



Technical Memo 104-MF re-issued 20th April 2008

## **PREPARATION AND INSTALLATION PROCEDURE**

**Moisture-Fix** is blue in colour and has been specially formulated to provide the installer the most cost effective method to eliminate the risks and problems associated with subfloor moisture problems. Moisture-Fix is a single pack ready to use (no mixing) deeply penetrating, safe, odourless easy to apply (simply pour & spread) liquid that allows early site access (foot traffic in one hour) and in most cases ready to accept floor prep and coverings in 24 hours.

### **NEW OR GREEN EXISTING CONCRETE**

**1** Moisture-Fix can be applied at the time of concrete pouring as soon as the surface is hard enough to walk on as a superior curing method that doesn't have to be removed and at the same time provides a harder dust free surface and permanent moisture proofing that will allow floor covering installation after 14 days from time of concrete pour. If the concrete is less than 14 days old and it is imperative to proceed, then please contact Protect Crete for technical advice and special information.

**2/ MOISTURE CONTENT** Moisture content and RH should be 7% or less and 85% or less respectively. Please contact Protect Crete for additional technical advice if readings are higher.

### **3/a CURING MEMBRANES & HIGHLY BURNISHED STEEL TROWEL SURFACES**

Check concrete for any evidence of curing compounds and surface porosity. This can be easily done by pouring a little water on the concrete and watch for penetration. If there is no sign of penetration or surface wetting at all, within say one - two minutes, then the concrete should be mechanically prepared by sanding, grinding etc, followed by thorough vacuuming to remove the curing membrane and dust and create surface porosity to allow Moisture-Fix to penetrate. If you are unsure, please contact Protect Crete for further technical advice. (The removal of any curing membrane is of course required for any other product or preparation as described in the Australian Standards.)

**3/b** If there is no evidence of the presence of a curing membrane and there is a surface porosity, then it is equally important to mechanically prepare the surface by sanding or grinding etc. followed by thorough vacuuming to expose a clean, sound, open surface, ensuring that all laitance, plaster, paint, dust etc is removed to allow full efficient penetration of Moisture-Fix. Of course this is basically a preparation procedure commonly used every day as a standard practice required by most flooring products and as laid out in the Australian Standards.

**4/ CRACKS** Cracks are always a problem for the installer. So often the client is asking for the installer to take risks and responsibility for repairing cracks that should be referred to the engineer or builder for a recommended crack repair procedure that takes away the responsibility of possible failure from the installer. This is especially the case in regards to structural cracking where the void is full depth of the concrete. In this case, Moisture-Fix should be applied first before applying your normal crack repair system. In most cases, cracks are not full depth and are only micro or surface cracking, commonly caused by rapid surface drying or plastic shrinkage which would be not effect the efficiency or the result of Moisture-Fix. It is worth noting that Moisture-Fix is not designed or makes claim to fix cracks, however there are many applications where moisture has migrated through cracks of 1mm (even with hydrostatic pressure present) that have been eliminated permanently. If you do have major cracking and are directed to proceed by the client, then we would suggest that you make up a floor plan showing the location of cracks etc and keep it filed, just in case there are some demarcation problems down the track.

**5/ COVERAGE & APPLICATION** Moisture-Fix has been specifically formulated as a one coat pour & spread product, keeping cost, convenience and ease of application in mind for the installer for those smaller to medium areas and recommend that Protect Crete Densi-Proof is used and applied by airless spray method for maximum application time savings for the very large areas. Do not dip brush or broom directly into the Moisture-Fix pail as concrete dust contamination will occur which will effect the product chemistry and shelf life. Contact Protect Crete for further information and assistance.



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In most cases, depending on the Concrete porosity, one litre of Moisture-Fix will treat approximately 4 m<sup>2</sup>, Moisture-Fix is packaged in 10 litre = approximately 40m<sup>2</sup> & 20 litre = approximately 80m<sup>2</sup> pails with re-sealable lids fitted with retractable and re-sealable spouts (20 litre only) for easy pouring or dispensing. It is important to ensure you achieve the correct coverage rate and suggest that measurements are taken and with the larger type areas, that grids are made, to help with accurate product distribution. Most contractors have found it easier to decant into say 2 litre measuring jugs and distribute that over 8 m<sup>2</sup> and spread as they go along. Naturally you will find a method that works best for you, which ever method you choose, it is important that the correct coverage rate is obtained. It is important that product is applied to achieve surface saturation.

Application can be by pour or low pressure spray (pump up knapsack type) however 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 in) the surface and if you find that say after an hour, 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.

**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. 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 2 Degrees Celsius. 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 say 5 or 5.5%, all of the above procedures should be followed, however, there is normally a problem somewhere, (broken pipes, hydrostatic pressure etc for old concrete to remain this wet. Contact Protect Crete for further information as an additional coat or change of application procedure may be required.

**SAFETY PRECAUTIONS** Moisture-Fix is water based, safe to use, it contains no VOC, is odourless, completely user and environment friendly. It contains no solvents and has the viscosity of water.

**CLEAN UP** Clean up with water, however, 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 or polished aluminum as an etching effect may occur. It is important to cover first, or remove by water wash before drying occurs.

**SHelf LIFE** Unlike so many other products, Moisture-Fix has a virtual unlimited shelf life which allows the installer to reseal after each use and have it on hand for use at any time when needed. Saves worrying about waste or being caught out on jobs that require long travel time or trying to acquire product after hours.

**TRAINING** Protect Crete offer full product training and installation advice for Moisture-Fix and the total Protect Crete range of moisture and protection systems. Although we conduct regular installer training sessions at our premises, we can certainly arrange to give installer training sessions at your premises if required. We also offer on site inspections and recommendations as part of our service as well.

## **PREPARATION FOR FUTURE COATINGS, FLOOR PREP AND FLOOR COVERINGS**

As mentioned, Moisture-Fix deeply penetrates concrete up to 200mm and beyond and amongst other things, it fills all of the capillaries with a passive non destructive colloidal gel which forms a permanent non penetrative barrier from within the concrete matrix, stopping moisture migration in or through including hydrostatic pressure from an outside source. Moisture-Fix locks up moisture and purges any excessive moisture or contaminants to the surface. In most cases it is only a matter of sanding and vacuuming the surface after 24 hours to remove any of these contaminants or excess



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material which may have dried to expose a clean sound concrete surface. This is also vitally important as it removes any trace of high alkalinity that may affect priming or adhesive materials. This is a common practice that should be adopted at all times when preparing new or green concrete.

On some occasions, where there has been excessive water used in the concrete or you are trying to lay coverings say in 7 days or less after the concrete was installed, you may notice a fair amount of moisture on the surface, however don't be alarmed by this as it shows that Moisture-Fix is only doing as intended by purging out excess water that is not needed for the Hydration process and if left without treatment, it would have to evaporate under normal conditions which may delay installation for months. If there is evidence of excess water on the surface, it may take extra time for the process to be complete and dry out. We should make the point, that this happens only rarely and if you have any queries at all, please contact Protect Crete Tech Dept. for assistance.

The unique formulation of Moisture-Fix has been specifically designed to moisture proof concrete and at the same time achieve and maintain an approximate 2mm surface porosity to accept acrylic primers etc that are commonly used in the flooring industry. After the final sanding and vacuuming of Moisture-Fix treated concrete has taken place, you will notice this porosity and the floor is ready to proceed with floor Prep etc. Although, there are many types of adhesives and levelling compounds/repair mediums that are used directly on the prepared surface, some certain water based, hard set type adhesives may require some levelling compound applied first to enable the adhesive moisture content dissipation and correct tack off time.

**SURFACE POROSITY** If the concrete is very dense ( high quality ) in surface and matrix make up, you would normally have to apply some levelling material to accept water borne hard set type of adhesives to allow moisture dissipation and correct tack times whether our material was used or not. In other words, on this type of concrete, because of the size and molecular shape of our material, it would normally penetrate and complete its purpose and after sanding and vacuuming to remove any contaminants that may have been purged, or some excess material that has dried on the surface, you would be left with the same dense surface you started with, which would require some surface prep as previously mentioned. In other words, it is not all about the effect of our product, but also the original density of the substrate.

Whilst we would like to give advice regarding preparation, priming, leveling repair mediums and adhesives, unfortunately, as there are so many variables to be considered in the selection of the correct floor preparation and adhesives required for various floor coverings and specific uses, we strongly suggest that you contact your leading material manufacturers in your state for the correct advice, as legally we cannot make any suggestions on behalf of any other Company as any comment made regarding this could be misconstrued and lead to demarcation and legal problems in the future.

However, it is worth pointing out that there has been hundreds of thousands of square metres of successful installations carried out with a wide variety of preparation materials, adhesives, coatings and floor coverings from the leading manufacturers of these materials with total success, ranging from the large supermarket project etc, retail stores and small domestic kitchen.

**MOISTURE-FIX HAS BEEN DESIGNED TO GIVE THE INSTALLER THE MOST COST EFFECTIVE  
MOISTURE PROTECTION SYSTEM AVAILABLE TODAY.**

**SAVING YOU TIME AND MONEY AND PROVIDING PEACE OF MIND!**



THE NAME  
SAYS IT ALL

MOISTURE-FIX™

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### QUESTIONS & ANSWERS

**Q/ Can Moisture-Fix be applied to wet surfaces?**

**A/** Yes, providing there is no free or pooled water. This means that you can pressure clean and still apply after the free water is gone.

**Q/ What coverage rate do I get with one litre?**

**A/** Approximately 4m<sup>2</sup> per litre, however, some very porous poor quality concretes may require more product to enable the sufficient chemical reaction to achieve total results.

**Q/ Will one coat be sufficient?**

**A/** Yes in the majority of cases. It may require an additional coat where Hydrostatic Pressure is evident or on old concrete where there is unusually high moisture readings.

**Q/ Can I install on concrete that is less than 14 days old if I am forced to?**

**A/** Yes, however contact Protect Crete for further information and advice.

**Q/ What is the moisture levels and age of concrete recommended before applying Moisture-Fix?**

**A/** Concrete should be 14 days old , 7% or 85% RH. If figures are out of this range. Contact Protect Crete for additional information and procedures.

**Q/ Do I have to remove curing membranes?**

**A/** Yes, as you would with any other material and as laid out in the Australian Standards. Surface must have some porosity to allow penetration. Pour a little water on surface to test for porosity.

**Q/ Does treated concrete require special primers or Prep. before applying floor prep. materials?**

**A/** Generally no, as most leading brands have been successfully applied. Contact Protect Crete or the leading brand Manufacturers for their recommendations. Floor must be sanded and vacuumed to remove all the possibility of alkaline laitance purged, excess dried material or any other contamination.

**Q/ What is the shelf life and can I reseal the pail for further use in the future?**

**A/** Moisture-Fix has virtually an unlimited shelf life and comes in pails with re-sealable lids fitted with re-sealable and retractable spouts (20 litre only) for easy dispensing. The long shelf life allows for product to kept on hand for convenience and just in case an unexpected moisture job comes up. Do not apply by dipping broom or brush directly into the pail as this will contaminate and possibly destroy the chemistry make up. Only pour and spread.

**Q/ Does Moisture-Fix require mixing and special clean up procedures?**

**A/** Moisture-Fix is ready to use, no messy mixing or clean up required. Simply wash with water.

**Q/ Is Moisture-Safe to use?**

**A/** Moisture-Fix is totally user and environment friendly, odourless, zero VOC. MSDS sheet available.

**Q/ What precautions if any should I take?**

**A/** As Moisture-Fix is alkaline, like so many other products commonly used in the building industry such as wet concrete, cement mortar, cleaning chemicals etc. may cause some slight surface etching effect on glass or polished aluminum if allowed to dry before rinsing with water. Best to mask or protect from product drying on the surface. If contact is made wipe off with water and dry with clean cloth.

**Q/ Will Protect Crete assist with technical training and provide site visits if needed?**

**A/** Yes, Protect Crete will provide service, training and assistance to ensure you of successful installations.

**Q/ How long do I have to interrupt site access and how long before I can walk on the surface?**

**A/** Normally, the area is trafficable in one hour. Where as most other systems are closed to foot traffic and general site access for 24 hours and in some cases 72 hours.

**Q/ Will dropping tools etc on the surface damage the moisture proofing ability?**

**A/** Unlike many other products that form a topical type membrane that if perforated, it basically renders the system ineffective, Moisture-Fix penetrates deep inside the concrete matrix and allows drilling, nailing and surface damage to occur without affecting its moisture proofing performance.

**Q / Can I apply adhesives and levelling, repair mediums directly to concrete treated with Moisture- Fix?**

**A /** The unique formulation of Moisture-Fix has been specifically designed to moisture proof concrete and at the same time achieve and maintain an approximate 2mm surface porosity to accept acrylic primers etc that are commonly used in the flooring Industry. After the final sanding and vacuuming of Moisture-Fix treated concrete has taken place, you will notice this porosity and the floor is ready to proceed with floor Prep etc. Although, there are many types of adhesives and levelling compounds/repair mediums that are used directly on the prepared surface, if the concrete is very dense ( high quality ) in surface and matrix make up, you would normally have to apply some levelling material to accept water borne hard set type of adhesives to allow moisture dissipation and correct tack times whether our material was used or not. In other words, on this type of concrete, because of the size and molecular shape of our material, it would normally penetrate and complete its purpose and after sanding and vacuuming to remove any contaminants that may have been purged, or some excess material that has dried on the surface, you would be left with the same dense surface you started with, which would require some surface prep as previously mentioned. In other words, it is not all about the effect of our product, but also the original density of the substrate.

As mentioned previously, legally we cannot speak on behalf of other manufacturers and strongly suggest you contact the product manufacturers for their product recommendations for the required purpose, as there is so many different types of adhesives etc manufactured for particular and specific uses.

**IF UNSURE ABOUT ANY POINT OR PARTICULAR PROCEDURE, PLEASE CONTACT  
PROTECT CRETE TECH DEPARTMENT FOR ASSISTANCE AND FURTHER ADVICE**