

# Moisture Proof



If it's hardcore, it's DuraCore!

Moisture Proof is a single application; broom applied, concrete moisture proofer, densifier & curing agent designed for new or old concrete. It is a colloidal silica that penetrates to extraordinary depths, up to 200mm and beyond. Moisture Proof is successful in overcoming moisture problems and offers a permanent treatment against moisture vapour emissions and resulting damage to the concrete mass. Moisture Proof provides an excellent medium in the prevention of adhesive and or coatings failure due to excessive moisture, and does not affect surface bond quality in any manner. Moisture Proof can withstand hydrostatic pressure and can be effectively applied to either the positive or negative side of concrete structures.

## Description:

Moisture Proof is a clear - blue (dries clear) odourless, environmentally neutral, zero VOC / VOS penetrate in a colloidal liquid base.

## Basic Use:

When applied to already-set Portland cement concrete, Moisture Proof integrally seals, waterproofs, densifies, and preserves, attributes beneficial to concrete of any age, at any point during its useful life span. Moisture Proof provides concrete an effective chloride ion barrier preserving its embedded steel while removing potential for hostile contaminant ingress and significantly reducing vapour transmission rate effectively also preserving treated concrete's integrity. A Moisture Proof treatment further increases surface abrasion resistance, and surface acid / chemical damage resistance. As Moisture Proof penetrates extraordinarily deep into concrete, it prolifically reacts with interior ingredients, for example, free alkali or unused calcium hydroxide residue, and etc. These reactions prolifically convert Moisture Proof's unusually low solids colloidal liquid to a 100% solids specially formulated, very insoluble precipitate. Instantly providing additional density by becoming an integral part of the concrete, occupying its accessible porosity and other tiny voids, forming a breathable barrier which begins in concrete's transitional porosity, located beneath its large surface porosity and its small micro porosity, and deeper. The uniquely induced barrier generates no heat during its liquid to solids conversion, nor expansion pressures at any time. The internally generated pollutant barrier remains resilient and consists of pore sizes that are much smaller than concrete micro pores, significantly diminishing void percentages thus permeability, allowing concrete to retain ability to breathe, expand, and contract as it needs to. The internal barrier, complete with its extremely small porosity, greatly reduces or eliminates the transmission of gases such as radon. Moisture Proof halts/greatly retards, internal existing corrosive activities, re-moving electrolyte availability, as it supplements, densifies, waterproofs, strengthens, and internally detoxifies concrete without deleterious effect to external appearance or physical characteristics. A Moisture Proof treatment will

further enhance its surface bonding ability. Areas that are to be treated need only be closed during treatment, and may be reopened immediately after treating. However, where a surface coating is planned, wait at least 24 hours, following a Moisture Proof treatment then either sand or mechanically grind, removing purged salts, particles, sediments, and etc., if any. Surface may then be prepared to coating manufacturer specifications. Moisture Proof is excellent as a primer application for surface treatments. Moisture Proof addresses reasons for potential early coating failures such as alkaline capillary moisture accumulation, saponification, laitance effect, and etc. Since Moisture Proof is applied to old or new concrete without effecting surface quality, it may be used for the enhancement of all concrete installations, whether traffic bearing or not. Such as auto traffic pavements, bridge decks, parking garage decks, airport pavements, hydro dams, pavers, footpaths, driveways, parking lots, and etc. Moisture Proof arrests leakage through concrete even while occurring. For example, water storage reservoirs, water treatment tanks, or below grade concrete, and etc., with or without hydrostatic pressure. Moisture Proof will travel against water flow, when applied to negative side, permanently arresting the flow of water.

**As A Cure Method:** Moisture Proof is excellent as an alternative concrete curing method, providing a cure equal to, or better than water curing. Moisture Proof as a cure method provides concrete the usual benefits of a curing agent, plus, Moisture Proof provides special ingredients to the yet-available capillary mix water, waiting to participate in hydration reaction rates and processes. In the plastic or semi-plastic mix, reciprocating acceleration of hydration's reaction rates and processes, in turn generating increased volumes of cement paste / hydration product, in a significantly shorter period of time, utilizing all of the remaining capillary water and leaving none to later evaporate and leave void spaces. As a result of utilising all remaining capillary mix water, the concrete's capillary void spaces become more segmented and smaller than usual. Moisture Proof provides concrete a superior cure imparting extraordinary strength, surface hardness and impermeability, subsequently translating too greatly

improved durability. The Moisture Proof cure method provides concrete an especially formulated permanent sub-surface precipitate barrier containing pore sizes smaller than concrete's micro pores. Even further diminishing porosity / permeability effectively forcing gases such as radon to seek other avenues of escape, instead of passing through the concrete, where applicable. The Moisture Proof cure method leaves no surface residue to interfere with surface bonding quality, important where stripping or applying a topical. Utilizing Moisture Proof as an alternative cure method produces concrete significantly more waterproof, abrasion resistant, freeze damage resistant, dust resistant, acid / chemical resistant, etc.

## Installation:

### On Already-Set Concrete:

**Note:** *In hot climates, mist-wet the surface with water and remove any puddles prior to application.*

Apply Moisture Proof using a low pressure spray unit, complete with fan spray nozzle or pour and spread with a soft broom. Holding spray tip 150 mm from surface, apply Moisture Proof at minimum rate of 4.0m<sup>2</sup> per litre with an overlapping spray pattern of 50%. Begin application at the lowest elevation. For example, walls and slopes should be applied side to side, from the bottom up.

### As An Alternative Cure Method:

Apply with a low-pressure non-atomizing, spray apparatus such as a pump-tank sprayer or mechanical cure slurry pump, or alternatively by flooding on. Moisture Proof is ideally applied to the newly poured concrete surface as soon as is practical following its surface finishing phase. Should conditions require the surface to be walked on, for application, concrete should be allowed the time to adequately harden, so as not to imprint or mar its surface during application. Recommended minimum coverage rate as a cure method is 4m<sup>2</sup> per litre.

**Caution:** *Like many construction materials including fresh concrete Moisture Proof contacting glass should be flushed with water and not be allowed to dry, since glass may etch. Moisture Proof will dull the shine on shiny aluminum, however, aluminum's integrity will be otherwise unaffected.*

## Precautions:

1. Any coatings that may restrict access to the concrete's interior must be chemically or mechanically removed for Moisture Proof to penetrate.
2. Protect areas not intended for coverage.
3. Moisture Proof may etch glass or dull shiny aluminum and can be difficult to remove from other surfaces once it dries.
4. Do not apply on frozen substrate or when temperature is near freezing.
5. Moisture Proof's spray mist is not hazardous

to breathe. However, we do recommend the use of a face mask during application. Refer to MSDS.

6. For more information read Material Safety Data Sheet available at [www.duracore.com.au](http://www.duracore.com.au)

## Technical Data

**Physical:** Liquid

**Colour:** Clear - Blue

**Odour:** None

**Specific Gravity:** 1.10

**pH:** +/- 11.5

**Flammability:** None

**Toxicity:** None

**VOC / VOS Content:** none

**Surface Bond Quality:** Excellent

**Paint ability:** Excellent

**Clean-up solvent:** Water

**Environmental Impact:** None /Neutral

**R-Factor Increase:** Up to 20 percent

**Chloride Screen ability:** Excellent

**User Status:** Friendly

## Some Advantages

- Permanently Moisture Proofs Concrete
- Provides Internal Humidity Stability
- Further Restricts Vapour Transmission
- Preserves Matrix and Overall Integrity
- Increases Surface Abrasion Resistance
- Excellent as a Coating or Topping Primer
- Concrete Densifier
- Improves Thermal Resistance (R-Factor)
- Increases Strengths
- Zero VOC & VOS Content
- Prevents Water or free Moisture Migration
- Makes Ice Removal and Cleaning Easier
- Improves Dusting Resistance
- Improves Acid / Chemical Resistance
- Lowers Internal Chemical Reaction Potential
- Lowers Creep Deformation Potential
- Lowers Electrostatic Discharge Potential
- Improves Past Carbonation Effects
- Hydrostatic Pressure

