

## **B. Paints, Sealants, Adhesives**

### **Technical Bulletin B-6**

### **VERSATEX Fill n' Fasten Products**

#### **Fast Cure:**

- Color Matched to VERSATEX trimboards
- Fast 4-6 minute work time, handling strength in approx. 20 minutes
- Rapid core recovery, actually strengthens core to core joints
- Fills nail holes and up to 1/8" gaps
- Increased UV resistance
- Increased TiO<sub>2</sub>
- Better sandability
- Paintable

#### **Slow Cure:**

- Color matched to VERSATEX trim boards
- Slower 15-25 minute work time
- Made for larger parts requiring more handling time
- Fills larger gaps to 1/4"
- Won't bubble, run or drip
- Increased bond strength
- Increased UV resistance
- Increased TiO<sub>2</sub>
- Better sandability
- Paintable

#### **Laminating Grade:**

- Color matched to VERSATEX trim boards
- Low viscosity for thinner laminates, no dimensional changes
- No need to remove skin before bonding
- Less clamp pressure, less voids
- More cost effective, uses 25%-50% less adhesive
- Work time of 10-15 minutes
- Paintable

**All products are 2009 EPA VOC & CARB compliant**

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### Technical Bulletin B-6

### VERSATEX Fill N' Fasten (Slow Cure)

#### Product Description

VERSATEX Slow Cure Fill N' Fasten adhesive with micro balloon technology is a medium viscosity, solvent-free structural adhesive system that provides flexibility, toughness and surface adhesion for bonding all forms of PVC to itself metals or wood. Cured performance shows excellent adhesion and bond strength to nylons, polystyrenes, fiberglass, reinforced plastics, stone, ceramics and most plain and plated metal components. This material can withstand thermal cycling and shock loading between dissimilar materials. VERSATEX Slow Cure Fill N' Fasten is ready to handle in 90-120 minutes

VERSATEX Slow Cure Fill N' Fasten does not require special surface preparation and does not contain any solvents. It will work successfully in most applications. It's so strong it appears to weld the PVC together. Creamy consistency, won't foam, run or drip.

VERSATEX Slow Cure Fill N' Fasten is a fast setting, two-component product with an open time of 20 - 25 minutes at 73°F after thorough mixing. It comes packaged in convenient, easy to use cartridges.

Why Should You Select VERSATEX Slow Cure Fill N' Fasten Adhesive?

- Permanent Unitizing Structural Adhesive
- Excellent Adhesion to PVC, other plastics & metal
- UV Resistant
- Color matched to VERSATEX's PVC Trim Boards
- Paintable
- Longer open time for larger coverage applications
- Easy to apply
- Fills Nail Holes and Gaps up to 3/8"

- Impact Resistance - Peel Strength
- Meets 2009 EPA VOC & CARB requirements

Contact VERSATEX at 724-857-1111 or sales@versatex.com for further recommendations on adhesive selection.

#### Physical Properties

Typical Uncured Properties (LIQUID)

Applies to both adhesive and activator sides

Viscosity	50,000cps mixed
Specific Gravity	1.01 (20/20C°)
Color	White
Flashpoint	51°F (COC method)
Toxicity	Moderate, see MSDS
Solvents	None
Mix Ratio	1 : 1
Fillers	Yes
Clean Up Solvents	MEK, Acetone

Typical Cured Properties (SOLID)

Typical film thickness 0.030".

Shore D Hardness	75
Adhesive testing on plastics, PVC, ABS glass filled nylon, styrene	Substrate Failure
Thermal Service Range	-65°F to 260°F
Chemical Resistance	Excellent
Elongation	60%
Impact Resistance	20 ftlbs/in2 on Steel
Peel Strength	20-25 psi on Aluminum
Lap Shear Strength	390 psi - aluminum 3365 psi grit blasted steel

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### **Technical Bulletin B-6**

#### **VERSATEX Fill N' Fasten (Slow Cure)**

##### **Instructions for Use**

Combine resin and activator in equal volume and mix thoroughly. For convenience and accuracy use pre-measured cartridges with disposable static mixers. Open time is 20 – 25 minutes at room temperature. Handling strength within approximately 90 – 120 minutes.

##### **Shelf Life**

Shelf Life is 12 months when properly stored in an unopened original container in a cool, dark area between 55°F to 75°F.

The properties represented here are typical values and not intended for use in specifications. Wolfpac Technologies, Inc. and Extreme Adhesives, Inc. make no expressed or implied warranties or merchantability, fitness or otherwise. While the information presented is believe to be accurate, no warranty or recommendation is made to this application. Determination of product suitability is the sole responsibility of the user. Suggestions made do not constitute any guarantee.

## B. Paints, Sealants, Adhesives

### Technical Bulletin B-6

### VERSATEX Fill N' Fasten (Fast Cure)

#### Product Description

VERSATEX Fast Cure Fill N' Fasten adhesive with micro balloon technology is a medium viscosity, solvent-free structural adhesive system that provides flexibility, toughness and surface adhesion for bonding all forms of PVC to itself metals or wood. Cured performance shows excellent adhesion and bond strength to nylons, polystyrenes, fiberglass, reinforced plastics, stone, ceramics and most plain and plated metal components. This material can withstand thermal cycling and shock loading between dissimilar materials. VERSATEX Fast Cure Fill N' Fasten is ready to handle in 10-30 minutes

VERSATEX Fast Cure Fill N' Fasten does not require special surface preparation and does not contain any solvents. It will work successfully in most applications. It's so strong it appears to weld the PVC together. Creamy consistency, won't foam, run or drip.

VERSATEX Fast Cure Fill N' Fasten is a quick setting, two-component product with an open time of 4 - 7 minutes at 70°F after thorough mixing. It comes packaged in convenient, easy to use cartridges.

Why Should You Select VERSATEX Fast Cure Fill N' Fasten Adhesive?

- Permanent Unitizing Structural Adhesive
- Excellent Adhesion to PVC
- Impact Resistance - Peel Strength
- Color matched to VERSATEX's PVC Trim Boards
- Paintable
- Fast Setting
- Easy to apply
- Fills Nail Holes and Gaps
- Meets 2009 EPA VOC & CARB requirements

Contact VERSATEX at 724-857-1111 or sales@versatex.com for further recommendations on adhesive selection.

#### Physical Properties

Typical Uncured Properties (LIQUID)

Applies to both adhesive and activator sides

Viscosity	50,000cps mixed
Specific Gravity	1.01 (20/20C°)
Color	White
Flashpoint	51°F (COC method)
Toxicity	Moderate, see MSDS
Solvents	None
Mix Ratio	1 : 1
Fillers	Yes
Clean Up Solvents	MEK, Acetone

Typical Cured Properties (SOLID)

Typical film thickness 0.030".

Shore D Hardness	75
Adhesive testing on plastics, PVC, ABS glass filled nylon, styrene	Substrate Failure
Thermal Service Range	-65°F to 260°F
Chemical Resistance	Excellent
Elongation	60%
Impact Resistance	20 ftlbs/in <sup>2</sup> on Steel
Peel Strength	20-25 psi on Aluminum
Lap Shear Strength	2340 psi - as rec'd CRS 3390 psi - aluminum 3365 psi grit blasted steel

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### **Technical Bulletin B-6**

### **VERSATEX Fill N' Fasten (Fast Cure)**

#### **Instructions for Use**

Combine resin and activator in equal volume and mix thoroughly. For convenience and accuracy use pre-measured cartridges with disposable static mixers. Open time is 4 - 7 minutes at room temperature. Handling strength within approximately 10-30 minutes.

#### **Shelf Life**

Shelf Life is 12 months when properly stored in an unopened original container in a cool, dark area between 55°F to 75°F.

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## B. Paints, Sealants, Adhesives

### Technical Bulletin B-6

#### VERSATEX Fill N' Fasten (Laminating Grade)

##### Product Description

VERSATEX Fill n' Fasten Laminating Grade Adhesive is a low viscosity, solvent-free structural adhesive system designed for laminating un-milled PVC sheets and boards. Its lower viscosity provides greater flow-out with less clamping pressure to insure a thin void free bond. Cured performance shows excellent adhesion, and bond strength in excess of the PVC. This material can withstand thermal cycling and shock loading between dissimilar materials. VERSATEX Fill N' Fasten Laminating Grade Adhesive is ready to handle in forty-five minutes and may be cut and machined in one hour.

VERSATEX Fast Cure Fill N' Fasten does not require special surface preparation and does not contain any solvents. It will work successfully in most applications. It's so strong it appears to weld the PVC together. Creamy consistency, won't foam, run or drip.

VERSATEX Fill N' Fasten Laminating Grade Adhesive does not require special surface preparation. Do not remove the skin of the cellular PVC. Our Laminating Grade System is so strong; it appears to weld the PVC together. The creamy consistency won't foam and spreads easily. See page two for complete instructions.

VERSATEX Fill N' Fasten Laminating Grade Adhesive is a moderate cure speed two-component product with an open time of 15 minutes at 70°F after thorough mixing and packaged in convenient, easy to use 220, 400, and 1500 ml cartridges.

##### Why Should You Select This Adhesive?

- Permanent Unitizing Structural Adhesive
- Excellent Adhesion to Plastics and Metals

- Impact Resistance - Peel Strength
- Matches white PVC Trim Boards
- Paintable
- Moderate Cure Speed - Thin Bonds
- Easy to Apply
- The Best Way to Laminate PVC Trimboard

##### Typical Uncured Properties (LIQUID)

Applies to both adhesive and activator sides

Viscosity	30,000cps mixed
Specific Gravity	1.01 (20/20C°)
Color	White
Flashpoint	51°F (COC method)
Toxicity	Moderate, see MSDS
Solvents	None
Mix Ratio	1 : 1
Fillers	Yes
Clean Up Solvents	Alcohol, MEK, Acetone

##### Typical Cured Properties (SOLID)

Typical film thickness 0.010" to .030".

Shore D Hardness	75
Adhesive testing on plastics, PVC, ABS glass filled nylon, styrene	Substrate Failure
Thermal Service Range	-65°F to 260°F
Chemical Resistance	Excellent
Elongation	30%
Impact Resistance	20 ftlbs/in <sup>2</sup> on Steel
Peel Strength	20-25 psi on Aluminum
Lap Shear Strength	3390 psi - aluminum

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### **Technical Bulletin B-6**

### **VERSATEX Fill N' Fasten (Laminating Grade)**

#### **Instructions for Use**

Combine resin and activator in equal volume and mix thoroughly. For convenience and accuracy use pre-measured 220 ml & 400 ml cartridges with disposable static mixers. Open time is 14 to 18 minutes at room temperature. Handling strength is achieved within approximately 45 to 60 minutes.

#### **Shelf Life**

12 months when properly stored in an unopened container in a cool, dark area between 55°F to 75°F.

#### **How to use Versatex Fill N' Fasten Laminating Grade Adhesive**

VERSATEX Fill N' Fasten Laminating Grade Adhesive is designed to work on the skin of the sheet. Removing the skin produces erratic results and uses more adhesive to fill in the cells, while still producing a weaker bond.

We recommend you apply the adhesive to a clean (dust free) part. A 7/8" diameter bead will yield enough adhesive to cover a 60 inch width at a .010 bond line. A single 400 ml cartridge will cover 1320 square inches or roughly 9 square feet of surface area. Therefore to cover a 10' by 4' lamination, approximately five (4.5 actual) 400 ml cartridges would be required.

This assumes enough clamping pressure to achieve the desired .010" bond line. On a 40 sq ft lamination, 1 to 2 psi should work well. That is a very considerable force since there are 144 square inches in each square foot. That means about 3000 to 6000 lbs is distributed over the entire sheet.

Although VERSATEX Fill N' Fasten Laminating Grade Adhesive is designed to flow easily under pressure, it is recommend that the bead be applied to the center of the part (Long Way) and only troweled slightly to provide a "stripe" 10 to 15 times the bead diameter. Do not brush or roll the adhesive as this exposes too much of the adhesive to air and the chemistry of the adhesive will change due to evaporation. For example, a 7/8" bead should be spread evenly to cover a width of approximately 14 inches.

The adhesive should be slightly higher in the center of the stripe to insure that no air is going to be captured by placement of the top sheet. In addition, a 3" diameter spot of adhesive should be placed in each corner of the part inboard from the ends and sides by about 1/5th the width of the sheet (about 12" in this example). This will accomplish two objectives. First it makes sure the corners are not starved for adhesive and secondly, the 4 puddles of adhesive act as a slowly decreasing thickness shim to keep the top sheet parallel to the bottom. They also provide a temporary gap for air to exit the bond as the top sheet is pressed into place.

Leave the clamp or weight in place for 30 minutes or so and remove. Wait an extra 30 minutes before cutting. Use Versatex's Fill N' Fasten Fast Cure Adhesive with micro-balloon technology to seal the ends and hide the cells

Experiment with adhesive volume to fit your available clamping pressure or weight.

VERSATEX Fill N' Fasten Laminating Grade Adhesive works best when temperatures are above 45°F. For application between 32°F and 45°F make sure the adhesive is warmed to 70°F when applied.