

ELASTOSIL® 440 N TRANSPARENT

HIGH-PERFORMANCE SILICONE SEALANT FOR PERIMETER SEAL

Product description

ELASTOSIL® 440 N TRANSPARENT is a one-part, neutral-curing, low modulus window glazing silicone sealant with excellent adhesion and long shelf life for perimeter sealing and glazing applications.

ELASTOSIL® 440 N TRANSPARENT cures at room temperature under the action of atmospheric moisture to give a permanently flexible silicone rubber.

Special features

- non-sag
- ready to use at low (+5 °C) and high (+40 °C) temperatures
- excellent weatherability
- flexible at low (-40 °C) and high temperatures (+150 °C)
- low odor
- primerless adhesion to most materials
- excellent tooling characteristics for professional use
- non-corrosive to metals
- abrasion-resistant
- suitable for alkaline substrates such as concrete, mortar, fibrous cement
- compatible with water-based and solvent-based coatings: no plasticizer migration
- long shelf life

Application

ELASTOSIL® 440 N TRANSPARENT is a high-performance sealant designed for sealing of internal and external connection and expansion joints and in fenestration applications. It is especially suitable for perimeter sealing.

ELASTOSIL® 440 N TRANSPARENT is suitable for use on alkaline substrates such as concrete and mortar.

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.

Restrictions on use

ELASTOSIL® 440 N TRANSPARENT may be discolored in contact with some organic elastomers,

e.g. EPDM, APTK and neoprene.

ELASTOSIL® 440 N TRANSPARENT is not suitable for applications involving contact with natural stone, such as marble, granite, quartzite, as it can cause staining.

ELASTOSIL® 440 N TRANSPARENT is not recommended for sealing of aquaria.

ELASTOSIL® 440 N TRANSPARENT is not recommended for structural glazing bonding.

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

Adhesion

ELASTOSIL® 440 N TRANSPARENT 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. Also suitable for alkaline substrates such as concrete mortar and fibrous cement.

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.

Weather and heat resistance

ELASTOSIL® 440 N TRANSPARENT 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® 440 N TRANSPARENT stays elastic at temperatures from as low as -40 °C to as high as +100 °C. It will even withstand brief exposure to lower and higher temperatures.

Processing

ELASTOSIL® 440 N TRANSPARENT is supplied as a paste-like, one-component, 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® 440 N TRANSPARENT 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® 440 N TRANSPARENT is compatible with all cured one-component silicone sealants. Where two or more different sealants are used, allow the first to cure completely before applying the next.

Joint design and dimensions

Window glazing regulations are given in DIN 18 545. 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).

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.

Surface preparation

ELASTOSIL® 440 N TRANSPARENT 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® 440 N TRANSPARENT

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.

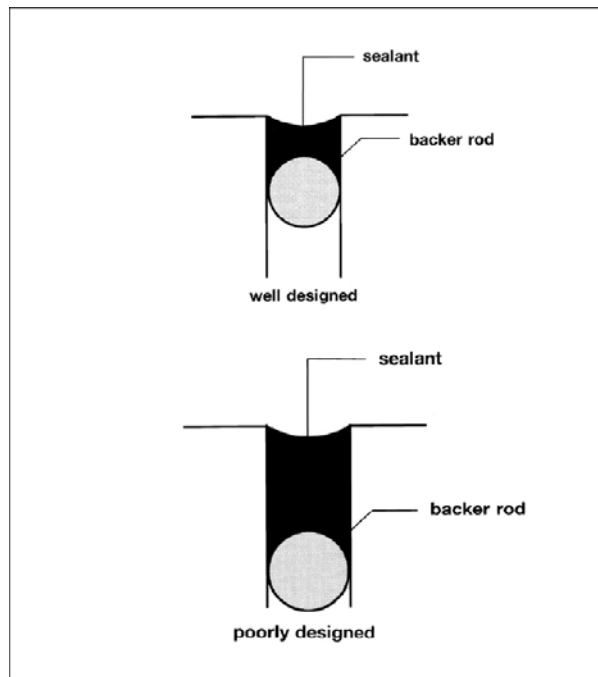


Fig. 1

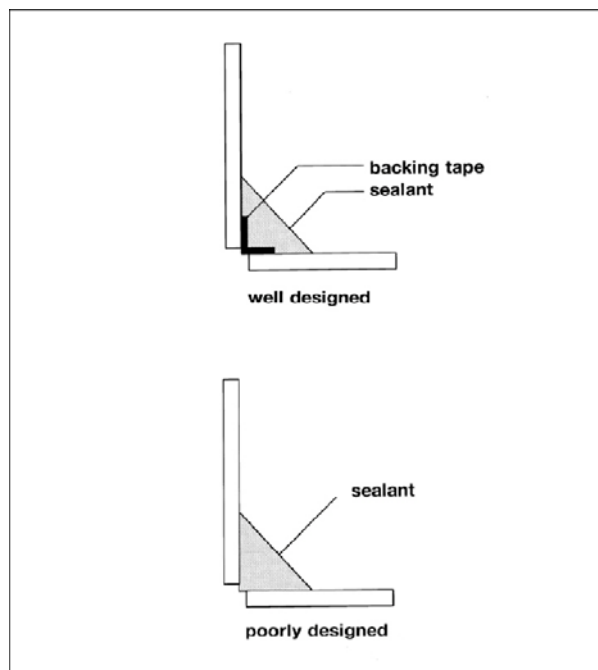


Fig. 2

Storage

The 'Best use before end' date of each batch is shown on the product label.

Storage beyond the date specified on the label does not necessarily mean that the product is no longer usable. In this case however, the properties required for the intended use must be checked for quality assurance reasons.

Packaging

ELASTOSIL® 440 N TRANSPARENT 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.

Additional information

Specifications

ELASTOSIL® 440 N TRANSPARENT meets the requirements of the following standards or institutions:

ISO 11600:

Classification of sealants for Building Construction:
F + G – 25 LM

Safety notes

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

Comprehensive instructions are given in the corresponding Material Safety Data Sheets. They are available on request from WACKER subsidiaries or may be printed via WACKER web site <http://www.wacker.com>.

Product data

Typical general characteristics	Inspection Method	Value
Product data (uncured)		
Density at 20 °C	DIN 51757	1,01 g/cm ³
Consistency	ISO 7390, profile U 20	non-sag
Extrusion rate at 23 °C	PV 08127	300 ml/min
Skin forming time at 23 °C / 50 % r.h.	PV 08112	approx. 25 min
Cure rate at 23 °C / 50 % r.h.		approx. 2 mm/day
Product data (cured)		
After 4 weeks storage at 23 °C / 50 % rh		
Tensile strength	ISO 8339	0,5 N/mm ²
Elongation at break	ISO 8339	250 %
Modulus at 100 % elongation	ISO 8339	0,34 N/mm ²
Hardness Shore A	ISO 868	18
Movement capability	ISO 9047	25 %
Tear strength	ISO 34, method C	4,0 N/mm

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

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

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