Sika® Cavity Drainage System

PUTTING WATER IN ITS PLACE

BUILDING TRUST

INTRODUCTION

Sika® Cavity Drainage System creates a water management system to control water after it has penetrated the structure. Utilising a high density polyethylene internal drainage membrane, the system is installed, loose laid in flooring applications and attached to the wall with surface plugs in vertical installations.

The system directs penetrating water into a drainage system and a collection sump before using a pump to discharge water from the building. A cavity drain provides protection from the ingress of water. Suitable for above and below ground usage.

The membranes are fixed to the walls using special plugs with minimum surface preparation required to the substrate. Once the membrane has been fitted, wall surfaces can be dry lined or plastered and the floors can be screeded.

TYPICAL APPLICATIONS INCLUDE:

- Walls and floors of basements
- Cellars

ADVANTAGES

- Can be used where the substrate does not have the strength to resist stresses caused by water pressure
- Can accommodate minor movements within the structure
- Limited surface preparation required
- Acts as a vapour barrier
- Can be used to grades 1-3 according to BS 8102:2009
- Suitable for high water table according to BS 8102:2009

Regular maintenance of the system including pumps is required, therefore the design of the structure should include access for maintenance.

BBA APPROVAL INSPECTION TESTING CERTIFICATION
CERTIFICATE 19/5640

Sika® CD Anti-Lime Coating

Sika CD Anti-Lime Coating should be applied to all new concrete surfaces to reduce the build-up of free lime within the system.

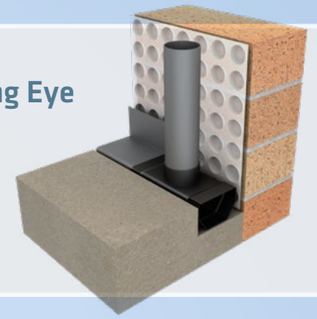
1 Sika® Wall Membrane

The wall membrane allows any water ingress to flow down to the perimeter channel. Sika supply a range of wall membranes depending on your requirements.

2 Sika® Cavity Drain Channel and Jetting Eye

The Sika® Cavity Drain Wall Channel directs any water ingress to the sump chamber.

Sika® Jetting Eye allows inspection and maintenance of the channel system.



3 Sika® Floor Membrane

The floor membrane allows water to flow into the perimeter channel. Sika HD20 membrane is typically used for the floor membrane due to its higher void volume and height, which allows for floor tolerance.

4 Sika® Sump and Pump Chamber

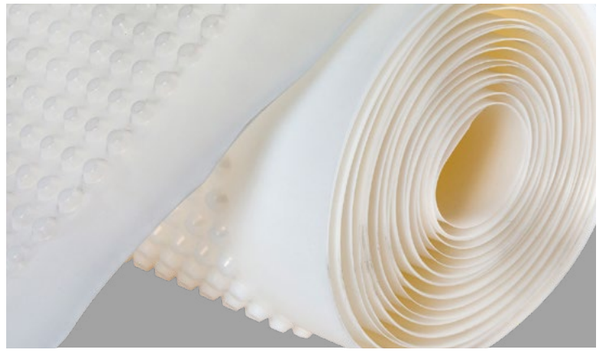
The sump and pump chamber pumps water out of the building. Sika offer a range of sump and pump solutions.

DISCOVER MORE ABOUT OUR CAVITY DRAINAGE SYSTEM

Download our Cavity Drainage brochure or watch our explanative video at: **sikawaterproofing.co.uk/cavitydrain**

Sika® Standard Drainage Membrane

For use on walls, floors and vaults with minimal surface preparation required. Also suitable for insulated dry lining for walls above ground level that may not be suitable for conventional plaster finishes.



Sika® Cavity Drainage Membranes are suitable for use in type 'C' (drained protection) structural concrete constructions in accordance with BS 8102:2009.

Sika® Standard Drainage Membrane is a medium capacity drainage membrane (4 litres/m²) for walls both above and below ground level. Perimeter drainage channels must be provided to optimise the flow of groundwater towards the sump location (see separate method statement and data sheet).

Sika® Standard Drainage Membrane is used in a dry lining application. Various systems can be used in the head of the fixing plug, from timber battens to steel dry lining systems.

This membrane is easy to roll out against wall structures and can be fixed in horizontal lengths or in vertical strips.

This is our most popular membrane in basement waterproofing due to its universal ease of use.

FIXING

Sika® Standard Drainage Membrane is installed with studs against the underlying structure. Fixing to walls is carried out with Sika® Brick Plugs in the centre of the stud. Take care when drilling holes to avoid excessive masonry dust falling in to the cavity.

AVAILABLE SIZES:

2.0 x 2.0m

KEY BENEFITS

- Can create a dry habitable living space in areas previously suffering from damp/wet conditions.
- Little to no damage to existing structure.
- Quick to install – minimal preparation needed to wall surfaces, avoiding mess and saving time and money.
- Easy to bend and cut with scissors to form around windows, doors, services etc.
- No delays to decoration as there is no drying process.
- Waterproof, salt resistant, root resistant and contaminant resistant
- Low and high temperature tolerance.

ASSOCIATED PRODUCTS

- Sika® Brick Plugs
- Sika® Jointing Tape
- Sika® Rope
- Sika® Corner detail

BELOW GROUND APPLICATIONS

TECHNICAL DATA

Raw material: HDPE

Sheet thickness: nominal 0.50mm

Stud height: approx. 6.5mm

Construction height: approx. 7mm

Unit weight: 0.45 kg/m²

Deformation under long term loading: max. 20% (at 50 kN/m²)

Compressive strength: 150 kN/m²

Working temperature: -10° to +60°C

Softening temperature: +160°C

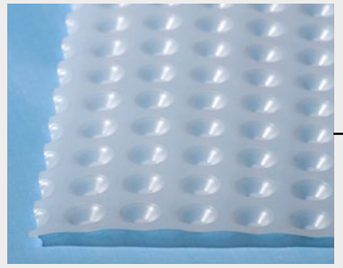
Linear coefficient of thermal expansion: 0.18 mm/m.°C

Water vapour resistance: 280m equivalent air layer

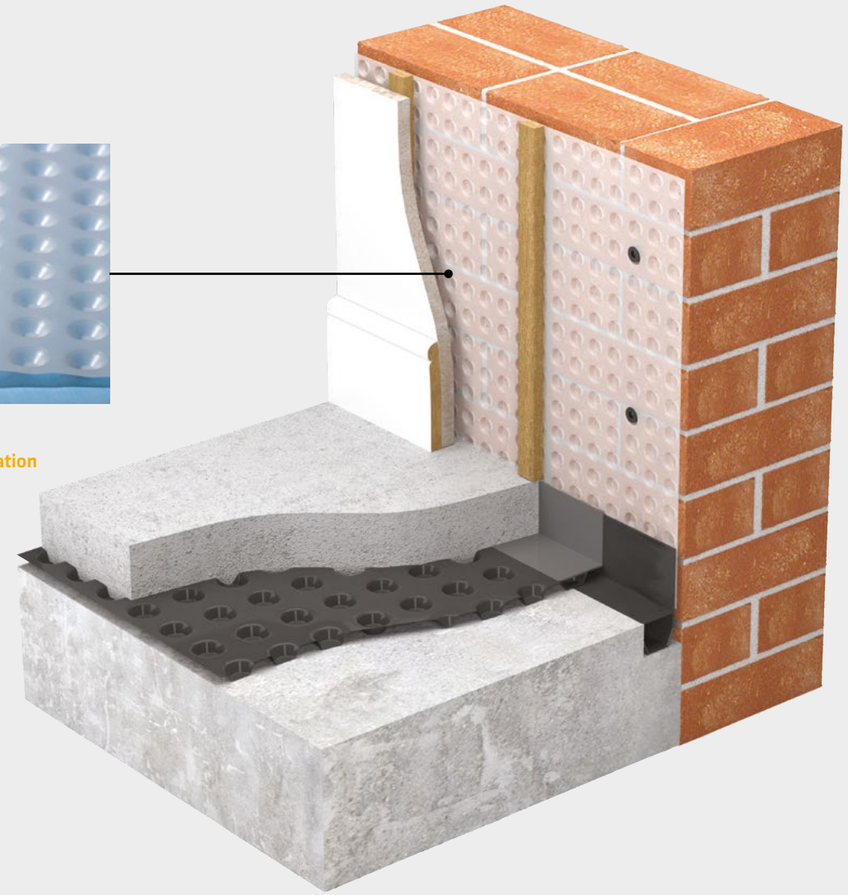
Air gap volume: 4.0 l/m²

Drainage capacity: approx. 3.8 l/m²

Colour: natural

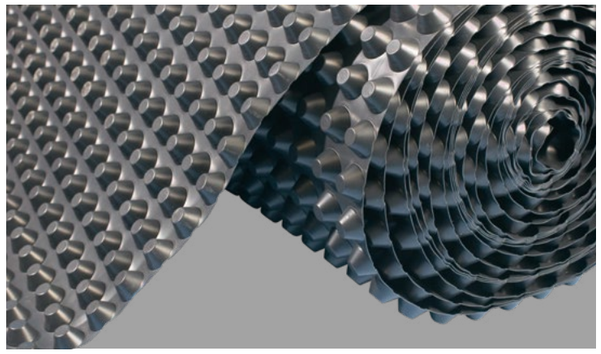


Sika® Standard Drainage Membrane in a wall application



Sika® HD20 Membrane Waterproofing Membrane

For use on walls and floors with minimal surface preparation required. Also suitable for insulated dry lining for walls above ground level that may not be suitable for conventional plaster finishes.



Sika® HD20 Cavity Drainage Membranes are suitable for use in type 'C' (drained protection) structural concrete constructions in accordance with BS 8102:2009.

Sika® HD20 Membrane provides a void volume of 14 litres/m². Suitable for use on floors and walls in very wet situations or where the large stud height is desired to maximize insulation values. When used on floors Sika® HD20 Membrane must be installed with perimeter drainage channels and, when overlaid with concrete, the large diameter studs will give high point load resistance capabilities (180 kN/m²) to support load-bearing walls built off the slab.

FIXING

Starting at one side of the room, unroll the membrane with the studs down and cut to fit the room as one would when fitting a carpet. The next membrane width is rolled out so that the flanged edge overlaps onto the edge of the previous roll of membrane. Clean both edges. Sika® Joint Tape is then applied to the high flat area between the first two studs at the edge of the previous roll of membrane with the backing paper still intact. Check the two widths for alignment, with the flange covering the backing paper. Starting from the end of the joint, remove the backing paper and press down on the joint, sealing the two sections together.

AVAILABLE SIZES:

2.0 x 20m

Including flat overlapping edge (flange) without studs, working area approx. 40m².

KEY BENEFITS

- Fast to install and lay
- Internal load bearing walls can be built on the membrane once screed is added
- High water movement capacity
- Various floor finishes can be used on top of the membrane
- Can be used with various drainage systems
- Resistant to all salts and contaminates
- Can be used with all insulation floor systems

ASSOCIATED PRODUCTS

- Sika® Brick Plugs
- Sika® Jointing Tape
- Sika® Rope
- Sika® Corner Tape

BELOW GROUND APPLICATIONS

TECHNICAL DATA

Material: HDPE

Colour: black

Area weight: approx. 1,000 g/m²

Thickness: approx. 0.9 mm

Available widths: 2m

Roll length: 20m

Dimple height: 20mm

Void volume between dimples: approx. 14 l/m²

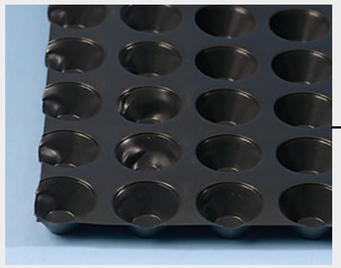
Drainage capacity: approx. 10 l/s m approx. 600 l/min m approx. 36.000 l/h m

Compressive strength: approx. 240 kN/m2 (24 t/m²)

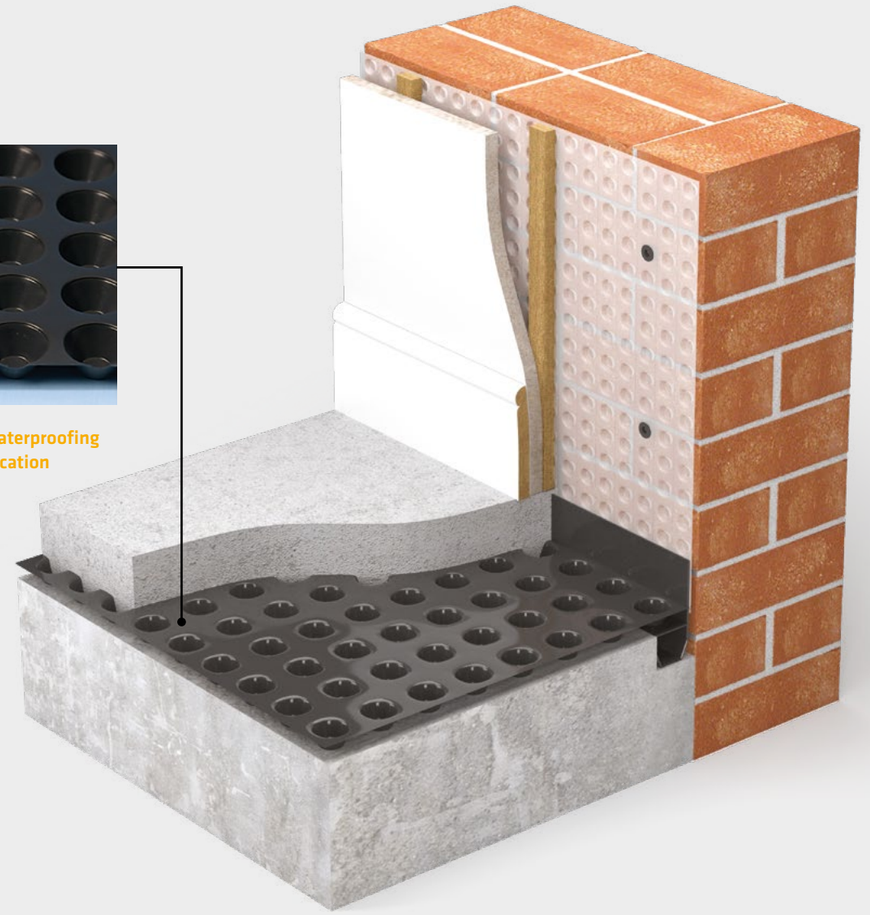
Tensile strength: approx. 14.5 kN/m (EN ISO 10319)

Elongation at maximum strength: approx. 68%

Service temperature range: -40°C to +80°C



Sika® HD20 Membrane Waterproofing Membrane in a floor application



Sika® 8mm Meshed Plaster Membrane

Sika® 8mm Meshed Membrane is suitable for use in accordance with BS 8102:1990 to provide Type 'C' drained protection to structures below ground giving a Grade 3 dry environment suitable for domestic or commercial use.

Sika® 8mm Meshed Membrane is a high density polyethylene membrane, incorporating 8mm studs which allows the isolation of wet walls above and below ground.

It incorporates a tough HDPE mesh lathing welded to the front face to allow the direct application of various plaster finishes or adhesive 'dabs' and plasterboard.

FIXING

Sika® 8mm Meshed Membrane is fixed to the wall by drilling through the membrane studs to a depth of 50 or 70mm using a 8mm drill bit, and gently hammering home the Plaster Plugs with Sika® Rope around the shaft to form a waterproof seal between the fixing and the membrane surface.

Intervals between plug fixings should be no greater than 250mm to ensure a tight fix to the wall. Near lap joints and where the surface is uneven, the centres should be less than 250mm. When fixing the membrane it is essential to keep the sheet tight to the wall surface (no 'bulges') at all times.

AVAILABLE SIZES:

2m x 20m = 40m² (translucent/white)

Including flat overlapping edge (flange) without studs, working area approx. 40m².

KEY BENEFITS

- Stud height 8mm, drainage volume 5.5 litres/m²
- Sheet thickness 600 µm, density 0.7 kg/m²
- Excellent low and high temperature stability 150 kN/m² load bearing capacity
- High durability and water resistance

ASSOCIATED PRODUCTS

- Sika® Plaster Plugs
- Sika® Jointing Tape
- Sika® Rope
- Sika® Corner Tape
- Sika® Plaster Tape

BELOW GROUND APPLICATIONS

TECHNICAL DATA

Colour: white

Weight: 28.00kg

Raw material: high density polyethylene

Thickness: 0.60mm

Stud height: 8.00mm

Compressive strength: N/A

Wall and soffit membrane only

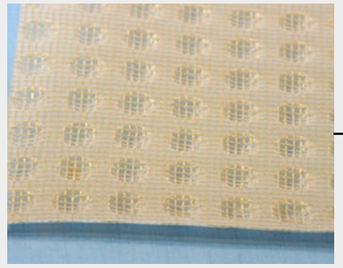
Thermal resistance: 0.078m² K/W

Vapour permeability: 0.046g/m² x hr x mmHg

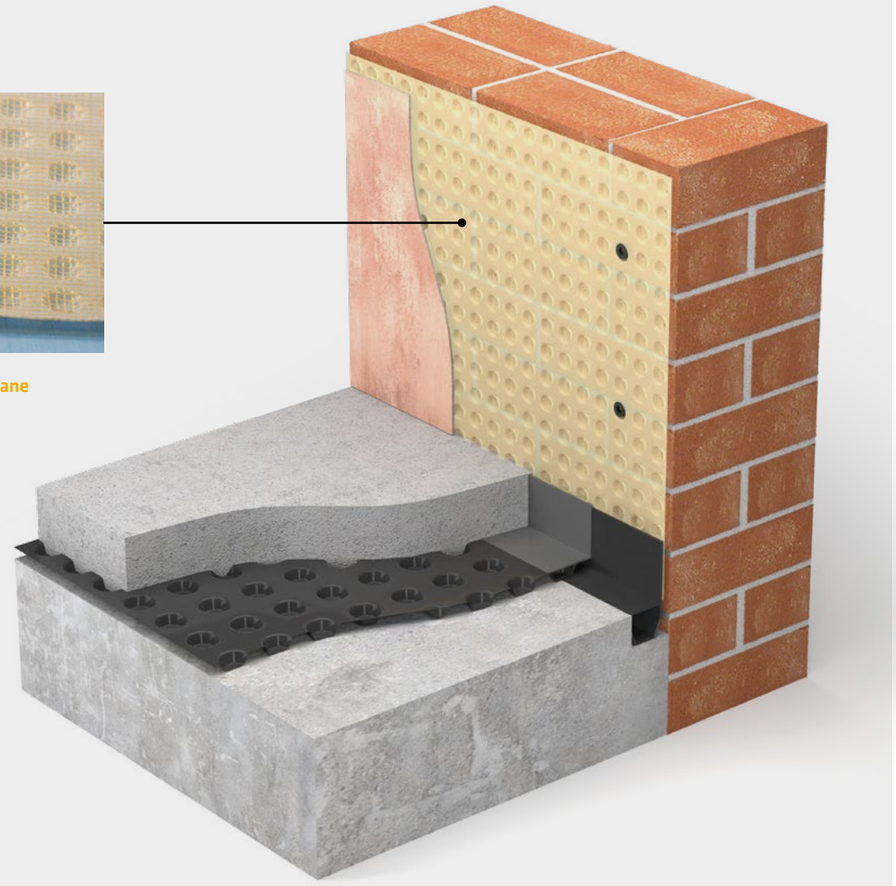
Thermal conductivity: 0.461 W/m K

Air volume between studs: 5.51 l/m²/s

Drainage capacity: 4.61 l/m²/s



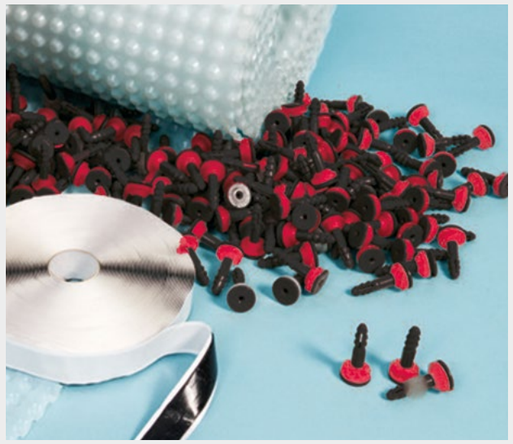
Sika® 8mm Meshed Membrane in a wall application

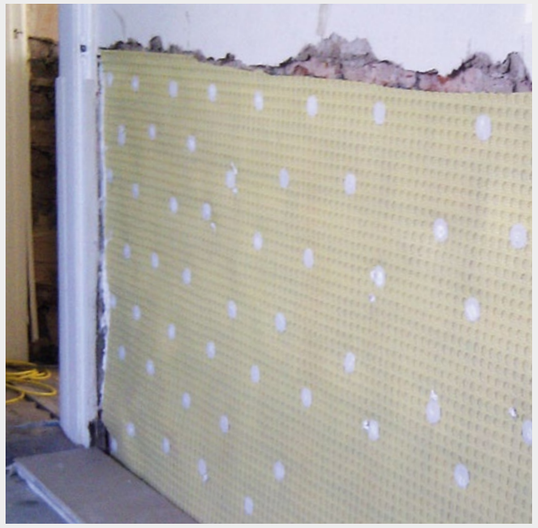


Membrane Plugs

The most important part of any membrane system, are the fixings and jointing tapes. These parts of the system are critical and Sika is pleased to announce their systems are covered by BBA accreditation.

Sika® Plaster Plugs and Brick Plugs are also of the highest quality, and now include the new plugs with seals already attached to speed up installation times.





Sika® Plaster Plugs

Sika® Plaster Plugs can be used with our mesh membrane systems and have a serrated head which can take plaster or dot and dab. They can also be used to secure membranes to walls in systems where a free standing frame is to be used.

Quantity: 200 per box.

Sika® Brick Plugs

Sika® Brick Plugs are 10mm fixings to use with membrane systems. They have a reinforced head for easy use and take a size 10 screw into the head of the plug, for battens or metal framing systems. At 60mm long, these plugs will fit into all substrates.

Quantity: 100 per box.

Sika® Brick Plugs with Seals

Sika® Brick plugs are 10mm fixings to use with membrane systems, with the advantage of a rubber seal already attached. They have a reinforced head for easy use and take a size 10 screw into the head of the plug, for battens or metal framing systems. At 60mm long, these plugs will fit into all substrates.

Quantity: 200 per box.

Jointing Systems

Quality jointing systems are critical when using cavity membrane systems. Sika is proud to have sourced the highest quality jointing tapes and ropes within the waterproofing industry.

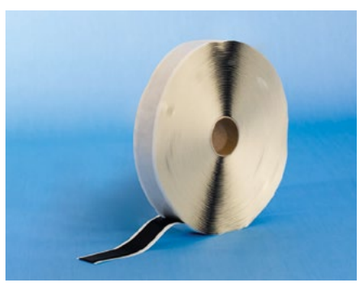
All our tapes and ropes are covered by our BBA accreditation and all the materials are of the highest quality butyl.

All the products within the jointing range have undergone extensive water testing capabilities and are suitable for use with our high-density polyethylene membranes.

Sika® Jointing Tape

A high quality butyl double sided tape, 28mm wide. This tape is used in the installation of Sika® Cavity Drain Membranes and is used to tape two sheets of membrane together on walls or floors. Easy to use and very high quality HP600 grade bitumen makes this a long term solution for all membrane work.

Size: 28mm wide x 22 meters long.



Sika® Rope

A 10mm bead of butyl rope. This rope is used to either wrap around the head of plugs in membrane installation, or to form a jointing waterproof seal on walls and floor membrane systems. This is a high quality rope and is covered by our BBA Certificate.

Size: 10mm wide x 5m long.

Sika® Corner Tape

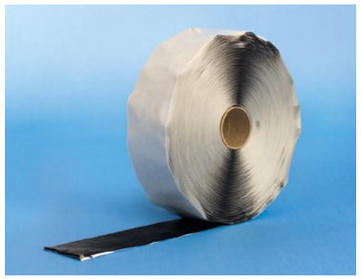
Our biggest selling tape, this 150mm wide tape has many uses, but is mostly used to seal membrane from walls to floors and the channel system. Tacky on one side only, this can also be used to overtape external joints and can also be used on floor oversealing.

Size: 150mm x 20m.

Sika® Overseal Tape

This is a 75mm overseal tape used to overseal membrane systems, it can be used on walls and floors and forms an overseal detail to form a vapour barrier and waterproof seal on external taped joints. Covered by our BBA Certificate.

Size: 75mm wide x 20m long.



Sika® Plaster Tape

Sika® Plaster Tape is used to join plaster membranes together. The unique fibre backing allows for direct plaster or dot-and-dab situations. The fibre also stops any cracking of plaster on these joints.

Size: 115mm wide x 25m long.

Channelling

As part of the Sika® Cavity Drain Membrane System, channels are a crucial part of the overall system, and are laid at wall floor junctions to remove any water entering the structure.

These channels are designed with predetermined water entry points into the rear of the channel.

They either come with a flange upstand system or flangeless, depending on the type of foundation that you will be working with.

Channels come with various accessories to aid the system, some of which are covered in the next two pages.

Sika® CD Anti-Lime Coating

Before a Sika® Cavity Drain membrane is laid or fitted on to floors or walls constructed of new concrete, the concrete surface should be treated with Sika® Cavity Drain Anti-Lime Coating to reduce the risk of leaching of free lime or mineral salts to avoid the obstruction of the drainage system.

Sika® Cavity Drainage System Wall Channel

Sika® Cavity Drainage System Wall Channel is a PVC drainage conduit for the control of water ingress in below ground waterproofing situations. It has a flange upstand and is fitted around the perimeter of the floor at the vulnerable wall to floor junctions, directing any ingress of water towards a sump chamber or drain.

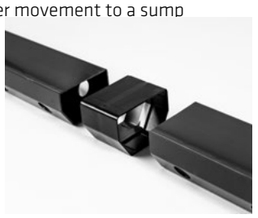
Sika® Jetting Eye

The jetting eye has been designed to allow cleaning of the channel system and also as an inspection port.

The unique flexible upstand jetting point can be easily bent to allow the channel to be used in a wall port system. It and also has the benefit of allowing slabs to be laid whilst still being easily accessible afterwards.

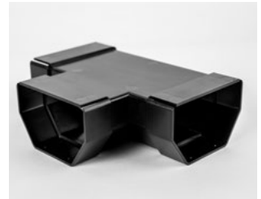
Sika® Cavity Drainage System Cross Channel

Sika® Cavity Drainage System Cross Channel is a flangeless channel similar to Sika® Cavity Drainage System Wall Channel, for controlling water movement to a sump chamber or drain. It has the benefits of no upstand which is ideal where stepped foundation footings would cause a problem. The channel can also be used to drain across a floor centrally.



The Sika® Cavity Drainage System Channel T Piece

The Sika® Cavity Drainage System Channel T Piece is installed at the junction between wall and cross channel drainage system to allow continuity of the drainage system.



Sika® CD Channel Outlet 50mm

The drainage outlet can be used to get water from the channels to the sump chamber or existing drain. The angle bend on the underside of the channel takes water through a 50mm connection.

The Sika® Cavity Drainage System Corner Piece

The Sika® Cavity Drainage System Corner Piece is installed at the corners of a perimeter drainage channel system to allow continuity of the drainage system.

Sika® Cavity Drainage System Channel Connector

Sika® Cavity Drainage System Channel Connector is an alternative way of connecting two sections of Wall Channel or Cross Channel instead of using Sika tape.

Pumped Drainage Systems for Cavity Drainage Systems

Our range of pumping systems are specifically designed for the removal of groundwater from cavity drainage systems.

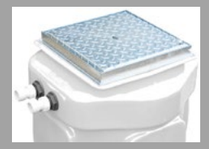
There are a variety of different models to suit most installations including twin and *battery backup options along with a range of alarm options. The systems are very versatile, enabling the installer to locate inlets to their specifications.

* Battery backup systems available from Edincare

Sika® Pump Pro Plus

The Sika® Pump Pro Plus is specially designed for the removal of groundwater from basement cavity drainage membrane systems. The system comprises of a polyethylene tank, locking access cover (pedestrian duty, not suitable for roadways), AquaSafe™ Alarm Panel and two powerful submersible pumps. The system is very versatile, enabling the installer to locate inlets to their specifications.

The system comes complete with a High Level Alarm (9V), which acts as a warning system to alert the end user if the water rises above the normal operating level within the tank. The alarm is designed to activate via a separate float switch.



Twin discharge AS STANDARD

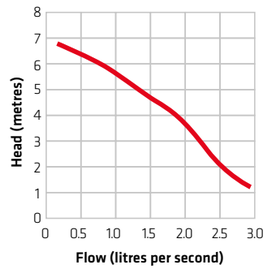
TECHNICAL DATA

Power Supply	230V AC
Rated Current	1.9A
Motor Rating	180W
Frequency	50Hz
Revs Per Minute	2800rpm
Max. Vert. Output	6.8m
Max. Flow Rate	174l/m
Max. Liquid Temp.	<40˚C
Discharge Size	32mm
Cable Length	5m
Weight	5.2kg

DIMENSIONS

Height / Diameter (mm)	600 x 600
Clear opening (mm)	350 x 350

PUMP CURVE



KEY FEATURES

- Easy to install
- Odour tight locking access cover
- Variable inlet positions
- Integral non-return valve preventing back flow
- Durable polyethylene tank
- Pre-moulded flotation points preventing movement below ground
- Integral step for dual pump setup
- Powerful submersible pumps

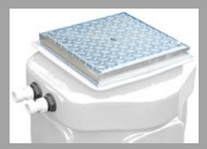
ACCESSORY

Battery back-up

Sika® Pump Pro Battery Back Up

The Sika® Pump Pro Battery Back Up is specially designed for the removal of groundwater from basement cavity drainage membrane systems. The system comprises of a polyethylene tank, locking access cover (pedestrian duty, not suitable for roadways), powerful submersible pump and 24V backup pump. The system is very versatile, enabling the installer to locate inlets to their specifications.

The system comes complete with a battery back-up pump system, which is designed especially for where the possibility of primary pump failure through either a pump fault or loss of mains power would be catastrophic. The system acts as a back-up that will alert the end user if the water rises above the normal operating level within the tank and will activate a 24V back-up pump.



Twin discharge AS STANDARD

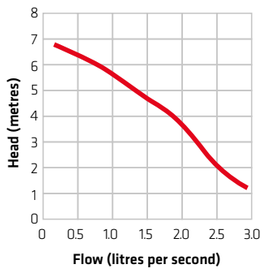
TECHNICAL DATA

Power Supply	230V AC
Rated Current	1.9A
Motor Rating	180W
Frequency	50Hz
Revs Per Minute	2800rpm
Max. Vert.Output	6.8m
Max. Flow Rate	174l/m²
Max. Liquid Temp.	<40˚C
Discharge Size	32mm
Cable Length	5m
Weight	5.2kg

DIMENSIONS

Height / Diameter (mm)	600 x 600
Clear opening (mm)	350 x 350

PUMP CURVE



KEY FEATURES

- Easy to install
- Odour tight locking access cover
- Variable inlet positions
- Integral non-return valve preventing back flow
- Durable polyethylene tank
- Pre-moulded flotation points preventing movement below ground
- Integral step for dual pump setup

Sika® Pump Pro XL

Sika® Pump Pro XL is specially designed for the removal of groundwater from basement cavity drainage membrane systems. The system comprises of a (large capacity) 200 litre polyethylene tank, locking access cover (pedestrian duty, not suitable for roadways), AquaSafe™ Alarm Panel and two powerful submersible pumps. The system is a very versatile, enabling the installer to locate inlets to their specifications and has higher capacity pumps for pumping over greater heads.

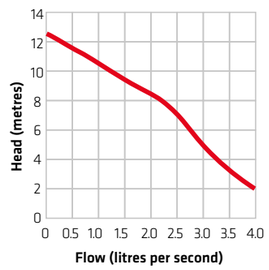
TECHNICAL DATA

Power Supply	230V AC
Rated Current	4.9A
Motor Rating	500W
Frequency	50Hz
Revolutions Per Min.	2800rpm
Max Vert. Output	12.5m
Max Flow Rate	234l/m
Max Liquid Temp.	<40˚C
Discharge Size	32mm
Cable Length	5m
Weight	6.9kg

DIMENSIONS

Height / Diameter (mm)	1000 x 750
Clear opening (mm)	450 x 450

PUMP CURVE



KEY FEATURES

- Easy to install
- Odour tight locking access cover
- Variable inlet positions
- Increased storage capacity
- Integral non-return valve preventing back flow
- Durable polyethylene tank
- Pre-moulded flotation points preventing movement below ground
- Integral step for dual pump setup
- Powerful submersible pumps

ACCESSORY

Battery back-up

Battery Back-up Systems

The Battery Back-up Systems provide peace of mind by monitoring the pump system and activating the battery operated pump/s in the event of mains power loss, protecting your property from flooding.

UPS 750 230v (Battery Back-up Pump System)

PP Battery Back-up is an on-line double conversion Uninterruptible Power Supply (UPS) offering the highest levels of resilience and protection. This provides power to one submersible pump in case of a loss of mains power allowing for continued pump operation.

The system can last continuously for 45mins (301 pump), based on a 3.5m head.

Battery Back-up Systems are not sold by Sika. Please contact Edincare for availability.

KEY FEATURES

- Alerts the end user if there is a mains power failure
- Keeps the pump system powered in the event of mains power failure
- Can be added to new or retrofitted to existing installations

UPS 3000 230v (Battery Back-up Pump System)

The PXL Battery Back-up offers the highest levels of resilience and protection as a battery back-up to your pump system.

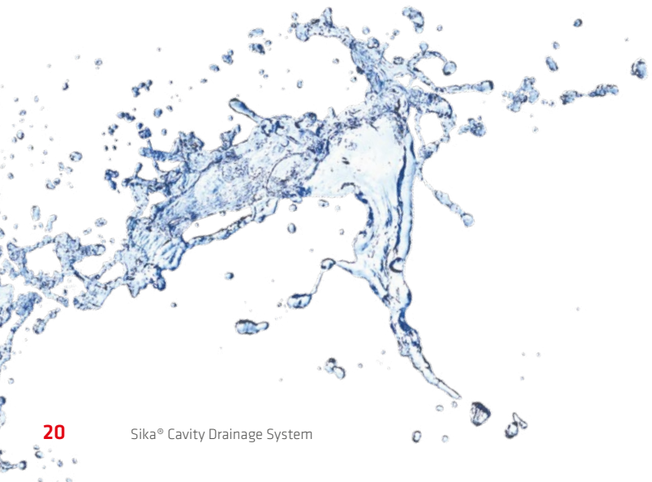
The unit will provide power to one submersible pump in case of a loss of mains power. This allows for continued pump operation.

The battery backup is simple to use and is simply wired into the mains pump from the server unit.

Battery Back-up Systems are not sold by Sika. Please contact Edincare for availability.

KEY FEATURES

- Alerts the end user if there is a mains power failure.
- Keeps the pump system powered in the event of mains power failure.
- Can be added to new or retrofitted to existing installations.



Aftersales

Planned Servicing

BENEFITS:

- Increases the life expectancy of your equipment
- Reduces running costs including energy and maintenance
- Reduces the risk of breakdowns with their resultant problems this causes

Planned servicing is available for all our customers' pumps and Pump Packages.

OFFER:

- Service your equipment on a regular basis
- Provide full reporting on the works carried out, the condition of the equipment
- Make recommendations to replace spares or parts that may be required
- Arrange service visits to suit you
- Reduce our hourly charges for unscheduled callouts
- Use fully trained service engineers
- Provide high-priority scheduling for emergency call outs

EMERGENCY CALL-OUTS

In the event of a system failure there is a need for urgency. All emergency call-outs are treated as a priority with the aim of providing a rapid response. With nationwide coverage and service vehicles located throughout the United Kingdom, site attendance is should be within 24 hours from initial receipt of your call.

Service coordinators will identify, where possible, your specific equipment and engineers will aim to attend site with any spare parts that may be required. In the unlikely event that the repairs cannot be made on the initial visit, temporary replacements can be provided while the relevant parts are ordered or repaired from the service centre. Should more complex repairs be required these are undertaken at the service centre by fully trained service engineers using only genuine manufacturer's parts.

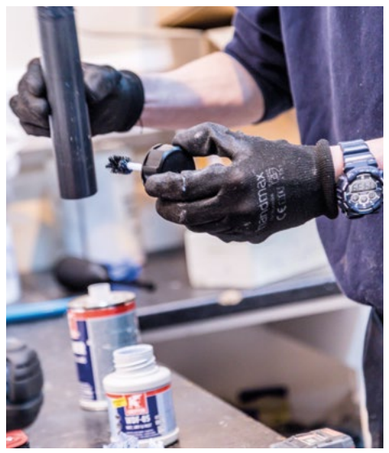
Throughout all repairs a service coordinator will keep you informed of the ongoing progress with regular updates.

Commissioning

Once the civil works have been completed a commissioning service can be arranged which comprises of an engineer attending site and installing the pumps with all associated equipment.

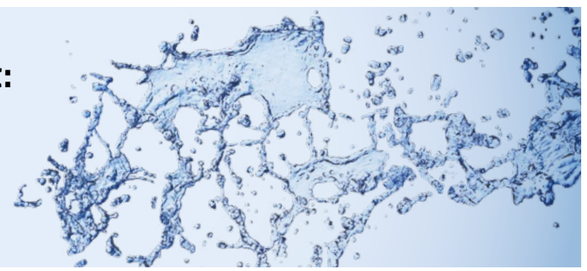
The engineer will ensure that the system is operating in accordance with our installation & operating guidelines and you will be provided with a signed commissioning certificate along with the O&M manual upon completion.

The commissioning service provides you with peace of mind knowing that the system is installed correctly in turn ensuring that you comply with our warranty conditions.



All aftersales services are provided by Edincare Pumps.

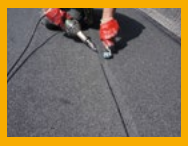
For servicing please contact:
Edincare Pumps
T: 01442 211554
info@edincare.com



SIKA FULL RANGE SOLUTIONS FOR CONSTRUCTION:


LIQUID APPLIED ROOFING


SINGLE PLY ROOFING


BITUMINOUS ROOFING


CONCRETE


CONCRETE REPAIR


STRUCTURAL STRENGTHENING


BUILDING FINISHING


WATERPROOFING


JOINT SEALING


FAÇADES


FLOORING


INDUSTRY


DISTRIBUTION

BUILDING TRUST

FOR MORE INFORMATION:

Visit **www.sikawaterproofing.co.uk**

WHO WE ARE

Sika Limited and Sika Ireland Limited are part of the global Sika Group, specialising in the manufacture and supply of chemical based products. Sika has a leading position in the development and production of systems and products for bonding, sealing, damping, reinforcing, and protecting in the building sector and the motor vehicle industry. Sika has subsidiaries in 100 countries around the world and manufactures in over 300 factories. With more than 25,000 employees Sika generates annual sales of CHF 7.9 billion (£6.14 bn). We are also committed to providing quality, service, safety and environmental care.

In the UK and Ireland, we provide market-leading solutions for concrete, waterproofing, roofing, flooring, refurbishment, sealing & bonding, and industry, and have manufacturing sites in Welwyn Garden City, Preston, Leeds, Wishaw and Dublin with more than 920 employees and a turnover of more than £290 million.

SYSTEM CERTIFICATION ISO 9001 SGS
SYSTEM CERTIFICATION ISO 14001 SGS
SYSTEM CERTIFICATION OHSAS 18001 SGS

SIKA LIMITED
Head Office
Watchmead
Welwyn Garden City
Hertfordshire, AL7 1BQ
United Kingdom

Contact
Phone +44 1707 358570
Fax +44 1707 329129
E-Mail waterproofing@uk.sika.com
www.sikawaterproofing.co.uk
@SikaLimited

SIKA IRELAND LIMITED
Sika House
Ballymun Industrial Estate
Dublin 11
D11 DA2V
Ireland

Contact
Phone +353 1 862 0709
Fax +353 1 862 0707
E-Mail info@ie.sika.com
www.sika.ie
@SikaIreland

BUILDING TRUST

CONCRETE & WATERPROOFING/SIKA CAVITY DRAINAGE BROCHURE 2021 SEPTEMBER 2021