3M Science. Applied to Life.™

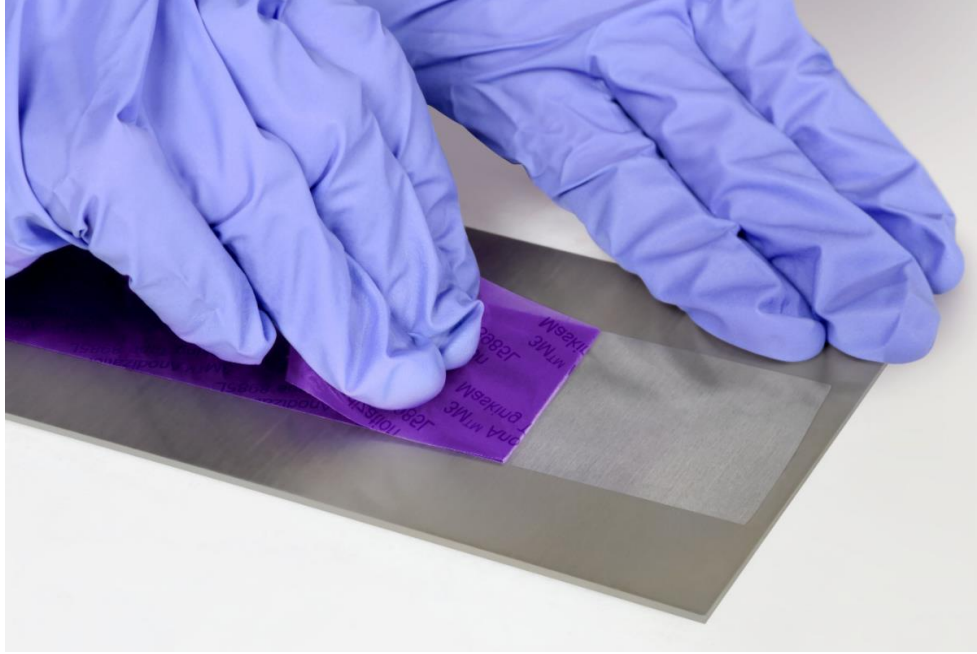
3M Extreme Masking Solutions
Reliability • Performance • Productivity

3M Extreme Masking Solutions

Distributor Sales Training

For 3M Authorized Distributors

3M Extreme Masking Solutions



Product Managers, Coating Supervisors, and Process Engineers need solutions they can count on to work well time after time masking in harsh conditions.

3M Extreme Masking Tapes offer:

Reliability
Stick well and stay on so your customers get good protection and sharp masking lines, then remove cleanly without residue that requires further attention.

Performance
Tight manufacturing tolerances mean your customers get peace of mind knowing our tapes are the same from the beginning of the roll to the end and also from one roll to the next.

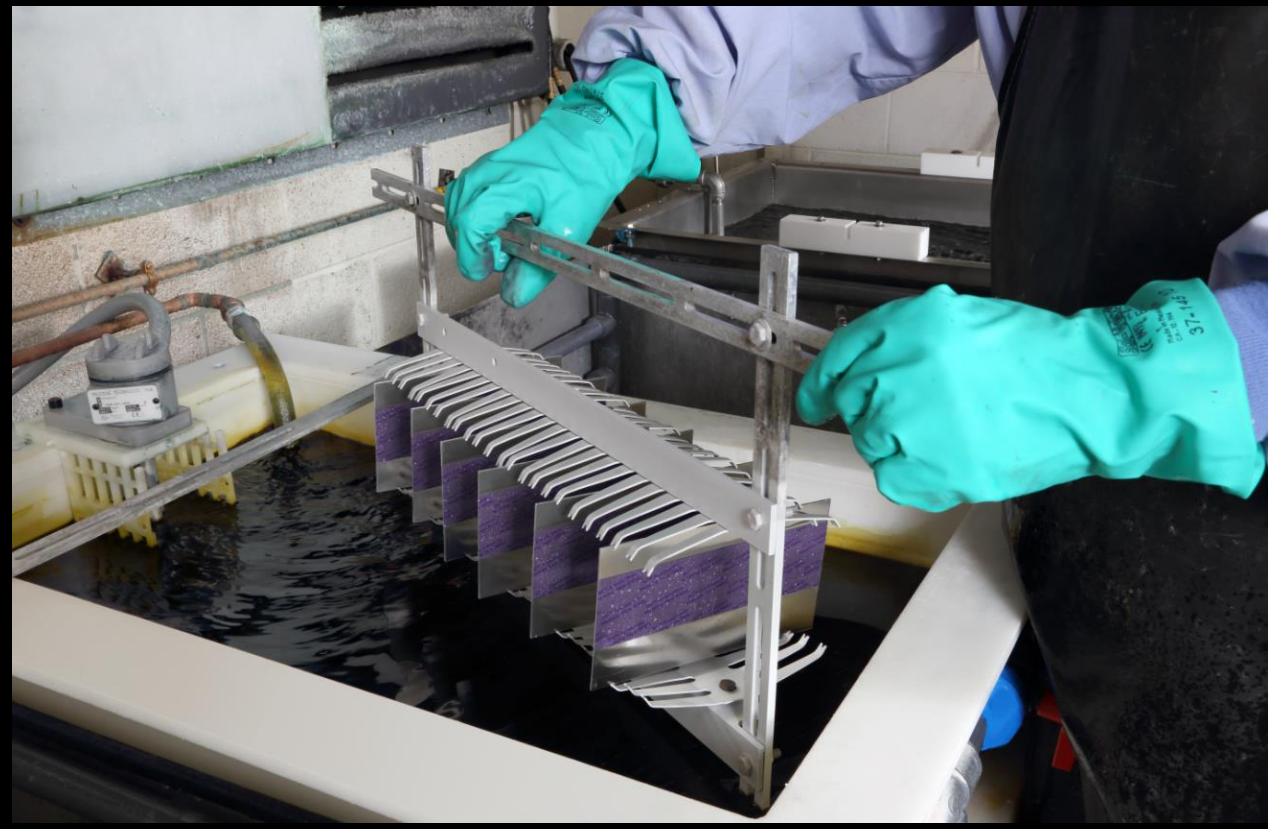
Productivity
With products that apply and remove easily and work well, your customer can spend less time on each piece with fewer parts that require rework. They get more finished parts in the same time.

3M Extreme Masking Tapes are designed to withstand a specific environment, which ultimately determines the tape best suited to each application.

Each application is extreme for different reasons

Application	Anodizing	Powder Coating
		
	Tapes need to resist the harsh chemistry of the acid bath	Tapes need to withstand the extreme heat of the bake cycle
Product Families	Polyester Vinyl Foil	Polyester Polyimide

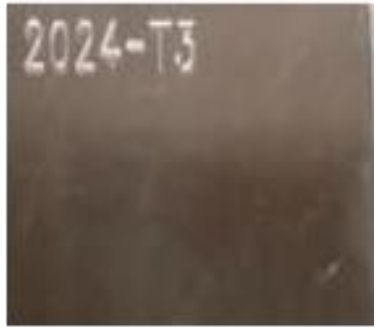
Anodizing Deep Dive and How 3M Wins



What is anodizing?

As defined by the Aluminum Anodizers Council, anodizing is an electrochemical process that converts a metal surface into a decorative, durable, corrosion-resistant, anodic oxide finish.

Aluminum is ideally suited to anodizing, although magnesium and titanium also can be anodized. Anodizing can be used as a final finish or as a durable primer layer.

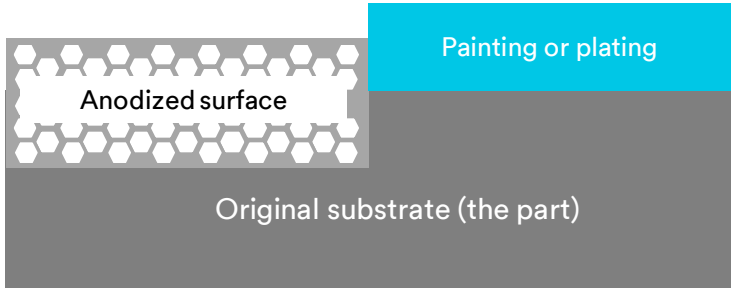


Bare aluminum

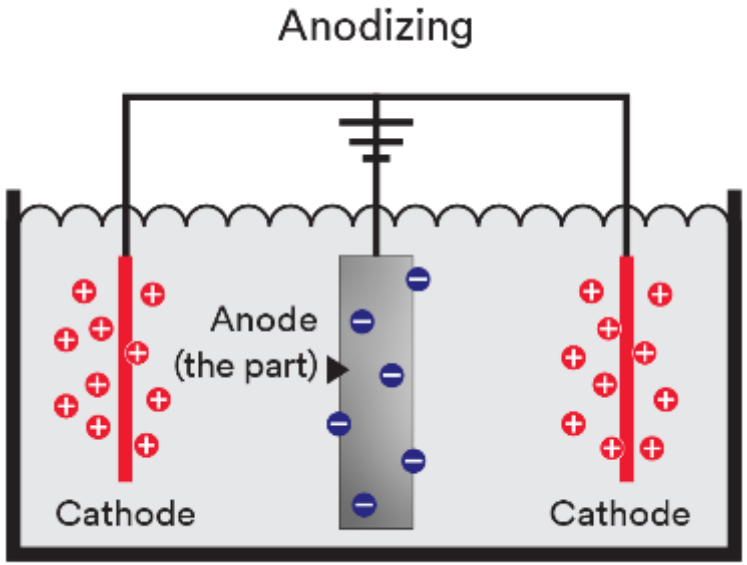
Anodized aluminum

Benefits

- Hard, abrasion resistant surface that will not peel or chip
- Electrically insulates
- Avoids thickness of painting and plating process
- Color can be embedded for decorative purposes



Anodizing vs. other treatments
Unlike other surface treatments, anodization converts the surface rather than bonding to the top.



After being cleaned and prepared, **parts are dipped into an acid bath where current is applied,** converting the surface into an oxide finish.

Where is anodizing used?

Industries

- Aerospace
- Electronics
- Construction
- Military
- Metalworking
- Automotive
- Marine
- Appliances

Application Examples

- Landing gear
- Solar panel assemblies
- Stair railings
- Control panels
- Architectural panels
- Wheel covers
- Hydraulic pump fittings
- Sporting goods

While anodized parts are used in almost every industry, the actual process is typically sourced to companies that specialize in anodizing.

3M Extreme Masking Tapes for all three common anodizing processes

Type I anodization involves a chromic acid bath while Type II and Type III anodization use sulfuric or other acids.

Type I or Chromic Acid

It consist of a chromic acid bath and ramping up the applied voltage through specific steps throughout the process. It creates a very thin layer of 0.05 to 0.2 mils.

3M™ Anodization Masking Tape 8985L is formulated to withstands chromic acid for excellent lines and one-piece removal.

3M™ Anodizing Masking Tape 8985L

Engineered specifically for chemical resistance to chromic acid.

Non-Silicone

Type II or "Regular" Sulfuric

This "regular" anodization takes place at room temperature and uses 10-20 volts to create a layer 0.1 to 0.8 mils thick

3M Polyester, Foil, and Vinyl Tapes stand up to Type II anodizing batch for sharp lines while removing cleanly.

3M™ Polyester Tape 8992/8992L

Lead product choice; listed on multiple OEM specs

3M™ Lead Foil Tape 420/421

Non-Silicone; conformable

3M™ Aluminum Foil Tape 425/427

Non-Silicone; conformable

3M™ Vinyl Tape 471/4712

Non-Silicone; conformable

Type III or "Hardcoat" Sulfuric

This more-complicated process takes place in very cold conditions using up to 90 volts of electricity to produce a "hardcoat" finish up to 2 mils thick.

3M Polyester, Foil, and Vinyl Tapes stand up to Type II anodizing batch for sharp lines while removing cleanly.

3M™ Polyester Tape 8992/8992L

Lead product choice; listed on multiple OEM specs

3M™ Lead Foil Tape 420/421

Non-Silicone; conformable

3M™ Aluminum Foil Tape 425/427

Non-Silicone; conformable

3M™ Vinyl Tape 471/4712

Non-Silicone; conformable

3M Extreme Masking Solutions for Anodizing Snapshot

	3M™ Anodizing Masking Tape 8985L	3M™ Polyester Tape 8992/8992L	3M™ Vinyl Tape 471/4712	3M™ Aluminum Foil Tape 425/427	3M™ Lead Foil Tape 420/421
Acid	Chromic acid	Boric-sulfuric acid	Phosphoric acid	Sulfuric & hardcoat acid	Tartaric sulfuric acid
Features	▸ Engineered specifically for chemical resistance to chromic acid ▸ Minimizes leaking, reducing the need for part rework ▸ Designed to work with or without chemical film on a variety of aluminum alloys ▸ Transparent colored tape with printed backing is easy to see for fast, easy positioning and removal	▸ 8992 offers excellent chemical resistance to a variety of bath chemistries ▸ Best performance in broadest conditions ▸ Ability to see through tape for positioning and placement ▸ Good initial tack & holding strength, with one-piece clean removal from many surfaces	▸ Retains stretch without lifting to conform to uneven surfaces ▸ One-piece, clean removal from many surfaces ▸ Rubber adhesive provides holding strength on a variety of surfaces ▸ Consistent unwind throughout roll improves quality and efficiency of masking process	▸ Dead soft aluminum foil backing conforms to curved and uneven surfaces ▸ Resistant to chemicals to protect surfaces during chemical masking operations ▸ Very low moisture vapor transmission rate optimizes sealing power	▸ Excellent conformability in a variety of application conditions ▸ Superior chemical resistance — resistant to caustic baths ▸ Rubber adhesive provides holding strength on a variety of surfaces ▸ Great line definition, clean removal from most surfaces
Adhesives	**Non-silicone** formulation helps reduce post-process coating and bonding failures	Silicone adhesive offers high heat resistance compared to many rubber and acrylic adhesives, reducing failure due to softening, oozing and adhesive transfer	**Non-silicone** adhesive minimizes the risk of silicone contamination in downstream processes such as paint	Highly engineered acrylic adhesive provides protection in harsh environment	**Non-silicone** adhesive minimizes the risk of silicone contamination in downstream processes such as paint
Liner	Linered for easy die-cutting	Available with liner (8992L) for die-cutting applications	Available with liner (4712) for printing and die-cutting applications	Available with liner (427) for printing and die-cutting applications	Available with a liner (420) for easy die-cutting
Temp	Temperature use range from 4°C to 93°C (40°F to 200°F)	Wide working temperature: -50°C (-60°F) to 204°C (400°F)	Temperature use range from 4°C to 77°C (40°F to 170°F)	Temperature use range from -54°C to 149°C (-65°F to 300°F)	Good thermal properties and will perform over a wide variety of temperature conditions (-54°C to 106°C or -60°F to 225°F)

Anodizing
Finding Target Accounts

Target Markets

Facilities specializing in anodization

Target NAICS/SIC codes

336413/336412 - Aircraft Parts/Engine
332813/332812 - Electroplating Plating/ Metal Coating
3724 – Aircraft Engines and Engine Parts
3479 – Coating, Engraving

Target Persona

- Purchasing Manager
- Coating Supervisor
- Process Engineer
- Product Engineer
- Quality Manager

Target problems we're solving

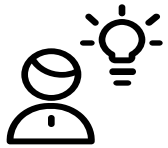
- Slow masking application production times.
- Adhesive residue or leakage from an existing tape solution.
- Non-silicone requirements mandated by a customer.
- Lack of storage space for parts while liquid masks cure.
- Downstream silicone contamination.

Review the Anodizing Masking Tape 8985L Sales Guide

Anodizing
Driving The Opportunity

Qualify the opportunity

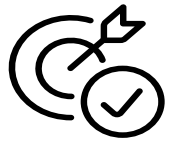
- Do you currently use chromic acid in your anodizing processes?
- Is there a specification or controlling document around this process?
- Do you have a non-silicone policy in your plant or processes?
- Do you use a tape, liquid or both in your masking processes?



Identify Pain Points

Uncover customer issues or relationship status with their current supplier

- Do you have rework related to residue transfer and/or chemical leakage?
- When using a liquid, how much time does it take to pre-mask, apply, cure and remove?
- Do you ever have quality issues from your end users in relation to silicone contamination?
- Is your liquid masking product challenging to remove? Can you tell me more about it?
- Where is your current supplier located? How is their service?



Drive the decision process

Invite customer to take action

- If you could avoid rework, how many more parts could you produce?
- What are your test protocols and when could we potentially test the 3M Solution?
- If you were able to speed up your process, what would that mean for your facility and your customers?

Anodizing Value Story

3M Extreme Masking Solutions are a compelling option for masking anodized parts vs. Liquid Masking

Not only can they speed up your part output, they can save you money.

3M™ Anodizing Masking Tape 8985L is up to 5x faster to apply and remove than liquid masking.[1]

	3M™ Anodizing Masking Tape 8985L	vs.	Liquid masking cost
Masking material	**~$15** list/square yard		**$5–$7** 2–3 mil coating/1 square yard
Pre-Tape	**None needed**		**$0.50** masking tape **$4.15** 5-minute application time
Application labor Labor burden rate $50/hour	**$4.15** 5-minute application time No curing time		**$25–$35** 30–40 minutes for 3–5 coats Up to 24-hour cure time, storage space required
De-mask labor	**$1.00** 1 minute, easy removal		**$12.50** 15 minute, dipped and peeled off
Total/yd²	**$20.15**		**$47.15–$59.15**

3M Extreme Masking Tapes offer significant cost savings and throughput advantage.

[1]3M internal data.

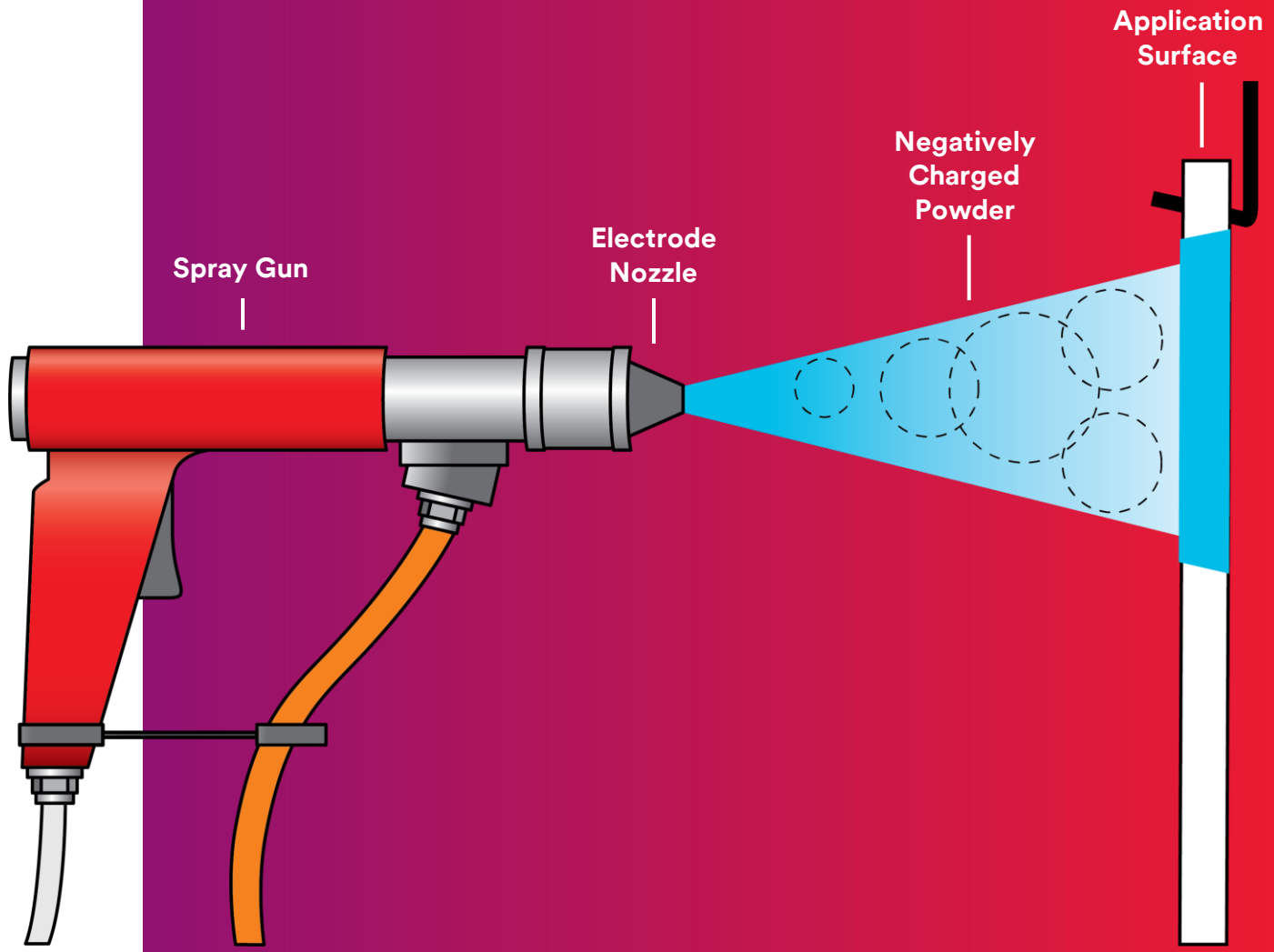
Powder Coating Deep Dive and How 3M Wins

What is powder coating?

Powder coating is a finishing process that's applied as a dry, free-flowing thermoplastic or thermoset powder to a surface, melted, and then hardened into an even coating. It's suitable for various materials, especially metals. It provides functional and decorative surface coatings in a variety of colors, finishes and textures that are not achievable by conventional liquid coating methods.

Benefits to Powder Coating

- Long-lasting and color-durable finishes
- More resistant to chipping, fading and scratching than other finishes
- Typically, shorter processing times than liquid paint applications
- More eco-friendly with no solvents and negligible amounts of VOCs
- Resistant to outdoor weathering



Where is powder coating used?

Industries

- Aerospace
- Electronics
- Medical
- Alternative Energy
- Furniture
- Metalworking
- Automotive
- Marine
- Specialty Vehicle
- Appliances

Applications

- Solar panel assemblies
- Control panels
- Agriculture equipment
- Architectural panels
- Wheel covers
- Hydraulic pump fittings
- Outdoor furniture

While powder coated parts are used in almost every industry, the actual process is typically sourced to companies that specialize in powder coating.

3M Extreme Masking Tapes for high temperature powder coating

While our go-to masking tapes for powder coating reliably handle most processes, you may need a masking tape that resists higher temperatures or features a non-silicone adhesive.

Go-to Powder Coating Tapes

These general-purpose tapes excel in high temp powder coat operations and feature a silicone adhesive providing reliable performance up to 400°F (204°C).

3M™ Polyester Tape 8991/8991L

Translucent Blue
Backing thickness 1.0 mils (0.03 mm)

3M™ Polyester Tape 8992/8992L

Translucent Blue
Backing thickness 2.0 mils (0.05 mm)

Higher temperature resistance

For even higher temperature powder coat processes polyimide tapes provide reliable performance up to 500°F (260°C). The silicone adhesive peels cleanly while the backing breaks through cured paint without tearing, all at an economical price.

3M™ Polyimide Tape 8997/8997L

Translucent Light Amber
Backing thickness 1.0 mils (0.03 mm)

3M™ Polyimide Tape 8998/8998L

Translucent Light Amber
Backing thickness 2.0 mils (0.05 mm)

Non-silicone adhesive tapes

For situations where silicone contamination in downstream processes is a concern – two-tone painting, for example. They can handle bake cycles up to 400°F (204°C).

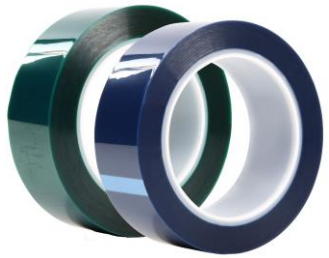
3M™ Polyester Tape 875

Seafoam Green
Rubber Adhesive
Backing thickness 1.0 mils (0.03 mm)

3M™ Polyester Tape 876

Seafoam Green
Rubber Adhesive
Backing thickness 2.0 mils (0.05 mm)

3M Extreme Masking Solutions for Powder Coating Snapshot



3M™ Polyester Tape 8991/8991L
3M™ Polyester Tape 8992/8992L

- **Translucent Backing**
  Easier positioning and placement on parts
- **One-Piece Clean Removal**
  No adhesive or tape slivers for faster processes
- **One Tape for Multiple Processes**
  Saves time on demasking and remasking
- **Die Cutting Ability**
  Create precise shapes with an in-house plotter or outside converter
- **Thin Caliper**
  Conformability while providing a very thin paint line ridge
- **High Temperature Resistance: 400°F (204°C)**
  Remains in place during back cycle without shrinking or curling

3M™ Polyimide Tape 8997/8997L
3M™ Polyimide Tape 8998/8998L

- **Translucent Backing**
  Easier positioning and placement on parts
- **One-Piece Clean Removal**
  No adhesive or tape slivers for faster processes
- **Die Cutting Ability**
  Create precise shapes with an in-house plotter or outside converter
- **Thin Caliper**
  Conformability while providing a very thin paint line ridge
- **High Temperature Resistance: 500°F (260°C)**
  Remains in place during back cycle without shrinking or curling

3M™ Polyester Tape 875/876

- **Non-Silicone Adhesive**
  Minimizes risk of contamination impacting downstream processes
- **One-Piece Clean Removal**
  No adhesive or tape slivers for faster processes
- **Thin Caliper**
  Conformability while providing a very thin paint line ridge
- **High Temperature Resistance: 400°F (204°C)**
  Remains in place during back cycle without shrinking or curling
- **Easy Unwind**
  Less operator fatigue from repetitive motion

NOTE: "L" product numbers are linered versions of the same tape.

Powder Coating
Finding Target Accounts

Target Markets

- Powder coat job shops
- Metal working customers with in-house powder coating (transportation, sign, furniture and other medium to large metal accounts)

Target NAICS/SIC Codes

33281- Coating, Engraving, Heat Treating, and Allied Activities.
3479 – Coating, Engraving, and Allied Services.

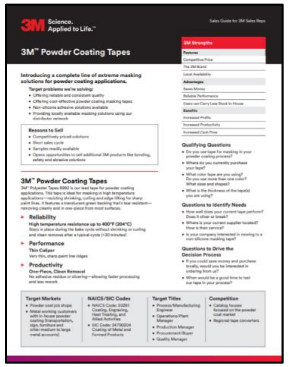
Target Persona

- Process/Manufacturing Engineer
- Operations/Plant Manager
- Production Manager
- Procurement/Buyer
- Quality Manager

Target problems we're solving

- Offering reliable and consistent quality
- Offering cost-effective powder coating masking tapes
- Non-silicone adhesive solutions available
- Providing locally available masking solutions using our distributor network

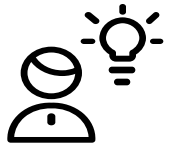
Review the 3M Powder Coating Tapes Sales Guide



Powder Coating
Driving The Opportunity

Qualify the opportunity

- Do you use tape for masking in your powder coating process?
- Where do you currently purchase your tape?
- What color tape are you using? Do you use more than one color? What sizes and shapes?
- What is the thickness of the tape(s) you are using?



Identify Pain Points

Uncover customer issues or relationship status with their current supplier

- How well does your current tape perform? Does it sliver or break?
- Where is your current supplier located? How is their service?
- Is your company interested in moving to a non-silicone masking tape?

Drive the decision process

Invite customer to take action

- If you could save money and purchase locally, would you be interested in ordering from us?
- When would be a good time to test our tape in your process?

Final Steps for Success

Anodizing and Powder Coating Final Steps for Success

1

Have Go-To Products Samples handy

3M™ Anodizing Masking Tape 8985L

3M™ Polyester Tape 8992/8992L

3M™ Polyimide Tape 8998/8998L

Sample Sizes

SKU	Item	Size
7100206814	3M™ Anodizing Masking Tape 8985L	1” x 3 yd
7100206617	3M™ Anodizing Masking Tape 8985L	12” x 3 yd
7100249171	3M™ Anodizing Masking Tape 8985L	8” x 11” Sheet
7100249183	3M™ Polyester Tape 8992L, Green	8.5" x 11" Sheet
7000049777	3M™ Polyester Tape 8992, Green	2" x 72yd (full case order)
7100059614	3M™ Polyimide Tape 8998, Amber	2" x 72yd (full case order)

2

Suggest a Guaranteed Trial Order (GTO)

Customers evaluate the performance of the 3M Solutions to confirm it meets their needs. If not satisfied, customer may return the product within the required time period for a refund.*

*Ask your 3M Contact for the full program’s eligibility criteria and conditions

3

Connect with a 3M Converter

End-users will likely expect you to have some shapes available for their use. These products typically have a greater margin opportunity than the roll goods.

Note: Facilities that specialized in Anodizing will have a plotter in-house; many will benefit from securing converted pieces for large jobs.

4

Be ready to sell other 3M products

Additional opportunity for IATD around pre-powder coating bonding.

For small to medium accounts
ASD Potential Opportunity: $5K
PSD Potential Opportunity: $10K

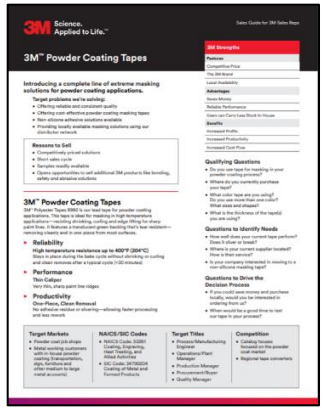
3M Extreme Masking Solutions Sales and Training Content

[3M™ Anodizing Masking Tape Flyer]

[3M™ Powder Coating Tapes Flyer]

[Guide to Anodizing Applications]

[3M™ Anodizing Masking Tape 8985L Sales Guide]



[3M™ Powder Coating Tapes Sales Guide]

[Guide to Powder Coating Applications]

[3M Extreme Masking Tapes - Landing Page]

Additional training available upon request

Questions?

3M Extreme Masking Solutions for Anodizing - Summary

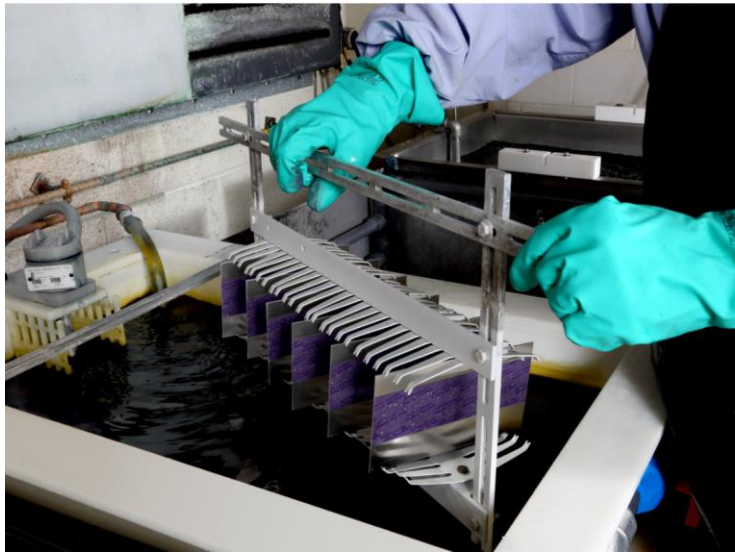
Anodizing takes place in acid bath solutions therefore anything used to mask the surface must withstand the harsh chemical bath for as long as the part is immersed – and may also need to survive painting or other downstream processes. Whenever the mask is removed it should come off in one piece without leaving residue behind that requires extra removal steps.

Target Markets

U.S. Anodizing Target Market Size = $17M
Average Account Opportunity = $40-50K ($7-10K per plotter)

NAICS Codes
336413/336412 - Aircraft Parts/Engine
332813/332812 - Electroplating Plating/Metal Coating

SIC Codes
3724 – Aircraft Engines and Engine Parts
3479 – Coating, Engraving.



Reasons 3M Wins

- Eliminate rework, and replace messy, labor intensive liquid maskants
- One-piece removal with no adhesive residue or slivering allows faster processing and less rework
- Reliable and consistent quality
- Lined versions for easy die-cutting
- **3M™ Anodization Masking Tape 8985L.** Engineered specifically for chemical resistance to chromic acid. Labor time savings of up to 60%. Mask and de-mask up to 5x faster than liquid masking.
- **3M™ Polyester Tape 8992/8992L.** Listed on multiple OEM specs
- **3M™ Vinyl Tape 471/4712.** Retains stretch without lifting

Sales Tools: Flyer, Sales Guide, Anodizing Training Deck, Sample Sizes
Competition: Indirect - Liquid masking. Direct masking tape competitors

3M Extreme Masking Solutions for Powder Coating - Summary

Powder coating masking tapes must stay in place during the bake cycle of a high temperature powder coat process without shrinking or curling, then remove cleanly without residue or slivering. 3M Powder Coating Tapes are built to take the heat and perform reliably cycle after cycle, shift after shift, day after day.

Target Markets

U.S. Powder Coating Accounts: +2500
Average Account Opportunity = $15-20K

NAICS Code
33281- Coating, Engraving, Heat Treating

SIC Code
3479 – Coating, Engraving, and Allied Services

Reasons 3M Wins

- ✓ One-piece removal with no adhesive residue or slivering allows faster processing and less rework
- ✓ Holds securely during the bake cycle without shrinking, curling or edge lifting after a typical cycle (<30 minutes), which reduces rework
- ✓ 8997/8998 have the highest temperature resistance which can reduce process time by decreasing bake cycle time and increase oven temperature
- ✓ 875/876 have a non-silicone formulation, great for two-tone applications
- ✓ Translucent backing provides easy identification and positioning
- ✓ Thin caliper alternative deliver sharp paint line edges which reduces timely rework from chemical seepage
- ✓ Lined for easy die cutting

Sales Tools: Flyer, Sales Guide, Powder Coating Training Deck, Sample Sizes
Competition: Direct Masking tape competitors