



**insulmastic**

**3405 R-20  
HORIZONTAL RETARDER**

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Telephone 604 -522 -2811 Facsimile 604 522-5141

**PRODUCT BULLETIN**

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**Basic Description**

A waterbase solution which is applied directly to a fresh concrete flatwork surface to retard the set of the surface cement to obtain an exposed aggregate surface.

**Uses**

R20 - SURFACE RETARDER is a liquid that when sprayed on fresh soft concrete will retard the cement and expose the aggregate to produce a three dimensional surface.  
R20 -SURFACE RETARDER will retard the set of the surface cement between 12 to 24 hours after application and when applied as directed. The amount of retardation will be influenced by the concrete setting time which, in turn, is influenced by air temperature, mix design, slump, wind, concrete temperature and humidity.  
R20 - SURFACE RETARDER will only retard the surface cement and will not retard or "kill" the set of the mix.

**Limitations**

R20 - SURFACE RETARDER may only be applied to concrete flatwork. Do not apply to vertical form work. Contact Insulmastic about retarders for vertical concrete work. R20 - SURFACE RETARDER is to be applied to fresh concrete surfaces only. Do not apply R20 - SURFACE RETARDER when rain is anticipated within 12 hours of application, when the surface is below 0°C (32°F) or when air temperature exceeds 25°C (77°F). Using the mix design, prepare a test batch of concrete, lay the concrete and apply R20 -SURFACE RETARDER. Insulmastic recommends that in all applications that a test be conducted. InsulMastic recommends that the work on exposed surfaces is always started as early as possible and to remain with the surface until the RETARDER R-20 is removed; see installation method. If very small aggregate is used, it is important not to start the wash off too early to prevent bare spots. Insulmastic recommends that for concrete mixes that are going to be treated with retarder, the mix design should be enriched by 20 percent more stones. Use only for recommended application.

**Product Information**

General Appearance:  
R20 - SURFACE RETARDER is a blue liquid.

Properties of Material:

Appearance	Blue transparent liquid
Density	9.8 lbs/gallon or 8.2 lbs/US gallon
Viscosity	Sprayable

Ordering, Handling and Protection:  
R20 - SURFACE RETARDER is ready to use. It is packaged in 205 litre (55 US gallons) lined drums, 18.93 litre (5 US gallons) plastic pails and 3.9 litre (1 US gallon) .



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## Installation Instructions

### Preparatory Work:

1. Place concrete (Insulmastic recommends a mix design that is enriched with at least 20% more stone than the standard mix).
2. Wood float the surface to cover all stones.

### Installation Method:

1. Stir R20 - SURFACE RETARDER contents before application.
2. After the concrete finishing operation is complete, apply R20 - SURFACE RETARDER as soon as the surface water disappears.
3. Apply at the specified application rate by using a brush, roller or low pressure sprayer.
4. Protect the treated surface from wind, rain or high overhead sun.
5. Re apply R20 - SURFACE RETARDER to any sloping surface where run off may have occurred.
6. When the concrete compressive strength reaches 7 Mpa (1000 psi, between 12 to 24 hours), begin to expose the surface. Using a water broom or a stiff broom and hose, start washing down the surface to remove the R20 - SURFACE RETARDER. DO NOT leave material on the concrete indefinitely.
7. As the amount of retardation desired is a personal preference, and timing of retardation is subject to many variables, InsulMastic emphasizes that the applicator stay with the surface and remove the R20 - SURFACE RETARDER at the exposure relief required or specified.
8. Apply Insulmastic Clearcoat to the exposed surface to protect and cure the concrete. See CLEARCOAT data sheet for application method.
9. Where a "wet-look" appearance is desired, apply Clearglaze to the cured surface. See Clearglaze data sheet for application method.

## Rate of Application

Apply R20 - SURFACE RETARDER as follows:

Surface Profile	Rate of Application	m <sup>2</sup> /l	ft <sup>2</sup> /gal	ft <sup>2</sup> /US gal
Average Retardation		5.0	225	190
Deeper Retardation		2.5-3.5	100-160	90-135

As retardation is a personal preference, Insulmastic recommends a test panel(s) be prepared using the proposed mix design, application rate, length of time for retardation process and approximate ambient conditions expected at application time.

## Clean Up

Clean tools and equipment with water. Clean hands and skin with soap and water.