



METHOD STATEMENT

Sika® Cavity Drainage

01/02/2019 / VERSION 1.2 / SIKA UK / ALEX BURMAN

CLASSIFICATION

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1 INTRODUCTION

Sika® Cavity Drain is a Type C system, designed for managing water that penetrates the external shell of a structure, by collecting it in a cavity formed between the wall and an internal lining/wall. There is a permanent reliance on this cavity to collect ground water seepage and direct it to a suitable discharge point, e.g. sump for removal by mechanical pumping.

2 TECHNICAL DATA

1.2 MEMBRANES

Please refer to separate Product Data Sheets for technical data on the Sika cavity drain membranes

2.2 SIKA® BRICK PLUG 10 X 60MM

Sika® Brick Plug 10x60 mm is a plug of polyacetal (POM) with a length of 60mm, and is intended for use in soft brick or stone, which is predrilled a minimum depth of 70 mm from the surface of the Sika® Membrane with a drill bit of diameter 10 mm.

Sika® Brick Plug has a head of diameter 30 mm, which is cone shaped like the back face of the Sika® Membrane's stud. This gives an excellent transfer of loading from Membrane to the base structure.

There is a 5 mm hole in the shank of the plug for fixing the next layer onto the Sika® Membrane, using a screw of diameter 5 to 6 mm, with screwing-in depth of max. 30 mm.

Sika® Brick Plug is resistant to normally occurring chemicals in the building construction.

Pack: Box of 100

3.2 SIKA® PLASTER PLUG 8 X 60MM

2.3.1 DESCRIPTION

The Sika® Plaster Plug is made of Polymer Co Polypropylene with a length of 60mm. It is intended for use in brick, concrete block and concrete, which is predrilled to a minimum depth 85mm from the surface of the Sika® Plaster drainage membrane with an 8mm-diameter drill bit.

The head of the Plaster base plug has a diameter of 35mm with an embossed surface to provide a mechanical key for subsequent plaster/render. The Sika® Plaster plug is resistant to normally occurring chemicals in the building construction.

2.3.2 PERFORMANCE

Colour:	opaque
Thickness:	8 mm
Length:	60mm
Working Temperature:	- 30°C to + 90°C
Chemical resistance:	As for Sika® CD System Membranes

NB the fixing is not suitable for direct, long-term exposure to UV radiation

4.2 SIKA® CD ROPE & TAPE

2.4.1 DESCRIPTION

Based on a blend of butyl and other rubbers, this versatile strip sealant has good tack and adhesion to most common surfaces whilst having good movement accommodation.

Standard colour – black.

2.4.2 PERFORMANCE

The following performance data assumes good joint design. For nonstandard situations refer to Technical Services Department.

- Movement accommodation: ±15% when used in lap and cover joints.
- Adhesion: has good surface tack and adheres well to most building materials.
- Shear Strength: 14N.
- Compression to seal: Positive Pressure
- UV light resistance: Very Good.
- Chemical resistance: Good to diluted acids and alkalis.
Not recommended for extreme chemical exposure.
- Service temperature range: -40°C to +110°C.
- Shelf life: 1 year.
- Elongation of break: 220%.
- Packaging: Sika® Rope 10mm x 5m rolls
Sika® Tape 28mm x 22m rolls
Sika® Overseal tape 75mm x 20m rolls

5.2 SIKA®CD CORNER TAPE

2.5.1 KEY FEATURES

Based on a blend of butyl and other rubbers, this versatile strip sealant has excellent high tack adhesion and will adhere to most common surfaces whilst having good movement accommodation.

Standard colour – white adhesive base with aluminium lead look top surface

When using Sika® CD Corner Tape on concrete surfaces it requires priming with Sikaproof® Primer-01

2.5.2 PERFORMANCE

The following performance data assumes good joint design. For nonstandard situations refer to Technical Services Department.

- Movement accommodation: ±5% when used in lap and cover joints.
- Shear Strength: 14N.
- Compression to seal: Positive Pressure
- UV light resistance: Excellent.
- Chemical resistance: Good to diluted acids and alkalis.
Not recommended for extreme chemical exposure.
- Service temperature range: -40°C to +90°C.
- Shelf life: 1 year.
- Elongation of break: 220%.
- Packaging: Sika® CD Corner Tape 150mm x 10m rolls

6.2 TAPE/ROPE APPLICATION

Surface preparation: All surfaces should be clean, dry and free from frost, grease and loose material.

Application details: Remove backing paper and apply directly from the reel onto membrane surface pressing firmly to ensure adequate adhesion along the length of the joint.

Application temperature range: +2°C to +30°C.

Priming: Primers are not required for good adhesion to most surfaces.

Health & safety: There are no known health hazards associated with Sika® CD Corner Tape in normal use. Wash hands immediately after use.

3 INSTALLATION

1.3 PREPARATION

Walls and floors should be prepped before application of Sika® Cavity Drainage system by removal of surface dirt, grease, oil and other contaminants. The Concrete pores should be opened by scraping the floor vigorously with a hard broom or wire brush, followed by soft brooming (or vacuum) to remove dust.

Prior to installing the cavity drainage membrane on walls and floors constructed of new concrete, the concrete surface should be treated to reduce the risk of leaching of free-lime or mineral salts, this can be done with Sika® CD Anti-Lime.

Substrate should be dry prior to application of Sika® CD Anti-Lime to ensure absorption.

2.3 WALLS

Sika® CD Membranes are suitable for installing onto concrete or masonry substrates capable of withstanding loadings exerted from the proposed wall finishes and fixing plugs.

The membrane should always be used with the flanged edge positioned in front of and overlapping the previously installed membrane width. Joints with the flanged edge are sealed using Sika Jointing Tape, while stud-to-stud joints (without the flanged edge) are sealed by overlapping the membrane by a minimum of four studs and sealing with Sika® CD Rope placed between the last four rows.

At corners where membrane is not installed continuously from one surface to the next, they should be finished at the corner on each surface and sealed together using Sika® Corner Tape.

The membrane should always be used with the lower sheet placed in front of the higher sheet. Fixings are made through the membrane into 10 mm diameter holes drilled centrally through the studs, Sika® Brick Plugs, to which Sika® CD Rope has been applied around the rim, are inserted into the holes and tapped flush with the membrane.

The Sika® CD Rope forms a sealing gasket between the plug and membrane. Alternatively, if used above ground, the Sika® Plaster Plugs can be used with an 8 mm diameter drill hole. The seal must be compressed to function as a barrier against water ingress, and this should be visually checked as each plug is fixed.

The translucence of the membrane allows the contractor to view through to the substrate and choose the optimum site for each fixing.

On walls and ceilings, preservative-treated timber battens of minimum dimensions 25 by 38 mm are fixed into the plug's fixing hole using suitable screws with a maximum screwing-in depth of 30 mm plus the batten depth. The membrane can also be dry-lined, using free-standing framework, blockwork or similar.

Installation of the membrane is commenced at the top of the construction. The membrane may require initial fixing on a ceiling or along the upper edge of a wall, prior to final fixings along batten runs. For joints where the flanged edge is not used, the two sheets are overlapped by a minimum of four rows of studs, and for horizontal joints the lower sheet is always positioned in front of the upper sheet.

Spacing between fixings will depend on the method of dry lining to be applied. When using preservative-treated timber battens the fixings should be kept to a maximum of 400 mm centres vertically and 600 mm horizontally.

Holes should be drilled directly into the masonry (not the mortar joints) at a minimum of 5 per square metre and held in place using Sika® CD plug fixings.

For Sika® 8mm Mesh Membrane use 13 Sika Plaster Plugs per square metre. Over tape the laps with Sika® Plaster Tape

Proprietary metal fast track systems and independent frame systems will require fewer fixings, but sufficient number should be used to ensure that the membrane is reasonably tight to the wall, especially at corners.

Power cables, points and light switches should preferably be remounted in front of the membrane.

In below-ground installations, the practice of leaving the top of the wall membrane unsealed where there is no requirement for a ceiling membrane to be installed may need to be reconsidered in cases where, odours or vermin is a consideration (such as in proximity to food preparation areas). The advice of the Certificate holder should be sought in these situations.

The installation is conducted over windows and the membrane is cut away to expose them. The gaps are then sealed with Sika® Jointing Tape or Sika® CD Rope.

For doors and some obstructions, the technique covered in section previous cannot be used. Instead, the membrane is installed up to the perimeter and the gap sealed in the same manner.

3.3 CEILINGS

Ceilings to be covered must always have a fall, as per vaulted cellar constructions, to ensure water does not build up against the membrane or a joint. The vertical drop between the ends of two membrane sheets for horizontal overlaps should be a minimum of four rows of studs.

Any sagging of the membrane between fixing points should not be great enough for ponding to occur.

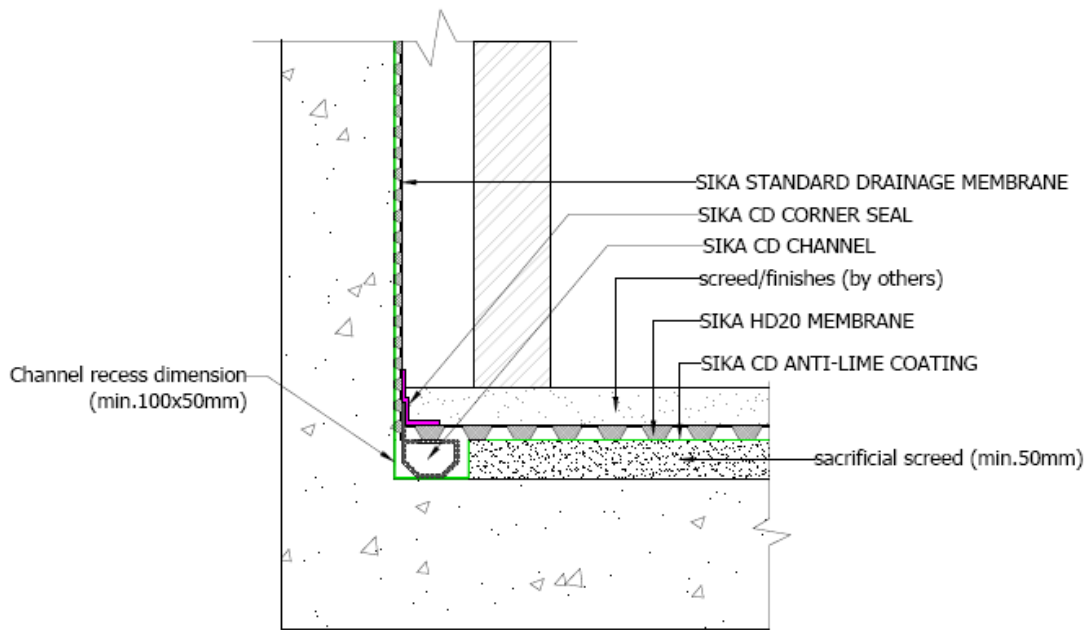
At the end walls of vaulted constructions the membrane must be turned down onto the end wall by a minimum of 200 mm. The membrane is mitred as necessary to fit the curve of the ceiling, and the joint sealed with Sika® Jointing Tape, Sika® CD Rope or Sika® Corner Tape with Sikaproof® Primer-01. The adjoining wall membrane should be cut to fit the curve of the ceiling, fixed in front of the ceiling membrane, and the gap sealed with Sika® Jointing Tape or Sika® CD Rope or Sika® Corner Tape.

4.3 FLOORS

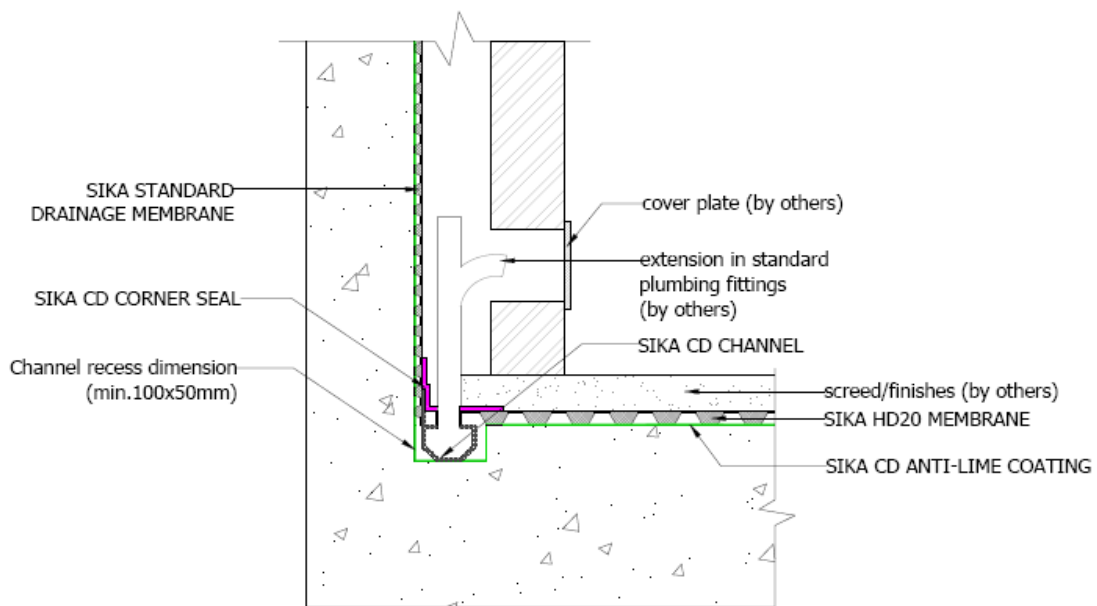
Sika® CD Channel installation should run around the perimeter of the basement, with jetting points every 10-12 metres or change in direction.

The Sika® CD Channel will either be recessed into the slab or be incorporated into either a screed or rigid insulation build up (Please speak to waterproofing designer)

3.4.1 Option 1



3.4.2 OPTION 2



Floors should have a drainage outlet point. There should be a fall towards the outlet point or a drainage channel made around the perimeter of the floor, to ensure that water can flow to the outlet.

The membrane is rolled out 'studs down' over the floor, and consecutive sheet widths are laid so the flanged edge overlaps the first sheet by four studs. Joints are sealed using Sika® Jointing Tape applied over the second row of studs. Joints without the flanged edge are overlapped by four rows of studs and sealed with Sika® CD Rope applied between the last two rows and over sealed using Sika® Corner Tape.

The membrane is cut within 5 to 10 mm of any pipes and services in the floor, and the gap filled with Sika® CD Rope or Sika® Corner Tape. If necessary, a patch of membrane is overlaid and sealed to the service with Sika® CD Rope, and its circumference sealed with Sika® Jointing Tape.

Fixings must not be applied through the floor sheets.

At wall/floor junctions the membrane is turned up at the wall and sealed using Sika® Corner Tape.

Before laying Sika® HD20 Membrane, a flood test should be carried out to determine flow of water (location of Sump/pump) and to ensure no water pools. (For Sika® Pump Pro range installation see pump installation brochure)

4 SUMP AND PUMPS

Designers need to consider any risk associated with a constant supply of possibly contaminated water to the structure.

Sika highly recommends a mechanical sump pump to remove water, however in some instances gravity may be used to remove water to external drainage.

Type C pumped systems should be engineered to cope with a worst case scenario of water ingress.

For sump pump installation guidelines please see Sika Pump Pro Method Statement.

5 MAINTENANCE

The need to service and maintain the drainage elements of a Type C Waterproofing system is paramount to its long term success. This is highlighted in the BS8102:2009 Code of practice for protection of below ground structures against water from the ground and PCA Best practice guidance Type C Waterproofing Systems.

Failure to maintain the cavity drainage system could invalidate any guarantee provided.

6 LEGAL NOTE

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 products 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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Method Statement
Sika Cavity Drainage System
04/01/2019, VERSION 1
Document ID

Language/Region/Translation template
e.g. template for local adaptation