

# BLUSKY™FLOWCRYSTAL PLUS

## High performance, Cementitious Waterproofing Coating System By Crystallization

### Description

**BLUSKY™FLOWCRYSTAL PLUS** Waterproofing System is a surface-applied crystalline slurry treatment that transforms new or existing concrete into a permanent waterproof barrier. **BLUSKY™FLOWCRYSTAL PLUS** Waterproofing System lowers the permeability of concrete and protects against the ingress of water and waterborne chemicals. It replaces the need for surface applied waterproofing membranes, and is often used in the remediation of failed membranes. **BLUSKY™FLOWCRYSTAL PLUS** contains crystalline technology. When applied to concrete, **BLUSKY™FLOWCRYSTAL PLUS** chemically reacts with water and un-hydrated cement particles to form insoluble needle-shaped crystals that fill capillary pores and micro-cracks in the concrete and block the pathways for water and waterborne contaminants. Any moisture introduced over the lifespan of the concrete will initiate crystallization, ensuring permanent waterproofing protection.

### Indicative Characteristics

<b>Chemical nature</b>	Selected Minerals, Selected Polymer Additives, Special Cement.
<b>Appearance</b>	Grey free flow powder
<b>pH mixed with water</b>	11 -12
<b>Service Temperature</b>	-20°C to + 80°C
<b>Bulk density g/cm<sup>3</sup></b>	1.3 ± 0.2
<b>Mixed Density, kg/ l</b>	1.8 ± 0.2
<b>Working Time at 27°C</b>	90 minutes with continued stirring (slurry)
<b>Hardening Time at 27°C</b>	6 hours (slurry)
<b>Hydrostatic head resistance</b>	174m (>18 bar)
<b>Typical rate of crystal penetration</b>	3.5mm (>0.137 inch.) per week
<b>Bond Adhesion strength</b>	> 2 N/mm <sup>2</sup>
<b>Seals hairline and shrinkage cracks up to</b>	>0.5 mm
<b>VOC (volatile organic compounds)</b>	Nil

### Domains of Application

- Basement retaining walls
- Parking structures
- Concrete slabs Like floor/roof/balcony, etc.
- Tunnels and subway systems
- Construction joints
- Foundations
- Water retaining structures
- Underground vaults
- Swimming pools
- Sewage and water treatment plants
- Channels
- Reservoirs
- Bridges, dams and roads
- Can be used for negative waterproofing of concrete surface and on horizontal structural slabs against hydrostatic pressure as it provides stronger resistance to impact and abrasion.

### Method of Application

#### Surface Preparation

All concrete to be treated with **BLUSKY™FLOWCRYSTAL PLUS** must be clean and have an “open” capillary surface. Remove laitance, dirt, grease, etc. by means of high pressure water jetting, wet sandblasting or wire brushing. Faulty concrete in the form of cracks, honeycombing, etc. must be chased out, treated with **BLUSKY™FLOWCRYSTAL PLUS** and filled flush with **BLUSKY™FLOWCRYSTAL PLUS MORTAR™**. Surfaces must be carefully pre-watered prior to the **BLUSKY™FLOWCRYSTAL PLUS** application. The concrete surface must be damp but with no wet sheen on the surface.

#### Mixing:

**BLUSKY™FLOWCRYSTAL PLUS** is mechanically mixed with clean water to a creamy consistency or resembling thick oil. Mix only as much material as can be used within 15 minutes and stir mixture frequently. If the mixture starts to set, do not add more water; simply re-stir to restore workability. Always mix the powder to the clean water by using a mechanical stirrer. Mix for (2) two minutes until a smooth lump free consistency is achieved.

The information contained in this technical data sheet is given to the best of our knowledge and the results from extensive testing in order to remain as objective as possible. However, it cannot, in any case be considered as a warranty involving our liability in case of misuse or any different use of our products from the “Application” paragraph of this technical data sheet. Some application tests should be carried out before using the product to ensure that the methods of use and conditions of application of the product are satisfactory. Our technical assistance is at the disposal of the users. Consult the latest update of the technical data sheet on our website [www.bluskyscpl.com](http://www.bluskyscpl.com)

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Mixing ratio	
Vertical surfaces	Horizontal surfaces
4 parts FLOWCRYSTAL PLUS & 2 parts water	3 parts FLOWCRYSTAL PLUS & 1.25 parts water

### Advantages

- Becomes an integral part of the concrete.
- Can be applied to all new or old structurally sound concrete.
- Penetrates deeply and seals concrete's capillary tracts and shrinkage cracks
- Can be applied from either the positive or negative side
- Waterproofing and chemical-resistance properties remain intact even if the surface is damaged
- Completely effective against high hydrostatic pressure
- More effective overall and less costly than hydrolytic membrane or clay panel systems
- Easy to apply,
- labor-cost effective Increases concrete's compressive strength
- Will not come apart at the seams, tear or be punctured
- Does not require protection during backfilling, placement of steel or wire mesh, and other common procedures
- Seals hairline and shrinkage cracks up to 0.5 mm.
- Resists chemical attack
- Non-toxic

### Application

**Slurry consistency:** Apply a minimum of 2 coats in perpendicular directions, using block brush or roller. The second coat must be applied while the first coat is still green but is sufficiently set so that it is not drawn off while applying the second coat. The mixed material must not be applied at temperature below 5 degree Celsius or on frozen surface. Two coats of **BLUSKY™ FLOWCRYSTAL PLUS** at 0.9-1 kg/m<sup>2</sup>

**Note:** before start the works please contact your **BLUSKY™** Representative for alternative application methods that may be applicable to your project.

#### Dry Consistency: [Negative & Horizontal surface only]

Sprinkle **BLUSKY™ FLOWCRYSTAL PLUS** powder directly from the packaging after allowing concrete to achieve initial set. Sprinkle **BLUSKY™ FLOWCRYSTAL PLUS** at the rate of 1.2 - 1.3 Kg/m<sup>2</sup> evenly and trowel to required finish or powder float.

#### Dry Consistency: [Positive & Horizontal surface only]

Sprinkle **BLUSKY™ FLOWCRYSTAL PLUS** powder directly from the packaging at the rate of 1 -1.2 Kg/m<sup>2</sup> evenly onto the lean concrete substrate just before pouring on the concrete.

**Construction joints:** **BLUSKY™ FLOWCRYSTAL PLUS** at 1.6 kg/m<sup>2</sup> applied in slurry or dry powder consistency immediately prior to placing the next lift/bay of concrete.

**Blinding concrete:** **BLUSKY™ FLOWCRYSTAL PLUS** at 1.5 kg/m<sup>2</sup> applied in slurry or dry powder consistency immediately prior to placing the overlying concrete slab.

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### Curing

After **BLUSKY™ FLOWCRYSTAL PLUS** coating has hardened, cure the treated surface with a light mist of clean water at regular intervals three times a day, for the initial two or three days. In extremely hot water curing period may have to be extended to several periods.

### Shelf Life & Storage

12 months from the date of manufacturing when stored in unopened, original sealed and dry condition at a temperature range from +5°C to 40°C

### Packing

25 Kg Bags.

### Precautions

Protection of **BLUSKY™ FLOWCRYSTAL PLUS** is not obligatory. However, if used on external areas, subjected to heavy rain, harsh sunlight or frost, the finished application should be protected for at least 24 hours..

### Safety

Wear hand gloves, safety shoes and safety goggles while using and handling the product.

In case eyes or mouth are affected wash with plenty of clean water and seek medical treatment immediately.

Before use, refer to the Material Safety Data Sheet. The MSDS is available on [www.bluskyscpl.com](http://www.bluskyscpl.com)

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