

3M Science.
Applied to Life.™



Masking and Bonding Solutions for Powder Coating Operations

Pre-Powder Coat Bonding and Masking Solutions



3M™ VHB™ Tape GPH Series

► Fast and easy-to-use permanent bonding method provides high strength and long term durability

- Excellent high temperature resistance (short term 450 °F) allows for bonding prior to powder coat or liquid painting processes
- Allows the use of thinner, lighter weight and dissimilar materials

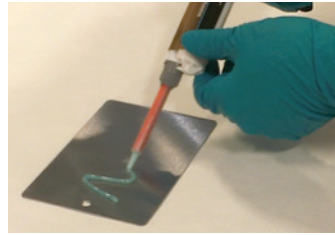
3M™ Polyester Tapes 8991 & 8992 and 3M™ Polyimide Tapes 8997 & 8998 for Powder Coating



With pressure sensitive silicone adhesive, 3M™ Polyester Tapes 8991 and 8992 and 3M™ Polyimide Tapes 8997 and 8998 grab on contact for reliable masking in most powder coat painting operations. The polyester tapes can withstand bake cycles up to 400°F/204°C and the polyimide tapes up to 500°F/260°C.



- Clean removal, with a sharp, clean paint edge
- Resists shrinking, curling and edge lifting
- 8991 Blue – Conformable
8992 Green – Strong backing
- 8997 Light Amber – Conformable
8998 Dark Amber – Strong backing
- All are available with a lined version for easy application and die-cutting



3M™ Scotch-Weld™ Structural Acrylic Adhesives DP8407NS

3M next generation structural acrylic adhesives provide a faster bond, deliver higher impact resistance

and high temperature performance, helping you to build better products and improve productivity.

- High strength, high peel
- Non-sag
- 6 minute work life
- Time to handling strength approximately 24 minutes
- Works well for post-powder coat bonding
- Suitable prior to chrome plating

DP8407NS: Dead Load Holding Strength at 400°F / 204°C for 1 Hour

Withstands a load of 75 psi at 400° F/204° C for 1 hour, but not at 100 psi

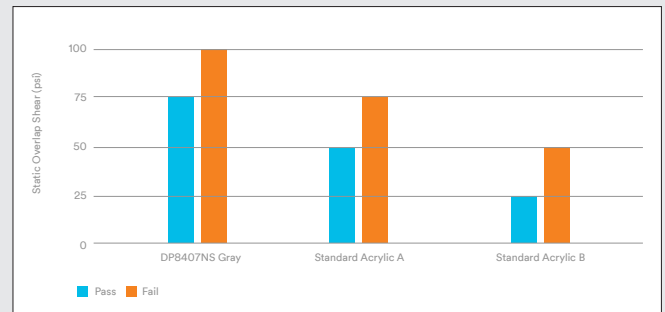
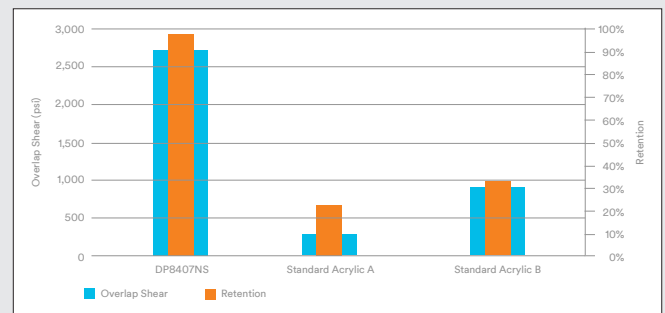


Chart shows the shear load (dead load in shear) that the adhesive can hold at 400°F (powder coat temperature). Blue bar: load held. Orange bar: load did not hold (fail). DP8407NS can hold a dead load in shear of 75 lbs during a powder coat cycle; but may fail at higher loads.

DP8407NS: Bond Strength Retention after High Temperature and Humidity Exposure

Overlap shear on abraded cold rolled steel; 72°F test temperature; 500 hours exposure 150°F + 80% RH

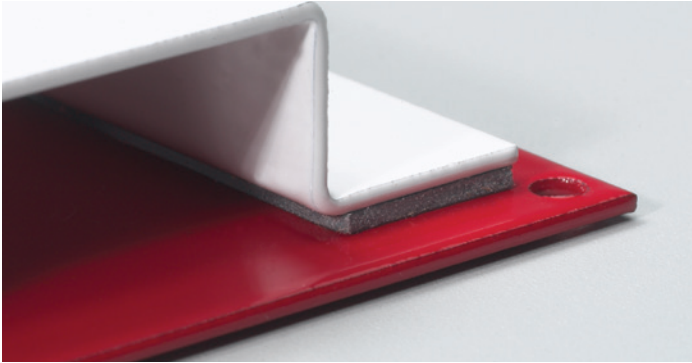


On abraded, cold rolled steel, DP8407NS shows high shear strength after exposure to 150°F and 80% relative humidity for 500 hours (accelerated outdoor weathering), whereas some competitive acrylics will lose strength due to steel corrosion accelerated by the adhesive.

Post-Powder Coat Bonding Solutions

3M™ VHB™ Tape 5952

- ▶ Provides a strong bond on powder coated surfaces and difficult-to-stick surfaces
- ▶ Eliminates drilling, grinding, refinishing, screwing, welding, and clean-up
- ▶ Pressure sensitive adhesive bonds on contact to provide immediate handling strength



3M™ Scotch-Weld™ Structural Acrylic Adhesives DP8805NS and DP8810NS

- ▶ Over three times the impact strength of conventional acrylic adhesives
- ▶ Fast curing with an 18-month shelf life
- ▶ Low odor

3M™ Scotch-Weld™ Urethane Adhesives DP6310NS and DP6330NS

- ▶ High performing two component polyurethane
- ▶ Easy mixing, exceptional non-sag formulation
- ▶ Suitable for bonding to a wide variety of substrates, including painted surfaces



Why choose a tape or adhesive?

Benefits of tape and adhesive bonding solutions

- ✓ Improves aesthetics
- ✓ Weight reduction
- ✓ Quick and easy application

Benefits of a tape solution

- ✓ Very strong bond that can replace spot welds and rivets
- ✓ Provides instant handling
- ✓ Ideal for dynamic loads

Benefits of an adhesive solution

- ✓ Ideal for weld-replacing static loads
- ✓ High strength allows use of smaller bond areas
- ✓ Quick cure time
- ✓ Repositionable



3M Product		Product Description and Features
Powder Coat Masking	3M™ Polyester Tape 8991†	<ul style="list-style-type: none"> ▶ 1.0 mil polyester backing ▶ 1.4 mil silicone adhesive
	3M™ Polyester Tape 8992†	<ul style="list-style-type: none"> ▶ 2.0 mil polyester backing ▶ 1.2 mil silicone adhesive
	3M™ Polyimide Tape 8997†	<ul style="list-style-type: none"> ▶ 1.0 mil polyimide backing ▶ 1.4 mil silicone adhesive
	3M™ Polyimide Tape 8998†	<ul style="list-style-type: none"> ▶ 2.0 mil polyimide backing ▶ 1.2 mil silicone adhesive
†Also available in lined and log roll format		
Pre-Powder Coat Bonding	3M™ VHB™ Tape GPH	<ul style="list-style-type: none"> ▶ High temperature resistance (150°C continuous, 230°C intermittent)
	3M™ Scotch-Weld™ Structural Acrylic Adhesive DP8407NS	<ul style="list-style-type: none"> ▶ High strength, high peel ▶ Bondline control 250µm ▶ Non-sag ▶ 6 minute work life* ▶ Time to handling strength 24 minutes* ▶ Heat and humidity resistant ▶ Maintains >75% of initial strength after 1 hour at 400° F/204°C
Post-Powder Coat Bonding	3M™ VHB™ Tape 5952	<ul style="list-style-type: none"> ▶ Adheres to painted and difficult-to-bond surfaces, usually without the need for special surface preparation, priming or abrading
	3M™ Scotch-Weld™ Structural Acrylic Adhesives DP8805NS/DP8810NS	<ul style="list-style-type: none"> ▶ Fast curing ▶ Bondline control 250µm ▶ High impact strength ▶ Non-sag ▶ 5 minute work life*/10 minute work life* ▶ Time to handling strength 7 minutes*/18 minutes* ▶ 20 minute structural strength* ▶ Low odor
	3M™ Scotch-Weld™ Urethane Adhesives DP6310NS/DP6330NS	<ul style="list-style-type: none"> ▶ High performing ▶ Best gap filling ▶ Low temperature flexibility

*All times quoted are approximate

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