

ELASTOSIL® 465

Flame Retardant Silicone Sealant

Characteristics

ELASTOSIL® 465 is a one-part, neutral-curing, flame retardant silicone sealant for construction.

ELASTOSIL® 465 cures at room temperature under the action of atmospheric moisture to give a permanently flexible silicone rubber.

- Ready to use
- Non-sag
- Solvent-free
- Ready gunnability at low (+5°C) and high (+40°C) temperatures
- Low shrinkage on curing
- Flexible at low (-40°C) and high temperatures (+150°C)

Special characteristics

- Passes DIN 4102-1, class B1
- Non-corrosive to metals
- Suitable for alkaline substrates such as concrete, mortar, fibrous cement
- Matt finish

Applications

ELASTOSIL® 465 is a high-performance sealant designed for sealing of connecting and expansion joints for applications in the construction industry and in industrial areas where high standards are set in respect to flame retardance of the material.

The sealant can be applied by either hand or machine to seal expansion joints and connecting joints in a wide variety of materials, such as glass, coated glass, ceramic tiles, enamel, painted surfaces (wood and others), aluminum, steel and many plastics.

Product data

Unvulcanized rubber

Property	Test procedure	Unit	Value
Density at 23°C	ISO 1183, methode A	[g/cm ³]	1.5
Consistency	ISO 7390, profile U 20		Non-sag
Skin-forming time at 23°C / 50 % r.h.		[min]	ca. 25
Vulcanization at 23°C / 50 % r.h.		[mm/24h]	ca. 2
Shrinkage on cure	ISO 10563	[%]	ca. 3

These figures are intended as a guide and should not be used in preparing specifications.

Restrictions on use

ELASTOSIL® 465 may be discolored in contact with some organic elastomers, e.g. EPDM, APTK and neoprene.

ELASTOSIL® 465 is not suitable for applications involving contact with natural stone, such as marble, granite, quartzite, as it can cause staining.

ELASTOSIL® 465 is not recommended for sealing of aquaria.

ELASTOSIL® 465 is not recommended for structural glazing bonding.

The curing time can be extended at lower temperature, lower humidity or by low volume of air change.

Adhesion

ELASTOSIL® 465 exhibits excellent primerless adhesion to many non-porous siliceous materials, e.g. glass, tiles, ceramics, enamel, glazed tiles and clinker; metals, e.g. aluminium, steel, zinc or copper; impregnated, varnished or painted wood; and many plastics.

Users must carry out their own tests due to the great variety of substrates.

The adhesion can be improved in many cases by pretreatment of the substrates with a primer.

If adhesion difficulties arise please contact our technical service.

Product data

Vulcanized rubber

After 4 weeks' storage at 23 °C / 50 % rh

Property	Test procedure	Unit	Value
Tensile strength	ISO 8339	[N/mm ²]	0.6
Ultimate elongation	ISO 8339	[%]	300
Modulus at 100 % elongation	ISO 8339	[N/mm ²]	0.40
Hardness, Shore A	ISO 868		25
Movement capability	ISO 11600	[%]	25
Tear strength	ISO 34, method C	[N/mm]	4.0

These figures are intended as a guide and should not be used in preparing specifications.

Specifications

ELASTOSIL® 465 meets the requirements of the following standards or institutions:

DIN 4102-B1:

Fire retardant according to DIN 4102-1 (general appraisal certificate No. P-3590/3561-MPA BS, dated September 1, 2001, issued by the Materials Inspection Institute for Construction (MPA), Braunschweig, Germany).

BS 476, part 20:

Fire resistance tests.

ASTM C920:

Elastic joint sealants: Type S, Grade NS, Class 25, Use NT, G, A and M

TT-S-001543 A:

Sealing compound: silicone rubber base (for caulking, sealing and glazing in buildings and other structures). Class A - components resistant to 50% maximum total joint movement.

TT-S-00230 C:

Sealing compound: elastomeric type, single component (for caulking, sealing and glazing in buildings and other structures), type II, class A.

ISO 11600:

Classification of sealants for building construction: F – 25 LM.

UNI 9611:

Silicone sealant for joints - requirements and tests, packaging.

Weather and heat resistance

ELASTOSIL® 465 has excellent weatherability and is virtually unaffected by UV, radiation, ozone, rain, snow, sunlight, and extremes of temperature. Its mechanical and physical properties do not change appreciably on aging or exposure to weather.

Even after many years in service, seals remain fully functional. Cured ELASTOSIL® 465 stays elastic at temperatures from as low as –40 °C to as high as +150 °C. It will even withstand brief exposure to lower and higher temperatures.

Processing

ELASTOSIL® 465 is supplied as a paste-like, one-part, ready-to-use material.

It may be gunned at temperatures ranging from +5 °C to +40 °C and can thus be used in any climate.

ELASTOSIL® 465 is readily applied to most types of glass (laminated, coated, uncoated), ceramic tiles, glazed tiles, enamel, to metals such as steel, copper, zinc, lead, brass and impregnated, varnished or painted wood, and to plastics such as uPVC, epoxies, polyester and many other materials. However, as surfaces vary greatly from application to application, it is best to carry out preliminary adhesion and compatibility tests before use.

ELASTOSIL® 465 is compatible with all cured one-part silicone sealants. Where two or more different sealants are used, allow the first to cure completely before applying the next.

Joint design and dimensions

In the construction field, the minimum joint width is 10 mm so as to allow proper application and tooling of the sealant. The sealant bead should be no thicker than 15 mm and the ideal ratio of joint width to depth is 2 : 1 (see Fig. 1). In any case, the minimum joint width must be four times the expected movement. For deep joints, it is best to use polyethylene or polyurethane foam backing material (backer rods) (see Fig. 1).

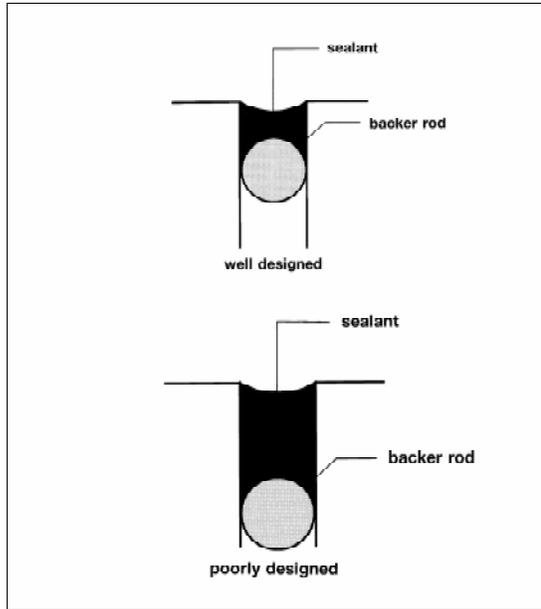


Fig. 1

If joints are too shallow for backing material to be employed, we recommend using a polyethylene tape (see Fig. 2). This acts as a release film (bond breaker), allowing the joint to move and the silicone to stretch freely.

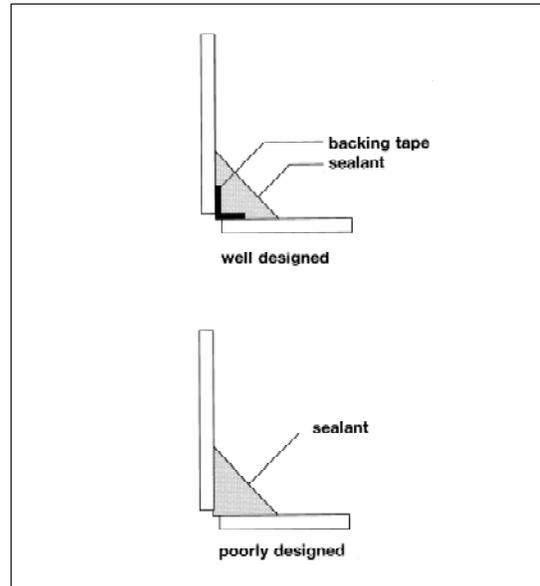


Fig. 2

Surface preparation

ELASTOSIL® 465 should only be applied to surfaces which are clean, dry, free of all loose material, dirt, rust or oil and other contaminants.

Cleaning:

Contaminated surfaces may be cleaned mechanically, if porous, or with a solvent if nonporous. Glass may be cleaned with water containing a surfactant or with a solvent. In the latter case, apply the solvent with a clean, oilfree, lintfree cloth. Remove residual solvent with a fresh, clean dry cloth before it evaporates.

Caution:

Always follow the recommendations and instructions provided by the solvent manufacturer. As solvents are usually flammable, keep them away from heat, naked flames or sparks. Ensure adequate ventilation. Do not inhale solvent fumes or allow solvent to remain in contact with the skin for prolonged periods.

Primers:

Ceramic tiles, enamels and glass do not usually require priming. To determine if priming is necessary, apply a bead of ELASTOSIL® 465 to the substrate and test its adhesion.

Masking and Tooling:

Masking tape affords a simple means of protecting critical areas beside joints from contact with the sealant. Do not allow the masking tape to touch the clean faces of the joint. Tool the sealant immediately after application and remove the tape before a skin forms.

Storage

ELASTOSIL® 465 has a shelf life of at least 9 months when stored in a cool (below 25°C), dry place in moisture-tight original container. The best before date of each cartridge is printed on top rim.

If the material is kept beyond the recommended shelf life, it is not necessarily unusable, but a quality control should be performed on the properties relevant to the application.

Colors

ELASTOSIL® 465 is available in the colors "Grey", "Black" and "White."

Packaging

ELASTOSIL® 465 is usually supplied in standard size cartridges that fit all standard caulking guns. Other types of packaging, e.g. for industrial applications, can be supplied on request. The product can also be applied by air-operated guns and almost all industrial dispensing equipment.

Safety information

During vulcanization methanol is released. These vapors should not be inhaled for long periods or in high concentration. Hence, good ventilation of the work place is necessary. Should unvulcanized RTV-1 silicone rubber come into contact with eyes or mucous membranes, the affected area must be rinsed thoroughly with water as irritation will otherwise be caused. Avoid prolonged contact of uncured sealant with the skin - use a dry cloth or paper to remove it.

Keep out of reach of children.

TLV of methanol: 200 ppm or 260 mg/m³

Cured silicone rubber, however, can be handled without any risk to health.

Comprehensive instructions are given in the corresponding Material Safety Data Sheet. They are available from Wacker subsidiaries.

The data presented in this leaflet are in accordance with the present state of our knowledge, but do not absolve the user from carefully checking all supplies immediately on receipt. We reserve the right to alter product constants within the scope of technical progress or new developments. The recommendations made in this leaflet should be checked by preliminary trials because of conditions during processing over which we have no control, especially where other companies' raw materials are also being used. The recommendations do not absolve the user from the obligation of investigating the possibility of infringement of third parties' rights and, if necessary, clarifying the position. Recommendations for use do not constitute a warranty, either express or implied, of the fitness or suitability of the products for a particular purpose.

The management system has been certified according to DIN EN ISO 9001 and DIN EN ISO 14001

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Version from 02-05-06

For technical, quality, or product safety questions, please contact:

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