

OTTOCOLL®**S 16**

Technical Datasheet

1-component silicone adhesive based on alkoxy, neutral cross-linking

For indoor application

Characteristic:

- **Mirror-coating compatible**
Suitable for mirrors
- **Adheres to commercially available mirror coatings without primer**
Special pre-treatment of the substrate not necessary

Fields of application:

- Elastic bonding of mirrors on ceramic, glass, plastic, stainless steel, aluminium, wood, concrete etc.
- Also suitable as adhesive for acrylic glass mirrors (e. g. Plexiglas®)
- Bonding of lacquered and enamelled glass

Standards and tests:

- Suitable for applications according to IVD instruction sheet no. 30+35 (IVD = German industry association sealants)
- Classification according to building certification systems, see the sustainability data sheet
- French VOC-emission class A+

Important information:

Before applying this product the user has to ensure that the materials in the area of contact (solid, liquid and gaseous) are compatible with it and also amongst each other and do not damage or alter (e. g. discolour) each other. As for the materials that will be used at a later stage in the surrounding area of the product the user has to clarify beforehand that the substances of content or evaporations do not lead to an impairment or alteration (e. g. discolouration) of the product. In case of doubt the user should consult the respective manufacturer of the material.

Only mirrors of which the reflection and protective layer comply with DIN 1238 5.1 and DIN EN 1036 may be bonded. In case of doubt, please request information from the mirror manufacturer.

Paints, lacquers, plastics and any other coatings must be compatible to the adhesive/sealant.

Experience has shown that the adhesive is compatible with a large number of glass coatings (e.g. Lacobel) and also shows good adhesion to many coatings without primer. It is not possible to test all coatings with a reasonable amount of effort and there are a number of cases where the glass is coated by the glass manufacturer with its own paints that are considered suitable and unknown to us. Apart from this, we are not informed about changes and modifications of coated glasses and paints by the glass manufacturer/coater in order to be able to test them with regard to adhesive suitability. In any case, the processing instructions of the glass manufacturer must be observed. If there are no findings regarding compatibility and adhesion, also with regard to the adhesion of the coating to the glass, we recommend preliminary tests.

During curing small amounts of alcohol are released.

Ensure good ventilation during application and curing.

Avoid contact with materials which contain bitumen and which release solvents, e. g. butyl, EPDM, neoprene, insulating- and bituminous paint.

The 2-component silicone adhesive OTTOCOLL® S 610, the 2-component hybrid adhesives OTTOCOLL® M 570, OTTOCOLL® M580 and the 1-component hybrid adhesive OTTOCOLL® HiTack are also suitable for stress-compensating bonding of mirrors.

Technical properties:

Skin-forming time at 23 °C/50 % RH [minutes]	~ 10
Curing in 24 hours at 23 °C/50 % RH [mm]	~ 2 - 3
Processing temperature from/to [°C]	+ 5 / + 40
Viscosity at 23 °C	pasty, stable
Density at 23 °C according to ISO 1183-1 [g/cm ³]	~ 1,0
Stress expansion modulus at 100 % according to ISO 37, S3A [N/mm ²]	~ 0,5
Tensile expansion according to ISO 37, S3A [%]	~ 700
Tensile strength according to ISO 37, S3A [N/mm ²]	~ 1,7
Temperature resistance from/to [°C]	- 40 / + 120
Shelf life at 23 °C/50 % RH for cartridge/foil bag [months]	12
Shelf life at 23 °C/50 % RH for pail/drum [months]	6

These data are not suitable for the issue of specifications. Please contact OTTO-CHEMIE before issuing specifications.

Pretreatment:

The adherent surfaces have to be clean, free from fat, dry and sustainable.

All adherent surfaces must be clean and any contaminant such as release agents, preserving agents, grease, oil, dust, water, old adhesives or sealants and other substances which could affect adhesion, should be removed. Cleaning of non-porous substrates: Apply OTTO Cleaner T (airing time approx. 1 minute) using a clean, lint-free cotton cloth. Cleaning porous substrates: Clean surfaces with steel-wire brush e. g. or a grinding disk to remove loose particles.

Mineral substrates like e. g. concrete, plaster, masonry, gypsum plasterboard, cellular concrete or untreated derived wood products must explicitly be pretreated with OTTO Primer 1105. The use of OTTO Primer 1105 on mineral, alkaline substrates does not only improve the adhesion, but is also necessary as barrier to alkalinity. Alkalinity, not blocked, in combination with humidity (amongst others) can possibly damage the rear-side of the mirror.

For bonding coated chipboards or similar a pretreatment with OTTO Primer 1216 is normally necessary. Shows good adhesion without Primer on glazed ceramics.

OTTOSEAL® S 16 adheres on conventional mirror laquers (to current state of the technology) without primer.

Good primerless adhesion on Plexiglas® mirrors with mirror laque layer.

Perform pre-tests on mirrors with shatter protection film.

For application on substrates, which are not mentioned in this data sheet, please make preliminary tests or contact our technical service department.

Primer Table:

The demands on elastic sealings and bondings depend on the respective exterior influences. Extreme fluctuations in temperature, tensile or shear forces, repeated contact with water etc. demand high requirements of a bonding. In such cases it is advisable to apply primer according to the recommendations of our technical department (e. g. +/OTTO Primer 1216) in order to achieve a resilient bonding.

Aluminium	+
Aluminium powder-coated	T / 1226
Aluminium powder-coated (contains teflon)	T
Concrete	1105
Stainless steel	1101
Fibre cement	1105
Ceramic, glazed	+
Ceramics, unglazed	+
Glass	+
Painted glass	+ / 1216 / T
Wood, painted (solvent systems)	+ / T
Wood, painted (aqueous systems)	+ / T
Wood, varnished (solvent systems)	+ / T
Wood, varnished (aqueous systems)	+ / T
Wood, untreated	1105 (1)
Copper	+
Brass	+
Polyester	+
PVC unplasticized	1227

Plaster	1105
Shatter protection film	1101/T
Zinc, galvanised iron	+

- 1) Upon high exposure to water please contact our Technical Department.
- 2) The reaction of neutral silicone with non-ferrous metals, such as copper, brass, etc. is possible. Upon curing unblocked air admission is necessary.

+ = good adherence without primer

- = not suitable

T = Test/pilot test advised

Application information:

The instructions described below apply both to the bonding of glass/plexiglass mirrors and to the bonding of painted glass.

When selecting the painted glass, it is important to take into account the customary local exposure, as well as the layer thickness and light transmission of the paint. With some non-opaque coatings it is possible that even transparent adhesives are visible on the front side.

Never apply the adhesive in a point-shaped manner, but in vertical strips. The length of one adhesive strip should not exceed 200 mm. For each m² of glass/mirror at least 3 adhesive strips must be applied in such a way that the strip width does not exceed 10 mm after pressing on the glass/mirror and the distance between the adhesive strips is at least 200 mm, so that the air circulation required for vulcanisation is possible. An adhesive surface of at least 10 cm²/kg glass/mirror is required for optimum load-bearing capacity.

In order to avoid the confinement of the crosslinker splitting product, a minimum space of 1.6 mm between mirror and substrate has to be kept mandatory. This space can be avoided most purposefully by sticking spacers. The minimum distance prescribed here serves the outbreathing of the crosslinker splitting product.

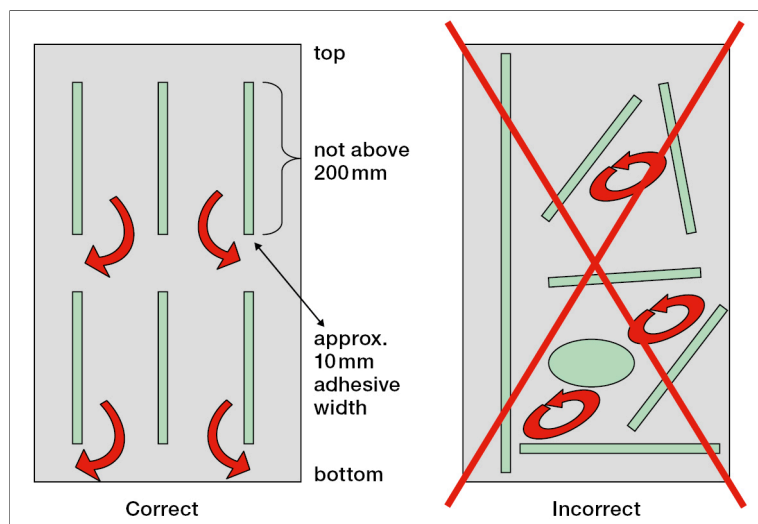
The minimum rear ventilation distances for mirrors required by the Institute of Glass Manufacturing in Hadamar are thus in no way abolished.

The recommended adhesive layer thickness is 2 - 4 mm.

The strength values required for bonding are reached after 48 hours at the earliest (23°C, approx. 50% RH). Until then a pre-fixing is necessary. This can be done from the front (glass side) with removable mechanical aids such as blocks, wedges or one-sided adhesive tapes or from the back (reverse side) with double-sided adhesive tapes such as OTTOTAPE Fixing Tape (double-sided).

We recommend OTTOSEAL® S 70 for the external sealing of the glass/mirror in connection with natural stones, and OTTOSEAL® S 120 and OTTOSEAL® S 121 in connection with other materials such as ceramics, metal, glass, etc.

It should be noted that sealing may only take place after complete curing of the adhesive and escape of the fission products. This time is about 7 days. In the case of coated glass/mirrors without glass backing, only the vertical glass edges should be sealed in order to avoid damage to the glass/mirror coating due to condensation. Please note the following drawing.



When bonding to ceilings and walls (if the upper edge of the glass is 4 m above the floor surface), the glass/mirror must additionally be mechanically secured, e.g. by screwing or inserting it into frames.

We recommend to store our products in unopened original packagings dry (< 60 % RH) at temperatures of +15 °C up to +25 °C. If the products are stored and / or transported at higher temperatures / air humidity for longer periods (some weeks), a diminution of durability or a change of material characteristics may arise.

Packaging:

	310 ml cartridge
mint-white	S16-04-C97
Packaging unit	20
Pieces per pallet	1200

Safety precautions:

Please observe the material safety data sheet.
After curing the product is completely odourless.

Disposal:

Information about disposal: Please refer to the material safety data sheet.

Warranty information:

All information in this publication is based on our current technical knowledge and experience. However, since conditions and methods of use and application of our products are beyond our control, we suggest that you test the product before final use. Information given in this technical data sheet and explanations of OTTO-CHEMIE in connection with this technical data sheet (e.g. service description, reference to DIN regulations etc.) is not to be seen as a warranty. Warranties require a separate written declaration of OTTO-CHEMIE to prove their validity. The characteristics stated in this data sheet define the characteristics of the article broadly and conclusively. Suggestions of use are not to be taken as confirmation of the appropriateness for the recommended intended use. We reserve the right to alter the product, adjusting it according to technical progress and new developments. We are at your disposal both for inquiries as well as specific application problems. If a governmental approval or clearance is necessary for the application of our products, the user is responsible for the obtainment of such. Our recommendations do not excuse the user from the obligation to take into consideration the possibility of infringement of third parties' rights and - if necessary - resolving it. For the rest our general terms and conditions apply, in particular regarding a possible liability for defects. You can find our general terms and conditions on our homepage: <http://www.otto-chemie.de/en/terms-and-conditions>