

3M Science.
Applied to Life.™

3M™ VHB™ Tape RP+ Family

Training presentation for US channel
and 3M sales representatives

2023



3M™ VHB™ Tape and RP+ family overview

3M™ VHB™ Tape

3M™ VHB™ Tape is a double-sided acrylic foam tape of durable all-acrylic construction.

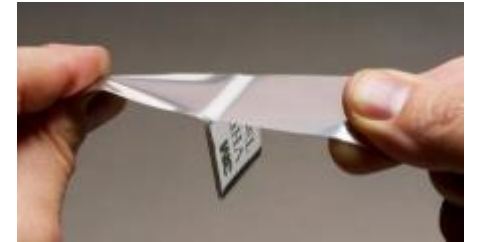
It can be used in many industrial applications to replace mechanical fasteners.



Characteristics

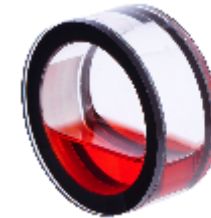
Viscoelasticity

- ▶ The foam provides the strength
- ▶ The foam protects the bond
- ▶ Excellent on cyclic loading applications
- ▶ Vibration and fatigue resistant (NVH)



Bonds and seals

- ▶ 100% closed cell adhesives

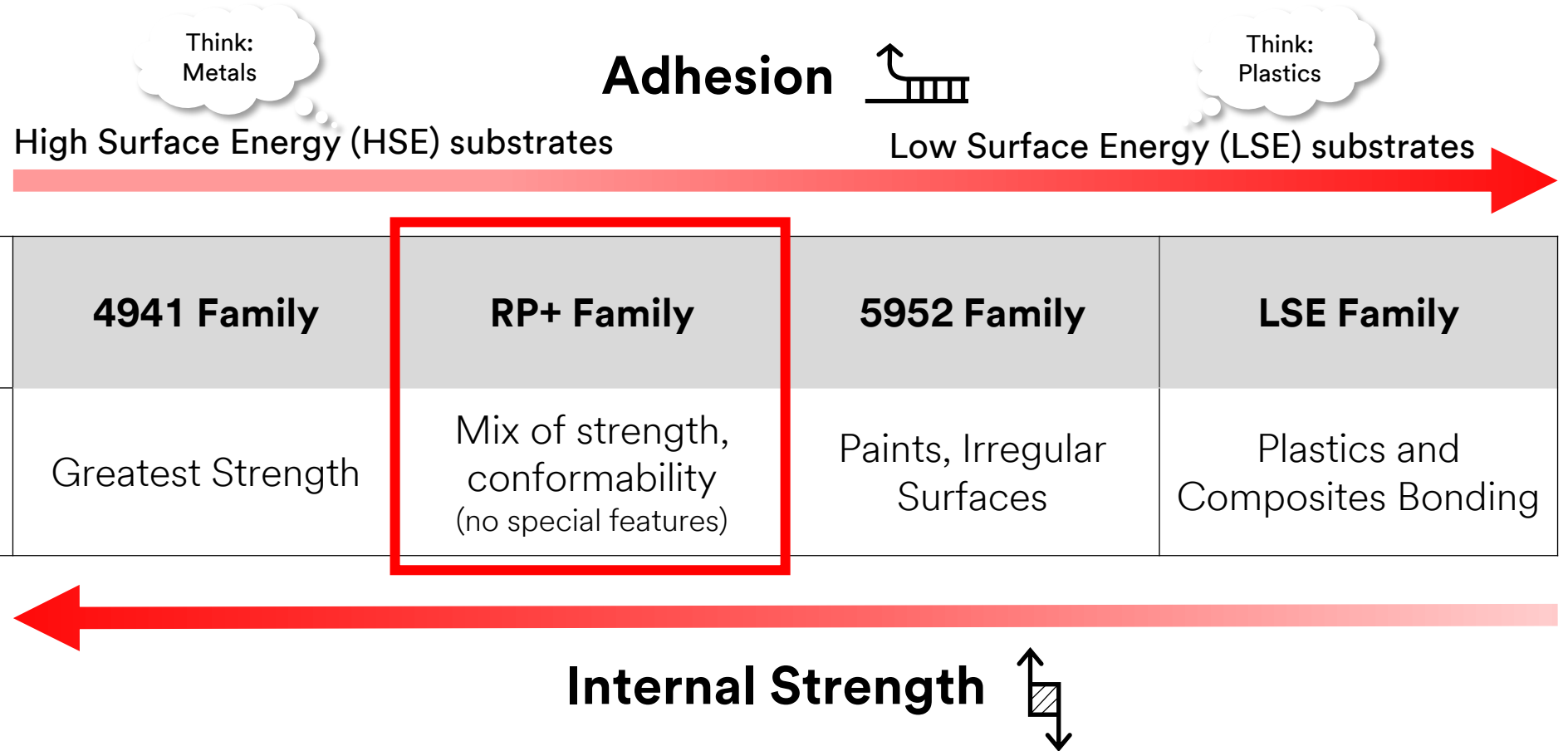


Durability

- ▶ All-acrylic construction
- ▶ Proven long-term durability in many applications
- ▶ Reliable. Introduced by 3M in 1980



Go-to 3M™ VHB™ Tape Families



There are four go-to families of 3M™ VHB™ Tapes.
The RP+ family is the go-to solution for simple applications where no special features are required.

3M™ VHB™ Tape RP+ Family

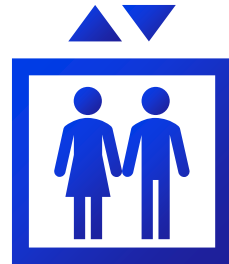


When special features aren't required for an application the 3M™ VHB™ Tape RP+ Family can meet many bonding needs.

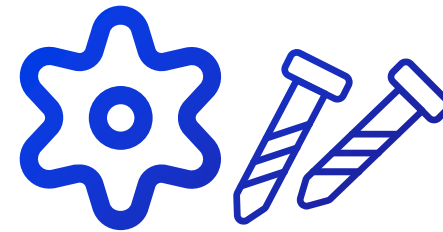
Target Markets:



Signage



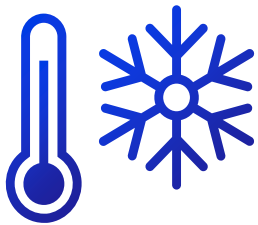
Elevator/Escalator



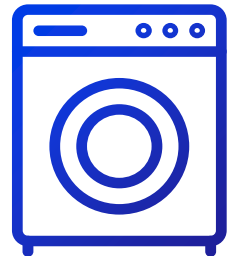
Metalworking / Fabrication



General Industrial



HVAC



Appliance

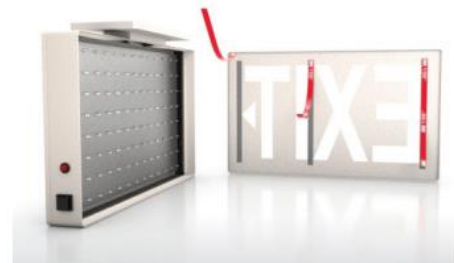
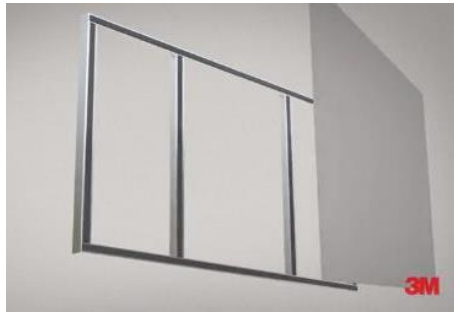


Furniture



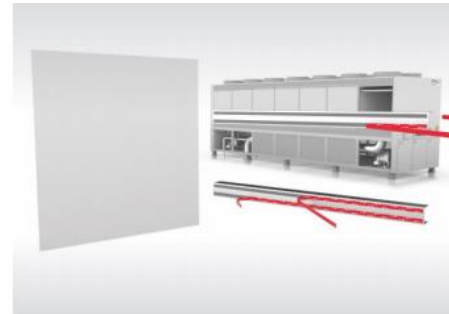
Maintenance/Repair (MRO)

RP+ supports core applications for 3M™ VHB™ Tape



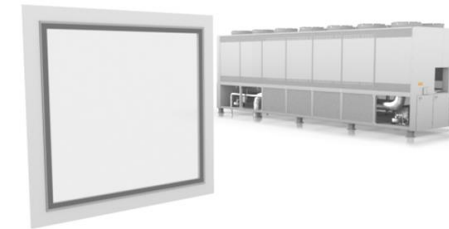
Panel to Frame

Solve dynamic force challenges while reducing weight and producing a clean, sharp look. Ex. Signage, SV&RV, HVAC, Elevator, Door panels



Stiffener to Panel

Experience the freedom to create unique designs with exceptional vibration and corrosion resistance. Ex. HVAC, Appliance, Metal Fab., SV, Furniture



Lens Window to Housing

Apply a secure seal to dissimilar materials, while enhancing productivity and design innovation. Ex. Mainly Converter Business/ Die cut parts, Electronics



BrandLogo




Decorative Material Attachment


Advance your product performance with increased flexibility in production and design. Ex. Mainly Converter Business/ Die cut parts, Electronics

3M™ VHB™ Tape RP+ Family



Product details:

Product	Caliper (mm/mils)	Liner
RP+040GF	0.4 / 15.7	Film 
RP+060GF	0.6 / 23.6	
RP+080GF	0.8 / 31.5	
RP+110GF	1.1 / 43.3	
RP+160GF	1.6 / 63.0	
RP+230GF	2.3 / 90.6	

Product	Caliper (mm/mils)	Liner
RP+040GP	0.4 / 15.7	Paper 
RP+060GP	0.6 / 23.6	
RP+080GP	0.8 / 31.5	
RP+110GP	1.1 / 43.3	
RP+160GP	1.6 / 63.0	
RP+230GP	2.3 / 90.6	

Decode the Product Naming Convention:

Example: RP+110GF

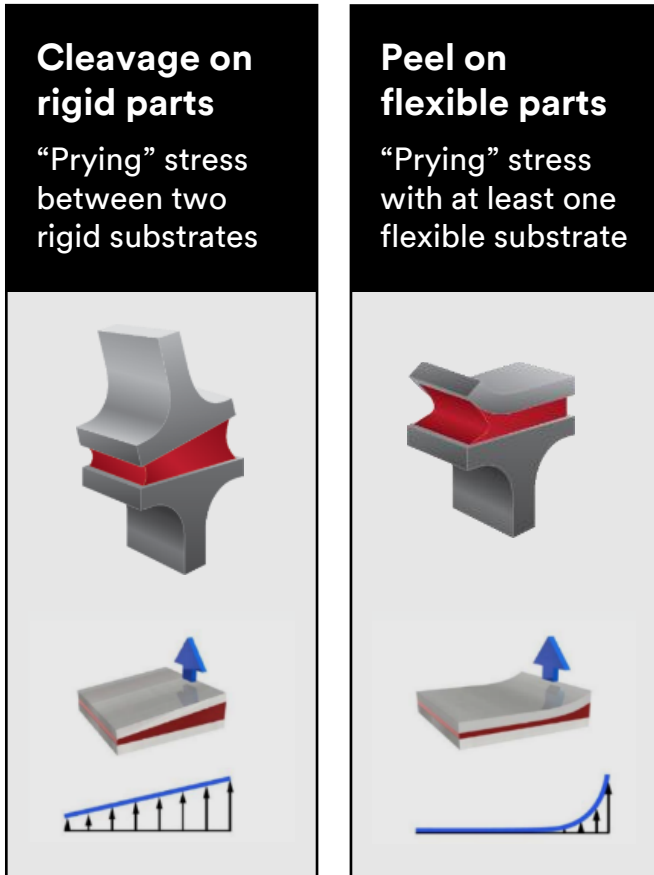
RP+:	Right Product	G:	Gray
110:	1.10 mm thickness	F:	Film liner



Made in the USA with globally sourced raw materials.

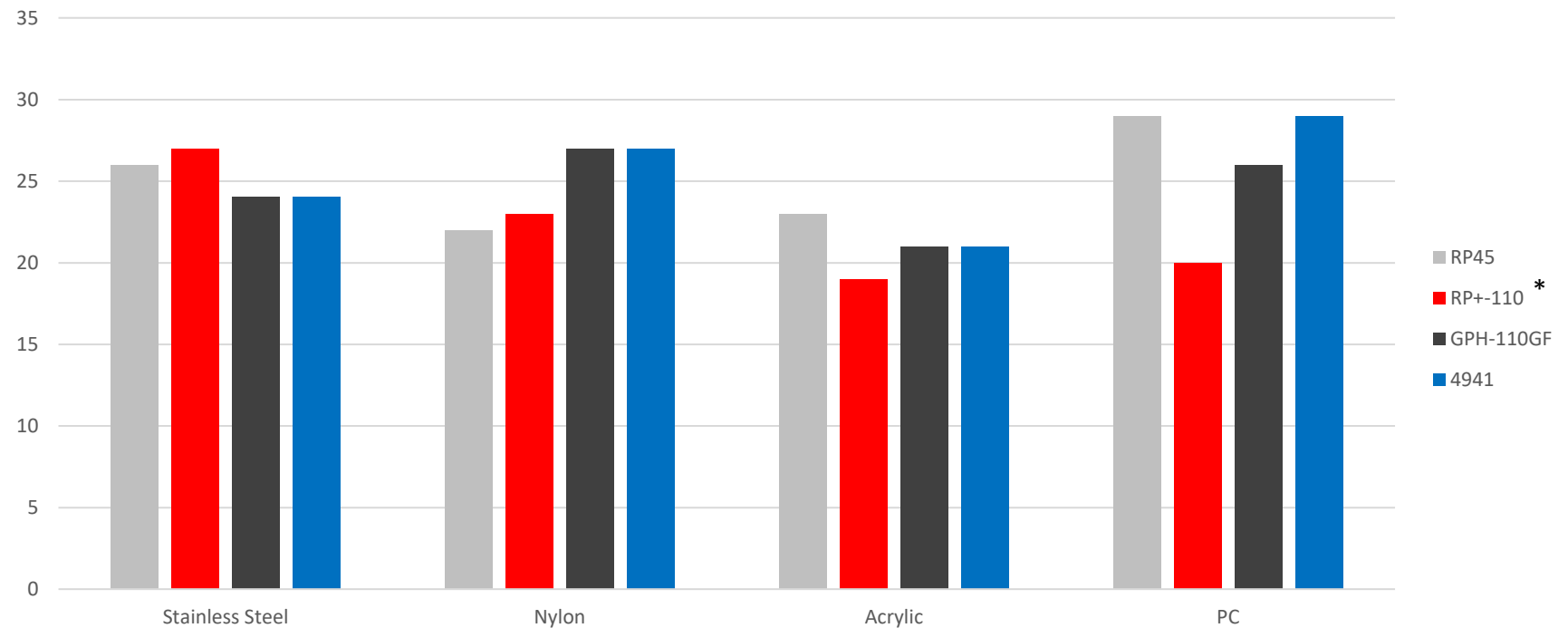
Technical features

Peel Adhesion Values



ASTM D-330 Standard

Peel Adhesion To Various Substrates - ASTM D-3330

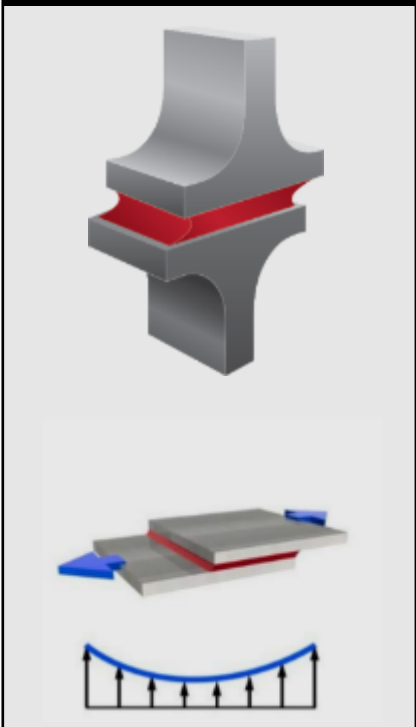


* adhesion meets ASTM standard performance guidelines on common substrates

Dynamic Overlap Shear: Strength

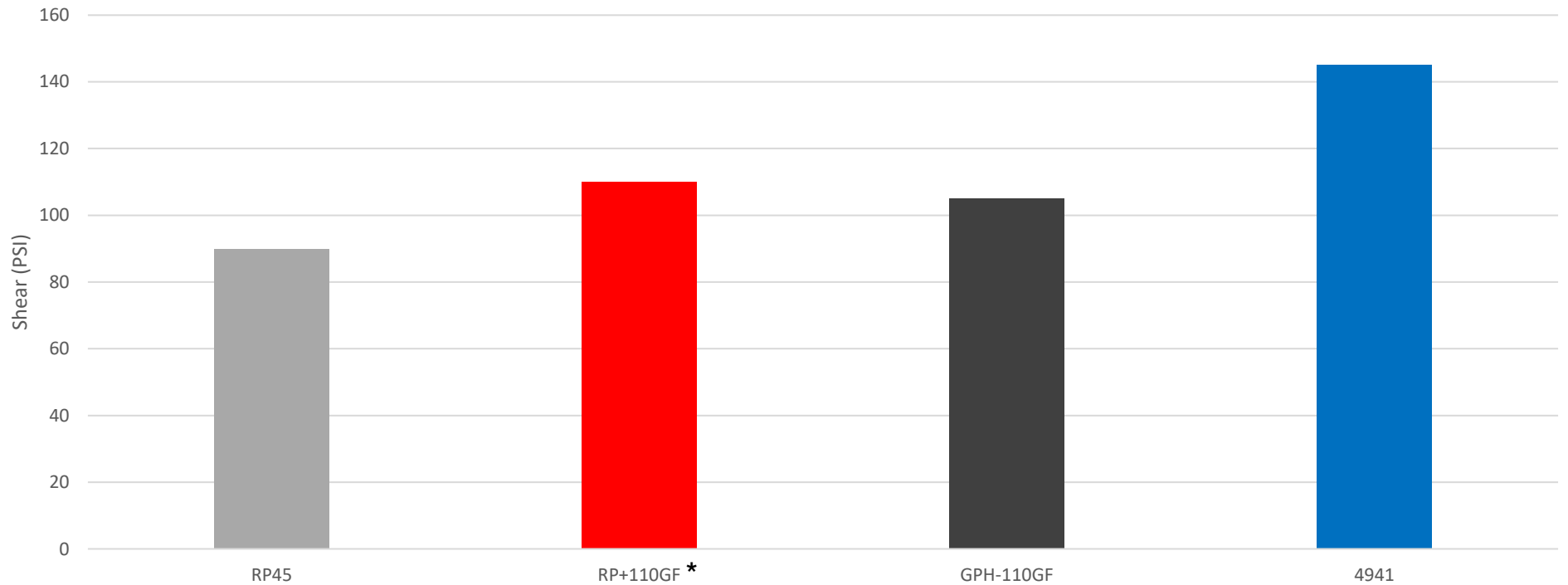
Shear

“Sliding” stress acts parallel to bond plane



ASTM D-1002 Standard

Dynamic Overlap Shear - ASTM D-1002

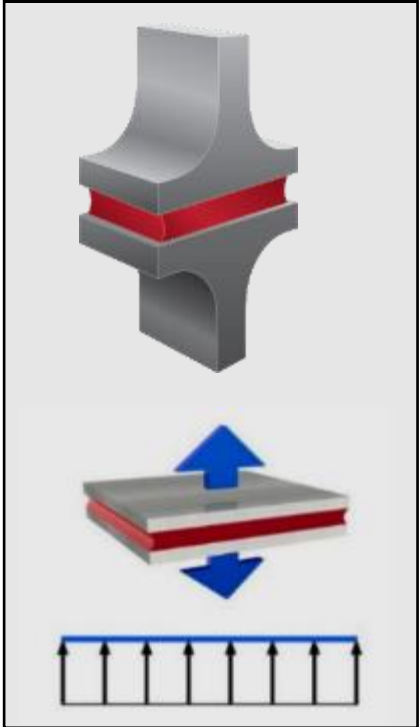


* offers a strong balance of adhesion and strength for common VHB applications

Tensile Strength

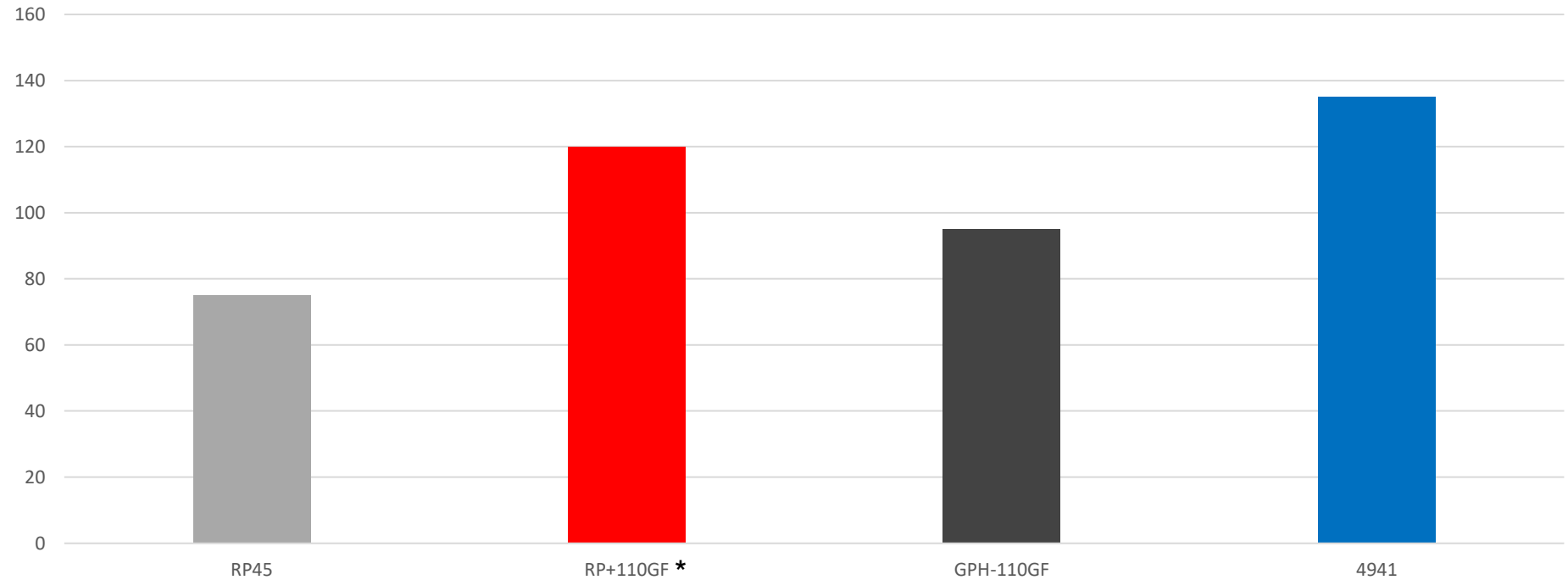
Tensile

“Pulling” stress acts perpendicular to bond plane



ASTM D-987 Standard

Tensile Strength- ASTM D-897



* features formidable tensile strength, which translates to reliable toughness and holding power in many applications

How to ensure a successful 3M™ VHB™ Tape application

Key factors to ensure a successful application

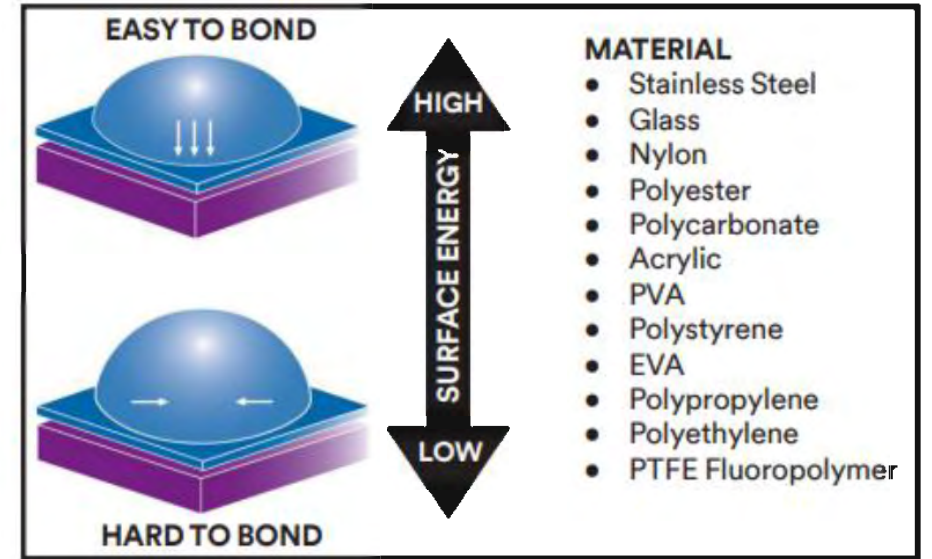
Make sure the **tape sticks to the surfaces**

- Substrate characteristics are important – surface energy
- Clean surface, near room temperature
- Use the thickness required to cover substrates
- Evaluate Primer 94 when necessary to improve adhesion

Use **enough tape** to handle the stresses

- Static and dynamic forces are different
- Static (dead load) – Use 4 in² of tape per 1 lb.
- Dynamic (wind load, vibration) – 12 psi
- Sufficient tape caliper thickness to bridge irregular gaps at bond line

Source: [Hydrophilicity and surface energy, a little of the Science behind the test strip.](#)

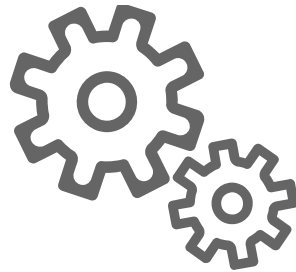


3M™ VHB™ Tape application process



1. Clean

IPA/Water
or Acetone



2. Pressure

Tape Bond Line Should
Experience 15 PSI



3. Temp

Typically 50-60°F
(Some to 32°F)



4. Time

50%	@20 min
75%	@ 1 hr
90%	@ 1 day
100%	@ 3 days

Note: Primers greatly accelerate bond-build rate

Resources

Resources



Digital Toolkit

Includes:

Technical Assets:

- [Data Package](#)
- [Technical Data Sheets](#)
- [Article Information Sheet](#)
- [Regulatory Data Sheet](#)

Sales Tools:

- [Flyer](#)
- [Training Deck](#)

Marketing and Advertising Assets:

- Banner ads (see [toolkit](#) for size options)
- Product photography (see [toolkit](#) for options)



Find a 3M rep

If your application is **more complex** or **requires special features**, or you'd like to **request a sample** or **test your substrates**, contact your local 3M bonding and assembly specialist for further assistance.

Visit 3M.com/vhb to learn more.

Thank You

For more information visit: [3M.com/VHB](https://www.3M.com/VHB)