DRYVATEC®
waterproofing technology

Crystal 2K
Application Guide

Waterproofing that forms crystals within the concrete section — from surface preparation to the end of curing.

AGAINST WATER PRESSURE | POTABLE WATER SUITABLE | SELF-HEALING

N102 CRYSTAL 2K

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BEFORE YOU START

Set contents

- Powder component — 25 kg kraft bag
- Liquid component — 2 kg container

Also required

- Clean water — 5 L per set
- Low-speed mixer (400 rpm) and mixing container
- Stiff brush (not a trowel)
- R101 Repair Mortar — for cove fillets and surface repair
- L101 iLatex — adhesion additive (optional)
- Gloves, eye protection, dust mask

Application conditions

Ambient temperature	+5 °C / +25 °C
Mix	2 kg liquid + 5 L water + 25 kg powder
Maturing	5 minutes standing
Number of coats	Minimum 2
Interval between coats	Maximum 6 hours
Water pressure	With and against the pressure
Consumption	2 – 4 kg/m²
Full cure	7 days

STOP ANY ACTIVE LEAK FIRST

Flowing water washes away mortar that has not yet set and crystal formation does not begin. Where there is seepage, the flow must first be stopped with N111 Stop (pressurised point leaks) or N112 Stop F (tie-rod holes, larger voids).

APPLICATION STEPS

1 Open up and clean the surface

Remove form oil, laitance and loose particles completely. Clean off form and concrete protrusions mechanically. The surface must be sound, load-bearing and with open pores.

The coating penetrates the concrete; crystals cannot form on a closed or polished surface.

2 Repair corners and defects

Round off external corners mechanically. Form a 40 × 40 mm cove fillet at internal corners with R101 Repair Mortar. Make good defects deeper than 5 mm with R101; adding 5 – 20 % L101 iLatex by cement weight improves adhesion.

A sharp internal corner is the weakest point of the coating — the cove fillet is mandatory.

3 Saturate the surface with water

Saturate the surface with water one day before application and re-wet it immediately beforehand. Crystal formation requires water — in unsaturated concrete the reaction does not begin and the coating dusts.

No standing water may remain: damp, not wet.

4 Prepare the mix

Empty the liquid component into a clean container, add 5 L of clean water and stir. Then add the powder component slowly so that no lumps form. Mix to a homogeneous consistency at 400 rpm, leave to mature for 5 minutes, stir briefly again and put into use.

The powder must not be added to the water on its own; the liquid component and the water are combined first.

5 Apply the first coat with a brush

Apply the mortar to the pre-saturated surface with a stiff brush. The brush drives the material into the pores; a trowel is not used.

Use within the pot life; do not add water to mortar that has begun to set.

6 Draw the second coat perpendicular

Apply the second coat once the previous layer has gained sufficient strength without losing its moisture. Draw it perpendicular to the previous one. The interval between coats must not exceed 6 hours; if more than 12 hours have elapsed, re-wet the surface.

Coats drawn in the same direction leave thin spots along the brush marks.

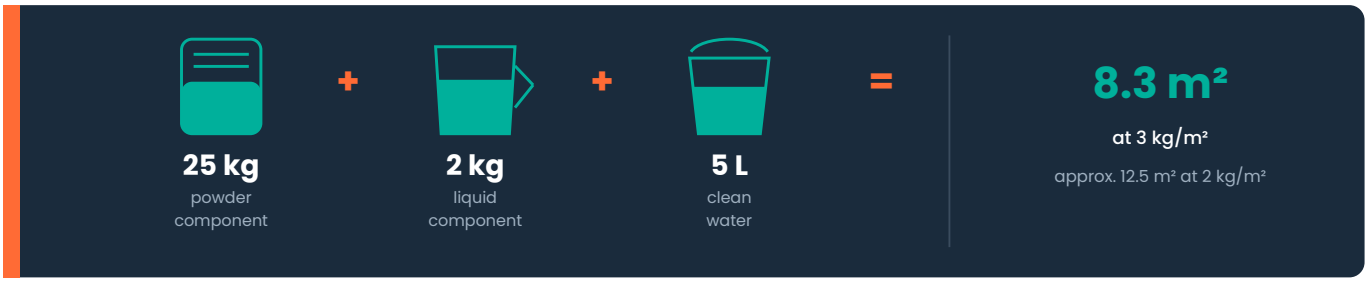
7 Cure

Protect the surface from frost, direct sun and wind for 24 hours. Keep it damp for the first 3 days; early drying interrupts crystal formation. Full cure takes 7 days.

In crystalline systems curing is as decisive as the application itself.

PREPARING THE MIX IN DETAIL

Crystal 2K is prepared as a single batch using the entire set. The ratio of the three components is fixed.



The diagram shows the contents of one batch. The mixing sequence is different: the liquid component and the water are combined first, and the powder is added last, slowly, to avoid lumping.

APPLICATION CONDITION	COATS	CONSUMPTION	COVERAGE PER 25 KG SET
Even concrete, low water pressure	2	2.0 kg/m²	approx. 12.5 m²
Standard application	2	3.0 kg/m²	approx. 8.3 m²
Absorbent surface, negative pressure	3	4.0 kg/m²	approx. 6.2 m²

On surfaces subject to water pressure from the opposite side the upper value should be used; an allowance of 10 % is recommended when estimating.

WATER TANKS AND POTABLE WATER RESERVOIRS

01 Surface preparation and cove fillets are completed with R101.

02 At least two coats of Crystal 2K are applied.

03 7 days of full curing are observed.

04 The tank is filled in stages and the level is monitored.

DISINFECTION IS MANDATORY

In potable water reservoirs, disinfection with a hypochlorite solution must be carried out at least 7 days after application and repeated annually.

The product is suitable for contact with drinking water; the disinfection step must nevertheless not be omitted.

POST-APPLICATION CHECKS

- ☐ 40 × 40 mm cove fillets formed at internal corners.
- ☐ Surface saturated with water before application.
- ☐ At least two coats applied.
- ☐ Second coat drawn perpendicular to the first.
- ☐ Interval between coats did not exceed 6 hours.
- ☐ No voids, thin spots or dusting in the coating.
- ☐ Surface kept damp for the first 3 days.
- ☐ Protected from frost, sun and wind for 24 hours.

COMMON MISTAKES

- **Applying to a dry surface**
  Crystal formation requires water. In unsaturated concrete the reaction does not begin, the coating dusts and separates from the surface.
- **Mixing powder and liquid in the wrong order**
  Liquid component and water first, powder last. The reverse order causes lumping and no homogeneous mix is obtained.
- **Stopping at a single coat**
  The system is designed for a minimum of two coats; one coat does not form a continuous treated zone within the cross-section.
- **Applying with a trowel**
  The brush drives the material into the pores. A trowel leaves a film on the surface and reduces penetration.
- **Re-tempering set mortar with water**
  The crystal structure is disturbed; strength and watertightness fall permanently.
- **Failing to cure**
  Crystal formation is interrupted where the surface dries too early. The surface must be kept damp for the first 3 days.
- **Omitting the cove fillet at internal corners**
  A sharp corner is the weakest point of the coating; this is where water finds its way through.

Technical advice for your project

Share the structure type, the direction of water pressure and the condition of the surface and we will work out the product chain and consumption together.

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