

TEROSON® BOND 480

Known as TEROSON® PU 8590
August 2020

PRODUCT DESCRIPTION

TEROSON® BOND 480 provides the following product characteristics:

Technology	Polyurethane
Chemical Type	Polyurethane
Appearance (uncured)	Black
Components	One-component – requires no mixing
Viscosity	Paste
Cure	Humidity
Application	Windscreen Adhesive
Environmental temperature at application	-10 to 45°C (14 to 113°F)
Material application temperature	5 to 35°C (41 to 95°F)
In service temperature	-40 to 90°C (-40 to 194°F)
Short exposure (up to 1h)	120°C (248°F)
Safe Drive-Away time with airbag	
Crash Norm FMVSS 212/208 Crash Test 48 km/h, 100% head-on	8 hours
Specific Benefits	<ul style="list-style-type: none"> • OEM approved • Good sag resistance and stringing • High cure rate • Good adhesion to remaining material

TEROSON® BOND 480 is a one-component polyurethane windscreen adhesive. Both skin formation and curing times are dependent on humidity and temperature. The cure time may vary depending on the joint depth. By increasing the temperature and humidity, the reaction time can be reduced. Low temperature as well as low moisture slows down the process. It has an excellent adhesion to glass, glass with the ceramic coating, encapsulation and to painted surfaces in connection with primer / activator. Typical applications include the bonding of front, rear and side screens to the body of passenger-, utility-, special- and rail vehicles.

TYPICAL PROPERTIES OF UNCURED MATERIAL

Specific Gravity @ 23°C 1.25

TYPICAL CURING PERFORMANCE

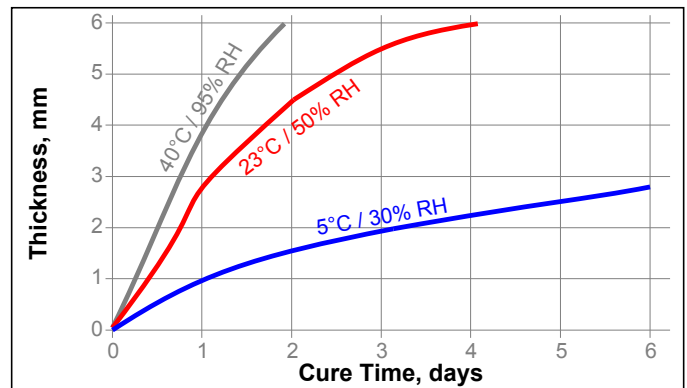
Cure rate for 24 hours, mm 3
DIN 50014 @ 23°C/50%RH

Glazing time, minutes 25
(from material application to inserting of the pane)

Cure vs. Humidity vs. Temperature

As the graph below shows, the humidity and temperature have an influence on the cure rate of the windscreen adhesive.

Cure Speed



This is also reflected in the safe drive away time for this adhesive, which is shorter in the summer and longer in the winter.

TYPICAL PERFORMANCE OF CURED MATERIAL

Cured for 7 days @ 23°C, 50% RH

Physical properties

Shore hardness, Durometer A 55
DIN 53505
Elongation at break, % 400
DIN 53504
Tensile strength N/mm² 8.5
DIN 53504 (psi) (1,200)

Adhesive properties

Glass, layer thickness 5mm
DIN 54451
Lap shear strength 24 hours N/mm² 2
(psi) (290)
full cure N/mm² 5.5
(psi) (800)
Lap shear modulus N/mm² 1.2
(psi) (180)

GENERAL INFORMATION

This product is not recommended for use in pure oxygen and/or oxygen rich systems and should not be selected as a sealant for chlorine or other strong oxidizing materials.

For safe handling information on this product, consult the Safety Data Sheet (SDS).

Direction For Use

Important

For application of primers, fillers, primer fillers, paints or other coatings, technical guidelines from manufacturers have to be considered and followed.

Pre-treatment

1. The substrate to be bonded must be dry and free from oil, dust, grease and other contaminations.
2. Check the new windscreen for damages or scratches and make sure it fits.
3. To obtain an optimal adhesion on the new screen we recommend 2 different surface preparation methods (solvent-based, TEROSON® VR 10 or water-based, TEROSON® BOND GLASS CLEANER):

Solvent-based Cleaning Process:

- a. Wipe off surface with a lint free cloth and TEROSON® VR 10.
- b. Abrade bond line with a smooth abrasive pad or wetted TEROSON® BOND SPONGE.
- c. Wipe off surface again with a lint-free cloth and TEROSON® VR 10.

Or

Water-based Cleaning Process:

- a. Clean surface with TEROSON® BOND GLASS CLEANER
 - b. Abrade bond line with wetted TEROSON® BOND SPONGE.
 - c. Apply TEROSON® BOND GLASS CLEANER again and dry off the bond line in one direction using a lint free cloth.
4. Wait at least 2 minutes after the cleaning process to allow all remaining residues to evaporate.
 5. Cleaning of the cut adhesive layer remaining on the window aperture is in general not necessary. If, however, cleaning of this remaining layer is needed, an evaporation time of at least 2 minutes is mandatory.

Priming

1. Before opening the TEROSON® BOND ALL-IN-ONE-PRIMER bottle, shake well (at least 1 minute).
2. Apply primer with wool dauber in one pass on the bond line (allow to flash off for 2 minutes).
3. Within the first 2 hours after cutting back the old adhesive bead in the body frame, it does not need to be primed. But if the replacement takes longer than 2 hours,

the old cut bead needs to be activated with TEROSON® BOND ALL-IN-ONE PRIMER. NOTE: Provided that it is not contaminated with dust or grease, the old cut adhesive bead is the best adhesive surface for the TEROSON® BOND 480 adhesive.

4. If windows are bonded which have been pre-coated with a primer or PU-based adhesive/sealant by the glass supplier, TEROSON® BOND ALL-IN-ONE-PRIMER is also suitable to ensure the correct adherence of TEROSON® BOND 480 to the pre-coating.
5. Using a wool dauber, a thin layer of TEROSON® BOND ALL-IN-ONE-PRIMER is applied to the pre-coating. Allow to flash off for 2 minutes. Subsequently, TEROSON® BOND 480 is applied as usual, but taking into consideration the layer thickness of the pre-coating.

Application

1. The windscreen adhesive TEROSON® BOND 480 is best applied both in cartridge and foil pack using commercial equipment such as hand, battery driven or air-pressure dispensers with a piston rod.
2. The Safe Drive-Away Time of TEROSON® BOND 480 must be respected.

Storage

Store product in the unopened container in a dry location. Storage information may also be indicated on the product container labelling.

Optimal Storage: 15 to 25 °C. Storage below 5 °C or greater than 25 °C can adversely affect product properties.

Material removed from containers may be contaminated during use. Do not return product to the original container. Henkel Corporation cannot assume responsibility for product which has been contaminated or stored under conditions other than those previously indicated. If additional information is required, please contact your local Henkel representative.

Product Specification:

The technical data contained herein are intended as reference only and are not considered specifications for the product. Product specifications are located on the Certificate of Analysis or please contact Henkel representative.

Approval and Certificate:

Please contact Henkel representative for related approval or certificate of this product.

Data Ranges

The data contained herein may be reported as a typical value. Values are based on actual test data and are verified on a periodic basis.

Temperature/Humidity Ranges: 23 °C / 50% RH = 23±2 °C / 50±5% RH.

Conversions:

$(^{\circ}\text{C} \times 1.8) + 32 = ^{\circ}\text{F}$
 $\text{kV/mm} \times 25.4 = \text{V/mil}$
 $\text{mm} / 25.4 = \text{inches}$
 $\mu\text{m} / 25.4 = \text{mil}$
 $\text{N} \times 0.225 = \text{lb}$

N/mm x 5.71 = lb/in
 N/mm² x 145 = psi
 MPa x 145 = psi
 N·m x 8.851 = lb·in
 N·m x 0.738 = lb·ft
 N·mm x 0.142 = oz·in
 mPa·s = cP

Note:

The information provided in this Technical Data Sheet (TDS) including the recommendations for use and application of the product are based on our knowledge and experience of the product as at the date of this TDS. The product can have a variety of different applications as well as differing application and working conditions in your environment that are beyond our control. Henkel is, therefore, not liable for the suitability of our product for the production processes and conditions in respect of which you use them, as well as the intended applications and results. We strongly recommend that you carry out your own prior trials to confirm such suitability of our product. Any liability in respect of the information in the Technical Data Sheet or any other written or oral recommendation(s) regarding the concerned product is excluded, except if otherwise explicitly agreed and except in relation to death or personal injury caused by our negligence and any liability under any applicable mandatory product liability law.

In case products are delivered by Henkel Belgium NV, Henkel Electronic Materials NV, Henkel Nederland BV, Henkel Technologies France SAS and Henkel France SA please additionally note the following:

In case Henkel would be nevertheless held liable, on whatever legal ground, Henkel's liability will in no event exceed the amount of the concerned delivery.

In case products are delivered by Henkel Colombian, S.A.S. the following disclaimer is applicable:

The information provided in this Technical Data Sheet (TDS) including the recommendations for use and application of the product are based on our knowledge and experience of the product as at the date of this TDS. Henkel is not liable for the suitability of our product for the production processes and conditions in respect of which you use them, as well as the intended applications and results. We strongly recommend that you carry out your own prior trials to confirm such suitability of our product.

Any liability in respect of the information in the Technical Data Sheet or any other written or oral recommendation(s) regarding the concerned product is excluded, except if otherwise explicitly agreed and except in relation to death or personal injury caused by our negligence and any liability under any applicable mandatory product liability law.

In case products are delivered by Henkel Corporation or Henkel Canada, Inc. the following disclaimer is applicable:

The data contained herein are furnished for information only and are believed to be reliable. We cannot assume responsibility for the results obtained by others over whose methods we have no control. It is the user's responsibility to determine suitability for the user's purpose of any production methods mentioned herein and to adopt such precautions as may be advisable for the protection of property and of persons against any hazards that may be involved in the handling and use thereof. In light of the foregoing, **Henkel**

Corporation specifically disclaims all warranties expressed or implied, including warranties of merchantability or fitness for a particular purpose, arising from sale or use of Henkel Corporation's products. Henkel Corporation specifically disclaims any liability for consequential or incidental damages of any kind, including lost profits. The discussion herein of various processes or compositions is not to be interpreted as representation that they are free from domination of patents owned by others or as a license under any Henkel Corporation patents that may cover such processes or compositions. We recommend that each prospective user test his proposed application before repetitive use, using this data as a guide. This product may be covered by one or more United States or foreign patents or patent applications.

Trademark usage

Except as otherwise noted, all trademarks in this document are trademarks of Henkel Corporation in the U.S. and elsewhere.® denotes a trademark registered in the U.S. Patent and Trademark Office.

Reference 0.0