



## Primerless-to-glass adhesives

### Gun-n-Go – no heating required



- One-component, primerless-to-glass adhesives for convenience
- Get 2-hour MDAT with 418HV
- OEM approved and used
- FMVSS crash proven
- High viscosity options for easy application in all conditions



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### Primerless-to-glass adhesives – proven and easy to use

BETASEAL™ U-418HV and BETASEAL™ U-418 are primerless-to-glass adhesives. Primerless-to-glass adhesives are designed to form the same chemical bonds to clean glass frit as the primer does. Eliminating the glass priming step saves time and can help to error proof installations. See back page for MDAT.



### BETASEAL™ U-418HV – primerless with 2-hour MDAT convenience

- 2-hour MDAT down to 40°F (see back for complete MDAT)
- Saves time by eliminating glass priming
- High viscosity formulation delivers higher initial (green) strength
- Easy to gun, excellent decking and sag resistance



### BETASEAL™ U-418 – primerless convenience

- Excellent utility sealant for backlites, quarter glass and other stationary glass
- Saves time and improves productivity by eliminating glass priming
- See back for MDAT



### Shelf life

Maximum shelf life, as stated on product packaging, is achieved when the product is stored at an ambient temperature that does not continuously exceed 110 °F (43.3 °C).

### System compatibility

Use no other manufacturers' primers, cleaners or other chemicals in conjunction with any BETASEAL™ adhesive system.

# Windshield installation instructions

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## Wear appropriate safety equipment

- Protect yourself
- Wear safety equipment, such as work gloves, nitrile chemical-resistant gloves, safety glasses, work apron or other protection required by your company

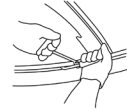
2



## Inspect replacement glass

- Spray glass bonding surface and vision area with BETACLEAN™ GC-800 Glass and Surface Cleaner and wipe glass clean with a lint-free paper towel
- Inspect replacement glass for defects, damage or signs of contamination
- Verify primer and adhesives are within use-by dates

3



## Cut out the glass

- Protect the customer's vehicle
- Remove all hardware and reveal moldings
- Cut out the windshield using your preferred method

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## Prepare the glass

- Many contaminants are difficult to detect and remove
- Use of BETABRADE™ F1 to remove difficult contamination is recommended
- Shake BETABRADE™ F1 bottle for 10 seconds and apply 2 mm thin line of BETABRADE™ F1 around entire glass bonding area
- Scrub the bonding area with a lint-free paper towel until BETABRADE™ F1 is dry
- Spray entire windshield with BETACLEAN™ GC-800 Glass and Surface Cleaner and wipe clean with a lint-free paper towel to ensure it is clean and free of any traces of BETABRADE™ F1 in the bond line

4.1

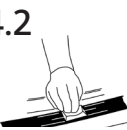


## Prime fritted glass (skip this step if using BETASEAL™ U-418 or BETASEAL™ U-418HV)

- Open the bottle of BETAPRIME™ 5504G All-in-One Primer carefully and insert a clean, unused dauber; to avoid spilling, never pour liquid on dauber
  - Apply one coat of BETAPRIME™ 5504G with a clean wool dauber in one, even wet coat, moving the dauber in the same direction
  - Allow primer to dry for 2 minutes at 20°F (-7°C) and above and from 20°F (-7°C) down to 0°F (-18°C) allow primer to dry for 6 minutes
  - If glass is not installed within 24 hours of original priming, reprime the glass with BETAPRIME™ 5504G; do not reprime more than once
- Note:** Clear glass without any frit **REQUIRES** two coats of 5504G allowing each coat to dry

**Warning:** Do not reinsert (double dip) the dauber into the primer bottle if it has touched the body of the vehicle. This could contaminate the remaining primer in the bottle.

4.2



## Prepare encapsulation or PAAS

- Clean RIM or PVC encapsulation with BETACLEAN™ GC-800 Glass and Surface Cleaner and a clean, lint-free paper towel
  - "Wet scrub" the RIM or PVC encapsulation with an abrasive pad and BETACLEAN™ GC-800 Glass and Surface Cleaner, then clean again with BETACLEAN™ GC-800 Glass and Surface Cleaner and allow to dry completely
  - Check the expiration date on the container
  - Apply BETAPRIME™ 5504G All-in-One Primer to the RIM or PVC encapsulation surface with dauber
  - Apply BETAPRIME™ 5504G to any molding surface that contacts new urethane to promote adhesion
  - Allow primer to dry for 2 minutes at 20°F (-7°C) and above and from 20°F (-7°C) down to 0°F (-18°C) allow primer to dry for 6 minutes
  - Replace inner seal and cap on bottle immediately
- Note:** Refer to the DuPont Fixed Glass Installation Guide for instructions on preparing PAAS

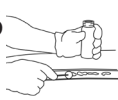
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## Trim back the urethane

- Clean any dirt and debris from around the existing urethane with BETACLEAN™ GC-800 Glass and Surface Cleaner or water and a clean towel
- Trim the urethane, leaving a 1 mm to 2 mm base of original equipment urethane on the pinchweld
- Take care not to damage the vehicle paint or pinchweld
- Any areas of trimmed urethane that require additional cleaning should be carefully wiped with BETACLEAN™ GC-800 Glass and Surface Cleaner or water and a clean towel

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## Prepare the pinchweld

### Once body surface is clean and dry, follow these priming steps:

- Check the expiration date on the container
- The primer bottle no longer requires shaking\*

### For priming any areas of bare metal (large or small, including scratches):

- Open the bottle of BETAPRIME™ 5504G All-in-One Primer carefully and insert a clean, unused dauber; to avoid spilling, never pour liquid on dauber
- Apply one coat of BETAPRIME™ 5504G with a clean wool dauber to any scratches in the paint or large areas of bare metal
- Allow primer to dry for 2 minutes at 20°F (-7°C) and above. From 20°F (-7°C) down to 0°F (-18°C), allow primer to dry for 6 minutes.
- Apply second coat of BETAPRIME™ 5504G and allow primer to dry for 2 minutes at 20°F (-7°C) and above. From 20°F (-7°C) down to 0°F (-18°C), allow primer to dry for 6 minutes.

### For priming painted bonding surfaces (no bare metal):

- Open the bottle of BETAPRIME™ 5504G All-in-One Primer carefully and insert a clean, unused dauber; to avoid spilling, never pour liquid on dauber
- Apply one coat of BETAPRIME™ 5504G All-in-One Primer with a clean wool dauber to the painted area where original adhesive may have peeled off or to extend the bonding area when applying adhesive to the glass part
- Allow primer to dry for 2 minutes at 20°F (-7°C) and above and from 20°F (-7°C) down to 0°F (-18°C) allow primer to dry for 6 minutes

**Warning:** Do not reinsert (double dip) the dauber into the primer bottle if it has touched the body of the vehicle. This could contaminate the remaining primer in the bottle.

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## Apply BETASEAL™ Adhesive (Choose either glass or pinchweld application)

- Hold the applicator in a vertical position 90° to the glass and dispense the adhesive with a continuous motion in a uniform "V" shaped bead
- Apply adhesive to the glass on top of the bond line, matching the location of the original adhesive bead on the glass or apply adhesive to the pinchweld perimeter directly on top of the freshly cut original equipment urethane film
- Either application: Hold the applicator in a vertical position (90°) and dispense the adhesive with a continuous motion in a uniform "V" shaped bead
- Make sure bead is uniform and has no gaps; add material or gently tool joints, if necessary

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## Install the glass

- Carefully place the glass in the body opening
- Adjust glass to precise alignment
- Lightly press it into position

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## Clean up

- Clean any excess uncured urethane with BETACLEAN™ U-424 Urethane Adhesive Cleaner
- Clean the newly installed glass with BETACLEAN™ GC-800 Glass Cleaner
- Clean up any remaining debris or broken glass on seats, floor, door handles and/or dash console

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## Recordkeeping

- Attach master lot code sticker to paperwork or manually record primer and adhesive lot numbers
- Record D.O.T. number from glass part on sticker
- Communicate to the customer when MDAT will be reached and when the vehicle can be driven

\*Advanced formulation BETAPRIME™ 5504G All-in-One Primer no longer requires shaking. However, shaking won't have a negative effect on the performance.

## Minimum drive-away times

### BETASEAL™ U-418HV

2-hour minimum drive-away times in all temperatures and humidities above 40°F.



### BETASEAL™ U-418

	Temperature					
Relative humidity	40°-50°F 4.4°-10°C	50°-60°F 10°-15.5°C	60°-70°F 15.5°-21.1°C	70°-80°F 21.1°-26.6°C	80°-90°F 26.6°-32.2°C	> 90° > 32.2°
> 70%	15	13	10	7	5	3
50-70%	24	17	13	8	5	4
30-50%	24	24	19	13	8	6
10-30%	24	24	23	23	20	17

#### FMVSS 212 with Passenger-Side Airbag

Below 40°F (4.4°C), use BETASEAL™ Xpress30 or BETASEAL™ Express+ adhesive and BETAPRIME™ 5504G All-in-One Primer to prime glass.



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