

**OTTOSEAL®****S 110****Technical Datasheet****Characteristics:**

- Neutral-curing 1-component silicone sealant, MEKO-free
- Excellent weathering, ageing and UV-resistance
- Excellent early resistance to stress
- Highly abrasion-resistant and non-streaky
- Good compatibility with paints according to DIN 52452 (not paintable)
- Tack-free surface
- Excellent adhesion on many substrates, partly in combination with primer
- Non-corrosive
- Contains fungicides
- Compatible with PVB-foils according to the criteria of the ift-guideline DI-02/1
- Stress expansion modulus at 100 % (DIN 53 504, S3A): 0,4 N/mm<sup>2</sup>

**Fields of application:**

- Window pane sealing on wooden windows
- Sealing of joints on windows and doors made of wood, metal and plastic
- Sealing double-glazings (e. g. "Profilit")
- Expansion joints on prefabricated concrete and cellular concrete units
- Sealing of joints on façades, metal constructions
- Suitable for sealing glazing units
- Expansion joints in bathroom areas

**Standards and tests:**

- Tested according to EN 15651 – Part 1: F EXT-INT CC 25 LM
- Tested according to EN 15651 – Part 2: G CC 25 LM
- Tested according to EN 15651 – Part 3: XS 1
- Tested according to EN 15651 – Part 4: PW INT 12.5 E
- Tested according to DIN 18545, stress group E (institute for window techniques)
- According to the requirements of DIN 18540-F
- According to the requirements of ISO 11600 G 25 LM
- Tested according to FCBA (CTBA) L 114 (suitability of sealants for window pane sealing on wooden windows)
- "Highly recommendable non-hazardous building product" according to building material list (TOXPROOF) of the TÜV Rheinland, Germany
- Declaration of no objection – tested for use in food-related area (ISEGA Forschungs- und Untersuchungs-Gesellschaft mbH, Aschaffenburg, Germany)
- Suitable for applications according to IVD instruction sheet no. 3-1+3-2+7+9+10+13+14+19-1+20+22+24+25+27+29+31+32+35 (IVD = German industry association sealants)
- Quality seal of the IVD (Industrial association for sealants, registered society), tested by the ift Rosenheim (Institute of window engineering, registered society)
- According to regulation (EG) Nr. 1907/2006 (REACH)
- French VOC-emission class A+
- Certified according to GOS
- Declaration in "baubook" Austria

**Sealants • Adhesives**

- EMICODE® EC 1 Plus - very low emission
- For conformity with DGNB and LEED®, see the sustainability data sheet

#### Important information:

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

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.

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

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

Do not stack or pack sealed windows/doors earlier than 24 hours after sealing. Otherwise there is a risk of a discolouration of the painting.

During the curing process of the material reaction products of the crosslinker are released.

Ensure good ventilation during application and curing.

After curing the product is completely odourless, physiologically harmless and unmodified.

The required vulcanization time prolongs with increasing thickness of the silicone layer. One-component silicones must not be used for full-surface bonding applications unless special constructional prerequisites are met. If one-component silicones are to be used for thickness layers of more than 15 mm please contact our technical department beforehand.

If using smoothing agent remove the remaining water streaks on the adjoining surfaces immediately after sealing. If the surfaces are cleaned at a later time, permanent streaks may remain.

Smoke from cigarettes or similar environmental influences may lead to discolouring of the sealant.

For the sealing butt joints between insulating glass with UV-resistant edge bond based on silicone (e. g. angled glazing, structural glazing façades etc.) we recommend OTTOSEAL® S 7.

Upon restoring of joints contaminated with mould the existing elastic sealant must be removed completely. Before re-jointing, the affected jointing areas are to be treated with OTTO Anti-Mildew Spray to remove possibly existing fungal spores. Otherwise a new mould attack may occur in the joints again, despite the mould protection technology of the sealant.

#### 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 / + 35
Viscosity at 23 °C	pasty, stable
Density at 23 °C according to ISO 1183-1, coloured [g/cm³]	~ 1,2
Density at 23 °C according to ISO 1183-1, transparent [g/cm³]	~ 1,0
Shore-A-hardness according to ISO 868, coloured	~ 25
Shore-A-hardness according to ISO 868, transparent	~ 20
Permissible movement capability [%]	25 (1)
Class according to ISO 11600	25LM
Stress expansion modulus at 100 % according to ISO 37, S3A [N/mm²]	~ 0,4
Tensile expansion according to ISO 37, S3A [%]	~ 550
Tensile strength according to ISO 37, S3A [N/mm²]	~ 1,5
Temperature resistance from/to [°C]	- 40 / + 180
Extrusion rate according to ISO 8394-1 [g/min.]	50 - 150
Shrinkage of volume according to ISO 10563 [%]	< 10
Shelf life at 23 °C/50 % RH for pail/drum [months]	12
Shelf life at 23 °C/50 % RH for cartridge/foil bag [months]	12

1) Please pay attention to standards and tests

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

#### Pretreatment:

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.

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

#### Primer Table:

The OTTO Primer 1215, 1217 and 1218 are subject to the obligation to inform and to keep records according to the German Regulation of Chemical Interdiction (amongst others prohibition of self service) since 01.11.2005. Please observe the Technical Data Sheets (<http://www.otto-chemie.de/en/data-sheets-certificates>).

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.

Acrylic glass/PMMA (Plexiglas®, etc.)	-
Acrylic bathroom surfaces (e. g. bath tubs)	+ / 1101
Aluminium	+
Aluminium anodized	+
Aluminium powder-coated	1101 / T
Aluminium powder-coated (contains teflon)	T
Concrete	+ / 1105 / 1215
Concrete block	-
Lead	+ / 1216
Chrome	1216
Stainless steel	+ / 1216
Iron	1216
Epoxid resin coating	T
Fibre cement	1105 / 1215
Glass	+ / 1226
Wood, painted (solvent systems)	+ / T (1)
Wood, painted (aqueous systems)	+ / T (1)
Wood, varnished (solvent systems)	+ / T (1)
Wood, varnished (aqueous systems)	+ / T (1)
Wood, untreated	1215 / 1226 (2)
Ceramic, glazed	+
Ceramics, unglazed	+
Clinker	1215
Artificial stone	-
Plastic profiles, e. g. Vinnolit	+ / 1217 / 1227 (3)
Copper	+ (4)
Melamine formaldehyde resins (e. g. Resopal®)	1225
Brass	+ (4)
Natural stone / marble	-
Polyester	+
Polypropylene	-
Cellular concrete	1105 / 1215
Plaster	+ / 1105 / 1225
PVC unplasticized	+ / 1217 / 1227
PVC-soft-foils	1217 / 1227
Tinplate	1216
Zinc, galvanised iron	+

1) Due to the large number of painting systems for wooden windows, it is not possible to make a general statement regarding bonding and compatibility. For this reason, individual preliminary experiments are necessary.

2) Upon high exposure to water please contact our Technical Department.

3) With OTTOSEAL® S 110 transparent a pre-treatment with OTTO Primer 1217 is advisable. And foil-coated plastics should generally be pre-treated with OTTO Primer 1217.

4) 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:**

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 diminution of durability or a change of material characteristics may arise.

**Packaging:**

	310 ml cartridge	400 ml aluminium foil bag	580 ml aluminium foil bag	20 l plastic pail with PE-inliner
RAL 6005	S110-04-C6005	on request	on request	on request
RAL 6009	S110-04-C6009	on request	on request	on request
RAL 9001	S110-04-C9001	S110-07-C9001	on request	on request
RAL 9016	S110-04-C9016	on request	on request	on request
anthracite	S110-04-C155	S110-07-C155	S110-08-C155	on request
beech	S110-04-C76	on request	on request	on request
black	S110-04-C04	S110-07-C04	S110-08-C04	S110-23-C04
bronze	S110-04-C13	on request	on request	on request
brown	S110-04-C05	S110-07-C05	S110-08-C05	on request
chestnut	S110-04-C742	on request	S110-08-C742	on request
chocolate brown	S110-04-C39	on request	S110-08-C39	on request
concrete grey	S110-04-C56	on request	S110-08-C56	on request
dark brown	S110-04-C49	on request	on request	on request
dark grey	S110-04-C03	on request	S110-08-C03	on request
dark oak	S110-04-C83	on request	S110-08-C83	on request
fair brown	S110-04-C06	on request	S110-08-C06	on request
fair grey	S110-04-C20	S110-07-C20	S110-08-C20	on request
fair oak	S110-04-C64	on request	on request	on request
jasmin	S110-04-C1216	on request	on request	on request
mahogany	S110-04-C29	on request	S110-08-C29	on request
manhattan	S110-04-C43	S110-07-C43	S110-08-C43	on request
matt brown	S110-04-C1416	on request	S110-08-C1416	on request
oak	S110-04-C57	on request	S110-08-C57	on request
ochre	S110-04-C31	on request	S110-08-C31	on request
pergamon	S110-04-C84	on request	on request	on request
pine	S110-04-C88	on request	on request	on request
sand-beige	S110-04-C12	on request	on request	on request
sanitary grey	S110-04-C18	S110-07-C18	S110-08-C18	on request
silk grey	S110-04-C77	S110-07-C77	S110-08-C77	on request
silver-grey	S110-04-C94	S110-07-C94	on request	on request
snow-white	S110-04-C116	S110-07-C116	on request	on request
transparent	S110-04-C00	S110-07-C00	S110-08-C00	S110-23-C00
transparent-grey	S110-04-C284	on request	on request	on request
white	S110-04-C01	S110-07-C01	S110-08-C01	S110-23-C01
<b>Packaging unit</b>	<b>20</b>	<b>20</b>	<b>20</b>	<b>1</b>
<b>Pieces per pallet</b>	<b>1200</b>	<b>900</b>	<b>600</b>	<b>16</b>

**Safety precautions:**

Please observe the material safety data sheet.

**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>