)	Heavier version of 60#.			■	■	■
58#	3.0	Glassine	Hard dense liner that is resistant to water and oils.	■	■	■	■	■
60#	3.2							
58#	4.2	Polycoated Kraft (PCK)	Moisture stable. Flat-bed die-cutting.		■			■
58#	4.2	Polycoated Kraft (PCK) Lay-flat	Excellent moisture stability for lay-flat processing.		■	■		■
78#	5.7	Polycoated Kraft (PCK)	Extra tough liner for tear resistance. Conformable for EMI/RFI shielding applications. Moisture stable. Flat-bed die-cutting.	■	■		■	■
78#	6.0	Extensible Polycoated Kraft (EK)	Extra tough liner for tear resistance. Conformable for EMI/RFI shielding applications.	■	■		■	■
83#	6.2	Polycoated Kraft (PCK)	Excellent moisture stability for lay-flat processing. Thicker caliper for kiss-cutting and steel rule die-cutting.		■		■	■
Film Liners								
—	2.0	Clear Polyester (PET)	High strength reduces breakage during die-cutting and dispensing.	■	■	■	■	■
—	3.0							
—	3.0	Clear High Density Polyethylene (HDPE)	Silicone treated for easy release. Clarity for see-through applications.	■	■			■

Note: This technical information and data should be considered representative or typical only and should not be used for specification purposes.

3M™ Release Liners

Product Group	Product	Description/Application Ideas	Construction		Master Size	Printable
			Caliper (mils)	Liner		
Non-silicone Liners	**4935**	3M proprietary fluoropolymer release coat one side. Double linering 91022. Middle release.	3.0	Polyester, Clear	50" x 120 yd	No
	5053	3M proprietary fluoropolymer release coat one side. Double linering 91022. Easiest release.	3.0		46" x 360 yd	
	5932	3M proprietary fluoropolymer release coat one side. Double linering 91022. Tightest release.	2.0		54" x 360 yd	
Silicone Liners	**4986**	High-density polyethylene is transparent for graphic inspection. Release coat one side. For delamination/relamination only.	3.0	HDPE Film, Clear	48" x 360 yd	No
	4988	Neutral-colored, polycoated lay-flat kraft liner. Release coat one side.	6.2	83# Polycoated Kraft, Neutral Color	48" x 360 yd	Yes
	4994	Caliper-controlled liner for rotary die-cutting. Release coated two sides. Very low release for double linering 300 high-strength adhesive.	3.2	55# Densified Kraft, White	54" x 360 yd	No
	4996	Clear film is ideal for graphics inspection of backlit panels. Release coat one side.	1.4	Polyester Film, Clear	54" x 360 yd	Yes
	4997	Heavy liner ideal for kiss-cutting and lay-flat applications. Release coat one side.	4.0	70# Densified Kraft, Clear	48" x 540 yd	Yes
	4998	Release coat two sides (matte).	4.2	58# Polycoated Kraft, Tan	60" x 360 yd	No
	4999	Caliper controlled liner for rotary die-cutting. Release coat one side.	3.2	55# Densified Kraft, White	54" x 360 yd	Yes
	5002	Clear polyester film for rotary cutting. Release coat one side.	2.0	Polyester Film, Clear	55" x 360 yd	No
	5002D	Clear polyester film for rotary cutting. Release coat two sides.	2.0	Polyester Film, Clear	54" x 360 yd	No
	5051	Special PCK liner for double linering 300LSE tapes. Release coat one side.	4.2	58# Polycoated Kraft	48" x 180 yd	Yes
	7526L	Tan polycoated kraft. Release coat two sides (matte).	4.2	58# Polycoated Kraft	48" x 360 yd	No
	7527L	Cloudy high-density polyethylene. Release coat one side.	3.0	HDPE Film	48" x 360 yd	No



Preventing premature adhering.
3M™ Release Liners deliver a flexible solution for a wide range of applications and adhesive products. Polyester film release liners are available with proprietary non-silicone release coatings.

Note: This technical information and data should be considered representative or typical only and should not be used for specification purposes.

3M™ Adhesive Transfer Tapes

Adhesive Family[1]	Product	Description/Application Ideas	Adhesive Caliper (mils)	Liner[2] Type	Liner[2] Caliper (mils)	Master Size	Specs	Adhesion Metal	Adhesion HSE Plastic	Adhesion LSE Plastic	Adhesion Foam	Chem. Resist.	Temperature Low °F (°C)	Temperature High °F (°C)
100 High Temperature Acrylic	**941**	Graphic attachment for low-odor appliance applications.	2	58# PCK	4.2	48" x 180 yd	UL	9	8	1	2	9	-40 (-40)	450 (232)
	965	Fuel and hydraulic line labels. Excellent chemical resistance. Aerospace.	2	55# DK	3.2	48" x 180 yd	—							
	966	Meets NASA guidelines for low outgassing material for spacecraft. Flex circuit attachment. High temp.	2	62# DK	3.5	48" x 180 yd	UL M[H]							
	966FL	Meets NASA guidelines for low outgassing material for spacecraft. Flex circuit attachment. Static dissipative PET liner.	2	2 mil PET	3.5	48" x 180 yd	UL M[H]							
	9461P	Thinner version of laminating adhesive 9462P.	1	55# DK	3.2	48" x 360 yd	—							
	9462P	Laminating adhesive 966 on a caliper-controlled liner for rotary die-cutting.	2	55# DK	3.2	48" x 360 yd	UL							
100MP High Performance Acrylic[3]	**F9460PC**	High-performance industrial joining and metal fabrication.	2	58# PCK	4.2	60" x 180 yd	UL M[H]	10	7	1	2	10	-40 (-40)	500 (260)
	F9469PC		5	58# PCK	4.2	60" x 180 yd	UL M[H]							
	F9473PC		10	58# PCK	4.2	60" x 180 yd	UL M[H]							
100HT Ultra High Temperature Acrylic	**9082**	Excellent heat resistance in high temp environments. For applications that require both higher processing and operating temperatures.	2	White DK Liner	3.2	48" x 180 yd	UL	10	7	1	2	10	-40 (-40)	550 (288)
	9085	Thicker version of 9082.	5	White DK Liner	3.2	48" x 180 yd	—							
	9085UV	Same as 9085 but with UV light detectable adhesive.	5	58# PCK	4.2	48" x 360 yd	—							
200MP High Performance Acrylic	**467MC**	Same as 467MP with a paper MicroChannel liner to aid in bubble- and wrinkle-free graphic attachment.	2	58# PCK	4.2	54" x 180 yd	UL	10	9	1	3	9	-40 (-40)	400 (204)
	467MP	Graphic attachment and general industrial joining. Industry standard.	2	58# PCK	4.2	60" x 600 yd	UL M[H]							
	467MPF	Polyester liner for rotary processing of graphic and die cut parts.	2	PET	2.0	54" x 180 yd*	UL							
	468MC	Same as 468MP with a paper MicroChannel liner to aid in bubble- and wrinkle-free graphic attachment.	5	58# PCK	4.0	54" x 180 yd	—							
	468MP	Industry standard for graphic attachment and die cut parts.	5	58# PCK	4.2	60" x 600 yd*	UL M[H]							
	468MPF	Thicker version of 467MPF.	5	PET	2.0	54" x 180 yd	UL							
	9667MP	Same as 467MP on heavy, lay-flat liner for kiss-cutting.	2	78# PCK	5.7	54" x 180 yd	UL							
	9668MP	Same as 468MP on heavy, lay-flat liner.	5	78# PCK	5.7	54" x 360 yd*	UL M[H]							

1 – More information on pages 10-13.
2 – More information on page 14.
3 – Products in this platform are 3M™ VHB™ Tapes offering our highest strength.
*Smaller size sheets also available.
M[H] meets Mil-P-19834B Type I.

Values: 1 = Lowest Performance; 10 = Highest Performance
Rankings are a general guide. Adhesives should be tested with actual components to ensure acceptable performance.

Go-To Product

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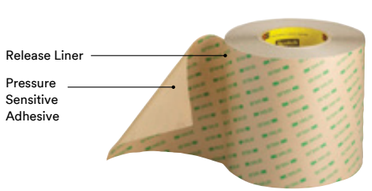
3M™ Adhesive Transfer Tapes (cont.)

Adhesive Family[1]	Product	Description/Application Ideas	Adhesive Caliper (mils)	Liner[2] Type	Liner[2] Caliper (mils)	Master Size	Specs	Adhesion Metal	Adhesion HSE Plastic	Adhesion LSE Plastic	Adhesion Foam	Chem. Resist.	Temperature Low °F (°C)	Temperature High °F (°C)
220 Industrial Acrylic	**9502**	Economical attachment of graphics and industrial joining.	2	58# PCK	4.2	60" x 360 yd*	UL	8	7	1	2	8	-40 (-40)	350 (177)
	9505	Thicker version of 9502 for textured surfaces.	5	58# PCK	4.2	60" x 360 yd*	UL							
290 Low Outgassing Acrylic	**501FL**	Ultra-clean adhesive for low outgassing applications.	1	PET	2.0	23.5" x 180 yd	—	9	7	1	2	9	-40 (-40)	450 (232)
	502FL		2	PET	2.0	23.5" x 180 yd	—							
300 High Strength Acrylic	**927**	Attach gaskets and a variety of industrial foam and LSE materials.	2	60# DK	3.5	48" x 180 yd	—	7	9	9	9	6	-40 (-40)	250 (121)
	950	Thicker version of 927.	5	60# Glassine	3.2	48" x 180 yd	UL							
	950EK	950 with Extensible Kraft liner.	5	78# EK	5.7	48" x 180 yd	—							
	9458	Thin, high-tack adhesive for rotary processing HSE and LSE parts.	1	55# DK	3.2	54" x 360 yd	UL							
	9459W	White adhesive version of laminating adhesive.	1.5	55# DK	3.2	48" x 360 yd	UL							
	9471	For smooth LSE plastics.	2	60# DK	3.5	48" x 180 yd	UL M[H]							
	9472	5.0 mil version of 9471. For textured surfaces.	5	60# DK	3.5	48" x 180 yd	UL M[H]							
	9671	Heavier lined version of 9471 for easy handling, lay-flat properties.	2	83# PCK	6.2	48" x 180 yd	UL M[H]							
	9672	Heavier lined version of 9472 for easy handling, lay-flat properties.	5	83# PCK	6.2	48" x 180 yd	UL							
300FR Flame Retardant	**9372W**	Flame retardant transfer tape with moisture stable liner.	2	83# PCK	6.2	48" x 360 yd	—	8	9	9	9	6	-40 (-40)	250 (121)
	9372DKW	Flame retardant transfer tape with rotary die-cuttable liner.	2	55# DK	3.2	60" x 180 yd	—							
	9375W	Flame retardant transfer tape with moisture stable liner.	5	83# PCK	6.2	60" x 180 yd	UL							
300SF Solvent Free	**XT2105**	Attach coated papers and plastics in printing and graphic applications.	5	55# DK	3.2	48" x 60 yd	—	6	9	9	4	5	-40 (-40)	200 (93)
	XT2112	Perfect for plastics assembly and for attaching heavy paperboards and corrugated in P.O.P. and packaging applications.												

1 – More information on pages 10-13.
2 – More information on page 14.
M[H] meets Mil-P-19834B Type I.
*Smaller size sheets also available.

Values: 1 = Lowest Performance; 10 = Highest Performance
Rankings are a general guide. Adhesives should be tested with actual components to ensure acceptable performance.



Made for easy handling. Adhesive Transfer Tape (ATT or unsupported tape) is composed of a thin film of adhesive with a liner over the top so it can be easily handled.

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3M™ Adhesive Transfer Tapes (cont.)

Adhesive Family[1]	Product	Description/Application Ideas	Adhesive Caliper (mils)	Liner[2] Type	Liner[2] Caliper (mils)	Master Size	Specs	Adhesion Metal	Adhesion HSE Plastic	Adhesion LSE Plastic	Adhesion Foam	Chem. Resist.	Temperature Low °F (°C)	Temperature High °F (°C)
300LSE Low Surface Energy Acrylic	9453FL	Film linered version of 9453LE for rotary processing.	3.5	PET	2.0	54" x 180 yd	UL	9	9	10	1	8	-40 (-40)	300 (149)
	9453LE	A 3.5 mil version of 9471LE for application to rough surfaces.	3.5	58# PCK	4.2	54" x 180 yd	UL							
	9471FL	Film linered version of 9471LE for rotary processing.	2	PET	2.0	54" x 180 yd	UL							
	9471LE	Bonds graphics to powder coatings, LSE plastics and oily materials.	2	58# PCK	4.2	54" x 180 yd	UL							
	9472FL	A 5 mil version of 9471LE with film liner for textured surfaces.	5	PET	2.0	54" x 180 yd	UL							
	9472LE	Thicker adhesive for textured LSE plastics and powder coatings.	5	58# PCK	4.2	54" x 180 yd	UL							
	9653LE	Heavy linered 9453LE for easy handling and lay-flat properties.	3.5	83# PCK	6.2	54" x 180 yd	UL							
	9671LE	Heavy linered 9471LE for easy handling and lay-flat properties.	2	83# PCK	6.2	54" x 180 yd	UL							
	9672LE	Heavy linered 9472LE for easy handling and lay-flat properties.	5	83# PCK	6.2	54" x 360 yd	UL							
300MP High-tack Acrylic	6035PC	Resists fogging for automotive interior fabric joining applications.	5	58# PCK	4.2	60" x 180 yd	—	7	7	8	8	7	-40 (-40)	250 (121)
	6035PL	Heavy linered version of 6035PC for easy handling, lay-flat properties.	5	83# PCK	6.2	60" x 180 yd	—							
	6038PC	Low fogging. Automotive fabric and carpet attachment.	8	58# PCK	4.2	60" x 180 yd	—							
	6038PL	Low fogging. For rough embossed surfaces with heavy liner for steel rule die-cutting.	8	83# PCK	6.2	60" x 180 yd	—							
	9772WL	Provides excellent bond to various fabricated foams, fabrics and substrates.	2	96# PCK	7.0	60" x 360 yd*	UL							
	9773WL		3											
	9774WL		4											
	9775WL		5											
350 High Performance Acrylic	9442	Excellent temperature and solvent resistance. High bond to low surface energy substrates.	2	55# DK	3.2	48" x 180 yd	UL	9	10	10	9	8	-40 (-40)	450 (232)
	9445	Thicker version of 9442.	5	55# DK	3.2	48" x 180 yd	UL							
	9482PC	High-tack and shear strength. Excellent adhesion to plastics and foams.	2	58# PCK	4.2	48" x 180 yd	UL							
	9485EK	Thicker version of 9482PC with an Extensible Kraft liner.	5	78# EK	5.7	48" x 180 yd	UL							
	9485PC	A 5 mil version of 9482PC.	5	58# PCK	4.2	48" x 180 yd	UL							
	9675	Heavy linered version of 9485PC for easy handling, lay-flat properties.	5	83# PCK	6.2	48" x 180 yd	UL							

1 – More information on pages 10-13.
2 – More information on page 14.
*Smaller size sheets also available.

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Go-To Product

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3M™ Adhesive Transfer Tapes (cont.)

Adhesive Family[1]	Product	Description/Application Ideas	Adhesive Caliper (mils)	Liner[2] Type	Liner[2] Caliper (mils)	Master Size	Specs	Adhesion Metal	Adhesion HSE Plastic	Adhesion LSE Plastic	Adhesion Foam	Chem. Resist.	Temperature Low °F (°C)	Temperature High °F (°C)
360 Acrylic Adhesive	9626	Quick stick with high bond strength. Designed for use with 3M™ Label Component Systems.	2	Glassine	3.2	54" x 540 yd	—	10	10	10	9	8	-40 (-40)	250 (121)
	9627		5	Glassine	3.2	54" x 180 yd	—							
	9627FL		5	PET Film	2	54" x 540 yd	—							
400 Acrylic Adhesive	463	High-tack and excellent adhesion to most paper stocks. For automatic dispensing.	2	60# DK	3.5	48" x 180 yd	—	5	5	5	4	5	-60 (-51)	250 (121)
	465	Same as 463, but with easy liner release for manual or hand application.	2	60# DK	3.5	48" x 180 yd	—							
	9457	Adhesive with long term stability, excellent outdoor performance and UV resistance. Adhesive 400 is best if necessary to apply at cooler temperatures.	1	55# DK	3.2	54" x 360 yd	UL							
420 Acrylic Adhesive	F9752PC	High-tack. Can be applied in temperatures as low as 32°F.	2	58# PCK	4.2	54" x 360 yd	—	7	7	8	4	6	-60 (-51)	300 (149)
	F9755PC	Thicker version of F9752PC for textured surfaces.	5	58# PCK	4.2	54" x 360 yd	—							
Vinyl	F9465PC	Vinyl plasticizer resistant adhesive.	5	58# PCK	4.2	54" x 360 yd	—	10	10	7	5	5	-40 (-40)	200 (93)
	F9467U		3.5	58# PCK	4.2	54" x 180 yd	—							
Misc.	97053	Micro scrim reinforced adhesive transfer tape has excellent quick stick for permanent bond applications on plastics, metals, non-wovens, felts and foams.	2.5	50# DK	3.0	60" x 720 yd*	—	6	6	5	5	5	-40 (-40)	175 (79)
Silicone	91022	Silicone attachment. Single lineredfor easier processing.	2	White PET	2	48" x 180 yd	—	9	8	7	6	10	-60 (-51)	500 (260)

1 – More information on pages 10-13.
2 – More information on page 14.
M[H] meets Mil-P-19834B Type I.
*Smaller size sheets also available.

Values: 1 = Lowest Performance; 10 = Highest Performance
Rankings are a general guide. Adhesives should be tested with actual components to ensure acceptable performance.

Attach nonwoven to foam.
Keep passengers cool with 3M™ Adhesive Transfer Tape 6035PC with Adhesive 300MP.

Attach glass to metal.
Hold securely for a clean finish with 3M™ Adhesive Transfer Tape 468MP with Adhesive 200MP.

Note: This technical information and data should be considered representative or typical only and should not be used for specification purposes.

3M™ Double Linered Adhesive Transfer Tapes

Adhesive Family[1]	Product	Description/Application Ideas	Adhesive Caliper (mils)	Liner[2] Type	Liner[2] Caliper (mils)	Master Size	Specs	Adhesion Metal	Adhesion HSE Plastic	Adhesion LSE Plastic	Adhesion Foam	Chem. Resist.	Temperature Low °F (°C)	Temperature High °F (°C)
200MP High Performance Acrylic	**7952MP**	Double linered laminating adhesive 467MP.	2	58# PCK	4.2	48" x 360 yd	UL	10	9	1	3	9	-40 (-40)	400 (204)
				58# PCK	4.2	48" x 36"								
	7955MP	Double linered laminating adhesive 468MP. For selective die-cutting.	5	58# PCK	4.2	48" x 360 yd	UL							
				58# PCK	4.2	48" x 36"								
	7962MP	Laminating adhesive 7952MP on a lay-flat liner for kiss-cutting and selective die-cutting.	2	78# PCK	5.7	48" x 360 yd	UL							
				58# PCK	4.2	48" x 36"								
	7965MP	Laminating adhesive 7955MP on a lay-flat liner for kiss-cutting and selective die-cutting.	5	78# PCK	5.7	48" x 360 yd	UL							
				58# PCK	4.2	48" x 36"								
	9172MP	Laminating adhesive 467MP with transparent liner for graphic inspection. Strong liner for one piece removal.	2	58# PCK	4.2	48" x 180 yd	UL							
				HDPE	3.0									
	9185MP	5 mil version of laminating adhesive 9172MP.	5	58# PCK	4.2	48" x 180 yd	UL							
				HDPE	3.0									
220 Industrial Acrylic	**9552**	Economical attachment of graphics and industrial joining. Double lineredversion of 9502.	2.3	58# PCK	4.2	48" x 360 yd	UL	8	7	1	2	8	-40 (-40)	350 (177)
	9555	Thicker version of 9552 for textured surfaces. Double lineredversion of 9505.	4.9	58# PCK	4.2	48" x 360 yd	UL							
300LSE Low Surface Energy Acrylic	**8132LE**	Double lineredlaminating adhesive 9471LE. For selective die-cutting. Application to smooth surfaces.	2	58# PCK	4.2	48" x 360 yd	UL	9	10	10	1	7	-40 (-40)	300 (149)
				83# PCK	6.2	48" x 36"								
	8153LE	Double lineredlaminating adhesive 9453LE. For selective die-cutting. Application to rough surfaces.	3.5	58# PCK	4.2	48" x 360 yd	UL							
				83# PCK	6.2	48" x 36"								

1 – More information on pages 10-13.
2 – More information on page 14.

Values: 1 = Lowest Performance; 10 = Highest Performance
Rankings are a general guide. Adhesives should be tested with actual components to ensure acceptable performance.

Double lineredadhesive transfer tapes are excellent for selective die-cutting applications.

Go-To Product

Note: This technical information and data should be considered representative or typical only and should not be used for specification purposes.

3M™ Double Linered Adhesive Transfer Tapes (cont.)

Adhesive Family[1]	Product	Description/ Application Ideas	Adhesive Caliper (mils)	Liner[2] Type	Liner[2] Caliper (mils)	Master Size	Specs	Adhesion Metal	Adhesion HSE Plastic	Adhesion LSE Plastic	Adhesion Foam	Chem. Resist.	Temperature Low °F (°C)	Temperature High °F (°C)
2000MP Optically Clear Acrylic[3]	**8211**	General purpose, high adhesion optically clear adhesive.	1	PET/ PET	2.0/2.0	60" x 180 yd	—	7	9	—	—	9	-40 (-40)	350 (177)
	8212		2											
	8213		3											
	8214		4											
	8215		5											
	8141KCL	Very soft, optically clear adhesive.	1	PET/ PET	3.0/3.0	60" x 180 yd	—	—	4	—	—	6	-40 (-40)	185 (85)
	8142KCL		2					—	5	—	—			
	8171PCL	UV blocking, optically clear adhesive.	1	PET/ PET	2.0/2.0	60" x 180 yd		—	4	—	—			
	8172PCL		2					—	5	—	—			
	8173KCL	Double sided, optically clear adhesive.	3	PET/ PET	2.0/2.0	60" x 180 yd		—	5	—	—			
	9483	Optically clear adhesive.	5	PET/ PP	3.0/3.0	48" x 180 yd	—	9	9	—	—	9	-40 (-40)	350 (177)

1 – More information on pages 10-13.
2 – More information on page 14.
3 – All optically clear adhesives can be manufactured in a single coated or double coated tape format upon special request.

Values: 1 = Lowest Performance; 10 = Highest Performance
Rankings are a general guide. Adhesives should be tested with actual components to ensure acceptable performance.

3M™ Ultra Clear Double Coated Tapes

When products are backlit or require light transmission, the right adhesive is essential. These ultra-clear, double sided tapes are produced on a clean room coater, so your finished design will stay free of dirt, dust and debris. They also offer excellent initial tack, good adhesion and dimensional stability.

Product Number	Adhesive Type	Adhesive Caliper (mils)	Carrier Type	Liner Caliper (mil) Top	Liner Caliper (mil) Bottom	Working Temp. °F (°C)	Master Size	Application Ideas
UCT-30	Acrylic, Ultra Clear	1.2	PET	1.45	3.05	-20 to 150 (-29 to 65)	47.2 in x 109 yd 119.888 cm x 99.6696 m	Ultra clear, 90% light transmission and 1.1% haze.
UCT-50		2.0						

Note: This technical information and data should be considered representative or typical only and should not be used for specification purposes.

3M™ Double Coated Tapes

Bond foam to plastic.
Bond curved plastic pieces to foam or plastic with 3M™ Double Coated Tape 93015LE with Adhesive 300LSE.

Adhesive Family[1]	Product	Description/ Application Ideas	Tape Cal. (mils)	Carrier Type	Liner[2] Type	Liner[2] Caliper (mils)	Master Size	Specs	Adhesion Metal	Adhesion HSE Plastic	Adhesion LSE Plastic	Adhesion Foam	Chem. Resist.	Temperature Low °F (°C)	Temperature High °F (°C)
200MP High Performance Acrylic	**92015**	Double coat with thin polyester film carrier for dimensional stability and improved handling.	5.9	PET	58# PCK	4.2	54" x 180 yd	UL	10	9	1	2	9	-40 (-40)	400 (204)
	9495B	Black version of 9495LE.	5.7	Black PET				—							300 (149)
300LSE Low Surface Energy Acrylic	**93005LE**	Very thin double coated polyester tape with good anti-lifting properties.	2.0	PET	58# PCK/ 83# PCK	4.2/ 6.2	54" X 360 yd*	UL	9	9	10	1	8	-40 (-40)	300 (149)
	93010LE	Extremely smooth adhesive for excellent graphic appearances. Good chemical and humidity resistance.	3.9	PET	58# PCK	4.2	54" X 180 yd	UL							
	93015LE		5.9	PET	58# PCK	4.2	54" X 180 yd	UL							
	93020LE		7.9	PET	58# PCK	4.2	54" X 180 yd	UL							
	9495LE		5.9	PET	58# PCK	4.2	54" X 180 yd	UL							
300 High Strength Acrylic	**444**	Foam lamination. Gasket attachment.	3.9	PET	55# DK	3.2	48" x 108 yd	—	7	9	9	9	6	-40 (-40)	250 (121)
	444PC		3.9	PET	58# PCK	4.2	48" x 648 yd*								
	9009	Thin double coat for applications where thickness is critical.	2.1	PET	55# DK	3.2	54" x 180 yd								
	9019	Ultra-thin double coat for applications where thickness is critical.	1.1	PET	55# DK	3.2	54" x 180 yd								
300MP High-tack Acrylic	**9687C**	Thick double coat for bonding to foam. Provided on 6 in. core only.	12.0	Clear PET	Clear PET	2.0	54" x 180 yd	—	8	8	8	9	7	-40 (-40)	250 (121)
	9690	General purpose tape with improved temperature resistance.	5.5	Clear PET	83# PCK	6.2	54" x 180 yd								
	9690B	9690 with a black carrier.	5.5	Black PET	58# PCK	6.2	54" x 180 yd								

1 – More information on pages 10-13.
2 – More information on page 14.
*Smaller size sheets also available.

Values: 1 = Lowest Performance; 10 = Highest Performance
Rankings are a general guide. Adhesives should be tested with actual components to ensure acceptable performance.

Go-To Product

Note: This technical information and data should be considered representative or typical only and should not be used for specification purposes.

3M™ Double Coated Tapes (cont.)

Adhesive Family[1]	Product	Description/ Application Ideas	Tape Cal. (mils)	Carrier Type	Liner[2] Type	Liner[2] Caliper (mils)	Master Size	Specs	Adhesion Metal	Adhesion HSE Plastic	Adhesion LSE Plastic	Adhesion Foam	Chem. Resist.	Temperature Low °F (°C)	Temperature High °F (°C)
300MP High-tack Acrylic (cont.)	**9832**	General purpose tape with improved temperature resistance.	4.8	PET	58# PCK	4.2	54" x 250 yd	—	8	8	8	9	7	-40 (-40)	250 (121)
	9832HL	Same as 9832 except with a heavier liner.	4.8	PET	73# PCK	6.2									
	99786	Thin non-woven carrier for dimensional stability and improved handling.	5.5	Non-Woven	58# PCK Printed	4.2	48" x 180 yd	UL	8	8	8	9	7	-40 (-40)	300 (149)
	99786NP	Same as 9786 except on an unprinted liner.	5.5	Non-Woven	58# PCK Unprinted	4.2	54" x 180 yd	UL							
340 High-tack Acrylic	**9456**	High-tack acrylic adhesive with good adhesion to many plastics.	5.0	Tissue	55# DK	3.2	54" x 180 yd	—	6	6	5	4	8	-40 (-40)	180 (82)
	9824	Foam lamination. Gasket attachment.	3.1	PET	55# DK	3.2	54" x 250 yd								
	9828		4.0	PET	55DK	3.2									
	9828PC	High-tack acrylic adhesive with good adhesion to many foams.	4.0	PET	74# PCK	5.6									
350 High Performance Acrylic	**9500PC**	High performance with good chemical resistance.	5.6	PET	58# PCK	4.5	48" x 108 yd	—	9	10	10	9	8	-40 (-40)	450 (232)
	3028EK	Same as 9500PC with an Extensible Kraft liner which facilitates narrow slitting.	5.6	PET	Extensible Kraft	5.5									
360 Acrylic Adhesive	**9628B**	Outstanding quick stick and adhesion to polypropylene.	2.0	PET Black	60# Glassine	3.2	54" x 180 yd*	—	10	10	10	6	8	-40 (-40)	250 (121)
	9628FL		2.0	PET Clear	PET Clear	2.0									
	9629B		4.0	PET Black	60# Glassine	3.2									
	9629FL		4.0	PET	PET Clear	2.0	54" x 540 yd*								
	9629PC		4.0	PET	58# PCK	4.2									
375 High Performance Double Coated	**9086**	Easy tearing, easy handling.	7.5	Tissue	Glassine Black Logo	3.0	54" x 750 yd	—	8	8	6	3	7	-10 (-23)	250 (121)
	9087	Thick adhesive to bond rough surfaces.	10.2	PVC	Glassine Green Logo	3.0									185 (85)
	9088-200	High temperature resistance with paper liner.	8.3	PET	Glassine Red Logo	3.0	61" x 550 yd*								300 (149)
400 Acrylic Adhesive	**415**	Splice papers, films and foils.	4.0	PET	60# DK	4.0	48" x 504 yd*	—	5	5	5	5	5	-60 (-51)	250 (121)

1 – More information on pages 10-13.
2 – More information on page 14.
*Smaller size sheets also available.

Values: 1 = Lowest Performance; 10 = Highest Performance
Rankings are a general guide. Adhesives should be tested with actual components to ensure acceptable performance.

Go-To Product

Note: This technical information and data should be considered representative or typical only and should not be used for specification purposes.

3M™ Double Coated Tapes (cont.)

Adhesive Family[1]	Product	Description/ Application Ideas	Tape Cal. (mils)	Carrier Type	Liner[2] Type	Liner[2] Caliper (mils)	Master Size	Specs	Adhesion Metal	Adhesion HSE Plastic	Adhesion LSE Plastic	Adhesion Foam	Chem. Resist.	Temperature Low °F (°C)	Temperature High °F (°C)
Silicone	**96042**	Silicone attachment. Single linered for easier processing.	5.0	PET	White PET	2.0	48" x 180 yd	—	9	8	7	6	10	-60 (-51)	300 (149)
700 Synthetic Rubber	**476**	High-tack. Permanent	2.0	Film	62# DK	3.7	27" x 120 yd	—	8	9	9	3	2	-40 (-40)	150 (65)
	9443NP	High-tack rubber adhesive with good adhesion to most plastics.	6.0	HDPE	60# DK	3.7	27" x 120 yd		8	9	9	2	2	-40 (-40)	200 (93)
	9579	Core starting on metal cores.	9.0	HDPE	62# DK	3.7	27" x 144 yd								
860 Natural Rubber	**401M**	Used for mounting rubber or photopolymer printing plates.	9.0	Paper	54# DK	3.0	23.5" x 72 yd	—	8	8	8	5	1	-40 (-40)	180 (82)
	410M	Core starting/end tabbing of papers, films and foils.	6.0	Paper	54# DK	3.0	23.5" x 108 yd		8	8	8	5	1	-40 (-40)	200 (93)
900R Synthetic Rubber	**9816L**	General purpose, high-tack, rubber-based adhesive.	3.5	PET	60# Kraft	3.5	54" x 250 yd	—	8	8	7	7	3	-40 (-40)	150 (65)
	9816M				74# Kraft	3.5	60" x 250 yd								
Low VOC	**9599**	Acrylic adhesive for high adhesion to a variety of materials including metals and HSE plastics. Low-VOC properties suitable for interior automotive applications.	5.0	Non-Woven Tissue	PCK White	4.5	51" x 55 yd	—	9	8	8	4	7	-40 (-40)	275 (135)
	DCX 1018		5.0	Tissue	PCK White	4.2	51" x 55 yd	—	9	9	8	8	8	-40 (-40)	350 (177)

1 – More information on pages 10-13.
2 – More information on page 14.

Values: 1 = Lowest Performance; 10 = Highest Performance
Rankings are a general guide. Adhesives should be tested with actual components to ensure acceptable performance.

Attach closed-cell foam to galvanized steel.
3M™ Double Coated Tape 9832HL.

Attach rubber to plastic.
3M™ Double Coated Tape 93015LE with Adhesive 300LSE.

Note: This technical information and data should be considered representative or typical only and should not be used for specification purposes.

3M™ Differential Double Coated Tapes[3]

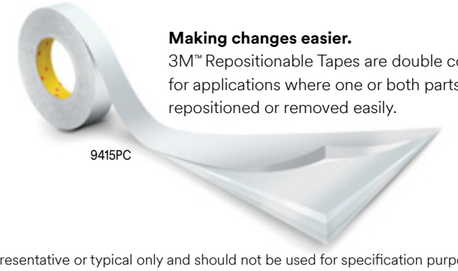
Adhesive Family[1]	Product	Description/ Application Ideas	Tape Cal. (mils)	Carrier Type	Liner[2] Type	Liner[2] Caliper (mils)	Master Size	Specs	Adhesion Metal	Adhesion HSE Plastic	Adhesion LSE Plastic	Adhesion Foam	Chem. Resist.	Temperature Low °F (°C)	Temperature High °F (°C)
350/ Silicone Differential Adhesive	**9731**	Differential adhesive-silicone adhesive on back side. Silicone keypad attachment, printer toner cartridge refurbishing.	5.5	PET	58# PCK/ 3 mil PET	2.9/ 4.2*	48" x 108 yd	—	9	10	10	9	8	-40 (-40)	250 (121)
200MP/ 300LSE Differential Adhesive	**9496LE**	Adhesive 200MP provides excellent bond strength to a variety of high surface energy substrates. 300LSE bonds to powder coated metals, oily metals and LSE plastic.	6.7	PET	58#/ 58#	4.2/ 4.2*	48" x 540 yd	—	10	9	1	3	9	-40 (-40)	250 (121)
									9	10	10	1	7		
Acrylic/ Rubber Differential Adhesive	**9817M**	Exposed side is acrylic, liner side is rubber-based. Excellent quick stick and adhesion to high and low energy surfaces.	3.3	PET	74# Kraft	3.5	60" x 250 yd*	—	8	8	7	6	3	-40 (-40)	175 (79)

3M™ Removable/Repositionable Tapes

Adhesive Family[1]	Product	Description/ Application Ideas	Tape Cal. (mils)	Carrier Type	Liner[2] Type	Liner[2] Caliper (mils)	Master Size	Specs	Adhesion Metal	Adhesion HSE Plastic	Adhesion LSE Plastic	Adhesion Foam	Chem. Resist.	Temperature Low °F (°C)	Temperature High °F (°C)
400/ 1000 Differential Adhesive[3]	**9415PC**	High-tack/low tack differential adhesive. Polyester film carrier.	2	PET	78# PCK	6.0	48" x 216 yd	—	5	5	5	4	5	-20 (-29)	150 (65)
	9416	High-tack/low tack differential adhesive. Tissue carrier.	2	Tissue	70# PCK	5.6	47" x 432 yd*		3	1	1	—	2		
420/ 1050 Differential Adhesive[3]	**9425**	High-tack/medium tack for repositionable parts. Hot wire cutable.	5.5	UPVC	58# PCK	4.2	48" x 144 yd	—	8	7	1	4	2	-20 (-29)	125 (52)
									3	1	1	1	2		
	9425HT	High-tack/medium tack acrylic adhesive offers permanent adhesion to one substrate with removability to the other.	5	PET	58# PCK	4.2	48" x 360 yd*		8	7	1	4	2	-20 (-29)	250 (121)
									3	1	1	1	2		
400/1070 Repositionable Acrylic[3]	**665**	Medium tack/medium tack differential adhesive. Hot wire cutable. Linerless.	3.5	UPVC	None	—	48" x 216 yd*	—	5	5	5	4	5	-60 (-51)	125 (52)
	666	Linered version of 665.			LDPE	4.0	48" x 108 yd*								
100 High Temp. Acrylic	**4658F**	Clear, closed foam acrylic foam tape. Initially repositionable, but will create permanent bond.	31.0	None	PET	2.0	48" x 162 yd*	—	9	8	1	—	9	-40 (-40)	450 (232)
1000 Repositionable Acrylic	**9449S**	Low tack adhesive transfer tape laminates to various substrates to make them repositionable.	0.4	None	55# DK	2.5	48" x 360 yd	—	3	1	1	—	2	-20 (-29)	250 (121)

1 – More information on pages 10-13.
2 – More information on page 14.
3 – Second number reflects removable adhesive side.
*Smaller size sheets also available.

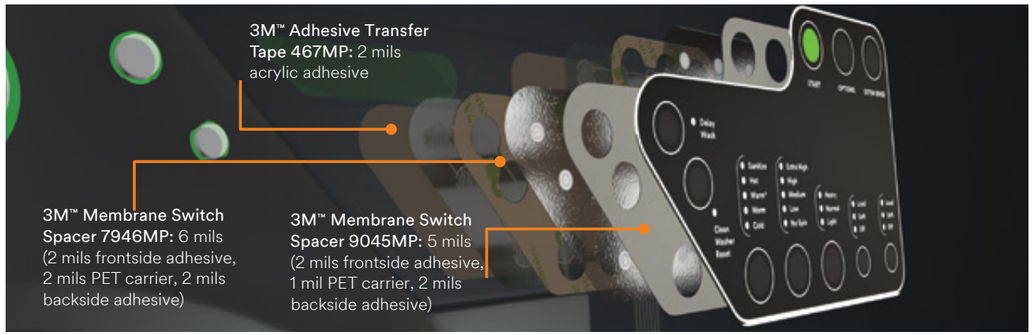
Values: 1 = Lowest Performance; 10 = Highest Performance
Rankings are a general guide. Adhesives should be tested with actual components to ensure acceptable performance.



Making changes easier.
3M™ Repositionable Tapes are double coated. Ideal for applications where one or both parts need to be repositioned or removed easily.

Note: This technical information and data should be considered representative or typical only and should not be used for specification purposes.

3M™ Membrane Switch Spacers — Double Coated Spacers



Accuracy with one touch.
Piece together the power of precision, then seal it in. Design machines that respond to your commands with the lightest touch–so we can live better, work smarter and surpass the limits of yesterday. Because that's how progress is made–and how success is felt. Membrane switches engineered with 3M™ Acrylic Adhesives measure up to the most demanding standards. With exceptionally high shear strength, great durability and features that streamline the creative process, you can trust that your design delivers accuracy with style–and stands up to the test of time.

Adhesive Family[1]	Product	Description/ Application Ideas	Construction: Total Thickness (mils)	Construction: Top Liner / Adhesive Type / Carrier / Adhesive Type / Bottom Liner	Construction: Caliper (mils)	Sheet Size Master Roll	Specs
200MP High Performance Acrylic	7945MP	Excellent temperature, chemical and UV resistance. High shear strength withstands repeated stresses of switch actuation. Designed to separate switch circuitry until actuation. Both liners are printed.	5	58# PCK 200MP Polyester 200MP 58# PCK	2 1 2	48" x 36"* 48" x 360 yd	UL
	7953MP	Same characteristics as 7945MP. Primary liner is printed. Also used for graphic attachment.	3.5	58# PCK 200MP Polyester 200MP 58# PCK	1.5 0.5 1.5	48" x 36"* 48" x 360 yd	UL
	7956MP	Same characteristics as 7945MP. Both liners are printed.	6	58# PCK 200MP Polyester 200MP 58# PCK	2 2 2	24" x 36" 48" x 360 yd	UL
	7956MWS	For use in graphic and non-graphic applications. Metallized vapor coat and white color provide strong opacity for facilitating backlighting and eliminating floodcoats. Single liner.	6	58# PCK 200MP Polyester (white, vapor coated) 200MP	2 2 2	48" x 360 yd	UL
	7956WDL	Same characteristics as 7956MWS except in sheets.	6	58# PCK 200MP Polyester (white, vapor coated) 200MP 58# PCK	2 2 2	24" x 36" 48" x 360 yd	UL
	7957MP	Same characteristics as 7945MP, except thicker polyester. Both liners are printed.	7	58# PCK 200MP Polyester 200MP 58# PCK	2 3 2	48" x 36"* 48" x 360 yd	UL
	7959MP		9	58# PCK 200MP Polyester 200MP 58# PCK	2 5 2	48" x 36"* 48" x 360 yd	UL

1 – More information on pages 10-13.
*Smaller size sheets also available.

Go-To Product

Note: This technical information and data should be considered representative or typical only and should not be used for specification purposes.

3M™ Membrane Switch Spacers — Double Coated Spacers (cont.)

Adhesive Family[1]	Product	Description/ Application Ideas	Construction: Total Thickness (mils)	Construction: Top Liner / Adhesive Type / Carrier / Adhesive Type / Bottom Liner	Construction: Caliper (mils)	Sheet Size Master Roll	Specs
200MP High Performance Acrylic (cont.)	7961MP	Same characteristics as 7945MP, except thicker polyester. Both liners are printed.	11	58# PCK 200MP Polyester 200MP 58# PCK	2 7 2	48" x 36"* 48" x 360 yd	UL
	7966MWS	For use in graphic and non-graphic applications. Metallized vapor coat and white color provide strong opacity for facilitating backlighting and eliminating floodcoats.	9	58# PCK 200MP Polyester (white, vapor coated) 200MP	2 2 5	48" x 360 yd	UL
	7966WDL	Same characteristics as 7966MWS except in sheets.	9	58# PCK 200MP Polyester (white, vapor coated) 200MP 58# PCK	2 2 5	24" x 36" 48" x 360 yd	UL
	9045MP	Excellent high temperature, chemical and UV resistance. High cohesive strength withstands repeated stresses of switch actuation. Heavy liner for improved handling and lay-flat properties. Both liners are printed.	5	94# PCK 200MP Polyester 200MP 94# PCK	2 1 2	48" x 36"* 48" x 360 yd	UL
	9057MP	Excellent high temperature, chemical and UV resistance. High cohesive strength withstands repeated stresses of switch actuation. Heavy liner for improved handling and lay-flat properties. Both liners are printed.	7	94# PCK 200MP Polyester 200MP 94# PCK	2 3 2	24" x 36" 48" x 360 yd	UL
	9059MP		9	94# PCK 200MP Polyester 200MP 94# PCK	2 5 2	48" x 36"* 48" x 360 yd	UL
	9061MP		11	94# PCK 200MP Polyester 200MP 94# PCK	2 7 2	24" x 36" 48" x 360 yd	UL

1 – More information on pages 10-13.

3M™ Membrane Switch Spacers — Single Coated Spacers

Adhesive Family[1]	Product	Description/ Application Ideas	Construction: Total Thickness (mils)	Construction: Carrier / Adhesive Type / Bottom Liner	Construction: Caliper (mils)	Sheet Size Master Roll	Specs
200MP High Performance Acrylic	7992MP	Adhesive 200MP on one side of a clear polyester carrier.	4	Polyester Film 200MP 94# PCK	2 2	24" x 36" 48" x 360 yd	—
	7993MP	Excellent temperature, chemical and UV resistance. Used for lead protection, dome retainer sheets, and for printing conductive circuitry.	3	Polyester Film 200MP 94# PCK	1 2	48" x 36"* 48" x 360 yd	UL
	7995MP	Same characteristics as 7993MP, except with thicker polyester.	5	Polyester 200MP 94# PCK	3 2	24" x 36" 48" x 360 yd	UL
	7997MP		7	Polyester 200MP 94# PCK	5 2	24" x 36" 48" x 360 yd	UL

1 – More information on pages 10-13.
*Smaller size sheets also available.

Go-To Product

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3M™ Extended Liner Tapes

Adhesive Family[1]	Product	Application Ideas	Tape Thickness w/o liner mils (mm)	Liner Type[2]	Description	Temperature Resistance °F (°C)		Solvent Resistance	Relative Adhesion	
						Short term	Long term		HSE	LSE
340 High-tack Acrylic	**466XL**	Coated papers and LSE plastics. Overnight envelopes. Features an end-of-roll indicator tab for automated dispensing.	2.0 (0.05)	62# DK White with Black Print	High-tack. Permanent	180 (82)	150 (65)	7	6	5
400 Acrylic Adhesive	**465XL**	Seal flaps on overnight envelopes. Pressure sensitive edging on business forms. General commercial joining applications. For attaching materials that require more adhesive thickness. Larger outsert attachments.	2.0 (0.05)	60# DK Tan with Green Print	General purpose.	250 (121)	180 (82)	5	5	5
	450EK	Pharmaceutical outsert attachment. For applications requiring a more tear resistant liner.	1.0 (0.025)	78# Extensible Kraft White (No Print)						
	450XL	Pharmaceutical outsert attachment. General paper attachment.	1.0 (0.025)	60# DK Tan with Green Print						
	920XL	Seal flaps on poly-bags and envelopes. Pressure sensitive edging on business forms, literature, photos, posters and labels.	1.0 (0.025)	40# DK White with Red Print						
	9926XL	Economical alternative for general paper-to-paper applications.	1.0 (0.025)	40# DK White with Red Print	General purpose.	180 (82)	150 (65)	5	5	5
600	**9934XL**	P.O.P. displays. Difficult splicing applications, shelf talkers, price tags, polyethylene foam bonding. High-tack to LSE materials. Indirect food-contact applications.[3]	4.0 (0.10)	60# DK Tan (No Print)	High-tack to LSE materials.	150 (65)	120 (49)	5	9	9
760 Synthetic Rubber	**476XL**	Heavy-duty sealing. Mounting of promotional items. Core starting. Closure of overnight boxes, tubes and envelopes. Indirect food-contact applications.[3]	6.0 (0.16)	62# DK White with Red Print	High-tack, double coated film.	150 (65)	120 (49)	5	9	9
770 Synthetic Rubber	**9925XL[4]**	General mounting. P.O.P. items. Attaching tags and labels. Core starting. Permanent bonding paper-to-paper, business forms, traffic tickets, novelty items and literature. Indirect food-contact applications.[3]	2.5 (0.065)	43# DK White with Black Print	Tissue reinforced. High initial adhesion to a wide variety of materials.	150 (65)	100 (41)	4	9	9

1 – More information on pages 10-13.
2 – More information on page 14.
3 – FDA acceptable dry ingredients listed as indirect food-contact additives when used in food packing with minimal opportunity for exposure.
4 – Non-liner side is adhesive coated full width.

Easy liner starting and removal.
3M™ Extended Liner Tapes are constructed with liners that extends beyond the width of the adhesive to provide easy liner starting. The dry edge or finger lift edge on each side of the tape makes liner removal easy.

Go-To Product

Note: This technical information and data should be considered representative or typical only and should not be used for specification purposes.

3M™ Screen Printable Adhesives

Product Group	Product	Description/ Application Ideas	Adhesion Specs	Size
Screen Printable Adhesives	**SP7533**	Water-dispersed, pressure sensitive. Excellent balance of peel and shear strength. High heat resistance.	Process dependent	1 liter (6/case) 5 liters (2/case) 1 gallon (4/case)
	SP7555	UV curable. Pressure sensitive. Excellent LSE adhesion and water resistance.		1 liter (6/case)

Scotch® ATG Adhesive Transfer Tapes

Adhesive Family[1]	Product	Tape Thickness w/o liner mils (mm)	Description	Temperature Resistance		Solvent Resistance	Relative Adhesion		Application Ideas	Adhesive Transfer Tape Equivalent
				Short term	Long term		HSE	LSE		
300 High-tack Acrylic	**976**	2.0 (0.05)	High-tack. Excellent adhesion to most plastics.	250°F (121°C)	150°F (65°C)	6	8	9	Attach fabric swatches in sample books.	927
	969	5.0 (0.13)							Assemble P.O.P. displays. Bond trim strips to furniture or luggage. Bond labels to plastic toys. Attach gaskets or foams.	950
320AF Acid Free Acrylic	**908**	2.0 (0.05)	Acid free. Fibered adhesive transfer tape.	180°F (82°C)	150°F (65°C)	6	7	7	Transparent adhesive. Ideal for paper crafting and picture framing applications. Photo safe per ANSI IT9.16	–
350 High Performance Acrylic	**926**	5.0 (0.13)	High performance. Excellent solvent and temperature resistance.	450°F (232°C)	300°F (149°C)	8	10	10	Bond fabric or trim to window blinds. Splice aluminum coils. Bond foam insulation. Mount nameplates on award plaques.	9485PC
400 General Purpose Adhesive	**924**	2.0 (0.05)	General purpose. Excellent adhesion to most paper stocks.	250°F (121°C)	180°F (82°C)	5	5	5	Seal pocket in folders. Bond mat board in picture frames. Splice paper, films and foils. General purpose bindery attaching.	465
	987*	1.7 (0.040)								
400/1000 Repositionable Adhesive[2]	**928**	2.0 (0.05)	Differential tack. Repositionable.	180°F (82°C)	150°F (65°C)	5	5/1	5/1	Attach credit card in mailer. Core start/end tab paper, films and foils. Attach temporary labels.	9416

1 – More information on pages 10-13.
2 – Second number reflects removable adhesive side.
*3M Brand

Scotch® ATG Applicator 714
Used for 1/4" wide tape

Scotch® ATG Applicator 3662
Used for 2" wide tape

Scotch® ATG Applicator 700
Used for 1/2" and 3/4" wide tape

No mess, no cleanup.
A touch of the finger triggers a quick, controlled application of Scotch® ATG Adhesive Transfer Tape at the same time as the liner rewinds into the applicator.

Scotch® ATG Applicator 752C
3/4", 1/2" and 1/4" wide tape (1/4" adapter purchased separately)

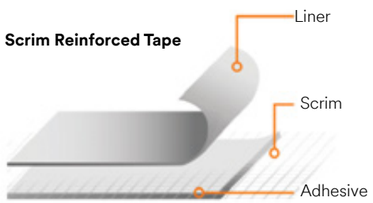
Note: This technical information and data should be considered representative or typical only and should not be used for specification purposes.

3M™ Foam Lamination Tapes–L-Series

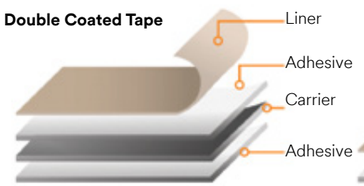
The perfect seal. Just the right amount of acoustic insulation. Ideal impact damping. Whatever your design challenge, there's a 3M™ Foam Lamination Tape that can make your vision a reality. Our L1/L2/L3 series adhesive platforms allow you to pair your design with the right foam and adhesive for your application.

Product Family	Product	Adhesive Caliper mils (mm)	Liner Type	Liner Caliper mils (mm)	Temp. Resistance °F (°C)	Roll size Width in (mm) Length yds (m)	Application Ideas
L1 Platform Modified acrylic adhesive with good initial tack and peel adhesion.	Double Coated Tape L1+DCP	3.5 (0.088)	74# white, unprinted DK	4.1 (0.104)	200°F (93°C)	Widths: 39 (1000) 54 (1372) 60 (1524) Length: 251 (230)	Foams, including cross-linked PE, EVA and microcellular urethane.
	Scrim Reinforced Adhesive Transfer Tape L1+RT	3.2 (0.081)					
L2 Platform High initial tack; excellent peel adhesion and shear strength.	Double Coated Tape L2+DCP	4.8 (0.121)	83# tan, unprinted PCK	6.2 (0.157)	225°F (107°C)	Width: 54 (1372) Length: 250 (229)	Foams, including PU ether, PU ester, cross-linked PE, EPDM, neoprene, nitrile and microcellular urethane.
	Double Coated Differential Tape L2+DCD	6.7 (0.170)					
	Adhesive Transfer Tape L2+T3	3.0 (0.076)					
	Adhesive Transfer Tape L2+T5	5.0 (0.127)					
L3 Platform Specialty acrylic adhesive with good adhesion to many elastomeric substrates.	Adhesive Transfer Tape L3+T3	3.0 (0.076)	83# tan, unprinted PCK	6.2 (0.157)	275°F (135°C)	Width: 54 (1372) Length: 54 (229)	Elastomers, including TPV, neoprene rubber, butyl rubber and many versions of EPDM rubber.
	Adhesive Transfer Tape L3+T5	5.0 (0.127)					

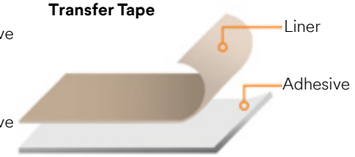
Scrim Reinforced Tape



Double Coated Tape



Adhesive Transfer Tape



Note: This technical information and data should be considered representative or typical only and should not be used for specification purposes.

3M™ Bonding Films

Product Number	Caliper (mils)	Base Resin	Color	Bond/ Cure Time	Bondline Temp. (°F)	Description	Spec	Size
406	3.0	EAA	Clear	2–5 sec.	320	Flexible, light colored, thermoplastic bonding film exhibits good adhesion to a variety of substrates, especially metals.	–	48" x 180 yd
583	2.0	Nitrile Phenolic	Brown	2–5 sec.	250	Heat or solvent-activated dry film adhesive.	UL	48" x 180 yd
588	6.0	Nitrile Phenolic	Yellow	2–5 sec.	250	Heat or solvent-activated dry film adhesive.	–	21" x 180 yd
615	2.5 or 4.0	Polyester	Tan	2–5 sec.	280	Flexible, light colored, thermoplastic bonding films exhibit good adhesion to a variety of substrates. 615 contains a non-woven scrim.	–	0.6m x 155m
615S	6.0 or 9.0	Polyester	Tan	2–5 sec.	280	Flexible, light colored, thermoplastic bonding films exhibit good adhesion to a variety of substrates. 615S contains a non-woven scrim.	–	6 mil: 0.6m x 155m 9 mil: 0.6m x 80m
668	2.5 or 4.0	Polyamide	Tan	2–5 sec.	320	Flexible, light colored, thermoplastic bonding film is tacky at room temperature and has good adhesion to a variety of substrates at elevated temperatures.	–	0.6m x 155m
690	8.0	Polyester	Tan	2–5 sec.	280	Flexible, light colored, thermoplastic bonding film is tacky at room temperature and has good adhesion to a variety of substrates at elevated temperatures.	–	0.6m x 80m*

*MOQ is 2 rolls.

3M™ Double Coated Foam Tapes

Carrier	Product	Liner Type	Tape Thickness mils (mm)	Description	Adhesive Type	Temp. Resistance °F (°C) Minutes Hours	Temp. Resistance °F (°C) Days Weeks	Solvent Resistance	Relative Adhesion HSE	Relative Adhesion LSE	Application Ideas
Urethane	**4004**	A	250 (6.4)	Off-white, open-cell urethane foam carrier. High shear adhesive with high temperature resistance.	100	380 (193)	220 (104)	Med	High	Low	Bond acoustic panels to walls. Mount air fresheners, soap dispensers, interior signs and nameplates. Attach wire clips to various surfaces. Mount electrical channel to wall.
	4008		125 (3.2)								
	4016		62 (1.6)								
	4026		62 (1.6)								
	4052	A	31 (0.8)	Black version of 4032.							
	4056	A	62 (1.6)	Black version of 4016 and 4026.							
	4085	E	45 (1.1)	Off-white, open-cell urethane foam carrier. High-tack adhesive.	740	200 (93)	125 (52)				
Polyeth-ylene	**4451**	C	31 (0.8)	Rubber based PSA, semi removable	740	158 (70)	120 (49)	Med	High	Med	Good on flexible materials, thin bond line, easy removal.
	4462	B	31 (0.8)	White or black, closed-cell polyethylene foam carrier. High-tack adhesive.	745	158 (70)	120 (49)			Low	Attach hooks, wire clips and racks. Mount retail shelf price channels. Mount pen holders.
	4466	B	62 (1.6)								
	4492	C	31 (0.8)	White or black, closed-cell polyethylene foam carrier. High shear adhesive with high temperature resistance.	430	180 (82)	158 (70)			Low	Mount nameplates on awards and novelties. P.O.P. displays and signs.
	4496	C	62 (1.6)								
Acrylic	**4658F**	D	31 (0.8)	Clear, closed-cell acrylic foam tape. Clean removability from many substrates.	100	212 (100)	175 (80)	High	High	Low	Removable P.O.P. displays, signs, exhibits and trade shows, nameplates.

**Liner types:
A-3 mil 62# Densified Kraft- Green Plaid
B-3 mil Densified Kraft-White
C- 4 mil 58# Polycoated Kraft-Tan
D- 2mil Polyester Film-clear
E- 3 mil Densified Kraft-Tan

3M™ Double Coated Urethane Foam Tape 4026
An excellent choice for interior mounting applications where the tape will be protected from the environment.

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3M™ VHB™ Tapes

Rivet-free for a smoother ride
Eliminate rivets and screws that can loosen, rattle and leak. Keep sides smooth for decals while damping vibration for a quieter ride.

With 3M™ VHB™ Tapes, you can maintain consistency from sketch to construction, eliminating distracting, visible fasteners, like screws and bolts. These high-strength, double-sided acrylic foam tapes let you quickly and easily create a long-lasting bond that actually builds strength over time. With the ability to join a variety of materials including aluminum, steel, glass, plastics and painted and powder-coated surfaces. They provide resilient bonding solutions in just about anything you can dream up. Visit 3M.com/VHB to open a world of new possibilities.

Product Number	Tape Thickness w/o Liner mils (mm)	Liner Type	Description	Temp. Resistance °F (°C) Minutes Hours	Temp. Resistance °F (°C) Days Weeks	Solvent Resistance	Relative Adhesion HSE	Relative Adhesion LSE	Spec	Application Ideas
4941 Tape Family										
4926	15 (0.4)	A	Gray, closed-cell acrylic foam carrier. Conformable. Good adhesion to many painted metals. Plasticizer resistant. UL 746C.	300 (149)	200 (93)	High	High	Med	UL	Bond and seal polycarbonate lens over LCD. Bond and seal plastic windows to pre-painted control panels/ switch gear. Mount vinyl wiring ducts and conduit channels. Seam vinyl banners.
4936	25 (0.64)	A								
4936F	25 (0.64)	F								
4941	45 (1.1)	A								
4941F	45 (1.1)	D								
4956	62 (1.6)	A								
4956F	62 (1.6)	F								
4991	90 (2.3)	F		250 (121)	200 (93)					
4991B	90 (2.3)	F	Black version of 4991.						–	
4919F	25 (0.64)	F	Black version of 4936F.	300 (149)	200 (93)				UL	
4947F	45 (1.1)	F	Black version of 4941F.							
4979F	62 (1.6)	F	Black version of 4956F.							
5952 Tape Family										
5906	6 (0.15)	G	Black, closed-cell acrylic foam carrier. Good adhesion to many painted surfaces, including powder coated paint.	300 (149)	250 (121)	High	High	Med	–	Bond and seal polycarbonate lens over LCD. Lens and touch panel bonding. Logo attachment. P.O.P. and display construction.
5907	8 (0.20)	G								
5908	10 (0.25)	G								
5909	12 (0.30)	G								
5915	16 (0.40)	F	Black or white, closed-cell acrylic foam carrier. Good adhesion to many painted surfaces, including powder coated paint. UL 746C.						UL	Bonds to a variety of plastics and paint systems. Bond architectural signs to frames. Attach trim and extrusions. Hat channels and stiffeners.
5915P	16 (0.40)	E								
5915WF	16 (0.40)	F								
5925	25 (0.60)	F								
5925P	25 (0.60)	E								
5925WF	25 (0.60)	F								

Note: This technical information and data should be considered representative or typical only and should not be used for specification purposes.

3M™ VHB™ Tapes (cont.)

Product Number	Tape Thickness w/o Liner mils (mm)	Liner Type	Description	Temp. Resistance °F (°C) Minutes Hours	Temp. Resistance °F (°C) Days Weeks	Solvent Resistance	Relative Adhesion HSE	Relative Adhesion LSE	Spec	Application Ideas
5952 Tape Family (cont.)										
5930	32 (0.80)	F	Black or white, closed-cell acrylic foam carrier. Good adhesion to many painted surfaces, including powder coated paint. UL 746C.	300 (149)	250 (121)	High	High	Med	UL	Bonds to a variety of plastics and paint systems. Bond architectural signs to frames. Attach trim and extrusions. Hat channels and stiffeners.
5930P	32 (0.80)	E								
5930WF	32 (0.80)	F								
5952	45 (1.1)	F								
5952P	45 (1.1)	E								
5952WF	45 (1.1)	F								
5962	62 (1.6)	F								
5962P	62 (1.6)	E								
5962WF	62 (1.6)	F								
5958FR	40 (1.0)	F	Meets FAR 25.853 (a) 12 sec vertical burn Appendix F, Part 1 (a) (ii)	300 (149)	200 (93)				–	Overhead stow bins, signage, kick plates, galley modules, plastic and metal decorative trim, ceiling tile stiffeners, mirror mounting, air duct spuds, floor and wall panel attachment, clip attachment.
RP Tape Family										
RP16	16 (0.4)	A	Gray, closed-cell acrylic foam carrier. Conformable. Good adhesion to many painted metals.	250 (121)	200 (93)	High	High	Med	UL	Panel bonding, stiffener attachment and trim attachment.
RP16F	16 (0.4)	F								
RP25	25 (0.6)	A								
RP25F	25 (0.6)	F								
RP32	32 (0.8)	A								
RP32F	32 (0.8)	F								
RP45	45 (1.1)	A								
RP45F	45 (1.1)	F								
RP62	62 (1.6)	A								
RP62F	62 (1.6)	F								
GPH Tape Family										
GPH-060GF	25 (0.6)	F	Superior high-temp performance for powder coat or liquid paint processes and multi material bonding.	450 (230)	300 (150)	High	High	Med	UL	GPH's high temperature resistance allows it to reduce the number of "touches," leading to a more streamlined manufacturing process.
GPH-110GF	45 (1.1)	F								
GPH-160GF	62 (1.6)	F								
LSE Tape Family										
LSE-060WF	25 (0.6)	F	Developed specifically for LSE substrates such as polypropylene (PP), thermoplastic elastomers (TPE) and thermoplastic olefins (TPO)	300 (150)	200 (93)	High	High	High	–	Made to live outdoors. Resists hot, cold and cycling temperature, UV light, moisture and solvents. Seals against environmental conditions. Low-temperature bonding with high initial tack at low temperatures on frost-free surfaces down to 0°C.
LSE-110WF	45 (1.10)	F								
LSE-160WF	62 (1.6)	F								
4950 Tape Family										
4914	10 (0.25)	A	Closed-cell acrylic foam tape. UL 746C.	300 (150)	200 (93)	High	High	Med	UL	This family has general purpose adhesive on both sides of firm type foam. Typically used on metal, glass and high surface energy plastic substrates. Available in white and black.
4920	15 (0.4)	A								
4930	25 (0.6)	A								
4950	45 (1.1)	A								
4955	80 (2.0)	A								
4959	120 (3.0)	A		400 (204)	300 (150)					
4910 Tape Family										
4905	20 (0.5)	F	Clear, acrylic construction for joining transparent material.	300 (150)	200 (93)	High	High	Low	UL	Excellent for applications where clear or colorless is desired. The general purpose adhesive on both sides is suitable for high surface energy substrates.
4910	40 (1.0)	F								

Liner Types:
A – 3 mil 54# Densified Kraft Paper
B – 5 mil Clear Polyethylene Film
C – 2 mil Polyester Film
D – 5 mil Red Polyethylene Film
E – 4 mil 58# Polycoated Kraft Paper
F – 5 mil Red Printed Polyethylene Film
G – 3 mil Clear PET

Relative Adhesion:
HSE – High Surface Energy; LSE – Low Surface Energy

Multi-purpose Acrylic: Bonds to a wide range of materials including metals, glass, and high and medium surface energy plastics and paints. Resists migration of plasticizers in vinyl substrates.

Modified Acrylic: Bonds to medium low surface energy paints and plastics, including many powder coated paints in addition to the substrates listed with the multi-purpose acrylic adhesive (except plasticized vinyl).

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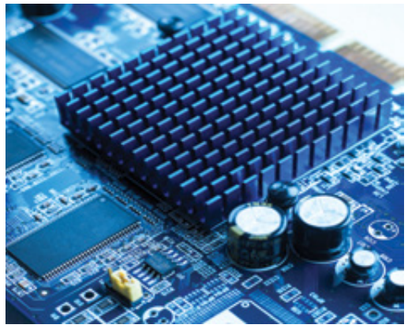
3M™ Electrically and Thermally Conductive Tapes

No matter your industry, 3M thermal management materials can help you design devices that run cooler and more reliably. They are designed specifically to help transfer heat away from critical display components. Their excellent thermal conductivity, high dielectric strength and conformability make them ideal for applications in:

• Computers • Tablets and mobile devices • Wearable devices
• IC packages • Power transistors • LED lighting and displays
• Automotive batteries



Adhesive Family[1]	Product	Description/ Application Ideas	Adhesive Caliper (mils)	Liner[2]		Master Size	Specs	Adhesion				Chem. Resist.	Temp. Range	
				Type	Caliper (mils)			Metal	HSE Plastic	LSE Plastic	Foam		Low (°F)	High (°F)
Electrically Conductive	**9703**	Z-axis only electrically conductive for interconnects, low outgassing version of 9705.	2.0	58# PCK	4.0	24" x 108 yd	—	5	4	4	—	6	20	160
	9705	Z-axis only electrically conductive for interconnects, acrylic adhesive, Ag fillers.	2.0	58# PCK	4.0	24" x 108 yd								
	9706	Z-axis only electrically conductive for interconnects, higher adhesion ECATT 9705 version, Ag fillers.	2.0	Dual Lined PET	2.0/ 2.0	24" x 108 yd		8	6	4	—	6	20	160
	9709	XYZ-axis conductive adhesive with inherent EMI shielding performance, Ag fillers.	2.0	Dual Lined PET	1.5/ 2.0	14" x 108 yd								
	9709S	XYZ-axis conductive adhesive with inherent EMI shielding performance, Ag fillers. Good grounding to stainless steel and plated surfaces.	2.0	Dual Lined PET	1.5/ 2.0	14" x 108 yd								
	9709SL	Premium low release liner version of 9709S.	2.0	Dual Lined 58# PCK/PET	2.0/ 4.0	14" x 108 yd		5	5	4	4	6	20	160
	9712	XYZ-axis conductive adhesive for EMI shielding (acrylic adhesive, carbon scrim).	5.0	58# PCK	4.0	24" x 108 yd								
	9713	XYZ-axis conductive adhesive for EMI shielding (acrylic adhesive, Ni-carbon scrim).	3.0	58# PCK	4.0	24" x 108 yd								
	9719	XYZ-axis conductive adhesive for EMI shielding (silicone adhesive, Ni-carbon scrim).	4.0	PET	4.0	14" x 108 yd								
Thermally Conductive	**8805**	Improved adhesion ceramic-filled thermally conductive adhesive transfer tape.	5.0	PET	2.0	14" x 36 yd	—	8	6	4	—	6	20	185
	8810	10 mil version of 8805.	10.0	PET	2.0	14" x 36 yd								
	8815	15 mil version of 8805.	15.0	PET	2.0	14" x 36 yd								
	8820	20 mil version of 8805.	20.0	PET	2.0	14" x 36 yd								

1 – More information on pages 10-13.
2 – More information on page 14.

Values: 1 = Lowest Performance; 10 = Highest Performance
Rankings are a general guide. Adhesives should be tested with actual components to ensure acceptable performance.

Note: This technical information and data should be considered representative or typical only and should not be used for specification purposes.

3M™ Thermally Conductive Tapes (cont.)

Adhesive Family[1]	Product	Description/ Application Ideas	Adhesive Caliper (mils)	Liner[2]		Master Size	Specs	Adhesion				Chem. Resist.	Temp. Range	
				Type	Caliper (mils)			Metal	HSE Plastic	LSE Plastic	Foam		Low (°F)	High (°F)
Thermally Conductive (cont.)	**8904-02**	Flame-retardant, ceramic-filled acrylic transfer tape. LED module/board bonding.	8.0	PET	2.0	600mm x 40m	UL	8	6	4	—	6	20	185
	8904-025	10 mil version of 8904-02.	10.0	PET	2.0	600mm x 40m	UL							
	8904-05	20 mil version of 8904-02.	20.0	PET	2.0	600mm x 40m	UL							
	9882	Ceramic-filled adhesive transfer tape.	2.0	PET	2.0	14" x 36 yd	UL	7	4	2	—	6	20	160
	9885	5 mil version of 9882.	5.0	PET	2.0	14" x 36 yd	UL							
	9890	Soft thermal tape.	40.0	PCK	5.5	Call	—	5	5	4	—	5	20	160
	9889FR	10 mil version of 9982.	10.0	PET	2.0	14" x 36 yd	UL	7	4	2	—	6	20	185

1 – More information on pages 10-13.
2 – More information on page 14.

Values: 1 = Lowest Performance; 10 = Highest Performance
Rankings are a general guide. Adhesives should be tested with actual components to ensure acceptable performance.

3M™ Thermally Conductive Interface Pads

Soft, conformable thermal interface pads with high thermal conductivity and dielectric strength. They can be die cut to fit individual applications, making them ideal for use in LEDs, automotive batteries, notebook thermal modules and more.

Adhesive Family[1]	Product	Product Description				Thermal Performance			Dielectric Properties		UL Flammability Rating	Potential Operating Temperature Range (°C)***
		Base Material Type	Thickness mil (mm)	Filler Type	Liner Type	Conductivity (W/m-K) 3M ASTM D5470 TM	Impedance		Dielectric Strength (KV/mm)	Volume Resistivity (ohm/cm)		
							°C-in2/W	°C-cm2/W				
Thermally Conductive Pads	**5516/ 5516S*** Soft Pad	Filled Silicone Polymer	20 (0.5)	Ceramic	PET	3.1	0.31	2.0	3.1	6.9×10^{14}	3M V1 or VO TM**	Short Term: 150 Long Term: 100–125
			40 (1.0)				0.53	3.4				
			60 (1.5)				0.76	4.9				
			80 (2.0)				0.98	6.3				
	5519/ 5519S* Soft Pad	Filled Silicone Polymer	20 (0.5)	Ceramic	PET	4.1	0.29	1.9	3.1	6.9×10^{14}	3M V1/ VO or VO TM**	
			40 (1.0)				0.48	3.1				
			60 (1.5)				0.65	4.2				
			80 (2.0)				0.82	5.3				
	5591S* Ultra Soft Pad	Filled Silicone Polymer	20 (0.5)	Ceramic	PET	1.0	1.14	7.3	7.9	2.0×10^{12}	3M V1 or VO TM**	
			40 (1.0)				1.92	12.4				
			60 (1.5)				2.71	17.5				
			80 (2.0)				3.49	22.5				

1 – More information on pages 10-13.
2 – More information on page 14.

*The "S" version has a polymeric permanent film on one side to be used as a non-tacky surface for ease in reworking an assembly. Thermal Conductivity and Thermal Impedance are slightly changed with addition of the film, while Dielectric strength is improved. Optional thicknesses > 2.0mm. The "H" version has both a very low tack surface and a medium tack surface.
**Test results based on 3M UL Test Method. The 3M V1 TM testing applies to the 0.5mm thick products in the "S" version.
***Thermal impedance is measured with the test sample under a nominal 10 psi pressure to reflect a typical end use application. Short Term = Hours/Days. Long Term = Weeks/Months.

Note: This technical information and data should be considered representative or typical only and should not be used for specification purposes.

3M™ Thermally Conductive Interface Pads (cont.)

Adhesive Family[1]	Product	Product Description				Thermal Performance			Dielectric Properties		UL Flammability Rating	Potential Operating Temperature Range (°C)***
		Base Material Type	Thickness mil (mm)	Filler Type	Liner Type	Conductivity (W/m-K) 3M ASTM D5470 TM	Impedance °C-in2/W	Impedance °C-cm2/W	Dielectric Strength (KV/mm)	Volume Resistivity (ohm/cm)		
Thermally Conductive Pads	5592/ 5592S* Soft Pad	Filled Silicone Polymer	20 (0.5)	Ceramic	PET	1.1	0.64	4.1	14.7	3.0×10^{12}	3M V1 or VO TM**	Short Term: 150
			40 (1.0)				1.15	7.4				
			60 (1.5)				1.66	10.7				
			80 (2.0)				2.43	15.7				
	5595/ 5595S* Soft Pad	Filled Silicone Polymer	20 (0.5)	Ceramic	PET	1.6	0.70	4.5	15.7	5.0×10^{12}	3M V1 or VO TM**	Long Term: 100–125
			40 (1.0)				1.21	7.8				
			60 (1.5)				1.71	11.0				
			80 (2.0)				2.22	14.3				
	5589H* Soft Pad	Filled Acrylic Polymer	40 (1.0)	Ceramic	PET	2.0	1.33	8.6	21	3.4×10^{12}	UL VO	Short Term: 110
			60 (1.5)				1.67	1.67				
	5590H*	Filled Acrylic Polymer	20 (0.5)	Ceramic	PET	3.0	0.46	3.0	33	2.7×10^{12}	UL VO	Long Term: 80
			40 (1.0)				0.70	4.5				
			60 (1.5)				0.95	6.1				

1 – More information on pages 10-13.
2 – More information on page 14.

*The "S" version has a polymeric permanent film on one side to be used as a non-tacky surface for ease in reworking an assembly. Thermal Conductivity and Thermal Impedance are slightly changed with addition of the film, while Dielectric strength is improved. Optional thicknesses > 2.0mm. The "H" version has both a very low tack surface and a medium tack surface.
**Test results based on 3M UL Test Method. The 3M V1 TM testing applies to the 0.5mm thick products in the "S" version.
***Thermal impedance is measured with the test sample under a nominal 10 psi pressure to reflect a typical end use application. Short Term = Hours/Days. Long Term = Weeks/Months.

Note: This technical information and data should be considered representative or typical only and should not be used for specification purposes.

Delivering vital information. In the toughest environments.

3M is the premier durable label solution provider globally in the label industry today. 3M materials and services will enable you and your customers to present the best images, products, and quality as we solve marketplace solutions from design to production. We do this by partnering with industry leaders to deliver the best possible technology for innovative solutions regardless of your print method, substrates and ink systems.

Performance you can trust. From the top...down.

3M™ Durable Label Materials combine performance-based adhesives, topcoats, liners and more— a winning combination that helps keep messaging vibrant and legible for years, even in harsh conditions. When you're facing a challenging situation, you can talk to a 3M Technical Services Specialist about your exact needs and we'll help you find a solution.

Printing Performance
State-of-the-art topcoat technology keeps you on the cutting edge of printing trends.

Adhesives & Liners
World-class adhesive and liner performance with unmatched durability.

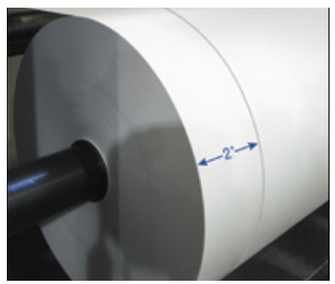
Full-Service Value
Availability is key. 3M provides the support needed to ensure products arrive on time and perform for the tasks at hand.

Fast Track Service Programs – The speed, flexibility and service you need.

To best meet your customers needs for short runs or specialized materials, use the Fast Track Service Programs. These cost-effective options meet your requirements and your tight deadlines. Program advantages include: less inventory, less waste, faster turnaround, first run assurance, and faster delivery.

2-Day Pre-Slit Program

- Pre-slit stocked 4.5" or 6" rolls
- Shipped within 48 hours
- Minimum order of 4.5" or 6" pre-slit rolls
- No upcharge



2-Day Precision Roll Program

- Custom-slit widths
- No upcharge
- Roll length of 1,668 ft
- Minimum order of 2" x 1668'

Mini-Master Program

- Custom-slit, full web width master rolls
- No upcharge
- Roll length short as 150 ft.
- Minimum order starts at 750 ft. rolls

Printing Methods Overview

	Why Customers Choose	Advantages	Disadvantages
Thermal Transfer A digital printing method in which material is applied to the label material by melting a coating of ribbon so that it stays glued to the material on which the print is applied. It contrasts with direct thermal printing, where no ribbon is present in the process.	• Variable information on demand • Barcoding, track and trace • Extreme durability • End-user print on demand	• Many substrates can be printed with inks • Variety of ribbons available to meet application needs • Cost effective use for serialization	• Single color printing based on ribbon used • Images are often required to be pre-printed with other print methods
Flexographic Uses quick-drying, semi-liquid inks and flexible photopolymer printing plates wrapped around rotating cylinders on a web press. The inked plates have a slightly raised image and rotate at high speeds to transfer the image to the substrate.	• The most economical for high volume printing • The most common print method for labels • Wide choice of inks (water-based, UV)	• Lower cost process for high volume jobs • Large number of label material options • Low maintenance equipment	• Cannot print variable data • Newer water-based inks require more durable top coatings to anchor to the media (i.e. Versatile Print)
UV Inkjet A form of digital printing that uses ultra-violet lights to almost instantly dry or cure ink as it is printed. In addition, UV cured inks are weather-resistant and offer increased resistance to fading.	• Printing on demand • Variable data • Design freedom • Reduced need for constant cleaning	• Printing and die-cutting in one step • Cost effective for short print runs (no print plate required like in flexo) • Less setup material waste (vs flexo) • VOC free	• Inks must be cured to dry (UV) • Less efficient for longer static image runs
Laser/Toner-Based An electrostatic digital printing process where a laser is used to apply a negative charge to a drum. Pigmented toner is then collected by the charge and transferred to the substrate where it is fused by heat and pressure.	• Cost effective print method • Designed for small to medium runs	• Cost effective for short print runs (no print plate required like in flexo) • Less set up material waste (vs Flexo)	• Limited to matte substrates • Metalized films may damage equipment • Durability is moderate
Screen Print A printing technique whereby a mesh is used to transfer ink onto a substrate, except in areas made impermeable to the ink by a blocking stencil. Cured with UV exposure.	• Extremely durable inks, fade resistant • Outdoor durability • Less expensive on large runs vs. digital	• Able to print a large variety of materials • Heavier ink laydowns (versatility) • Vibrant, high quality inks	• Amount of time to set up jobs • Not practical for smaller runs • Not environmentally friendly
Solvent Inkjet A digital form of printing that utilizes pigmented inks carried in a Volatile Organic Compound. Printed materials are usually cured through heating of inks and substrates.	• Extremely durable inks, fade resistant • Outdoor durability • Digital short run capability	• Wide web format for large graphics and banners • High resolution graphics • Fast print speeds	• Mainly limited to vinyl substrates • VOC vapors
Water-Based Inkjet An inkjet printing system which utilizes electronic pulses to activate jets of ink to deposit the ink in precise locations. Water is the carrier for pigmented and dye base inks.	• Color variable information on demand • Can be utilized for small to medium digital runs • Durability has greatly improved in recent years	• Small footprint that allows end user to print high quality labels in their specialized processes. • Media is converted often in blanks processed by converters	• Limited run volume • Not well suited for longer print runs

Note: This technical information and data should be considered representative or typical only and should not be used for specification purposes.

One topcoat. More possibilities.

3M™ Versatile Print Label Material

The future of labels is here. 3M™ Versatile Print Material works with more inks on more printing presses. Plus, you have the flexibility to use a single product for multiple print jobs. Stay on the forefront of the industry with a topcoat that creates vibrant labels that last longer, plus saves you time and money.

Versatile across these printing methods:

- Water-based Flexographic
- UV Flexographic
- UV Digital Inkjet
- Thermal Transfer
- Screen Printing
- Toner-Based
- Hybrid Presses

Versatile

Let the creativity flow.

- Proprietary 3M topcoat offers exceptional performance across multiple print methods
- Estimating is streamlined with one go-to label material

Vibrant

Stunning results.

- Streak free and crystal clear with crisp edges
- Near zero edge bleed and high image sharpness
- Create highly durable, glossy labels on digital and flexo

Value

Fluid operations.

- Improve efficiency by reducing or even eliminating pre-treatment steps like priming
- Potentially eliminate the need for overlaminates
- Rationalize label inventory

Verified

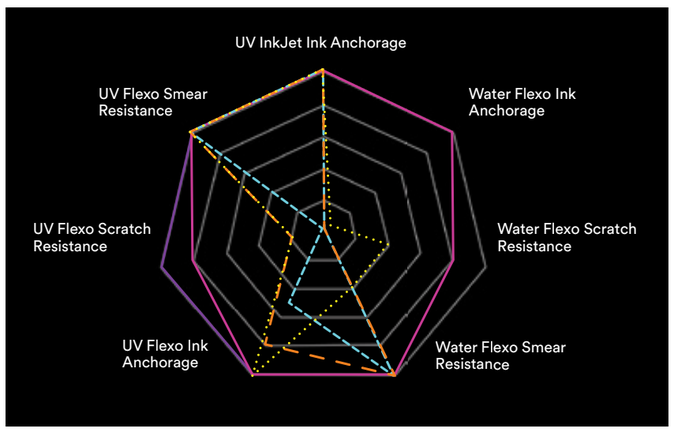
Trusted results on more presses.

- UL Component Recognition to UL969 with many ink systems and print technologies*
- Print press manufacturer tested
- Topcoat has both high gloss and high surface energy compared to competitive offerings, giving strong print performance

*See UL file MH16411 and MH18072 in UL Product iQ™ (Certifications Search) at ul.com for specific details.

Print performance

3M™ Versatile Print Label Material outperforms traditional gloss PET products in key measures of print performance.



Ink anchorage tested via ASTM 3359 for cross hatch adhesion using 3M™ Scotch Cellophane Film Tape 610. Scratch and smear resistance tested via industry recognized qualitative tests using thumbnail scratch and thumb pressure smear. For more information, please contact a 3M expert at 3M.com/durablelabels.

Stay Tuned! We are continuing to expand our portfolio of 3M Versatile Print products. Please contact your 3M Converter Markets representative for more information regarding Versatile Print series product availability.

3M™ Versatile Print Label Materials

Facestock	Product	Typical Performance Characteristics	Construction: Caliper (mils)	Construction: Facestock Adhesive Type Liner	Print Method[1]: Thermal Transfer	Flexographic	UV Inkjet	Laser/Toner-Based	Screen	Solvent Inkjet	Water Inkjet
3M™ Versatile Print Polyester Gloss White	**7871V**	Excellent high temperature resistance and adhesion to LSE plastics and smooth powder coats. Broad applications in automotive, electronics, healthcare, heavy machinery, general industrial. Specialty applications in automotive EV battery, GHS drum labeling. BS5609 certified durable label.	2.0 1.8 3.2	PET, Versatile Print TC **350** 55# Densified Kraft	■	■	■	■	■		
	7868V	High abrasion and solvent resistance. Excellent high temperature resistance. Excellent adhesion to LSE plastics and smooth powder coats. BS5609 certified durable label.	2.0 1.1 3.2	PET, Versatile Print TC **350** 55# Densified Kraft	■	■	■	■	■		
	7908V	Heavy adhesive coat weight for textured surfaces. Excellent high temperature resistance. Excellent adhesion to LSE plastics and powder coats. 90# liner with layflat properties ideal for sheet and screen printing applications.	2.0 1.8 6.8	PET, Versatile Print TC **350** 90# Polycoated Kraft	■	■	■	■	★		
	7331V	Good for general purpose indoor and outdoor use. Excellent bond to LSE plastics. Applications include medical device and equipment, lawn and garden, and appliance.	2.0 0.8 3.2	PET, Versatile Print TC **300** 55# Densified Kraft	■	■	■	■	■		
	7816V	High abrasion and solvent resistance. Economical durable label material with firm adhesive to resist oozing.	2.0 0.8 3.2	PET, Versatile Print TC **310** 55# Densified Kraft	■	■	■	■	■		
3M™ Versatile Print Polyester Gloss Platinum	**7872V**	Excellent high temperature resistance and adhesion to LSE plastics and smooth powder coats. Broad applications in automotive, electronics, healthcare, heavy machinery, general industrial. Differentiate your labels with a unique platinum metallic appearance.	2.0 1.8 3.2	PET, Versatile Print TC **350** 55# Densified Kraft	■	■	■	■	■		
	7875V	Durable label material with firm adhesive to resist oozing. Differentiate your labels with a unique platinum metallic appearance.	2.0 0.8 3.2	PET, Versatile Print TC **310** 55# Densified Kraft	■	■	■	■	■		
3M™ Versatile Print Polyester Gloss Bright Silver	**7323V**	Good for indoor and outdoor use. Excellent bond to LSE plastics. Match a metallic look with gloss bright silver.	2.0 0.8 3.2	PET, Versatile Print TC **300** 55# Densified Kraft	■	■	■	■	■		
	7903V	Good for indoor and outdoor use. Excellent bond to LSE plastics. 90# liner with layflat properties ideal for sheet and screen printing applications. Match a metallic look with gloss bright silver.	2.0 1.8 6.8	PET, Versatile Print TC **350** 90# Polycoated Kraft	■	■	■	■	★		
3M™ Versatile Print Polyester Gloss Brushed Silver	**7909V**	High abrasion and solvent resistance. 90# liner with layflat properties ideal for sheet and screen printing applications. Applications include heavy machinery, name plate, and safety labeling.	2.0 1.8 6.8	PET, Versatile Print TC **350** Polyester Film	■	■	■	■	■		
3M™ Versatile Print Polyester Gloss Clear	**7876V**	High abrasion and solvent resistance. Heavy adhesive coat weight for textured surfaces. Excellent high temperature resistance. Excellent adhesion to LSE plastics and powder coats. Use where you need a printable, clear label with high performance adhesive.	2.0 1.8 3.2	PET, Versatile Print TC **350** 55# Densified Kraft	■	■	■	■	■		
	7350V	Good for indoor and outdoor use. Excellent bond to LSE plastics. Use where you need a printable, clear label with high performance adhesive.	2.0 0.8 3.2	PET, Versatile Print TC **300** 55# Densified Kraft	■	■	■	■	■		
	7905V	Excellent high temperature resistance. Excellent adhesion to LSE plastics and powder coats. 90# liner with layflat properties ideal for sheet and screen printing applications. Use where you need a printable, clear label with high performance adhesive.	2.0 1.8 6.8	PET, Versatile Print TC **350** 90# Polycoated Kraft	■	■	■	■	★		

★90# polycoated kraft liner is specifically designed for screen printing.

[1]3M Durable Label Materials have been tested with various print systems with positive results. Print systems vary, so please request a sample and test in your specific application.
[2]See UL file MH16411, MH11410 in UL Product iQ™ (Certifications Search) at ul.com for specific details.

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3M™ Water-based Inkjet Label Materials

Optimize your water-based inkjet printing with this breakthrough durable label material. 3M™ Water-based Inkjet Labels let you print with great resolution at a low cost per area. It's the durable label stock you can count on to enhance your digital messaging.

High value. Low cost per area.

- Unique topcoat designed for water-based inkjet print systems
- Durable facestock and adhesive stand up to harsh environments
- UL recognized with several different water-based inkjet systems
- BS5609, Section 3 compliant material

More story at
3M.com/DurableLabels
Request a sample

Facestock	Product	Typical Performance Characteristics	Construction: Caliper (mils)	Construction: Facestock Adhesive Type Liner	Print Method*: Thermal Transfer	Flexographic	UV Inkjet	Laser/Toner-Based	Screen	Solvent Inkjet	Water Inkjet
3M™ Water-based Inkjet Polyester White	**7850-IJ**	Excellent high temperature resistance and adhesion to LSE plastics and smooth powder coats. Applications include medical device and equipment, heavy machinery.	3.0 1.1 3.2	PP, Waterbased Inkjet TC **350** 55# Densified Kraft				■			■
	7882-IJ	Excellent cold temperature performance for a wide range of applications. Ideal for freezer or pharmaceutical applications.	3.0 0.8 3.2	PP, Waterbased Inkjet TC **400** 55# Densified Kraft				■			■
3M™ Water-based Inkjet Polypropylene White	**7790-IJ**	Durable facestock and adhesive stand up to harsh environments. BS5609 certified durable label. Ideal for use in chemical drum labeling applications.	5.0 1.1 3.2	PP, Waterbased Inkjet TC **350** 55# Densified Kraft				■			■
	FP033-IJ	Emulsion-based, high performance LSE adhesive with high-tack for demanding applications. Broad applications in general industrial.	5.0 1.4 3.2	PP, Waterbased Inkjet TC **P1480** 50# SC				■			■

More durable than paper-based labels.
This premium graphic label material needs no additional topcoating or priming for print receptivity. This combines with world-class film and adhesive technology to ensure that your label performs, no matter what.

*3M Durable Label Materials have been tested with various print systems with positive results. Print systems vary, so please request a sample and test in your specific application.

Note: This technical information and data should be considered representative or typical only and should not be used for specification purposes.

Facestock Properties

Facestock	Features	Film Properties: Service Temperatures	Processing Properties: Conformability	Environmental Resistance to: Chemical	Moisture	Outdoor/UV	Print Method*: Thermal Transfer	Flexographic	UV Inkjet	Laser/Toner-Based	Screen	Solvent Inkjet	Water Inkjet
Acetate	Rigid film, tears easily, works well for security seals or overlaminate.	-20° to 140°F	2	2	2	2							
Acrylate	Excellent clarity and UV resistance. 5 year outdoor performance.	-40° to 175°F	3	7	7	10	■						
Acrylate, Cast	Ultra-high temperature performance.	-40° to 392°F 530° for 30 sec. 500° for 7 min.	7	9	9	7	■						
Acrylate, Cast Modified	Ultra-high temperature performance. Can be imaged and kiss cut by a laser beam. Long-term readability, chemical and abrasion resistance.	-40° to 392°F 530° for 1 min. 482° for 5 min. 440° for 60 min.	7	10	8	10				■			
Acrylic	Good clarity and UV resistance.	-20° to 140°F	3	5	7	7		■					
Aluminum Foil	Vinyl top-coated for ink receptivity. Facestock can be embossed using dot matrix impact printers.	-40° to 350°F	4	7	10	10		■			■		
Polyimide	Ultra-high temperature performance. Easy readability of variable information and bar codes.	-40° to 500°F	6	10	10	10	■						
Kimdura™, Smudgeproof Polyolefin	Biaxially oriented film offers consistent caliper, suitable for high speed dispensing.	-20° to 170°F	5	7	7	7	■	■			■		
Thermoplastic Polycarbonate	Used to achieve the attractive appearance of subsurface screen printed polycarbonate.	-40° to 250°F	4	8	9	7							
Paper	Pharmaceutical and performance paper.	-40° to 350°F	3	3	2	6	■	■					
Polyart®	Non-glare surface, biaxially oriented, printable with some cold fusing and flash fusing laser printers. Accepts handwriting with a ballpoint pen or marker.	-40° to 160°F	7	6	8	7	■	■			■		
Polyester EDP, DMI and Laser TC	Polyester EDP available in white, silver and clear. Optimal clarity for overlaminate applications. High quality rigid film with high tensile strength. Excellent dimensional stability. Not recommended for curved surfaces. High quality rigid film. High tear resistance, notch sensitive.	-40° to 302°F -20° to 257°F Clear only	2	9	9	8	■	■		■	■		
Polyester White and Clear Laser TC	Polyester available in white, silver and clear. Clear polyester provides optimal clarity for overlaminate applications. High quality rigid film with high tensile strength. Excellent dimensional stability. Not recommended for curved surfaces. High quality rigid film. High tear resistance, notch sensitive.	-20° to 257°F	2	9	9	8	■	■		■	■		
Polyester MC		-40° to 302°F	2	9	9	8	■	■		■	■		
Polyester PT		-40° to 302°F -20° to 257°F Clear only	2	9	9	8	■	■			■		

Values: 1 = Lowest Performance; 10 = Highest Performance
Rankings are a general guide. Adhesives should be tested with actual components to ensure acceptable performance.

For product recommendations or technical support, please call the Converter Markets Technical Support Line 1-800-223-7427.

*3M Durable Label Materials have been tested with various print systems with positive results. Print systems vary, so please request a sample and test in your specific application.

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Facestock Properties (cont.)

Facestock	Features	Film Properties	Processing Properties	Environmental Resistance to:			Print Method*						
		Service Temperatures	Conformability	Chemical	Moisture	Outdoor/UV	Thermal Transfer	Flexographic	UV Inkjet	Laser/Toner-Based	Screen	Solvent Inkjet	Water Inkjet
Versatile Print Topcoat	High abrasion and solvent resistance. Polyester films provide moisture barrier properties while able to withstand high temperatures making them ideal for durable label applications. They also demonstrate excellent dimensional stability and tensile strength.	-40° to 302°F	2	9	9	9	■	■	■	■	■		
Polyester Waterbased Inkjet Topcoat	Unique topcoat specifically designed for water-based inkjet printing provides outstanding print receptivity and abrasion resistance. Polyester films provide moisture barrier properties while able to withstand high temperatures making them ideal for durable label applications.	-40° to 302°F	2	8	8	8				■			■
Polyester TC	Polyester films provide moisture barrier properties while able to withstand high temperatures making them ideal for durable label applications. They also demonstrate excellent dimensional stability and tensile strength.	-40° to 302°F -20° to 257°F Clear only	2	9	9	8	■	■	■				
Polyester NTC	Optimal clarity for overlaminate applications.	-20° to 257°F	2	9	9	8							
Polyethylene	High tear resistance and elongation, low tensile strength.	-20° to 140°F	10	3	7	4		■					
Polyolefin	Extremely pliable and conformable, moisture resistant. PVC-free vinyl alternative.	-40° to 140°F	9	7	7	3	■	■					
Polypropylene Waterbased Inkjet Topcoat	Unique topcoat specifically designed for water-based inkjet printing provides outstanding print receptivity and abrasion resistance. A conformable film that offers moisture resistance and durability even in outdoor conditions. Topcoat is water inkjet printable allowing for dynamic, durable, color on demand labels.	-40° to 140°F	8	7	8	7				■			■
Polypropylene, Label-Lyte® EDP	Outdoor UV durability up to one year. Excellent ink adhesion, good stiffness for auto application; excellent opacity.	-20° to 220°F	8	7	8	7	■	■					
Polypropylene, Label-Lyte® T2S		-20° to 220°F	8	7	8	7	■	■					
Polypropylene T1S	Semi-hard film with high tear resistance and good dimensional stability.	-20° to 140°F	6	7	8	3		■					
Polypropylene EDP	Excellent opacity, moisture and tear resistance, excellent dimensional stability, resistant to cracking and abrasion, antistatic coating to eliminate double feeding when printing and folding.	-20° to 140°F	8	7	8	7	■	■		■			
Polypropylene TC, White, Clear or Metalized	High tensile strength, but notch sensitive.	-20° to 140°F	8	7	8	7		■					
Polystyrene, Matte and Gloss Clear	Economical, hard, rigid film. Tear and temperature sensitive. Not recommended for outdoor use.	-20° to 140°F	2	2	5	2		■					
Retro-Reflective Film	When bar code printed, the facestock extends the max. and min. scanning distance of long-range scanners.	-40° to 300°F	7	7	9	8	■						
Teslin®, Polyolefin	Durable alternative to paper labels, excellent abrasion properties.	-40° to 250°F	9	8	9	7		■		■			

Values: 1 = Lowest Performance; 10 = Highest Performance

Rankings are a general guide. Adhesives should be tested with actual components to ensure acceptable performance.

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Facestock Properties (cont.)

Facestock	Features	Film Properties	Processing Properties	Environmental Resistance to:			Print Method*						
		Service Temperatures	Conformability	Chemical	Moisture	Outdoor/UV	Thermal Transfer	Flexographic	UV Inkjet	Laser/Toner-Based	Screen	Solvent Inkjet	Water Inkjet
Vinyl (PVC) EDP, White	Conformability reduces as gauge increases. Multi-purpose film available in flexible, semi-rigid or rigid. Polymerically plasticized for dimensional stability. Handles outdoor conditions well. Will burn in flame, but should be self-extinguishing after removal. Low tear resistance. Available in medical grades.	-20° to 140°F	10	4	7	7	■	■		■			
Vinyl (PVC) NTC, White, Clear, Color or Translucent												■	
Vinyl (PVC) TC, White							■	■					
Vinyl (PVC) TC2								■					
Vinyl (PVC) TC3, White, Colors or Clear								■					
Vinyl (PVC) TC6, White, Colors or Clear							■	■					
Vinyl, Textured							■	■		■	■		

Values: 1 = Lowest Performance; 10 = Highest Performance

Rankings are a general guide. Adhesives should be tested with actual components to ensure acceptable performance.

For product recommendations or technical support, please call the Converter Markets Technical Support Line 1-800-223-7427.

Liner Selection

Liner	Mil (nominal) Thickness	Description	Layflat	Semi Layflat	Back Side Printable	Fanfold	Roll-to-Roll
40# SC, 43# DK	2.4	Semi-bleached, super calendered/densified kraft sheet.			■		■
2.2 Glassine	2.2	Double sided glassine liner assures consistent die cutting. The backside release coating helps minimize label blocking.					■
3.0 Glassine	3.0					■	■
44# Polykraft	3.1	Polypropylene has been laminated to a 44# brown kraft sheet. Excellent caliper control and strength making it ideal for high-speed labeling applications.			■		■
50# SC, 55# DK	3.2	Semi-bleached, super calendered/densified kraft sheet designed for high-speed die-cutting and matrix stripping. Not recommended for sheet on press applications.			■		■
50# C2S	3.2	Back side has been lightly coated with silicone to reduce label pick. Recommended when using very soft adhesives or where heavy adhesive coat weights are required.					■
50# TL	3.4	Stabilized bleached kraft sheet with good caliper control. Ideal formost sheet-on-press applications. Back side is printable.		■	■	■	■
78# CCK, HL	4.6	Bleached, clay-coated kraft sheet. Excellent for sheet-on-press applications where additional strength and stiffness is required.		■	■	■	■
90# Polycoated	7.0	Bleached kraft sheet polyethylene-coated on two sides.	■				
1.5 Polyester	1.5	Clear polyester. Used when high strength and caliper control are important. Recommended for high-speed labeling applications or where clarity of the adhesive is critical.					■
4.0 Polyester	4.0	Clear polyester. Excellent for doming applications where ultimate lay flat is required.	■				

The chart above is a general guide. Facestocks and adhesives should be tested with actual components to ensure acceptable performance.

*3M Durable Label Materials have been tested with various print systems with positive results. Print systems vary, so please request a sample and test in your specific application.

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Adhesive Families — Label Materials

100 High Temperature Acrylic
- Up to 450°F short-term heat resistance and excellent solvent resistance.
- High peel strength compared to other acrylic formulations.
- Exceptional shear strength even at elevated temperatures.
- Exhibits low outgassing characteristics.

150 High Temperature Acrylic
- Up to 450°F short-term heat resistance and excellent solvent resistance.
- High internal strength ideal for applications on high surface energy plastics and metals.

200MP High Performance Acrylic
- Up to 400°F short-term heat resistance and excellent solvent resistance.
- Outstanding adhesion to metal and high surface energy plastics.
- Excellent shear strength to resist slippage and edge lifting.
- Short term repositionability for placement accuracy.

300 High Strength Acrylic
- Up to 250°F short-term heat resistance.
- Greater initial adhesion especially to low surface energy plastics.
- Quick flowing to speed lamination of textured plastics, foams, fabrics and coated papers.

310 High Precision Acrylic
- Provides firmness and high precision strength on a variety of surfaces including HSE plastics and metals.
- Compatible with a variety of print technologies including thermal transfer and laser printing.

320 High Tenacity Acrylic
- Up to 250°F short-term heat resistance.
- High bond strength to a variety of surfaces.
- Excellent flagging resistance on small diameter surfaces.

350 High-Holding Acrylic
- Ideal for very high bond strength to many surfaces.
- Most universal adhesive — ideal for powder coatings, LSE plastics and oily metals.
- Up to 350°F short-term heat resistance and excellent solvent resistance.

400 Low Temperature Acrylic
- Good low temperature performance and peel strength on many surfaces.
- Up to 250°F short-term heat resistance.
- Excellent adhesion to uncoated papers.
- Clarity and UV resistance for window label applications.

500 High Stability Acrylic
- Cleanly removes from most surfaces up to one year after application.
- Excellent for die-cut masks needing outdoor performance and removability.
- For vinyl label stocks only.

1000 Series Repositionable Acrylic
- Good holding to many surfaces.
- Clean removal or numerous reapplications.
- Stain resistance on many surfaces.

F2201 Freezer Acrylic
- Low 0°F application temperature, high initial tack.
- Good moisture resistance.
- Good long-term adhesion.

G1120 Rubber Based Tire Tread
- Extremely aggressive.
- Designed for use in tire label applications.

P1110 Permanent Rubber Based
- Excellent ultimate adhesion.
- High initial tack.
- Good choice for labeling LSE or waxy surfaces.
- Good choice for toy labeling applications.

P1212 General Purpose Acrylic
- Excellent clarity, good initial tack.
- Excellent die-cutting properties.
- Good UV resistance.
- UL recognized for indoor use.

P1400 High Performance Tackified Acrylic
- Excellent UV and moisture resistance.
- Formulated for use in demanding environments.
- Excellent adhesion to wide variety of substrates.
- UL recognized for indoor/outdoor use.

P1410 Tackified Acrylic
- High-tack.
- Neutral pH.
- Good adhesion to polyolefins.

P1480 High Performance Tackified Acrylic
- High initial tack.
- Good ultimate adhesion on a wide variety of surfaces.
- Excellent choice for textured surfaces or powder coats.
- Designed to meet difficult automotive underhood battery specifications.

P1500 Medical Acrylic
- Excellent peel and tack.
- Suitable for direct skin contact or medical drapes.

P1650 High Performance Acrylic
- Designed to meet difficult automotive underhood specifications.
- Good chemical and moisture resistance.
- Excellent thermal stability.
- Resistance to many automotive and industrial fluids.

P1655 White Opaque High Performance Acrylic
- Excellent opacity.
- Designed to meet difficult automotive underhood specifications.
- Excellent thermal stability.

R3500 Ultra Removable Adhesive
- Good initial tack and long-term adhesion.
- Multi-repositionable, static cling alternative.
- Clean removability (no residue).

R3800 Ultra Removable Adhesive
- Good initial tack and long-term adhesion.
- Clean removability (no residue).
- Lower tack version of Adhesive R3500.

Go-To Product

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Go-To Product

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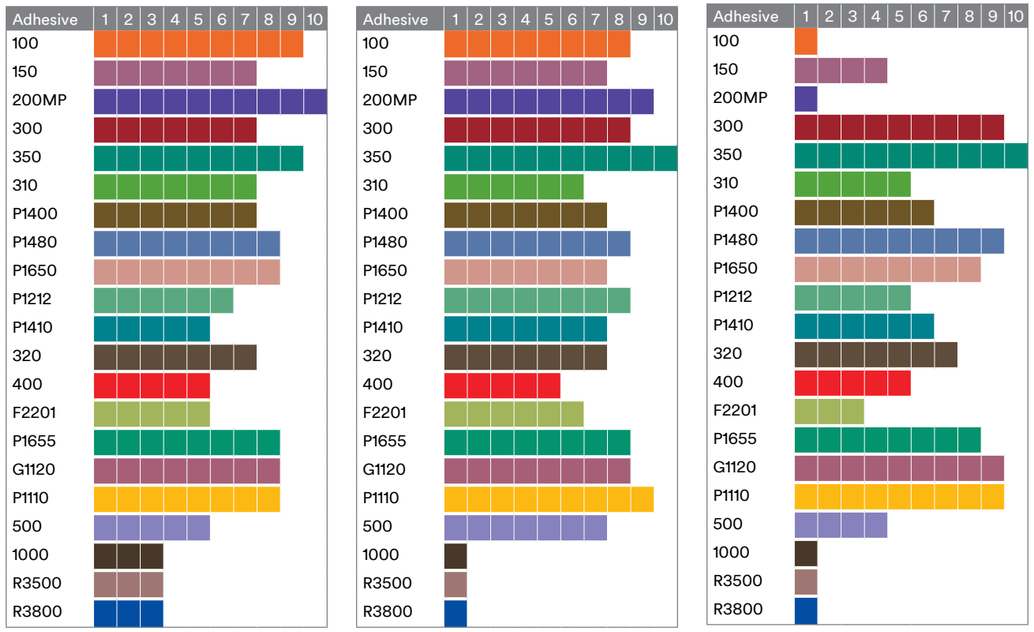
Adhesive Selection Guide Based on Surface Energy

These charts are based on relative adhesion within each given surface energy category.

Metals	Surface Energy (Dynes/cm)
Copper	1103
Aluminum	840
Zinc	753
Tin	526
Lead	543

High Surface Energy (HSE) Plastics	Surface Energy (Dynes/cm)
Polyimide	50
Phenolic	47
Nylon®	46
Alkyd Enamel	45
Polyester	43
Epoxy Paint	43
Polyurethane	43
ABS	42
Polycarbonate	42
PVC	39
Modified PPE Resin	38
Acrylic	38
Polane® Paint	38

Low Surface Energy (LSE) Plastics	Surface Energy (Dynes/cm)
PVA	37
Polystyrene	36
Acetal	36
EVA	33
Polyethylene	31
Polypropylene	29
PVF	28
PTFE	18
Powder Coatings	Broad Range



Values: 1 – Lowest Performance; 10 – Highest Performance

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Adhesive Properties

Adhesive Family	Temperature °F (°C)			Adhesive Properties			Adhesion to			Environmental Properties Resistance to:		
	Minimum Application	Low Service	High Service	Initial Peel	Ultimate Peel	Convertibility	Metal	HSE Plastic	LSE Plastic	Chemical	Ultra Violet	Moisture
High Temperature Adhesives												
100	50 (10)	-40 (-40)	450 (232)	3	9	10	9	8	1	10	10	10
150	50 (10)	-40 (-40)	450 (232)	6	7	10	7	7	4	5	10	9
200	50 (10)	-40 (-40)	350 (177)	3	10	10	10	9	1	7	8	8
200MP	50 (10)	-40 (-40)	400 (204)	4	10	10	10	9	1	10	10	10
High Performance Adhesives												
300	50 (10)	-40 (-40)	300 (149)	6	7	4	7	8	9	7	7	8
350	50 (10)	-40 (-40)	350 (177)	7	9	8	9	10	10	9	7	10
310	50 (10)	-40 (-40)	300 (149)	5	6	6	7	7	5	7	7	8
P1400	40 (4)	-20 (-29)	302 (150)	4	6	6	7	7	6	5	8	7
P1480	40 (4)	-22 (-30)	300 (149)	6	8	4	8	8	9	7	5	7
P1650	40 (4)	-40 (-40)	302 (150)	6	7	4	8	7	8	7	5	7
General Purpose Adhesive												
P1212	40 (4)	-20 (-29)	302 (150)	4	5	6	6	8	5	4	5	6
P1410	40 (4)	-20 (-29)	302 (150)	6	6	6	5	6	4	5	—	5
Specialty Adhesives												
320	50 (10)	-40 (-40)	250 (121)	7	7	6	7	7	7	6	6	8
400	10 (-12)	-60 (-51)	250 (121)	5	5	6	5	5	5	5	10	8
F2201	0 (-18)	-40 (-40)	250 (121)	3	4	5	5	6	3	3	5	4
P1655	40 (4)	-40 (-40)	302 (150)	1	7	4	8	8	8	7	5	7
Rubber Based Adhesives												
G1120	40 (4)	-20 (-29)	140 (60)	7	9	2	8	8	9	3	3	3
P1110	55 (13)	-40 (-40)	155 (68)	6	7	4	8	9	9	3	3	3
Removable Adhesives												
500	50 (10)	-40 (-40)	175 (79)	4	5	3	5	7	4	5	10	10
1000	50 (10)	-20 (-29)	250 (121)	2	3	7	3	1	1	2	5	3
R3500	40 (4)	-20 (-29)	155 (68)	1	3	6	3	1	1	2	7	3
R3800	50 (10)	20 (-7)	155 (68)	1	3	6	3	1	1	2	7	2

Values: 1 = Lowest Performance; 10 = Highest Performance

Rankings are a general guide. Adhesives should be tested with actual components to ensure acceptable performance.

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3M™ Durable Label Materials

3M™ Durable Label Materials – adhesives, topcoats, liners and more – combine to keep messaging vibrant and legible for years, even in harsh conditions.

Facestock	Product	Typical Performance Characteristics	Construction: Caliper (mils)	Construction: Facestock Adhesive Type Liner	Print Method*: Thermal Transfer	Flexographic	UV Inkjet	Laser/Toner-Based	Screen	Solvent Inkjet	Water Inkjet
	V 7871V	High abrasion and solvent resistance. Excellent high temperature resistance and adhesion to LSE plastics and smooth powder coats. Broad applications in automotive, electronics, healthcare, heavy machinery, general industrial. Specialty applications in automotive EV battery, GHS drum labeling. BS5609 certified durable label.	2.0 1.8 3.2	PET, Versatile Print TC 350 55# Densified Kraft	■	■	■	■	■		
	7871VFL	Same product construction as 7871V label stock with film liner. Film liner provides smooth adhesive and resists tearing. Ideal for applications requiring automated dispensing.	2.0 1.8 1.5	PET, Versatile Print TC 350 Polyester Film	■	■	■	■	■		
	V 7868V	High abrasion and solvent resistance. Excellent high temperature resistance. Excellent adhesion to LSE plastics and smooth powder coats. BS5609 certified durable label.	2.0 1.1 3.2	PET, Versatile Print TC 350 55# Densified Kraft	■	■	■	■	■		
	V 7908V	High abrasion and solvent resistance. Heavy adhesive coat weight for textured surfaces. Excellent high temperature resistance. Excellent adhesion to LSE plastics and powder coats. 90# liner with layflat properties ideal for sheet and screen printing applications.	2.0 1.8 6.8	PET, Versatile Print TC 350 90# Polycoated Kraft	■	■	■	■	★		
	7908FL	Same product construction as 7908V with thick polyester liner suitable for domed decals.	2.0 1.8 4.0	PET, Gloss White TC 350 Polyester Film	■	■	■		■		
Polyester Gloss White	▶ 7220SA	Adhesive allows releases trapped air to prevent bubbling for easy application of large format graphics. Ideal for applications where outgassing is a concern. High performance adhesive provides great adhesion to HSE and LSE surfaces, powder coated paint, and slightly oily metals. 90# liner with layflat properties ideal for sheet and screen printing applications.	2.0 1.1 6.8	PET, Gloss White TC 350 90# Polycoated Kraft	■	■	■		★		
	7035	Excellent adhesion to LSE plastics and powder coated paints. Moderate coat weight of adhesive improves processing. 90# liner with layflat properties ideal for sheet and screen printing applications.	2.0 1.1 6.8	PET, White TC 350 90# Polycoated Kraft	■	■	■		★		
	7037	Same film as 7036 with aggressive adhesive for difficult substrates. 90# liner with layflat properties ideal for sheet and screen printing applications.	2.0 1.1 6.8	PET, White TC 350 90# Polycoated Kraft	■	■	■		★		
	7907	350 adhesive for performance applications that require thermal transfer printing and demand adhesive performance on difficult to stick to surfaces (e.g. HSE plastics or powder coats). 90# liner with layflat properties ideal for sheet and screen printing applications.	2.3 1.8 6.8	PET, Matte White TC 350 90# Polycoated Kraft	■	■	■		★		

*3M Durable Label Materials have been tested with various print systems with positive results. Print systems vary, so please request a sample and test in your specific application.

★90# polycoated kraft liner is specifically designed for screen printing.

▶ Go-To Product V Versatile Print Label Materials

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3M™ Durable Label Materials (cont.)

Facestock	Product	Typical Performance Characteristics	Construction: Caliper (mils)	Construction: Facestock Adhesive Type Liner	Print Method*: Thermal Transfer	Flexographic	UV Inkjet	Laser/Toner-Based	Screen	Solvent Inkjet	Water Inkjet
	V 7331V	High abrasion and solvent resistance. Good for general purpose indoor and outdoor use. Excellent bond to LSE plastics. Applications include medical device and equipment, lawn and garden, and appliance.	2.0 0.8 3.2	PET, Versatile Print TC 300 55# Densified Kraft	■	■	■	■	■		
	7331FL	Same as 7331 label stock with film liner for automatic application equipment.	2.0 0.8 1.5	PET, White TC 300 Polyester Film	■	■	■				
	7931	High abrasion and solvent resistance. Good for indoor and outdoor use. Excellent bond to LSE plastics. 90# liner with layflat properties ideal for sheet and screen printing applications.	2.0 0.8 6.8	PET, Gloss White TC 300 90# Polycoated Kraft	■	■	■		★		
	V 7816V	High abrasion and solvent resistance. Economical durable label material with firm adhesive to resist oozing.	2.0 0.8 3.2	PET, Versatile Print TC 310 55# Densified Kraft	■	■	■	■	■		
	7816FL	Offers excellent durability. Firm adhesive that resists oozing. Same as 7816 label stock with polyester liner.	2.0 0.8 1.5	PET, White TC 310 Polyester Film	■	■	■				
Polyester Gloss White (cont.)	7830/7864	Thin label profile provides good performance on small diameter packages. Excellent cold temperature performance. Good abrasion and chemical resistance.	1.0 0.8 3.2	PET, White TC 400 55# Densified Kraft	■	■	■				
	FM041902	Durable film facestock with aggressive, high-tack emulsion adhesive. Good adhesion to powder coats and heavily textured surfaces. Applications include automotive battery label and general industrial LSE labeling.	2.0 1.3 3.2	PET, White TC P1480 55# Densified Kraft	■	■	■				
	▶ OFM03402	Glossy film label with excellent UV resistance and adhesion to a variety of substrates. Good choice for durable goods or lawn and garden applications.	2.0 0.9 3.2	PET, White TC P1400 50# Polycoated Kraft	■	■	■				
	7034	Glossy white film for use in general industrial applications. 90# liner with layflat properties ideal for sheet and screen printing applications.	2.0 0.9 6.8	PET, White TC P1400 90# Polycoated Kraft	■	■	■		★		
	8418	Ideal for fuel line identification. Intended for use with 8417 overlaminate label material.	1.0 1.2 2.5	PET, White TC 100 43# Densified Kraft	■	■	■				

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★90# polycoated kraft liner is specifically designed for screen printing.

Reliable tracking and identification.
Labeling needs vary. From durability to removeability, indoor or outdoor use, 3M has a solution you can count on to go the distance and communicate important information.

▶ Go-To Product V Versatile Print Label Materials

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3M™ Durable Label Materials (cont.)

Facestock	Product	Typical Performance Characteristics	Construction: Caliper (mils)	Construction: Facestock Adhesive Type Liner	Print Method*: Thermal Transfer	Flexographic	UV Inkjet	Laser/Toner-Based	Screen	Solvent Inkjet	Water Inkjet
3M™ Water-based Inkjet Polyester	**7850-IJ**	Topcoat uniquely designed for waterbased inkjet print systems. Durable facestock and adhesive stand up to harsh environments. Excellent high temperature resistance and adhesion to LSE plastics and smooth powder coats. Applications include medical device and equipment, heavy machinery.	3.0 1.1 3.2	PET, Waterbased Inkjet TC 350 55# Densified Kraft				■			■
	7882-IJ	Topcoat uniquely designed for waterbased inkjet print systems. Durable facestock and adhesive stand up to harsh environments. Excellent cold temperature performance for a wide range of applications. Ideal for freezer or pharmaceutical applications.	3.0 0.8 3.2	PET, Waterbased Inkjet TC 400 55# Densified Kraft				■			■
Polyester Matte White	**7246**	Extreme durability topcoat. Eliminates the need for protective overlaminates in many applications. Excellent high temperature resistance and adhesion to LSE plastics and smooth powder coats.	2.2 1.8 2.2	PET TT3, Matte White 350 40# Densified Glassine	■	■					
	7874	Matte topcoated PET with high abrasion and solvent resistance for thermal transfer printed variable information. Excellent high temperature resistance and adhesion to LSE plastics and smooth powder coats. Broad applications in automotive, electronics, healthcare, heavy machinery and general industrial.	2.3 1.8 3.2	PET, White TT TC 350 50# SC	■	■					
	7850HL	Matte topcoat offers excellent ink anchorage for laser toner and dot-matrix printing. Excellent high temperature performance especially to LSE plastics and smooth powder coats. Clay-coated heavy liner ideal for laser printing applications.	2.3 1.1 4.6	PET, White Laser TC 350 78# CCK	■	■		■			
	7810	Features ultra smooth topcoat. Ideal for bar code applications. Good durability with a wide range of ribbons.	2.3 0.8 3.2	PET, White TT TC 300 55# DK	■	■					
	7880	Matte topcoat resists scuffing, chemicals and moisture. Excellent adhesion to LSE plastics.	2.3 0.8 3.2	PET, White DMI TC 300 55# Densified Kraft	■	■					
	7980	Matte topcoat resists scuffing, chemicals, and moisture. Excellent adhesion to smooth LSE plastics. 90# liner with layflat properties ideal for sheet and screen printing applications.	2.3 0.8 6.8	PET, Matte White TC 300 90# Polycoated Kraft	■	■			★		

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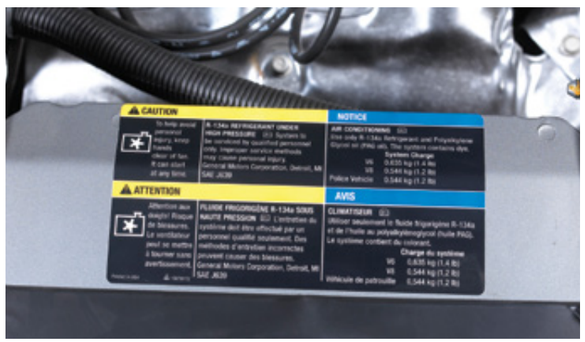

Important messages need to be seen.
The right combination of adhesives, topcoats, liners and more – keeping messaging vibrant and legible for years, even in harsh conditions.

Go-To Product | Water-based Inkjet Label Materials

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3M™ Durable Label Materials (cont.)

Facestock	Product	Typical Performance Characteristics	Construction: Caliper (mils)	Construction: Facestock Adhesive Type Liner	Print Method*: Thermal Transfer	Flexographic	UV Inkjet	Laser/Toner-Based	Screen	Solvent Inkjet	Water Inkjet
Polyester Matte White (cont.)	**7880HL**	Heavy liner version of 7880 label stock for excellent liner stability in high humidity. Clay-coated heavy liner ideal for laser printing applications.	2.3 0.8 4.6	PET, White Laser TC 300 78# CCK	■	■		■			
	7815	Features ultra smooth topcoat. Ideal for variable information applications. Good durability with a wide range of ribbons. Firm adhesive to resist oozing.	2.3 0.8 3.2	PET, White TT TC 310 50# SC	■	■					
	7815FL	Same product construction as 7815 label stock with polyester liner.	2.3 0.8 1.5	PET, White TT TC 310 Polyester Film	■	■					
	7840HL	Matte topcoat offers excellent ink anchorage for various digital printing technologies. Firm adhesive that resists oozing. Clay-coated heavy liner ideal for laser printing applications.	2.3 0.8 4.6	PET, White Laser TC 310 78# CCK	■	■		■			
	FM162	Dot-matrix imprintable film that also accepts thermal transfer print. General purpose adhesive bonds well to metals and HSE plastics.	2.0 0.9 3.2	PET, White EDP P1212 50# SC	■	■					
	FM034602	Micro-cavitated film with print receptive coating for use with most UV inkjet systems and thermal transfer printing. Designed for use in automotive applications. Excellent thermal stability.	2.0 1.3 3.2	PET, White MC P1650 50# SC	■	■	■				
	FM01961K	Specialized adhesive can be applied at temperatures as low as 0°F. Liner has special surface finish on the back side to enhance feed and reduce static problems. Excellent for drum labeling and laser printing applications.	2.0 0.8 4.6	PET, White MC F2201 78# CCK	■	■	■	■			
Polyester Gloss Clear	**7876V**	High abrasion and solvent resistance. Heavy adhesive coat weight for textured surfaces. Excellent high temperature resistance. Excellent adhesion to LSE plastics and powder coats. Use where you need a printable, clear label with high performance adhesive.	2.0 1.8 3.2	PET, Versatile Print TC 350 55# Densified Kraft	■	■	■	■	■		
	7905	Heavy adhesive coat weight for textured surfaces. Excellent high temperature resistance. Excellent adhesion to LSE plastics and powder coats. 90# liner with layflat properties ideal for sheet and screen printing applications.	2.0 1.8 6.8	PET, Gloss Clear TC 350 90# Polycoated Kraft	■	■	■		★		
	7350/ 7861	Offers high abrasion and solvent resistance. Excellent adhesion to LSE plastics. Ideal for indoor and outdoor applications.	2.0 0.8 3.2	PET, Clear TC 300 55# Densified Kraft	■	■	■				
	7350FL	Same as 7350 label stock with film liner for automatic application equipment.	2.0 0.8 1.5	PET, Clear TC 300 Polyester Film	■	■	■				
	7950	Offers high abrasion and solvent resistance. Excellent adhesion to smooth LSE plastics. Ideal for indoor and outdoor applications. 90# liner with layflat properties ideal for sheet and screen printing applications.	2.0 0.8 6.8	PET, Gloss Clear TC 300 90# Polycoated Kraft	■	■	■		★		
	7831	Thin label profile provides good performance on small diameter packages. Excellent cold temperature performance.	1.0 0.8 3.2	PET, Clear TC 400 55# Densified Kraft	■	■	■				

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Go-To Product | Versatile Print Label Materials

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3M™ Durable Label Materials (cont.)

Facestock	Product	Typical Performance Characteristics	Construction: Caliper (mils)	Construction: Facestock Adhesive Type Liner	Print Method*: Thermal Transfer	Flexographic	UV Inkjet	Laser/Toner-Based	Screen	Solvent Inkjet	Water Inkjet
Polyester Gloss Clear (cont.)	**OFM3102**	Durable film offers thermal stability and moisture resistance. Adheres to a variety of surfaces and offers excellent UV resistance.	2.0 0.9 3.2	PET, Clear TC P1400 50# SC	■	■	■				
	7029	Excellent UV resistance. Good adhesion to a variety of surfaces. 90# liner with layflat properties ideal for sheet and screen printing applications.	2.0 0.9 6.8	PET, Gloss Clear TC P1400 90# Polycoated Kraft	■	■	■		★		
	FM042	High clarity emulsion adhesive with good initial tack and excellent die cutting properties. Adhesion to metals and HSE plastics.	2.0 0.9 3.2	PET, Clear TC P1212 50# SC	■	■	■				
Polyester Matte Clear	**7881**	Matte topcoat provides good chemical and abrasion resistance. Excellent adhesion to LSE plastics. Dot-matrix printable.	2.3 0.8 3.2	PET, Clear DMI TC 300 55# Densified Kraft	■	■					
	FM232	Matte film suitable for thin gauge label applications or as a printable overlaminate film. General purpose emulsion adhesive for HSE substrates.	1.0 0.8 3.2	PET, Clear TC P1212 50# SC	■	■	■				
Polyester Matte Silver	**7247**	Extreme durability topcoat. Eliminates the need for protective overlaminates in many applications. Excellent high temperature resistance and adhesion to LSE plastics and smooth powder coats.	2.3 1.8 2.2	PET TT3, Matte Silver, 350 40# Densified Glassine	■	■					
	7879FL	Heavy adhesive coat weight for textured surfaces. Excellent adhesion to LSE plastics and powder coats.	3.3 1.8 1.5	PET, Silver TT TC 350 Polyester Film	■	■					
	7033	Aggressive adhesive for harsh environments. 90# liner with layflat properties ideal for sheet and screen printing applications.	2.0 1.1 6.8	PET, Matte Silver TC 350 90# Polycoated Kraft	■	■	■		★		
	7222/7865	Durable, moisture resistant film. Adhesive offers adhesion to a variety of surfaces, including LSE plastics. Applications include durable goods in an outdoor environment, instructional messaging and schematic panels.	2.0 0.8 3.2	PET, Matte Silver Gloss TC 300 55# Densified Kraft	■	■	■				
	7813	Ultra-smooth matte topcoat resists scuffing, chemicals and moisture. Excellent durability with a wide variety of ribbons. Excellent adhesion to LSE plastics.	3.3 0.8 3.2	PET, Silver Matte TT TC 300 55# Densified Kraft	■	■					
	7883	Matte topcoat ideal for dot matrix printing applications. Excellent adhesion to LSE plastics.	3.3 0.8 3.2	PET, Silver DMI TC 300 55# Densified Kraft	■	■					
	7883HL	Heavy liner version of 7883 label stock for excellent liner stability in high humidity.	3.3 0.8 4.6	PET, Silver DMI TC 300 78# CCK	■	■					
	7818	Features ultra smooth matte topcoat, ideal for variable information applications. Good durability with a wide range of ribbons. Firm adhesive that resists oozing. Excellent durability.	3.3 0.8 3.2	PET, Silver TT TC 310 55# Densified Kraft	■	■					

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Go-To Product

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3M™ Durable Label Materials (cont.)

Facestock	Product	Typical Performance Characteristics	Construction: Caliper (mils)	Construction: Facestock Adhesive Type Liner	Print Method*: Thermal Transfer	Flexographic	UV Inkjet	Laser/Toner-Based	Screen	Solvent Inkjet	Water Inkjet
Polyester Matte Silver (cont.)	**FM047202**	Metallized film offers excellent thermal stability and moisture resistance. Quick tack high performance adhesive ideal for demanding applications, including powder coated paints.	2.0 1.2 3.2	PET, Matte Silver TC P1480 50# SC	■	■					
	OFM2402	Durable, moisture resistant film. Adhesion to a variety of surfaces, including LSE plastics. Designed for use on durable goods in an outdoor environment.	2.0 0.9 3.2	PET, Matte Silver TC P1400 50# SC	■	■	■				
	FM092	Matte film with gloss topcoat. Adhesive offers good initial tack and excellent clarity and die cutting properties. Excellent choice for use in indoor nameplate applications.	2.0 0.9 3.2	PET, Matte Silver TC P1212 50# SC	■	■	■				
	FM043702	Thermal transfer printable topcoat. Designed for use in demanding environments including automotive underhood applications.	2.0 1.3 3.2	PET, Matte Silver TC P1650 50# SC	■	■					
Polyester Bright Silver	**7873V**	High abrasion and solvent resistance. Heavy adhesive coat weight for textured surfaces. Excellent high temperature resistance. Excellent adhesion to LSE plastics and powder coats.	2.0 1.8 3.2	PET, Versatile Print TC 350 55# Densified Kraft	■	■	■	■	■		
	7340FL	Highly differentiated facestock uses proprietary 3M reflective film technology to produce a mirror-like finish without metalization. Luminous reflectivity >98%.	2.5 1.1 1.5	PET, Mirror Finish 350 Polyester Film	■	■					
	7903V	High abrasion and solvent resistance. Good for indoor and outdoor use. Excellent bond to LSE plastics. 90# liner with layflat properties ideal for sheet and screen printing applications. Match a metallic look with gloss bright silver.	2.0 1.8 6.8	PET, Versatile Print PT 350 90# Polycoated Kraft	■	■	■	■	★		
	7026	Excellent chemical and moisture resistance. Excellent high temperature resistance. Excellent adhesion to LSE plastics and powder coats. 90# liner with layflat properties ideal for sheet and screen printing applications.	2.0 1.1 6.8	PET, Bright Silver TC 350 90# Polycoated Kraft	■	■	■		★		
	7903FL	Print-treated bright silver polyester with film liner suitable for domed decals.	2.0 1.8 4.0	PET, Bright Silver PT 350 Polyester Film	■	■	■		■		
	7924	Excellent abrasion and chemical resistance. Excellent adhesion to smooth LSE plastics. Ideal for indoor and outdoor applications. 90# liner with layflat properties ideal for sheet and screen printing applications.	2.0 0.8 6.8	PET, Gloss Silver TC 300 90# Polycoated Kraft	■	■	■		★		
	7323V/ 7863V	High abrasion and solvent resistance. Good for indoor and outdoor use. Excellent bond to LSE plastics. Match a metallic look with gloss bright silver.	2.0 0.8 3.2	PET, Versatile Print TC 300 55# Densified Kraft	■	■	■	■	■		

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Go-To Product Versatile Print Label Materials

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3M™ Durable Label Materials (cont.)

Facestock	Product	Typical Performance Characteristics	Construction: Caliper (mils)	Construction: Facestock Adhesive Type Liner	Print Method*: Thermal Transfer	Flexographic	UV Inkjet	Laser/Toner-Based	Screen	Solvent Inkjet	Water Inkjet
Polyester Bright Silver (cont.)	**OFM2802**	Durable, moisture resistant film. Adhesion to a variety of surfaces, including LSE plastics. Designed for use on durable goods in an outdoor environment.	2.0 0.9 3.2	PET, Bright Silver TC P1400 50# SC	■	■	■				
	FM062	General purpose adhesive. Excellent die cutting properties.	2.0 0.9 3.2	PET, Bright Silver TC P1212 50# SC	■	■	■				
	9017FL	Bright silver with thick polyester liner suitable for domed decals. Thick, high-performance adhesive for durable graphic applications.	2.0 5.0 4.0	PET, Bright Silver PT 200MP Polyester Film	■	■	■		■		
Polyester Brushed Silver	**7909V**	High abrasion and solvent resistance. 90# liner with layflat properties ideal for sheet and screen printing applications. Applications include heavy machinery, name plate, and safety labeling.	2.0 1.8 6.8	PET, Versatile Print TC 350 90# Polycoated Kraft	■	■	■	■	★		
	7214SA	Adhesive allows releases trapped air to prevent bubbling for easy application of large format graphics. Ideal for applications where outgassing is a concern. High performance adhesive provides great adhesion to HSE and LSE surfaces, powder coated paint, and slightly oily metals. 90# liner with layflat properties ideal for sheet and screen printing applications.	2.0 1.1 6.8	PET, Brushed Silver TC 350 90# Polycoated Kraft	■	■	■		★		
	7028	Similar to 7909 with slightly lower coat weight for easier processing.	2.0 1.1 6.8	PET, Brushed Silver TC 350 90# Polycoated Kraft	■	■	■		★		
	OFM2902	Durable, moisture resistant film. Adhesion to a variety of surfaces, including LSE plastics. Designed for use on durable goods in an outdoor environment.	2.0 0.9 3.2	PET, Brushed Silver TC P1400 50# SC	■	■	■				
	9018FL	Brushed silver with thick polyester liner suitable for domed decals. Thick, high-performance adhesive for durable graphic applications.	2.0 5.0 4.0	PET, Brushed Silver PT 200MP Polyester		■			■		
Polyester Platinum	**7872V**	High abrasion and solvent resistance. Excellent high temperature resistance and adhesion to LSE plastics and smooth powder coats. Broad applications in automotive, electronics, healthcare, heavy machinery, general industrial. Differentiate your labels with a unique platinum metallic appearance.	2.0 1.8 3.2	PET, Versatile Print TC 350 55# Densified Kraft	■	■	■	■	■		
	7875V	High abrasion and solvent resistance. Durable label material with firm adhesive to resist oozing. Differentiate your labels with a unique platinum metallic appearance.	2.0 0.8 3.2	PET, Versatile Print TC 310 55# Densified Kraft	■	■	■	■	■		
Vinyl White	**7904**	Conformable to contoured surfaces. Excellent adhesion to LSE plastics and textured powder coats. 90# liner with layflat properties ideal for sheet and screen printing applications.	3.4 1.8 6.8	Soft White Vinyl NTC 350 90# Polycoated Kraft					★	■	
	7046	Flexible film printable with solvent ink systems. 90# liner with layflat properties ideal for sheet and screen printing applications.	3.2 1.1 6.8	Soft White Vinyl NTC 350 90# Polycoated Kraft			■		★	■	
	7605	Conformable to contoured surfaces. Excellent adhesion to LSE plastics and textured powder coats.	3.4 1.8 3.2	Soft White NTC 350 55# Densified Kraft	■	■					

*3M Durable Label Materials have been tested with various print systems with positive results. Print systems vary, so please request a sample and test in your specific application.
★90# polycoated kraft liner is specifically designed for screen printing.

Go-To Product Versatile Print Label Materials

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3M™ Durable Label Materials (cont.)

Facestock	Product	Typical Performance Characteristics	Construction: Caliper (mils)	Construction: Facestock Adhesive Type Liner	Print Method*: Thermal Transfer	Flexographic	UV Inkjet	Laser/Toner-Based	Screen	Solvent Inkjet	Water Inkjet
Vinyl White (cont.)	**7930T**	Resists one-piece removal. Facestock fractures and tears easily. Excellent adhesion to powder coating, LSE plastics and oily metals. 90# liner with layflat properties ideal for sheet and screen printing applications.	2.0 0.8 6.8	White Destructible TC 350 90# Polycoated Kraft	■	■			★		
	7053	Semi-flexible, non topcoated film. 90# liner with layflat properties ideal for sheet and screen printing applications.	4.0 1.1 6.8	Soft Clear Vinyl NTC 350 90# Polycoated Kraft					★	■	
	7604FP	Topcoated, conformable to contoured surfaces. Consistent, high-speed dispensing. Excellent squeeze bottle performance.	3.5 1.2 3.2	Soft White TC3 300 55# Densified Kraft	■	■	■				
	7902	Non-topcoated. Conformable to contoured surfaces. 90# liner with layflat properties ideal for sheet and screen printing applications.	3.5 1.2 6.8	Soft White Vinyl NTC 300 90# Polycoated Kraft					★	■	
	FV027805	Flexible film, ideal for printing with solvent, UV inkjet or UV flexo inks. High-tack and peel adhesive suitable for outdoor, textured LSE substrates. 90# liner with layflat properties ideal for sheet and screen printing applications.	3.2 1.1 6.8	Soft White Vinyl NTC P1480 90# Polycoated Kraft			■		★	■	
	FV029405	Extended life, white vinyl offers durability and moisture resistance, and long-term dimensional stability for demanding applications. High performance tackified acrylic formulated for acid resistance and adhesion to polyolefins. 90# liner with layflat properties ideal for sheet and screen printing applications.	3.8 1.1 6.8	Soft White EL Vinyl P1480 90# Polycoated Kraft					★	■	
	FV023202	High initial tack adhesive with good moisture resistance. Performs well in ladder label applications.	3.5 1.2 3.2	Soft White TC3 P1480 50# SC	■	■	■				
	7045	Non-topcoated film with good conformability. Excellent choice for curved surfaces. 90# liner with layflat properties ideal for sheet and screen printing applications.	3.2 0.9 6.8	Soft White Vinyl NTC P1400 90# Polycoated Kraft			■		★	■	
	7049	Non-topcoated film with good conformability. Excellent choice for curved surfaces. General purpose adhesive for a variety of surfaces. High performance adhesive. 90# liner with layflat properties ideal for sheet and screen printing applications.	3.8 0.9 6.8	Soft White EL Vinyl NTC P1400 90# Polycoated Kraft					★	■	
	OFV0202	Designed for use in outdoor applications. Good adhesion to HSE and LSE plastics.	3.5 0.9 3.2	Soft White TC6 P1400 50# SC	■	■	■				
	FV032	Soft conformable vinyl that offers durability and moisture resistance. General purpose adhesive.	3.5 0.9 3.2	Soft White TC3 P1212 50# SC	■	■	■				
	FV172	Soft conformable translucent vinyl that has been topcoated for water-based flexo inks. High clarity general purpose adhesive.	3.5 0.9 3.2	Soft Translucent TC1 P1212 50# SC	■	■					
	FV018602	Topcoated black vinyl for press printing.	3.5 0.9 3.2	Soft Black Vinyl TC6 P1212 50# SC	■	■	■				
	FV292	Adheres to a variety of surfaces including polyolefins. Excellent choice for wire marking applications.	3.5 0.9 3.2	Soft White TC3 P1410 50# SC	■	■	■				

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★90# polycoated kraft liner is specifically designed for screen printing.

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3M™ Durable Label Materials (cont.)

Facestock	Product	Typical Performance Characteristics	Construction: Caliper (mils)	Construction: Facestock Adhesive Type Liner	Print Method*: Thermal Transfer	Flexographic	UV Inkjet	Laser/Toner-Based	Screen	Solvent Inkjet	Water Inkjet
Vinyl White (cont.)	**FV052**	High initial tack adhesive. Good choice for retread tire label applications.	3.5 1.3 3.2	Soft White TC P1110 50# SC	■	■					
	IJ39-20	Flexible film ideal for solvent or UV inkjet printable applications. High-tack and peel adhesive ideal for outdoor applications. Printed Scotchcal™ 90# liner with layflat properties ideal for sheet and screen printing applications.	3.5 1.2 6.8	White Vinyl Permanent Acrylic 90# Polycoated Kraft					★	■	
	7065	Ultra removable from smooth surfaces. Excellent alternative to static cling. 90# liner with layflat properties ideal for sheet and screen printing applications.	3.2 0.8 6.8	Soft White Vinyl NTC R3500 90# Polycoated Kraft			■		★	■	
	7901	Non-topcoated. High bond, but offers clean removability on most surfaces for up to one year. Excellent for plasticizer resistance. 90# liner with layflat properties ideal for sheet and screen printing applications.	3.5 1.0 6.8	Soft White Vinyl NTC 500 90# Polycoated Kraft					★	■	
Vinyl Cast	**3690E+**	Flexible and conformable white Scotchcal™ Film with outstanding weathering properties. Non-transferable on some surfaces.	2.0 1.0 3.2	Bright White NTC 320 90g/sm glassine	■	■			■	■	
	3698E+	Flexible and conformable silver Scotchcal™ Film with outstanding weathering properties. Non-transferable on some surfaces.	2.0 1.0 3.2	Matte Silver NTC 320 90g/sm glassine	■	■			■	■	
Retro-reflective	**3929**	When bar code printed, the facestock extends the maximum scanning distance of long range scanners. Excellent for bin labels or shelf markers.	4.8 1.0 4.6	Silver Gloss TC 200 78# CCK	■	■					
	3925	Yellow, retro-reflective version of 3929.	4.8 1.0 4.6	Yellow Gloss TC 200 78# CCK	■	■					
3M™ Water-based Inkjet Poly-propylene	**7790-IJ**	Topcoat uniquely designed for waterbased inkjet print systems. Durable facestock and adhesive stand up to harsh environments. BS5609 certified durable label. Ideal for use in chemical drum labeling applications.	5.0 1.1 3.2	PP, Waterbased Inkjet TC 350 55# Densified Kraft					■		■
	FP033-IJ	Topcoat uniquely designed for waterbased inkjet print systems. Durable facestock and adhesive stand up to harsh environments. Emulsion-based high performance LSE adhesive with high-tack for demanding applications. Broad applications in general industrial.	5.0 1.4 3.2	PP, Waterbased Inkjet TC P1480 50# SC					■		■
Poly-propylene White	**7777**	Bright white facestock offers high opacity. Film stiffness allows for easy die cutting and dispensing for automatic applications. Can be thermal transfer printed with resin ribbon.	2.6 0.9 3.2	Polypropylene Label Permanent Acrylic 50# Densified Kraft	■	■	■				
	7779	Same as 7777 except with 350 adhesive. Excellent adhesion to powder coats and LSE plastics.	2.6 1.1 3.2	Polypropylene Label 350 55# Densified Kraft	■	■					
	76716NA	Extreme durability when printed with 3M™ Durable Resin Ribbon 92904.	2.6 1.1 3.3	Polypropylene Film 350 55# Densified Kraft	■	■					

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★90# polycoated kraft liner is specifically designed for screen printing.

Go-To Product Water-based Inkjet Label Materials

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3M™ Durable Label Materials (cont.)

Facestock	Product	Typical Performance Characteristics	Construction: Caliper (mils)	Construction: Facestock Adhesive Type Liner	Print Method*: Thermal Transfer	Flexographic	UV Inkjet	Laser/Toner-Based	Screen	Solvent Inkjet	Water Inkjet
Poly-propylene White (cont.)	**7776**	Light-duty facestock with firm adhesive that resists oozing.	2.6 0.8 3.2	Polypropylene Label 310 55# Densified Kraft	■	■	■				
	FP022102	High performance adhesive designed for demanding LSE substrates. Matte film.	3.0 1.2 3.2	PP, EDP P1480 50# SC	■	■					
	FP029102	High performance adhesive with high-tack and peel from difficult textured LSE plastics.	2.6 1.2 3.2	PP, TC2S P1480 50# SC	■	■	■				
	FP024102	Freezer-grade adhesive that can be applied at temperatures as low as 0°F. Suitable for frozen food or drum label applications.	3.0 0.8 3.2	PP, EDP C1S F2201 50# SC	■	■					
	FP016102	Conformable moisture resistant film. Freezer-grade adhesive that can be applied at temperatures as low as 0°F.	2.3 0.8 3.2	PP, TC2S F2201 50# SC	■	■	■				
Poly-propylene Clear	**FP102**	General purpose adhesive offers excellent adhesion to a wide variety of substrates, including polyolefins.	2.0 0.9 3.2	PP, Clear TC P1410 50# SC	■	■	■				
Poly-propylene Metallized	**FP032302**	White opaque adhesive paired with metallized film offers exceptional opacity.	2.3 1.1 3.2	PP, Metallized TC P1655 50# SC	■	■	■				
Poly-ethylene	**FPE06602**	Conformable film suitable alternative to vinyl label materials. Aggressive adhesive designed to adhere to both LSE and HSE surfaces.	2.5 1.1 3.2	White Polyethylene P1480 50# SC	■	■					
	FPE42	Conformable film suitable alternative to vinyl label materials. Aggressive adhesive designed to adhere to both LSE and HSE surfaces.	3.0 0.9 3.2	Clear Polyethylene P1410 50# SC	■	■					
Kimdura	**7291**	Smudge-proof topcoat. Good for general purpose applications. Can be printed by dot-matrix, thermal transfer and ion deposition.	3.7 0.9 3.2	Smudge-proof TC Kimdura™ P1400 50# SC	■	■		■			
Teslin	**7841**	Excellent toner anchorage. Good conformability. Good print contrast when bar coding.	7.0 0.8 3.2	Matte White Teslin™ 310 55# Densified Kraft	■	■		■			

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Go-To Product

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3M™ Durable Label Materials (cont.)

Facestock	Product	Typical Performance Characteristics	Caliper (mils)	Facestock Adhesive Type Liner	Thermal Transfer	Flexographic	UV Inkjet	Laser/Toner-Based	Screen	Solvent Inkjet	Water Inkjet
Paper	**7004**	Excellent quick stick and adhesion to low surface energy plastics.	4.0 0.9 2.5	60# Bright White High Gloss 300 43# Densified Kraft	■	■					
	7000	High-gloss for fine printing. Adheres well to curved surfaces. Ideal for pharmaceutical applications.	4.0 0.9 2.5	60# White High Gloss 320 43# Densified Kraft	■	■					
	7000FL	Same as 7000 with film liner.	4.0 0.9 1.5	60# White High Gloss 320 Polyester Film	■	■					
	7011	Excellent flag resistance on small diameter vials. Used for unit dose pharmaceutical packages.	2.3 0.9 2.5	35# Coated Paper 320 43# Densified Kraft	■	■					
	7110	Readily fractures or delaminates. Ideal for tamper-resistant labeling. Provides write-on capability.	2.8 1.1 2.5	40# Uncoated Paper 320 43# Densified Kraft	■	■					
	PS015402	Paper facestock with high performing adhesive for broad-based applications.	4.0 1.2 3.2	60# Semigloss P1480 50# SC	■	■					
	7142	Good thermal transfer printable facestock. Can be removed cleanly or repositioned on most substrates.	3.5 0.4 2.5	55# Coated Paper 1000 40# Kraft Glassine	■	■					
Acrylate	**7847**	Two-layered film construction designed for laser etching provides excellent long-term durability for critical information.	2.4 1.2 3.2	Matte Black/White 350 55# Densified Kraft							
	3921	Offers ultra-high temperature performance. Thermal transfer printable.	2.0 1.0 3.0	Matte White Acrylate 150 55# Densified Kraft	■	■					
	76999	Offers ultra-high temperature performance. Thermal transfer printable with un-branded liner.	2.0 0.8 3.2	Matte White Acrylate 150 C2S Glassine Liner	■	■					
Polyimide White	**7812**	Offers ultra-high temperature performance. Easy readability of bar codes. Thermal transfer printable.	2.0 2.0 3.2	Polyimide, Matte White 100 50# Densified Kraft	■						
Aluminum Foil Silver	**7940**	Vinyl topcoated for ink receptivity. Heavy adhesive coat weight suitable for textured surfaces. 90# liner with layflat properties ideal for sheet and screen printing applications.	2.0 1.7 6.8	Matte Silver TC 320 90# Polycoated Kraft		■			★		
	7800	Vinyl topcoated for ink receptivity. Heavy adhesive coat weight suitable for textured surfaces. Excellent adhesion to LSE plastics.	2.0 1.7 3.0	Matte Silver TC 320 60# Densified Kraft		■			■		

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★90# polycoated kraft liner is specifically designed for screen printing.

Go-To Product

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3M™ Removable Label Materials

Facestock	Product	Typical Performance Characteristics	Caliper (mils)	Facestock Adhesive Type Liner	Thermal Transfer	Flexographic	UV Inkjet	Laser/Toner-Based	Screen	Solvent Inkjet	Water Inkjet
Polyester White	**FM01972**	Matte film that offers thermal stability. Suitable for masking applications.	2.0 0.8 3.2	PET, White MC R3500 50# SC	■	■					
	FM1732R	Thermal transfer printable with resin ribbons. Removable from a variety of surfaces.	2.0 0.8 3.2	PET, White TC R3500 50# SC	■	■	■				
Vinyl White	**7600**	Top-coated, high bond, but offers clean removability on most surfaces for up to one year. Excellent for plasticizer resistance. Key applications include automotive masking, outdoor removable.	3.5 1.0 2.5	Soft White Gloss TC 500 43# Densified Kraft	■	■	■				
	FV1222	Soft conformable vinyl that offers long term adhesion with clean removability.	3.5 0.8 3.2	Soft White Vinyl TC3 R3500 50# SC	■	■	■				
Polypropylene White	**FP016902**	Good conformability and removability from a variety of surfaces. Excellent alternative to static cling.	2.3 0.8 3.2	PP, White TC2S R3500 50# SC	■	■	■				
Polypropylene Clear	**FP56N**	Clear conformable label offers long term adhesion with clean removability. Excellent alternative to static cling with film liner for high speed dispensing.	2.0 0.8 1.5	PP, Clear TC2S R3500 Polyester Film	■	■	■				
	FP0862	Clear conformable label offers long term adhesion with clean removability. Excellent alternative to static cling.	2.0 0.8 3.2	PP, Clear TC2S R3500 50# SC	■	■	■				
	FP024402	Specially formulated adhesive designed to be easily removable from a variety of surfaces. Offers lower peel and tack than R3500 adhesive.	2.0 0.8 3.2	PP, Clear TC2S R3800 50# SC	■	■	■				
Paper White	**7142**	Good thermal transfer printable facestock. Can be removed cleanly or repositioned on most substrates.	3.5 0.4 2.5	55# Coated Paper 1000 40# Kraft Glassine	■	■	■				

*3M Durable Label Materials have been tested with various print systems with positive results. Print systems vary, so please request a sample and test in your specific application.

Stable, clean removal—even outdoors.

Select your range of strength, stability, adhesion and removability. These label materials feature our specially formulated acrylic adhesives, which include 3M™ Removable Adhesive 500 for stable, clean removal even during long-term outdoor applications. 3M™ Removable Adhesive R3500 is for use on smooth surfaces such as glass and plastics. Liners provide added versatility during processing such as die cutting, laminating and kiss cutting.

Go-To Product

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3M™ Tamper Evident Label Materials

Facestock	Product	Typical Performance Characteristics	Construction: Caliper (mils)	Construction: Facestock Adhesive Type Liner	Print Method*: Thermal Transfer	Flexographic	UV Inkjet	Laser/Toner-Based	Screen	Solvent Inkjet	Water Inkjet
Destructible Facestocks	7613T	Resists one-piece removal. Facestock fractures and tears easily. Excellent adhesion to powder coating, LSE plastics and oily metals.	2.0 0.8 3.2	White Vinyl TC 350 55# Densified Kraft	■	■	■				
	7930T	Same as 7613T, except with 90# polycoated kraft liner.	2.0 0.8 6.8	White Vinyl TC 350 90# Polycoated Kraft	■	■	■		★	■	
	3812	This destructible, non-shrink white film is designed as a non-removable security label. Once applied in a correct manner, one-piece removal is not possible on most surfaces.	1.6 1.2 3.2	Urethane, Matte White 350 Glassine	■	■	■				
	7110	Readily fractures or delaminates. Ideal for tamper-resistant labeling. Handwritable.	2.8 1.1 2.5	40# Uncoated White Paper 320 43# Densified Kraft	■	■					
	FA112	High-quality film resists one piece removal, fractures easily. Good initial tack adhesive.	2.0 0.9 3.2	Clear Acetate P1212 50# SC		■					
Polyester Tamper Indicating Films	7380	Tamper evident VOID. Ideal for security rating plates and certification plates.	2.3 0.8 3.2	Matte White VOID DMI TC 300 55# Densified Kraft	■	■					
	7381/7866	Used for closures in packaging of OTC drugs. Facestock resists harsh environments.	2.0 0.8 3.2	Gloss White VOID TC 300 55# Densified Kraft	■	■	■				
	7384	Tamper evident VOID. Mirror finish hides security feature. Ideal for security closure seal.	2.0 0.8 3.2	PET, Bright Silver TC 300 55# Densified Kraft	■	■	■				
	7935	Facestock resists harsh environments. 90# liner with layflat properties ideal for sheet and screen printing applications.	2.0 0.8 6.8	Gloss White VOID TC 300 90# Polycoated Kraft	■	■	■	■	★		
	7937	Ideal for security rating plates and certification plates. 90# liner with layflat properties ideal for sheet and screen printing applications.	2.3 0.8 6.8	Matte White VOID DMI TC 300 90# Polycoated Kraft	■	■	■	■	★		
	FMV02	Thermal transfer printable VOID label. General purpose adhesive offers excellent adhesion to a wide variety of substrates, including polyolefins.	2.0 0.9 3.2	Bright Silver VOID TC P1410 50# SC	■	■	■				
	FMV22	Same as FMV02 in white finish.	2.0 0.9 3.2	White VOID TC P1410 50# SC	■	■	■				

*Can be used to display the UL listing mark, but each case must be reviewed and approved by UL follow-up services before use.

★90# polycoated kraft liner is specifically designed for screen printing.

Peace of mind you can readily see.

3M™ Tamper Evident Labels fracture from many surfaces when label removal is attempted, providing security and peace of mind. Tamper evident options include "void" messages, triangle shapes, or destructible facestocks. These tamper evident security labels feature adhesives that provide permanent or non-permanent markings on numerous substrates.

Go-To Product

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3M™ Overlaminate Label Materials

Facestock	Product	Typical Performance Characteristics	Construction: Caliper (mils)	Construction: Facestock Adhesive Type Liner	Print Method*: Thermal Transfer	Flexographic	UV Inkjet	Laser/Toner-Based	Screen	Solvent Inkjet	Water Inkjet
Polyester Gloss Clear	7730FL	Non-topcoated. Film liner offers excellent graphic appearance. Excellent durability and UV resistance.	1.0 0.8 1.5	PET, Clear NTC 400 Polyester Film							
	7731FL	Non-topcoated. Same as 7730FL, except with 2.0 mil facestock.	2.0 0.8 1.5	PET, Clear NTC 400 Polyester Film							
	7733FL	Ideal for long term outdoor applications. Special UV resistant film provides 3 years outdoor durability.	1.0 0.8 1.5	PET, Clear UV 400 Polyester							
	7741	Non-topcoated. Excellent abrasion, chemical, and UV resistance.	1.0 0.8 2.5	PET, Clear NTC 400 43# Densified Kraft							
	8417	Non-topcoated. Solvent resistant and high heat tolerance. Ideal for fuel line identification. Intended for use with 8418.	1.0 1.2	PET, Clear NTC 100							
	OFM010N	Excellent UV resistance. Designed for indoor and outdoor overlaminating applications.	1.0 0.8 1.5	PET, Clear NTC P1400 Polyester Film							
	FM011	Basic polyester overlaminating film with high clarity adhesive.	1.0 0.8 2.5	PET, Clear NTC P1212 40# SC							
	FM01N	Same as FM011 with film liner.	1.0 0.8 1.5	PET, Clear NTC P1212 Polyester Film							
	FM452	Heavy gauge durable non-topcoated film designed for overlaminating applications. Abrasion resistant. Designed for indoor applications.	5.0 0.9 3.2	PET, Clear NTC P1212 50# SC							
	FM45N	Same as FM452 with a film liner for ultimate adhesive clarity.	5.0 0.9 1.5	PET, Clear NTC P1212 Polyester Film							
Polyester Matte Clear	7732FL	Non-topcoated. Film liner offers excellent graphic appearance. Excellent durability and UV resistance.	1.0 0.8 1.5	PET, Matte NTC 400 Polyester Film							
	7742	Non-topcoated. Excellent abrasion, chemical, and UV resistance.	1.0 0.8 2.5	PET, Matte NTC 400 43# Densified Kraft							
	7744FL	Thermal transfer printable matte topcoat. Ideal where variable information is needed. Film liner provides smoother adhesive appearance.	1.3 0.8 1.5	PET, Matte TT TC 400 Polyester Film	■	■	■				
	7745FL	Higher matte finish than 7744FL. Can be used in laser and handwritable applications.	1.3 0.8 1.5	PET, Matte DMI TC 400 Polyester Film	■	■				■	
	FM071	Matte clear film for general purpose overlaminating applications.	1.0 0.8 2.5	PET, Matte NTC P1212 40# SC							

*Can be used to display the UL listing mark, but each case must be reviewed and approved by UL follow-up services before use.

Designed for superior label protection.

These 3M materials offer UV and high temp resistance which help to prevent color fading. The adhesive is formulated for bonding to challenging substrates. Densified and super-calendered kraft and polyester film liners make for efficient die cutting and auto dispensing. The durable facestocks resist abrasion, scuffs and weathering.

Go-To Product

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3M™ Overlaminate Label Materials (cont.)

Facestock	Product	Typical Performance Characteristics	Construction		Print Method*						
			Caliper (mils)	Facestock Adhesive Type Liner	Thermal Transfer	Flexographic	UV Inkjet	Laser/Toner-Based	Screen	Solvent Inkjet	Water Inkjet
Acrylate Clear	**7735FL**	Ideal for long term outdoor applications. Special UV resistant film and adhesive provides 10 years outdoor durability.	3.0 0.8 1.5	Matte Acetate **400** Polyester Film							
Acrylic Clear	**8524**	Clear satin overlaminate for outdoor applications. Ideal for use with 3M Scotchcal™ IJ8624. Resists acids, mild alkalis, and salts.	2.0 0.9 3.2	UV Resistant Film **P1212** 50# SC							
Vinyl Clear	**FV02490N**	Textured vinyl film is an alternative to polycarbonate for less demanding applications. High clarity adhesive with good initial tack and excellent die cutting properties.	5.0 0.9 1.5	Textured Vinyl NTC **P1212** Polyester Film							
Polycarbonate Clear	**7737FL**	Used to achieve the appearance of a subsurface screen printed polycarbonate.	3.0 0.8 1.5	Velvet Clear Lexan™ **400** Polyester Film							
	7738FL	Same as 7737FL, except with 5.0 mil facestock.	5.0 0.8 1.5	Velvet Clear Lexan™ **400** Polyester Film							
	FL01N	Liner offers high strength and caliper control. Recommended where the clarity of the adhesive is critical.	5.0 1.1 1.5	Velvet Clear Lexan™ **P1212** Polyester Film							
	FL02N	Similar to 7737FL. Designed for indoor use.	3.0 1.1 1.5	Velvet Clear Lexan™ **P1212** Polyester Film							
	OFL010N	Specialty durable polycarbonate overlaminate. High performance adhesive formulated for demanding applications. Adheres to a variety of surfaces. Excellent UV resistance.	3.0 1.0 1.5	Velvet Clear Lexan™ **P1400** Polyester Film							

3M™ Specialty Label Materials

Automotive Applications: EV Battery Label Materials

Facestock	Product	Typical Performance Characteristics	Construction		Print Method*						
			Caliper (mils)	Facestock Adhesive Type Liner	Thermal Transfer	Flexographic	UV Inkjet	Laser/Toner-Based	Screen	Solvent Inkjet	Water Inkjet
Polyester **7871V**	**7871V**	High abrasion and solvent resistance. Excellent high temperature resistance and adhesion to LSE plastics and smooth powder coats. Specialty applications in automotive EV battery, GHS drum labeling. BS5609 certified durable label.	2.0 1.8 3.2	PET, Versatile Print TC **350** 55# Densified Kraft	■	■	■	■	■		
Polyethylene	**FPE06602**	Conformable film suitable alternative to vinyl label materials. Aggressive adhesive designed to adhere to both LSE and HSE surfaces.	2.5 1.1 3.2	White Polyethylene **P1480** 50# SC	■	■					

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Go-To Product Versatile Print Label Materials

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3M™ Specialty Label Materials (cont.)

Automotive Applications: VIN Label Material

Facestock	Product	Typical Performance Characteristics	Construction		Print Method*						
			Caliper (mils)	Facestock Adhesive Type Liner	Thermal Transfer	Flexographic	UV Inkjet	Laser/Toner-Based	Screen	Solvent Inkjet	Water Inkjet
Acrylate	7847	Two-layered film construction designed for laser etching provides excellent long-term durability for critical information.	2.4 1.2 3.2	Matte Black/White **350** 55# Densified Kraft				■			

Automotive Applications: Tire Label Materials

Polyester	**PG0300**	Extremely aggressive rubber-based adhesive designed for use in tire label applications. Conformable and highly durable polyester film. Excellent print receptivity.	1.5 1.5 3.2	PET, Gloss TC **G1120** 50# SC	■	■	■				
	PG0305	Designed for water-based inkjet printing applications. Extremely aggressive rubber-based adhesive designed for use in tire label applications. Conformable and highly durable polyester film. Excellent print receptivity.	2.0 1.5 3.2	PET, Waterbased IJ TC **G1120** 50# SC	■	■	■	■			
Polypropylene	**FP019802**	Non-patterned tire tread label material with rubber based adhesive. Ideal for automated applications.	2.6 1.5 3.2	PP, T2S **P1110** 50# SC	■	■					
Teslin	**FTS0700**	Bead label for use in tire applications.	7.0 1.5 3.2	Teslin **P1110** 50# SC	■	■					

Extreme bonding to treated rubber.
3M™ Tire Label Materials are designed specifically for tire labeling. Our 3M™ Adhesive G1120 and 3M™ Adhesive P1100 are permanent, rubber-based, pressure-sensitive adhesives designed for performance on vented and non-vented tire treads.

Go-To Product

Note: This technical information and data should be considered representative or typical only and should not be used for specification purposes.

3M™ Specialty Label Materials (cont.)

3M™ Speciality Health Care Applications

Facestock	Product	Typical Performance Characteristics	Construction: Caliper (mils)	Construction: Facestock Adhesive Type Liner	Print Method*: Thermal Transfer	Flexographic	UV Inkjet	Laser/Toner-Based	Screen	Solvent Inkjet	Water Inkjet
3M™ Versatile Print Polyester, Gloss White	**7331V**	High abrasion and solvent resistance. Good for indoor and outdoor use. Excellent bond to LSE plastics. Ideal for medical device applications.	2.0 0.8 3.2	PET, Versatile Print TC **300** 55# Densified Kraft	■	■	■	■	■		
3M™ Water-based Inkjet Polyester	**7882-IJ**	Excellent cold temperature performance for a wide range of applications. Ideal for freezer or pharmaceutical applications.	3.0 0.8 3.2	PET, Waterbased Inkjet TC **400** 55# Densified Kraft				■			■
Paper	**7000**	High-gloss for fine printing. Adheres well to curved surfaces. Ideal for pharmaceutical applications.	4.0 0.9 2.5	60# White High Gloss **320** 43# Densified Kraft	■	■	■				
	7000FL	Same as 7000 with film liner.	4.0 0.9 1.5	60# White High Gloss **320** Polyester Film	■	■	■				
	7142	Good thermal transfer printable facestock. Can be removed cleanly or repositioned on most substrates.	3.5 0.4 2.5	55# Coated Paper **1000** 40# Kraft Glassine	■	■					
Litho Tamper-Indicating White	**7110**	Readily fractures or delaminates. Ideal for tamper-resistant labeling. Handwritable.	2.8 1.1 2.5	40# Uncoated Paper **320** 43# Densified Kraft	■	■					
	7011	Excellent flag resistance on small diameter vials. Ideal for unit dose pharmaceutical packages.	2.3 0.9 2.5	35# Coated Paper **320** 43# Densified Kraft	■	■					
Polyolefin	**FP035402**	Offers excellent durability, conformability and moisture resistance. Ideal for blood bag applications.	3.3 1.3 3.1	Matte White Polyolefin **P1650** 50# SC	■	■					

*3M Durable Label Materials have been tested with various print systems with positive results. Print systems vary, so please request a sample and test in your specific application.

Meeting the demands of Health Care applications.
A range of adhesives makes for reliable performance without flagging on small diameter plastic vials, in autoclaves and where tamper evidence is a main concern.

Go-To Product | Versatile Print Label Materials | Water-based Inkjet Label Materials

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3M™ Graphic Films

Product Number	Product Name	Colors	Adhesive	Signs & Graphics	Window	Walls	Floors	Sidewalk	Durability
Digital Printable Films									
Translucent Films									
IJ63	3M™ Scotchcal™ Changeable Translucent Graphic Film	Matte White	Removable	■	■				1.5 yrs.
IJ3630	3M™ Scotchcal™ Translucent Graphic Film	White	Permanent	■	■				7 yrs.
Opaque Films									
IJ35	3M™ Scotchcal™ Graphic Film	White (Gloss & Matte)	Permanent	■		■			5 yrs.
IJ35C	3M™ Scotchcal™ Graphic Film with Comply™ Adhesive		Permanent	■		■			5 yrs.
40C	3M™ Controltac™ Graphic Film		Removable	■	■	■	■		1 yr. floors, 7 yrs. walls
IJ160C	3M™ Controltac™ Graphic Film with Comply™ Adhesive	White	Removable, Slideable			■			5 yrs.
IJ180Cv3	3M™ Controltac™ Graphic Film with Comply™ v3 Adhesive		Removable	■		■			10 yrs.
IJ3650	3M™ Scotchcal™ Graphic Film	White, Transparent	Permanent			■			7 yrs.
IJ8624	3M™ Scotchcal™ Graphic Film for Textured Surfaces	White	Removable			■			7 yrs.
Reflective Films									
780mC	3M™ Scotchlite™ Print Wrap Film	White	Removable	■		■			9 yrs.
IJ680	3M™ Scotchlite™ Reflective Graphic Film		Permanent, Repositionable	■					9 yrs.
IJ680CR	3M™ Scotchlite™ Removable Reflective Graphic Film with Comply™ Adhesive		Removable, Repositionable	■					9 yrs.
IJ5000	3M™ Scotchlite™ Reflective Graphic Film		Permanent	■					1.5 yrs.
IJ5100R	3M™ Scotchlite™ Reflective Graphic Film		Removable	■					7 yrs.
Transparent Films									
IJ8150	3M™ Scotchcal™ Clear View Graphic Film	Transparent	Removable	■	■				7 yrs.
IJ61	3M™ Changeable Window Graphic Film			■	■				1 yr.
Perforated Films									
IJ67	3M™ Scotchcal™ Perforated Window Graphic Film, 40% Perforation	White	Removable		■				1 yr.
8170	3M™ Scotchcal™ Perforated Window Graphic Film				■				3 yrs.
Screen Printable Films									
Translucent Films									
3630	3M™ Scotchcal™ Translucent Graphic Film Series	Various	Permanent	■	■				7 yrs.
Opaque Films									
50	3M™ Scotchcal™ Graphic Film Series	Various	Removable	■	■				3 yrs.
160C	3M™ Controltac™ Graphic Film with Comply™ Adhesive Series	White, Black	Removable, Slideable	■		■			5 yrs.
180	3M™ Controltac™ Graphic Film Series	Various		■		■			7 yrs.
180MC	3M™ Controltac™ Graphic Film with Comply™ v2 Adhesive	White		■		■			7 yrs.
181	3M™ Controltac™ Graphic Film	White		■					8 yrs.
1000	3M™ Scotchcal™ Graphic Film Series	Various	Permanent	■					5 yrs.

Removable products are only removable with heat.
Durability information is for outdoor applications.

Note: This technical information and data should be considered representative or typical only and should not be used for specification purposes.

3M™ Graphic Films (cont.)

Product Number	Product Name	Colors	Adhesive	Signs & Graphics	Window	Walls	Floors	Sidewalk	Durability
Screen Printable Films (cont.)									
Opaque Films (cont.)									
3470	3M™ Scotchcal™ Graphic Film	White	Removable, Slideable	■		■			3 yrs.
3475	3M™ Scotchcal™ Graphic Film	Black		■		■			3 yrs.
3500C	3M™ Controltac™ Changeable Graphic Film with Comply™ Adhesive	White		■		■			2 yrs.
Opaque Films									
3650	3M™ Scotchcal™ Graphic Film Series	White, Transparent, Black	Removable, Slideable	■	■	■			7 yrs.
3552C	3M™ Controltac™ Changeable Graphic Film with Comply™ Adhesive	White		■	■				2 yrs.
3662	3M™ Scotchcal™ Graphic Film Series						■	■	3 mo.
3670LF	3M™ Scotchcal™ Graphic Film		Permanent	■					3 yrs.
3690	3M™ Scotchcal™ Graphic Film Series	White, Transparent, Black	Permanent	■		■			5 yrs.
3690C	3M™ Controltac™ Removable Graphic Film with Comply™ Adhesive Series		Removable, Slideable	■		■			5 yrs.
7125	3M™ Scotchcal™ Electrocut™ Graphic Film Series	Various	Permanent	■	■	■			5 yrs.
7725		Various		■	■	■			5 yrs.
7725SE		Various Fluorescent		■					1 yr.
8000	3M™ Scotchcal™ Graphic Film Series	Various	Removable	■					8 yrs.
Reflective Films									
680	3M™ Scotchlite™ Reflective Graphic Film Series	Various	Removable, Repositionable	■					9 yrs.
680CR				■					9 yrs.
5000		White	Permanent	■					1.5 yrs.
5100R		Various	Removable	■					7 yrs.
Transparent Films									
IJ180mC-114	3M™ Controltac™ Graphic Film with Comply™ Adhesive	Transparent	Removable, Slideable	■		■			7 yrs.
8000	3M™ Scotchcal™ Graphic Film Series		Removable	■					8 yrs.
Perforated Films									
8170-P50	3M™ Scotchcal™ Perforated Window Graphic Film, 50% Perforation	White	Removable	■	■				3 yrs.
Diffuser Films									
3635-30	3M™ Diffuser Films	Translucent	Permanent	■					9 yrs.
3635-70				■					9 yrs.
3735-50				■					9 yrs.
3735-60				■					9 yrs.

Removable products are only removable with heat. Durability information is for outdoor applications.

Product Number	Product Name	Colors	Adhesive	Durability	Comments
Overlaminate Films					
3619	3M™ Scotchcal™ Luster Overlaminate	Transparent	Permanent	7 yrs.	Flexible, conformable and more durable
3620	3M™ Scotchcal™ Matte Overlaminate			7 yrs.	For digitally imaged backlit signs
3658G	3M™ Scotchcal™ Gloss Overlaminate			7 yrs.	For flexible surfaces
3660M	3M™ Scotchcal™ Matte Overlaminate			7 yrs.	For use on illuminated signs
8508	3M™ Scotchcal™ Gloss Overlaminate			4 yrs.	Vinyl film offers good UV protection
8509	3M™ Scotchcal™ Luster Overlaminate			4 yrs.	For flat and simple curves
8518	3M™ Scotchcal™ Gloss Overlaminate			8 yrs.	Flexible and conformable film
8519	3M™ Scotchcal™ Luster Overlaminate			8 yrs.	
8520	3M™ Scotchcal™ Matte Overlaminate			8 yrs.	
8528	3M™ Scotchcal™ Gloss Overlaminate			9 yrs.	For harsh environments

Durability information is for outdoor applications.

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3M™ Graphic Films (cont.)

Product Number	Product Name	Colors	Adhesive	Durability	Comments
Overlaminate Films (cont.)					
Anti-Slip Overlaminates					
3645	3M™ Scotchcal™ Luster Overlaminate	Transparent	Permanent	1 yr.	Skid and scuff resistant for floor graphics
3647	3M™ Scotchcal™ Matte Overlaminate			3 mos.	Slip and scuff resistant for sidewalk graphics
8914	3M™ Scotchcal™ Optically Clear Overlaminate			8 yrs.	For perforated window films
8915	3M™ Scotchcal™ Ultra-Matte Overlaminate			8 yrs.	For flat surfaces
8991	Scotchgard™ Graphic and Surface Protection Film			3 yrs.	Film resists abrasion, stains, graffiti and cleans easily
8993	Scotchgard™ Graphic and Surface Protection Film			5 yrs.	

Durability information is for outdoor applications.

3M™ Screen Printing Inks

Product Number	Product Name	Colors	Print Method	Comments
Inks				
1900	3M™ Screen Printing Ink Series	Various (Gloss & Matte)	Solvent Screenprint	Fast drying opaque inks
2900			Solvent Screenprint	Transparent inks formulated for Scotchlite™ Reflective Films
9800			UV Screenprint	Weather resistant and excellent color retention

3M™ Commercial Graphics — Glossary

3M™ Comply™ Adhesive	3M brand name for a characteristic that permits air bubbles to escape through channels in the adhesive as a film is being applied.
3M™ Controltac™ Graphic Film	3M brand name for films with pressure-activated adhesive that is slideable and repositionable until pressure bonds it to the substrate.
3M™ Scotchcal™ Graphic Film	3M brand name for films with pressure-sensitive adhesive that bonds upon contact.
3M™ Scotchcal™ Overlaminate	3M brand name for a transparent film that can enhance or change the gloss of a graphic as well as provide resistance to dirt, abrasion and harmful UV light.
3M™ Scotchlite™ Reflective Graphic Film	3M brand name for a retroreflective film that allows a graphic to be clearly seen in low or no ambient light situations when a light source is directed at it from a point near the viewer's location.
Cast Film	Highest quality vinyl film for the best in image quality, conformability, dimensional stability and durability.
Changeable Film	Can be removed without heat or chemicals and leaves little or no adhesive residue.
Compound Curves	A surface with three-dimensional curves.
Conformable	A feature in some graphic films that allows it to conform around curves and rivets.
Perforated	A grid of small holes found in some printable films that allows an image to be seen on one side of a clear substrate, but allows a viewer to see through the film from the other side.
Permanent Adhesive	Adhesive that is not intended to be removable.
Positionable or Repositionable (As used in 3M™ Controltac™ Graphic Films only)	Light finger pressure may be used to tack the film in place to check for proper positioning and then repositioned if necessary. Firm pressure applied by any means, as well as high application temperature or removing and trying to reapply any liner, eliminates this feature.
Pressure-Activated Adhesive (As used in 3M™ Controltac™ Graphic Films)	Slideable, positionable and repositionable until firm pressure is applied with hand, squeegee or other application tool. Incompletely dried solvent in piezo inkjet printed film may reduce the slideability. An applied film cannot be moved to another position.
Pressure-Activated Adhesive (As used in 3M™ Scotchlite™ Graphic Films 680/680CR)	Slideable until firm pressure is applied with hand, squeegee or other application tool. Incompletely dried solvent in piezo inkjet printed film may reduce the slideability. An applied film cannot be moved to another position.
Pressure-Sensitive Adhesive	Adheres upon contact to the substrate. Does not slide and cannot be repositioned.
Removable Adhesive	Can be removed with heat leaving little or no adhesive residue. Occasionally chemicals are also needed.

All fleet graphics and other graphics subjected to abrasion require graphic protection.
Please refer to the applicable product bulletin for a list of compatible products and intended uses.

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Selecting the right product for the job.

To help you make sure you find the optimum 3M tape or other adhesive-backed product for your particular application, you'll want to consider several factors:

- Backing material
- Adhesive type
- Application time and temperature
- Surface characteristics (e.g., roughness, surface energy, contours, etc.)
- End use conditions (e.g., temperature, UV exposure, abrasion, etc.)

The information on these two pages integrates those factors to help you narrow your selection to fewer products for a more in-depth evaluation.

3M Backing Materials

In many applications, 3M backings add a second surface that affects how the underlying surface relates to the environment.

To optimize that relationship, 3M backings offer a wide choice of performance and handling characteristics.

3M Pressure Sensitive Adhesives

Most of the products in this section feature a 3M pressure sensitive adhesive that bonds the backing to another surface on contact. Each adhesive has different characteristics that affect production and end use performance.

Backings	Characteristics
Paper	
Crepe	Conformable, easy tear
Flatback	Strong, smooth, good for straight line masking
Kraft	Strong, some versions are repulpable
Tissue	Thin, porous to allow adhesive penetration of sheet
Plastic	
Polyester	Strong even when thin, chemical resistant, high temperature resistance
Polypropylene	Resistant to most solvents, conformable, tear resistant
Polyethylene	Conformable, easy to stretch, chemical/acid/moisture resistant, economical
Polyethylene/ Polypropylene Co-polymer	Conformable, chemical/acid/moisture resistant
UHMW-PE	High abrasion resistance, low coefficient of friction, anti-stick surface easy to clean
Polyvinyl Chloride (Vinyl)	Conformable, abrasion resistant, resistant to most chemicals
Polyimide	High temperature resistance, excellent dimensional stability, good insulation properties
Polyamide (Nylon)	High temperature resistance, high strength and toughness, good chemical resistance but can absorb moisture
Polytetrafluoroethylene (PTFE)	Low coefficient of friction, excellent high temperature and chemical resistance, anti-stick/release properties
Polyvinyl Alcohol (PVA)	Water-soluble, organic solvent resistant, high temperature resistance
Polyurethane	Abrasion/scratch resistant, impact/puncture resistant, UV and corrosion resistant
Polyvinyl Fluoride	Excellent weather resistance, excellent long-term UV resistance, thin yet stiff feel
Cloth	
Cotton	Strong, easy tear by hand, soft and drapable
Glass Cloth	Strong, high temperature resistance, flame-resistant
Vinyl Coated	Strong yet hand tearable, abrasion resistant, water-resistant, conformable
Non-woven	
Fiber	Air permeable, strong enough to hold expanding foams
Metals	
Aluminum	Heat and light reflective, moisture and chemical resistant, flame-resistant, outdoor weather resistant, conformable
Copper	EMI/RFI shielding
Lead	Electrically conductive, acid resistant, high conformability, x-ray opacity
Stainless Steel	Corrosion resistant
Rubber	
Neoprene	Abrasion resistant, die-cuttable
Combination (Laminates)	
Paper/Polyethylene	Weather and chemical resistant, hand tearable, stretch resistant
Metallized/Polyester	Reflective, decorative
Glass Cloth/PTFE	High temperature resistance, high strength
Glass Cloth/Aluminum	Very high temperature resistance, high strength
Non-woven/Aluminum	High heat and cold resistance

Adhesives			
Rubber	Standard Acrylic	Modified Acrylic	Silicone
High initial bond	Moderate initial bond	Bonds to wider variety than standard acrylic	Fair initial bond
Softer	Firmer	Softer	Very firm
Widest variety of surfaces including low surface energy materials*	High surface energy*	Many surfaces	Fewer surfaces
Up to 350°F	Up to 450°F	Up to 300°F	Up to 600°F, excellent low temperature performance
Fair chemical resistance	Excellent chemical resistance	Good chemical resistance	Excellent chemical resistance
Fair UV resistance	Excellent UV resistance	Moderate UV resistance	Excellent UV resistance
Poor aging	Excellent aging	Durable	Excellent aging
Removable	Permanent	Various	Removable
Good solvent resistance	Excellent solvent resistance	Good solvent resistance	Excellent solvent resistance

*Surface energy ranges from high to low. The substrate must be unified, dry, and clean to maximize adhesive contact.

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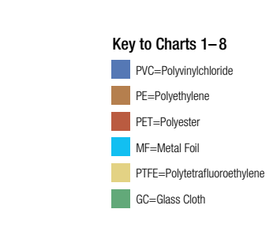
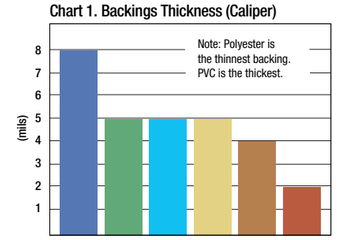
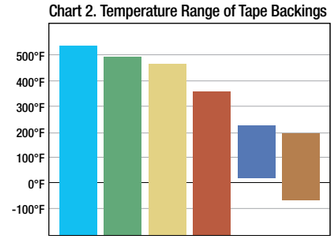
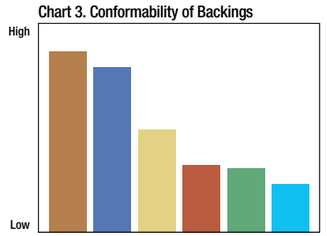
Selecting the best backing and adhesive.

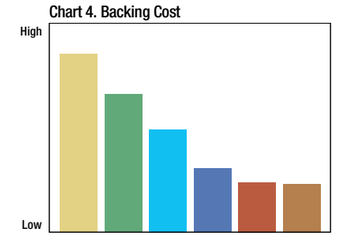
Backings: Each backing is rated in eight critical categories.

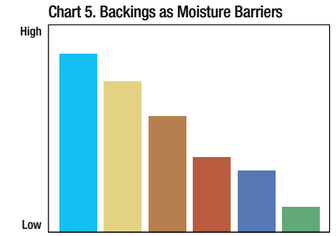


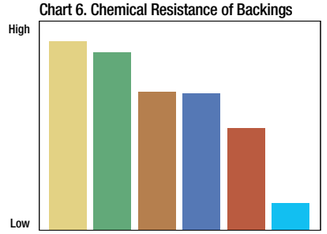


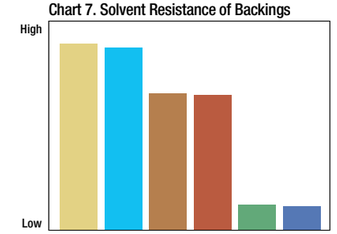


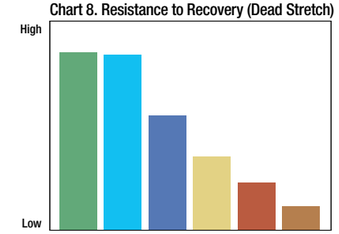












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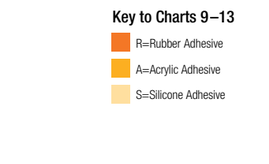
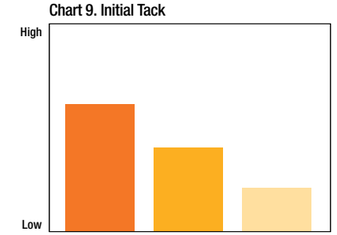
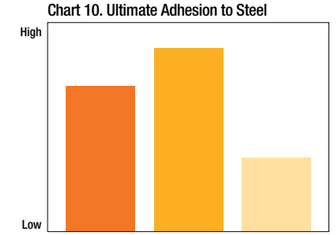
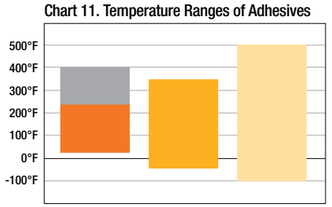
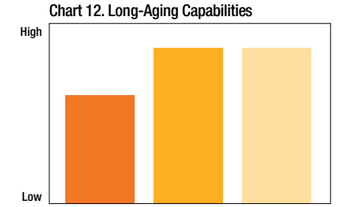
Adhesives: Each adhesive is rated in five critical categories

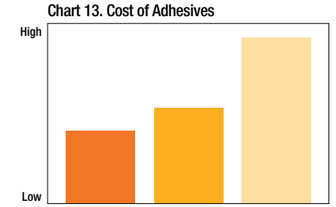












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3M™ Single Coated Tapes

Material (alphabetical order)	Product	Typical Performance Characteristics / Application Ideas	Color	Total Caliper mils (mm)	Backing		Adhesive Type	Specs	Temperature Range °F (°C)
					Material	Caliper mils (mm)			
Premium Performance **Aluminum Foil Tape**	**363/ 363L**	An aluminum foil/glass cloth tape that can be used as a high temperature, heat reflective, protective wrap for certain cables and other components in aerospace and industrial applications. 363L is linered version.	Silver	7.3 (0.19)	Aluminum Foil Laminated to Glass Cloth	3.4 (0.086)	Silicone	F.A.R. 25.853(a)	-65 to 600 (-54 to 316)
	425	Dead-soft aluminum foil tape. Masking of sensitive components to protect from damage during aircraft paint stripping. In white goods appliances, tape provides an excellent moisture barrier, helps reflect and dissipate heat.		4.6 (0.12)	Aluminum Foil	2.8 (0.07)	Acrylic	F.A.R. 25.853(a); SAE AMS T-23397; UL 723; UL 746C; LT-80 C	-65 to 300 (-54 to 149)
	427	Dead-soft aluminum foil tape. Linered version of 425 that can be easily die-cut into special sizes or shapes. Mask sensitive components to protect from damage during paint stripping or reflect and dissipate heat.		4.6 (0.12)		2.8 (0.07)	Acrylic	F.A.R. 25.853(a); UL 723; UL 746C; LT-80 C	-65 to 300 (-54 to 149)
	431	Dead-soft aluminum foil with transparent acrylic adhesive for many permanent sealing, holding, splicing or masking applications requiring the protection offered by a foil backing.		3.1 (0.08)		1.9 (0.05)	Acrylic	F.A.R. 25.853(a)	-65 to 300 (-54 to 149)
	433	Dead-soft aluminum foil backing with silicone adhesive that can be used in many high temperature applications.		3.6 (0.09)		2.0 (0.05)	Silicone	F.A.R. 25.853(a); US Gov A-A-59258; MIL-T-47014	-65 to 600 (-54 to 316)
	433L	Linered version of 433.		3.5 (0.09)		2.0 (0.05)	Silicone	F.A.R. 25.853(a)	-65 to 600 (-54 to 316)
	437	Dead-soft aluminum foil tape. Aggressive acrylic adhesive.		8.0 (0.20)		2.8 (0.07)	Acrylic	—	-40 to 212 (-40 to 100)
	438	Thickest aluminum tape.		7.2 (0.18)		5.0 (0.13)	Acrylic	F.A.R. 25.853(a)	-65 to 300 (-54 to 149)
	439	Linered version of 431.		3.1 (0.08)		1.9 (0.05)	Acrylic	F.A.R. 25.853(a)	-65 to 300 (-54 to 149)
	3302	Aluminum foil tape. EMI/RFI shielding. Perforated.		3.5 (0.09)		2.0 (0.05)	Con-ductive Acrylic	UL 510	-40 to 250 -40 to 12
	1430	Dead-soft aluminum foil tape combined with a non-woven web. It has a pressure sensitive adhesive and offers superior sealing benefits of foil with ease of handling and strength of cloth.		5.5 (0.14)	Aluminum/ Non-Woven Web	5.0 (0.13)	Acrylic	—	-65 to 300 (-54 to 149)
General Purpose **Aluminum Foil Tape**	**3311**	Designed for maximum adhesion over clean, dry surfaces. Scotch® Tape branded product.	Silver	3.6 (0.09)	Aluminum Foil	2.0 (0.05)	Rubber	UL 723	-10 to 180 (-23.3 to 82.2)
	3380	Good for narrow slit rolls.		3.3 (0.08)		2.0 (0.05)	Acrylic	UL 723	-30 to 260 (-34 to 121)
	3381	Value grade aluminum foil tape.		2.7 (0.07)		1.4 (0.04)	Acrylic	UL 723	-30 to 260 (-34 to 121)
	4380	General purpose aluminum foil tape.		3.3 (0.08)		2.0 (0.05)	Acrylic	—	-30 to 300F (-34 to 149)
	34383	General purpose aluminum foil tape.		4.5 (0.11)		2.8 (0.07)	Acrylic	—	-40 to 300 (-40 to 149)
	3363	Good for narrow slit rolls.		5.0 (0.13)		3.0 (0.08)	Acrylic	UL 723	-40 to 250 (-40 to 121 C)
	3367	Good for die-cut applications.		4.4 (0.11)		3.0 (0.08)	Acrylic	UL 723	-40 to 250 (-40 to 121)
HVAC Construction	**3320**	Aluminum foil/scrim/laminate.	Silver	6.7 (0.17)	Aluminum Foil	6.0 (0.16)	Acrylic	UL 723	-20 to 175 (-29 to 79)
	3340	Aluminum foil tape for use with rigid and flexible ducts.		4.0 (0.10)	Aluminum Foil	2.0 (0.05)		UL 181A-P; UL 181B-FX	-30 to 250 (-34 to 121)
	3350	Polypropylene tape for use with flexible ducts.		3.1 (0.08)	Silver Polypropyl-ene Film	1.6 (0.04)		UL 181 B-FX	-30 to 230 (-34 to 110)

Go-To Product

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3M™ Single Coated Tapes (cont.)

Material (alphabetical order)	Product	Typical Performance Characteristics / Application Ideas	Color	Total Caliper mils (mm)	Backing		Adhesive Type	Specs
					Material	Caliper mils (mm)		
Aluminum Sound Damping Foil	**434**	Aluminum foil constraining layer coated with a 2.0 mil (0.05mm) pressure sensitive viscoelastic polymer on a blue polyethylene easy-release liner. Controls resonant vibrations from -76°F to 68°F (-60°C to 20°C).	Silver	7.5 (0.19)	Aluminum	5.5 (0.14)	Viscoelastic Polymer	F.A.R. 25.853(a)
	435	Thicker version of 434. Controls resonant vibrations from -76°F to 68°F (-60°C to 20°C).		13.5 (0.34)	Aluminum	8.0 (0.2)		
	436	Aluminum foil constraining layer coated with a 5.5 mil (0.14mm) pressure sensitive viscoelastic polymer on a blue polyethylene easy-release liner. Controls resonant vibrations from -76°F to 68°F (-60°C to 20°C).		17.5 (.045)	Aluminum	12.0 (0.31)		
	2552	Aluminum foil constraining layer coated with a 5.0 (0.13mm) pressure sensitive viscoelastic polymer on a polycoated paper easy-release liner. Controls resonant vibrations from -25°F to 175°F (-32°C to 80°C).		15.0 (0.38)	Aluminum	10.0 (0.25)		
	4014	Foil/foam sheet laminate.		250.0 (6.35)	Aluminum-Urethane	3.0 (0.09)		
Fiberglass Cloth	**361**	Glass cloth tape coated with a silicone adhesive for many applications requiring high temperature resistance, high adhesion and a very strong abrasion-resistant backing.	White	6.4 (0.16)	Glass Cloth	5.0 (0.13)	Silicone	F.A.R. 25.853
	3615	An easy unwind glass tape for many applications requiring high temperature resistance, high adhesion, and a very strong abrasion-resistant backing.		7.0 (0.18)		5.0 (0.13)	Silicone	—
	365	Splicing textured surfaces / thermosetting adhesive.		8.3 (0.20)		4.8 (0.12)	Thermoset Rubber	—
	3650	Splicing textured surfaces/thermosetting adhesive. Film linered version of 365.		8.3 (0.20)		4.8 (0.12)	Thermoset Rubber	—
	398FR	Glass cloth film tape with acrylic adhesive. Used for sealing seams on aircraft ducting and cargo area panels. Flame retardant. Skip-slit liner for ease of application.	White	7.0 (0.18)	Glass Cloth	5.0 (0.13)	Acrylic	BMS 5-146; F.A.R. 25.853(a); F.A.R. 25.855(d)
	398FRP	Printed backing version of 398FR.		7.0 (0.18)				BMS 5-146; F.A.R. 25.853(a); F.A.R. 25.855(d)
	399FR	Thicker adhesive. Flame resistant.		9.5 (0.24)				F.A.R. 25.853(a)
Lead Foil	**420**	Lead foil backing with rubber adhesive and a white, easy-release film liner.	Dark Silver	7.6 (0.19)	Lead Foil	5.0 (0.13)	Rubber	—
	421	Self-wound plating tape.	Dark Silver	6.6 (0.17)		4.0 (0.10)		—
Copper Foil	**3313**	EMI/RFI shielding.	Copper	3.0 (0.08)	Copper Foil	1.4 (0.04)	Conductive Acrylic	UL 510
	3325	EMI/RFI shielding.				1.5 (0.04)	Acrylic	UL 510
	33315	"Tinned," corrosion resistant.				1.5 (0.04)	Acrylic	—
	33316	"Tinned," corrosion resistant.				1.5 (0.04)	Conductive Acrylic	UL 510
Stainless Steel Foil	**3361**	Corrosion resistant.	Silver	3.8 (0.10)	Stainless Steel	2.0 (0.05)	Acrylic	—
Non-Woven	**394**	Air-permeable backing.	White	5.0 (0.13)	Non-Woven	4.5 (0.11)		
	3294	Most permeable venting tape.	Pink	5.0 (0.13)	Non-Woven	4.5 (0.11)		
Paper	**101+**	Indoor use. Light-duty applications.	Tan	5.1 (0.13)	Crepe Paper	—	Rubber	—
	200	Good instant adhesion.	Tan	4.4 (0.11)			Rubber	—
	201+	General indoor use. Light-to-medium duty. Clean removal.	Tan	4.4 (0.11)			Solvent-Free Rubber	—
	202	Good holding power.	Tan	6.3 (0.16)			Rubber	ASTM D 6123; D 6123M-97
	203	Low temperature tape. General purpose masking tape for holding, bundling, sealing and more.	Beige	4.7 (0.12)			Rubber	—
	213	Good on anodized aluminum.	Tan	6.0 (0.15)			Rubber	ASTM D 6123; D 6123M-97

Go-To Product

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3M™ Single Coated Tapes (cont.)

Material (alphabetical order)	Product	Typical Performance Characteristics / Application Ideas	Color	Total Caliper mils (mm)	Backing		Adhesive Type	Specs
					Material	Caliper mils (mm)		
Paper (cont.)	**214**	Stain resistant.	Tan	5.8 (0.15)	Crepe Paper	—	Rubber	ASTM D 6123; D 6123M-97
	225	Outdoor use.	Silver	5.8 (0.15)	Crepe Paper	—	Rubber	—
	226	Outdoor use.	Black	10.6 (0.27)	Polyethylene/ Crepe Paper	—	Rubber	—
	231	Best all-purpose paint masking tape.	Tan	7.6 (0.19)	Crepe Paper	—	Rubber	ASTM D 6123; D 6123M-97
	231A	Best all-purpose paint masking tape.	Tan	7.6 (0.19)	Crepe Paper	—	Rubber	ASTM D 6123; D 6123M-97
	232	Good paint lines.	Tan	6.3 (0.16)	Crepe Paper	—	Rubber	—
	234	Excellent controlled unwind.	Tan	5.9 (0.15)	Crepe Paper	—	Rubber	ASTM D 6123; D 6123M-97
	235	Photographic masking.	Black	7.0 (0.17)	Crepe Paper	5.0 (0.12)	Rubber	—
	250*	Flatback tape. Used in paint adhesion testing.	Tan	6.0 (0.15)	Flatback Paper	—	Rubber	ASTM D 6123; D 6123M-97
	253	Silicone butt splicing tape.	Tan	4.6 (0.12)	Treated Flatstock Paper	3.5 (0.09)	Silicone	—
	256*	Printable, accepts marking inks.	White, Red, Green	6.7 (0.17)	Flatback Paper	—	Rubber	ASTM D 6123; D 6123M-97
	301+	Good conformability to irregular surfaces. Great paint lines.	Yellow	6.3 (0.16)	Crepe Paper	—	Solvent-Free Rubber	—
	401+	Highly conformable to many surfaces. Superior adhesion to metal, rubber, glass and plastic. Great paint lines.	Green	6.7 (0.17)	Crepe Paper	—	Solvent-Free Rubber	—
	501+	Exceptionally conformable to irregular surfaces. Superior adhesion to metal, rubber, glass and plastic. Removes cleanly in one piece with no residue. Great paint lines.	Tan	7.3 (0.19)	Crepe Paper Treated with a Heat Resistant Saturant	—	High Temp Rubber	ASTM D 6123
	2214	Good for holding and bundling.	Tan	5.4 (0.14)	Crepe Paper	—	Rubber	—
	2307	Solvent-free construction; non-critical paint masking.	Tan	5.2 (0.13)	Crepe Paper	—	Rubber	—
	2308	Good transfer resistance.	Tan	5.3 (0.13)	Crepe Paper	—	Rubber	—
	2364	High temperature, crepe paper masking tape for general masking application. Good holding power.	Tan	6.5 (0.17)	Crepe Paper	—	Synthetic Rubber	ASTM D 6123; D 6123M-97
	2380	High temperature. Best holding to widest variety of surfaces.	Tan	7.2 (0.18)	Crepe Paper	—	Synthetic Rubber	ASTM D 6123; D 6123M-97
	2393	Smooth, heavy duty, high temperature masking tape.	Tan	7.6 (0.19)	Crepe Paper	—	Rubber	ASTM D 6123; D 6123M-97
	2460	For paint bake operations at temperatures up to 300°F (149°C). 14 days outdoor.	Gold	3.3 (0.08)	Flatback Paper	—	Acrylic	—
	2480S	A thin, strong, smooth flat back paper that gives sharp paint lines with low paint ridge. 60 days outdoor.	Green	4.0 (0.10)	Flatback Paper	—	Acrylic	—
	2510	General purpose masking tape for holding, bundling, sealing and general paint masking where a dark colored tape is required.	Black	5.6 (0.14)	Crepe Paper	—	Rubber	ASTM D 6123; D 6123M-97
	2515**	General purpose splicing, holding and bundling applications.	Tan	6.7 (0.17)	Kraft Paper	—	Rubber	—
	2517*	Excellent splicing, holding and bundling applications.	Medium Brown	6.5 (0.15)	Kraft Paper	—	Rubber	ASTM D 6123; D 6123M-97
	2525*	Premium splicing, bright color.	Orange	9.5 (0.24)	Flatback Paper	—	Rubber	—

*Scotch brand. **Tartan brand.

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3M™ Single Coated Tapes (cont.)

Material (alphabetical order)	Product	Typical Performance Characteristics / Application Ideas	Color	Total Caliper mils (mm)	Backing		Adhesive Type	Specs
					Material	Caliper mils (mm)		
Paper (cont.)	**2526***	Excellent adhesion and strength for textile applications.	White	9.8 (0.24)	Flatback Paper	—	Rubber	—
	2693	Very aggressive holding; excellent for multi-bake paint cycles.	Tan	7.9 (0.20)	Crepe Paper	—	Synthetic Rubber	ASTM D 6123; D 6123M-97
	3051	Very low tack.	White	3.8 (0.10)	Flatback Paper	3.4 (0.09)	Acrylic	—
Polyimide	**8997/ 8997L**	Transparent film. High temperature applications. 8997L is linered version.	Amber	2.2 (0.06)	Polyimide	1.0 (0.02)	Silicone	—
	8998/ 8998L	Transparent film. High temperature applications. 8998L is linered version.		3.3 (0.08)		2.0 (0.05)		—
Polyester	**396**	Adhesion to low energy surfaces.	Transparent	4.1 (0.10)	Polyester	1.7 (0.04)	Rubber	—
	685	Transparent film with a green adhesive coated on the edges of tape only.	Transparent/ Green	1.7 (0.04)		1.0 (0.02)	Rubber	—
	850	Polyester film tape with acrylic adhesive. Used for splicing, holding, decorating, color-coding and sealing.	Transparent, Red, Black, White, Silver	1.9 (0.05)		0.9 (0.02)	Acrylic	—
	853	Transparent polyester film tape with solvent-resistant adhesive. Used for butt splicing and tabbing applications.	Transparent	2.2 (0.06)		1.1 (0.03)	Acrylic	L-T-100 F.A.R. 25.853(a)
	856	Economy edge and hole reinforcing.	Transparent	2.0 (0.05)		1.0 (0.02)	Acrylic	—
	875	High-temperature, non-silicone, composite bonding.	Seafoam Green	2.0 (0.052)		1.0 (0.03)	Rubber	—
	876	High-temperature, non-silicone, composite bonding.	Seafoam Green	3.1 (0.078)		2.0 (0.05)	Rubber	—
	8401	Splicing many release coated paper.	Translucent Cream	1.9 (0.05)		1.0 (0.03)	Silicone/ Rubber Blend	—
	8402	Splicing tape. Adheres well to silicone.	Translucent Green	1.9 (0.05)		0.9 (0.02)	Silicone	—
	8403/ 8403L	Splicing tape. Adheres well to silicone. 8403L is a linered version of 8403.	Translucent Green	2.4 (0.06)		1.4 (0.04)	Silicone	—
	8411	Edge and hole reinforcing.	Transparent	1.5 (0.04)		1.0 (0.02)	Acrylic	—
	8412	Heavy-duty edge and hole reinforcing.	Transparent	6.3 (0.16)		4.7 (0.12)	Acrylic	—
	8421	Photo film splicing.	White	2.5 (0.06)		1.4 (0.04)	Rubber	—
	8422		Black	2.5 (0.06)		1.4 (0.04)	Rubber	—
	8429		Yellow	3.2 (0.08)		2.0 (0.05)	Rubber	—
	8437	Low emissivity, reflective tape.	Silver	2.1 (0.05)		0.9 (0.02)	Acrylic	—
	8901	High temperature masking	Blue	2.4 (0.06)		0.9 (0.02)	Silicone	—
	8902		Blue	3.5 (0.08)		2.0 (0.05)	Silicone	—
	8905		Blue	6.5 (0.17)		5.0 (0.12)	Silicone	—
	8911	High temperature label protection.	Transparent	2.3 (0.05)		0.9 (0.02)	Silicone	—
	8985L	Survives chromic acid with excellent masking lines and clean one-piece removal.	Purple	4.0 (0.10)		3.0 (0.076)	Rubber	—
	8991/ 8991L	Thin tapes, powder coat masking, high temperature applications. 8991L is linered version.	Blue	2.4 (0.06)		1.0 (0.03)	Silicone	—
	8992/ 8992L	Powder coat and anodized masking, high temperature applications. 8992L is linered version.	Green	3.2 (0.08)		2.0 (0.05)	Silicone	—
	8993LC	Protects finished surfaces from light abrasion, nicks and scratches during production, packaging and installation. process agent, rolls up products tape with deliver and assembly. Temporary holding tape.	Transparent	3.2 (0.08)		3.0 (0.076)	Silicone	—

*Scotch brand.

Go-To Product

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3M™ Single Coated Tapes (cont.)

Material (alphabetical order)	Product	Typical Performance Characteristics / Application Ideas	Color	Total Caliper mils (mm)	Backing		Adhesive Type	Specs
					Material	Caliper mils (mm)		
Polypropylene	**218/ 218L**	Polypropylene plastic film tape with rubber adhesive. A high performance film backed tape with low profile and high adhesion to achieve excellent paint line and for other masking and holding applications. 218L is linered version.	Green	5.0 (0.13)	Polypropylene	—	Rubber	—
	265	Composite masking where sharp, clean, gel-coat color separation lines are desired.	Green	5.1 (0.13)	Polypropylene	—	Rubber/ Silicone	
	8087	Construction seaming tape.	Red	3.0 (0.08)	Biaxially Oriented Polypropylene Film	1.5 (0.04)	Acrylic	
PTFE — Slick Surface	**5151/ 5151L/ 5151PL**	A woven glass cloth impregnated with PTFE tape which provides a high temperature release surface for protection and insulation. 5151L is a linered version. 5151PL is a thicker, premium liner.	Light Brown	5.3 (0.13)	Glass Cloth Impregnated w/PTFE	3.0 (0.08)	Silicone	—
	5153/ 5153L	Thicker version of 5151. 5153L is a linered version.	Light Brown	8.0 (0.20)		5.8 (0.15)		
	5451	A woven glass cloth impregnated with PTFE tape which provides a high temperature release surface for protection and insulation.	Brown	5.6 (0.14)		3.2 (0.08)		
	5453	Thicker version of 5451.	Brown	8.2 (0.21)		6.0 (0.15)		
	5480	Skived PTFE film tape used for roller wrapping and other slick surface applications.	Gray	3.7 (0.09)	PTFE	2.0 (0.05)	Silicone	—
	5481	Heavy-duty skived PTFE film tape used for roller wrapping and other slick surface applications.	Gray	6.8 (0.17)		5.0 (0.13)	Silicone	
	5490	PTFE Film tape with silicone adhesive used in many slick surface applications. Lay-flat backing.	Gray	3.7 (0.09)		2.0 (0.05)	Silicone	
	5491	Thicker version of 5490.	Gray	6.7 (0.17)		5.0 (0.13)	Silicone	
	5498	Extruded PTFE film tape with rubber silicone-free adhesive.	Brown	4.0 (0.10)		2.0 (0.05)	Rubber	
Polyethylene Ultra High Molecular Weight (UHMW-PE) – Slick Surface	**5421**	General purpose tape to protect plastic and metal chutes, guide rails and containers from wear.	Transparent	6.7 (0.17)	UHMW-PE	5.0 (0.13)	Rubber	—
	5423	Excellent abrasion resistance and low coefficient of friction makes this an effective solution for noise and vibration problems.	Transparent	11.7 (0.30)		10.0 (0.25)	Rubber	
	5425	Solvent resistant adhesive with low coefficient of friction and abrasion resistance.	Transparent	5.0 (0.13)		3.0 (0.08)	Acrylic	
	5430	Transparent UHMW-PE film tape with high-tack acrylic adhesive.	Transparent	7.0 (0.18)		5.0 (0.13)	Acrylic	
	9324	Black version of 5430.	Black	6.5 (0.17)		5.0 (0.13)	Acrylic	
	9325	Thin version of 5430.	Transparent	5.0 (0.13)		3.0 (0.08)	Acrylic	
Vinyl	**470**	Conformable and abrasion resistant for masking various surfaces during electroplating and anodizing.	Tan	7.1 (0.18)	Vinyl	6.3 (0.16)	Rubber	—
	471	Vinyl plastic tape ideal for color-coding, abrasion protection, decoration, sealing, patching, splicing, wrapping, and general purpose. Available in 9 colors and transparent.	Yellow, White, Red, Black, Brown, Green, Orange, Purple, Blue, Transparent	5.2 (0.13)		4.1 (0.10)		MIL-STD 2041D (SH)

Go-To Product

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3M™ Single Coated Tapes (cont.)

Material (alphabetical order)	Product	Typical Performance Characteristics / Application Ideas	Color	Total Caliper mils (mm)	Backing		Adhesive Type	Specs
					Material	Caliper mils (mm)		
Vinyl (cont.)	**4712**	Linered version of 471 for die-cutting applications.	Brown, White, Blue, Green, Yellow, Orange, Red, Black, Purple, Transparent	5.2 (0.13)	Vinyl	4.1 (0.10)	Rubber	MIL-STD 2041D (SH)
	471+	Superior conformability, sharp paint lines, clean removal.	Indigo	5.3 (0.13)	Vinyl	4.1 (0.10)		—
	472	Abrasion resistant, high temperature resistant.	Black	10.4 (0.26)	Vinyl	9.0 (0.23)		—
	477	Abrasion resistant.	Transparent	7.2 (0.18)	Vinyl	6.0 (0.15)		—
	484	Conformable and abrasion resistant for masking various surfaces during electroplating and anodizing. Lower adhesion than 470.	Tan	6.7 (0.17)	Vinyl	5.6 (0.14)		—
	764	A general purpose vinyl tape for use in non-critical applications such as color-coding, bundling and safety marking.	Yellow, Red, White, Black, Blue, Green, Orange, Gray, Purple, Brown, Transparent	5.0 (0.13)	Vinyl	4.1 (0.10)		—
	766	A general purpose hazard marking vinyl tape for use in non-critical applications.	Black & Yellow Stripes	5.0 (0.13)	Vinyl	4.1 (0.10)		—
	767	A general purpose hazard marking vinyl tape for use in non-critical applications.	Red & White Stripes	5.0 (0.13)	Vinyl	4.1 (0.10)		—
	971	Designed to withstand scuffing from pallets and heavy equipment found in high traffic areas. Its unique adhesive provides a strong bond to the floor yet promotes one piece clean removal. Ideal for 5S lean manufacturing initiatives.	Yellow, White, Red, Blue, Orange, Green	33 (0.84)	Polylactic Acid (PLA)	30.5 (.776)		—
	4731	Electroplating. Flame retardant and weather resistant.	Blue, Gray, Orange, Purple, White, Yellow	7.0 (0.18)	Vinyl	5.8 (0.15)		—
	4735	Highly conformable, high temperature vinyl fine line tape for fascia panels, two-tone and other multiple color applications where critical paint break lines are required.	Orange	5.4 (0.14)	Vinyl	—		—
	4737S	Highly visible backing version of 4737T.	Solid Blue	5.4 (0.14)	Vinyl	—		—
	4737T	Conformable, high temperature vinyl fine line tape for fascia panels, two-tone and other multiple color applications where critical paint break lines are required.	Translucent Blue	5.4 (0.14)	Vinyl	—		—
	4737TL	Linered version of 4737T.	Blue	5.4 (0.14)	Vinyl	—		—
	5700	Critical applications. Adhesive side printing. For lane and safety marking.	Black & White Stripes	5.5 (0.14)	Vinyl	4.2 (0.11)		—
	5702	Critical applications. Adhesive side printing. For lane and safety marking.	Black & Yellow Stripes	5.5 (0.14)	Vinyl	4.2 (0.11)		—
Miscellaneous Tapes	**215**	Medium temperature. Fine line masking tape. Excellent conformability.	Blue	4.8 (0.12)	Copolymer Plastic Film	—	Rubber	—
	480	Good chemical and solvent resistance, conformable, abrasion resistant.	Transparent	5.1 (0.13)	Polyethylene	4.0 (0.10)	Acrylic	—
	481	Preservation sealing tape. Clean removal up to 2 years.	Black	9.8 (0.24)	Polyethylene	7.7 (0.20)	Rubber	SAE-AMS-T-22085, Type II
	4811	Preservation sealing tape. Clean removal up to 1 year.	White	9.5 (0.24)	Polyethylene	7.5 (0.18)	Rubber	—
	483	Conformability, UV resistance, and clean removal for sealing end cap on metal pipes stored outdoors.	Black, Blue, Green, Red, White, Yellow, Transparent	5.0 (0.13)	Polyethylene	3.9 (0.10)	Rubber	MIL-STD 2041D (SH)

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3M™ Single Coated Tapes (cont.)

Material (alphabetical order)	Product	Typical Performance Characteristics / Application Ideas	Color	Total Caliper mils (mm)	Backing		Adhesive Type	Specs
					Material	Caliper mils (mm)		
Miscellaneous Tapes (cont.)	**616**	Lithographers tape.	Ruby Red	2.4 (0.06)	UPVC	1.6 (0.04)	Rubber	—
	695	Polyethylene film with a rubber-strip coated along edges of tape only and tack-free center. Riveters tape.	Yellow	3.0 (0.08)	Polyethylene	2.0 (0.05)	Acrylic*	—
	838	Weather-resistant film.	White	3.4 (0.09)	PVF	2.1 (0.05)	Acrylic	SAE-AMS-T-22085, Type IV
	855	Composite bonding tape.	White	3.2 (0.08)	Nylon	2.0 (0.05)	Rubber	—
	8555	Thicker version of 855, composite bonding tape.	White	6.0 (0.15)	Nylon	5.0 (0.13)	Rubber	—
	5401	High coefficient of friction for traction.	Tan	9.3 (0.24)	Fiberglass Reinforced Silicone	8.0 (0.20)	Silicone	—
	5461	High friction roller tape.	White	9.1 (0.23)	Silicone Rubber	7.8 (0.19)	Rubber	—
	7070UV	Durable, abrasion resistant, UV resistance surface protection. Excellent aerospace tape.	Clear	8.0 (0.2)	Polyurethane	6.5 (0.17)	Acrylic	—
	7071UV		Clear	14 (0.36)	Polyurethane	12.0 (0.31)	Acrylic	—
	8067	Window and door flashing tape.	Tan	10.0 (0.25)	Multilayer Elastomeric Film	5.0 (0.13)	Acrylic	ICC AC 148, AAMA 711
	8777	Air and water tight sealing tape.	Tan	10.0 (0.25)	Multilayer Elastomeric Film	5.0 (0.13)	Acrylic	—

*Strip coated along edges of tape only.

3M™ Single Coated Foam Tapes

Product Number	Color	Description	Adhesive	Approximate Thickness in. (mm)	Density lb/cu ft (kg/cu m)	Tensile Strength psi (kPa)	Compression Deflection 25% psi (kPa)	Compression Set % Loss	Temperature Tolerance	
									Short-Term	Long-Term
Urethane										
4104*	Natural White	Firm, rigid, open cell urethane foam for cushioning. Allows air or gas vapors to pass through. Not recommended for outdoor use.	350 Acrylic	0.250 (6)	12 (192)	115 (795)	4 (27.6)	8	350°F (176°C)	200°F (93°C)
4108	Natural White			0.125 (3)	16 (256)	130 (895)	6 (82.8)	8		
4116	Natural White			0.062 (1.5)	18 (288)	115 (795)	12 (82.8)	12		
4314	Charcoal Gray	Soft conformable, low density open-cell urethane foam can help seal out air, dust and light when compressed 50%. Used to help damp sound and absorb vibration in electronics.	430 Acrylic	0.250 (6)	2 (32)	25 (170)	0.3 (2.1)	5	250°F (121°C)	150°F (66°C)
4317*	Charcoal Gray			0.375 (9.5)	2 (32)	25 (170)	0.3 (2.1)	5		
4318	Charcoal Gray			0.125 (3)	2 (32)	25 (170)	0.3 (2.1)	5		
Vinyl Foam Tapes										
4504*	Black	Durable, flexible, closed cell vinyl foams with excellent aging characteristics. Weather resistant. Can help to seal out dust, light and moisture when placed under 30% compression. Liner over PSA.	430 Acrylic	0.250 (6)	20 (320)	90 (620)	4 (27.6)	15	250°F (121°C)	150°F (66°C)
4508*	Black			0.125 (3)	20 (320)	100 (690)	4 (27.6)	15		
4516*	Black			0.062 (1.5)	25 (400)	130 (895)	4 (27.6)	15		
4714*	Black			0.250 (6)	14 (225)	75 (515)	2 (13.8)	5		
4718*	Black			0.125 (3)	20 (320)	100 (690)	4 (27.6)	15		
4726*	Black			0.062 (1.5)	20 (320)	130 (895)	3 (20.7)	15		

*Meets requirements of UL 94HBF.

Note: This technical information and data should be considered representative or typical only and should not be used for specification purposes.

3M™ Single Coated Foil / Foam Sheets

Product Master	Description	Material	Sheets Per Case	Sheet Size (in.)
4014	Absorbs and dissipates vibration and reduces noise in metal and plastic panels. Sheets make for excellent per-pound installed cost ratios on larger jobs.	250 mil open cell polyurethane foam with durable aluminum backing to resist aging and moisture.	50	6 × 48
			25	12 × 48
			15	18 × 48

3M™ Extreme Sealing Tapes

Product	Color	Backing/ Adhesive	Tape Thickness mils (mm)	Tensile Strength lb/in (N/cm)	90° Peel Adhesion Strength† lb/in (N/cm)						Application Ideas
					Alumi-num	Stainless Steel	Glass	Truck Paint	PVC	ABS	
4411G	Grey	Ionomer Film/ Pressure Sensitive Acrylic	40 (1)	13 (23)	15 (26)	16 (28)	15 (26)	15 (26)	15 (26)	16 (28)	Seals RV trailers and roofs. Seals metal enclosures and awnings. Seals trailer home roofs and metal storage buildings. Seals vent stacks and windows. Seals gutters and downspouts. Seals skylights. Seals outdoor signs/displays. Leak patching and repairs.
4411N	Neutral/ Translucent		40 (1)		15 (26)	15 (26)	15 (26)	14 (25)	16 (28)	16 (28)	
4411B	Black		40 (1)		19 (33)	17 (30)	19 (33)	17 (30)	19 (33)	18 (32)	
4412N	Neutral/ Translucent		80 (2)		18 (32)	18 (32)	19 (33)	19 (33)	19 (33)	19 (33)	

†Adhesion promoters were used on peel Adhesion test substrates.

3M™ Splicing Tapes

Adhesive Family[1]	Product	Description/ Application Ideas	Tape Cal. (mils)	Carrier Type	Liner[2]		Master Size	Specs	Adhesion				Chem. Resist.	Temp. Range	
					Type	Caliper (mils)			Metal	HSE Plastic	LSE Plastic	Foam		Low (°F)	High (°F)
900 Misc.	**9737**	Clear, thin PET carrier. Aggressive and versatile splicing tape.	3.5	PET	55# DK White	3.5	54" x 180 yd	—	5	5	2	5	7	-10	300
	9737R	Red, thin PET carrier. Aggressive and versatile splicing tape.	3.5	PET	55# DK White	3.5	54" x 180 yd	—							
	9738	Clear, non-woven tissue carrier. Aggressive and versatile splicing tape.	4.3	Non-Woven Tissue	55# DK White	4.3	54" x 180 yd	—							
	9738R	Red, non-woven tissue carrier. Aggressive and versatile splicing tape.	4.3	Non-Woven Tissue	55# DK White	4.3	54" x 180 yd	—							
	9740	Clear, high peel, tack and shear strength. Performance grade splicing tape for corrugators.	3.5	PET	55# DK	3.5	54" x 180 yd	—	6	6	2	3	6	10	425
	9741	Clear, thick, super aggressive tape. Adheres to a wide variety of substrates for splicing applications.	6.5	PET	55# Glassine	6.5	54" x 180 yd	—	7	7	3	7	5	-40	200

3M™ Polyurethane Protective Tapes (PPT) — Long-Term Protection

Nominal Results

Product	Tape Structure (Backing/ Adhesive)	Color	Total Thickness mils (mm)	Adhesion to Steel oz./in. width	Tensile Strength lbs./in. (N/100 mm)	Elongation at Break (%)	Maximum Service Temp °F (°C)	Comments
Based on ASTM Test Method:			D-3652	D-3330	D-3759			
Indoor Type								
8547	Polyurethane/ Acrylic	Transparent	13 (0.33)	14 (15)	75 (1313)	500	275 (135)	Flame resistant/low tack(passes NFPA 701).
8547- 1								Flame resistant/low tack (passes NFPA 701). Tape is easily removed from surface without leaving residue.

1 - More information on pg. 11

Note: This technical information and data should be considered representative or typical only and should not be used for specification purposes.

3M™ Repulpable Tapes

To achieve true quality, a tape must meet all your needs. Outstanding strength is not enough. The tape must be easy to use, easy to choose, readily available and fully repulpable. We've built our reputation as an industry leader by being responsive to the increasingly complex needs of paper producers. Today, our customer base consists of clients who demand no less of their product than we demand of ours.

Product	Color	Comments	Tape Thickness mils (mm)	Tape Structure		Liner		Heat Resistance *°F (°C)	FDA Compliant†
				Backing/ Carrier	Adhesive	Type	Thickness mils (mm)		
Permanent Double Coated									
405	Lt. Green	Excellent for raw and starch-treated papers.	3.0 (0.08)	Tissue	Repulpable	UPVC	1.7 (0.04)	400 (200)	—
900	Blue	Recommended for light weight coated papers.	2.5 (0.06)			Paper	3.2 (0.08)		Yes
900B	Blue	Recommended for supercalendared papers.	2.5 (0.06)			Paper	3.2 (0.08)		Yes
Permanent Single Coated									
901	Lt. Green	Excellent for raw and starch-treated papers.	4.0 (0.10)	Paper	Repulpable	UPVC	1.7 (0.04)	400 (200)	—
910	Blue	Recommended for coated and uncoated papers and paperboard.	4.0 (0.10)			—	none		Yes
914	Blue	Recommended for high speeds, digital business forms, perforated splicing tape.	4.0 (0.10)			—	none		Yes
9103	Blue	Printable, coatable backing.	4.5 (0.11)			Paper	2.9 (0.07)		Yes
9114	Blue	The easiest way to make a butt splice. Printable.	4.5 (0.11)						Yes
9960	Blue	Thinnest butt splicing tape for light weight uncoated and coated and supercalandered papers.	2.2 (0.06)					350 (180)	Yes
9969	Blue/White	Very thin butt splicing/cover tape for uncoated, newsprint and most coated papers.	2.2 (0.06)					350 (180)	Yes
Adhesive Transfer Tape									
R3037	Blue	Thinnest, fiber reinforced adhesive transfer tape.	2.0 (0.05)	None	Repulpable	Paper	3.3 (0.08)	250 (120)	Yes
Temporary Double Coated									
906	Blue/White	Flying splice at the Off-Machine Coater (OMC).	3.0 (0.08)	Tissue	Repulpable	Paper	3.2 (0.08)	400 (200)	Yes
9038	Blue/White	General purpose plus flying splice for the commercial printers, and corrugators.	3.5 (0.09)					350 (180)	Yes
9069	Blue	Excellent for newsprint or directory stock.	3.5 (0.09)					400 (200)	—
9977	Blue	High strength tissue for flying splices where extra strength is needed.	4.0 (0.10)						—
R3227	Blue/White	General purpose temporary splicing.	3.5 (0.09)						Yes
R3257	White	Thin tissue, very high-tack.	4.1 (0.11)						Yes
R3287	White	Heavy tissue, very high-tack.	5.5 (0.14)						Yes
Temporary Single Coated									
R3127	Blue/White/ Kraft	General purpose, excellent holding power.	4.5 (0.11)	Paper	Repulpable	—	none	400 (200)	Yes
R3187		General purpose, strong repulpable backing.	7.5 (0.19)						Yes
R3177	Blue/White/ Red	Heavy duty, extensible repulpable backing.	7.0 (0.16)						Yes
Splittable Flying Splice (SFS)									
R3345	Blue	Thin SFS tape for flying splices through supercalendering operations, and permanent butt splices for light weight coated papers.	4.8 (0.12)	Paper	Repulpable	Paper	2.9 (0.07)	400 (200)	—
R3375		Strong SFS tape for flying splices on heavy papers and high tension web processing through supercalendering operations.	6.5 (0.16)					400 (200)	—
R3379		Repulpable SFS tape used for high speed splicing conditions when high-tack is required and to compensate for roll profile issues.	7.5 (0.18)					400 (200)	—
R5348		Use with light- to medium-weight papers running through medium-temperature ovens.	5.0 (0.11)					350 (180)	—
R7359		Use with light- to heavy-weight papers running at high speeds and high temperatures.	6.6 (0.17)					400 (200)	—
R7369		Use with light- to heavy-weight paper on wide web rolls to help compensate for roll profile variations running at high speeds and high temperatures.	7.4 (0.19)					400 (200)	—
9990N		Splittable flying splice (SFS) system with metalized layer for auto-sensing splice detection applications.	5.5 (0.14)	Aluminized Paper**	Repulpable	Paper	2.2 (.05)	350 (180)	—
R9993		All in one tabbing and splicing tape for heatset printing applications.	5.0 (0.11)	Paper	Repulpable	Paper	2.9 (0.07)	400 (200)	—
R9996		Thinnest SFS tape for splicing applications in papermills and paper converting coating operations.	4.8 (0.12)						—
R9999		Repulpable SFS tape for heavyweight papers in manual and automatic splicing equipment, with moderate speed.	6.7 (0.17)						—

†All components of the adhesive and backing meet the requirements of indirect food additive regulations as described under 21 CFR 176.170 (Components of paper and paperboard in contact with aqueous and fatty food) and 21 CFR 176.180 (Components of paper and paperboard in contact with dry foods)

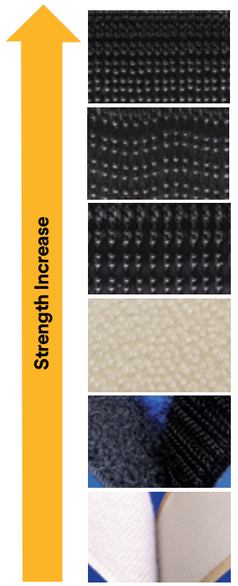
*As tested in laboratory. Results may vary depending on machine and web tensions, nature of paper surface, application pressure, etc. which are outside of 3M's control.
**Non-repulpable, screenable aluminized sensor strip.

Note: This technical information and data should be considered representative or typical only and should not be used for specification purposes.

Fastening power and flexibility.

You have options. Check out the large 3M portfolio of solutions that offer these solutions:

- Clean, smooth “behind the scenes” hold for aesthetic improvements
- Lightweight alternatives to metal fasteners
- Simple to apply, use and maintain
- Variety of strengths to fit your project needs
- Flexibility to fit your designs, even the most constricted areas
- Ability to join dissimilar materials without corrosion and contamination
- Vibration absorption and security — no loosening or failing attachments
- Durable for repeated opening and closings — hundreds of reattachments



3M™ Dual Lock™ Reclosable Fastener **Type 400**

3M™ Dual Lock™ Reclosable Fastener **Type 250**

3M™ Dual Lock™ Reclosable Fastener **Type 170**

3M™ Dual Lock™ Reclosable Fastener **Low Profile**

3M™ Hook and Loop Reclosable Fastener **Standard Thickness**

3M™ Hook and Loop Reclosable Fastener **Low Profile**

Holding strength increases as you move up from 3M™ Hook and Loop through 3M™ Dual Lock™ Reclosable Fasteners.

3M™ Dual Lock™ Reclosable Fasteners

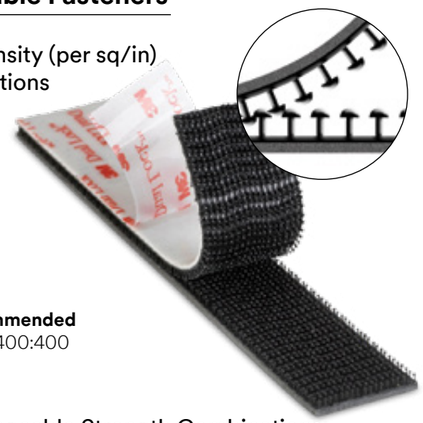
Stem Density (per sq/in) Combinations

Strongest
250:400

Stronger
250:250
or 170:400

Strong
170:250

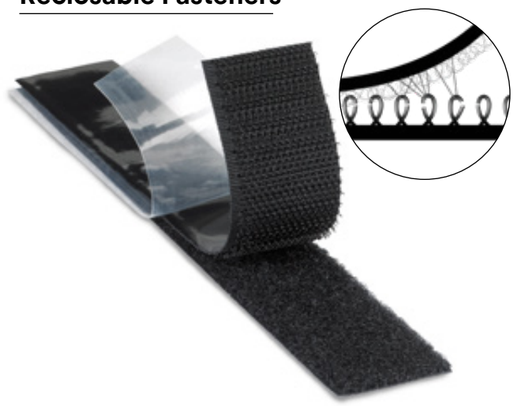
Not Recommended
170:170 or 400:400



Interchangeable Strength Combinations

Type 400 | Type 250 | Type 170 | Low Profile

3M™ Hook and Loop Reclosable Fasteners



Hooks on one side, loops on the other for secure, repeated closures.

- Up to 5,000 closures for our standard Hook and Loop
- Low profile options available, as much as 75% thinner than standard product

3M™ Dual Lock™ Reclosable Fasteners

Holding power to replace screws, bolts and rivets.

Durable enough to last through repeated opening and closing. Unique, interlocking mushroom-shaped heads snap shut and stay locked.

- Durable — up to 1,000 openings and closings before losing 50% of original tensile strength
- Helps reduce vibration
- Temperature, moisture and UV resistant
- Strong, pressure-sensitive adhesive bonds on contact
- Mushroom-shaped heads have **5X the tensile strength** of hook-and-loop products

■ Best Suggested Product
● Performance Dependent on Selected Attachment Method
▲ Primer Recommended

Product	Stem Density (per sq/in)	Adhesive	Color	3M Liner	Engaged Thickness	Temperature Resistance °F (°C)	Substrates: Metals (Al & SS)	Glass	Plastics (Acrylic, PC, ABS)	Powder Coated Paints	Low Surface Energy (PP, PE)	Use: Indoor/Outdoor	Markets: Aerospace & Rail	Appliance & Electronics	Design & Construction	Furniture & Upholstery	General Industrial	Marine & Specialty Vehicle	POP, Display & Signage
SJ3540	250	Rubber	Black	White, 5 mil (0.13mm) Polyolefin	0.23 in (5.7mm)	120 (49)	■		■	■	■	Indoor				■	■		■
SJ3541	400																		
SJ3542	170																		
SJ3550	250	White Acrylic	Black	Clear, 4 mil (0.10mm) Polyolefin	0.23 in (5.7mm)	200 (93)	■	■	■	▲	▲	Indoor/ Outdoor	■	■	■	■	■	■	■
SJ3551	400																		
SJ3552	170																		
SJ3558	250	White Acrylic	Clear*	Clear, 4 mil (0.10mm) Polyolefin	0.23 in (5.7mm)	200 (93)	■	■	■	▲	▲	Indoor/ Outdoor		■	■	■	■	■	■
SJ3560	250	Clear Acrylic	Clear	Clear, 4 mil (0.10mm) Polyolefin	0.23 in (5.7mm)	220 (104)	■	■	■	▲	▲	Indoor/ Outdoor		■	■	■	■	■	■
SJ3561	400																		
SJ3562	170																		
SJ3550CF	250	Clear Acrylic	Black	Clear, 4 mil (0.10mm) Polyolefin	0.23 in (5.7mm)	220 (104)	■	■	■	▲	▲	Indoor/ Outdoor		■	■	■	■	■	■
SJ3551CF	400																		
SJ3552CF	170																		
SJ3870	250	Modified Acrylic	Black	Red, 4.5 mil (0.11mm) Polyolefin	0.24 in (6.1mm)	140 (60)	■		■	■	▲	Indoor/ Outdoor				■	■		■
SJ3871	400																		
SJ3872	170																		
SJ3782	250	Low Surface Energy Acrylic	Black	Brown, 83# Polykraft	0.16 in (4.1mm)	120 (49)	■		■	■	■	Indoor/ Outdoor		■		■	■		■
SJ3440	250	None	Black	No Liner	0.15 in (3.86mm)	220 (104)	●	●	●	●	●	Indoor/ Outdoor		●	●	●	●	●	●
SJ3441	400																		
SJ3442	170																		
SJ3443	400	Non-woven backing with no adhesive	Black	No Liner	0.28 in (7.1mm)	220 (104)	●	●	●	●	●	Indoor/ Outdoor		●	●	●	●	●	●
SJ3444	170																		
SJ3445	250																		
SJ3460	250	None	Clear	No Liner	0.15 in (3.86mm)	220 (104)	●	●	●	●	●	Indoor/ Outdoor		●	●	●	●	●	●
SJ3463	400	Piece Part Circle†	Black	No Liner	0.20 in** (5.1mm)	220 (104)	■		■	■	■	Indoor/ Outdoor		■	■	■	■	■	■
SJ3481	400	Rigid Strip†	Black	No Liner	0.20 in** (5.1mm)	220 (104)	●	●	●	●	●	Indoor/ Outdoor		●	●	●	●	●	●
SJ4570	Low Profile/ Thin	Low Surface Energy Acrylic	Clear	Brown, 83# Polykraft	0.098 in (2.489mm)	158 (70)	■		■	■	■	Indoor/ Outdoor		■	■	■	■		■
SJ4575			Black																
SJ4580		Clear Acrylic	Clear	Red, 4.5 mil (0.11mm) Polyolefin	0.12 in (3.0mm)	200 (93)	■	■	■	▲	▲	Indoor/ Outdoor		■	■	■	■	■	■

*Clear fastener utilizes a white adhesive giving the product a white appearance **Single thickness; not engaged †No adhesive

Go-To Product

Note: The technical information and data on these pages should be considered representative or typical only and should not be used for specification purposes.

3M™ Hook and Loop Reclosable Fasteners

Hooks on one side, loops on the other for secure, repeated closures.

- Reliable PSA hold on contact with a variety of materials
- Available in black, white and beige
- Low profile options, as much as 75% thinner than standard product
- Up to 5,000 closures for standard Hook and Loop

Product	Type	Adhesive	Closure Life	Product Material	Liner Description	Engaged Thickness	Temperature Resistance °F (°C)	Substrates: Metals (Al & SS)	Glass	Plastics(Acrylic, PC, ABS)	Powder Coated Paints	Low Surface Energy (PP, PE)	Use: Indoor/Outdoor	Markets: Aerospace & Rail	Furniture & Upholstery	General Industrial	Marine & Specialty Vehicle	POP, Display & Signage
Best																		
SJ3526N	Hook	High Performance Rubber	5,000	Nylon	White, 3 mil (0.08mm) Polyethylene film 3M Red Print	0.14 in. (3.6mm)	120 (49)	■		■	■	■	Indoor		■	■		■
SJ3527N	Loop																	
SJ3572	Hook	High Performance Acrylic			Clear, 4 mil (0.10mm) Polypropylene film Embossed 3M logo	0.14 in. (3.6mm)	200 (93)	■	■	■	▲	▲	Indoor/ Outdoor		■	■	■	■
SJ3571	Loop																	
Better																		
SJ3522	Hook	Plasticizer Resistant Acrylic	5,000	Nylon	Clear, 3.5 mil (0.08mm) Polyolefin film, No print	0.14 in. (3.6mm)	158 (70)	■		■			Indoor/ Outdoor		■	■	■	■
SJ3523	Loop																	
SJ3530	Hook	High-tack Rubber			Yellow, 3 mil (mm) Polyethylene film No Print	0.14 in. (3.6mm)	90 (32)	■		■	■	■	Indoor		■	■		■
SJ3531	Loop																	
General Purpose																		
SJ30H	Hook	Rubber	5,000	Nylon	White, 3 mil (0.08mm) Polyethylene film No Print	0.14 in. (3.6mm)	100 (38)	■		■		■	Indoor			■		■
SJ30L	Loop																	
SJ60H	Hook	Acrylic			Clear, 4mil (0.10mm) Polypropylene film Embossed 3M logo	0.125 in. (3.2mm)	180 (82)	■		■			Indoor/ Outdoor			■		■
SJ60L	Loop																	
SJ3401	Loop	None			None	0.12 in. (3.0mm)	200 (93)	●	●	●	●	●	Indoor/ Outdoor		●	●		●
SJ3402	Hook																	
Low Profile/Thin																		
SJ3506	Hook	Acrylic	25	Polypropylene	Brown #83 Polykraft Green Print	0.034 in. (0.84mm)	158 (70)	■	■	■	▲	▲	Indoor/ Outdoor			■		■
SJ3507	Loop			Polyester														
SJ3000	Back-to-back hook and loop	None	10	Polypropyl-ene/Nylon	None	0.053 in. (1.3mm)	200 (93)	□	□	□	□	□	Indoor	□	□	□	□	□
Flame Resistant																		
SJ3519FR	Hook	Flame Resistant	5,000	FR Nylon	White, 3 mil (0.08mm) Polyethylene film 3M Red Print	0.14 in. (3.6mm)	158 (70)	■		■	■	■	Indoor	■	■	■	■	
SJ3518FR	Loop																	
SJ3419FR	Hook	None	5,000	FR Nylon	None	0.12 in. (3.0mm)	200 (93)	●	●	●	●	●	Indoor/ Outdoor	●	●	●		
SJ3418FR	Loop																	

■ Best Suggested Product
● Performance Dependent on Selected Attachment Method
▲ Primer Recommended
□ Back-to-back fastener which can wrap around any type of surface or substrate

Note: The technical information and data on these pages should be considered representative or typical only and should not be used for specification purposes.

Specialty Products

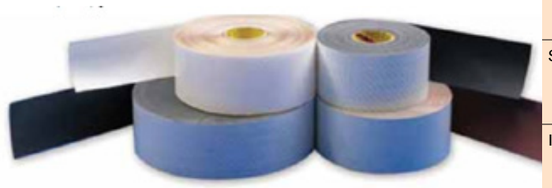
Protective products for life's mishaps.

Life is full of risks, but you can offer your customers protection against some of them. 3M specialty products feature pressure-sensitive adhesives for long-lasting and fast-bonding protection where and when you need it.

3M™ Bumpon Protective Products
Easy-to-apply shapes, sizes and colors to match the application requirements.

3M™ Bumpon™ Protective Products — Resilient Rollstock

3M™Bumpon™ Protective Products Rollstock is offered with three different adhesive systems on a silicone treated paper liner. Provides excellent skid resistance and anti-marring characteristics.



Resilient Rollstock Features	5800 Series	5600/5900/6000 Series	5200 & 6200 Series
Adhesive	Natural Rubber (R-30)	Acrylic (A-20)	Synthetic Rubber (R-25)
Adhesion (Peel) Low Surface Energy High Surface Energy	 Good Good	 Poor Good	 Excellent Excellent
Static Shear 75°F 120°F 158°F	 Excellent Fair Poor	 Excellent Excellent Excellent	 Excellent Good Fair
Initial Adhesion Low Surface Energy High Surface Energy	 Good Good	 Poor Fair	 Excellent Excellent
Adhesion Buildup	Some	Gradual	Some
Solvent Resistance	Good	Excellent	Good
Age Life	Good	Excellent	Good

Product	Tape Construction: Caliper (Mils)	Tape Construction: Backing Facestock	Color	Comments	Adhesive: Type	Adhesive: Thickness (Mils)	Liner: Type	Liner: Thickness (Mils)	Product Hardness oz./0.5 inch ASTM-D 2240	Adhesion to Steel oz./0.5 in.	Master Size
5600 Series — Acrylic											
SJ5632	31	Polyurethane	Clear	"Clear" Rollstock great where "invisible" die-cuts are needed. UL 94HB recognized.	Acrylic A-20	1.0	PET Liner	4.0	70 Shore A	25	9" x 72 yd 9" x 36 yd
SJ5616	62										
SJ5608	125										
5800 Series — Natural Rubber											
SJ5832	31	Polyurethane	Black, Brown, White	UL 94HB recognized.	Natural Rubber R-30	3.6	PET Liner	4.0	70 Shore A	22	13.5" x 72 yd 13.5" x 36 yd
SJ5816	62										
SJ5808	125										
5900 Series — Acrylic											
SJ5916	62	Polyurethane Foam	Black	UL 94HB recognized, except for SJ5916.	Acrylic A-20	4.8	PET Liner	4.0	36 Shore A	25	13.5" x 36 yd 13.5" x 18 yd
SJ5908	125										
SJ5904	250										
6000 Series — Acrylic											
SJ6032	31	Polyurethane	Black, White	UL 94HB recognized.	Acrylic A-20	4.8	PET Liner	4.0	70 Shore A	25	13.5" x 72 yd 13.5" x 36 yd
SJ6016	62										
SJ6008	125										
SJ6004	198										
6200 & 5200 Series — Synthetic Rubber											
SJ6232	31	Polyurethane	Black, White, Gray	Fast bonding, permanent adhesion. UL 94HB recognized.	Synthetic Rubber R-25	2.0	PET Liner	4.0	70 Shore A	55	9" x 72 yd 9" x 36 yd
SJ6216	62										
SJ6208	125										
SJ5216	31	Polyurethane Foam	Light Brown	UL 94HB recognized.							
SJ5208	62										

Note: This technical information and data should be considered representative or typical only and should not be used for specification purposes.

3M™ Bumpon™ Protective Products — Molded Products

3M™Bumpon™ Protective Products reduce noise, vibration and put an end to scratches. They cushion, provide spacing, stability and skid resistance. All with pre-applied, pressure sensitive adhesives, that eliminate the need for screws, rivets or application equipment.

Choose from standard molded shapes including resilient pads, feet, buttons, strips, bumpers or spacers. More possibilities for shape, size, color and application are available with custom 3M™Bumpon™ Protective Products.

Product	Color	Adhesive[1]	Shape	Width in. (mm)	Height in. (mm)	Hardness (Shore A)	Comments
Quiet Clear							
SJ6506	Clear	R-25	Hemisphere	0.375 (9.5)	0.150 (3.8)	55	Clear, sound damping properties.
SJ6512			Cylindrical	0.500 (12.7)	0.140 (3.5)		
SJ6553			Hexagonal Cone	0.433 (11.0)	0.120 (3.1)		
SJ6561			Hexagonal Hemisphere	0.433 (11.0)	0.150 (3.8)		
Cylindrical							
SJ5001	Black	R-30	Cylindrical	0.500 (12.7)	0.145 (3.6)	70	Concave top; Good load bearing capacity.
SJ5012	White, Gray, Brown, Black	R-30		0.500 (12.7)	0.140 (3.6)	70	Versatile foot style for use on high-energy surfaces.
SJ5076	Black	R-30		0.315 (8.0)	0.110 (2.8)	70	Flat top, nonskid for appliances and electronics.
SJ5312	Transparent	A-20		0.500 (12.7)	0.140 (3.6)	75	Universal color matching. Nonslip. Ideal for picture framing.
SJ5744	Black	R-30		0.750 (19.1)	0.160 (4.1)	70	Excellent load bearing capacity.
SJ6112	Black	A-25		0.500 (12.7)	0.140 (3.6)	70	Versatile foot style, best for low-energy materials.
Hemisphere							
SJ5003	White, Gray, Brown, Black	R-30	Hemisphere	0.440 (11.2)	0.200 (5.1)	70	Good energy absorption on impact.
SJ5009	White, Gray, Brown, Black	R-30		0.880 (22.4)	0.400 (10.2)	70	Protects wall from door knob.
SJ5017	White, Gray, Brown, Black	R-30		0.750 (19.1)	0.380 (9.7)	70	Recessed center, like screw-in bumper.
SJ5027	Black, Gray, Brown	R-30		0.630 (16.0)	0.312 (7.9)	70	Cushions heaver items like glass or liftgate.
SJ5302	Transparent	A-20		0.312 (7.9)	0.085 (2.2)	75	For feet on small electronics.
SJ5306	Transparent	A-20		0.375 (9.5)	0.150 (3.8)	75	Smaller, energy absorbing with small contact point.
SJ5382	Transparent	A-20		0.250 (6.4)	0.075 (1.9)	75	Smaller contact point for energy absorption.
SJ5532	White, Black	R-30		1.880 (47.8)	0.660 (16.8)	70	Large, ideal for door stops.
Hexagon							
SJ5077	Black	R-30	Hexagonal Width Flat Top	0.750 (19.1)	0.160 (4.1)	70	Smallest hemisphere for appliances and electronics feet use.
SJ5201	Light Brown	R-25	Hexagon Die-Cut	0.433 (11.0)	0.125 (3.2)	25	Unique with round flat top.
SJ5202	Light Brown	R-25	Hexagon Die-Cut	0.433 (11.0)	0.063 (1.6)	25	Soft foam with quick stick R-25 adhesive for cabinets.

1 – A-20: Acrylic High strength adhesion to high energy surface.
R-25: Synthetic Rubber Ideal for low surface energy substrates.
R-30: Natural Rubber Excellent adhesion to a wide variety of surfaces.

Cont. next page.

Note: This technical information and data should be considered representative or typical only and should not be used for specification purposes.

3M™ Bumpon™ Protective Products — Molded Products (cont.)

Product	Color	Adhesive[1]	Shape	Width in. (mm)	Height in. (mm)	Hardness (Shore A)	Comments
Square							
SJ5007	White, Black	R-30	Tapered Square	0.413 (10.4)	0.098 (2.5)	70	Nested on pad for fast removal.
SJ5008	White, Gray, Brown, Black, Transparent			0.500 (12.7)	0.125 (3.1)		Popular, thin nonskid for appliances or electronics.
SJ5018	White, Gray, Brown, Black			0.500 (12.7)	0.230 (5.8)		Larger height, smaller top surface for heat dissipation.
SJ5023	White, Gray, Brown, Black			0.812 (20.6)	0.300 (7.6)		For larger appliances and electronics.
SJ5514	White, Gray, Brown, Black			0.812 (20.6)	0.520 (13.2)		Larger, high profile for heat dissipation.
SJ5705	Black			1.280 (32.4)	0.250 (6.4)		Larger, low profile for heavier appliances.
Printed Circuit Board Spacers							
SJ61A1	Black	R-25	Cylindrical	0.312 (7.9)	0.200 (5.1)	70	Shape for PCB spacer applications.
SJ61A3				0.375 (9.5)	0.250 (6.35)		
SJ61A4				0.375 (9.5)	0.311 (7.9)		
SJ61A8				0.375 (9.5)	0.135 (3.4)		
Top-Hat							
SJ6115	Black	R-25	Cylindrical	0.625 (15.9)	0.187 (4.75)	70	Flat top use for recesses.
SJ6125			Hemisphere	0.625 (15.9)	0.250 (6.35)		Resists shear and removal.
Easy Slide							
SJ6344	Black	R-25	Cylindrical	0.750 (19.0)	0.160 (4.0)	80	Use for low friction.

1 – A-20: Acrylic High strength adhesion to high energy surface.
R-25: Synthetic Rubber Ideal for low surface energy substrates.
R-30: Natural Rubber Excellent adhesion to a wide variety of surfaces.

3M™ Premium Polyurethane Foam Tapes

Product	Color	Adhesive	Approximate Thickness in. (mm)	Roll Size	Density lb/cu ft (kg/cu m)	Tensile Strength (psi (kPa)	Tensile Elongation % min.	Tear Strength min. pli (kN/m)	Compression Deflection @23°C, psi (kPa)	Temperature Tolerance	
										Short-Term	Long-Term
Medium Density Series											
12026	Black	With*or without**	1/16 (1.6)	54" x 300 ft	15 (239)	50 (345)	90	4.0 (0.7)	305–6.5 (24–45)	250°F (121°C)	150°F (66°C)
12032			3/32 (2.4)	54" x 225 ft							
12028			1/8 (3.2)	54" x 160 ft							
12036			3/16 (4.8)	54" x 100 ft							
12034			1/4 (6.4)	54" x 80 ft							
12038			3/8 (9.5)	54" x 60 ft							
12030			1/2 (12.7)	54" x 40 ft							
High Density Series											
12046	Black	With*or without**	1/16 (1.6)	54" x 300 ft	20 (320)	75 (517)	100	7.0 (1.2)	8–12 (55–83)	250°F (121°C)	150°F (66°C)
12062			3/32 (2.4)	54" x 225 ft							
12048			1/8 (3.2)	54" x 160 ft							
12056			3/16 (4.8)	54" x 100 ft							
12054			1/4 (6.4)	54" x 80 ft							
12049			3/8 (9.5)	54" x 60 ft							
12050			1/2 (12.7)	54" x 40 ft							

*Adhesive Selection
**Non Adhesive foams are UL 94HBF, File E61941 Recognized Components.

3M™ Viscoelastic Damping Polymers

Vibration and Shock Solutions

3M™ Viscoelastic Damping Polymers have been proven to reduce vibration in automobiles, disk drives and aircraft. Through continuous improvement, 3M can now offer you a choice of standard damping polymers or ultra-pure damping polymers to expand application possibilities to include the following:

Cover constrained layer dampers; multi-layer laminates using metal or polymeric films; free layer dampers; suspension dampers; isolators; panel, pipe, and wing dampers; and more.

Market Application Ideas

- Automotive including body panels and under the hood
- Aerospace including space craft and commercial aircraft
- Electronics including disk drives
- Sporting goods including golf clubs and tennis racquets
- Appliances including washing machines

Performance Versatility

- Choice of enhanced acrylic polymer for improved vibration damping or ultra-pure polymer for improved vibration damping, plus low out gassing and ionics
- Choice of good to excellent thermal stability for long term applications at moderate temperatures, or short term high temperature exposure
- Damping in temperatures ranging from as low as 0°C (32°F) to as high as 105°C (221°F)
- Select Loss Factor and Storage Modulus values to meet requirements

Construction Availability

Polymer	Thickness	Liner	Typical Performance Characteristics
Standard Viscoelastic Damping Polymer			
110	2 and 5 mil	Paper	Good damping performance at higher temperature: 40 –105°C (104 –221°F). Heat and pressure needed for bonding.
112	1, 2 and 5 mil	Paper	Good damping performance at 0 – 65°C (32 –142°F). Pressure only for adequate bonding at room temperature (21°C/70°F) for many applications.
130	2 and 5 mil	Polyester	Good damping performance at moderate temperature range of 20 – 90°C (68 –194°F). Pressure only for adequate bonding at room temperature (21°C/70°F) for some applications.
Ultra-Pure Viscoelastic Damping Polymer			
242	1 and 2 mil	Polyester	Good damping performance at 0 – 65°C (32 –142°F). Low outgassing by GC/MS (Modified ASTM 4526). Low ionics.

3M™ Safety-Walk™ Slip Resistant Materials

3M™ Safety-Walk™ Rolls are ideal for helping prevent slips and falls. Heavy Duty Tread is a mineral-coated, slip-resistant material adhered by a durable resin to a pressure-sensitive adhesive backed plastic film.

Product	Product Characteristics	Type	Adhesive	Color	Master Roll Size
220	Non-mineral fine texture, for barefoot traffic.	Fine Resilient	Acrylate	Clear, White	48" x 120 ft
280					
310	Non-mineral, medium texture, for barefoot or light traffic.	Medium Resilient	Synthetic Rubber*	Black, Gray	
370					
510	Mineral coated, foil backing for conformability.	Conformable	Synthetic Rubber*	Black, Yellow	
530					
610	Mineral coated, heavy texture for light to heavy traffic.	General Purpose	Synthetic Rubber*	Black, Clear, Brown	
620					
660					
710	Mineral coated, coarse texture for extreme traffic.	Course	Synthetic Rubber	Black	

*Custom adhesives available on 300, 500, 600 series products.

2141	Primer prepares rough or porous surfaces for proper adhesion.
5569	Edge Sealing Compound to provide extra protection from liquids.
903	Rubber Hand Roller to help provide a firm bond.

Help prevent slips and falls.
Apply to flat surfaces, steps, stairways, ramps, ladders, lawn equipment, snowmobiles, scooters, construction machinery and vehicles.

Flexographic Mounting Systems

Where science meets craft.

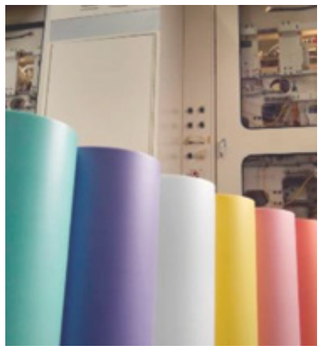
The 3M flexographic portfolio melds the best worlds of 3M: science and craft. Innovative 3M flexo solutions deliver optimal, consistent, and productive quality. These flexo products ensure that a craftsperson's print room is a space where science and craft work as one.

Learn more at:
3M.com/Flexo

Outstanding quality from every angle.
Dependable, consistent, plus faster mounting and demounting.

Performance you can trust.

Our tapes give operators outstanding quality from every angle with the 3M™ Print Quality Advantage.



Optimal

With the industry's largest range of tape densities.

- Expanded gamut printing
- Faster presses
- Maximize your investment in new plate and screening technologies
- Flexible today and into the future
- Optimizing every run
- Consistent, predictable

Consistent

With one of the industry's tightest caliper tolerances, delivering predictable print results.

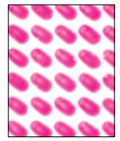
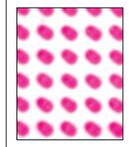
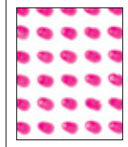
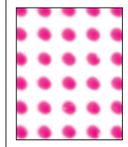
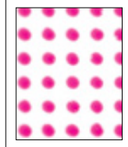
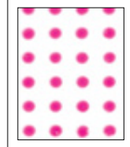
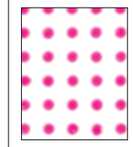
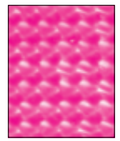
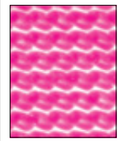
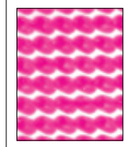
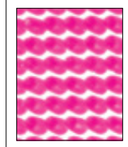
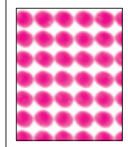
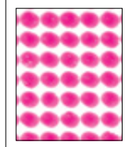
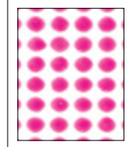
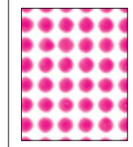
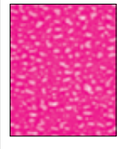
- Dependable performance day after day
- Consistent, tight tape caliper
- Bubble-free mounting
- Dependable adhesive performance

Productive

With industry-leading productivity-enhancing adhesives.

- Protect your resources and assets
- Simplify plate mounting
- Keep your press running faster
- Ease of use
- Faster mounting and demounting

3M™ Flexographic Mounting Systems

3M™ Combination Printing Tapes							3M™ Process Printing Tapes
18 Series: Firm	17 Series: Medium Firm	15 Series: Medium	10 Series: Standard	13 Series: Medium Soft	19 Series: Light Medium	12 Series: Light	11 Series: Process
10% Highlight							
							
40% Midtone							
							
Reverse							
							
100% Solid							
							
Quality results when plate contains mostly solids in a combination of solid and halftone images.	Quality results when plate contains slightly more solids in a combination of solid and halftone images.	Quality results for high speed printing with fine type reverses and expanded color gamut.	Quality results when solid and halftone areas are equally important.	Quality results for high speed printing of combination work when halftone areas exceed solid.	Soft support improves tone reproduction when process and halftone images predominate.	Low density maximizes dot reproduction high quality process work and screen printing.	Low density maximizes dot reproduction for high quality process work and screen printing.
E1815, E1815H, 1815M E1820, E1820H, 1820M E1840H, E1860H	E1715, E1715H E1720, E1720H, 1720M	E1515, E1515H E1520, E1520H	E1015, E1015H, 1015, 1015M E1020, E1020H, 1020, 1020M, 1020R E1040, E1040H, 1040 E1060, E1060H, 1060	E1315, E1315H E1320, E1320H	E1915, E1915H, 1915M , E1915S, E1915HS E1920, E1920H, 1920M, E1920S, E1920HS, 1920S,	E1215, E1215H E1220, E1220H	E1115, E1115H, 1115 E1120, E1120H, 1120

E – Air Release Medium Plate Side Adhesion **EH** – Air Release High Plate Side Adhesion **S** – High Sleeve Side Adhesion for Urethane Sleeves
M – Modified Plate Side Adhesion **DL** – Double Liner **R** – Rubber Plates **K** – High sleeve side adhesion for composite sleeves

Additional calipers available for specialized applications.

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3M™ Flexographic Mounting Systems (cont.)

	Product Number	Application Thickness in. (mm)	Manufactured Target Thickness in. (mm)	Description	Plates	Cylinders	Color	Features
Solid Printing Tapes	**3M™ Flexomount™ Solid Plate Mounting Tapes**							
	411DL	0.015 (0.38)	0.015 (0.38)	Gray double coated tape with a soft rubber adhesive on each side of a vinyl carrier. Available in single and double liner.	P/R	SS/S/K	Gray	Gray vinyl tapes with high adhesion. Helps reduce edge lifting. Helps minimize pin holing on solid work.
	412DL	0.020 (0.51)	0.020 (0.51)					
	447DL	0.010 (0.25)	0.010 (0.25)					
Combination Printing Tapes	**18 Series 3M™ Cushion-Mount™ Plus Firm Combination Plate Mounting Tapes**							
	E1815H, E1815	0.015 (0.38)	0.017 (0.43)	Differential acrylate adhesive system on each side of a foam carrier, protected by a release liner on one side.	P	SS/S/K	Blue	Better solid ink density than the standard combination printing tapes. Clean removal from plate and print cylinder.
	E1820H, E1820	0.020 (0.51)	0.022 (0.56)					
	E1840H, E1860H	0.040 (1.02) 0.060 (1.52)	0.042 (1.07) 0.062 (1.57)					
	17 Series 3M™ Cushion-Mount™ Plus Medium Firm Combination Plate Mounting Tapes							
	E1715H, E1715	0.015 (0.38)	0.017 (0.43)	Differential acrylate adhesive system on each side of a foam carrier, protected by a release liner on one side.	P	SS/S/K	Teal	Quality results when plate contains slightly more solids in a combination of solid and halftone images.
	E1720H, E1720, 1720M	0.020 (0.51)	0.022 (0.56)					
	15 Series 3M™ Cushion-Mount™ Plus Medium Combination Plate Mounting Tapes							
	E1515H, E1515	0.015 (0.38)	0.017 (0.43)	Differential acrylate adhesive system on each side of a foam carrier, protected by a release liner on one side.	P	SS/S/K	Purple	High quality, medium combination print.
	E1520H, E1520	0.020 (0.51)	0.022 (0.56)					
	10 Series 3M™ Cushion-Mount™ Plus Standard Combination Plate Mounting Tapes							
	E1015H, E1015, 1015, 1015M	0.015 (0.38)	0.017 (0.43)	Differential acrylate adhesive system on each side of a foam carrier, protected by a release liner on one side.	P	SS/S/K	White	Most versatile 3M™ Cushion-Mount™ Plus Tapes. Effectively prints most types of flexographic printing.
	E1020H, E1020, 1020, 1020R	0.020 (0.51)	0.022 (0.56)		P/R			
	E1040, 1040, E1040H	0.040 (1.02)	0.042 (1.07)		P			
	E1060, 1060, E1060H	0.060 (1.52)	0.062 (1.57)					
	13 Series 3M™ Cushion-Mount™ Plus Medium Soft Combination Plate Mounting Tapes							
	E1315H, E1315	0.015 (0.38)	0.017 (0.43)	Differential acrylate adhesive system.	P	SS/S/K	Yellow	High quality, medium-soft combination print.
	E1320H, E1320	0.020 (0.51)	0.020 (0.51)					
	19 Series 3M™ Cushion-Mount™ Plus Light Medium Combination Plate Mounting Tapes							
	E1915H, E1915, E1915HS, E1915S	0.015 (0.38)	0.017 (0.43)	Differential acrylate adhesive system on each side of a foam carrier, protected by a release liner on one side.	P	SS/S	Pink	Soft support improves tone reduction when process and halftone images predominate.
	E1920H, E1920	0.020 (0.51)	0.022 (0.56)			SS/S		
	E1920S, 1920S, E1920HS	0.020 (0.51)	0.022 (0.56)			S/K		
	12 Series 3M™ Cushion-Mount™ Plus Light Combination Plate Mounting Tapes							
	E1215H, E1215	0.015 (0.38)	0.017 (0.43)	Differential acrylate adhesive system on each side of a foam carrier, protected by a release liner on one side.	P	SS/S	Orange	—
	E1220H, E1220	0.020 (0.51)	0.022 (0.56)					
Process Printing	**11 Series 3M™ Cushion-Mount™ Plus Process Plate Mounting Tapes**							
	E1115H, E1115, 1115	0.015 (0.38)	0.017 (0.43)	Differential acrylate adhesive system on each side of a foam carrier, protected by a release liner on one side.	P	SS/S	Tan	Better tone reproduction than the standard combination printing tapes. Clean removal from plate and print cylinder.
	E1120H, E1120, 1120	0.020 (0.51)	0.022 (0.56)					

E – Air Release Liner **M** – Modified Plate Side Adhesion **DL** – Double Liner **S** – Urethane Sleeve
K – High sleeve side adhesion for composite sleeves **SS** – Stainless Steel Cylinder **R** – Rubber Plates **P** – Photopolymeric Plates
EH – High Plate Side Adhesion

Note: This technical information and data should be considered representative or typical only and should not be used for specification purposes.

E-Series Tapes with 3M™ Comply™ Adhesive System

The bubble-free answer.

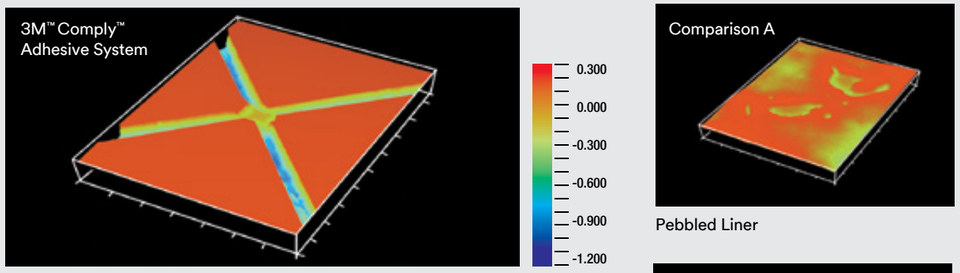
E-Series Tapes were the first plate mounting tapes in the market with patented 3M™ Comply™ Adhesive System which virtually eliminates air bubbles with the micro-channels in the adhesive. That means saving the mounter time and eliminating press down time caused by air bubbles.

EH-Series Tapes

Tight hold for small cylinders.

3M™ EH-Series Tapes combine the air-release of 3M E-Series Tapes with higher plate side adhesion to resist edge lifting on cylinder diameters as small as 2 inches.

Microscopic View of Adhesive Surface Measured with Interferometer



3M™ Comply™ Adhesive System Benefits

Stays on with reduced edge-lifting
Exclusive 3M plate-side adhesive maintains tight contact between tape and plate to dramatically reduce edge lifting. Saves the prep time, downtime, and labor of sealing plate edges.

Peels off easily to reduce plate damage
E-series tapes grip tightly but peel off so easily you can virtually eliminate plate back treatment. You're less likely to damage plates, so you can save time, labor and money.

Bubble-free print quality
Prevent blemishes in screen and process printing, and help assure proper registration.

3M™ Thin Tapes

When cushioning is unnecessary, these tapes can mount both rubber and photopolymer plates. Some are also repositionable.

Product Number	Tape Thickness Inch (mm)	Description	Compressible Sleeves	Corrugated	Rotary Letterpress	Make Ready	Features
415	0.004 (0.10)	Double coated tape with a medium-firm acrylic adhesive on each side of a polyester carrier.		■	■		Good adhesion to a wide range of surfaces. Can be used for Cameron Press applications.
442KW	0.004 (0.10)	Double coated tape with a firm rubber adhesive on each side of a polyester carrier.		■	■		Plate mounting applications requiring a thin tape to bond rubber or photopolymer plates to metal cylinders.
443	0.005 (0.13)	Double coated tape with a soft rubber adhesive on each side of a polyester carrier.		■	■		Mounting applications requiring a thin tape to bond polyester, fiberglass and other surfaces.
465	0.002 (0.05)	Acrylic adhesive transfer tape.		■		■	Small area plate build-up or make-ready. Also used to mount primed rubber plates.
927	0.002 (0.05)			■		■	Corrugated plate mounting applications where repositionability and removability are not required.
950	0.005 (0.13)			■			

All tapes listed on this chart have been used successfully on non-compressible sleeves.

Cont. next page.

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3M™ Thin Tapes (cont.)

Product Number	Tape Thickness Inch (mm)	Description	Compressible Sleeves	Corrugated	Rotary Letterpress	Make Ready	Features
2205	0.005 (0.13)	Double coated film tape with differential acrylic adhesive with a polyester film carrier on a kraft paper liner.	■	■			For the corrugated printing industry to hold flexographic print plates to PVC saddles/ carriers. Removes cleanly.
2205FL	0.005 (0.13)	Double coated film tape with differential acrylic adhesive with a polyester film carrier on a film liner.	■	■			Adhesives designed specifically for corrugated flexo mounting. Removes cleanly and easy to reposition.
9500PC	0.005 (0.13)	High performance acrylic adhesive on each side of a polyester carrier.	■		■		Thin tape plate mounting applications requiring higher performance than 442KW Tape.

All tapes listed on this chart have been used successfully on non-compressible sleeves.

3M™ Flexographic Mounting Aids

Product	Description
3M™ AP86A	Helps hold the leading and trailing edges of the plate to prevent edge lifting.
3M™ Aluminum Foil Tape 425	Seals plate edges against ink and solvent penetration that can cause edge lifting.
3M™ Vinyl Tape 471	
3M™ Polyester Film Tape 850	
Scotch® Magic Tape 810	Secures proofing paper to a proofer/mounter with good adhesion but simple removal from the proofing cylinder.

3M™ Non-Repulpable Splicing Tapes

Go To Products	Product Description	Tape Thickness mil (mm)	Carrier Thickness mil (mm)	Carrier Type	Color	Adhesion oz/in (N/25 mm)	High Temp (Short-term) °F (°C)	Go-To Application*	
								Zero Speed	Flying Speed
Based on ASTM Test Method:		**D-3652**	**D-3652**			**D-3330**			
Adhesive Transfer Tapes									
465	High-tack. Excellent adhesion to most paper stocks. Flexible to -60°F (-51°C).	2.0 (0.05)	—	No Carrier	Clear	25 (6.8)	250 (121)		
9498	Low temperature splicing.	2.0 (0.05)	—	No Carrier	Clear	20 (6.0)	250 (121)	■	
9499	High temperature splicing.	2.0 (0.05)	—	No Carrier	Clear	45 (12.5)	350 (177)	■	
Double Coated Tapes									
415/ 9420	High-tack adhesion to paper and many other surfaces.	4.0 (0.10)	0.5 (0.01)	Polyester	Clear/ Red	25 (6.8)	180 (82)		
469	High temperature, high-tack.	5.5 (0.14)	1.0 (0.02)	Tissue	Red	60 (16.7)	350 (177)		■
9576	Medium tack for general splicing and roll closing.	4.0 (0.10)	1.0 (0.02)	Polypropylene	Red/ Black/ Yellow	30 (13.5)	165 (75)		
9737/ 9737R	Thin PET carrier. Aggressive and versatile tape for many surfaces.	3.5 (0.09)	0.5 (0.01)	Polyester	Clear/ Red	60 (16.7)	300 (150)	■	■
9738/ 9738R	Non-woven tissue carrier. Aggressive and versatile tape for many surfaces.	4.3 (0.11)	1.3 (0.03)	Non Woven Tissue	Clear/ Red	60 (16.7)	300 (150)	■	■
9740	High temperature with extremely wide range. High peel, tack, and shear properties. Performance grade splicing for corrugators.	3.5 (0.09)	0.5 (0.01)	Polyester	Clear	70 (21.2)	425 (218)		■
9741/ 9741R	Thick tape adheres to a wide variety of substrates. Super aggressive for low surface energy substrates.	6.5 (0.17)	0.5 (0.01)	Polyester	Clear/ Red	120 (34.0)	200 (93)		
Splittable Flying Splice Tape									
8387	Splice even the most challenging substrates: cast and biaxially oriented polypropylene, polyester, and aluminum foil.	7.0 (0.19) without liner	3.0 (0.09)	Film	Pink/ Black	60 (16.7)	175 (79)		■

*All tapes in this chart can be considered for zero speed or flying speed splices.

Note: This technical information and data should be considered representative or typical only and should not be used for specification purposes.

Numerical Product Index

Use the FIND function (Ctrl F) on your pdf viewer to locate specific product numbers quickly.

Numerical Product Index

Use the FIND function (Ctrl F) on your pdf viewer to locate specific product numbers quickly.

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