Adhesives & Sealants

BONDFLEX 550FC WINDSHIELD

Technical Data Sheet

Reviewed: 06.06.2025

DESCRIPTION

BONDFLEX 550 FC WINDSHIELD is a one-component, professional grade polyurethane adhesive-sealant, suitable for structural bonding in the automotive industry. It is suitable for Automotive Glass Replacement, intendent for the reinstallation of vehicle windshields. Its strong formula contains special built-in adhesion promoters, so primer is not required on windshields with black ceramic coating strip. Tested according to FMVSS212 for a minimum drive away time of 1 hour.

ADVANTAGES

- Fast curing
- Superior bonding strength
- OEM quality
- Bubble – Free formulation
- Can be applied without primer
- Maintains its elasticity
- Thixotropic non sagging formulation
- Excellent resistance to most chemicals
- Very good resistance to weather conditions
- Maintains its bases from -40°C to +90°C
- Paintable

APPLICATIONS

- Windshield bonding in case of replacement by professional applicators in specially designed areas where replacement procedures are strictly followed.
- Recommended for elastic structural bonding applications between similar and dissimilar substrates in automotive applications, as well as in industrial and shipbuilding applications when maximum mechanical strength is required.
- On windshields with ceramic coating (black frame) it is applied without primer. If there is no ceramic coating frame, the use of a primer is required to protect the adhesive from UV radiation.

INSTRUCTIONS FOR USE

Surface preparation:

The substrates to be bonded must be even, smooth, dry, free of dust and grease or other contaminants that could harm bonding (for example, silicones or oils).

In the case of windshield replacement, it is not necessary to completely remove the old PU-based sealant/adhesive from the car body, as long as it is still stable and you do not observe any problems with detachment.

There is no compatibility problem when applying **BONDFLEX 550 FC WINDSHIELD** directly to the old, hardened PU-based sealant/adhesive: simply cut it off, leaving a thickness of 1 to 2 mm.

Make sure that there is no dirt and do not touch the bonding surface after preparing the area.

Cases of rusted or scratched pinchweld:

In case of corrosion on the bodywork, completely remove the old PU-based adhesive and wipe it well with a cloth. Then scrub the rust with a wire brush and clean again with ACETONE. Apply the special primer **BONDFLEX 551 BLACK PRIMER** which will prevent rust in the future, while at the same time greatly improving the adhesion of the adhesive to the bodywork. Apply the primer after shaking the container well and homogenizing the mixture. Always use a clean special application sponge. Wait 15 – 20 minutes after applying the primer to apply the adhesive.

In case of a local scratch on the bodywork, do not “fill” with adhesive unless you first apply the primer 551 there.

Glass preparation:

Case of glass with a fritted ceramic coating frame:

1. Check the light transmission of the ceramic-coated frame.
2. Use a glass cleaner to clean the surfaces from dust and greasy residues.
3. Lightly rub the ceramic surface to remove any silicone residues that could negatively affect the adhesion of the adhesive. Recommended procedure: perform 5 back and forth movements with a Scotch-Brite® Cleaning and Finishing Pad (Very Fine – Red) on the area to be treated (area where the adhesive will be applied).
4. Clean the surface in a single pass with a lint-free cloth soaked in ACETONE.
5. Allow a drying time of 5 to 10 minutes depending on the room temperature.
6. Do not touch the cleaned area of the windshield or glass after this procedure.
7. **Adhesive application:**

- if the ceramic frame coating is sufficiently opaque (as checked in step 1): apply the adhesive.
- if the ceramic frame coating is not sufficiently opaque: apply **BONDFLEX BLACK PRIMER 551** (refer to the Technical Specification Sheet for full instructions) with an application sponge (or a 10 ml tube with a disposable foam sponge), respecting the waiting time of a minimum of 10 to 15 minutes up to a maximum of 60 minutes before applying **BONDFLEX 550FC WINDSHIELD**.

Case of glass without a fritted ceramic coating frame:

1. Use a glass cleaner to clean the surfaces from dust and greasy residues.
2. Apply the special primer - adhesion promoter **BONDFLEX 552 ACTIVATOR** with a cloth by wiping the surface to be bonded to the glass.
3. After **BONDFLEX 552 ACTIVATOR** has dried, wipe the residues again, 30’’ – 60’’ after application.
4. After 10 – 60 minutes apply the primer **BONDFLEX BLACK PRIMER 551** (refer to the Technical Data Sheet for full instructions) with an application sponge (or a 10ml tube with a disposable foam sponge).
5. Apply the **BONDFLEX 550FC WINDSHIELD** adhesive, observing the waiting time of a minimum of 10 to 15 minutes and a maximum of 60 minutes.

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Application:

1. **BONDFLEX 550FC WINDSHIELD** can be applied with a manual, pneumatic or electric caulking gun.
2. Store the sealant in a place above 5°C for a sufficient period of time before use.
3. Hold the application gun in a vertical position (90°) and apply the sealant, either in the same path as the freshly cut polyurethane on either the bonding surface on the bodywork or on the glass, in a V-shape with a continuous movement.
4. The triangular shape of the joint is determined by the shape of the special "V" nozzle.
5. The glass must be applied and pressed before the product forms a surface film.

Note: all times stated in the above instructions for use apply to a minimum temperature of 15°C. For lower temperatures (between 5 and 15°C), double the drying times must be observed.

CLEANING

Clean all equipment with acetone immediately after use. After curing, abrasion is necessary.

LIMITATIONS

1. Bonding cannot take place in air temperatures below 5°C.
2. Carefully respect the evaporation times of the solvents during surface preparation.
3. Never use alcohol or a "fat" solvent like White Spirit to clean the windshield, the body or the old sealant.
4. This product should be used within 24 hours after opening of the packaging, otherwise the sealant could cure.
5. Avoid any contact with non-cured MS, hybrid, PU or silicone sealants as well as with alcohols or ammonia during curing.
6. Not suitable for substrates like PE, PP, Teflon.
7. Avoid any contact with oils, plasticizers or other products like bitumen, asphalt, silicone, etc.
8. Primerless bonding must be performed on a windshield with a ceramic frit ensuring optimal and uniform opacity to UV radiation.

TECHNICAL CHARACTERISTICS

Base: Polyurethane
Color: Black
Consistency: Thixotropic Paste
Curing System: Moisture Cure
Skin formation (20°C/ 65% R.H.): 20-35 min
Curing Rate (20°C/ 65% R.H.): 3mm /24h
Hardness (ISO 868): 55 ± 5 Shore A
Specific gravity: 1,20 ± 0,5 gr/ml
Temperature Resistance: -40°C to +90°C
Maximum Tension (ISO 37): 6,00 N/mm^2
Elongation at Break (ISO 37): 700%
Shearing resistance (Ford SAE J 1529): 3,00 N/mm^2
Tear strength (ISO 34): 20,00 N/mm^2
Application temperature: +5°C - +35°C

Specific Characteristics: Compatible with 1-hour MDAT (Minimum Drive Away Time) according to FMVSS212 standard. MDAT is the length of time required for the adhesive to build up enough strength to meet the requirements of US Safety standard FMVSS212 using vehicle with dual security airbags and belted dummies (driver and passenger).
Approval Number: X9103
Controller: HORIBA MIRA Ltd

STORAGE

In a cool and dry place at temperatures between +5°C - +25^{0}C

SHELF LIFE

12 months in unopened packaging in the above mentioned storage conditions

PACKAGING

Cartridges 310ml
Sausages 400ml, 600ml upon request

PACKAGING	CODE	BARCODE
310ml	4238	5204094042389
400ml		
600ml		

HEALTH AND SAFETY INFORMATION

Before use, consult the Product Safety Data Sheet.

The directives contained in this technical data sheet are the result of our long experience from real life applications and the research testing of our research and development laboratory and have been submitted in good faith. Because of the diversity of the materials and substrates and the great number of possible applications, which are beyond our control, we cannot accept any responsibility for the results obtained. In every case it is recommended to carry out preliminary experiments. We are liable only for our products for being free from faults and of consistent quality. Users are responsible for complying with local legislation and for obtaining any required approvals or authorizations. The present edition of this technical datasheet automatically cancels any previous ones concerning the same product.

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