



CONCRETE & WATERPROOFING

Sikaplan[®] Gas & VOC Protection

YOUR BEST LAID PLAN FOR TACKLING GROUND CONTAMINATION

BUILDING TRUST



GROUND GAS CONTAMINATION

HARMFUL, NATURALLY OCCURRING BELOW-GROUND GASES AND VAPOURS POSE A GROWING CHALLENGE FOR THE CONSTRUCTION INDUSTRY.

Radon, carbon dioxide, methane and VOCs (Volatile Organic Compounds such as hydrocarbons) are a risk to health and new buildings have to use appropriate materials to keep these gases out of the structure. Key routes of contamination are illustrated above.

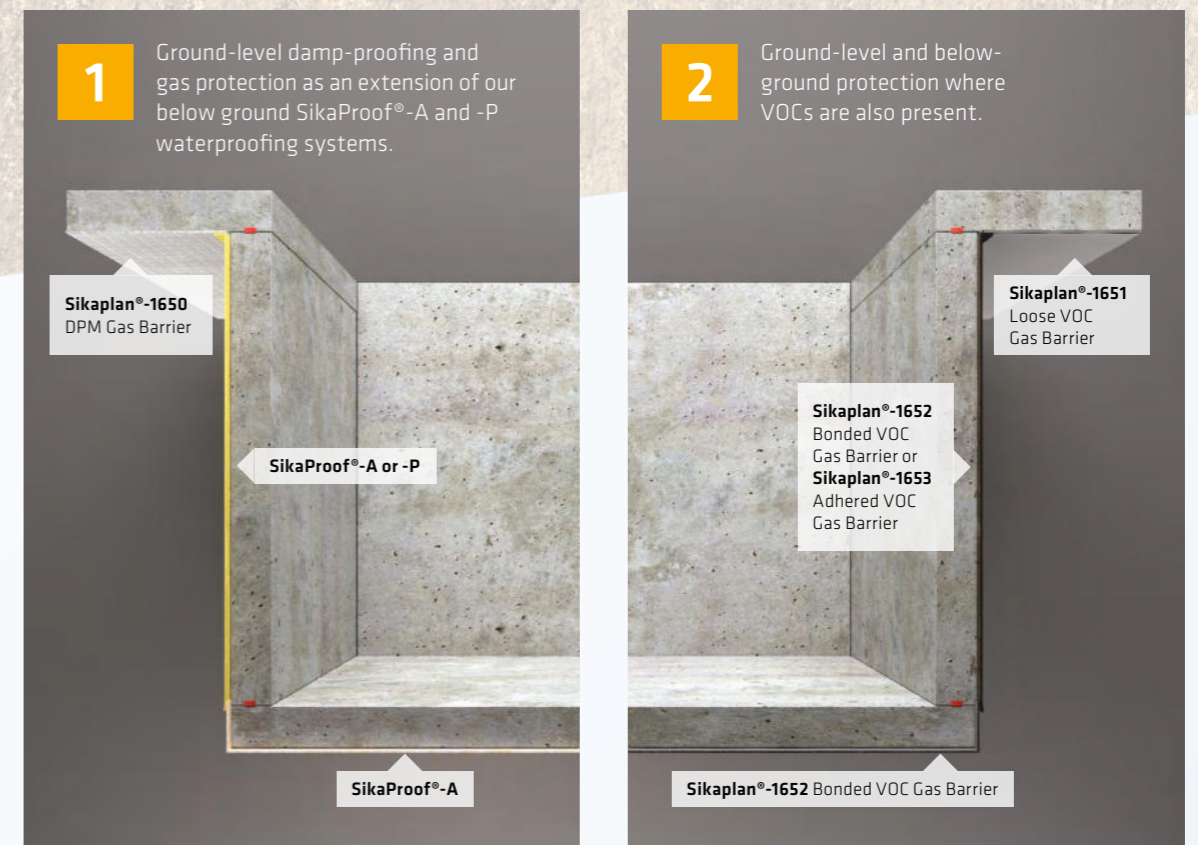


Susceptible structures include those built on, or near to:

- areas with naturally-occurring radon ground gas – e.g. the south-west of England
- metamorphic rock like granite that could contain decaying radium
- peat bogs
- reused industrial sites
- landfill sites
- mine workings
- buried fuel tanks

Our plan... Sikaplan® Gas & VOC Protection

Sika has introduced a range of products that address the growing need for protection from below-ground gases:



Find out more on [page 4](#).

Find out more on [page 6](#).

WATERPROOFING AND GROUND GAS PROTECTION

THE LONG-ESTABLISHED BENEFITS OF SikaProof®-A AND -P CAN NOW GO EVEN FURTHER

with the addition of our loose-laid damp-proofing membrane and gas barrier system – expertly designed for ground-level protection against the ingress of damp and naturally-occurring gases.



Sikaplan®-1650 DPM Gas Barrier

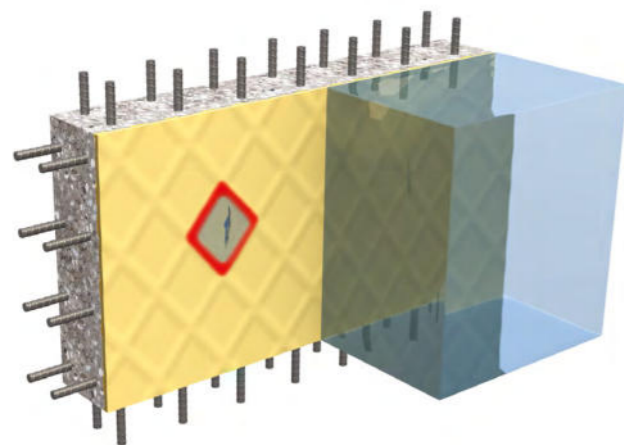
Sikaplan®-1650 DPM Gas Barrier can be used in conjunction with SikaProof®-A and -P to continue the gas protection at ground level.

Sikaplan®-1650 DPM Gas Barrier is a multi-layer, low-density polyethylene membrane, strengthened by a polypropylene reinforcing grid with an integral aluminium foil.

This damp-proofing membrane and gas barrier is used at ground level to protect the building against moisture, radon, methane and carbon dioxide from the ground.

Material	Sikaplan®-1650 DPM Gas Barrier	
Product code	608495	
Roll size	2m x 50m	100m ² / roll
Roll weight	37kg	

COMBINED WITH:



SikaProof®-A and -P Fully-bonded membrane systems for watertight basements

SikaProof®-A and -P are high-quality, cold-applied waterproofing membranes with the additional benefit of protection against radon, methane and carbon dioxide. They're easily bonded with self-adhesive strips and tapes for fast and secure installation without the need for welding or other hot works.

- **SikaProof®-A pre-applied waterproofing membrane** – Installed in the formwork before the reinforcement and concrete is placed. Membrane sheets are available in 1m and 2m wide rolls with prefabricated self-adhesive strips.
- **SikaProof®-P post-applied waterproofing membrane** – Installed on an existing concrete structure and creates a durable, enhanced bond when used with SikaProof® Primer-01.

Product installation

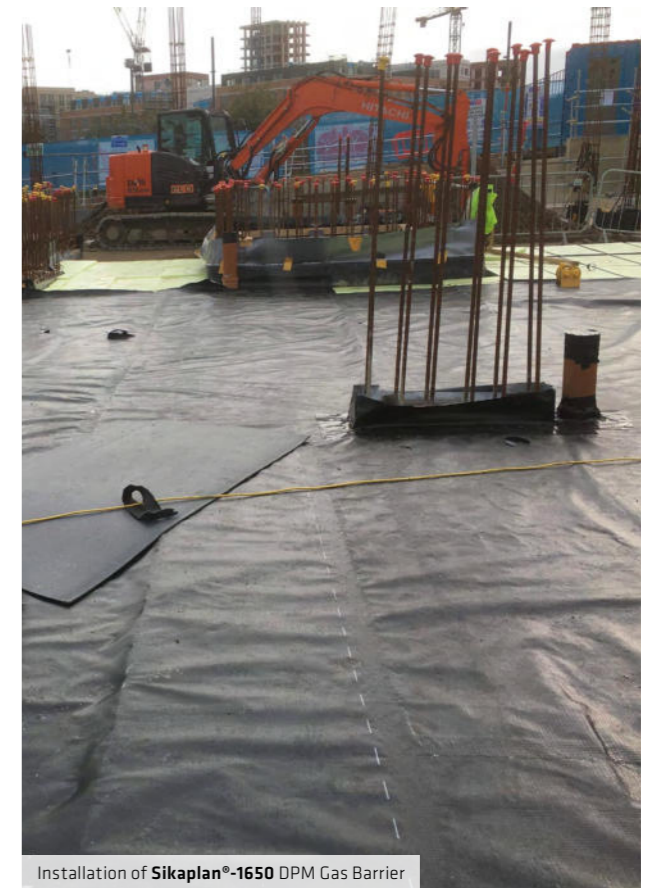
We recommend that the Sikaplan®-1650 DPM Gas Barrier is heat-welded by a qualified installer, but taping joints can be used if required. Sikaplan®-1650 DPM Gas Barrier should be overlapped by at least 100mm and always installed in accordance with BS 8485:2015 + A1:2019. Additional influences on the system should also be considered, such as hydrostatic conditions and suitable protection of the membrane itself.

If you would like us to recommend a specialist contractor, get in touch by calling **0800 292 2572** or by emailing waterproofing@uk.sika.com.

Standards and approvals

The Sikaplan®-1650 DPM Gas Barrier is extensively tested to withstand the most aggressive of environments, and is approved to the following standards:

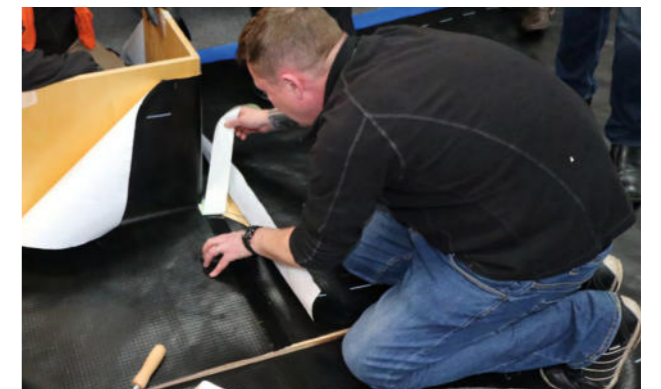
- BS 8485:2015 + A1:2019 – Code of practice for the design of protective measures for methane and carbon dioxide ground gases for new buildings.
- BR211 (2015) – Radon: Protective measures for new buildings.
- Declaration of Performance (DoP) to EN 13967:2012.
- BBA certificate number 20/5738.



Installation of Sikaplan®-1650 DPM Gas Barrier

AVAILABLE SYSTEM COMPONENTS AND ACCESSORIES

- **Sikaplan®-1650 DPM Detailing Strip** – A 300mm wide bituminous gas-proof and damp-proof sheet, composed of self-adhesive SBS polymer modified bitumen and an upper surface finish of aluminium foil, and release film. Used for gas-proofing and damp-proofing of ground structures where harmful ground gases are anticipated.
- **SikaProof® FixTape-50** – A double sided 50mm wide butyl strip for sealing lapped joints.
- **Sika® Drain 850 Geo** – A 2.44m wide heavy-duty drainage and protection sheet to safeguard the membrane and provide a drainage pathway to a maintainable land drain, alleviating pore water pressure on the structure.



WATERPROOFING, GROUND GAS AND VOC PROTECTION

THE Sikaplan® VOC GAS BARRIER RANGE OF PRODUCTS provide waterproofing, ground gas and VOC protection all in one system. Comprising a pre-applied bonded membrane, post-applied adhered membrane and loose-laid membrane for both ground-level and below-ground applications.

Material	Product code	Roll size		Roll weight
Sikaplan®-1651 Loose VOC Gas Barrier	608496	2m x 50m	100m ² / roll	50kg
Sikaplan®-1652 Bonded VOC Gas Barrier	609581	1.9m x 25m	47.5m ² / roll	43kg
Sikaplan®-1653 Adhered VOC Gas Barrier	609580	0.9m x 20m	18m ² / roll	18kg



Sikaplan®-1651 Loose VOC Gas Barrier

A loose laid VOC Gas Barrier which has exceptionally high resistance to ground gas and VOCs.

Sikaplan®-1651 Loose VOC Gas Barrier is typically used for the gas and waterproofing of ground-level structures where harmful ground gases are anticipated.

Sikaplan®-1652 Bonded VOC Gas Barrier

A pre-applied fully-bonded waterproofing membrane incorporating the Sikaplan®-1651 VOC Gas Barrier and a heavy-duty virgin polypropylene geotextile.

The geotextile is laminated to the membrane to provide a dual function; protecting the membrane from damage, and providing an integrated bond to poured concrete, ensuring a fully-bonded waterproofing barrier which has exceptionally high resistance to ground gas and VOCs.

Sikaplan®-1652 Bonded VOC Gas Barrier is used for the gas and waterproofing of underground structures where harmful ground gases are anticipated.

Sikaplan®-1653 Adhered VOC Gas Barrier

A self-adhesive version of the Sikaplan® VOC Gas Barrier. It is composed of Sikaplan®-1651 VOC Gas Barrier with a self-adhesive bitumen surface finish covered by a protective release film.

Sikaplan®-1653 Adhered VOC Gas Barrier is used for the gas and waterproofing of underground structures where harmful ground gases are anticipated, as a post-applied bonded membrane.

AVAILABLE SYSTEM COMPONENTS AND ACCESSORIES

- **Sikaplan®-1651 VOC External and Internal Corners** – Available in a 495mm x 495mm internal and external corners.
- **Sikaplan 1651 VOC Preformed Pipe Penetration Top Hat** – 110mm diameter preformed pipe penetration top hat to use with all three membrane types.
- **Sikaplan®-1652 VOC Edge Strip** – 1m wide strip of Sikaplan®-1652 Bonded VOC Gas Barrier for use on edges and kicker details to facilitate the transition from horizontal to vertical application. Used in conjunction with the corner units.
- **Sikaplan®-1652 VOC Weld Strip** – As an optional strip for welding membranes.
- **Sikadur®-32** – Gas-resistant epoxy resin for sealing over pile heads.
- **Sika® Drain 850 Geo** – A 2.44m wide heavy-duty drainage and protection sheet to safeguard the membrane and provide a drainage pathway to a maintainable land drain, alleviating pore water pressure on the structure.
- **Sika® BentoShield® Paste** – Water-resistant bentonite detailing compound, for use around penetrations and perforations.
- **Sika® BituSeal Primer** – To prime substrate prior to application of the Sikaplan®-1653 Adhered VOC Gas Barrier.



Installation of Sikaplan®-1651 Loose VOC Gas Barrier



Installation of Sikaplan®-1652 Bonded VOC Gas Barrier



Installation of Sikaplan®-1653 Adhered VOC Gas Barrier

Product installation

All the products in this range must be welded to provide a watertight and gas-resistant seal. Welding is an essential requirement because hydrocarbons can affect the long-term performance of butyl and bitumen tapes.

In all cases, the installation of Sikaplan® VOC Gas Barrier membranes should be completed by a suitably qualified and accredited installer (NVQ level 2) and independently validated in accordance with CIRIA C735:2014.

If you would like us to recommend a specialist contractor, get in touch by calling **0800 292 2572** or by emailing **waterproofing@uk.sika.com**.

Standards and approvals

Sikaplan® VOC Gas Barriers are extensively tested to withstand the most aggressive of environments, and are approved to the standards below. For more detailed information, visit sikawaterproofing.co.uk/voc.

- CIRIA C748 – Guidance on the use of plastic membranes as VOC vapour barriers
- BS 8485:2015 + A1:2019 – Code of practice for the design of protective measures for methane and carbon dioxide ground gases for new buildings.
- BR211 (2015) – Radon: Protective measures for new buildings.
- Declaration of Performance (DoP) to EN 13967:2012.
- BBA certificate number 19/5681.



SIKA FULL RANGE SOLUTIONS FOR CONSTRUCTION:



LIQUID APPLIED ROOFING



SINGLE PLY ROOFING



BITUMINOUS ROOFING



CONCRETE



CONCRETE REPAIR



STRUCTURAL STRENGTHENING



BUILDING FINISHING



WATERPROOFING



JOINT SEALING



FACADE STRUCTURAL ADHESIVES



FLOORING



INDUSTRY



DISTRIBUTION



BUILDING TRUST

FOR MORE INFORMATION:



Visit www.sikawaterproofing.co.uk

WHO WE ARE

Sika is a specialty chemicals company with a leading position in the development and production of systems and products for bonding, sealing, damping, reinforcing and protecting in the building sector and motor vehicle industry. Sika has subsidiaries in 100 countries around the world and manufactures in over 300 factories. Its more than 25,000 employees generated annual sales of CHF 8.1 billion in 2019. At the end of 2019 Sika won the Swiss Technology Award for a ground-breaking new adhesive technology.

In the UK and Ireland, we provide market-leading solutions for concrete, waterproofing, roofing, flooring, refurbishment, building finishing, sealing & bonding, and industry, and have manufacturing sites in Welwyn Garden City, Preston, Leeds, Atherstone, Wishaw and Dublin with more than 950 employees and a turnover of more than £270 million.

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 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 proprietary rights of third parties must be observed. Please refer to our homepage www.sika.co.uk for our current standard terms & conditions applicable to all orders. Users should always refer to the most recent issue of the Product Data Sheet for the product concerned, copies of which will be supplied on request.



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