



MOISTURE-FIX[®]

Technical Data Sheet

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PERMANENT CONCRETE CURE MOISTURE CONTROL & PROTECTION

Description & Uses

Moisture-Fix[®] is a single pack one application, pour and spread, or low pressure spray system that deeply penetrates new or existing concrete, provides permanent waterproofing, curing and protection. Moisture-Fix[®] conforms to the moisture suppressant requirements as per NZ Floor Covering Standard: NZAS 1884-2013 & achieves the cure requirements of NZS 3109:1997 & NZS 3101:Part 1:2006

Features and Benefits

- Moisture barrier for impervious coating and coverings.
- Permanently waterproofs concrete from any direction.
- Makes concrete impermeable, increasing longevity.
- Exceptional densifier and hardener for concrete.
- Increases compressive strength.
- Resists freeze thaw damage.
- Retards efflorescence.
- Can be used on vertical or horizontal substrates.
- Zero VOC, environmentally friendly, user safe.
- Compatibility with most flooring systems.
- After trade friendly.
- 15 year warranty on new placed concrete.
- Minimum site disruption.
- Stabilises pH.
- Will cure concrete equal to water pond curing.
- Indefinite shelf life.

Physical and Chemical Properties

Appearance:	Low viscosity liquid.	Stability:	Stable under normal conditions.
Colour:	Clear Blue Hue	Chemical Stability:	Stable at normal temperatures and pressure.
Odour:	Almost none.	Thermal Decomposition:	No decomposition if used according to specifications.
pH:	Ca. 11.4.	Dangerous Reactions:	Strong exothermic reaction with acids. Reacts with light alloys to form hydrogen.
Vapour Pressure:	Not available.	Conditions to Avoid:	Avoid contact with incompatible materials.
Vapour Density:	Not available.	Materials to Avoid:	Acids, light alloys.
Boiling Point/ Range:	> 100°C @ 760 mm Hg.	Hazardous	No dangerous decomposition products known.
Solubility in Water:	Fully miscible.	Decomposition Products:	
Specific Gravity:	Ca. 1.10.		
Flashpoint:	Not applicable.		
Auto Ignition Temperature:	Product is not self igniting.		
Flammability Limits:	Not applicable.		
Viscosity:	Low.		

Subsequent Coverings and Coatings

Moisture-Fix penetrates the concrete and leaves the top surface porous. After 24 hours of the product being applied, a simple preparation of sanding, light grinding or blue pad is recommended to remove any laitance, efflorescence or any purged contamination off the concrete surface to prepare the substrate for any coatings, sealers or flooring systems. Always follow the coating, adhesive or covering manufacturers

recommendations and requirements. We can tailor a specification to a project, working in conjunction with our specification department and any floor covering, sealers or coatings manufacturer to deliver a seamless and time saving system.



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Recommended Substrate Conditions & Preparation

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Freshly Placed Concrete:	4.5m ² per litre if sprayed.
Existing Concrete:	4.5m ² per litre if sprayed.
New or Existing Concrete:	4.0m ² per litre if applied by pour and spread.

Important Notes:

1. Wax, paint, curing compounds or a burnished surface restricting access to concrete's interior must be chemically or mechanically removed for PROTECT CRETE[®] Moisture-Fix[®] to penetrate and work properly. To test for adequate porosity apply droplets of water on the concrete surface, if the droplets do not penetrate into the concrete within 2 minutes then Moisture-Fix[®] will not function properly and may be ineffective.
2. Areas of high porosity have a faster penetration rate. These areas appear dry immediately after applying and will require additional product.
3. Do not apply on frozen substrate or when temperature is below 3°C when getting colder.
4. Do NOT apply if rain is forecast within 3 hours.

5. Before applying any paint, adhesives or any other coatings, wait 24 hours after application with PROTECT CRETE[®] Moisture-Fix[®] and pressure wash or abraid and clean, then check visually to be satisfied purging has completed (If required a second or subsequent coats may be required). Always follow coating manufactures surface requirements.

6. Concrete being treated must be fit for purpose for proper function of Moisture-Fix[®]. Structural, control and cold joint or large cracks will not be repaired with a Moisture-Fix[®] application.

7. PROTECT CRETE[®] Moisture-Fix[®] may etch glass/tiles or dull brushed and shiny aluminium and can be difficult to remove from other surfaces once it dries. Cover and mask surrounding surfaces or rinse immediately if sprayed.

8. If you are treating an existing contaminated slab subsequent applications of Moisture-Fix[®] may be require to purge or lock up foreign material before the concrete is suitable for coating or covering. Contact your Protect Crete supplier for helpful application instructions.

Refer to MSDS available from www.protectcretenz.co.nz

Application Guide

On Existing Concrete:

Application can be by pour and broom spread or low pressure spray (pump up knapsack type) it is important that the product is distributed evenly by continuous working by soft broom in all directions to ensure the product is presented to all surface profiles. There is no need to put any pressure on the broom as it is only used to distribute the product evenly and if pressure is applied it tends to have the opposite effect of not leaving enough material on the surface.

Allow material to penetrate (drop into) the surface and if you find that some areas have totally dropped and some not, then distribute the excess product over the dry areas. Please note, on occasions, the concrete may be of poor quality and be very porous, which may require additional product to ensure that there is enough product to complete the capillary chemical gel forming reaction.

Using a soft broom, sweep and spread out puddled product as it penetrates. Do not allow product to puddle dry on the surface. If product gels on the surface remove with a squeegee.

As a Cure Method at Time of Pour:

Apply with a low-pressure non-atomizing, spray apparatus such as a pump-tank sprayer or airless set at 800psi. Allow material to penetrate (drop in) the surface and if you find that after an hour, that some areas have totally dropped and some not, then distribute the excess product over the dry areas using a soft broom. For optimum cure benefits it 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 set, so as not to imprint or mar its surface during application. Recommended minimum coverage rate as a cure method is 4.5m² per litre. Floor coverings and coatings can be installed after 14 days from placement and Moisture-Fix[®] application.

Caution: Like many construction materials including fresh concrete Moisture-Fix[®] contacting glass/tiles should be flushed with water and not be allowed to dry, since glass may etch. Moisture-Fix[®] will dull the shine on shiny aluminium, however, aluminium's integrity will be otherwise unaffected.

Hot & Cold Temperatures In hot or windy conditions, the concrete surface temperature or wind may dry out the product prematurely before it has a chance to drop in thoroughly, in this case it is advisable to mist spray the surface with water and apply Moisture-Fix[®] whilst the surface is damp but not puddled. This also helps with a relaxation of surface tension allowing a more efficient and faster penetration as well as premature evaporation or drying out. Moisture-Fix[®] should not be applied if the ambient temperature is below 3°C and falling. Moisture-Fix[®] is not affected at all by temperature change after 24 hours, not even in freeze thaw conditions.

Old Existing Concrete If there is old existing concrete and the moisture content is higher than 75%, all of the above procedures should be followed, however, there is normally a problem some where, broken pipes, hydrostatic pressure etc for old concrete to remain this wet. This cause should be investigated. Contact Protect Crete for further information as an additional coat or change of application procedure may be required.

Clean Up Clean up with water. Moisture-Fix[®] is alkaline and just like so many other materials which are commonly used in the home and building industry, such as wet concrete, cement mortar, some cleaning materials etc, Moisture-Fix[®] should not be allowed to dry on glass/tiles or polished aluminum as an etching effect will occur. It is important to cover first, or remove by water wash before drying occurs. Do not walk onto adjacent finished surfaces as making may be permanent.



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On Site Assistance

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TRAINING Protect Crete offer full product training and installation advice for Moisture-Fix® and the total Protect Crete range of moisture and protection systems.

- Head office
- On site
- Your premises

Call your local Protect Crete distributor to arrange this complimentary help today.

Additional Data and Precautions

Available in 5, 15, 205 and 1250 litre containers.

1. Any coatings that may restrict access to the concrete's interior must be chemically or mechanically removed for Moisture-Fix® to penetrate.
2. Protect areas not intended for coverage. Do not walk product onto any adjacent surfaces as marking may be permanent.
3. If Moisture-Fix® is being used as a cure medium on new exterior concrete and rain falls on the new concrete before there is time to apply Moisture-Fix®, then wait until the rain has stopped, squeegee off standing water and apply Moisture-Fix®.
4. Do not apply on frozen substrate or when temperature is near freezing. Only apply if temperature is 3°C and rising.

5. As good safety practice if spray applied we recommend the use of a face mask during application. Refer to MSDS.

6. Restrict access to areas being treated as surface may be slippery until all product has dropped in or removed from surface.

7. Do not apply by dipping broom or brush directly into the pail as this will contaminate the product. Only pour and spread or spray. Do not roller apply.

8. For more information read Material Safety Data Sheet available at www.protectcretenz.co.nz

Testing and Certifications

Middle Tennessee State University
Testing & Review



Test		Control Sample*	Moisture Fix Sample	Results Comparison
Designation	Property			
AS 1012.9 ASTM C39	Compressive Strength	28.9 MPa 4,191 psi	31.0 MPa 4,496 psi	7% Increase
AS 1012.8 ASTM C78	Flexural Strength	2.52 MPa 365 psi	2.89 MPa 419 psi	15% Increase
Chaplin Abrader	Abrasion Loss	2.47 mm 0.10 in	1.46 mm 0.06 in	41% Reduction
Surface Dusting		2.57 g/0.25 m ²	1.78 g/0.25 m ²	31% Reduction
ASTM C1202	Rapid Chloride Penetration	597 / 543 / 10,097 Coulombs	148 / 136 / 6,582 Coulombs	35% to 75% Reduction
HKHA B2.9	Sorptivity	0.164 mm/(min) ^{1/2}	0.010 mm/(min) ^{1/2}	94% Reduction
ACCI Water Permeability Test	Water Permeability	1.5 x 10 ⁻¹³ m/s	2.5 x 10 ⁻¹⁴ m/s	83% Reduction
USACOE C48	Water Permeability	NA	0 Leakage @ 30.5 m Head Pressure 0 Leakage @ 100 ft Head Pressure	
DIN 1048	Water Permeability	98.4 mm @ 0.33 hrs 3.9 in @ 0.33 hrs	5.5 mm @ 72 hrs 0.22 in @ 72 hrs	94% Reduction
ASTM C666	Mass Loss @ 300 Freeze/Thaw Cycles	4.8%	0.7%	85% Reduction

*Note – All control samples were moisture cured.

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For more information visit: www.protectcretenz.co.nz



PROTECT CRETE NZ Ltd
PO Box 10080, Rotorua Mail Centre
Rotorua 3046
Ph: +64 9 441 9003
Email: sales@protectcretenz.co.nz



GILT EDGE INDUSTRIES
CHC: 03 379 7067
AKL: 09 443 7067
Fax: 0800 103 649
Email: help@giltedge.co.nz

Technical & Sales Assistance
Email: sales@giltedge.co.nz
www.giltedge.co.nz