

# HYDROC H3 CATALYST

**Hydroc H3 Catalyst** is a highly active penetrating waterproofer, corrosion inhibitor, and durability enhancer for concrete, based on Aardcure Catalyst technology. Chloride- and silicate-free, it catalyses new growth in pores, micro and macro cracks of new and existing concrete, significantly improving concrete durability and waterproofing. Hydroc H3 Catalyst penetrates deep into surfaces and voids, promoting new cementitious growth, increasing abrasion resistance, passivating reinforcement, and reducing permeability to water and chemicals.

## Applications:

- Treatment of micro and macro shrinkage cracks, up to 0.3mm wide
- Primer for Hydroc waterproofing and repair mortars
- Surface hardening and abrasion resistance of concrete surfaces i.e. floors, roads, bridge decks etc.
- Reduces moisture vapor transmission and resists hydrostatic pressure in concrete slabs
- Enhances adhesion of applied coatings
- Water retention agent for new hardening concrete.

## Performance:

Reactions within the concrete remain active for at least 28 days and become a permanent part of the structure.

## FEATURES AND BENEFITS

As a performance and durability enhancer of existing concrete structures, Hydroc H3 Catalyst:

- Increased density and hardening of the surface layer
- Stops surface dusting
- Increases impermeability, chemical resistance and durability
- Restores the protective properties of the concrete against reinforcement corrosion
- Reduces moisture vapour transmission and hydrostatic pressure from positive and negative sides
- Durability enhancer for brickwork joints.

On new hardening concrete, Hydroc H3 Catalyst:

- Reduces water loss by approximately 20%
- Promotes efficient cement hydration
- Stops surface dusting
- Reduces surface shrinkage cracking and microcracking
- Increases surface hardness, impermeability and durability
- Enhances concrete protective properties against steel reinforcement corrosion

- Reduces hydrostatic pressure from positive and negative sides.

As a primer for most cementitious renders and polymeric coatings, Hydroc H3 Catalyst:

- Increases the adhesive bond strength of the renders and polymeric coatings.

## PROPERTIES OF TREATED CONCRETE

Friction Abrasion Resistance according to Russian Federation Standard 13087 (Analogue of DIN 52108):	Mass loss is reduced by up to 40 times
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Impact Abrasion Resistance according to AS/NZS 4456.9-2003:	Abrasion resistance is increased
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Chloride Ion Diffusion according to NT Build 443 1995 – 11:	Reduced approximately two times
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Reinforcement Corrosion Inhibition according to Polarisation Curves Method:	Steel reinforcement is passivated and hence corrosion is inhibited
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Water Absorption according to Taywood Engineering Test:	Absorption is decreased by approximately 20%
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Water Retention for new hardening concrete according to AS 3799-1998:	Water loss is reduced by approximately 20%
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Slip Resistance according to AS/NZS 4586-2004:	Unchanged by treatment.
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## APPLICATION GUIDELINES

### Surface Preparation

Surfaces must be clean, dry and free of ponded water prior to application.

Clean the surface to remove any dirt, laitance, previous coatings or curing agents that may prevent penetration of the material. Ensure all residual cleaning agents or strippers are removed and surface is flushed with clean water and allowed to dry thoroughly. Minimum preparation of pressure washing at a minimum of 2000psi is recommended.

Crack voids to be treated should be cleaned with compressed air at a minimum.

Confirm absorbency of surface with a light water spray, ensuring penetration into the surface is achieved.

## Application Method

### 1. Surface Treatment (Hairline Cracks and Microcracks up to 0.3mm Wide)

- Apply to a dry surface using a low-pressure sprayer with an adjustable tip.
- Apply a single, even coat at a rate of approximately 1L per 3m<sup>2</sup> or until full saturation is achieved.
- For highly porous or degraded surfaces, reapply after 2 to 4 hours with additional Hydroc H3 Catalyst.

### 2. Shrinkage and Structural Cracks (0.3mm to 2.0mm Wide)

- Use a low-pressure sprayer with an adjustable tip to saturate all visible cracks.
- Spray a saturating coat over the entire surface at approximately 1L per 3m<sup>2</sup>.
- Once the surface turns from wet to damp, fill cracks with a specialized cementitious repair powder Hydroc Reinstare:
  - Sweep or rub the powder into the cracks
  - If the powder settles into the cracks, repeat the process until all cracks are fully filled
  - Vibration of the area may be beneficial for larger cracks as required
  - Mist Hydroc H3 Catalyst over the filled cracks to complete the treatment.

### Recommended Repair Products:

- For cracks up to 1.5mm wide - use Hydroc Reinstare
- For cracks up to 2.0mm wide - use Hydroc TCR Crack Repair.

### As a Primer:

- When using as a primer for Hydroc waterproofing and repair mortars, apply multiple coats as needed to fully wet the surface
- Apply cementitious render or mortar once the surface is damp but free of puddles.

### 3. Freshly Placed Concrete

- For application after initial set (once bleed water has evaporated):
- Apply after final trowel finish, ensuring the surface is clean and dry
- Cut joints prior to application and remove dust and debris
- Cure the concrete according to industry standards after applying Hydroc H3 Catalyst
- For burnished or tightly trowelled concrete Aardcure Catalyst is recommended.

### Drying Time:

Allow treated surfaces to dry for 30 to 60 minutes before applying additional treatments such as curing agents.

## CURING TIME

Curing time of Hydroc H3 Catalyst is not applicable. Treated concrete can be put into service to vehicle and foot traffic as soon as the surface is dry.

If using Hydroc Reinstate or TCR Crack Repair methods, allow the cementitious material to fully harden prior to traffic.

## ESTIMATING DATA

Recommended application rate is 3-5m<sup>2</sup>/L  
Coverage for a single coats application is 60 to 100m<sup>2</sup> per 20 litre drum.

The properties of the substrate such as porosity, profile degradation will influence the coverage rate and number of coats required.

## VOC COMPLIANCE

Low VOC <10g/L.

## CLEAN UP

Clean tools and equipment thoroughly with clean water before they dry.

## PACKAGING

20L plastic cube, 1000L IBC.

## SHELF LIFE

1 year in unopened, factory sealed container, stored safely at temperatures between 5°C-35°C.

## SAFETY PRECAUTIONS

Always wear adequate personal protection during use including gloves, eye protection, overalls and appropriate mask. Apply in adequate ventilation. Refer to Material Safety Data Sheet for further safety information.

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