



Product Launch Package 3M™ VHB™ Tape GPH series

October 2017

3M™ VHB™ Tape GPH series: The new tape naming guide.

3M™ VHB™ **GPH–110GF**

Feature / Benefit

Configuration / Format:
Thickness, Color, Liner

GPH: General Purpose High Temperature

110: 1.10mm thickness

G: Grey

F: Filmic Liner

Overview - *Why do we need 3M VHB Tape GPH Series?*

- Unique solution for General Industrial Applications (HSE/MSE)
 - High Temperature Resistance
 - Multi Material Bonding
- 3M VHB Tape GPH Series: one tape for many applications:
The new 3M VHB Tape generation GPH series replaces RP and 4611



Product advantages

- High temperature resistance: Full bonding performance
up to +230° C / +446° F short term
up to +150° C / +302° F long term.
- Multi material bonding: Good peel and static shear performance on HSE and MSE substrates:
 - Static Shear 90° C on Steel - 500g
 - 90° Peel on Steel - 39 N/cm (22 lb/in)
- 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

Value Proposition: *Cost Effective Solution with Upgraded Performance for General Purpose and High Temp Applications*

- **Target group:** Core features are relevant to Core BTCS market segments:
 - General industrial applications (HSE/MSE) such as multi material bonding, and high operating temperature applications
 - Major industries: metal fabrication, appliances, signage, specialty vehicles
- **Value: one tape for many applications:**
 - High temp resistance of +230° C (short-term)
 - Good peel strength and static shear performance on HSE & MSE substrates
 - High initial handling strength
 - Conformable foam

Technology & Product Construction

- 3M VHB Tape GPH series will be
 - **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



Technology & Product Construction

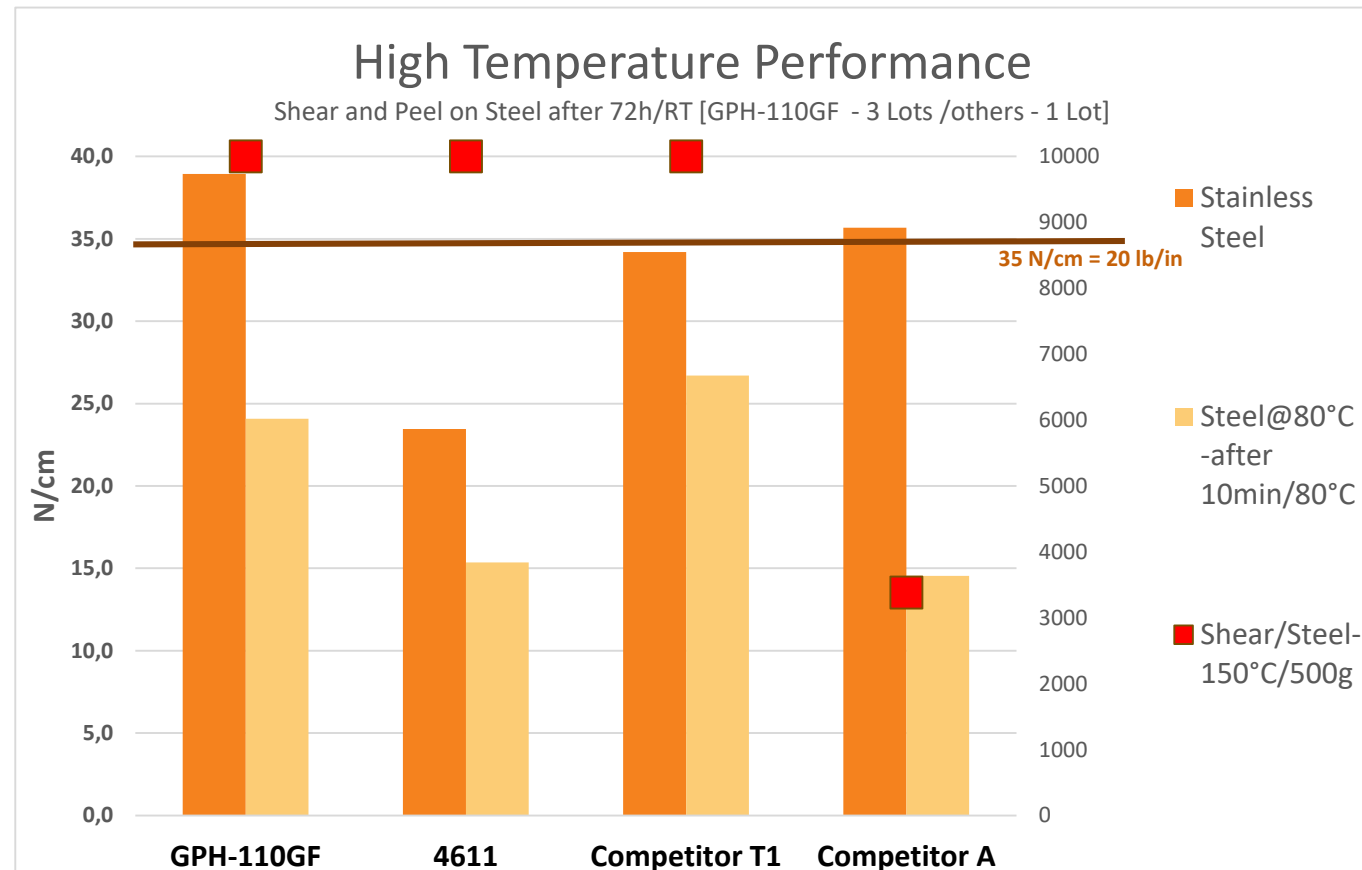
Balanced Properties with High Temperature Performance

	GPH Series	4611	RP	Competitor T		Competitor A
				T1	T2	
Temperature Resistance	+	+	—	+	—	=
Adhesion to HSE	+	—	+	+	+	+
Adhesion to MSE	+	—	+	—	=	—
Conformability	+	—	+	+	—	—
Initial Tack	+	—	+	—	+	—

It combines the best features of RP and 4611 in one tape.

High Temperature Resistance:

- Customer field tests confirmed GPH withstands temperatures up to +230° C / +446° F and is able to perform in powder coat and liquid paint processes.
- GPH offers improved short term high temperature stability compared to 4611.
- Field tests proved that GPH bonds in applications where 4611 does not.
- While temperature resistances between GPH and 4611 on a TDS seem equal, the conformability and high initial tack of the GPH series make it more robust.

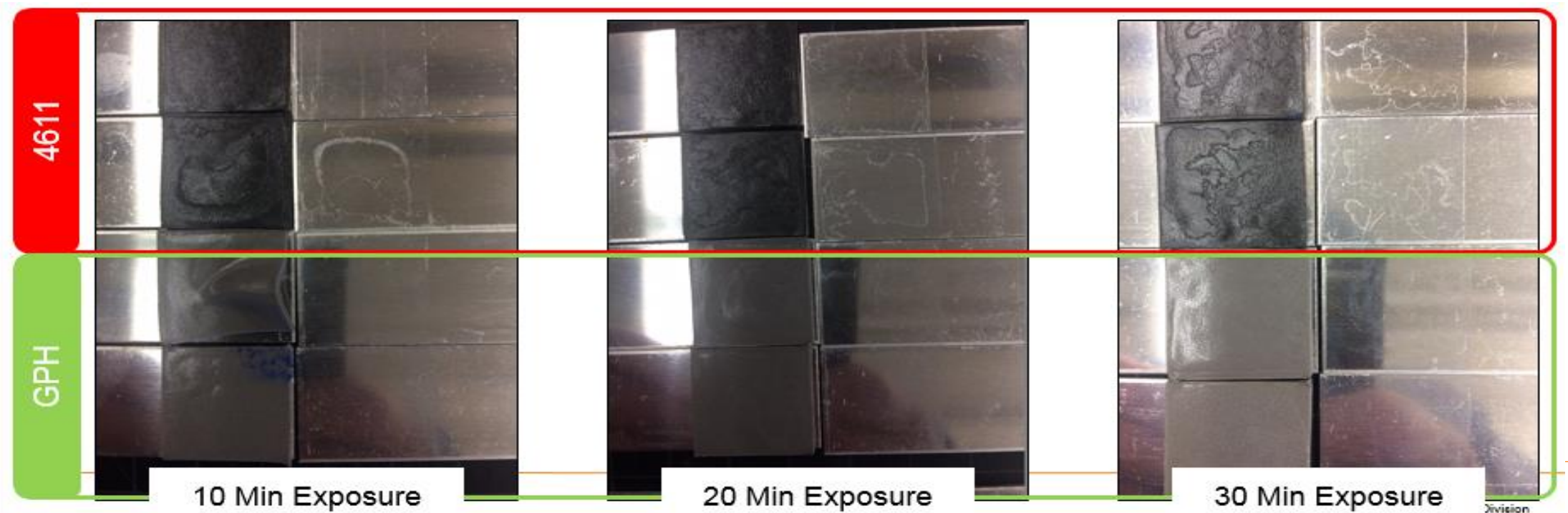


High temperature testing shows the strong peel and shear performance of GPH vs. 4611 and competitor tapes.

High Temperature Resistance:

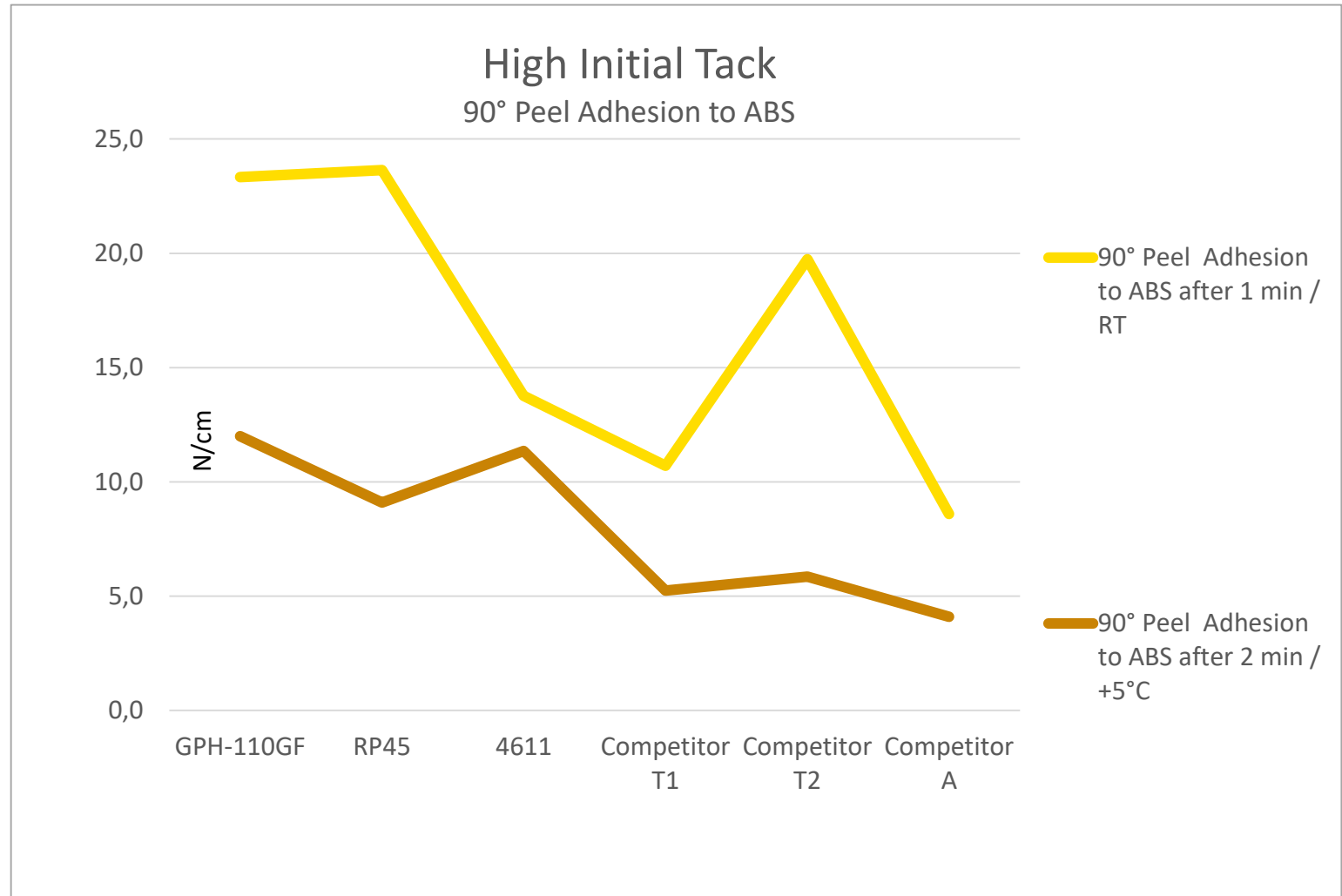
- 3M VHB GPH has improved short term high temperature stability compared to our current offering.
- GPH works in applications where 4611 does not. The combination with other features makes it more robust.
- The picture below shows GPH and 4611 exposed to high temperatures over 10 to 30 minutes.
 - Note the effect of the heat on the adhesive of 4611.

High Temperature Exposure
(+230° C/ 460° F).



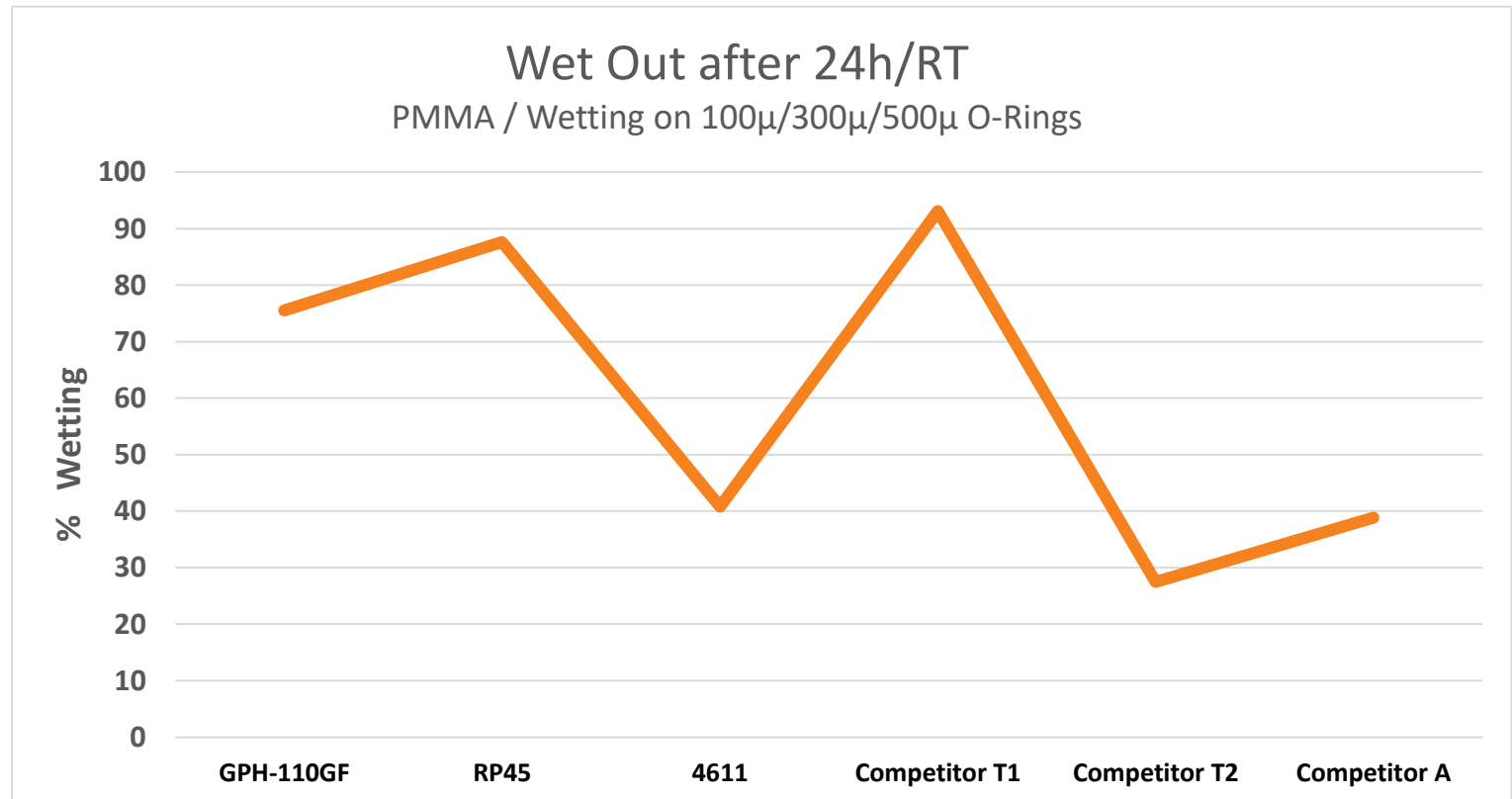
High Initial Tack:

- GPH provides excellent initial tack, significantly better than 4611 and competitive tapes.
 - In both regular and low temperature applications
- 37% of field test participants highlighted the strong initial tack as a improvement over their current solution
- Try it yourself!
Test with your thumb and you will be convinced!



Conformable Foam: 3M™ VHB™ GPH Series Offers Good Conformability

- GPH's conformable foam enables a faster wet out that:
 - Increases bond line adhesion
 - Enables quicker bond and handling strength
 - Drives better high temperature stability
- Wet out is similar to RP series, faster than firm tapes like 4611 and T2.
- Competitive Tape T1 has faster wet out, but does not match the GPH series' full combination of features

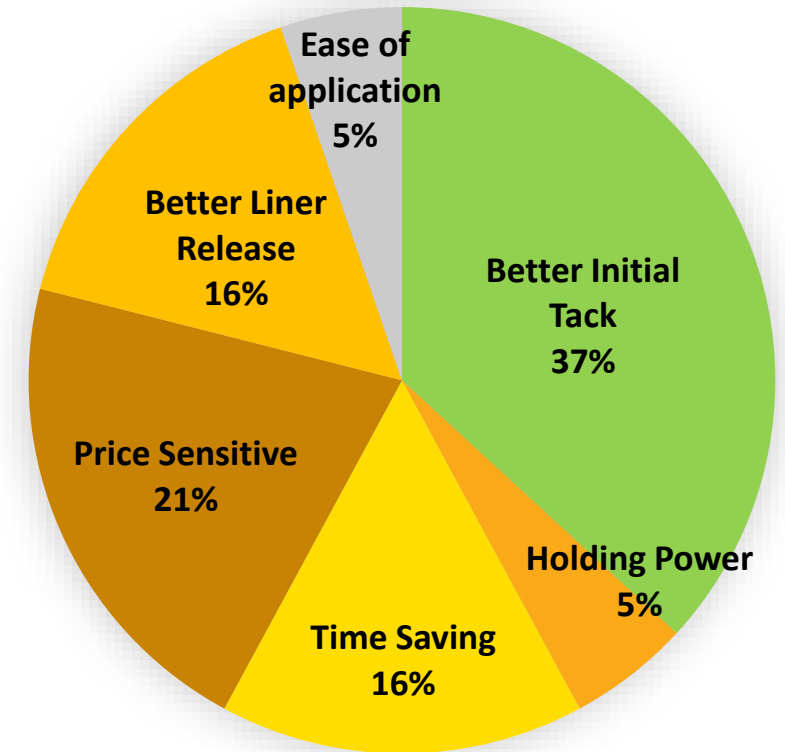


Customer field test feedback

Customers expressed strong interest in 3M VHB GPH

- Excellent performance in high temp applications
- High initial tack and liner release
- One tape for many applications: simplify the customer's process
- Over 80% of field testers were promoters of the program

3M VHB GPH Advantages and Comments



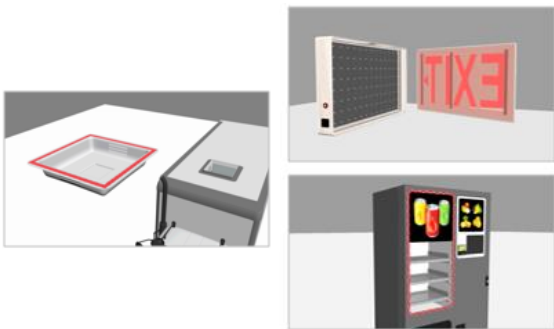
Cost & Price

STOCK NBR.	DESCRIPTION	UNIT	MOQ	LIST PRICE EUR
UU008019414	GPH-060GF VHB 1080mm x 33m	RLS	1	1.176,12
UU008032995	GPH-060GF VHB TAPE 12MM X 33M 1 8RoII/CV	RLS	18	14,26
UU008039255	GPH-060GF VHB TAPE 19MM X 33M 1 4RoII/CV	RLS	14	22,57
UU008041129	GPH-060GF VHB TAPE 25MMx33M 1Ro II/CV	RLS	7	29,70
UU008019976	GPH-110GF VHB 1080MM x 33M	RLS	1	1.359,54
UU008024570	GPH-110GF VHB 12mm x 33m	RLS	18	16,60
UU008024554	GPH-110GF VHB 19mm x 33m	RLS	14	26,27
UU008024562	GPH-110GF VHB 25mm x 33m	RLS	7	34,56
UU008019984	GPH-160GF VHB 1080mm x 33m	RLS	1	1.569,73
UU008041137	GPH-160GF VHB TAPE 12MMx33M 1Ro II/CV	RLS	18	19,16
UU008039248	GPH-160GF VHB TAPE 19MM X 33M 1 4RoII/CV	RLS	14	30,35
UU008041145	GPH-160GF VHB TAPE 25MMx33M 1Ro II/CV	RLS	7	39,93

Target Applications: It's time to replace screws, rivets, welds and other traditional fasteners.

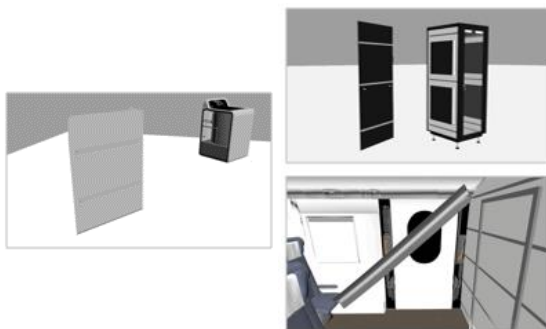
Panel to Frame

Solve dynamic force challenges while reducing weight and producing a clean, sharp look.



Stiffener to Panel

Experience the freedom to create unique designs with exceptional vibration and corrosion resistance.



Lens Window to Housing

Apply a secure seal to dissimilar materials, while enhancing productivity and design innovation.



Decorative Material Attachment

Advance your product performance with increased flexibility in production and design.



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)

Market and Customer Segment: Applications with High Long Term Temperature Requirements

- There are many other applications that require 3M VHB GPH's **long term** temperature resistance (+150 C)
 - Applications can be across all VHB core markets, but we have seen strong initial opportunities in:
 - Appliance: For applications like **glass panel cooktops** GPH can provide long term strength at elevated temperatures
 - Specialty Vehicle: Can be used for **exterior attachment to engine components like nameplates & badging**
 - Signage: For applications using **LED lighting**
 - But, this is just scratching the surface. **Look in your geography for applications where GPH's best in class long term bonding can offer increased value**



Sales Approach: How to Demo High Initial Tack.

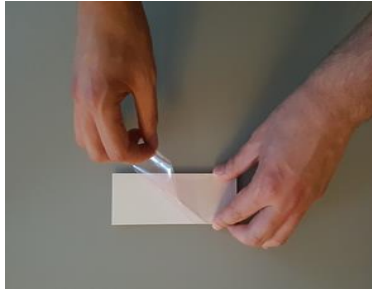
1

Chose your substrates:
ABS, Aluminum, PA6;
Include Cleaning Sachets



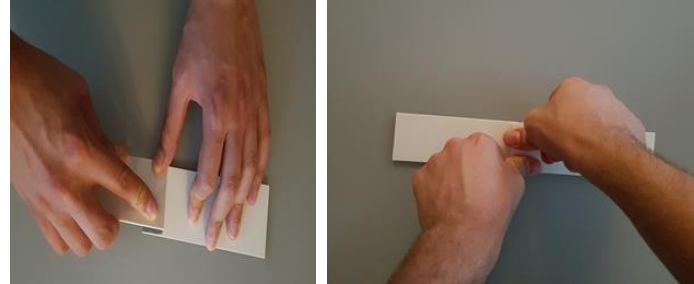
2

Remove protective
films or clean
substrates that are not
protected.



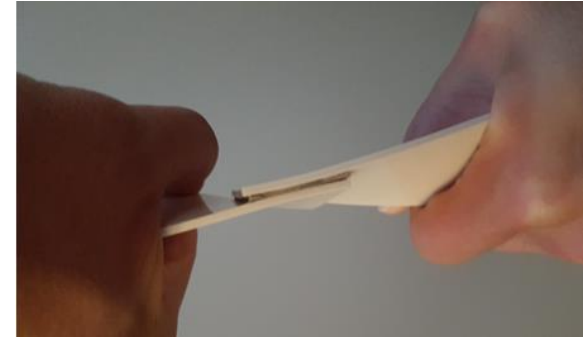
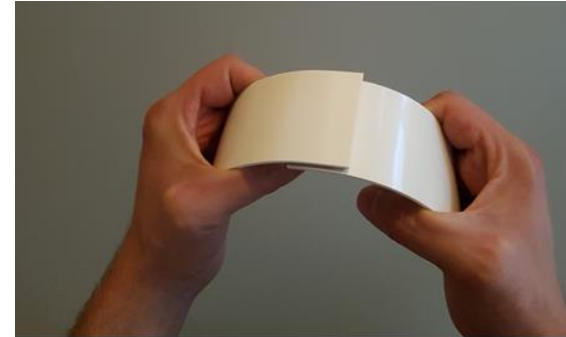
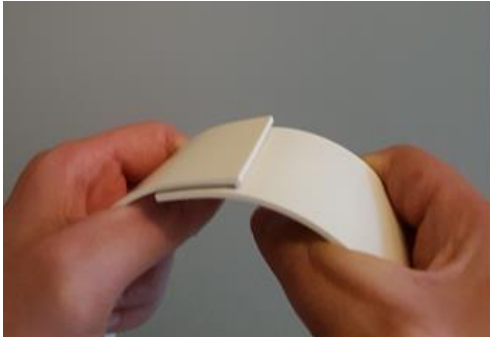
3

Adhere the substrates,
and apply pressure for
min. 5 seconds



4

Pull the
substrates
apart. Let the
customer try
himself.



The 3M™ VHB™ GPH
demo is intended to
demonstrate
high initial tack
to dissimilar
materials.

Launch materials:

Promo Video:

<https://www.youtube.com/watch?v=b6adX4hdAeg>

Brochure:

<http://multimedia.3m.com/mws/media/1268233O/j340914vhb-gph-brochure-2016.pdf>

Thank you!

**3M (EAST) AG
IBG South East Europe
Industrial Tapes and Adhesives Division**

For all further inquiries please contact 3M Sales representative.