

# 3M Industrial Adhesives and Tapes Division

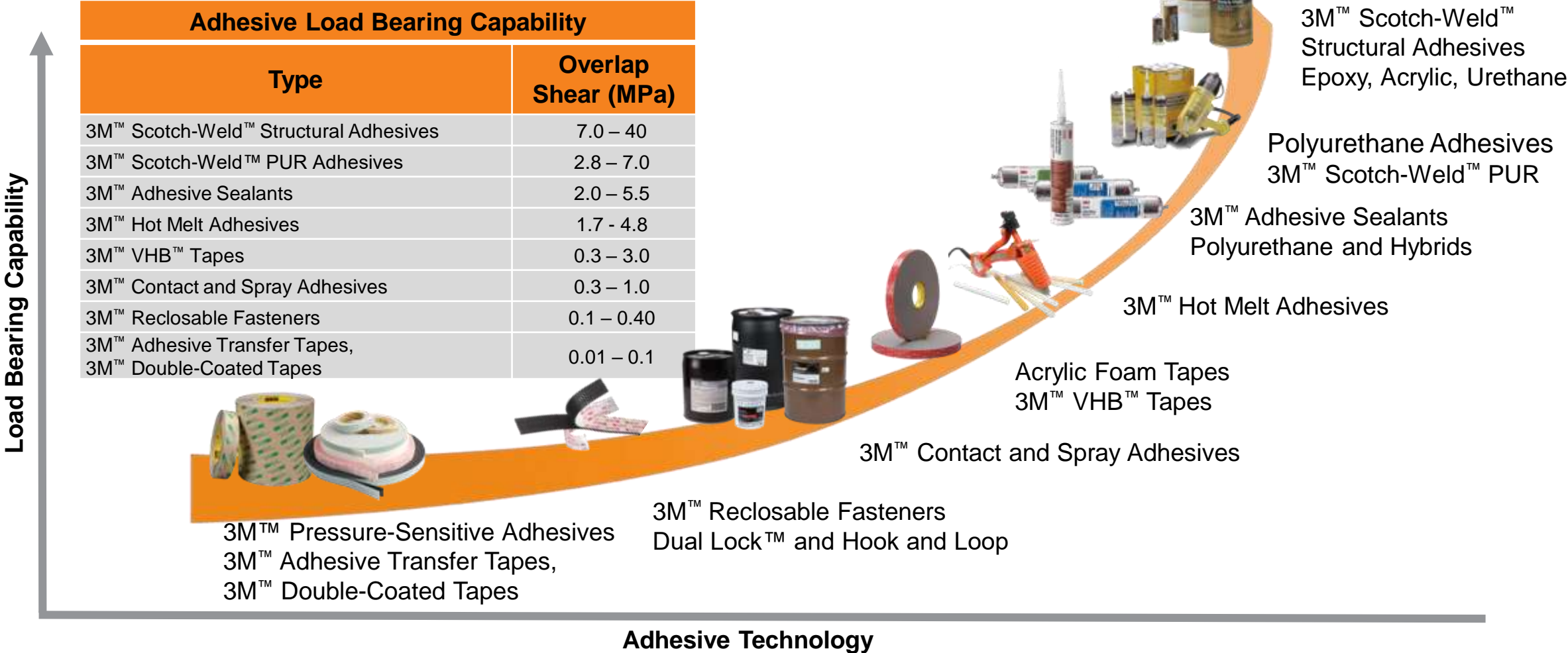
Tadej Konte, 3M Authorized Representative





**Tadej Konte | 3M Authorized Representative**  
**Safety and Industrial Business Group**  
[tkonte.cw@mmm.com](mailto:tkonte.cw@mmm.com) | Mobile: +386 51 644 535

# Adhesive Technology



# Thin bonding product categories



## **Adhesive Transfer Tapes (ATT)**

Our thinnest pressure-sensitive adhesive tapes consist of a thin adhesive tape without a carrier or backing.



## **Double Coated PET Tapes (DCPET)**

High-performance tapes composed of a PET carrier with adhesive on both sides. They are very dimensionally stable and easy to convert, but may cost more to produce.



## **Double Coated Tissue Tapes (DCTT)**

Medium-firm acrylic adhesive system featuring high initial adhesion and good high-temperature holding power. Can be torn by hand. A lower-cost alternative to Double Coated PET tapes (DCPET).



## **ATG Tapes & Applicators**

Adhesive system including a tool for quick and easy manual application. A fast way to bond to a variety of substrates and surface shapes. Thin Bonding for Distribution Partners.



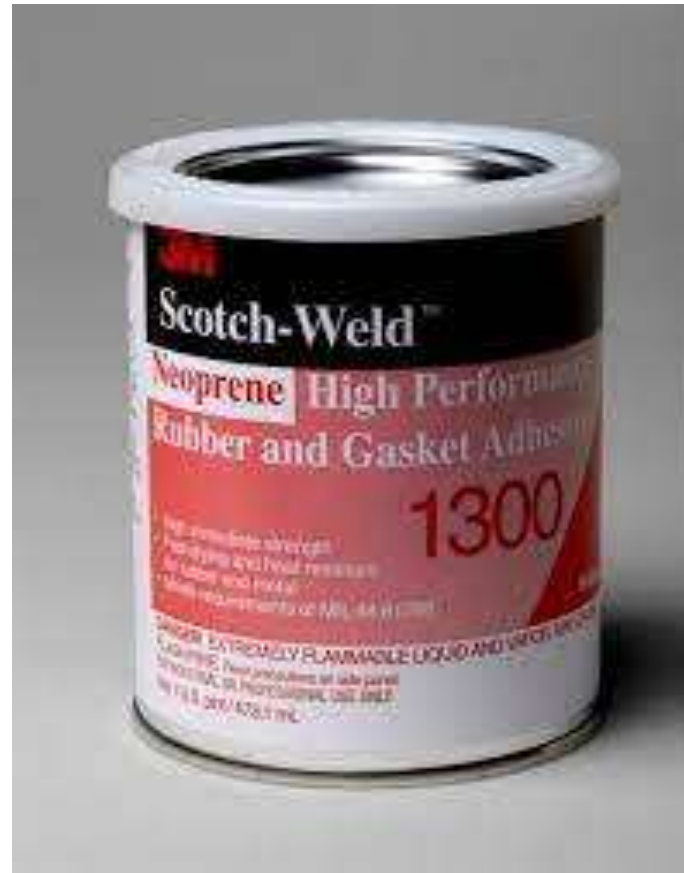
# 3M Reclosable fasteners

Hook & Loop and Dual Lock



# 3M Contact and spray adhesives

Water & solvent based adhesives





# We all know the benefits of 3M™ VHB™ Tape.

## Energy Absorption

Stress and energy is absorbed in the foam and not transferred to the bond line

## Stress Relaxation

Over time, stress is relaxed away from the bond and absorbed by the foam

## Viscoelasticity

Foam provides the strength and protects the bond



## Exceptional Durability

All-acrylic construction provides a high level of durability

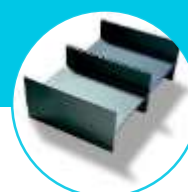
## Excellent Sealing Characteristics

Closed-cell acrylic chemistry is proven to withstand extreme environments



## Acrylic Foam

All acrylic construction closed-cell chemistry



## Clean Appearance

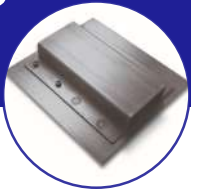
Taped joints are free from dimples, dents and weld beads

## Assembly Convenience

The only type of adhesive you can stick to one surface one day, then stick to a second surface the same day or a year later

## Pressure Sensitive Adhesive (PSA)

Bonds on contact to provide immediate handling strength





# 3M™ VHB™ Tape opens a world of possibilities



## Capture Extreme Footage

- Weather resistant
- Durable
- Seals out water and dirt



## Design Beautifully

- Aesthetics
- Design flexibility
- Strength



## Make Smart Devices Sleeker

- Join multiple materials
- Die-cut for precision
- Shock resistance



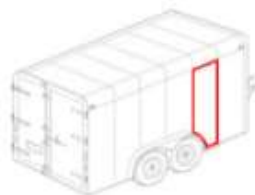
## Bond Multiple Materials

- Damp vibration
- Assemble quickly
- One step seal



## Streamline Manufacturing

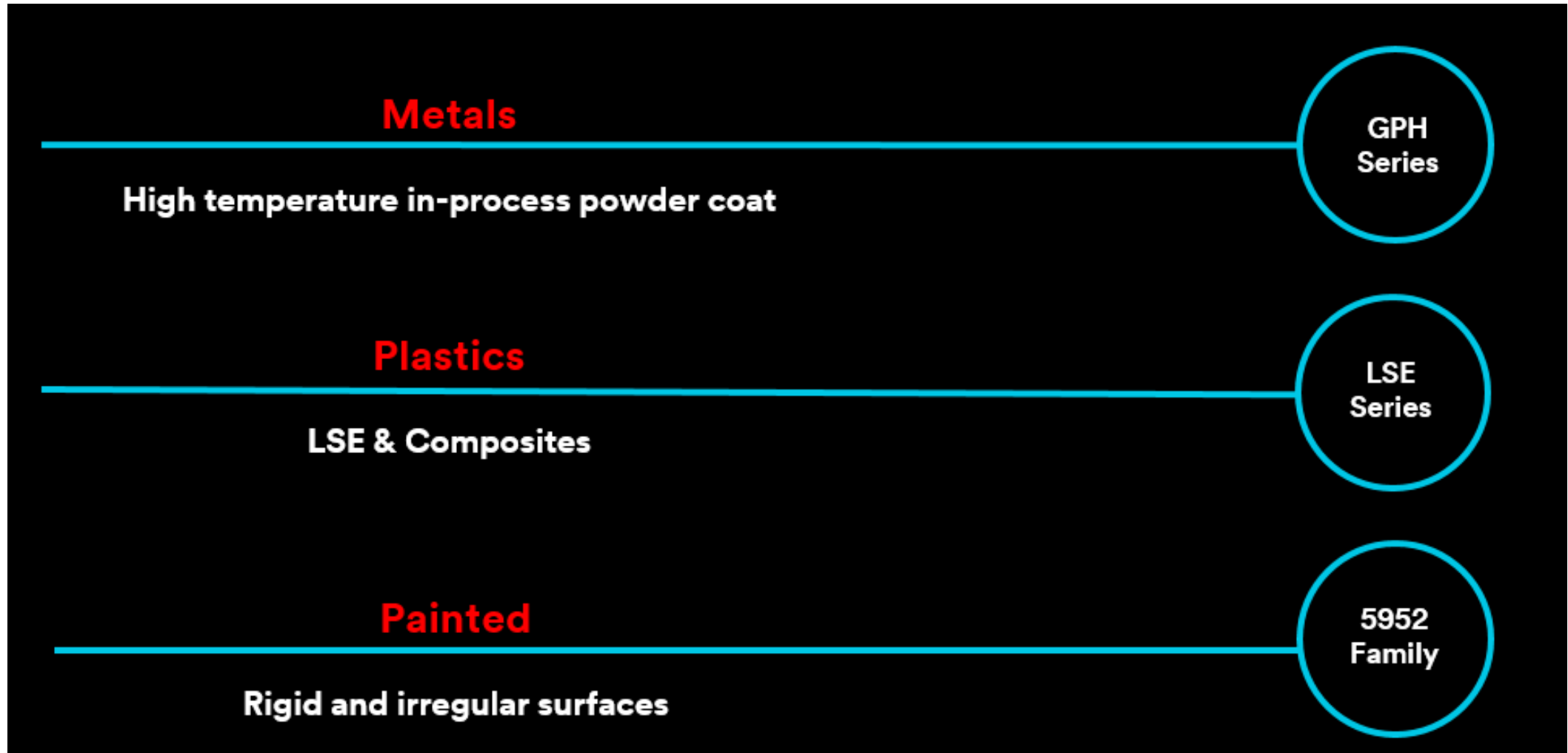
- Eliminate spot welds
- Temperature resistance
- Increase throughput



## Rivet-free for Smoother Ride

- Strength and durability
- Light weighting
- Fast and easy assembly

# Understand market, pain and application



# What is 3M™ VHB™ Tape GPH Series?

For High Temperature , Metal and Medium Surface Energy Bonding

## Technology & Product Construction

- 3M VHB Tape GPH series is
- Unique solution for General Industrial Applications (HSE/MSE)
  - High Temperature Resistance
  - Multi Material Bonding
- **Grey**, close to aluminum
- **with a filmic liner** (siliconized & branded, better liner release to existing film liners)
- and available in **3 thicknesses** (0.6mm, 1.1mm, 1.6mm).
- Produced in Hilden, Germany



# 3M™ VHB™ GPH – General Purpose High Temperature

## Product advantages

- High temperature resistance: Full bonding performance  
up to +230° C short term  
up to +150° C long term.
- Multi material bonding: Good peel and static shear performance on HSE and MSE substrates:
- High initial tack: strong "Quick Stick" for a high initial handling strength
- Soft foam i.e. good conformability for ease of use / gap filling / excellent stress relaxation
  - better than 4950, 4611
  - comparable to 4941 and RP



# 3M™ VHB™ GPH Markets

## Targeted Markets and Applications for (mainly) Multi Material Mix

Major industries / markets	Examples	Main feature / Selling argument
Metal working	Elevator doors, partitions, bath accessories, etc.	Quick Stick, high temp, color match close to aluminum
Appliances	Decorative materials, Displays, Glass doors, ovens, hoods, refrigerators, etc.	Quick stick, high temp, price sensitivity
Signage	Commercial Signage, control & server cabinets, LED bonding, POS, etc.	Quick stick, price sensitive due to competitive pressure
Specialty Vehicle	Decorative elements, interior, roof bonding, side mirrors, etc.	Quick stick, high temp, multi material bonding (lightweight trend)

# What is 3M™ VHB™ Tape LSE Series?

For Plastics and Composite Bonding



## Bonding without primer on difficult to bond LSE substrates

- LSE Substrates: PP, TPE, TPO
- MSE Substrates: Polycarbonate, HIPS, Acrylic, Nylons, ABS
- Composites: GRP/Fiberglass, Carbon Fiber, Polyester Paint



## Outdoor use

- Resists hot, cold and cycling temperature, UV light, moisture and solvents
- Seals against environmental conditions



## Low temperature bonding

- High initial tack at low temperatures on frost free surfaces down to 0°C



## Designed for multi-material bonding

- Allows for thermal expansion of three times its thickness
- Conformable and durable



## 3M™ VHB™ Tape LSE-110WF

**LSE:** Low Surface Energy

**110:** 1.10mm

**W:** White

**F:** Film Liner

# Advantages

## 3M™ VHB™ Tape LSE Series Advantages vs:

Mechanical Fasteners	Ultrasonic Welding	Liquid Adhesives	Competitive Tapes
<ul style="list-style-type: none"><li>• Bond delicate substrates</li><li>• Clean aesthetics</li><li>• Reduce bulk of final assembly</li><li>• Seals out water</li><li>• Decrease assembly time</li><li>• Tape allows for safer application</li></ul>	<ul style="list-style-type: none"><li>• Bond non-compatible materials or delicate substrates</li><li>• Overcome challenging part geometry</li><li>• No upfront investment in ultrasonic welding equipment</li><li>• No incremental investments in horns and fixtures</li><li>• Removes post-weld finishing/tooling steps</li><li>• Highly trained labor force not required</li></ul>	<ul style="list-style-type: none"><li>• Immediate handling strength for faster assembly</li><li>• No messy bond lines</li><li>• No crazing or cracking of substrates</li><li>• Ensures consistency of delivery quantities</li><li>• Ability to pre-tape parts</li><li>• Reduced waste from open/unused containers</li></ul>	<ul style="list-style-type: none"><li>• Completely acrylic construction compared to the rubber-based tapes on the market (and 3M's previous 4952 series).</li><li>• Long term outdoor durability (cycling temperatures, moisture, solvents)</li></ul>



In the last 40 years,  
**8.4 billion meters**  
of 3M™ VHB™ Tape  
has been produced.

Tape cut to 2.54 cm width.

**3M.com/VHB**

3M and VHB are trademarks of 3M. © 3M 2020. All rights reserved.



**10x**  
That's enough tape  
for 10 trips to the  
moon and back.

3M™ VHB™ Tapes  
**40**Years  
of Enabling Design Innovation.



# 3M Hot melt adhesives

NEW applicator + classic applications



Ideal for a range of industrial applications:



Wide range of woodworking applications, with a good output and smooth operation.



Product assembly with a slim profile to help operators apply adhesive more accurately.



Carton closing and packaging applications, with a robust and reliable design that stands up to repeated use.

# 3M's Structural Adhesive chemistries

Our broad product offerings encompass different chemistries, curing methods, open times, and final bond capabilities



## Acrylic Adhesives

Outstanding strength and design flexibility

DP8xxx



## Epoxy Adhesives

Provide excellent durability and resistance to environmental extremes

DP1xx

DP2xx

DP4xx

DP7xx



## PUR Hot Melt Adhesives

Combine the speed of hot melt adhesives with the structural benefits of moisture-curing chemistries

TSxx

TExx



## Anaerobic Adhesives

Provide tight fits and seals in thread locking, pipe sealing, and related applications

TLxx



## Instant Adhesives

These products reach handling strength in 5-10 seconds and achieve extremely high tensile strengths

PRxx

SIxx



## Polyurethane Adhesives

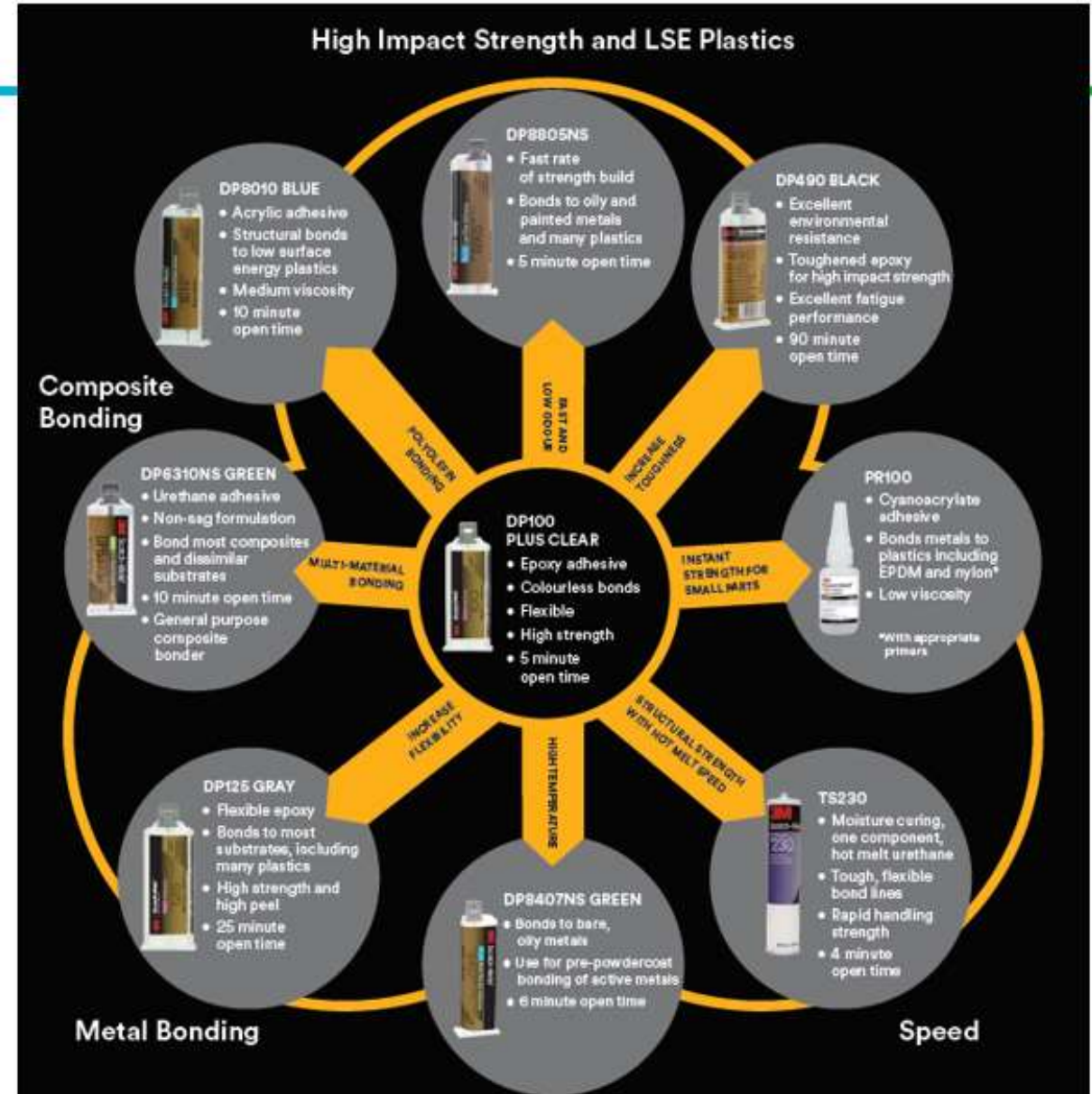
Ideal for creating strong, flexible bonds between dissimilar materials

DP6xx

# Go To

## Simple!

- Leading technologies
- Best Supply Chain
- Bulk availability
- Broad Marketing Collateral
- Ready for automation





# 3M™ Scotch-Weld™ epoxy adhesive DP100 Plus

*All-rounder + good value*

## Product Feature

- Very flexible adhesive provides strong, permanent bond even under vibration and impact
- Fast 4-minute work life with handling strength in 20 minutes at room temperature
- Good high shear and peel strength
- Flexible when cured, making it a good choice for bonding dissimilar surfaces

## Application Examples

- Glass to metal bonding
- Bonding items where appearance is critical
- Maintenance and repair



Signage



# 3M™ Scotch-Weld™ epoxy adhesive DP490

*Increased toughness*

## Product Feature

- High temperature resistance up to 120°C
- Long work life (90 Minutes) for large surfaces
- Non-sag
- Environmental resistance

## Application Examples

- Composite
- Multi-Materials
- Aluminum & steel



Bonding aluminum  
parts in medical  
devices



Composite Parts



# 3M™ Scotch-Weld™ metal bonder acrylic adhesive DP8407NS

## Product Feature

- Bonds to a variety of substrates (especially bare metals) while resisting corrosion
- Withstands powder coat and paint bake cycles up to 400°F (204°C) for at least one hour
- Offers high shear, peel and impact strength for a tough and durable bond
- Provides excellent bond strength and impact resistance, even at temperatures down to -40°C

## Application Examples

- Welding replacement
- Oily or bare metals



Maintenance



Control cabinet



Stretcher

# 3M™ Scotch-Weld™ Structural Plastic Adhesive DP8010

## Product Feature

- Creates strong bond on low surface energy plastics (LSE) such as polyolefin with minimal or no surface prep required
- Resists many chemicals, water, humidity and corrosion
- Formulated to bond multi-material assemblies such as LSE plastics, thermoplastics, composites and metals
- Medium viscosity allows controlled dispensing

## Application Examples

- PP & PE



Casing



Pipes and tubes



# 3M™ Scotch-Weld™ Multi-material composite urethane adhesive DP6310NS

---

## Product Feature

- Non-sag formulation resists running and slumping of adhesive
- 10-minute open time
- Ability to bond most composites and dissimilar substrates
- Excellent water and humidity resistance, very good chemical resistance
- Cures at room temperature but can be accelerated with heat

## Application Examples

- Multi-Material (plastics, metal etc.)
- Composites
- FRP



FRP (Fiber Reinforced Polymer) Frames



Sporting goods



# 3M Single Sided Tapes

**3M** Science.  
Applied to Life.™

## Empower your powder coating process.



Temperature Resistance of up to **260 °C**

Get the performance and durability you need with **3M Powder Coating Tapes.**

Not all powder coating masking tapes are made the same. Not all of them can deliver consistent sharp lines and clean, one-piece removal. Or remain in place during high temperature bake cycles without shrinking or curling. But these tapes can, and do—cycle after cycle, shift after shift and day after day.

**3M Extreme Masking Solutions**  
Reliability • Performance • Productivity



# 3M Single Sided Tapes





**3M** Science.  
Applied to Life.™

Thank you!