

3M Science.
Applied to Life.™

Bonding and Assembly Solutions

3M™ VHB™ Tapes



Conquer design challenges with 3M bonding solutions

3M

VHB[™]
Tape Since 1980

Acrylic Foam Tapes

Dream. Design. Deliver.

3M[™] VHB[™] Tapes

Offers design flexibility

Multi-material bonding

Simple, quick and easy

Invisible bond

Durable seal



Scotch-Weld™
Structural Adhesive

Structural Adhesives

Strong and reliable bonds, even in the toughest of conditions

3M™ Scotch-Weld™ Structural Adhesives

High adhesion strength

Automation ready

Design flexibility

Withstands harsh environments

Maximizes process throughput

Simplifies installation



Thin Bonding Tapes

Thin Bonding Tape

Thin, durable and flexible, to meet every unique design need

3M™ Thin Bonding Tapes

UV resistance

Hard-to-bond materials

Thin and flexible

Withstands harsh environments

Electromagnetic transparency

High temperature resistance

FPC process compatible

Offers design flexibility

Segment

Washing Machine

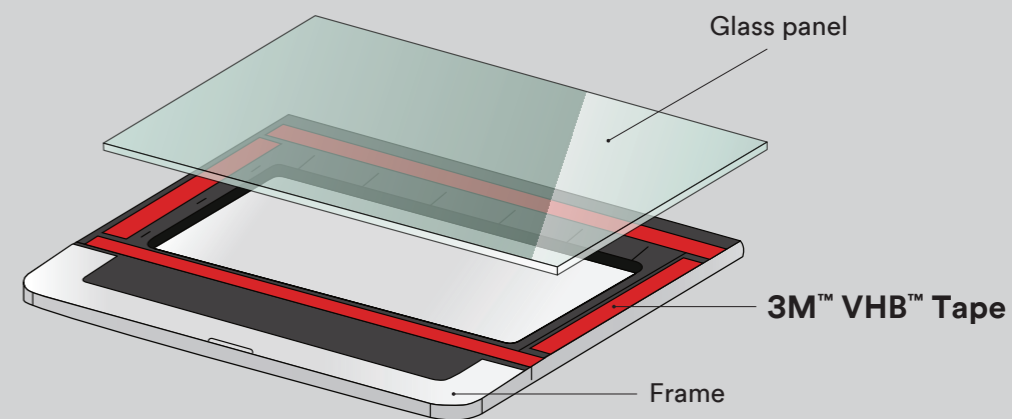
Trend

Glass panel/PP injection molding parts



Request

1. Multi-material Bonding
2. Design Flexibility
3. Process Flexibility



3M™ VHB™ Tapes Solution

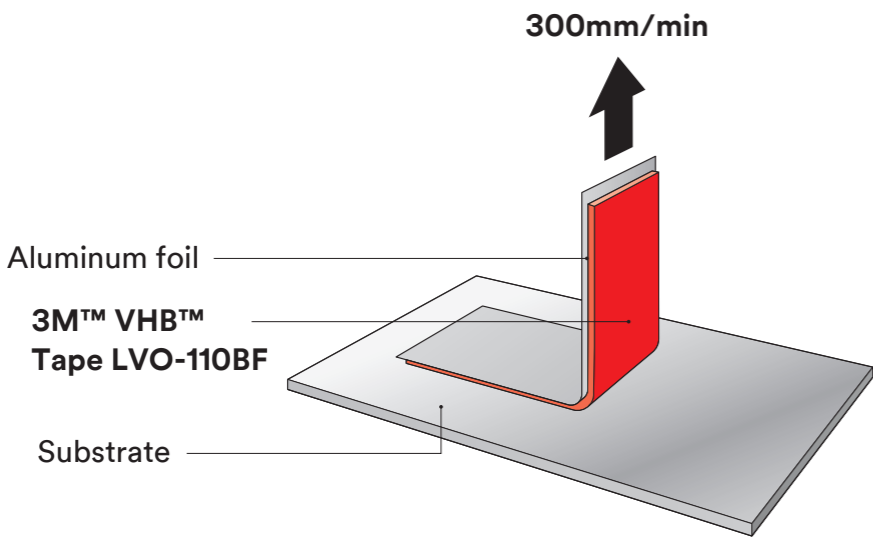
1. Bonds a variety of materials including polypropylene
2. Strong adhesion
3. Black color

3M™ VHB Tape
LVO-110BF

90° peel adhesion comparison on a various substrates

Test method

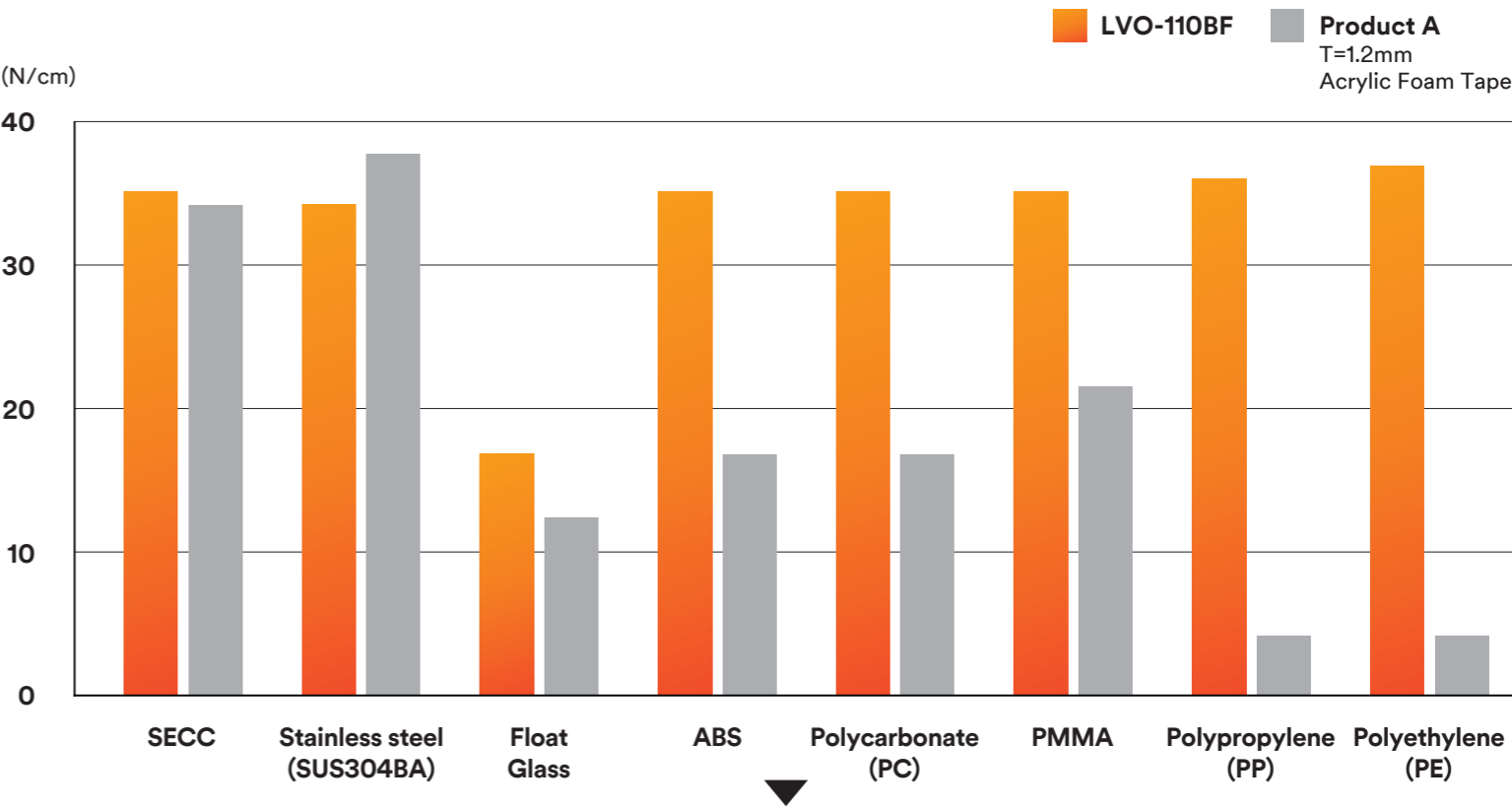
90° peel adhesion



Tape	3M™ VHB™ Tape with Aluminum foil
Tape Size	W=25mm x L=100mm
Lamination Method	Two round-trip press with 10kg rubber roller (300mm/min)
Dwell Condition	23°C x 72 hours
Test Speed	90° Direction, 300mm/min

Result and observation

Excellent adhesion to a wide variety of substrates including low surface energy materials such as PP and PE



Join multiple materials, Design flexibility

Above values are representative or measured results and does not represent standard or typical values.

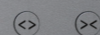
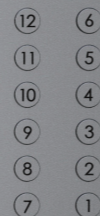
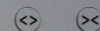
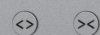
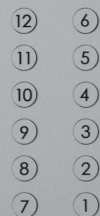
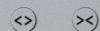
Simple, quick and easy

Segment

Door / Elevator

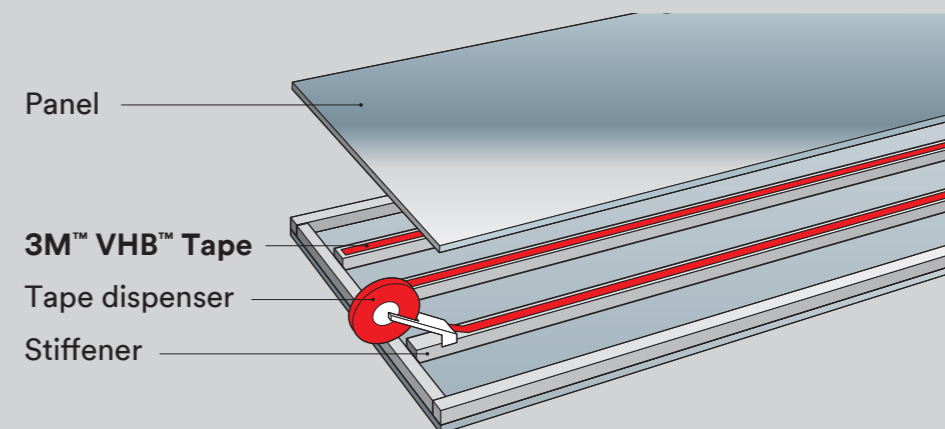
Trend

Structural bonding / Skilled labor shortage



Request

1. Weldless
2. High Productivity
3. Aesthetics
4. Reliability



3M™ VHB™ Tapes Solution

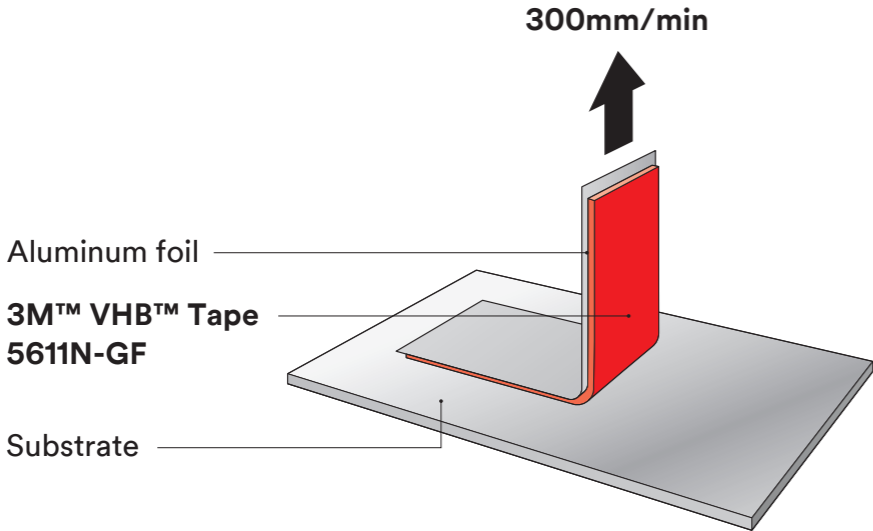
1. Strong adhesion
2. Fast and easy installation
3. Long term durability

3M™ VHB™ Tape
5611N-GF

90° peel adhesion comparison

Test method

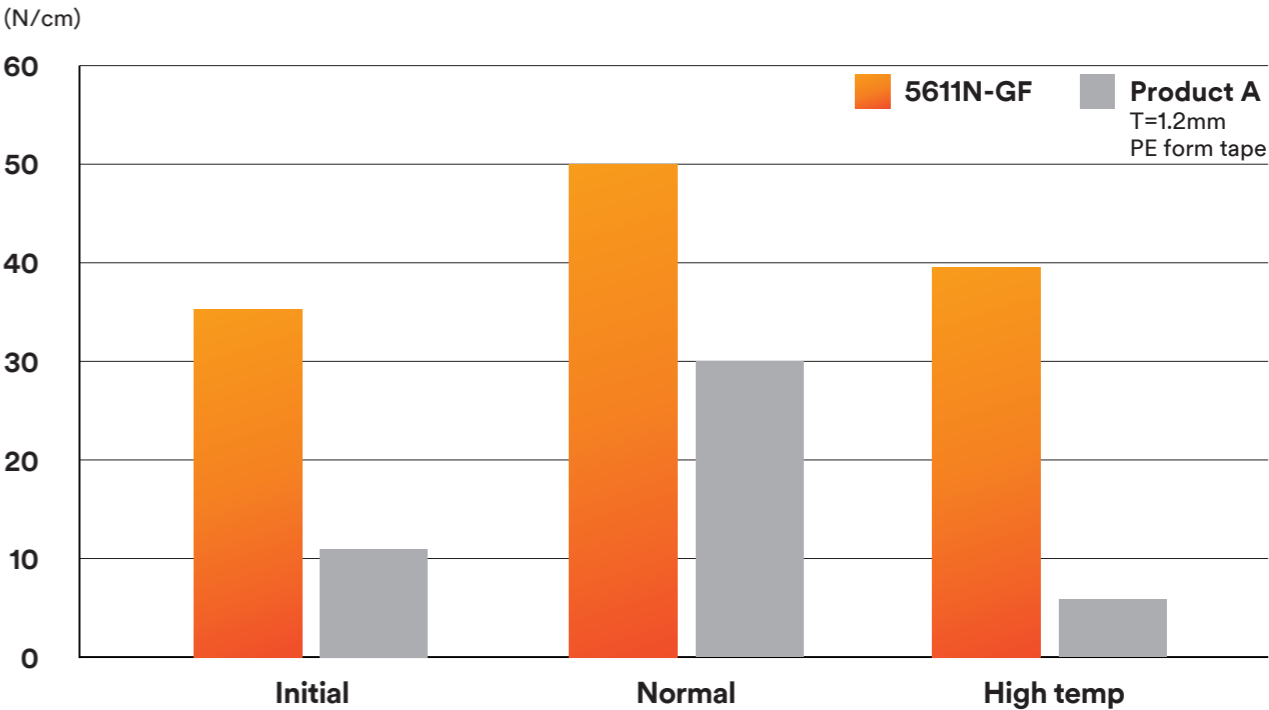
90° peel adhesion



Tape	3M™ VHB™ Tape 5611N-GF (1.1mm thick) laminated on Aluminum foil
Tape dimension	W=25mm x L=100mm
Substrate	Stainless steel (SUS304BA)
Lamination method	One round-trip press with 5kg metal roller
Dwell condition	Initial: RT x 20 min Normal: RT x 72 hours High temp: 80 degree C x 72 hours
Test condition	Initial, Normal: RT High temp: 80 degree C
Test speed	90° direction, 300mm/min

Result and observation

Excellent adhesion in a variety conditions



High adhesion strength and long-term durability

Above values are representative or measured results and does not represent standard or typical values.

Durable seal

Segment

Kitchen / Bathroom

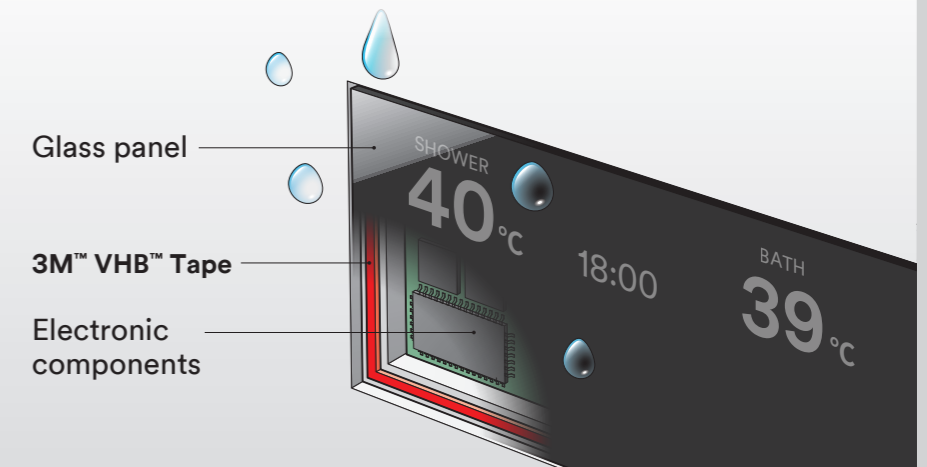
Trend

Smart devices / IoT



Request

1. Waterproofing
2. Narrow Bezel
3. Design and Process Flexibility



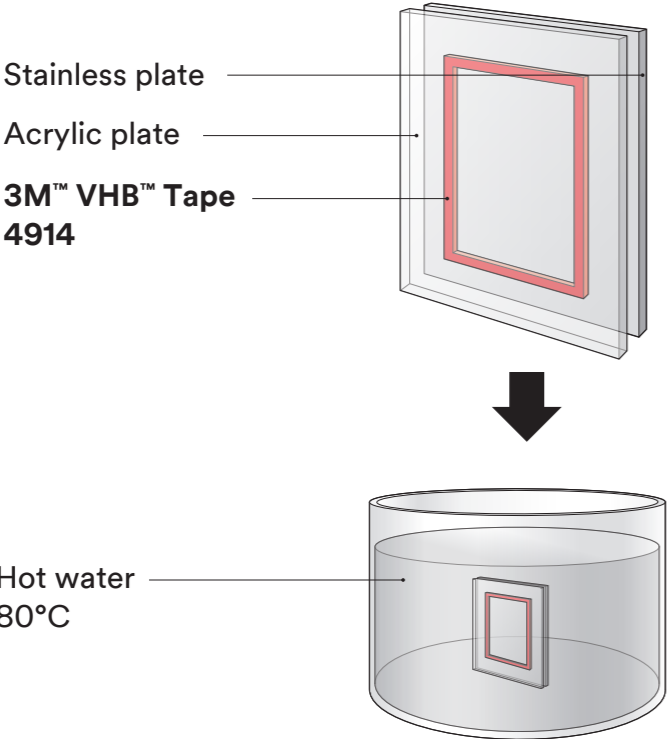
3M™ VHB™ Tapes Solution

1. Protect against environmental exposure
2. Strong adhesion
3. Thin
4. Bonds a variety of materials

Waterproofing with narrow bond width

Test method

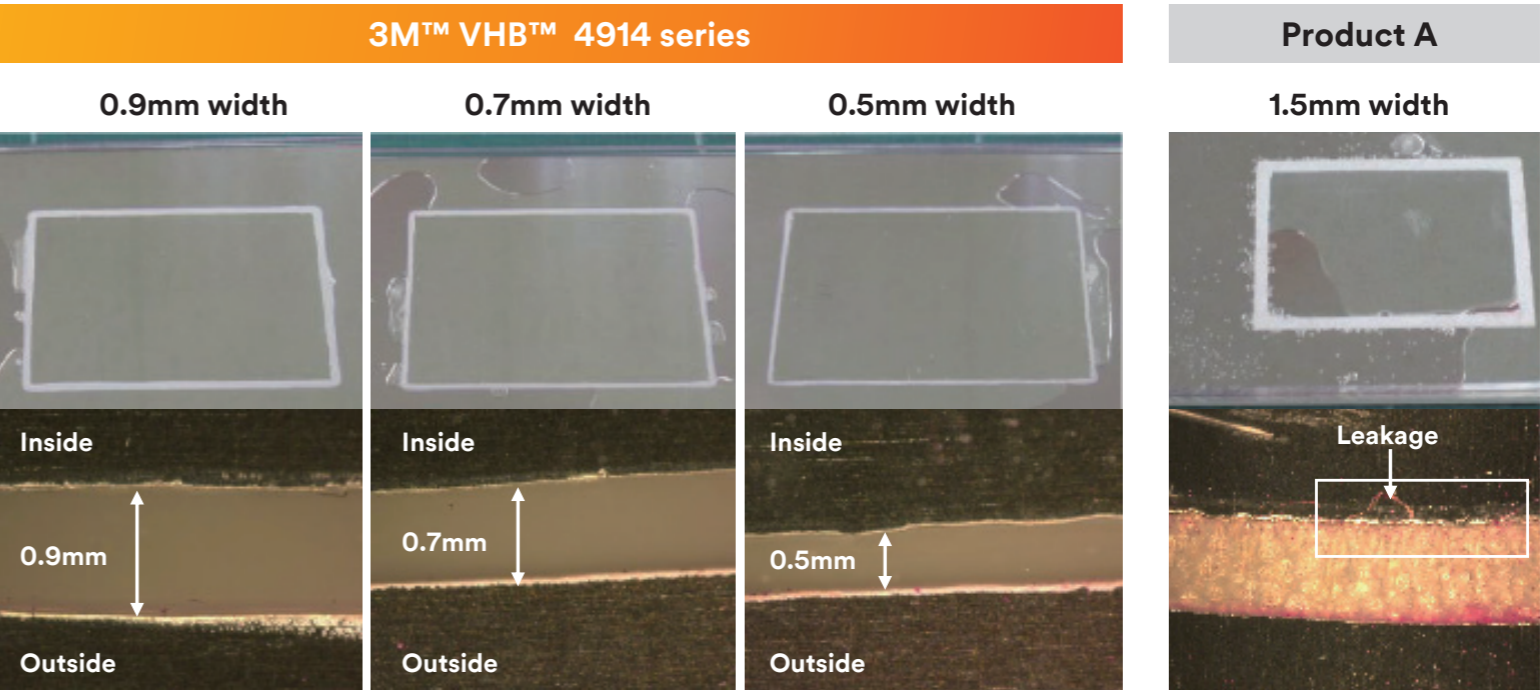
Immersion test in hot water



Substrate	Acrylic plate / Stainless plate
Tape dimension	W=40mm × L=30mm
Tape width	0.5mm, 0.7mm, 0.9mm
Test condition	12 hours Immerse in 80°C hot water

Result and observation

No water leakage through narrow width tape die cut



High degree of protection against water ingress with narrow bond width

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Multi-material bonding

Segment

Signage

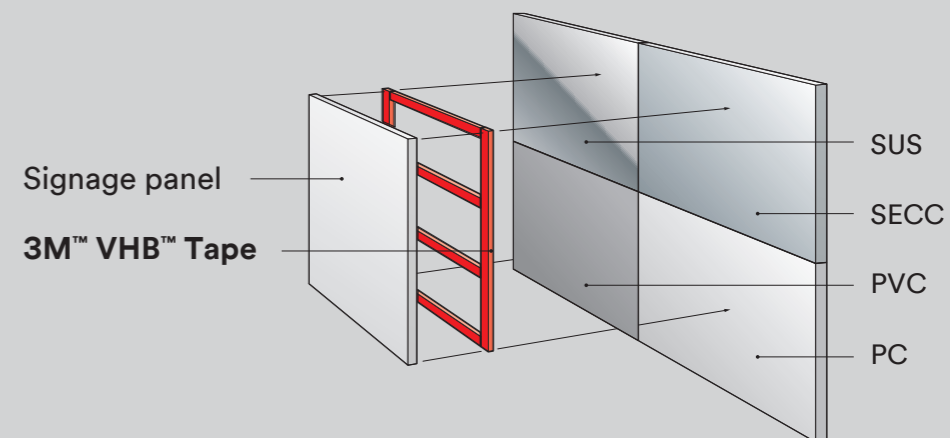
Trend

Multilingualization



Request

1. Multi-material Bonding
2. Easy and Fast Process
3. Weather Resistance



3M™ VHB™ Tapes Solution

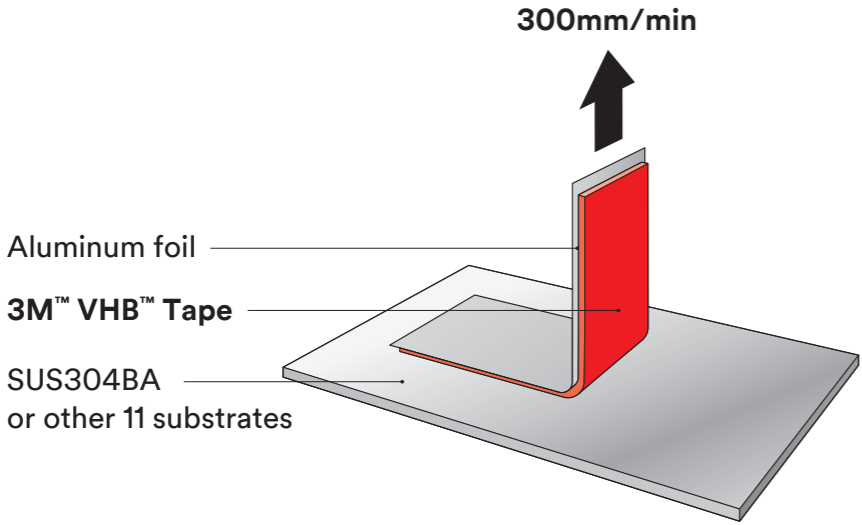
1. Bonds a variety of materials
2. Strong adhesion
3. Water and UV resistant

3M™ VHB™ Tape
GPH-110GF, 5952, LSE-110WF

90° peel adhesion on a variety of substrates

Test method

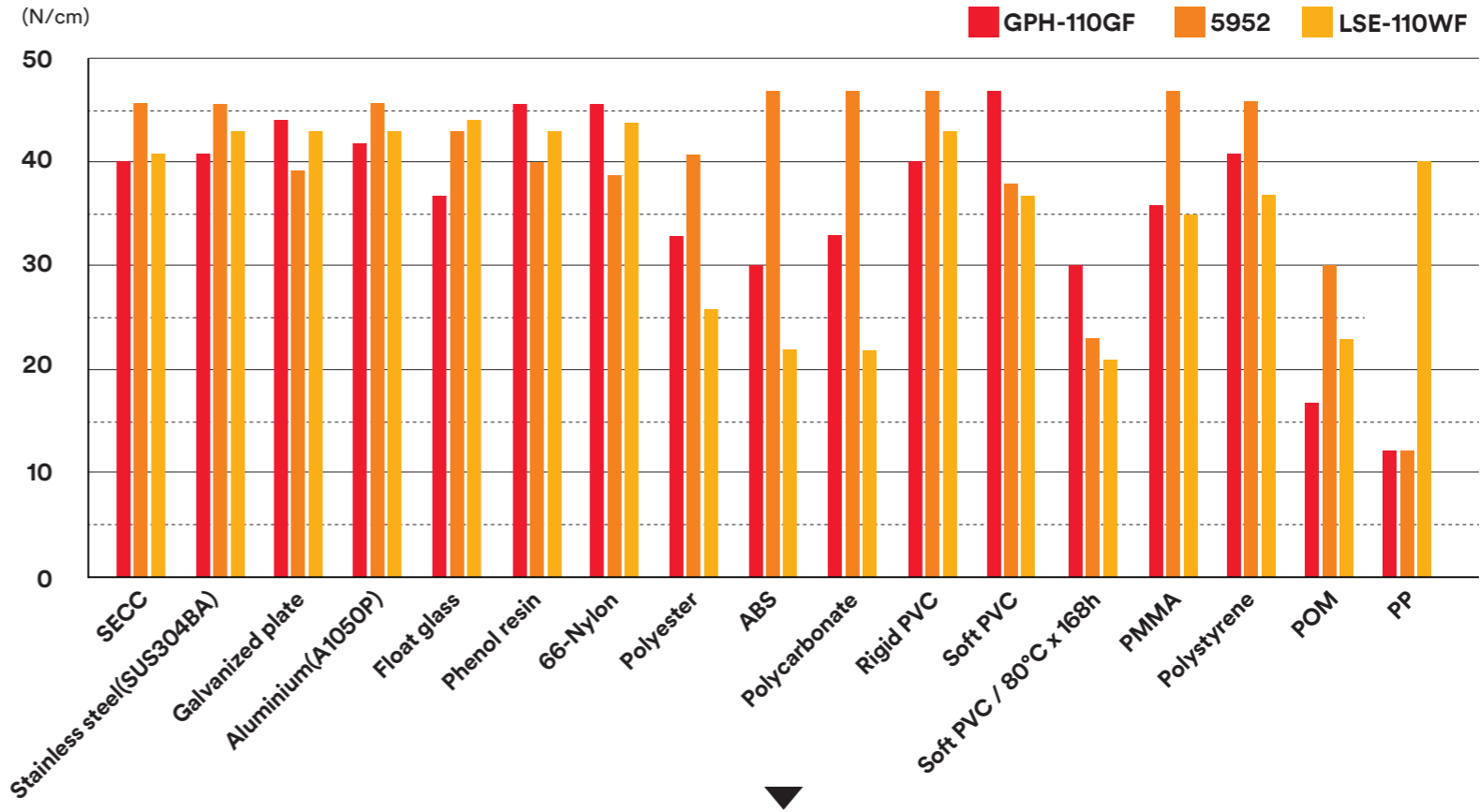
90° peel adhesion



Tape	3M™ VHB™ Tape with Aluminum foil
Tape size	W=25mm x L=100mm
Lamination method	Two round-trip press with 10kg rubber roller (300mm/min)
Dwell condition	RT x 72 hours
Test speed	90° direction, 300mm/min

Result and observation

Excellent adhesion to a wide variety of substrates



Excellent bonding to a variety of materials

Above values are representative or measured results and does not represent standard or typical values.

Invisible bond

Segment

Trend

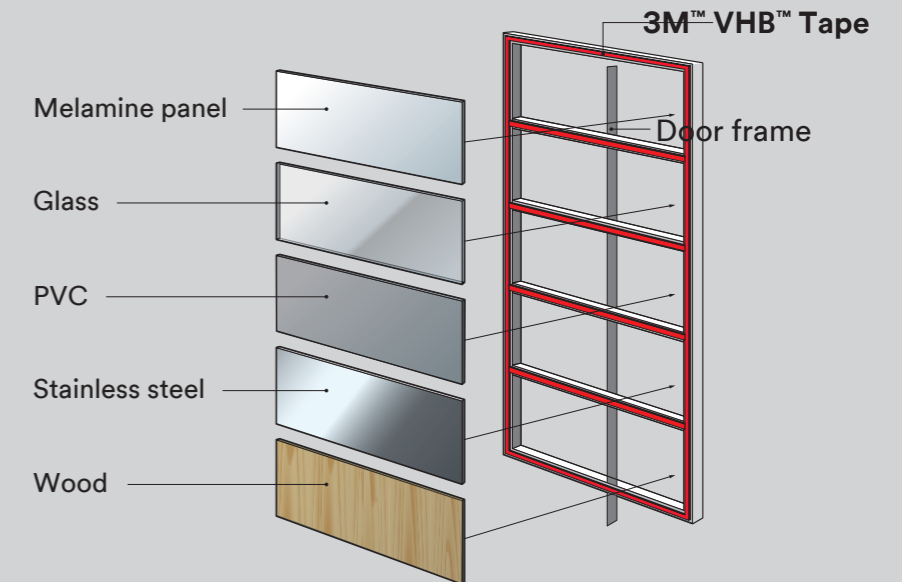
Interior door components

Design flexibility / Customization



Request

1. Aesthetic Design
2. Clean and Neat Finish
3. Light Weighting



3M™ VHB™ Tapes Solution

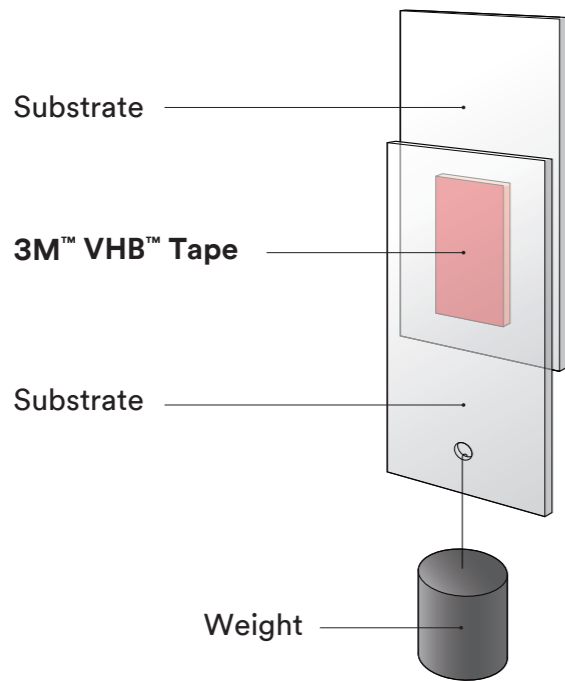
1. High static shear strength
2. Bonds a variety of materials
3. Long term durability

3M™ VHB™ Tape
GPL-110GF

Static shear strength comparison

Test method

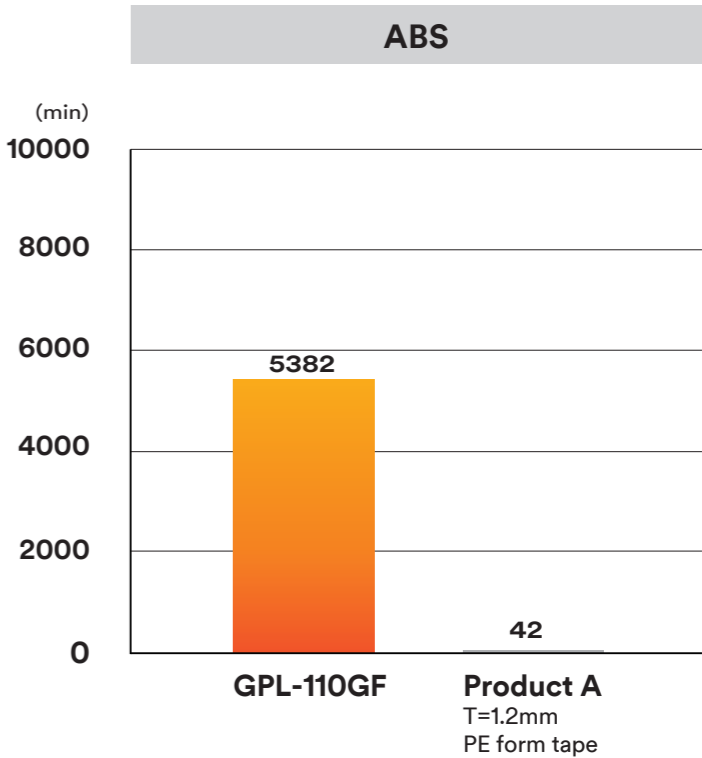
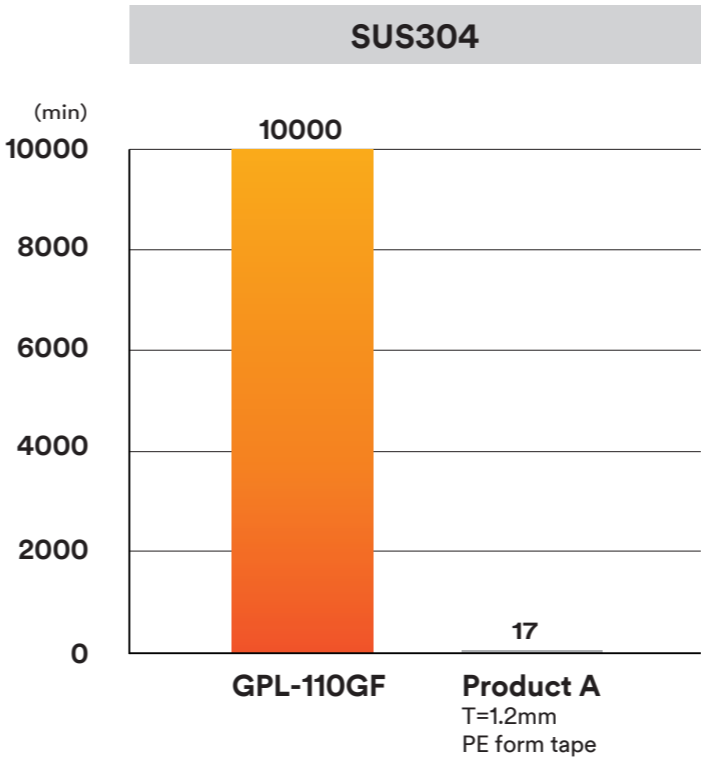
Static shear adhesion



Tape	W=25mm x L=100mm	
Lamination method	One round-trip press with 5kg roller (300mm/min)	
Dwell condition	RT x 72 hours	
Substrate	SUS304	ABS
Weight	1.0kg	0.5kg
Test condition	70°C	

Result and observation

Excellent adhesion to a wide variety of substrates



High static shear strength, enabling aesthetic design

Above values are representative or measured results and does not represent standard or typical values.

Adheres to a variety of substrates including low surface energy materials such as polypropylene (PP)
Low odor, Low VOCs, Has US FDA applicability for indirect food contact applications per 21 CFR 175.105*

Product	Thickness (mm)	Color	Backing Material	Adhesive Type	Release Liner	90° Peel Adhesion (N/cm)	Short Term Temperature Resistance	Long Term Temperature Resistance
LVO-040BF	0.4	Black	Acrylic foam	Rubber	Film	-	121°C	93°C
LVO-060BF	0.6	Black	Acrylic foam	Rubber	Film	23		
LVO-080BF	0.8	Black	Acrylic foam	Rubber	Film	-		
LVO-110BF	1.1	Black	Acrylic foam	Rubber	Film	38		
LVO-160BF	1.6	Black	Acrylic foam	Rubber	Film	37		

General purpose for metals

Product	Thickness (mm)	Color	Backing Material	Adhesive Type	Release Liner	90° Peel Adhesion (N/cm)	Short Term Temperature Resistance	Long Term Temperature Resistance
5604N-GF	0.4	Gray	Acrylic foam	Acrylic	Film	20	149°C	93°C
5604N-GP	0.4	Gray	Acrylic foam	Acrylic	Paper	20		
5604N-WF	0.4	White	Acrylic foam	Acrylic	Film	20		
5604N-WP	0.4	White	Acrylic foam	Acrylic	Paper	20		
5608N-GF	0.8	Gray	Acrylic foam	Acrylic	Film	23		
5608N-GP	0.8	Gray	Acrylic foam	Acrylic	Paper	23		
5608N-WF	0.8	White	Acrylic foam	Acrylic	Film	23		
5608N-WP	0.8	White	Acrylic foam	Acrylic	Paper	23		
5611N-GF	1.1	Gray	Acrylic foam	Acrylic	Film	25		
5611N-GP	1.1	Gray	Acrylic foam	Acrylic	Paper	25		
5611N-WF	1.1	White	Acrylic foam	Acrylic	Film	25		
5611N-WP	1.1	White	Acrylic foam	Acrylic	Paper	25		

High static shear performance with good adhesion to metals, glass and other high surface energy materials

Product	Thickness (mm)	Color	Backing Material	Adhesive Type	Release Liner	90° Peel Adhesion (N/cm)	Short Term Temperature Resistance	Long Term Temperature Resistance
4914	0.25	White	Acrylic foam	Acrylic	Paper	23	149°C	93°C
4920	0.4	White	Acrylic foam	Acrylic	Paper	26		
4930	0.6	White	Acrylic foam	Acrylic	Paper	35		
4950	1.1	White	Acrylic foam	Acrylic	Paper	44		

*Test method: 90° peel adhesion to Stainless Steel, 3M™ VHB™ Tape with aluminum foil, Two round-trip press with 10kg steel roller, 90° peel angle, 300mm/min, after 72h RT dwell, GPL series: ASTM D3330, 90° peel angle @ RT to Stainless Steel, after 72h @ RT dwell

Note: All 3M™ VHB™ Tapes should be thoroughly evaluated by the end user under actual use conditions with intended substrates to determine whether a specific tape is fit for a particular purpose and suitable for user’s method of application, especially if expected use involves extreme environmental conditions or high dead load stress.

*For full regulation information, please see the regulatory data sheet at 3M.com/SDS.

High initial and low temperature tack
Multi-material bonding for high and medium surface energy substrates including metals, glass, plastics and many painted surfaces

Product	Thickness (mm)	Color	Backing Material	Adhesive Type	Release Liner	90° Peel Adhesion (N/cm)	Short Term Temperature Resistance	Long Term Temperature Resistance
GPL-040GF	0.4	Gray	Acrylic foam	Acrylic	Film	20	110°C	85°C
GPL-060GF	0.6	Gray	Acrylic foam	Acrylic	Film	26		
GPL-080GF	0.8	Gray	Acrylic foam	Acrylic	Film	28		
GPL-110GF	1.1	Gray	Acrylic foam	Acrylic	Film	30		
GPL-160GF	1.6	Gray	Acrylic foam	Acrylic	Film	32		
GPL-200GF	2.0	Gray	Acrylic foam	Acrylic	Film	32		

Superior high temperature performance for multi material bonding

Product	Thickness (mm)	Color	Backing Material	Adhesive Type	Release Liner	90° Peel Adhesion (N/cm)	Short Term Temperature Resistance	Long Term Temperature Resistance
GPH-060GF	0.6	Gray	Acrylic foam	Acrylic	Film	25	230°C	150°C
GPH-110GF	1.1	Gray	Acrylic foam	Acrylic	Film	37		
GPH-160GF	1.6	Gray	Acrylic foam	Acrylic	Film	34		

Black. Good adhesion to a broad range of high, medium surface energy substrates including metals, glass and a wide variety of plastics and paints

Product	Thickness (mm)	Color	Backing Material	Adhesive Type	Release Liner	90° Peel Adhesion (N/cm)	Short Term Temperature Resistance	Long Term Temperature Resistance
5915	0.4	Black	Acrylic foam	Acrylic	Paper/Film	21	149°C	121°C
5925	0.6	Black	Acrylic foam	Acrylic	Paper/Film	30		93°C
5930	0.8	Black	Acrylic foam	Acrylic	Paper/Film	33		
5952	1.1	Black	Acrylic foam	Acrylic	Paper/Film	39		
5962	1.6	Black	Acrylic foam	Acrylic	Paper/Film	39		

Specifically for low surface energy substrates such as polypropylene (PP), thermoplastic elastomers (TPE) and thermoplastic olefins (TPO)

Product	Thickness (mm)	Color	Backing Material	Adhesive Type	Release Liner	90° Peel Adhesion (N/cm)	Short Term Temperature Resistance	Long Term Temperature Resistance
LSE-060WF	0.6	White	Acrylic foam	Acrylic	Film	30	150°C	100°C
LSE-110WF	1.1	White	Acrylic foam	Acrylic	Film	44		
LSE-160WF	1.6	White	Acrylic foam	Acrylic	Film	54		

*Test method: 90° peel adhesion to Stainless Steel, 3M™ VHB™ Tape with aluminum foil, two round-trip press with 10kg steel roller, 90° peel angle, 300mm/min, after 72h RT dwell, GPL series: ASTM D3330, 90° peel angle @ RT to Stainless Steel, after 72h @ RT dwell

Note: All 3M™ VHB™ Tapes should be thoroughly evaluated by the end user under actual use conditions with intended substrates to determine whether a specific tape is fit for a particular purpose and suitable for user's method of application, especially if expected use involves extreme environmental conditions or high dead load stress.

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