

## OVERVIEW

RANSKRYST-COAT is a single component unique reactive chemical treatment for the waterproofing, protection and repair of concrete. RANSKRYST-COAT consists of Portland cement, finely graded sand and active proprietary chemicals. The active chemicals diffuse into the substrate and react with moisture and the constituents of hardened concrete to cause a catalytic reaction. This reaction generates a non-soluble crystalline formation throughout the pores and capillary tracts of the concrete, as well as cracks, permanently sealing the concrete and preventing the penetration of water and other liquids from any direction.

## PROPERTIES

- Becomes an integral part of the substrate
- Can seal hairline cracks up to 0.3-0.4 mm
- Can be applied to the positive or the negative side of the concrete surface
- Non-toxic
- Can be applied on damp surface.
- Cannot puncture, tear or come apart at the seams.
- Does not require sealing, lapping and finishing of seams at corners, edges or between membranes
- Does not require protection during backfilling or during placement of steel, wire mesh or other materials.

## AREAS OF USE

- RANSKRYST-COAT is used as a waterproofing system on the following structures:
  - Reservoirs • Sewage and Water Treatment Plants • Underground Vaults • Secondary Containment Structures • Foundations • Tunnels and Subway Systems • Swimming Pools • Parking Structures.
- Suitable for horizontal and vertical walls.

## INSTRUCTIONS FOR USE

The application temperature should be between 5°C to 45°C. Application procedures may vary slightly depending upon site conditions. The general

recommended guidelines for the application of the waterproofing system are as follows:

### SURFACE PREPARATION-

Concrete surfaces to be treated must be clean and free of laitance, dirt, film, paint, coating or other foreign matter. Surfaces must also have an open capillary system to provide "tooth and suction" for the RANSKRYST-COAT treatment. If surface is too smooth (e.g. where steel forms are used) or covered with excess form oil or other foreign matter, the concrete should be lightly sandblasted, water-blasted, or etched with muriatic (HCL) acid. Refer to local regulations for sandblasting or use of muriatic acid.

### STRUCTURAL CRACK REPAIRS -

For cracks larger than 0.4mm or for actively leaking cracks the following repair procedures are recommended. Chip out cracks, faulty construction joints and other structural defects to a depth of 40mm and a width of 22mm. A "V" shaped slot is not acceptable. The slot may be saw cut instead of chipped but ensure that the slot is dovetailed or otherwise shaped such that there will be mechanical interlock of materials placed into the slot at a later stage. Clean and wet the slot and apply a brush coat of RANSKRYST-COAT Concentrate as described in steps 5 & 6 and allow to dry for 10 minutes. Fill cavity by tightly compressing Dry-Pac into the groove with pneumatic packing tool or with hammer and wood block.

**RANS ENGINEERING & CHEMICALS offers a comprehensive range of products and services for most concrete and finishing needs. Please contact the RANS Technical Service Department or your local RANS agent for further information, samples, demonstrations and instructor services. The information given in this leaflet is based upon laboratory research, as well as extensive field work and application. All products are sold subject to standard conditions of sale which are available on request. This information is based on RANS present state of knowledge and is intended to provide general information on RANS's products and their methods of use. The prospective user is recommended to determine the suitability of RANS's suggestions and products before adopting them on a commercial scale.**

**WETTING OF THE CONCRETE –**

**RANSKRYST-COAT** requires a saturated surface dry (SSD) condition. Concrete surfaces must be thoroughly saturated with clean water prior to the application so as to aid the diffusion of the **RANSKRYST-COAT** and to ensure growth of the crystalline formation deep within the pores of the concrete. Remove excess water before the application such that there is no glistening water on the surface. If concrete dries out before application, it must be re-wetted.

**MIXING FOR SLURRY COAT –**

Mix **RANSKRYST-COAT** powder with clean water to a thixotropic consistency in the following proportions:

For Brush Application	For Spray Application
Spread Rate 0.65 - 0.8kg/m <sup>2</sup>	Spread Rate 0.65 - 1.0kg/m <sup>2</sup>
5 parts powder to 2 parts water for Vertical	5 parts powder to 3 parts water
Spread Rate 1.0-1.10 kg/m <sup>2</sup>	(ratio may vary with equipment type)
3 parts powder to 1 part water for Horizontal	

Do not mix more **RANSKRYST-COAT** material than can be applied in 20 minutes. As the mixture thickens, stir briefly to ensure mixture remains fluid; but do not add water.

**DRY SHAKE METHOD FOR POSITIVE/ NEGATIVE SIDE**

Sprinkle **RANSKRYST-COAT** powder directly from the packaging after allowing concrete to achieve initial set. Sprinkle **RANSKRYST-COAT** evenly and trowel to required finish or power float.

**CURING**

After **RANSKRYST-COAT** coat has hardened, cure the treated surface with a light mist of clean water at a regular interval 3 times a day, for initial 2-3 days. In hot weather curing will be extended for several days.

All brushes and tools should be cleaned by water immediately after use.

**PRECAUTION:** Mix only the required quantity of material, which can be utilized within stipulated pot life to avoid solidification.

Wash all the tools and tackles with industrial solvent immediately after the application is completed.

**HEALTH & SAFETY**

Avoid prolonged contact with eyes and skin. For detailed information refer to relevant material safety data sheet.

**PACKGING & STORAGE**

**RANSKRYST-COAT** is pre-packaged system available in 20kgs, 25kgs PP/Paper Bags.

Store containers in a clean dry area protected from direct sunlight and extreme heat and cold. Unopened containers can be stored for 12 months.

**TECHNICAL  
DATA**

<b>Product</b>	Crystalline Waterproof Coating
<b>Final Set</b>	16 hours Max
<b>Flexural strength 7 days</b>	4.8 N/mm <sup>2</sup>
<b>Flexural strength 28 days</b>	8.6 N/mm <sup>2</sup>
<b>Compressive Strength 7 days</b>	25 N/mm <sup>2</sup>
<b>Compressive Strength 28 days</b>	45 N/mm <sup>2</sup>
<b>Adhesion Strength</b>	> 1.2 N/mm <sup>2</sup>
<b>Pot life</b>	25 Minutes
<b>Setting Time</b>	120 Minutes @ 20o C
<b>Resistant to hydrostatic pressure When applied on negative side</b>	≥ 1.6 MPa
<b>Drying Time</b>	6 hours between coats.
<b>Packaging</b>	20kg and 25kg PP/Paper Bags.

**PICTURES/IMAGES AT GLANCE**



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