



# BETASEAL™ U-400<sup>HMNC</sup>

## Advanced-Cure Adhesive

The tried and true evolves into the new modern standard

- High modulus for torsional stiffness to quiet and stabilize the vehicle's ride
- Non-conductive preserves radio, cellular phone and global positioning system reception in OEM antenna-encapsulated windshields and backlites
- Shorter minimum drive-away time – 2 hours in temperatures as low as 20°F (-7°C)
- Gun-n-Go – easy application, no heating required
- Use with BETAPRIME™ 5504G All-in-One Primer
- Crash proven and value priced OEM adhesive



BETASEAL™ U-400 through U-400HV have been the workhorses of both the OEM and aftermarket since the 1970s. Cars have evolved and so has U-400. It's now an advanced-cure adhesive that is available to the aftermarket in a high-modulus/non-conductive formulation.

1970s



1980s



1990s



2000s



2020



BETASEALarg.com



## BETASEAL™ U-400HMNC is part of a simple, clean-prime-bond glass replacement solution

### Clean

Bonding surfaces must be clean of dirt, dust, water, oil, silicone and grease prior to priming and adhesive application. Not all contamination is visible – use BETABRADE™ F1 Surface Contamination Remover every time to help ensure glass is free of surface contamination. Use BETACLEAN™ GC-800 to remove any dust, dirt and other residue.

### Prime

Use BETAPRIME™ 5504G All-in-One Primer to prime the glass, ceramic frit and any nicks and scratches in the paint. It can also be used to prime any large areas of bare metal (aluminum or steel).

## BETASEAL™ U-400HMNC

BETASEAL™ U-400HMNC is a reliable and easy-to-use aftermarket adhesive. Its roots are entrenched in more than 30 years of proven OEM use.

### No heat, quick installation

This urethane adhesive is easy to apply – simply Gun-n-Go, no heating required. It has excellent decking and sag resistance.

### Advanced-cure adhesive

BETASEAL™ U-400HMNC is an advanced-cure adhesive. An advanced-cure polyurethane adhesive is a one-component system that can be applied in below freezing conditions. Advanced-cure adhesives absorb and dissipate crash stresses sooner than conventional-cure adhesives and develop a high initial green strength for faster drive-away times. BETASEAL™ U-400HMNC has a minimum drive-away time of two hours in temperatures as low 20°F (-7°C).

DuPont recommends the use of BETASEAL™ Xpress30 for temperatures below 20°F (-7°C).

### Minimum drive-away times

#### BETASEAL™ U-400HMNC and BETASEAL™ Xpress30

Adhesive	Temperature	Minimum Drive-Away Time
U-400HMNC	20°F (-7°C) or higher	2 hours
Xpress30™	0°F - >20°F (-7°C - 17°C)	30 minutes



# Windshield installation instructions

1



## 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

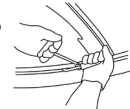
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## Inspect replacement glass

- 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

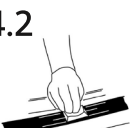


## Glass priming instructions using BETAPRIME™ 5504G All-in-One Primer

- Check the expiration date on the container
  - 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 or single-application stick in one, even wet coat, moving the dauber or stick 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:** On clear glass without any frit, apply two coats of BETAPRIME™ 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 or PAAS bead 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
- Note:** Skip this step if bonding to PAAS
- Check the expiration date on the container
  - Apply BETAPRIME™ 5504G All-in-One Primer\* with dauber or single-application stick to the RIM or PVC encapsulation, PAAS surface or 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

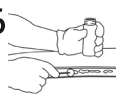
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## Trim back the urethane

- 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
- 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:  
a) Check the expiration date on the container

### 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

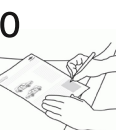
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## Clean up

- 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.