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## PLY-KOTE 1K

Polymer-modified  
one component bitumen  
waterproofing compound

### DESCRIPTION

A flexible, polymer modified, one-component bitumen waterproofing compound, due to a powder component particularly waterproof and watertight and due to a chemical reaction rainproof after a short time.

### ADVANTAGES

- Not harmful to the environment: free from solvents and asbestos fibres
- Quick thorough drying
- Highly flexible, elastic and crackbridging
- High dry residue of approx. 85 % by volume
- Suitable for any mineral substrate
- For dry and slightly moist substrates
- No coat of plaster required on the masonry
- Suitable for vertical and horizontal surfaces
- Due to a chemical reaction rainproof after a short time
- Due to a powder component particularly waterproof and watertight
- Time-saving application.
- Occurring in natural soil (up to 3000g sulfate per litre of water according to DIN 4030)



### PRODUCT DATA

Base	one-component polymer-modified thick bitumen coating
Colour	black
Density of the mixed material	approx. 0.65 kg/dm <sup>3</sup>
Consistency after mixing	pasty, non-sag
Application temperature	+ 2° C to +35° C (air and substrate)
Material temperature	+ 5° C to + 30° C
Consumption	4.0 - 5.0 litres/m <sup>2</sup> depending on the water pressure
Application	smooth trowel
Drying time at + 20° C and 70 % r.h. <sup>1)</sup>	approx. 3 days
Dry residue by volume	approx. 83 %

Layer thickness	1.2 mm fresh coat 1.0 mm dry coat
Clean-up	water, when fresh; thinner T, when cured

1) The delay is longer or shorter in accordance with the temperature, the humidity or the substrate.

## Range of application

PLYKOTE 1K is convenient for the external waterproofing of:

- basement walls
- concrete floor slabs
- sub-base courses
- foundations

For application to any mineral substrates such as lime sandstones, bricks, concrete blocks, concrete, expanded concrete, cement-based plaster and floor screed in case of soil moisture as well as nonpressure and pressure water.

For spot and full-surface bonding of extruded polystyrene rigid-foam insulation boards (such as Perimate\* DI or Perimate\* DS ), expanded polystyrene boards and mineral fibre boards used as protective, drainage or thermal insulation boards below ground level.

## Working instructions

**Determination of water stress** Before carrying out the waterproofing works, the water stress exposure must be determined at an early stage of planning. The execution of the waterproofing works depends upon the amount of water to be encountered with.

### A) waterproofing against non-pressure water

This case is deemed to be present if the construction site consists of highly permeable ground such as sand or pebbles down to an appropriate depth beneath the concrete slab and the backfilling material. This group is also deemed to be present if, in the case of less permeable ground, drainage is carried out in accordance with the prevailing rules for drainage.

PLYKOTE 1K must be applied in 2 operations on the primed surface. The dry layer thickness must be at least 3 mm, adequate to a minimum fresh coat of 3.7 mm.

### B) waterproofing against ground dampness/non banked-up seepage water

This case is deemed to be present for areas subject to moderate stress (balconies and similar areas in residential structures) as well as in case of floors and walls (even in residential wet-duty rooms), which are subject to water spillage. In this regard, stress deriving from, for ex. precipitation, seepage or service water should exert little or no hydrostatic pressure on the waterproofing layer.

PLYKOTE 1K must be applied in 2 operations. The dry layer thickness must be at least 3 mm. In addition, before the last operation, the woven fibreglass fabric no. 2 should be bedded in at grooves and edges.

### C) Waterproofing against banked-up seepage water

This case is deemed to be present if there is a foundation depth of up to 3 metres beneath the final earth level in fairly impermeable ground, and where there is no drainage. The measured water level ascertained over many years must be at least 3 metres below the lower edge of the concrete slab.

PLYKOTE 1K must be applied to the primed surface in at least 2 operations. The fibreglass fabric no. 2 must be inserted in the first coat and then fully covered with the second one. The minimum dry layer thickness must be 4 mm.

### Characteristics of substrates

The substrate must be frost-free, solid and even. It must be free from coal tar pitch, honeycombs, wide cracks, protruding mortar or concrete residues and other impurities. The edges and corners must be rounded.

In case of pressure water reinforced concrete must fulfill the specifications and masonry must not reveal any cracks larger than 1 mm. Application is allowed on dry or slight damp but still absorbent substrates. A damp substrate will result in a longer curing time.

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### Preparation of substrates

Start work by preparing the substrate. Protruding mortar residues must be removed. Footing edges must be free from rubble, soil, laitance, mortar residues and other adhesion-diminishing substances. If necessary, use sand-blasting.

### Scraping layer

In case of porous substrates (e.g. many honey combs in concrete) and roughfatterned brickwork, PLYKOTE 1K must be applied at first by trowel as a filler in a thin coat to avoid blistering (formation of air bubbles) and/or to level the substrate.

Allow a sufficient waiting time between the scraping layer and the first spray coat. The scraping layer must have dried sufficiently, so that the first layer application cannot damage it.

In case of unplastered masonry made of large-sized blocks, open joints up to width of max. 5 mm must be closed with PLYKOTE 1K .

### Waterproofing of vertical surfaces

PLYKOTE1K is applied with a flat trowel in at least two applications. The second application should take place as soon as there is no danger of damaging the first one. PLYKOTE1K attains its final performance following full setting and drying. Only then protective and/or insulation boards can be applied, and only then the construction trench can be backfilled and the ground water maintenance be adjusted. Care should be taken to ensure that rain water cannot run behind the waterproofing layer and that it is also not be exposed to the winter elements without protection.

Clay, construction rubble or boulders should not be emptied directly onto the hardened waterproofing layer.

In the case of strong sunshine, we recommend working after sunset in accordance with plastering rules, or carrying out waterproofing work in the morning and evening. Otherwise, shade should be provided.

#### Waterproofing of horizontal surfaces

PLY-KOTE 1K is applied with a flat trowel in at least two applications. The second application should take place as soon as there is no danger of damaging the first one.

When waterproofing against ground dampness PLY-KOTE 1K is applied to the concrete slab in 2 operations once the primer has dried. Once the waterproofing layer has dried thoroughly, a double-ply polyethylene foil is placed as a sliding and protective layer prior to the cast of the floating screed.

When waterproofing against banked-up seepage water or pressure water (ground water), the waterproofing is applied to the sub-base course, i.e. beneath the reinforced concrete slab. The sub-base course must be reinforced at the edges.

#### Layer thickness check

Given the craft involved, layer thickness variations cannot be ruled out when applying the material. For the measurement of the wet layer thickness check at least 20 points per every 100 m<sup>2</sup> of waterproofed surface, or every 100 m<sup>2</sup> at diagonally distributed measuring points.

#### Pipe penetrations

PLY-KOTE1K must be worked around pipes as a fillet, or should be applied in combination with the Deitermann/Doyma pipe channel system 3101.

When waterproofing against non pressure water, the connection is done by applying PLY-KOTE1K together with a layer of fibreglass fabric no. 2 on the bonding flange or using a loose-and-firm flange design.

#### Fillets

PLY-KOTE1K allows a seamless and jointless transition between the waterproofing of the external fillet area (angles between walls and concrete slab) and the vertical and/or horizontal surfaces.

The waterproofing of vertical surfaces should be done down at least 15 cm on the forepart of the concrete slab

#### Thermal insulation

For the insulation of the basement floor and outer basement walls, an insulation material must be used which is insensitive to any stress the perimeter insulation may be subject to. We recommend the blue extruded boards of Dow which are compression-proof and resistant to mechanical stress, moisture as well as to humid acids.

#### Insulation of sub-base course: the

insulation boards Perimate\* insulation boards are bonded to the sub-base course with PLY-KOTE 1K applied in spots or all over. The reinforced concrete slab is then cast after placing a polyethylene foil.

Insulation of basement walls: the insulation boards Perimate\* DI or Roofmate\* SL-A are bonded to the dried waterproofing layer of PLY-KOTE 1K. Depending on the dimensions of the panels, 6 to 8 palm-size bonding spots are regularly put on the back of the panels which are then bonded in an offset or vertical arrangement to the waterproofing layer.

The insulation boards must be bevelled within the area of fillets (which is not required for panels with stepped rabbets in most cases). Care must be taken that the panels sit accurately upwards on the footing edge of the concrete slab or on the top of the Deitermann groove element.

#### Insulation of basement splash water area:

the insulation boards Styrofoam\* IB (1250 x 600 mm) are bonded spotwise in landscape arrangement (600 mm high) with PLY-KOTE 1K. Subsequently, the insulation panels are also doweled above ground level and covered with 2 coats of the polymer-modified mineral plaster PLY-KOTE K2 with incorporated fibreglass fabric no. 2.

## DELIVERY AND STORAGE

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PLY-KOTE 1K is available in 32 kg pre-measured kit (net weight) with the liquid and the powder. Can be stored dry, frost-free in its original sealed packaging for at least 12 months.

## NOTES

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Do not coat zinc or aluminium with PLY-KOTE 1K. The correct and hence successful application of our products is not within our control. A guarantee can therefore only be accepted for the quality of our products within the framework of our sale and supply conditions but not for their successful use.

Observe the safety precautions for protection of health and prevention of accidents given in the safety data sheet and on the label of the packaging.

This data sheet supersedes all earlier technical data on this product. Information supplied by our employees and/or distributors going beyond the information contained in this data sheet must be confirmed in writing.

We reserve the right to make changes representing technical progress.



EXPORT ORDERS: Product size and packaging may change slightly to accommodate export shipping requirements.  
WARRANTY: We warrant our materials to be of good quality and will replace materials found defective, providing however, that the buyer shall examine the materials when received and promptly notify use of any defect before the materials are used or incorporated into a structure of which they are intended. Unless otherwise agreed to in writing, this warranty shall extend only to comply with specifications of materials manufactured and published by PLYDEX Company and made available to the buyer at request. We cannot warrant nor in any way guarantee particular methods, use or applications and performance, nor can we warrant that the materials will be suitable for any intended use. This warranty is in lieu of all others expressed or implied and may not be extended representatives, written sale information or drawings, nor do our distributors or salesmen or any representatives of distributors or of this company have any authority to extend any guarantee beyond that outlined above or to waive the limitations of the seller's liability.