

OTTOSEAL®**S 70****Technical Datasheet****Characteristics:**

- Neutral-curing 1-component silicone sealant, MEKO-free
- Guarantee - does not cause any migratory staining on natural stone
- High resistance to notches, tension and tearing
- Excellent weathering, ageing and UV-resistance
- Non-corrosive
- Contains fungicides
- Also in "structure" colours with a stonelike surface
- Also available in "matt-finished" colours
- The right way to smooth matt colours - see the application tips in the technical data sheet.
- Stress expansion modulus at 100 % (DIN 53 504, S3A): 0,5 N/mm²

Fields of application:

- Sealing and jointing on marble and all natural stones, e. g. sandstone, quartzite, granite, gneiss, porphyry etc. in interior and exterior areas
- Sealing of expansion joints in the area of floors, walls and facades
- Movement-compensating bonding of natural stone on metal, e. g. stairs on a metal construction
- Sealing and jointing of marble / natural stone swimming pools, also underwater joints
- Sealing of lacquered and enamelled glass
- For the external sealing of mirrors in connection with natural stone
- Joint filling materials between ceramic slabs and natural stone used outside with the slab bearings by TERRA LEVEL

Standards and tests:

- Tested according to EN 15651 – Part 1: F EXT-INT 25 LM / F EXT-INT CC 20 LM
- Tested according to EN 15651 – Part 3: XS 1
- Tested according to EN 15651 – Part 4: PW EXT-INT 25 LM (1)
- Tested according to ISO 16938-1 of SKZ Würzburg (Testing for migratory staining of sealants on natural stone)
- Tested according to ASTM C 1248 by DL Laboratories, New York (Testing for migratory staining of sealants on natural stone)
- "Highly recommendable non-hazardous building product" according to building material list (TOXPROOF) of the TÜV Rheinland, Germany
- Suitable for applications according to IVD instruction sheet no. 1+3-1+3-2+9+14+23+25+27+30+31+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
- (1) Applies only to the matt shades of OTTOSEAL® S 70 - all other shades comply with PW INT 12,5 E
- EMICODE® EC 1 Plus - very low emission
- For conformity with DGNB and LEED®, see the sustainability data sheet

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.

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.

Remark on the processing of the colour "stainless steel": Please note that when "modelling" the silicone, i. e. when silicone layers are pushed on top of each other (e. g. in corner areas) dark, clearly visible dividing lines could appear. These dividing lines can not be removed by smoothing the lines afterwards. This effect occurs solely for the colour "stainless steel" and is caused by a special colour pigment which is necessary to create the metallic effect. It is a typical characteristic of the colour "stainless steel" and it does not represent a deficiency of the material. In order to avoid such effect, layers of silicone should not be pushed on top of each other when smoothing material.

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

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

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 [g/cm ³]	~ 1,0
Density at 23°C according to ISO 1183-1, matt [g/cm ³]	~ 1,3
Shore-A-hardness according to ISO 868	~ 30
Permissible movement capability [%]	25 (1)
Stress expansion modulus at 100 % according to ISO 37, S3A [N/mm ²]	~ 0,5
Tensile expansion according to ISO 37, S3A [%]	~ 600
Tensile strength according to ISO 37, S3A [N/mm ²]	~ 1,4
Temperature resistance from/to [°C]	- 40 / + 180
Extrusion rate according to ISO 8394-1 [g/min.]	~ 130 - 160
Shrinkage of volume according to ISO 10563 [%]	< 10
Shelf life at 23 °C/50 % RH for cartridge/foil bag [months]	15

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:

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.

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.

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>).

ABS	T
Acrylic glass/PMMA (Plexiglas®, etc.)	T
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 / 1218
Concrete block	1216
Lead	+
Stainless steel	1216
Iron	+
Epoxid resin coating	+ / 1216
Glass	+
Wood, painted (solvent systems)	+
Wood, painted (aqueous systems)	+
Wood, varnished (solvent systems)	+
Wood, varnished (aqueous systems)	+
Wood, untreated	+ (1)
Ceramic, glazed	+ (2)
Ceramics, unglazed	+
Artificial stone	+ / 1216
Plastic profiles (unplasticized, e. g. Vinnolit)	+ / 1227
Copper	+ / 1216 (3)
Melamine formaldehyde resins (e. g. Resopal®)	+ / 1216
Brass	+ / 1216 (3)
Natural stone	+ / 1216 (4)
Polyester	+
Polypropylene	T
Cellular concrete	1105 / 1215
Plaster	+ / 1105 / 1215
PVC unplasticized	1217 / 1227
PVC-soft-foils	+ / 1217 / 1227
Sandstone	1102
Tinplate	1216
Zinc, galvanised iron	1216

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

2) When using ceramic tiles with a special surface coating such as Ceramicplus of Villeroy + Boch we recommend a pre-treatment with OTTO Cleanprimer 1226. When using ceramic tiles with other surface coatings it is advisable to contact our Technical Department or make preliminary tests.

3) The reaction of neutral silicone with non-ferrous metals, such as copper, brass, etc. is possible. Upon curing unblocked air admission is necessary.

4) Depending on the nature of external influences and the kind of natural stone it may be necessary to use a primer. For natural stone in contact with water (i.e. bathrooms and showers) we generally advise the use of OTTO Primer 1216. For jointing natural stone in swimming pools and sauna's and also for other applications under water please contact our technical department.

+ = good adherence without primer

- = not suitable

T = Test/pilot test advised

Application information:

Especially with unpolished natural stone surfaces make sure not to spread the sealant beyond the joints, as the sealant is difficult to remove once it enters the pores of the natural stones.

When tooling off the matt finish with OTTO Marble Smoothing Agent - please be aware: The joint should be tooled off once, with a smoothing tool emmersed in OTTO Marble Smoothing Agent. Do not make too many repeat passes with the smoothing tool to avoid polishing the matt surface !

For smoothing use OTTO Marble Silicone Smoothing Agent (undiluted). Wash / remove excess agent immediately. We do not recommend the use of usual smoothing agents (e. g. dishwashing detergents etc.) because of the high sensibility to staining of some marble and natural stone varieties. 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
adria blue	S70-04-C990	on request
anthracite	S70-04-C67	S70-07-C67
anthracite grey	S70-04-C137	on request
autumn-grey	S70-04-C1108	on request
bahamabeige	S70-04-C10	S70-07-C10
black	S70-04-C04	on request
brown	S70-04-C05	on request
chinchilla	S70-04-C45	on request
concrete grey	S70-04-C56	S70-07-C56
dark green	S70-04-C37	on request
fair blue structure	S70-04-C44	on request
fair-grey structure	S70-04-C109	on request
flash grey	S70-04-C787	on request
fog	S70-04-C230	on request
galaxy	S70-04-C4720	on request
graphite black	S70-04-C1391	on request
grey-blue structure	S70-04-C47	on request
grey-red structure	S70-04-C41	on request
jasmin	S70-04-C08	on request
joint-grey	S70-04-C71	on request
joint-grey structure	S70-04-C110	on request
labrador blue	S70-04-C1390	on request
light-grey	S70-04-C38	on request
manhattan	S70-04-C43	on request
matt anthracite grey	S70-04-C6116	on request
matt bahamabeige	S70-04-C6115	on request
matt black	S70-04-C6114	on request
matt concrete grey	S70-04-C6113	on request
matt jasmin	S70-04-C6117	on request
matt manhattan	S70-04-C1282	on request
matt sanitary grey	S70-04-C6111	on request
matt white	S70-04-C6112	on request
matt-anthracite	S70-04-C1300	on request
night-grey	S70-04-C1109	on request
pearl-grey	S70-04-C80	S70-07-C80
pergamon	S70-04-C84	on request
red-beige	S70-04-C82	on request
sand-red structure	S70-04-C32	on request
sandstone-beige	S70-04-C1110	on request
sanitary grey	S70-04-C18	S70-07-C18
silver-green structure	S70-04-C34	on request
stainless steel	S70-04-C197	on request
sunset	S70-04-C26	on request
thistle-grey structure	S70-04-C111	on request
transparent	S70-04-C00	S70-07-C00
white	S70-04-C01	S70-07-C01
Packaging unit	20	20
Pieces per pallet	1200	900

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>