Technical datasheet

OTTOCOLL® M 560

PREMIUM

The universal premium hybrid adhesive with very high initial adhesion

1-component hybrid polymer STP adhesive | For indoor and outdoor application | M 560

Characteristics

- Very high initial adhesion - No fixation required
- Very good adhesion on many materials - Can be used on many materials without pretreatment
- Compatible with natural stone - Does not cause greasy deposits on natural stones
- Also bonding to damp surfaces
- Fast thorough hardening - Stress can be applied to the bond quickly
- Elastic - Compensates movements
- Can be painted and varnished – please observe application instruction in Technical Data Sheet
- Silicone-free
- Free of isocyanates

Fields of application

- Bonding of drywall stud frames for screwless assembly of metal rails / UW profiles
- Bonding of stone, natural stone and ceramic
- Bonding of lacquered and enamelled glass
- Bonding of mirrors on ceramic, glass, plastic, stainless steel, aluminium, wood, concrete, etc.
- Bonding of window sills, floor strips, decorative strips and stairs
- Bonding of rigid foam boards
- Bonding in body and vehicle construction, carriage and container construction, metal and device construction, shipbuilding
- Bonding in food-related areas
- Bonding and mounting different materials, such as wood, wooden materials, plastics, metals and mineral substrates

Standards and tests

- Tested fire behaviour in accordance with EN 13501: class E
- Declaration of no objection – tested for use in food-related area (ISEGA Forschungs- und Untersuchungs-Gesellschaft mbH, Aschaffenburg, Germany)
- EMICODE® EC 1 Plus - very low emission
- French VOC-emission class A+
- Declaration in "baubook" Austria
- Suitable for applications according to IVD instruction sheet no. 30+35 (IVD = German industry association sealants)
- TÜV SÜD - Certification for the screwless installation of UW profiles in drywall construction, as well as the corresponding adhesive strengths.
- VHT GmbH - Test certificates for the suitability of bonding drywall profiles in accordance with DIN 18183-1 and DIN 4103-1.
- PfB GmbH & Co. Prüfzentrum für Bauelemente KG - Airborne sound insulation tested according to DIN EN ISO 10140-2: 2021-09 – Increased sound insulation compared to conventional construction methods.

Technical properties

Skin-forming time at 23 °C/50 % RH [minutes]	~ 10

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OTTO CHEMIE
SEALING & BONDING

Starting bonding at 23°C [kg/m²]	~ 200
Curing in 24 hours at 23 °C/50 % RH [mm]	~ 3
Processing temperature from/to [°C]	+ 5 / + 40
Viscosity at 23 °C	pasty, stable
Density at 23 °C according to ISO 1183-1 [g/cm³]	~ 1,5
Shore-A-hardness according to ISO 868	~ 60
Stress expansion modulus at 100 % according to ISO 37, type 3 [N/mm²]	~ 2,4
Tensile expansion according to ISO 37, type 3 [%]	~ 150
Tensile strength according to ISO 37, type 3 [N/mm²]	~ 2,7
Temperature resistance from/to [°C]	- 40 / + 100 [1]
Maximum permissible tension (for bonds without load transfer) for designing the area to be bonded [N/mm²]	0,01
Shelf life at 23 °C/50 % RH [months]	12 [2]

1) temporarily (90 minutes) up to + 150 °C

2) from production

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

Pretreatment

The adhesive surfaces must be cleaned and any contamination such as release agents, preservatives, grease, oil, dust, water, old adhesives/sealants and other substances impairing adhesion must be removed. Cleaning of non-porous substrates: Clean with OTTO Cleaner T (no flash-off time required) and a clean, lint-free cloth. Cleaning porous substrates: Clean surfaces mechanically, e.g. with a steel brush or a grinding disc, to remove loose particles.
The adherent surfaces have to be clean, free from dust and grease as well as sustainable.

Primer table

The requirements for elastic sealing and bonding depend on external influences. Extreme changes in temperature, expansibility and tensile strenght, repeated contact with water, etc. demand a lot from a bonding.Therefor the use of mentioned primers is absolutely necessary.

Acrylic glass/PMMA	+
Aluminium	+ / 1216
Aluminium anodized	+
Aluminium powder-coated	T / 1101
Concrete	+ / 1105
Concrete block	+ / 1105 / 1215
Stainless steel	+
Iron	T
Epoxid resin coating	+
Fibre cement	1225 / 1105 [1]
Glass	+
HPL boards	+
Wood, painted (solvent systems)	+ / 1226
Wood, painted (aquaeous systems)	+ / 1227
Wood, varnished (solvent systems)	+ / 1227
Wood, varnished (aquaeous systems)	+ / 1227
Wood, untreated	T / 1225
Ceramic, glazed	+
Ceramics, unglazed	+ / 1215 / 1216
Plastic profiles (unplasticized, e. g. Vinnolit)	+
Copper	+ [2]
Painted glass	+ / 1226 / T
Melamine resin panels	+ / 1225
Brass	+
Natural stone	+ / 1216 [3]

Polycarbonate	+
Polyester	+ / 1216
Polystyrene	+ / 1217
Cellular concrete	+ / (1105) [1]
Plaster	1105 / 1215
PVC unplasticized	+
PVC-soft-foils	+
Tinplate	+ / 1216
Zinc, galvanised iron	+ / 1227

1) For the adhesion of mirrors OTTO Primer 1105 is to be used solely.

2) See "Important information"

3) Only suitable for bondings. For sealings we recommend our OTTOSEAL® S 70.

+ = good adherence without primer
- = not suitable
T = Test/pilot test advised

Important information

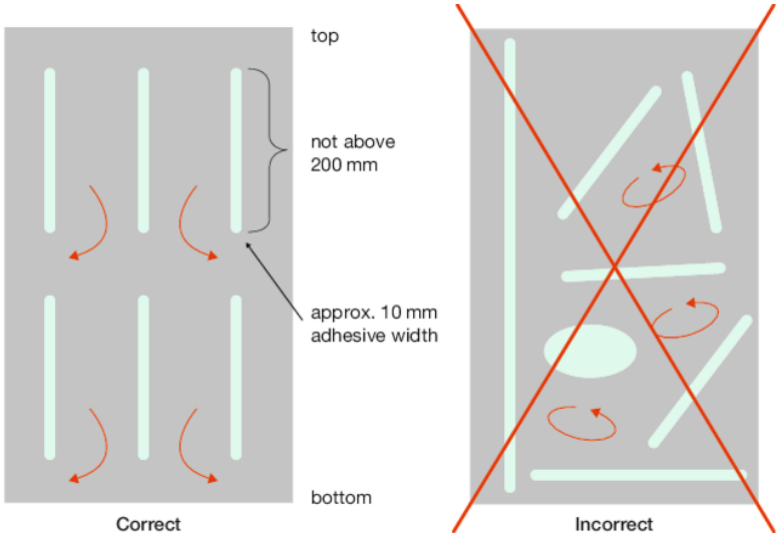
The initial adhesion can vary significantly depending on the materials to be bonded and the application method of the adhesive. The applied adhesive should be moistened with a little water from a commercially available spray bottle, especially when working with vapour-tight materials. When joining the substrates, the adhesive should be pressed onto the bonding surfaces to ensure a complete bond. We recommend preliminary tests for every application!
For the application we recommend premium equipment such as the hand-operated guns H27, H37, H40, H245.
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.
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.
For bonding or sealing of glass which is exposed to UV-radiation we recommend the use of our high quality silicone adhesives / sealants such as OTTOSEAL® S 110 / S 120 (for sealing of glazing rebate), OTTOSEAL® S 10 (e.g. for bonding), OTTOSEAL® S 7 (for weathersealing) or OTTOCOLL® S 81 (for bonded windows).
For bonding or sealing of transparent plastic material, such as acrylic glass, exposed to UV-radiation we recommend our silicone sealant OTTOSEAL® S 72.
Not suitable for sealing / bonding copper upon impact of UV-radiation and temperature.
The colours of the sealant may be affected by environmental influences (high temperature, chemicals, vapours, UV-radiation). This does not affect the characteristics of the product.

Application information

In order to achieve optimal adhesion and good mechanical characteristics, the entrapment of air in the joint must be avoided.
Curing time can be reduced by humidification and increased temperatures.
For the full-surface bonding of steam-tight substrates the adhesive should be moistened.
Our product can be overcoated with paint or varnish. The compatibility between the coating and our product has to be checked before the application by the user/processor - possibly under production conditions. Our OTTO application technology will gladly support you non-committally. If, in exceptional cases, after succesful compatibility test our product is coated over the entire surface, this coating must also be able to follow the elastic movement of the sealant. Otherwise crack formations in the coat of paint or optical impairments may occur.
Paints, lacquers, plastics and any other coatings must be compatible to the adhesive/sealant. Materials with alkaline contents may cause interactions in the form of discolouration.
Pure mineral paints (e.g. based on potassium silicate or lime) are not suitable for painting over the entire surface due to the brittleness of the paint.
Depending on the climatic conditions and the type of painting, the coating materials can be reworked from about 1 hour.
In contact with oxidatively curing paints (e.g. alkyd resin paints) drying and curing can be delayed or prevented.
We recommend preliminary tests.
Coatings and their evaporation can lead to discolouration of the adhesive/sealant.
Discolouration of coatings due to interaction with the adhesive/sealant is not excluded.

Due to the many possible influences during and after application, the customer always has to carry out trials first.
Please observe the recommended shelf life which is printed on the packaging.
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 diminuition of durability or a change of material characteristics may arise.
The instructions described below apply both to the bonding of glass mirrors and to the bonding of painted glass.
Processing as mirror adhesive:

Only mirrors should be bonded which have a reflecting and protection layer according to DIN EN 1036. In case of doubt please contact the manufacturer of the mirror.
With the Saint Gobain MIRALITE ® PURE mirror, incompatibility cannot be ruled out under certain object conditions. For bonding Saint Gobain MIRALITE ® PURE, we recommend our silicone mirror adhesives OTTOCOLL® S 16 or OTTOCOLL® S 610.
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.
Mineral substrates such as concrete, plaster, masonry, gypsum board, cellular concrete as well as untreated wood have to be primed with OTTO Primer 1105. This is essential. The use of this primer as barrier does not only improve the adhesion, but it is also a barrier to alkaline. Without a barrier the alkaline in combination with moisture can (amongst others) damage the back side of the mirror.
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 100 cm²/kg glass/mirror is required for optimum load-bearing capacity.
In order to avoid the confinement of the 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 onto the mirror. The minimum space specified serves the outbreathing of the splitting product. It does however not overrule the minimum distances for ventilation given by the Institute of Glass Manufacturing in Hadamar.
The strength values required for bonding are achieved after 48 hours at the earliest (23°C, approx. 50 % relative air humidity).
Due to the high initial adhesion, additional pre-fixing is generally not absolutely necessary, depending on the mirror weight. If necessary, pre-fixing can be carried out with removable mechanical aids such as blocks, wedges or single-sided adhesive tapes from the front (mirror side) or with double-sided adhesive tapes, e.g. OTTOTAPE fixing tape (double-sided), from the rear (back).
We recommend OTTOSEAL® S 70 and OTTOSEAL® S 80 for the external sealing of the glass/mirror in connection with natural stones, and OTTOSEAL® S 120 and OTTOSEAL® S 125 in connection with other materials such as ceramics, metal, glass, etc.
Please note: The mirror must not be sealed before the mirror adhesive has not completely cured and splitting product has not discharged. Curing takes about 7 days. Concerning mirrors without a glass rear only the vertical mirror edges should be sealed, to avoid damaging of the mirror coating by condensation. Please observe the following drawing.



When mounting mirrors on ceilings or on walls, whose upper edge is more than 4 m above the floor must be secured additionally mechanically with screws or by placing them in frames.
STORAGE:
If stored for a longer period at higher temperatures (≥ 30 °C) a diminishment of the initial adhesion may occur.

Packaging

	310 ml cartridge	580 ml aluminium foil bag
grey	M560-04-C02	M560-08-C02
black	M560-04-C04	on request
white	M560-04-C01	M560-08-C01
Pieces per packaging unit	**20**	**20**
Pieces per pallet	**1200**	**600**

Due to typographical reasons the colours shown below may differ from the original colours of the products.

Safety precautions

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

Disposal

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

Brand information

EMICODE® is a registered trademark of GEV e. V. (Düsseldorf, Germany)

Warranty information

The above information and our technical application advice, whether verbal, in writing or by means of tests, are provided to the best of our knowledge, but are non-binding, including with regard to any third-party property rights. The information in this publication does not exempt the processor from carrying out their own tests on our products with regard to their suitability for the intended processes and purposes. The application, use and processing of our products and the products manufactured on the basis of our technical application advice are beyond our control and are therefore the sole responsibility of the processor. If the application for which our products are used is subject to an official authorisation requirement, the user is responsible for obtaining these authorisations. We reserve the right to adapt the product to technical progress and new developments. For the rest, we refer to our General Terms and Conditions, in particular with regard to any liability for defects. You can find our GTC at www.otto-chemie.de.