



# DAVCO K11

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## DESCRIPTION

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- An alkali-reactive waterproofing product based on alkali resistant synthetically modified cement.
- The Davco K11 waterproofing concept is based on the crystallisation process. Davco K11 compounds combine with free water and other elements in the substrate to produce a waterproof membrane. The unique and highly effective components of the Davco K11 systems chemically react within the pores and capillaries upon exposure to the moisture and the elements. This chemical reaction initiates the formation of the crystalline structure within the pores and capillaries, to become an integral part of the structure and block the passage of water.
- Davco K11 is a brush or spray applied, Portland cement based system for waterproofing concrete and masonry through the crystallisation process. Davco K11 waterproofs the positive side or the negative side of the substrate. Following proper application, active water pressures force the crystal forming chemicals deeper into the sub-surface capillaries and pores to form a monolithic bond and become an integral part of the structure.

## USES

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- Davco K11 is applied to interior or exterior below grade surfaces and between horizontal structural slabs and toppings to protect against hydrostatic water pressure. These surfaces include concrete, concrete block, brick and shotcrete.
- Davco K11 Can be used in a variety of installations, some examples being:
  - ◇ Subway Stations      ◇ Swimming Pools
  - ◇ Mines                      ◇ Fish Hatcheries
  - ◇ Tunnels                    ◇ Solar Water Tanks
  - ◇ Aquariums                ◇ Cooling Tower Basins
  - ◇ Elevator Pits             ◇ Basements
  - ◇ Planters                    ◇ Floors
  - ◇ Manholes                 ◇ Sewage Treatment Plants
- Davco K11 is approved as a mineral waterproofing layer for the protection of

buildings against ground moisture, i.e. ground water under pressure (rising damp etc.) and against surface water, rainfall, seepage, and in general against water under a low hydrostatic pressure. It is also approved for the internal coating of potable water containers up to a height of 5m, on all sound mineral substrates.

## MIXING

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- **IMPORTANT** - Ensure any lumps in the Davco K11 powder are broken up prior to mixing with Lanko 751 Lankolatex SBR.
- Mix 25kg of Davco K11 powder into 5L of Lanko 751 Lankolatex SBR gauged with 4L of clean water. Always add Davco K11 powder to the gauging liquid. Using a mechanical mixer mixed until a smooth creamy consistency is achieved.

## SUITABLE SUBSTRATES

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Davco K11 may be applied to:

- Sound concrete (strength B 15 in accordance with DIN 1045)
- Brickwork (DIN 105/106/398); hollow concrete blocks (DIN 18 153); all pointing must be flush and pre-wetted.
- Render at least 10mm thick (DIN 18550 Mortar Group III) applied with a smooth trowel and with a sound and permanent bond to the substrate.

## Foundations and Footings

- Davco K11 should only applied to structures which are not subject to conditions that could result in warping or movement.
- Settlement should have finished, and the structure should not be subject to any further movement.
- The structure should be free of live cracks.

## Measures Against External Hydrostatic Pressure

- In order to prevent an increase in the level of water pressure, the land around the building must be adequately provided with a drainage system - e.g. to cope with changes in groundwater levels.

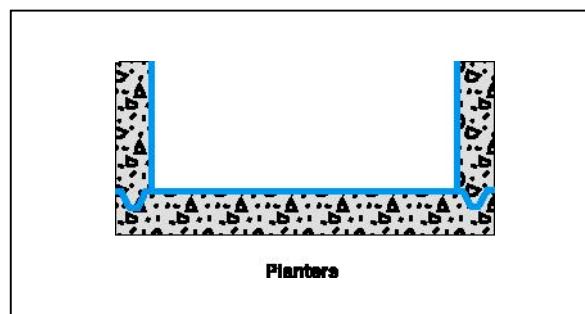
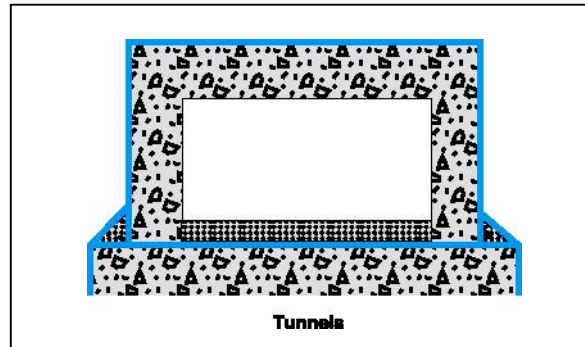
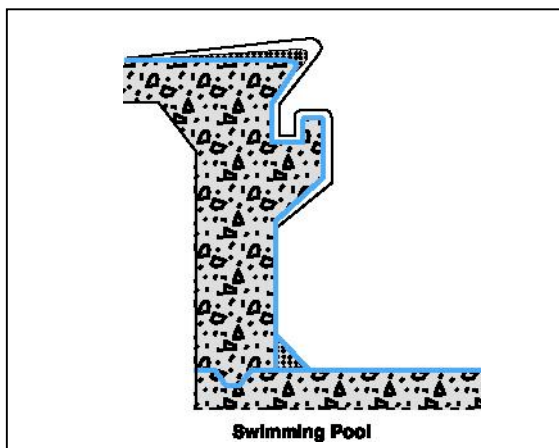
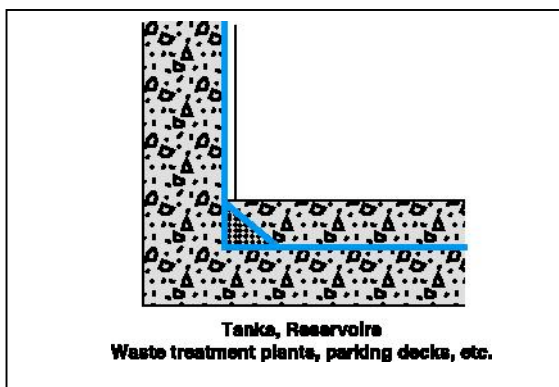
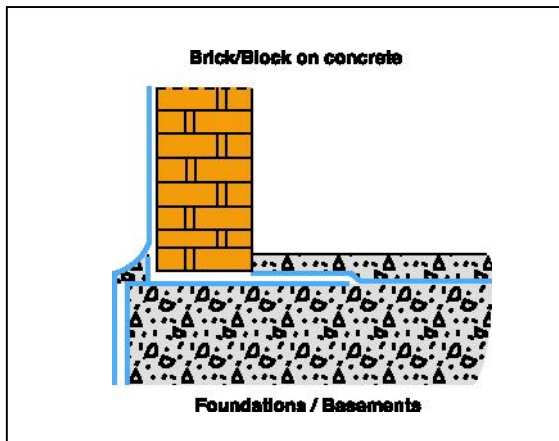
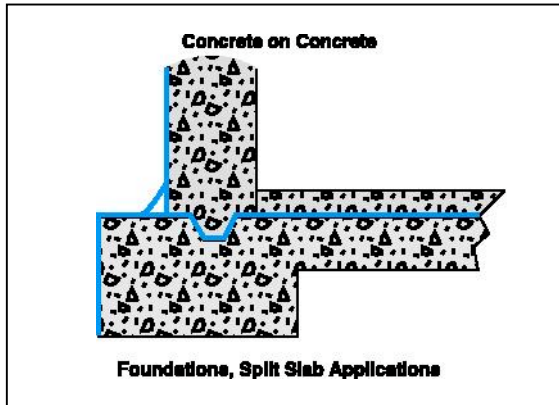


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EXCELLENCE IN  
TILING SYSTEMS

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## TYPICAL K-11 APPLICATIONS



## SURFACE PREPARATION

- The surface prior to treatment must be solid, even, porous and free of dust pockets, laitance, moving joints or cracks. Should any cracks or movement joints be present, please refer to information below on methods of treatment. Sharp edges must be removed, and all wall/floor and wall/wall angles rounded by putting in place a fillet of sand/cement (3 sand: 1 cement) mixed with diluted Lanko 751 Lankolatex SBR (mixed 1 part Lanko 751 Lankolatex SBR: 4 parts water).
- The surface must be free of bitumen, oil, grease, curing compounds, release agents, mould, paints and any other contaminating materials.

### Movement joints

All expansion and movement joints should be sealed with a suitable joint sealant after application of the Davco K11. Consult your ParexDavco (Australia) Pty Ltd state office for advice on the joint sealing method best suited to your application.

### Crack Treatment

All shrinkage and non-moving structural cracks having a width equal to or less than 0.5 mm will be waterproofed by the application of Davco K11. Static cracks wider than 0.5 mm must be routed out to form a 'V' shaped groove with a hand or power chisel, to a depth and width of approximately 25 mm. These larger cracks must be repaired by priming the chiselled out crack with one coat of Davco K11. Whilst this primer coat of Davco K11 is



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still wet, it should be followed by the application of Lanko 731 Repair Mortar to fill the rebate flush with the concrete surface.

Live cracks cannot be waterproofed with Davco K11. Consult your local ParexDavco (Australia) Pty Ltd office for advice regarding the best method of waterproofing live cracks.

## APPLICATION

- The surface must be pre-wetted to saturation and be thoroughly damp, but have no free water on it. On applying the Davco K11, the substrate should appear matt, and there should be no signs of glistening water on the surface.
- The slurry is applied using a brush, broom or spray machine. Ensure the material is thoroughly mixed before applying.
- The coating should be applied to the whole surface in at least two coats. Apply the second coat at 90° to the first coat while the first is still green. In no instance should the total thickness exceed 5mm.
- The slurry must not be applied at temperatures below 5°C or on frozen surfaces.
- Before applying further coatings, e.g. renders, tile adhesives etc onto K11, allow the K11 to fully cure.

### Checking the Coating

- The surface must be checked for faults before applying the next coat (e.g., before application of screed).

### After Treatment

- After treatment is not obligatory. For at least 24 hours after application the Davco K11 must be protected from rain, harsh sunlight and particularly from frost.

### Protection of the Coating / Overcoating

- Subsequent layers (e.g. renders, tiles, screeds, etc.) may be applied only when the Davco K11 has fully hardened. Plasters containing lime must not be applied to Davco K11.
- A key coat, comprising 1 part Lanko 751 Lankolatex SBR: 1 part water: 1 part cement should be brushed onto the surface prior to any application of subsequent products.

## PRECAUTIONS

- Davco K11 is a cement-based product and contains alkali, which can cause dermatitis.

Therefore applicators should wear PVC or similar gloves, and safety goggles.

- For a full MSDS contact your ParexDavco (Australia) Pty Ltd state office.
- For the uses of Davco K11 not mentioned in these instructions, contact your local ParexDavco (Australia) Pty Ltd state office.

## COVERAGE

Ground Moisture	Approx 2kg/m <sup>2</sup>
Hydrostatic Pressure	(2 coats of 1kg/ m <sup>2</sup> ea)
On the negative side	Approx 4kg/m <sup>2</sup>

## CLEAN UP

Clean tools immediately after use with water.

## PACKAGING

- Davco K11 – Grey 25kg bags
- Lanko 751 Lankolatex SBR - 5 litre and 20 litre containers.

## SHELF LIFE

Davco K11 has shelf life of up to 12 months stored in sealed original containers in a dry place. Not frost sensitive.

## TEST CERTIFICATES

- Singapore Institute of Standards and Industrial Research: Contact with potable water.
- National Organisation for Potable Water and Sanitary Drainage, Saudi-Arabia: Water impermeability.
- Government testing institute for earths and minerals, Clausthal-Zellerfeld: Independent quality control contract.
- Institute for concrete and reinforced concrete, official testing station, University of Karlsruhe: Water impermeability in accordance with DIN 1048.
- Institute of Hygiene for the Ruhrgebiet, Gelsenkirchen: Waterproofing potable water tanks.
- Chemical Laboratory, Bubeck: Study of the bacterial colonisation of mortars, and: Study of the change in pH volume of water in contact with concrete and K11 Grey.



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## TEST PROPERTIES

Results of Law Engineering Testing Company No. NKG5-103.

Test	Test Method	Cure Time
<b>Adhesion</b> <i>Results (Avg.)</i>	<b>ASTME-149</b> 118 psi on open structure 124 psi on closed structure concrete 74 psi on steel formed concrete 128 psi on clay brick 112 psi on concrete brick	28 days
<b>Tensile Strength</b> <i>Results (Avg.)</i>	<b>ASTMC - 190</b> 332 psi at 100% R.H 116psi at 50% R.H	28 days
<b>Flexural Strength</b> <i>Results (Avg.)</i>	<b>ASTMC - 580</b> 472 psi	7 days
<b>Permeability</b> <i>Results (Avg.)</i>	<b>ARMY C.E</b> <b>CRD-C 48-55</b> 2.6 x 10 <sup>-8</sup> cm/sec (coats) 1.7 x 10 <sup>-8</sup> cm/sec (3 coats) Tested at water heads of 4.3ft to 178ft	7 days

## TECHNICAL DATA

### Properties:

Pot Life: ≥ 3 hours

Initial Set: ≥ 4 hours

Final Set: ≥ 5 hours

### Bending Strength

After 2 days: ≥ 5N/mm<sup>2</sup>

After 28 days: ≥ 22N/mm<sup>2</sup>

### Compressive Strength

After 2 days: ≥ 7N/mm<sup>2</sup>

After 28 days: ≥ 50N/mm<sup>2</sup>

μ-Value: ≥ 100

Chloride Content: ≥ 0.002%

### Dynamic E-modulus after 90 days:

≤30,000N/mm<sup>2</sup>

Adhesive Strength: ≥ 3N/mm<sup>2</sup>

### Water impermeability at a water pressure of:

- a) 15m head of water (for 28days) Impermeable
- b) 70m head of water (for 24 hours) Impermeable
- c) 140m head of water on the  
Negative side for 200 hours Impermeable

## DISCLAIMER

*The use of this product is beyond the manufacturer's control, and liability is restricted to the replacement of material proven faulty. The manufacturer is not responsible for any loss or damage arising from incorrect usage. All workmanship must be carried out in accordance with AS 3740 - 1994.*

*The information contained herein is to the best of our knowledge true and accurate. No warranty is implied or given as to its completeness or accuracy in describing the performance or suitability of the product for a particular application. Users are asked to check that the literature in their possession is the latest issue.*

## PAREX DAVCO

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