



# X<sup>220</sup> MOISTURE FIX<sup>®</sup>

## Technical Data Sheet

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## PERMANENT CONCRETE MOISTURE BARRIER

### Description & Uses

X220 Moisture Fix<sup>®</sup> is a single pack one application, pour and spread, system that deeply penetrates new or existing concrete, provides permanent waterproofing, curing and protection. X220 Moisture Fix<sup>®</sup> conforms to the moisture suppressant requirements as per AS1884-2012. It provides an effective moisture barrier for impervious floor coverings and coatings.

### Features and Benefits

- Moisture barrier for impervious coating and coverings.
- Permanently waterproofs concrete from any direction.
- Makes concrete impermeable, increasing longevity.
- Reduces shrinkage cracking
- Exceptional densifier and hardener for concrete.
- Increases tensile & 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.
- Minimum site disruption, trafficable after 2 hours.
- Stabilises pH.
- Will cure concrete equal to water pond curing.
- Warranty available on existing concrete up to 15 years.

### Physical and Chemical Properties

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

### Subsequent Coverings and Coatings

After 24 hours of the product being applied, a simple preparation of sanding 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.



## Recommended Substrate Conditions & Preparation

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**Freshly Placed Concrete:** 5m<sup>2</sup> per litre.

**Existing Concrete:**

**Spray applied:** 5m<sup>2</sup> per litre.

**Pour and spread:** 4m<sup>2</sup> per litre.

### Important Notes:

1. Wax, paint, curing compounds or a burnished surface restricting access to concrete's interior must be chemically or mechanically removed for X220 Moisture Fix<sup>®</sup> 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 X220 Moisture Fix<sup>®</sup> 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. Call for advice if applying during colder periods.
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 X220 Moisture Fix<sup>®</sup>. Pressure wash or abraid and clean, then check visually to be satisfied purging has completed (If required a second or subsequent coats may be necessary). Always follow coating manufactures surface requirements.

6. Concrete being treated must be fit for purpose for proper function of X220 Moisture Fix<sup>®</sup>. Structural, control and cold joint or large cracks will not be repaired with a X220 Moisture Fix<sup>®</sup> application.

7. X220 Moisture Fix<sup>®</sup> 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 X220 Moisture Fix<sup>®</sup> may be require to purge or lock up foreign material before the concrete is suitable for coating or covering. Contact your Oxtek supplier for helpful application instructions. Refer to MSDS available from [www.oxtek.com.au](http://www.oxtek.com.au)

## Application Guide

### On Existing Concrete:

Application can be by pour 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 in 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 or battery pack sprayer. 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. 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 **5.0m<sup>2</sup> per litre**. Floor coverings and coatings can be installed after 14 days from concrete placement and X220 Moisture Fix<sup>®</sup> application.

**Caution:** Like many construction materials including fresh concrete X220 Moisture Fix<sup>®</sup> contacting glass/tiles should be flushed with water and not be allowed to dry, since glass may etch. X220 Moisture Fix<sup>®</sup> 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 X220 Moisture Fix<sup>®</sup> 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. X220 Moisture Fix<sup>®</sup> should not be applied if the ambient temperature is below 3°C and falling. X220 Moisture Fix<sup>®</sup> is not affected at all by temperature change after 24 hours, not even in freeze thaw conditions.

**Existing Concrete** If the existing concrete's 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 Oxtek for further information as an additional coat or change of application procedure may be required.

**Clean Up** Clean up with water. X220 Moisture Fix<sup>®</sup> 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, X220 Moisture Fix<sup>®</sup> should not be allowed to dry on glass/tiles or polished aluminium 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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### Additional Advice and Precautions

Available in 15, 200 and 1000 litre containers.

1. Any coatings or burnished surface that may restrict access to the concrete's interior must be chemically or mechanically removed for X220 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. X220 Moisture Fix® may etch glass/tiles or dull shiny aluminium and can be difficult to remove from other surfaces once it dries.
4. Do not apply on frozen substrate or when temperature is below 3°C when getting colder. Call for advice if applying during colder periods.

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. Warranties are not available on concrete older than 15 years, call for advice.

8. 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.

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

### Warranty Registration

Call your Oxtek Solutions Office to arrange personal assistance and advice anywhere in Australia or New Zealand. We have technical expertise and experience to help and consult on your next project or help your existing project maintain time and budget. An issued warranty is project specific and will require us to provide consultation and a registered specification number. Call today.

Warranties are not available on concrete older than 15 years.

**TRAINING** Oxtek Solutions offer full product training and installation advice for X220 Moisture Fix® and the total Oxtek range of moisture and protection systems.

- Head office
- On site
- Your premises

Call your local Oxtek distributor to arrange this complimentary help today [www.oxtek.com.au](http://www.oxtek.com.au)

### Testing and Certifications



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 <sup>2</sup>	1.78 g/0.25 m <sup>2</sup>	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) <sup>1/2</sup>	0.010 mm/(min) <sup>1/2</sup>	94% Reduction
ACCI Water Permeability Test	Water Permeability	1.5 x 10 <sup>-13</sup> m/s	2.5 x 10 <sup>-14</sup> 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.

March 2013