

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

- Neutral-curing 1-component silicone sealant
- Guaranteed not to 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

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 wall and façade areas
- 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

Standards and tests:

- 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)
- "Especially recommendable economic building material" according to building material list (TOXPROOF) of the TÜV Rheinland, Germany
- Conform to LEED® IEQ-credits 4.1 (Indoor Environmental Quality) adhesives and sealants
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Important information:

Before applying the adhesive / sealant the user has to ensure that the materials in the area of contact (solid, liquid and gaseous) are compatible with the adhesive / sealant and do not damage or alter (e. g. discolour) them. As for the materials that will be used at a later stage in the surrounding area of the adhesive / sealant 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 adhesive / sealant. 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 except special xzy are provided. 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.

Matt-finished colours have to be rebated dry, in order to keep the matt-effect on the surface.

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. Please observe the Technical Datasheet of OTTO Anti-Mildew Spray.

Technical properties:

Skin-forming time at 23 °C / 50 % RAH	approx. 5 minutes
Curing in 24 hours at 23 °C / 50 % RAH	approx. 3 mm
Processing temperature	+5 °C up to +35 °C
Viscosity (23 °C)	pasty, stable
Density at 23 °C	approx. 1,0 g/cm ³
Shore-A-hardness (DIN 53 505)	approx. 30
Permissible movement capability	20 %
Stress expansion modulus at 100 % (DIN 53 504, S3A)	approx. 0,5 N/mm ²
Breaking expansion (DIN 53 504, S3A)	approx. 400 %
Tensile strength (DIN 53 504, S3A)	approx. 1,4 N/mm ²
Temperature resistance	-40 °C up to +180 °C
Shelf life at 23 °C / 50 % RAH for cartridge / foil bag	15 months

These data are not suitable for the issuing 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.

We achieved good adhesion even without primer on the following mentioned natural stones / artificial stones:

- Afrika Red
- Balmoral
- Baltic Brown
- Bianco Bahia
- Bianco Sardo
- Bianco Silver
- Bianco Tarin polished
- Bohus Grey
- Granit
- Jura
- Kashmir White
- Labrador Dunkel
- Multicolor
- Rosa Porrino
- Sarrizio Silver
- Solnhofen
- Spluga Verde
- Yuparana
- Azul Atlantico;

OTTO Primer 1216 is recommended on the following natural stones / artificial stones:

- Ararat Rosa polished
- Calcatta
- Carrara Weiß
- Daino Chiaro
- Daino Suro
- Rosso Verona
- Statuario
- Breccia Aurora
- Botticino

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)
Ceramics, glazed	+ (2)
Ceramics, unglazed	+
Artificial stone	+ / 1216
Plastic profiles (unplasticized, e. g. Vinnolit)	+ / 1227
Copper	+ (3)
Melamine formaldehyde resins (e. g. Resopal®)	+ / 1216
Brass	+ (4)
Natural stone / marble	1216
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

+ = good adherence without primer

- = not suitable

T= Test/pilot test advised

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

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

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.
 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.
 For natural stones which are subject to permanent wet conditions (e.g. in bath rooms and showers) we recommend to apply always OTTO Primer 1216.
 For jointing on natural stones in swimming pools and sauna as well as other underwater applications, please contact our technical service department.
 Because of the variety of possible influences while processing and applying customer tests are required.
 Please observe the recommended shelf life which is printed on the packaging.
 We recommend to store our products in unopened original packagings dry (< 60 % RAH) 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: Please see the packagings available from stock in our current General Catalogue for Building Products.

Trading unit/Container	Packaging unit	Pieces per pallet
310 ml cartridge	20	1200
400 ml aluminium foil bag	20	900

Colours:

C990	adria blue	C67	anthracite
C137	anthracite grey	C10	bahamabeige
C56	concrete grey	C05	brown
C45	chinchilla	C111	thistle-grey structure
C37	dark green	C197	stainless steel
C787	flash grey	C71	joint-grey
C110	joint-grey structure	C1391	graphite black
C47	grey-blue structure	C41	grey-red structure
C44	fair blue structure	C109	fair-grey structure
C1108	autumn-grey	C08	jasmin
C1390	labrador blue	C38	light-grey
C01	white	C00	transparent
C43	manhattan	C1300	matt-anthracite
C1282	matt-manhattan	C26	sunset
C34	silver-green structure	C1109	night-grey
C04	black	C230	fog
C18	sanitary grey	C1110	sandstone-beige
C32	sand-red structure	C84	pergamon
C80	pearl-grey	C82	red-beige

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 experiences. However, since conditions and methods of use and application of our products are beyond our control, we suggest you to 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 concludingly. 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. If you happen to not have our general terms and conditions at hand, we will gladly send them to you upon request. You can also find them on our homepage: http://www.otto-chemie.de/englisch/unternehmen/agb/AGB-Englisch_04-05.pdf