



### Description

Miraharden+ is an advanced economical, hardener and densifier for concrete surfaces and a much more effective alternative to conventional sodium or potassium silicate hardeners. This patented lithium silicate treatment deeply penetrates and reacts with the concrete to produce insoluble calcium silicate hydrate within the concrete pores. Conventional hardeners deposit high concentrations of sodium or potassium salts, which contribute to surface ASR, resulting in deterioration of concrete. Surfaces treated with Miraharden+ will resist damage from water and surface abrasion, eliminate dusting and simplify maintenance.

Typically this product is used on new slabs either at the time of placement or after a wet cure, chemical cure or after 28 days of curing or construction. Miraharden+ can also be used on a previously densified floor where sodium or potassium was used at one time and the surface is starting to dust or deteriorate.

### Benefits

#### Excellent Penetration

Miraharden+ contains a highly reactive lithium catalyst, which achieves a much greater penetration into the floor surface and triggers a much faster and more complete reaction with the concrete than traditional sodium silicate.

#### Durability

Miraharden+ will outlast any other sodium or potassium densifiers. Miraharden+ contains chemicals heavy in silica which reacts with calcium hydroxide in concrete to densify and harden the micro-pores in the top layer of the concrete,

known as wear zone, creating a permanent impregnation of the concrete floor. Miraharden+ is breathable, UV stable, does not yellow, discolour, peel or flake.

#### Greater Abrasion Resistance

Treating concrete floors with Miraharden+ significantly improves abrasion resistance, in comparison to conventional sodium or potassium hardeners.

#### Eliminates Dusting

In ordinary concrete, tiny particles of dust are pushed to the surface through an upward force called hydrostatic pressure, resulting in efflorescence, which leads to dusting. Miraharden+ eliminates efflorescence and prevents dusting making the concrete easy to maintain.

#### Reduces or Eliminates ASR

Due to the high Lithium content of Miraharden+, ASR (Alkali Silicate Reaction) is reduced. High concentrations of sodium or potassium salts, which contribute to surface crazing and surface ASR, are not present in Miraharden+. Lithium will not absorb water or contribute to floor sweating.

#### Reduces Tire Marks

The rough, uneven texture of natural concrete causes tires to abrade, adding to their wear. A concrete floor treated with Miraharden+ will make the entire surface smooth, preventing this abrasion and leaving minimum tire marks on the floor.



### Improves Condition of Old Floors

As concrete ages, surface stress, delaminating, curled cold joints, and other problems can arise. Mirafloor liquid hardeners/densifiers, combined with our customised grinding and polishing technique, can remove the top surface layer of the old concrete and strengthen the floor, increasing its impact and abrasion resistance.

### Little or No Production 'Down Time'

Miraharden+ cures quickly. The floor can be put into service immediately after the application process is complete. Due to the cleanliness of the process and the lack of toxic or hazardous chemicals, floors can often be serviced while the building/facility is in full operation.

### Cost Effective

Miraharden+ improves performance, appearance and light reflectance of new and old floors, leading to reductions in energy used for lighting. A treated floor will lower maintenance costs significantly through reduction in upkeep compared to topical sealers, and reduced tyre wear.

### Environmentally Safe

Miraharden+ is water-based, contains no solvents, is non-toxic, has no smell and complies with all known state and national environmental laws.

## Surface Preparation

Remove all curing compounds and other surface contaminants using a surface preparation cleaner compatible with Miraharden+

### Surface

Application of Miraharden+ may begin as soon as prepared surfaces are dry and free of ponded water. Do not apply to surfaces which are frozen, dirty, or have standing water.

Protect people, vehicles, property, plants and all nearby surfaces not to be treated from contact with the product including contact resulting from wind drift or overspray.

Surfaces must be clean, dry and absorbent. Confirm surface absorbency with a light water spray, noting penetration into the surface.

Always prepare a test sample to ensure that the desired results are achieved on the specific substrate.

### Equipment

Use a low-pressure sprayer and soft-bristled push broom, squeegee or microfibre pad.

### Air and Surface Temperature

The air and surface temperature should be between 4°C and 38°C.

## Application Instructions

ALWAYS TEST each surface for suitability and desired results before application. For best results follow the Application Instructions. Let the surface dry thoroughly before inspection and final approval.

### Coverage Rates

Freshly placed, uncured, steel troweled concrete: 12.5-20

m<sup>2</sup>/L

Cured, steel troweled concrete: 10-17.0 m<sup>2</sup>/L

Cured, ground/honed concrete: 10-15 m<sup>2</sup>/L

Please note: Coverage rates are offered for estimating purposes only. Variations in concrete quality, porosity, job site conditions, temperature and relative humidity will affect coverage rates and drying times.

### Drying Time

30 minutes to 1 hour, depending on weather conditions and concrete porosity.

### Freshly Placed, Uncured Steel-Troweled Concrete

1. Using a low-pressure sprayer fitted with an adjustable spray tip, apply a single coat of Miraharden+ at a rate sufficient to cover the surface without producing puddles. Treated surfaces should stay wet for 5-10 minutes following the initial application. Uniformly spread the product in a thin layer using a microfibre pad. The microfibre pad should be pre-moistened with Miraharden+ prior to use. Treat porous areas that dry in less than 5-10 minutes with additional Miraharden+.

2. Using a squeegee, water rinse or automatic floor scrubber, collect and remove all residues which does not penetrate after 15 minutes.

3. Failure to remove excess material may result in extended drying times and a dry powder residue resulting from liberal application of Miraharden+.

4. Let treated surfaces dry thoroughly, typically 30 minutes to 1 hour. Remove any dried powder residue from the surface using a stiff broom, power sweeper or floor-scrubbing machine.

5. Immediately apply the specified curing compound or initiate the specified curing procedure.

### Cured, Steel Troweled Concrete

1. Remove all dirt, debris, or curing compounds. Allow clean surface to dry.

2. Confirm surface absorbency with a light water spray. Ensure the prepared surface is uniformly wet and in hot, dry weather, lightly pre-wet the concrete with fresh water. Allow any standing water to evaporate.

3. Follow steps 2 – 6 as described in 'Freshly Placed, Uncured Steel-Troweled Concrete'.

4. Clean tools and equipment immediately with fresh water. Immediately wash with water over sprayed glass, aluminum, or other surfaces.

## Maintenance

Use Mirafloor Maintenance, a high quality and lithium based solution, to clean and maintain the lithium treated surfaces. This product was developed to further enhance the long-term performance of the finished concrete floor.

Do not use acidic cleaners to maintain treated floors. Although Miraharden+ will improve the stain resistance of concrete; some acid concentrates and acidic foods may etch and leave a residual stain if left on the surface. Clean up all spills quickly to minimise any possible damage.

Regular maintenance cleaning will improve surface shine. To maintain gloss surface, dry buff periodically with high-speed burnisher and heat or diamond-impregnated burnishing pads.



## Safety Information

### First aid

Ingestion: Drink large quantities of water or milk. DO NOT induce vomiting. Seek medical attention immediately.

Eye Contact: Remove any contact lenses. Immediately flush eyes for 15 minutes in clear running water while holding eyelids open. Seek medical attention immediately.

Skin Contact: Wash contacted area with soap and water. DO NOT attempt to neutralise with chemical agents. If irritation persists, seek medical attention.

Inhalation: Remove affected person to fresh air. Wash mouth and nasal passages with water repeatedly. If breathing difficulties persist, seek medical attention.

## Warranty

Your Miraharden+ finished concrete floor will NOT generate concrete dust if the products are installed correctly and maintained by following the Owner's Manual recommendations. Mirafloor warrants that the treated concrete surface will remain hardened, dust proof and abrasion resistant. This warranty is valid to concrete surfaces structurally sound and only when treated with Mirafloor products by a certified Mirafloor applicator.

## Limitations

All information provided is accurate to the best of our knowledge and is to be used strictly as a guide. Handling conditions, installation and use are not in our control therefore we cannot guarantee the results.

- Miraharden+ does not meet AS3799 curing standard. To meet this standard and create a membrane, use a dissipating, water-based curing agent.
- Will not repair damaged surfaces and cracks .
- Not recommended for use on plastic concrete, mortar, resin-based terrazzo mixes, painted or asphaltic surfaces and non-cementitious surfaces.

## Recommendations

The Miraharden+ recommendations for surface preparation and product application must be followed. Consult Mirafloor regarding applications in extreme weather conditions.

All loose construction debris and foreign materials must be removed from the area to be treated using a dry broom. All curing compounds, coatings, paint, wax, embedded soiling, rust, grease and oil must be removed to allow penetration.

Confirm surface absorbency with a light water spray. If surfaces selected for treatment do not wet uniformly, additional surface preparation may be needed.

For subsequent coating applications, perform proper surface preparation and consult the Mirafloor for more instructions.

## Typical properties and application data

Form:	Clear liquid soapy odour
SPECIFIC GRAVITY:	1.05
ACTIVE CONTENT:	6.0%
TOTAL SOLIDS:	6.0%
pH:	11.0
WT/L:	1.03Kg
FLASH POINT:	Non Flammable
FREEZE POINT:	0°C
VOC CONTENT:	<20g/L
SHELF LIFE:	2 years in unopened, factory sealed container

Refer to Material Safety Data Sheet for precautions and personal protection.

Disclaimer: Any advice, recommendation, information, assistance or service provided by Mirafloor in relation to goods manufactured or supplied by them or their use and application is in good faith and is believed by Mirafloor to be appropriate and reliable. However, any advice, recommendation, information, assistance or service provided by Mirafloor is provided without liability.