

## PRODUCT INFORMATION BULLETIN

### DESCRIPTION

**Ad-Tek R-F** is a unique brushable penetrative fine cementitious coating specially designed for waterproofing and protection of old and new concrete against positive and negative water pressure.

**Ad-Tek R-F** prevents the penetration of water and other liquids into the concrete by causing reactions that produce non-soluble cementitious formations within the pores and capillaries of concrete. These formations grow in the presence of water, blocking pores, capillaries and minor shrinkage cracks, thus waterproofing concrete.

**Ad-Tek R-F** contains a Migrating Corrosion Inhibitor which significantly increases the corrosion protection of steel reinforcement in concrete.

### USES

- Concrete water towers and reservoirs
- Water treatment and sewage plants
- Swimming pools
- Roof decks
- Underground tunnels
- Basements and foundations
- Chemical and fertilizer plants
- Bridge pylons, beams and decks
- Marine structures
- Below ground car parks

### BENEFITS

When correctly applied as a coating, **Ad-Tek R-F**:

- Forms an indivisible body with the base concrete
- Significantly increases impermeability of concrete
- Resists extreme hydrostatic pressure from either positive or negative surface of the concrete slab
- Can be applied to the positive and negative side of the concrete surface
- Can seal hairline cracks up to 0.5 mm
- Enhances the properties of concrete against reinforcement corrosion
- Significantly reduces chloride penetration
- Allows concrete to breath
- Does not require a dry surface
- Has a life greater than 10 years.

## PROPERTIES OF TREATED CONCRETE

<b>Appearance</b>	Grey powder
<b>Grain Size</b>	Max 0.5 mm
<b>Layer Thickness</b>	0.5-1.5 mm
<b>Fresh Wet Density</b>	Approx 2100 kg/m <sup>3</sup>
<b>Mixing Water per 20 kg pail</b>	4.0-4.4 litres
<b>Working Time</b>	30 minutes
<b>Temperature for application</b>	From 5 to 40°C
<b>Final Settings</b>	3-6 hours
<b>Impermeability</b>	Waterproof according to DIN 1048
<b>Chloride ion diffusion</b>	Reduced approx. 2 times according to NT Build 443-1955-11
<b>Impact abrasion</b>	Resistance is significantly increased according to AS/NZS 4469.9.2003
<b>Compressive strength (MPa)</b>	1 day: 26.3 28 days: 52.5
<b>Flexural strength (MPa)</b>	28 days: 8.2
<b>Bond strength (MPa)</b>	28 days: 6.1
<b>Carbonation</b>	Resistance is significantly increased according to "Colourmetric method"
<b>Water absorption</b>	Decreased by approx 3 times
<b>Steel reinforcement (Polarisation curves method)</b>	Steel corrosion is inhibited
<b>Acidic medium resistance at pH 3-4</b>	Approx 2 times higher than conventional Portland cement mortar

## INSTALLATION (Refer to the MSDS before use)

### Surface preparation:

- Remove any weak, spalling, unconsolidated concrete and any existing coating, and thoroughly clean surface.
- If steel reinforcement is exposed, remove any rusting on the steel surface.
- If patching is required, please patch with Ad-Tek HB or HB-T (Ad-Tek R-F is a fine coating only).
- Concrete must have open capillaries and a rough surface. If surface is too smooth or covered with oily matter, the concrete must be lightly sandblasted, acid etched or pressure washed.
- Then hose the concrete surface to fully impregnate it with water and allow drying to a wet dull puddle free lustre.

### Priming:

We recommend priming as a part of the installation process described below. **Ad-Tek H** (as a primer) is applied on the concrete substrate in order to passivate the steel reinforcement embedded beneath the concrete and completely harden the concrete surface, creating an appropriate adhesion platform and, as a result, increasing bond strength of **Ad-Tek R-F** coating.

- Apply **Ad-Tek H** at the rate of one litre per 3-5 square metres on the dry touch concrete substrate to fully impregnate with **Ad-Tek H** (instead of the water impregnation in the process of surface preparation) and allow drying to a wet dull lustre and puddle free.

### **Mixing Equipment:**

Low shear mechanical mixer.

### **Mixing instructions 20 kg Ad-Tek R-F:**

- Normal water requirement is 4.0-4.4 L per 20 kg pail, depending on the required viscosity.
- Place 4.0 litres of water in a clean mixer bucket
- While stirring, gradually add **Ad-Tek R-F**, and mix thoroughly for 2-3 minutes.
- If necessary, add additional water, until a mix of the desired workability is obtained
- Mix for a further minimum 1 minute.
- Use within 30 minutes.

### **Application:**

Apply by concrete brush to a wet, puddle free surface. With a concrete brush, use an aggressive circular motion to coat the concrete with the **Ad-Tek R-F** slurry mix. To ensure complete coverage with no missed or thin spots, we recommend always applying two coats. The second coat can be applied as soon as the first has set hard. It is usually after about 4 hours depending on conditions.

### **Curing:**

- Keep damp for at least 3 days and provide suitable protection against extreme weather conditions (sun, wind, frost) while setting. The continued curing for several days will be beneficial in most cases.
- The freshly treated surface should be protected from rain for a minimum period of 12 hours.
- Finishes containing Portland cement may be applied over **Ad-Tek R-F** following the curing period but other paint and coating finishes should not be applied before 28 days.

## **PACKAGING, STORAGE and SHELF LIFE**

**Ad-Tek R-F** is available in 20 kg plastic pails.

**Ad-Tek R-F** has a shelf life of 12 months if kept in an original unopened container in a dry store in sealed pail.

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