

## Acrylic Cementitious Flexible Waterproofing Coating For Concrete & Masonry



### Description

815 Smart Flex 2K is a two - component acrylic polymer modified flexible water proofing membrane which consists of 815 Smart Flex 2K powder and 815 Smart Flex 2K liquid acrylic emulsion. It does not require any type of dilution, mixing of two parts in the proper pro- portions, provides an easily brushable coating is produced. 815 Smart Flex 2K can simply be applied by a stiff brush, or trowel to obtain the desired thickness. 815 Smart Flex 2K powder grey consists of specially selected cements, graded hard - wearing aggregates and additives supplied in powder and 815 Smart Flex 2K liquid component of blended acrylic co - polymers. The polymer provides 815 Smart Flex 2K with exceptional adhesion, toughness and durability.

### Uses

Unicrete 815 Smart Flex 2K provides a seamless, waterproof coating suitable for use in new or old concrete substrates that are structurally sound like.

- Water tanks and reservoirs.
- Concrete foundations & basement walls.
- Concrete sloped roofs & lift pits.
- Parking decks & Podiums.
- Bathrooms, toilets, sunken portions, balconies, planters etc.
- Waterproof coating for terraces of areas up to 100 -150 m2.
- Any concrete, cement or masonry surface that is subjected to damage from moisture.

### Advantages:

**Flexibility** – Flexible coating that accommodate minor cracks due stress and thermal variations.

**Permeability** – Low Water Permeable, excellent resistance to ingress of water.

**Application Advantage** – Can be applied on damp surfaces leading to wide range applications.

**Breathable** - allows transmission of water vapor beneath of the coating.

**Adhesion** – Excellent adhesion to concrete and masonry substrates.

**Drying** – Quick drying after application & user friendly, faster application.

**Seamless Coating** – Forms seamless coating without any joints, prevents water leakages.

**Toxicity** – It is Non - toxic and food grade.

**Ease of Application** – Easily applied by brush, roller or spray.

### Technical support

Unicrete provides a technical advisory service support by a team of specialists in the field.

### Technical Properties

Unicrete 815 Smart Flex 2k: 2 components mix

| Properties                                           | Typical Values                                    |
|------------------------------------------------------|---------------------------------------------------|
| Mix ratio (liquid: powder), parts by wt.             | 1:2                                               |
| Color                                                | Grey                                              |
| Touch dry time, minutes                              | 60                                                |
| Inter coat application time, Hours                   | 6-8                                               |
| Pot Life @ 27° C                                     | 30 mins                                           |
| Mixed Wet Density, g/cc                              | 1.80 ± 0.1 (brushable consistency)                |
| pH- value of mix                                     | 10.0 – 12.0                                       |
| Application temperature                              | 10° C to 35° C                                    |
| Elongation at 1 mm DFT, %                            | 40                                                |
| Tensile strength @ 28 days                           | 0.6 N/mm2<br>3.0 N/mm2 (with Fiber reinforcement) |
| Adhesion to Concrete strength @ 28 days, ASTM D 4541 | 1.0 N/mm2                                         |
| Water permeability                                   | Excellent- no leakage observed after 24 hours     |
| Toxicity                                             | Passes (Non- toxic)                               |

**Note:** The typical physical properties given above are de - rived from testing in a controlled laboratory environment. Results derived from testing field-applied samples may vary, depend-ent on actual site conditions.

Unicrete 815 Smart Flex 2K provides flexible protective water-proof coating and is shown to resist positive hydrostatic pressure up to 5-meter head. The degree of resistance of Unicrete 815 Smart Flex 2K coating to water under pressure depends on the coating thickness. Areas subjected to moder-ate and heavy loads/hydrostatic pressure. minimum 2mm thickness coating is recommended with protection screed above.

## Chemical Resistance

Cementitious based materials have limited chemical resistance. The coating of Unicrete 815 Smart flex 2K reduces permeability and therefore helps reduce the rate of attack by aggressive chemicals.

## Application Instructions

Before application of Unicrete 815 Smart Flex 2K, surface preparation should be done as per the procedure given below in order to achieve maximum beneficial properties and to avoid failures.

### Surface Preparation:

- The surface shall be cleaned to remove all dust, foreign matters, loose materials or any deposits of contamination which could affect the bond strength between the surface and the Unicrete Smart Flex 2K coating.
- Surface cleaning process can be carried out by scarifying, grinding, water blasting, sand blasting and acid washing or by any other approved method
- New flat surface like sub-base concrete shall be reasonably smooth so as not to impede the application of Unicrete Smart Flex 2K coating and to avoid any sharp projections.

### Surface Leveling & Priming:

- Primary inspection of surface is to be done to see any type of depressions on the surface.
- If found, depressions are to be filled and leveled using polymer modified repair mortar as mix design Cement: Silica Sand : Unicrete Mastocrete 302 or Unicrete Latex 705 = 1 kg: 1.5kg: 0.5kg.
- Before placing of Unicrete Smart Flex 2K coating, excess water should be removed so that the surface is only damp. In no case there should be standing water. Surface should be in SSD condition.
- It is important that any pipe inserts or sanitary fittings should have been fitted & grouted with suitable products of Unicrete range of products prior to application of coating
- Pipe inserts should be properly grouted and packed using Unicrete non- shrink, flowable cementitious grout around the pipes & water or plumbing pipes using suitable polymer modified mortar prepared using Unicrete Latex 705 / Mastocrete 302.
- Check for completion all types of plumbing and sanitation works prior to the coating of Smart Flex 2K is done.

### Mixing:

- Shake the liquid component to a homogeneous milky color and pour in a plastic or metal mixing vessel.
- Use heavy duty slow speed mechanical mixer (350-450 rpm, fitted with a suitable paddle for homogeneous mixing of two components.
- In a mixing vessel, slowly add the powder component (Part B) to the liquid (Part A) under continuous mixing.
- Continue to stir, in order to achieve a lump free homogeneous slurry.
- Wait for 5 – 10 minutes to release entrapped air bubbles and remix again.
- Mixed Material should be consumed within recommended pot life.

### Mixing Ratio:

| 815 Smart Flex 2K Components | Small pack | Big pack | Industrial Pack |
|------------------------------|------------|----------|-----------------|
| Powder (Part B)              | 2 kg       | 10 kg    | 40 kg           |
| Powder (Part A)              | 1 kg       | 5 kg     | 20 kg           |

Caution: Do not add any water to the mix

## Application

- The surface of application must be pre-wetted thoroughly with water & brought to a touch dry state (SSD condition)
- Apply the mixed material using a short, stiff bristle brush or roller preferably 100 to 150mm width like a paint. Work well into the substrate, to ensure that all small undulations are completely filled with the coating.
- After completion of 1st coat, take up 2nd coat application in a direction perpendicular to the 1st coat.
- Unicrete Smart Flex 2K shall be applied in two coats to achieve 1mm thickness. The second coat of Unicrete Smart Flex 2K shall applied as soon as the first coat has reached touch dry state (generally between 6 to 8 hours)
- Waterproofing coating system can be further reinforced by placing nylon fiber mesh as a sandwich layer between 1st & 2nd coat, if required.

- Complete the application and leave to air cure for 2 days. A moist hessian cloth can be kept over the coated surface to protect it from the effect of direct sunlight, in case of small open balconies or terraces, in bathrooms and internal areas. Leave the coating without water curing for 2 days at least.
- In new bathrooms, typically, Unicrete 815 Smart Flex 2K must be applied all over the sunken slab portion and upwards over the masonry walls up to a height of 7 – 8 feet, i.e. over the splash zone of shower, etc. to ensure complete waterproofing.
- In case of repair of bathrooms, wet areas or where brickbat cobba waterproofing exists, it is necessary to repair and fill the previous cracks or undulations etc. with polymer modified mortar using Unicrete Latex 705. All pipe inserts and other plumbing works should be checked and sealed properly using proper Unicrete product.
- Recommend DFT (dry film thickness) for Unicrete 815 Smart Flex 2k, the total thickness of the applied material be 1 to 2 mm. Areas subjected to moderate and heavy loads/hydrostatic pressure, minimum 2mm thickness coating is recommended with screed above.
- Allow Unicrete 815 Smart Flex 2k to dry before covering with screed. Sprinkle coarse sand on wet surface of final coat for better adhesion of screed.
- Average drying time is 4 to 6 hours at normal temperatures. Water curing or any curing membrane shall not be applied over Unicrete 815 Smart Flex 2K coating, only air curing is recommended.

**Note:** In case of increased temperatures, i.e., over 40°C surface temperature, priming of surface is recommended by diluting 1 part of Unicrete LATEX 705 to 1 part of water to 2 part of fresh cement before 1st coat application of 815 Smart Flex 2K. Only prime areas that can be coated before the primer dries. Material should not be applied at temperatures below 10°C.

#### **Mechanical Key**

##### **Vertical & Horizontal application**

Sprinkle sieved coarse sand on wet surface of final coating for better adhesion of plaster or screed. Allow the coating to dry for a minimum period of 7 days before covering with plaster on the vertical surface & 3 days before covering with screed/ plaster on the horizontal surface. Maximum thickness of cement plaster recommended is 12 to 18mm & height of 1mt in a single day to avoid de-bonding of plaster from Unicrete 815 Smart Flex 2K coating. Any deviation from the above recommendation please contact Unicrete Toll free for advice.

##### **Subsequent Finishes:**

- Unicrete Smart Flex 2K coating should be protected using protection plaster or screed. It is compatible with most forms of subsequent coatings.
- Plaster or screed mortar used to re-level the surfaces in bathrooms, roofs, balconies etc. must be admixed with Unicrete 202 IWC+ or 102 IWC Power+ or Unicrete Ready Mix Plaster or Unicrete Screed can be used for complete waterproofing.
- Unicrete range of Tile Adhesives can be used to lay tiles directly over Unicrete 815 Smart Flex 2k in case of walls.

#### **Cleaning**

Unicrete 815 Smart Flex 2k should be removed from tools and equipment immediately after use with clean water. Hardened material can be removed mechanically.

#### **Coverage\***

- Approximately 6 to 7 sq. ft / kg in 2 coats of Unicrete 815 Smart Flex 2K

**Note:** - Coverages may vary, & depend on the porosity, undulations of the surface and application rate. The Coverages mentioned here are for reference only and calculated under lab trials. Unicrete advises our customers to make trials in sample first to check coverage as per their application & usage before going to full scale applications.

#### **Additional Guidance:**

- Do not part mix. Mix the entire quantity of both the components at one go.
- Do not dilute with water.
- Do not cure by flooding with water.
- Do not conduct any ponding test before it is completely cured for 7 days
- Always add powder to liquid to avoid lump formation.
- Cure the membrane with moist hessian cloths
- Always protect the membrane with protective screed to the desired slope & thickness.

**Note:** - In order to realize all the product advantages, for high quality construction & best performance, it is necessary to follow the Manufacturer's instructions or relevant codes and good practices.

#### **Pack Size**

Unicrete 815 Smart Flex 2K is available in 3, 15 & 60 kg combo packings.

**Shelf Life & Storage**

Best before 12 months from the date of manufacture when sealed pack stored in dry place. Keep away from direct sunlight. Do not allow to freeze.

**Health and safety instructions**

Unicrete 815 Smart Flex 2K is non-toxic. Any splashes on skin should be washed well with water. If contact with eyes occurs, it shall be washed well with plenty of water and medical advice sought immediately.

Wear suitable protective clothing, gloves, eye protection and respiratory protective equipment during application.

Keep out of reach from children.

**Fire**

Unicrete 815 Smart Flex 2K is non-flammable.

**Other Products Categories available**

Unicrete brings you the widest range of Construction Chemicals.



For More Details Contact  
**UNICRETE Technical Services**

Email: - [CC@unicrete.in](mailto:CC@unicrete.in)

Toll Free: - **1800- 572- 0908**