



The Remmers plinth guide

Plinth waterproofing in detail



Want to find out more?

If so, visit our website. The Remmers plinth waterproofing guide has a dedicated website where you can find all kinds of information relating to plinth work, such as calculation tables, sample service descriptions, instructions for use and detailed drawings – all available to download for free. www.sockel-abdichtung.de





Contents

Permanently waterproof plinths without any damage	4
Remmers MB 2K	6
Plinth waterproofing in new buildings	8
Single-layer masonry with basement	10
Single-layer masonry, no basement	12
Single-layer masonry with composite thermal insulation, with basement	14
Double-layer masonry, no basement	16
Double-layer masonry with render	18
Connection to full-length windows and doors	20
Connection to full-length windows and doors, double-layer masonry	22
Waterproofing full-length windows with drainage channels, double-layer masonry	24
Lift-and-slide doors, double-layer masonry	26
Lift-and-slide doors, double-layer masonry	28
Single-layer masonry, waterproofing at the floor-edge form	30

Plinth waterproofing in old buildings	32
Single-layer masonry with composite thermal insulation, basement insulation	34
Single-layer masonry with composite thermal insulation, old bituminous waterproofing	36
Single-layer masonry with composite thermal insulation, internal basement waterproofing	38
Single-layer masonry containing moisture and salt	40
Plinth waterproofing in timber frame construction	42
Composite thermal insulation with basement	44
Faced brickwork, no basement	46

Permanently waterproof plinths without any damage

How is this plinth guide intended to be used?

Today, only a few European countries have set regulations on plinth waterproofing – but the types of damage that occur on this part of the building are the same everywhere.

Therefore, this guide aims to provide an overview of the various types of plinth constructions found in residential and non-residential buildings, as well as explaining how to install long-lasting waterproofing that protects against ground moisture, rain, splashing water, surface water and melt water. It focuses in particular on solutions that have been developed over the years, especially in Germany and Austria, since these countries already have regulations that apply to plinth waterproofing.

Building is a cultural practice that has always been devised and developed at a regional level. For this reason, different building techniques can still be found in many places today. It would therefore be impossible for a single brochure to cover all the different construction types used in Europe.

With this in mind, this plinth guide should be understood as a set of guidelines that uses examples to provide an insight into the considerations and detailed solutions which, when applied correctly and within the framework of the construction methods typical for the region in question, result in long-lasting plinth waterproofing.

In many years of use, Remmers MB 2K has proven its worth as a suitable product for plinth waterproofing. It exhibits excellent adhesion on virtually all substrates, has a long-lasting waterproofing effect even at low layer thicknesses, and boasts outstanding flexibility and crack-bridging ability. What's more, there are plenty of accompanying products, such as primers, joint tape, retarding admixtures and so on, which have been tried and tested on the building site and guarantee that Remmers MB 2K can be used on almost any type of plinth construction.





The perfect solution for the plinth

The new Remmers MB 2K

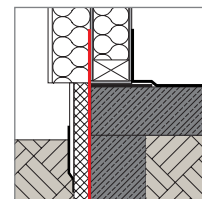
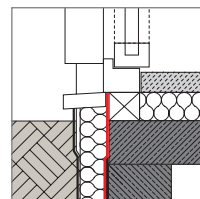
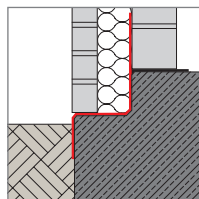
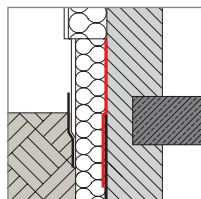
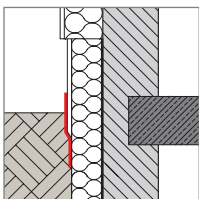
Remmers MB 2K is a product for tradespeople that reliably satisfies all the requirements of the relevant standards for damp proof plinths. This universal product unites the properties of polymer-modified bituminous thick coatings (PMBCs) and mineral waterproofing slurries (MWS), while also boasting short drying times and early resistance to rain.

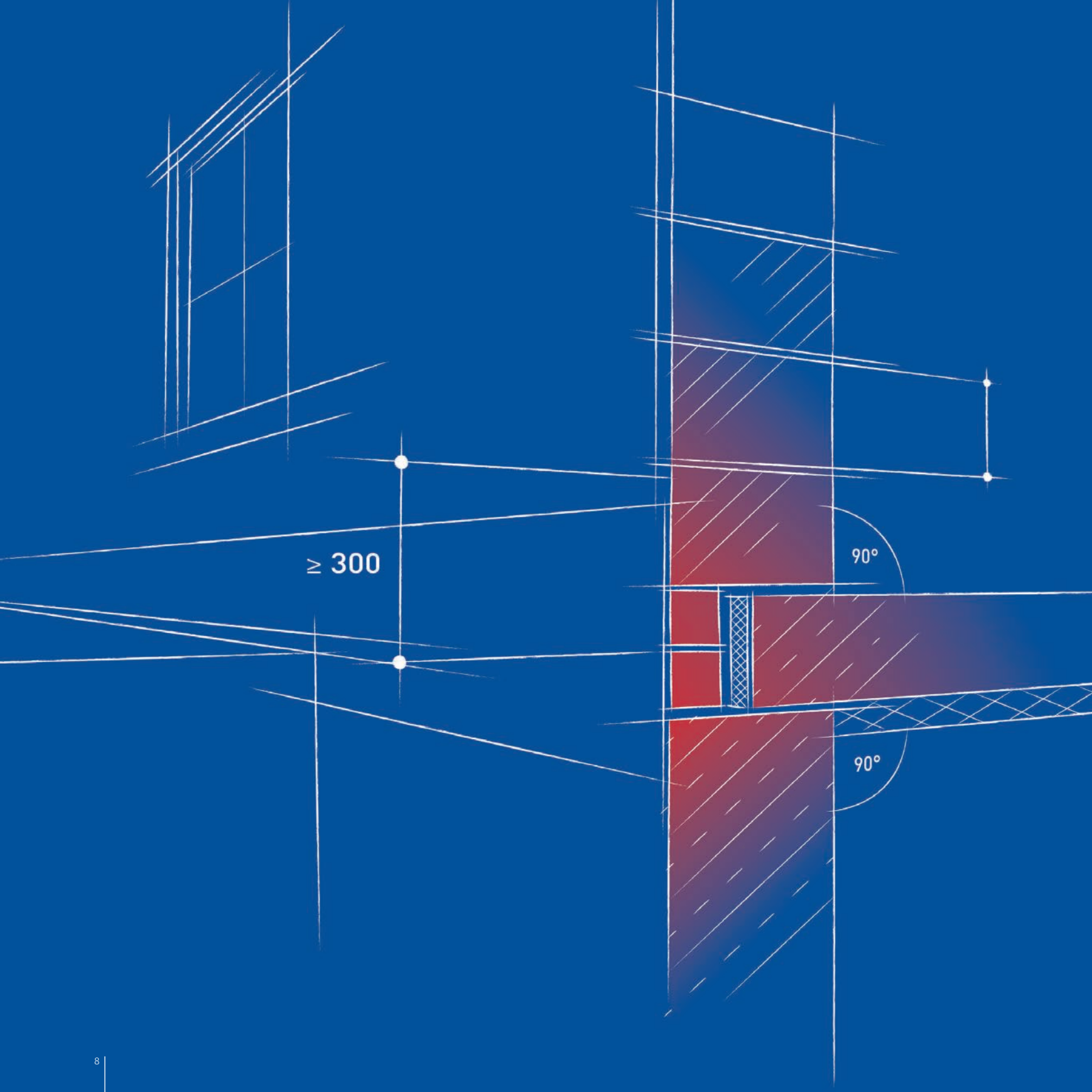
The material also adheres excellently to both mineral and bituminous substrates, for instance where an old waterproofing coating is already present. The excellent adhesion on other substrates found in the plinth, such as full-length elements made of plastic, wood or even metal, guarantees a reliable and long-lasting join with the waterproofing.

Expert tips

Remmers MB 2K meets the required standards for crack-bridging ability, as well as all the requirements needed to achieve a national test certificate according to the DIBt testing principles for mineral waterproofing slurries (PG-MDS). MB 2K can therefore be used for the application areas of DIN 18533 W4-E, for cross-sectional waterproofing in/under walls and as damp proof plinths in compliance with the standards and without the need for any separate special agreements.

You can find more information here.



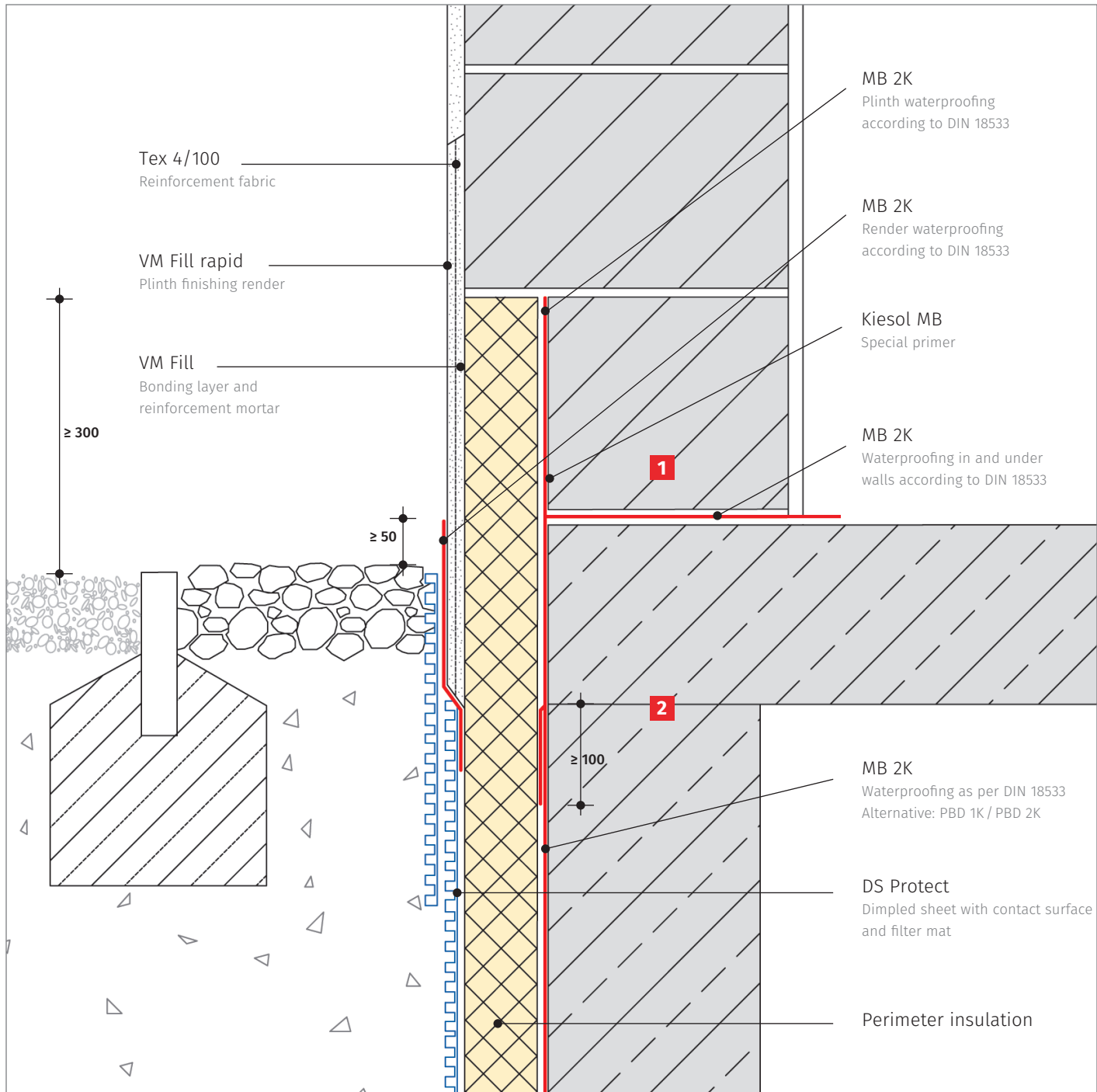


≥ 300

90°

90°

Plinth waterproofing in new buildings



Single-layer masonry with basement

Expert tips

- 1** With the entry into force of DIN 18533, horizontal impervious layers in and underneath walls must be able to bear vertical and horizontal designed loads without damage. Practical experience has shown that crack-bridging mineral waterproofing slurries (MWS) such as MB 2K have proved to be highly effective here.
- 2** If possible, just one single material should be used for waterproofing basements and plinth. However, if a change in material is necessary, an overlap of > 100 mm must be included in the plans for the transition region.

Products used:



Kiesol MB



MB 2K



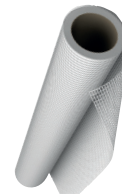
PBD 1K + PBD 2K



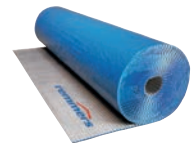
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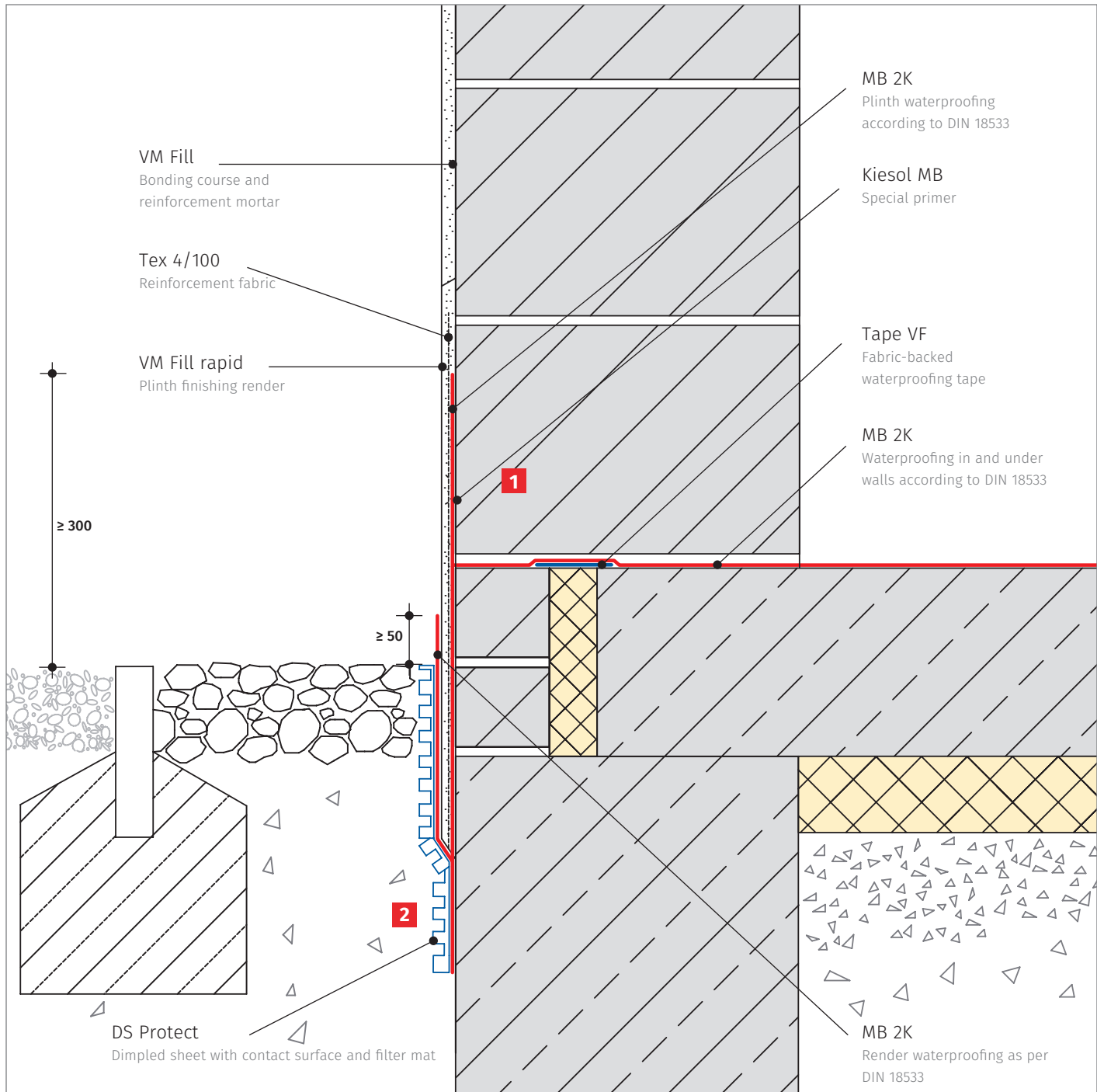
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Tex 4/100



DS Protect



Single-layer masonry, no basement

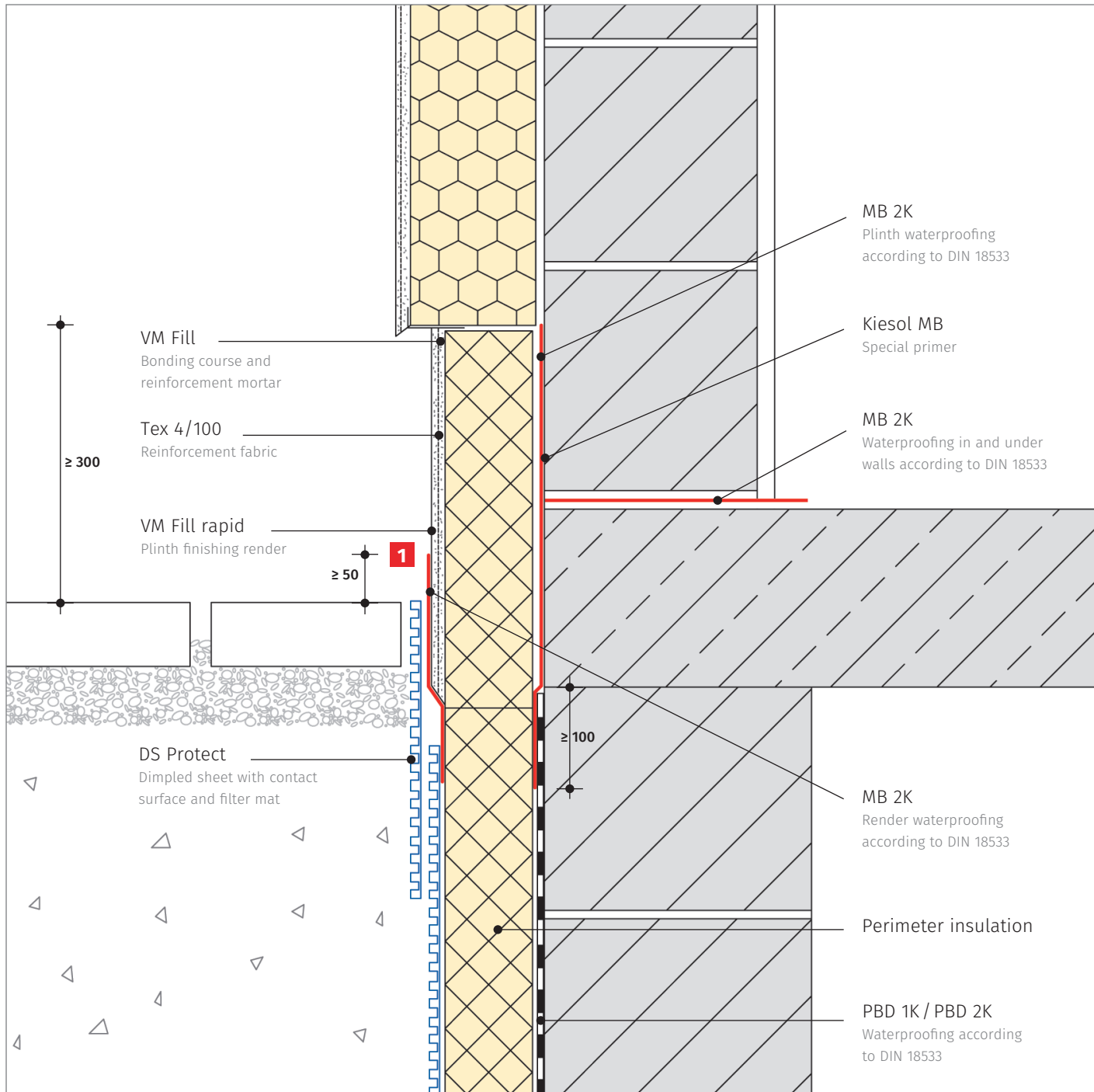
Expert tips

1 In order to ensure that changes can be made to the surrounding land, a height of > 300 mm above ground level must be planned in for the plinth waterproofing during construction. Once complete, the waterproofing must be at least 150 mm above ground level. Remmers recommends that the waterproofing always be brought up to > 300 mm above ground level in order to protect against splashing water.

2 To protect the waterproofing from damage, the current version of the waterproofing standard stipulates that double-layered protection systems (dimpled sheet with contact surface and load distribution layer) should be used. Single-layered dimpled sheets are not permitted for these applications. Remmers recommends the DS Protect system.

Products used:





Single-layer masonry with composite thermal insulation, with a basement

Expert tips

1 In order to prevent rising damp in the plinth rendering, DIN 18533 calls for render waterproofing to be applied from the region in contact with the ground up to a height of ≥ 50 mm above ground level. In the region with ground contact, the damp protection measures must

overlap the end of the render to a sufficient degree, extending to the existing basement waterproofing or the adjacent building materials. The standard recommends using crack-bridging mineral waterproofing slurries (MWS) such as MB 2K.

Products used:



Kiesol MB



MB 2K



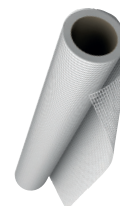
PBD 1K + PBD 2K



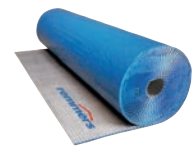
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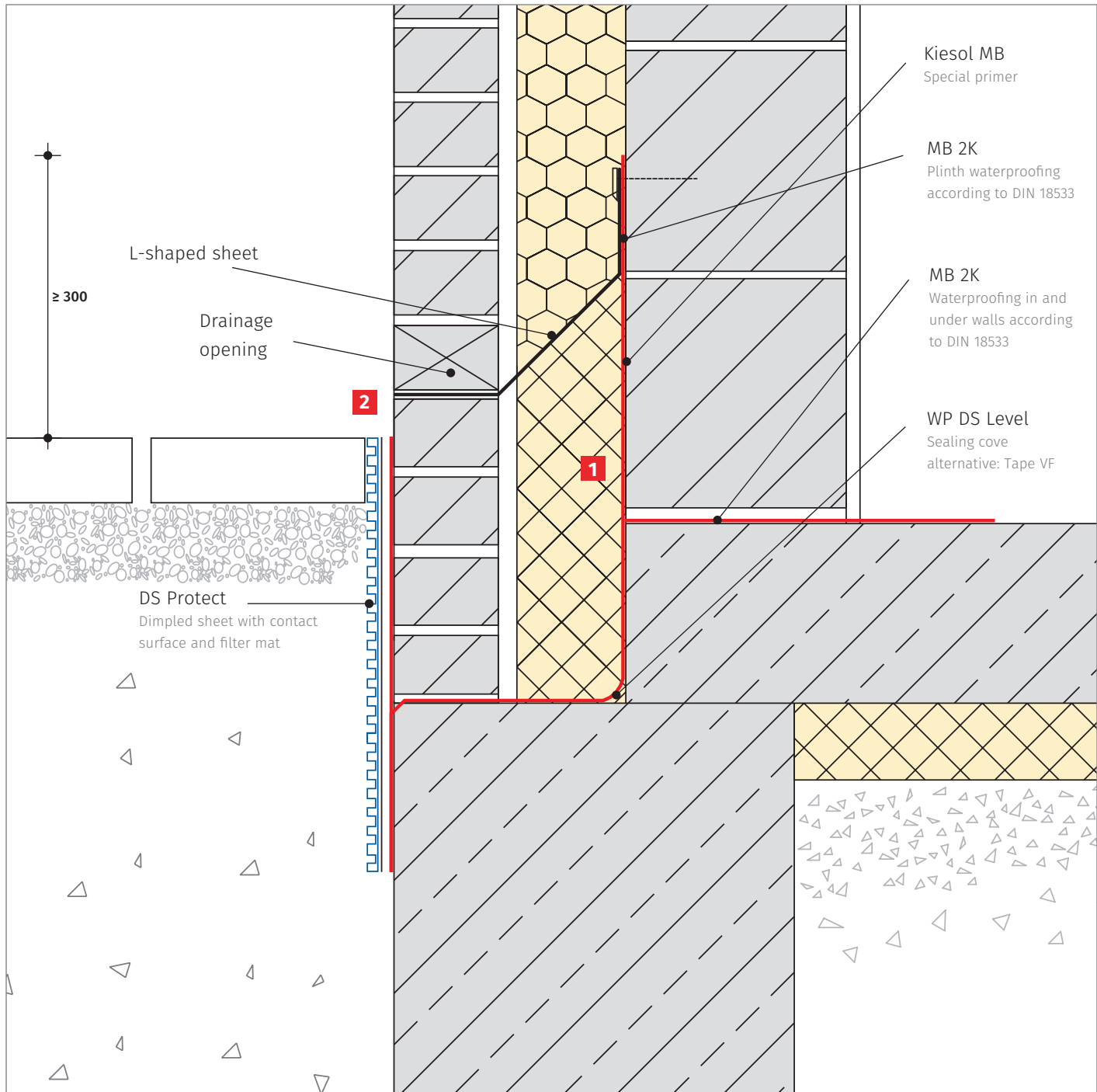
VM Fill



Tex 4/100



DS Protect



Double-layer masonry, no basement

Expert tips

- 1** On double-layer masonry with no render, the plinth must be waterproofed beneath the faced brickwork on the outside of the load-bearing inner layer. In order to avoid creating transition areas that are susceptible to damage, Remmers recommends using the liquid waterproofing products MB 2K or PBD 2K.
- 2** Any moisture at the base of the cavity between the two leaves can be guided away above ground level via drainage openings. When carrying out subsequent work, these drainage openings must not be closed up.

Products used:



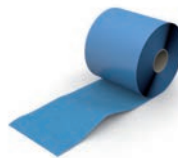
Kiesol MB



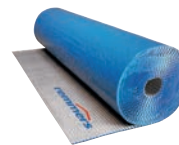
MB 2K



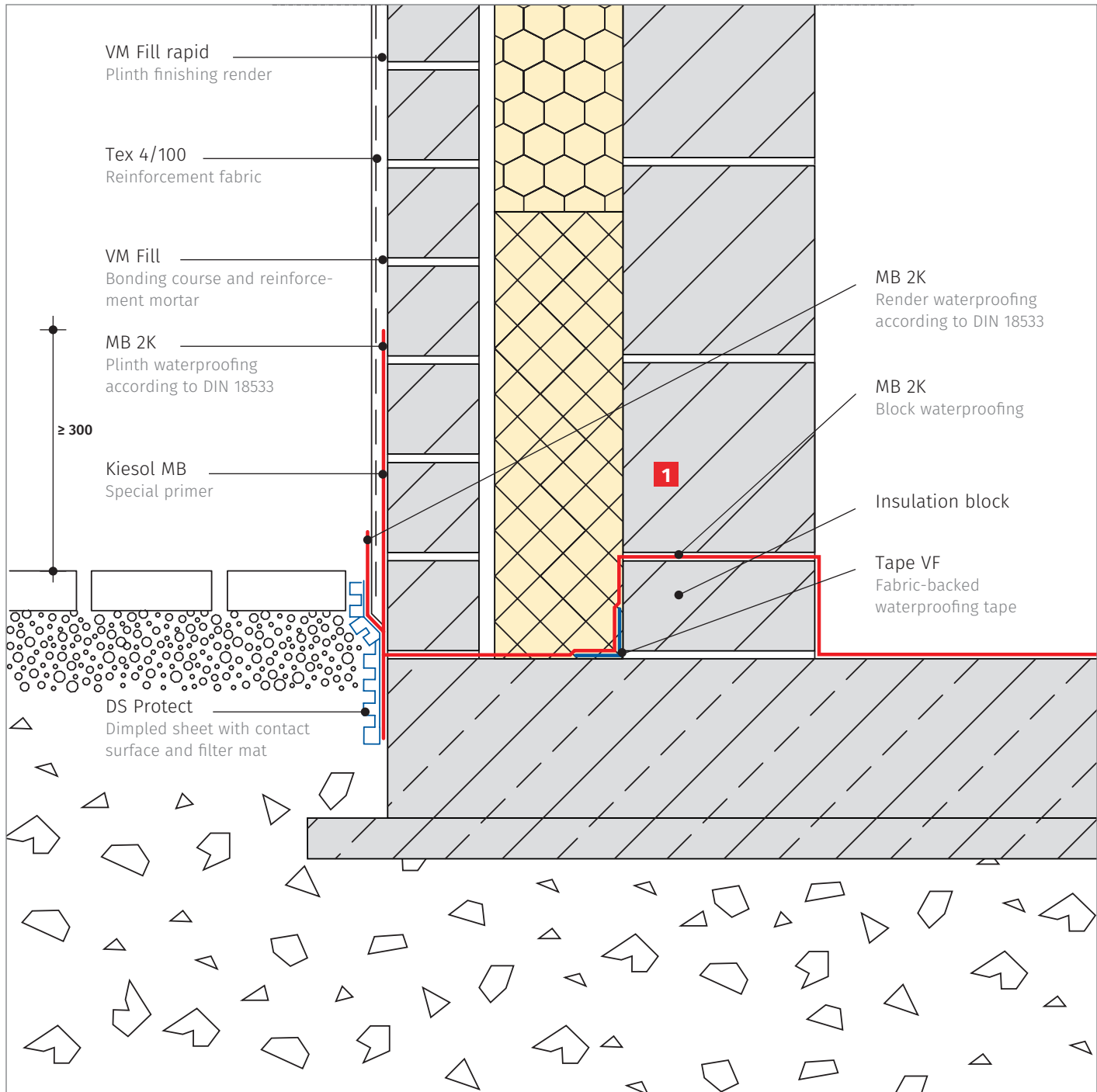
WP DS Level



Tape VF



DS Protect



Double-layer masonry with render

Expert tips

1 To prevent thermal bridges, the first stone course of the load-bearing backing masonry is normally made from insulating blocks. In order to ensure that the material retains its insulating properties over the long term, the blocks must be also protected against moisture during construction.

This is only possible if the first stone course is waterproofed with block waterproofing. In addition to providing the damp protection needed during construction, this solution also provides the waterproofing required in and underneath walls according to the applicable standard.

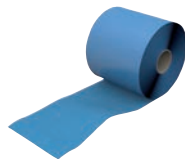
Products used:



Kiesol MB



MB 2K



Tape VF



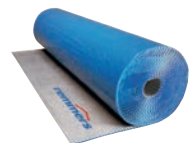
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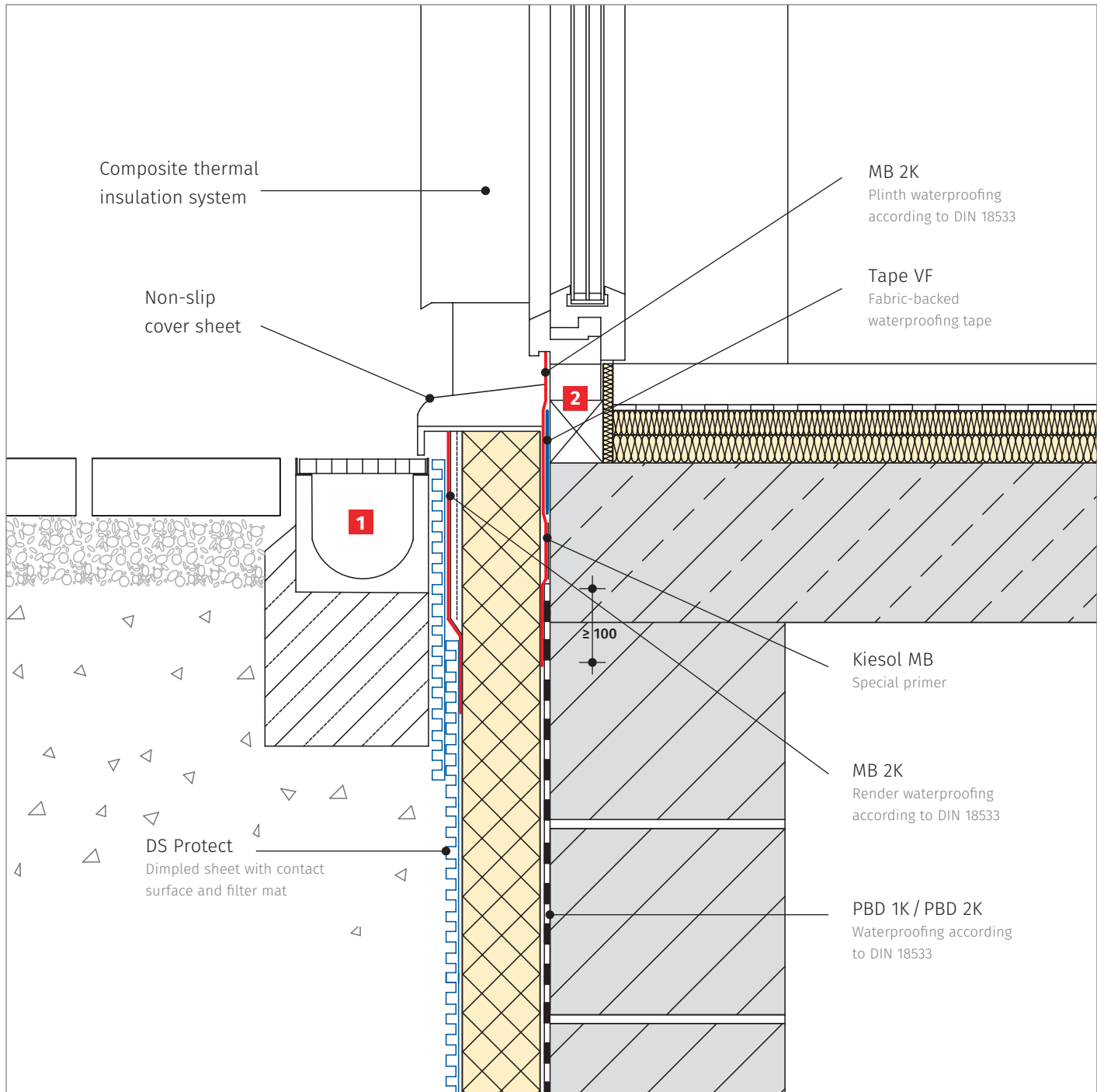
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Tex 4/100



DS Protect



Connection to full-length windows and doors

Expert tips

- 1** Where full-length doors or windows are installed, it is not normally possible to meet the required waterproofing height of > 150 mm. In order to prevent water ingress in this situation, special measures such as a canopy roof or drainage channels must be used.
- 2** Liquid-applied waterproofing materials are only able to bridge cracks to a limited degree. Therefore, transition regions between different materials beneath the waterproofing layer are normally secured using joint tape that is embedded in the waterproofing matrix. Remmers recommends the highly elastic, fabric-backed joint tapes in the Tape VF product range for these applications.

Products used:





Connection to full-length windows and doors, double-layer masonry

Expert tips

- 1 There are a vast number of ways to join full-length windows to the plinth waterproofing, meaning that there is no clear standard for their regulation. Therefore, this detail must be planned on a case-by-case basis for each individual product, and agreed separately with the building owner.

In order to guarantee a secure and long-lasting joining area in compliance with DIN 18533, it is essential to ensure proper adhesion and compatibility of the waterproofing materials – with each other and with the substrates.

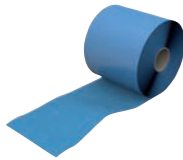
Products used:



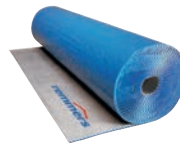
Kiesol MB



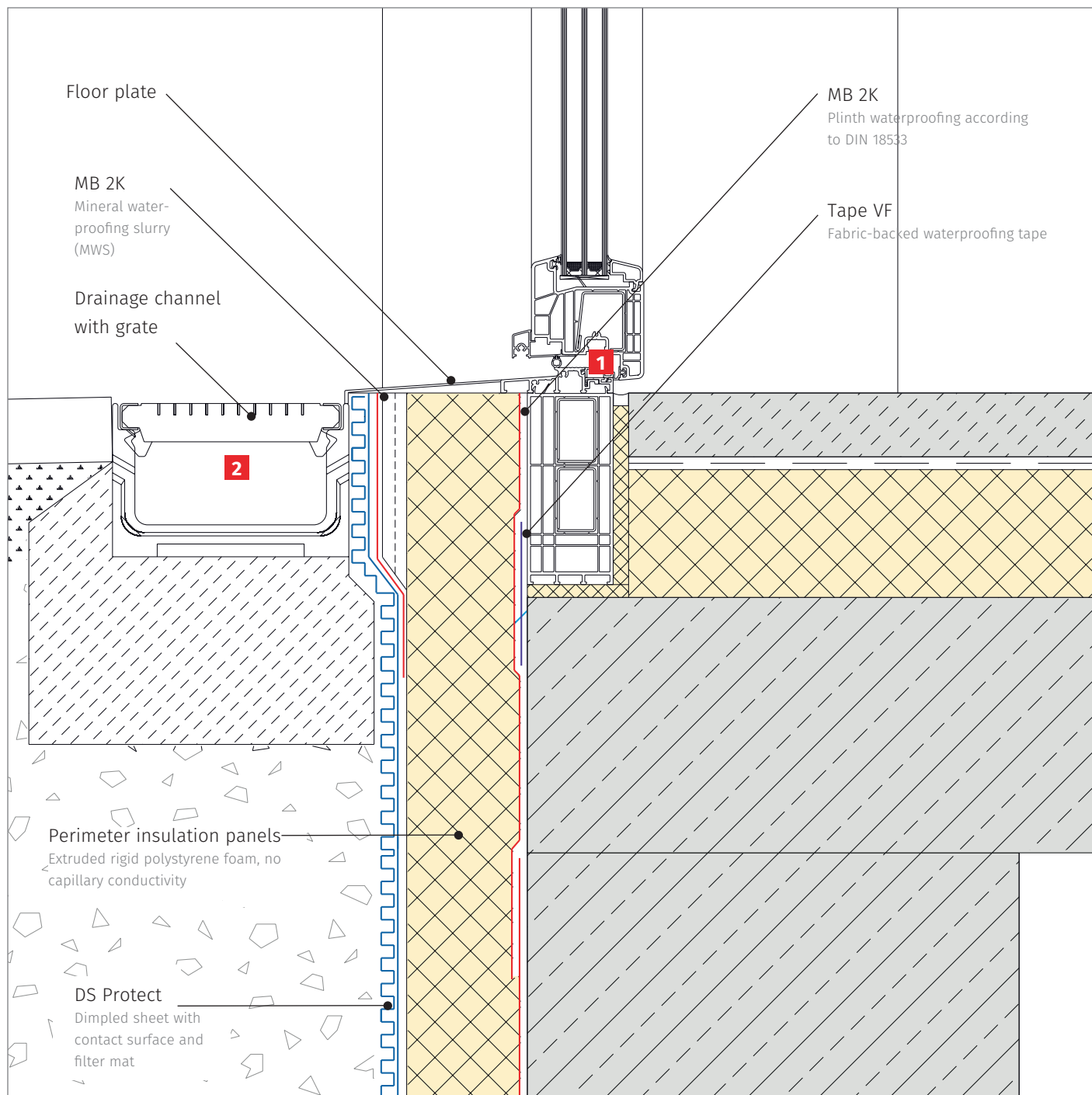
MB 2K



Tape VF



DS Protect



Waterproofing full-length windows with drainage channels, double-layer masonry

Expert tips

- 1 In waterproofing terms, doors and full-length windows are special constructions that require project-specific planning and execution. Frame profiles in the connecting region must be stable, suitably wide and capable of adhesion – or must be modified to have these properties. The waterproofing material used must be compatible with the frame profile.
- 2 The building must be protected against splashing water and water ingress through planning specifications and additional structural measures such as roofing, facade recesses and drainage channels with covers or grating. Surfaces must not slope towards doors or full-length windows.

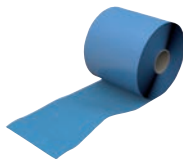
Products used:



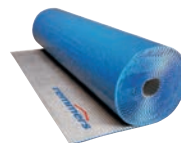
Kiesol MB



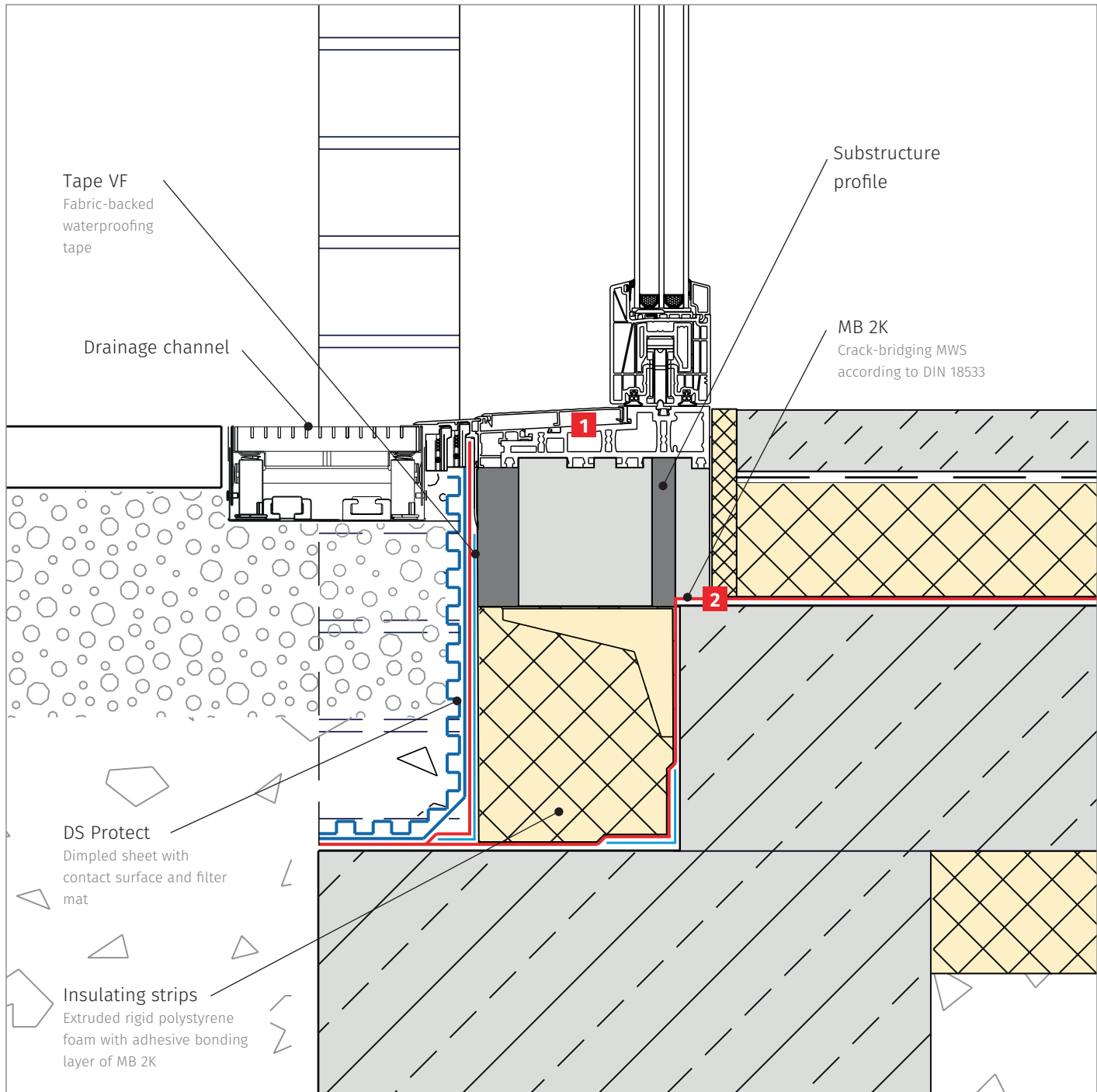
MB 2K



Tape VF



DS Protect



Lift-and-slide doors, double-layer masonry

Expert tips

- 1** The sill at floor level must be designed so as to ensure that the ground level is exactly the right height on both sides, and to ensure that the doorway is accessible. If the sill cannot be positioned at floor level, it must be ensured that a wheelchair can cross it.
- 2** A higher risk of condensation is expected in this area around the window. The specifications of DIN 4108 concerning thermal design must be observed and the bordering floor coverings must not be sensitive to moisture.

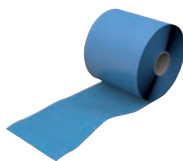
Products used:



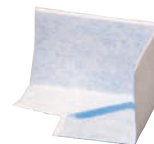
Kiesol MB



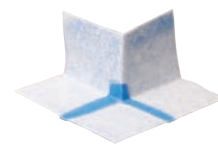
MB 2K



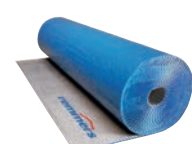
Tape VF



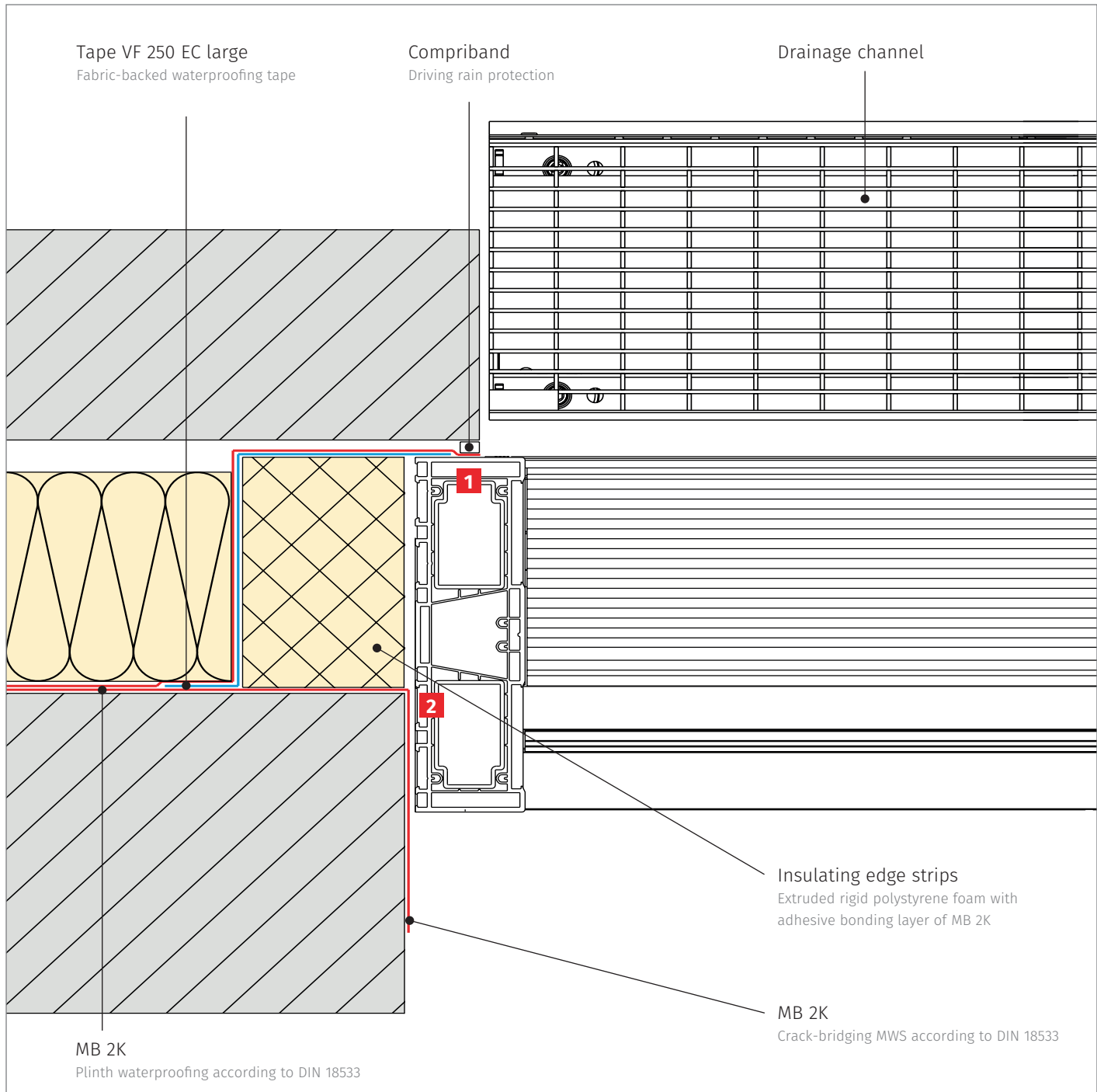
Tape VF 100 IC



Tape VF 75 EC



DS Protect



Lift-and-slide doors, double-layer masonry

Expert tips

- 1 According to DIN 18531, the DPC height of ≥ 15 cm can be reduced to a connecting height of > 5 cm in the ground sill region if a drainage channel is provided across the entire width of the door directly in the ground sill region. For accessible doorways, the sill height can be reduced to ≤ 20 mm. Roller shutter guide rails must sit in front of the waterproofing.
- 2 End stops created on site can be bonded to the substrate using the crack-bridging mineral waterproofing slurry MB 2K, which is compliant with the applicable standards, and a water-tight connection with the DPC can be established using fabric-backed sealing tape.

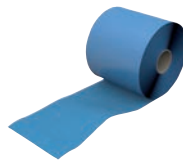
Products used:



Kiesol MB



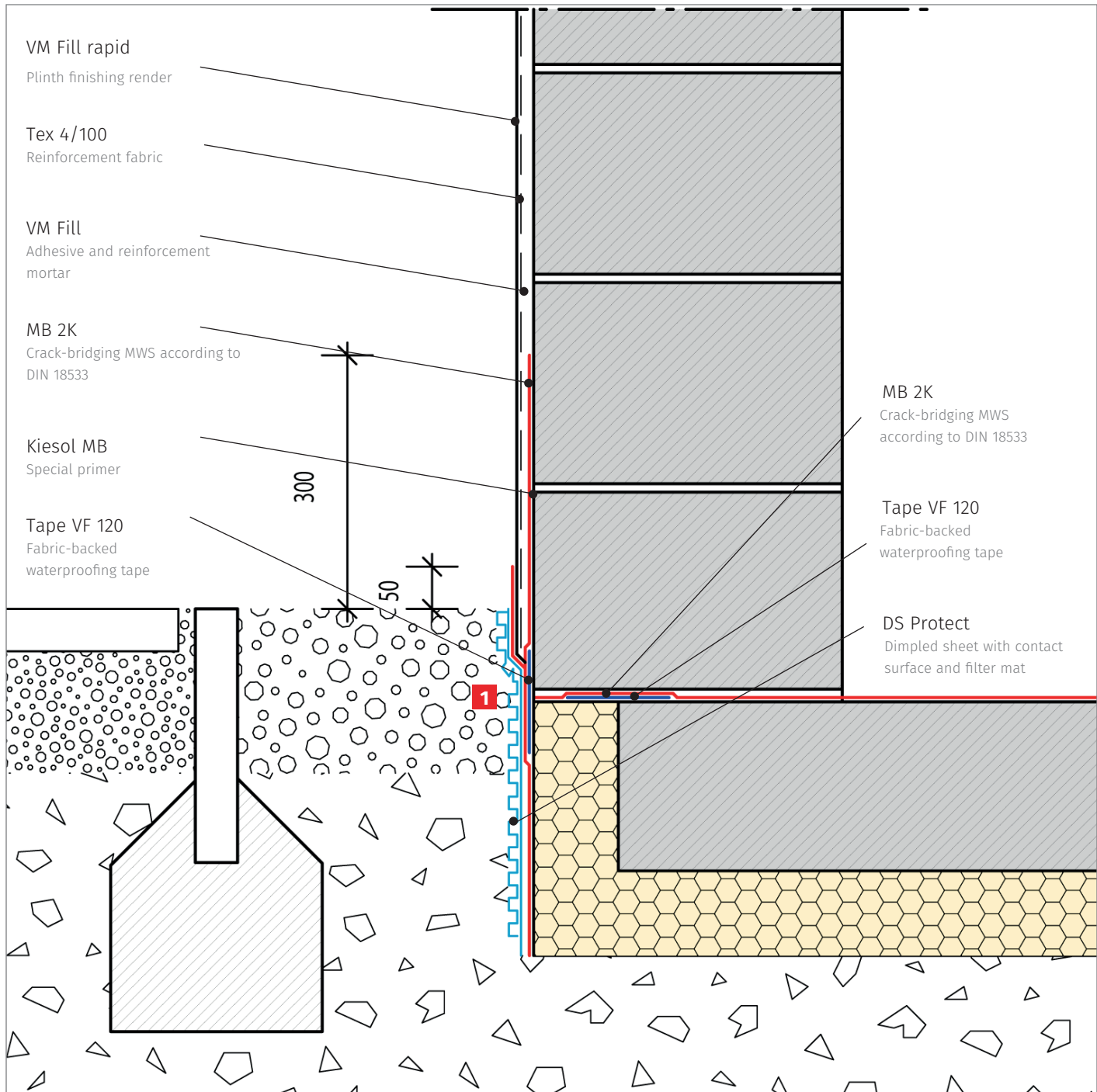
MB 2K



Tape VF



Tape VF 250 EC large



Single-layer masonry, waterproofing at the floor-edge form

Expert tips

For water impact classes W1-E and W4-E, compression-resistant insulating materials that are not capillary conductive (e.g. XPS rigid foam boards, foamed glass boards) can be used as the substrate under sections of waterproofing for thermal insulation on the faces of floor slabs or shuttering elements. Cross-sectional waterproofing beneath walls must be installed as far as the vertical exterior waterproofing and connected to it properly in order to prevent bridging. In these regions, the vertical waterproofing on the wall must extend down to at least 10 cm below the cross-sectional waterproofing, the top edge of the floor slab, or the top edge of the thermal insulation at the same height (DIN 18533 Part

1, Section 8.8.3.3, Figure 22 or 23). In the case of liquid-applied waterproofing according to DIN 18533 Part 3, reinforcement fabric must be embedded in the waterproofing in regions where the substrate changes from insulating material to solid building materials (e.g. in order to prevent cracking).

When using MB 2K as a scratch coat and waterproofing material on perimeter insulation boards, unfavourable weather conditions (e.g. strong sunlight or condensation) can cause blistering in the waterproofing layer. For this reason, the insulating material should only be waterproofed once fully assembled, or out of direct sunlight.

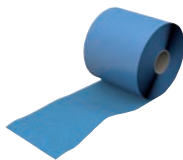
Products used:



Kiesol MB



MB 2K



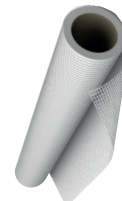
Tape VF 120



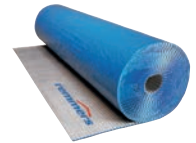
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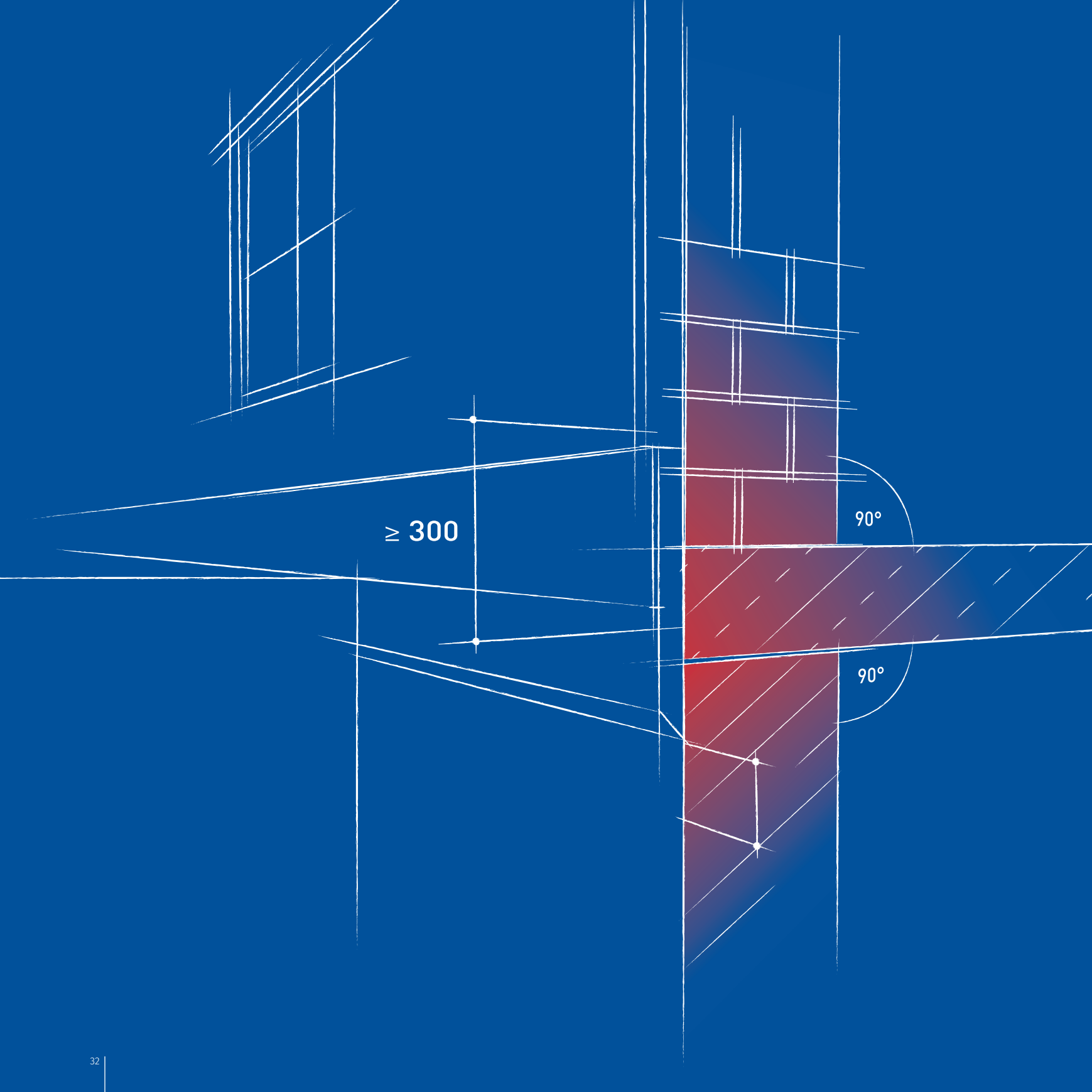
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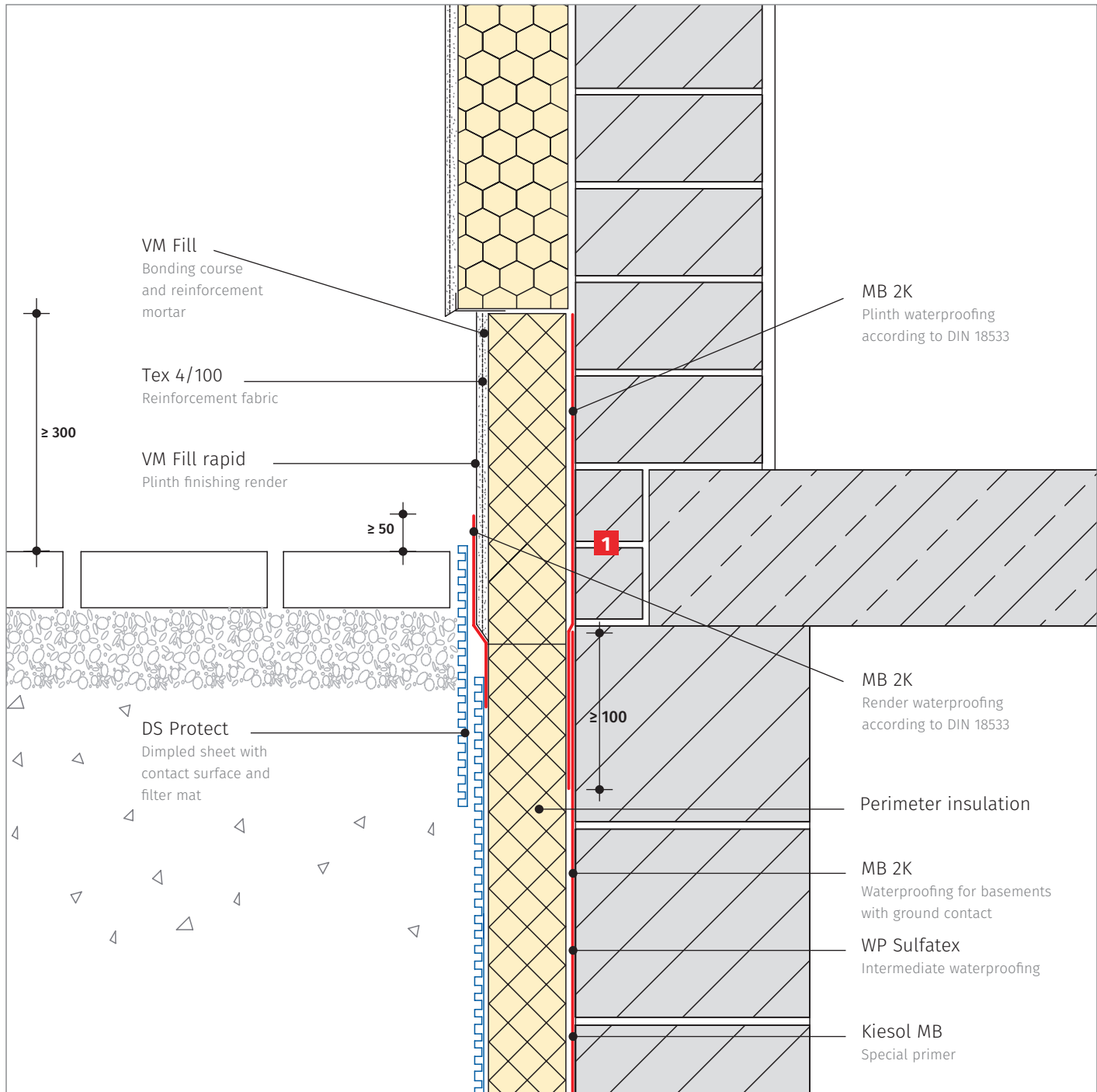
Tex 4/100



DS Protect



Plinth waterproofings in old buildings



Single-layer masonry with composite thermal insulation, basement insulation

Expert tips

- 1** Code of Practice 4-9 „Waterproofing and repairing the plinth of buildings and building elements“ was published by the German scientific and technical working group for building preservation (WTA) in 2019. This regulatory framework provides a guide for planning and implementing plinth repairs. In addition to detailed information on developing a suitable repair concept and planning the associated diagnostic work, this guideline also contains practical tools in the form of extensive checklists.

The guideline contains a list of suitable waterproofing materials, which includes tried-and-tested materials such as MWS and PMBCs, as well as a newcomer to the field: reactive polymer thick coatings, which correspond to the Remmers product MB 2K.

Products used:



Kiesol MB



WP Sulfatex



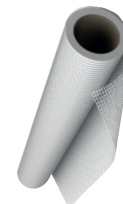
MB 2K



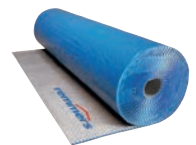
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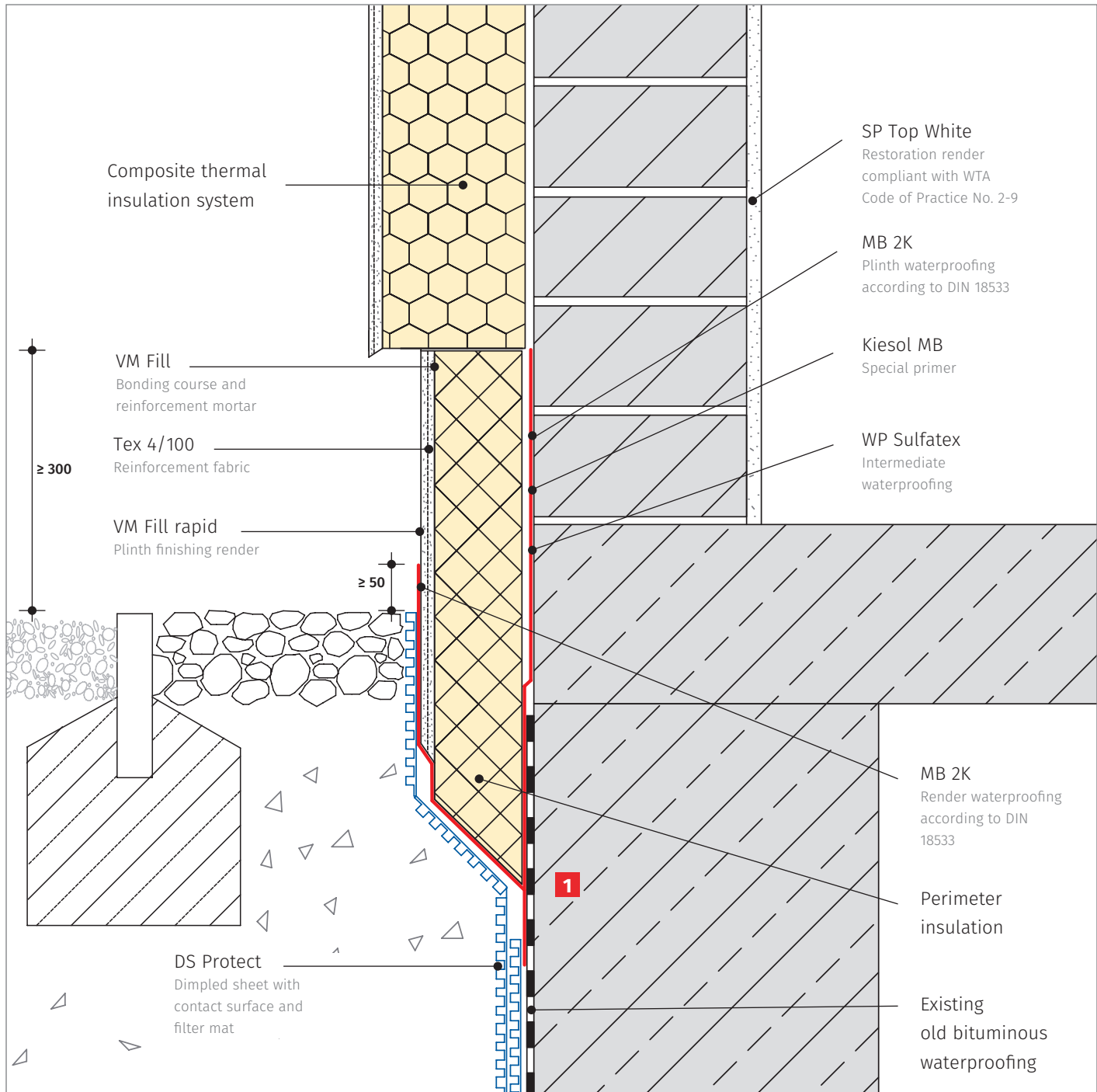
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Tex 4/100



DS Protect



Single-layer masonry with composite thermal insulation, old bituminous waterproofing

Expert tips

1 In old buildings, it is not uncommon to find damaged or inadequate old bitumen coatings below ground level. Normally, these would have to be completely removed or covered with a solvent-based contact layer before renovating the waterproofing.

In these cases, Remmers recommends MB 2K. It is strongly adhesive, enabling it to adhere to all dry and dust-free surfaces with ease – even old bitumen. The result: no need for extensive cleaning work or solvent-based products.

Products used:



Kiesol MB



WP Sulfatex



MB 2K



VM Fill rapid



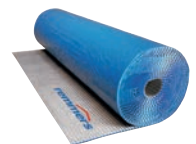
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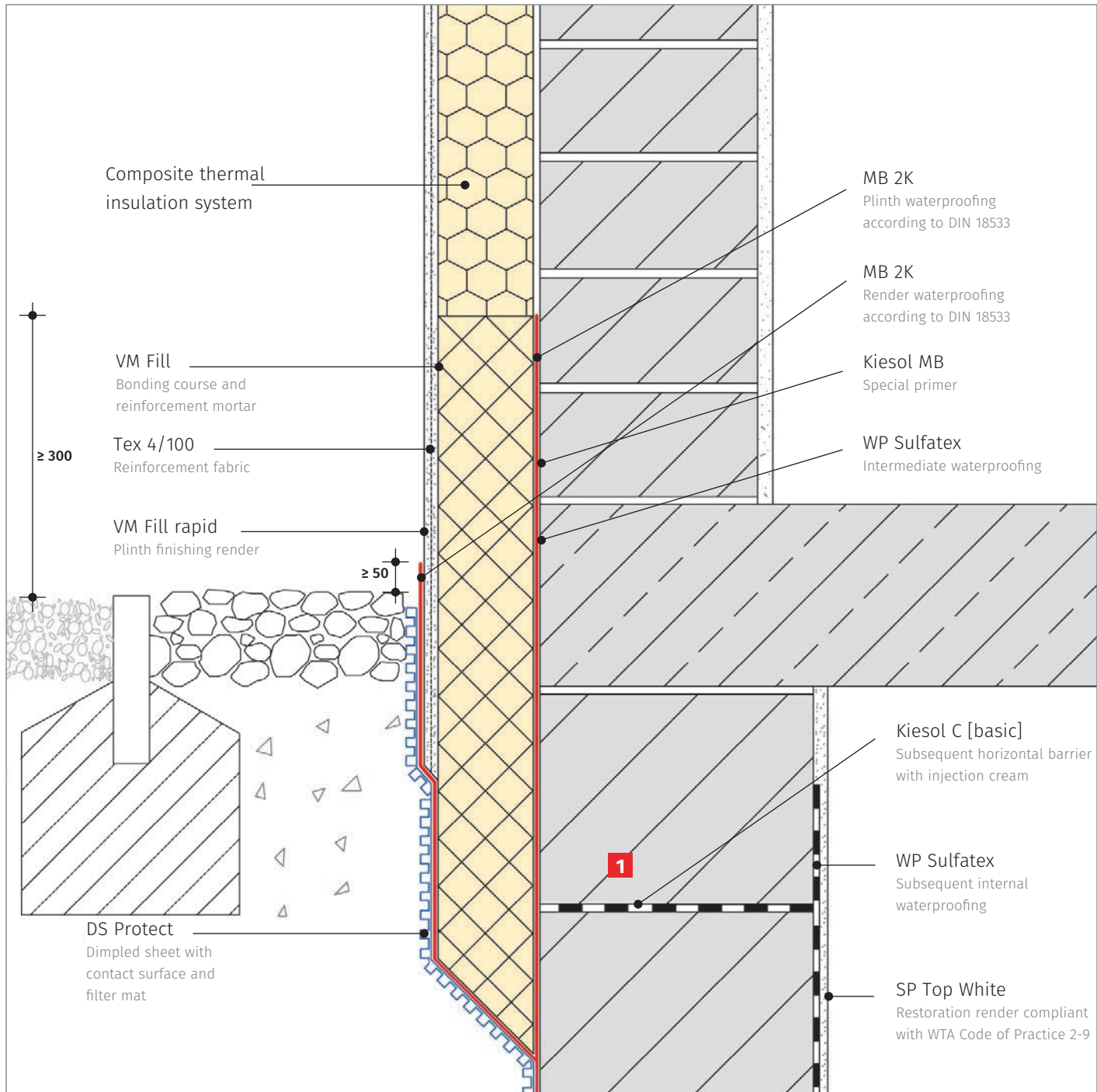
SP Top White



Tex 4/100



DS Protect



Single-layer masonry with composite thermal insulation, internal basement waterproofing

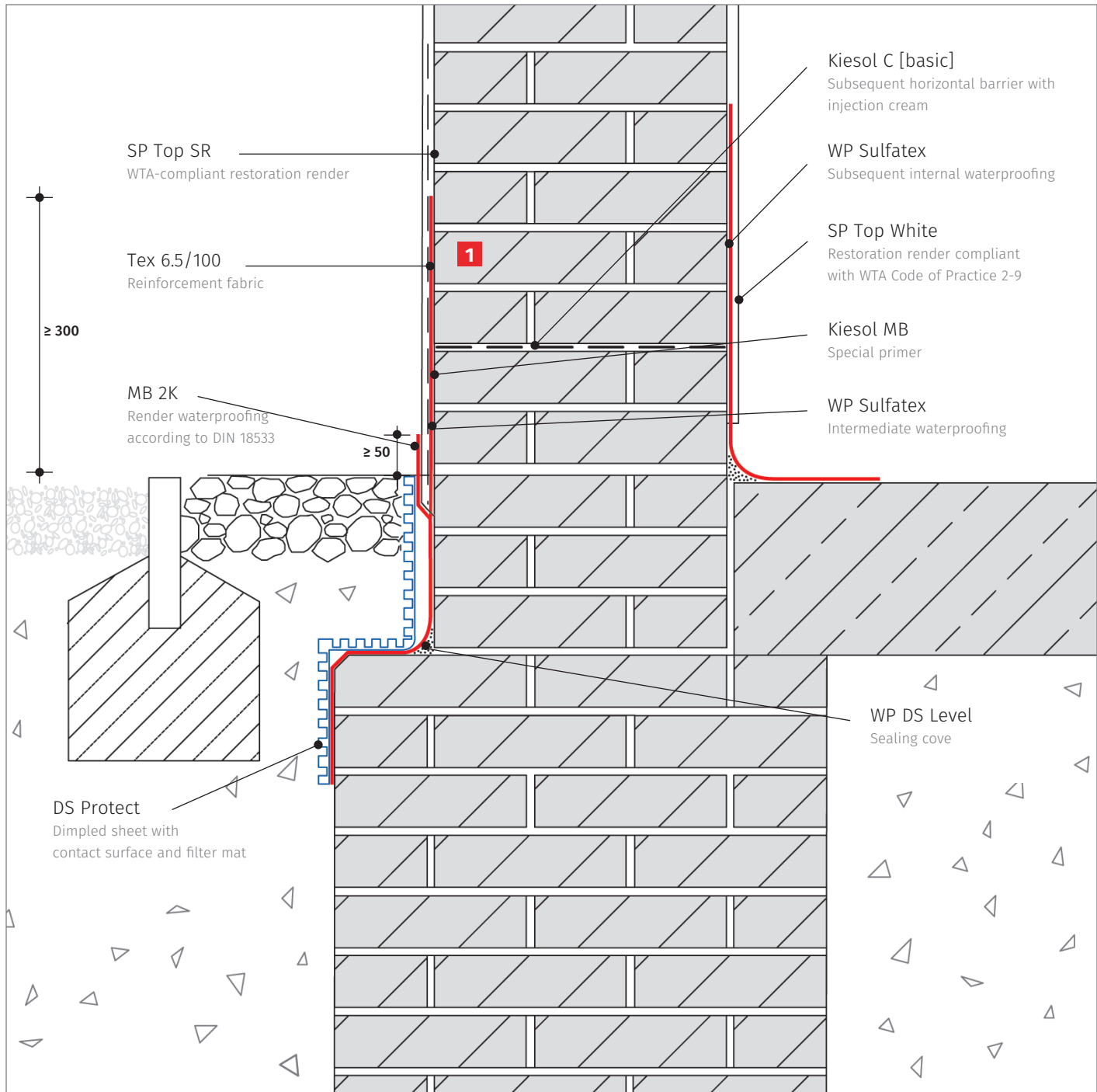
Expert tips

- 1 During renovations, it may be necessary to install cross-sectional waterproofing to protect against rising damp. This is injected into the masonry. Kiesol C [basic], with its proven cream technology, can be applied quickly and easily.

A single, horizontal row of holes is drilled into the course joint. The holes are spaced 12 cm apart and have a diameter of 12 mm. The holes are then closed with a single application of filler.
All done!

Products used:





Single-layer masonry containing moisture and salt

Expert tips

- 1 Render systems for the plinth region are subject to specific requirements. In order to withstand the elevated stresses caused by driving rain and splashing water, exterior plinth render must be water-repellent in accordance with DIN V 18550. The water absorption coefficient w must be less than $0.5 \text{ kg} / (\text{m}^2 \cdot \text{h}^{0.5})$.

Furthermore, plinth rendering must meet the requirements of compressive strength class CS III (3.5 to 7.5 N/mm²) at a minimum. For WTA-compliant finishing or restoration renders, a compressive strength of class CS II (1.5 to 5.0 N/mm²) is also permitted. However, the value must not fall below 2.5 N/mm².

Products used:



Kiesol MB

MB 2K

SP Top SR

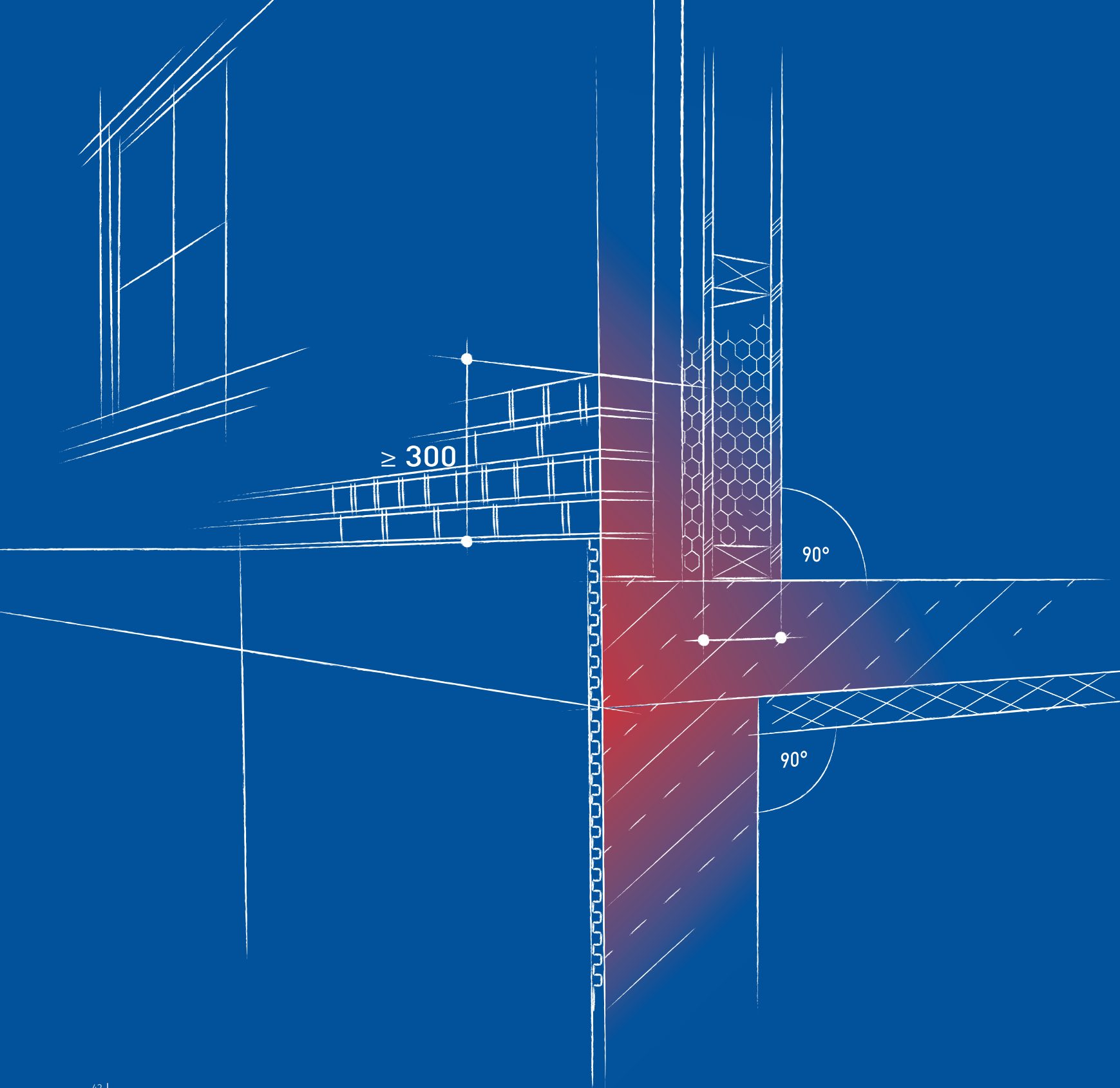
Tex 6.5/100

Kiesol C [basic]

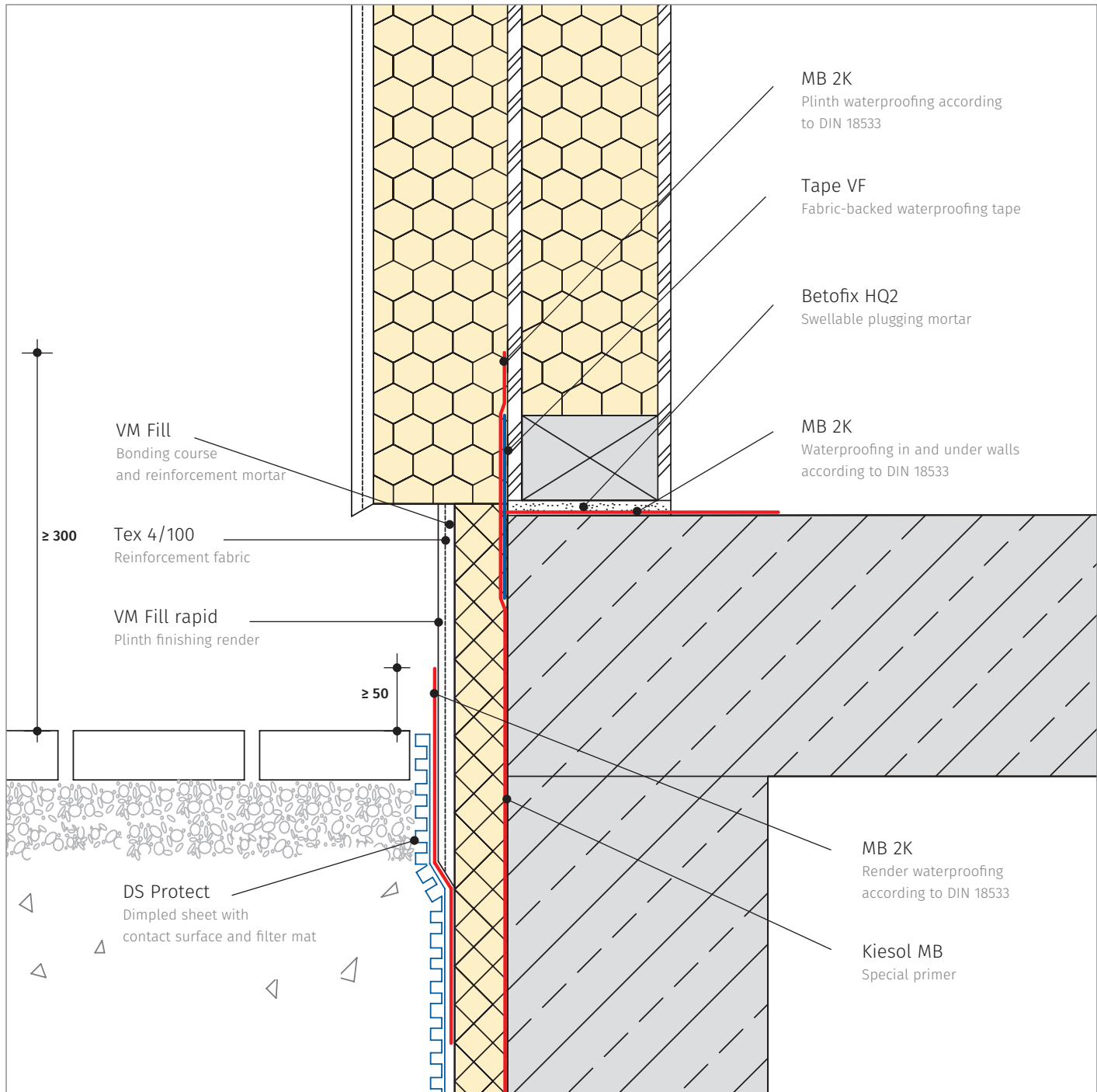
WP DS Level

SP Top White

DS Protect



Plinth waterproofings in timber frame constructions



Composite thermal insulation with basement

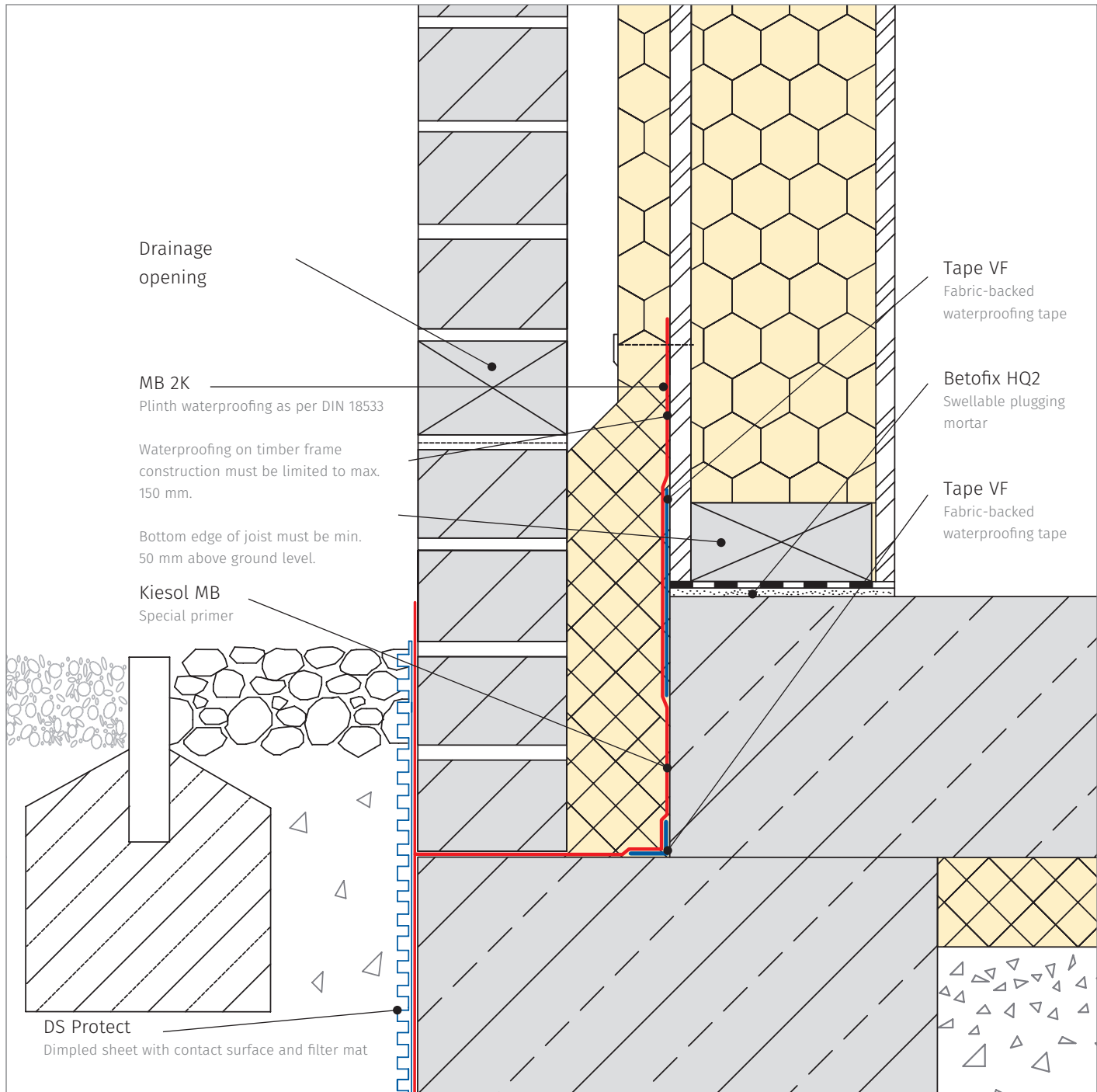
Expert tips

- 1 According to DIN 68800, the plinth of a timber frame construction can take one of three designs:
- > 300 mm between ground level & bottom of joist
 - > 150 mm between ground level & bottom of joist
 - > 50 mm with suitable waterproofing as per DIN 18533

Remmers recommends MB 2K for waterproofing in this area. Thanks to its high adhesive strength on virtually all substrates, this product can be used to waterproof complex transitions in timber frame construction quickly and easily.

Products used:





Faced brickwork, no basement

Expert tips

1 The waterproofing required on the outside of the building for protection against splashing water causes changes to the water vapour diffusion behaviour in this area. As a result, additional measures are needed on the inside of the building. Studies of the diffusion behaviour have shown that the interior layers of the construction should slow down the diffusion process at least four times as much as the exterior layers.

However, if the plinth on the outside of the timber frame construction is waterproofed along a narrow strip of max. 150 mm as planned, there is no need to increase the diffusion inhibition on the inner side of the building element.

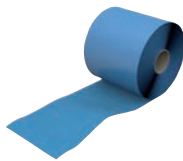
Products used:



Kiesol MB



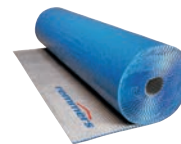
MB 2K



Tape VF



Betofix HQ2



DS Protect

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