

PRODUCT DATA SHEET

SikaSeal[®]-450 GG

Elastomeric, non-sag, polysulphide joint sealant

DESCRIPTION

SikaSeal[®]-450 GG is polysulphide based sealant possessing good resistance to deterioration due to weathering, ozone and UV light.

USES

SikaSeal[®]-450 GG developed for sealing horizontal and vertical joints where pronounced cyclical movement is expected and where the service conditions would be harsh for most common sealants.

It is ideal for use in expansion joints in reinforced concrete structures and concrete pavement. It can, also, be used in floor joints subject to heavy usage where a high resistance to damage is required.

FEATURES

- Forms a flexible, elastomeric, weatherproof seal
- Good resistance to deterioration due to weathering
- It has the ability to withstand repeated cycles of compression and extension over a wide temperature range
- Good adhesion properties to various construction materials

CERTIFICATES AND TEST REPORTS

- Complies to ASTM C920: Type M, Grade NS, Class 25, Use M, T & NT
- VOC test report (USEPA Method 24)

PRODUCT INFORMATION

| | | |
|---------------------------|---|---------|
| Packaging | Ready to mix packing | |
| | A component | ~5.9 kg |
| | B component | ~0.5 kg |
| Colour | Grey | |
| Shelf life | 12 months from the date of production, if it is stored in undamaged, original, sealed packaging, and if the storage conditions are met. | |
| Storage conditions | SikaSeal [®] -450 GG shall be stored in dry conditions, where it is protected from direct sunlight and at temperatures between +5°C and +30°C. | |
| Viscosity | Thixotropic paste | |

TECHNICAL INFORMATION

| | | |
|---------------------|-------------------------|--------------|
| Shore A hardness | ~20 | (ASTM D2240) |
| Tensile strength | ~0.6 N/mm ² | (ASTM D412) |
| Movement capability | ±25 % | (ASTM C719) |
| Service temperature | -20°C min. / +80°C max. | |

Joint design

Joint configuration

Minimum Joint width: 6 mm
Maximum Joint width: 35 mm

Width: Depth Ratio

The joint width must be designed to suit the movement capability of the sealant. Joints expected to movement a width to depth ratio of approximately

2 : 1 must be maintained. For butt joint the width to depth ratio should be 1 : 1.

Minimum joint depth is recommended:

- 6 mm for non-porous surfaces
- 8 mm for porous surfaces
- 20 mm for trafficked joints and joints that are exposed to hydrostatic pressure

At chamfered elements, don't fill the chamfer with sealant.

| | | |
|---------------------|--------|-------------|
| Elongation at break | ~300 % | (ASTM D412) |
|---------------------|--------|-------------|

APPLICATION INFORMATION

| Yield | Joint length [m] per 1 L | Joint width [mm] | Joint depth [mm] |
|-------|--------------------------|------------------|------------------|
| | 16 | 10 | 6 |
| | 8 | 15 | 8 |
| | 5 | 20 | 10 |
| | 3 | 25 | 12 |
| | 2 | 30 | 15 |

These are approx. consumption and may vary based on actual site conditions.

| | | |
|-------------------------------|---|---------------------------------------|
| Ambient air temperature | +5°C to +45°C, min. 3°C above dew point temperature | |
| Substrate temperature | +5°C to +45°C | |
| Tack free time | ~4h | (ASTM C679) |
| Applied product ready for use | Initial cure time for light traffic | Final cure for water immersion |
| | ~24 h (at 23°C) ~8 h (at 40°C) | 14 days (at 23°C) 7 days (at 40°C) |

BASIS OF PRODUCT DATA

All technical data stated in this Data Sheet are based on laboratory tests. Actual measured data may vary due to circumstances beyond our control.

FURTHER DOCUMENTATION

- General Method Statement (GMS)

IMPORTANT CONSIDERATIONS

Applied product ready for use

- Sealant joint movement should not exceed $\pm 25\%$ of the joint width when installed in a width to depth ratio of 2 : 1.
- SikaSeal®-450 GG is not chemical resistant to chlorinated solvents, aromatic solvent and diluted oxidizing acids.
- For joints under wet conditions, use Sika® Primer-101.
- Paint compatibility with sealant should be checked prior to painting.
- When using filler boards in expansion joints to achieve the correct depth, it is essential to use a backer rod or insert a bond breaking tape into the joint in order to prevent 3-side adhesion.
- For trafficable joints we recommend to keep recess of 3-4 mm, so that tyre does not get in contact with the sealant's surface.

ECOLOGY, HEALTH AND SAFETY

User must read the most recent corresponding Safety Data Sheets (SDS) before using any products. The SDS provides information and advice on the safe handling, storage and disposal of chemical products and contains physical, ecological, toxicological and other safety-related data.

APPLICATION INSTRUCTIONS

SUBSTRATE PREPARATION

- All surfaces must be clean, dry and free from any loosely adhering particles.
- Check the joints edges for soundness and if found weak cut recess and fill up with suitable repair mortar.
- Correct joint depth can be established by inserting closed cell polyethylene backing rod tightly into the joint.
- When the joints have been filled with fiber filled board, this must be raked back to the required depth. Use bond breaker tape over the backer material.
- Protect surfaces with masking tape.

Concrete and Masonry

- Surfaces must be clean and dry.
- Wire brush thoroughly and remove dust and all contaminants.

Metals

- Remove any corrosion or millscale by grit or shot-blast, wirebrush, grinder or chemical remover.
- De-grease the surfaces with clean cloths soaked in oil-free cleansing solvent.

Priming

- Application of Sika® Primer-101 should not be carried out below 5°C.
- A single coat of primer should be applied by brush in accordance with the instructions on the primer tins.
- Sika® Primer-101 must be allowed to dry to a tack free state before applying SikaSeal®-450 GG.
- SikaSeal®-450 GG should be applied within 3 hours of primer, otherwise repriming will be necessary.

MIXING

- Mix and use one complete unit at a time. Do not subdivide.
- SikaSeal®-450 GG is supplied with base and catalyst in the same single container.
- Mix curing agent with base material for 5 - 10 minutes using a suitable paddle fitted to a 500 rpm electric drill moving the paddle completely through the mass of the material.
- The sides and base of the container should be periodically scraped down with a palette knife to ensure all of the catalyst is completely blended with the base component.
- Failure to completely disperse catalyst throughout the base compound will result in uncured sealant.
- Once mixed SikaSeal®-450 GG should be used immediately.

APPLICATION

- Where required, protect the surface with masking tape.
- Sealant is formulated to be applied using a sealant gun but may be applied by trowel if required.
- Sealant guns are fitted with conical nozzles which can be cut to suit the joint width.
- The sealant should be gunned into the joint using uneven trigger pressure, cleaning the nozzle occasionally to avoid contamination.
- Deep joints should be filled in two or more runs, to prevent air entrapment.
- When applying the sealant to a vertical joint, start application at the bottom of the joint so as to continuously support the sealant.
- Applied sealant should be tooled to a smooth finish.
- A minimum of surface lubricant such as dilute soap solution may be used to assist the process.
- Any masking tape should be removed immediately after tooling.

CLEANING OF EQUIPMENT

- Application equipment should be cleaned immediately with Sika® Colma Cleaner, acetone or any suitable cleaning solvent after use.
- Hardened / cured material can only be mechanically removed.

LOCAL RESTRICTIONS

Note that as a result of specific local regulations the declared data and recommended uses for this product may vary from country to country. Consult the local Product Data Sheet for exact product data and uses.

LEGAL NOTES

The information, and, in particular, the recommendations relating to the application and end-use of Sika products, are given in good faith based on Sika's current knowledge and experience of the products when properly stored, handled and applied under normal conditions in accordance with Sika's recommendations. In practice, the differences in materials, substrates and actual site conditions are such that no warranty in respect of merchantability or of fitness for a particular purpose, nor any liability arising out of any legal relationship whatsoever, can be inferred either from this information, or from any written recommendations, or from any other advice offered. The user of the product must test the product's suitability for the intended application and purpose. Sika reserves the right to change the properties of its products. The proprietary rights of third parties must be observed. All orders are accepted subject to our current terms of sale and delivery. Users must always refer to the most recent issue of the local Product Data Sheet for the product concerned, copies of which will be supplied on request.

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Sika Construction Chemicals
for Manufacturing LLC
ISO 9001 – LMS
Sika MB LLC

All products are supplied under
a management system certified
to conform to the requirements
of the quality, environmental
and occupational health &
safety standards ISO 9001, ISO
14001 and ISO 45001.



Product Data Sheet

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