

## PRODUCT NAME:

RC-GUARDEX

## MANUFACTURE

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## DESCRIPTION

Our product "concrete reforming material" is a product which not only has many functions such as "water-proof, stop water", "prevent salt, frost damage", "control carbonization" but also reduces cost, a new idea of "silicate" product which is excellent in workability and long term durability. The product using abundantly Nano-sized Silicate - which was born from the newest Nano Technology (Refinement technology) - and is able to develop in a wide-spread operating environment according to basic principle [Penetrate the RC surface → Refinement the gaps → Solidification and Materialization]. This product can surely satisfy client and contractor's requests and possibly become a necessary product of RC body from now on. ✕We have received many orders of this product for authority's construction. Please feel free to ask us if you have any question about our experience of construction.

## TYPICAL APPLICATIONS

- Apartment
- Parking lot
- Logistic center
- Hotel
- School
- Hospital
- Underground Pit
- Tile
- Road
- Bridge
- Airport Runways, Taxiways, Aprons
- Purification plant

## KEY BENEFIT

**Shortening of a construction period:** 100% trafficable after Completion of Construction.

**extend the service life:** Minimal risk of causing damage to concrete during construction or thereafter.

**Fault finding:** If stubborn cracks are present - easy to find and fix.

## PERFORMANCE CHARACTERISTICS

- Permanently seals crack up to 0.2mm.
- Reseals future hairline cracking.
- Penetration depth of chloride ions is reduced to 77%.
- Improve the durability of scaling in freeze-thaw environments to three times at 60 cycles.
- Tested to 400 meters by water pressure.
- Allows 85.0% moisture vapour permeability.
- Non toxic - Certified suitability for potable water.

## APPLICATION

### Basic Requirements

- **RC-GUARDEX** is desirable to apply to a concrete that has been cured for at least two days.
- All curing corresponds must have been removed prior to application.
- Any materials that retard penetration should be removed.
- Good concrete practice must be followed such as adequate curing, compaction and vibration.
- Do not apply where ambient temperatures are below +5°C or above +40°C.

### Application Rates

Dilute water and RC-GUARDEX 1: 1 and apply 0.25 L / m<sup>2</sup>.  
(First application 0.15 L / m<sup>2</sup>, Second application 0.1 L / m<sup>2</sup>)

Depending on the application location, add the following loss rate.

Upward construction: 15 to 20%

Vertical plane construction: 10 to 15%

Downward construction: 5 to 10%

### Method

1. Repair cracks exceeding 0.2 mm with mortar etc.
2. Clean the construction surface with a broom, brush, high pressure washer or the like.
3. Sprinkle water on the construction surface.
4. Dilute RC-GUARDEX 1: 1 with water and apply 0.15 L / m<sup>2</sup>.
5. Wet curing from 30 to 60 minutes.
6. Set the coating amount of the diluent to 0.1 L / m<sup>2</sup> and repeat the operations from No. 3 to No. 5.
7. Wash the construction surface with water.

## PRECAUTIONS

Protect glass, aluminium, wood and painted finishes from overspray.

## LIMITATIONS

RC-GUARDEX is not suitable for sealing working/ volatile cracks as a result of structural defects or caused by mechanical damage.

The product is not suitable for sealing where segregation and voids are likely such as construction joints, pour joints. Not suitable around penetrations where there is a non-masonry/cementitious interface.

## CONCRETE

### MIX DESIGN

RC-GUARDEX satisfies or exceeds its performance when applied to slag blended concrete and ordinary Portland cement type GP concrete.

## FALL LINES

If possible, tilt the structured slab by about 1%

## CURE

Water curing is performed.

## DETAILING REQUIREMENTS

For more detailed information, see the RC-GUARDEX specification or design detail sheet.

#### Joint / drain

Separate processing is required for the joint part.

#### Expansion Joints

Responsibility of others

#### LARGE OR STUBBORN CRACKS

Create a small dam and flood crack with product, repeating the application process. A liquid, fine grind cement slurry can be used in large, stable cracks. Consult [info@kutai.co.jp](mailto:info@kutai.co.jp) for the latest techniques and where cracks are volatile

#### SPECIFICATIONS

For specifications of RC-GUARDEX, please contact us by e-mail to "[info@kutai.co.jp](mailto:info@kutai.co.jp)".

#### SPECIFICATIONS

Colourless, clear to slightly opaque, odourless, Smell like soap.

Non-toxic & Biodegradable

Percent non-volatile solids: 15.4+-4.6%

Specific gravity at 20°C: 1.08 to 1.18

Flash point - no true flash

Auto ignition temperature - N/A Non-explosive

Viscosity - 5-10 cps / 20°C

Hazardous chemicals - Sodium Silicate (modified)

pH 10.0 to 13.0

#### HEALTH NOTES

Eye Exposure - Severe irritation. Flush with large amounts of water.

Skin - No known ill effects have been noted however, with chemicals, one should always avoid contact with skin.

#### PACKAGING

11 liter pail can

#### SHELF LIFE & STORAGE

1 year after delivery to shelf life. Keep container sealed and avoid prolonged exposure to direct sunlight. Always agitate drum or container before use.

#### TECHNICAL SERVICES

For complete technical information including detailed information on data and test, please contact [info@kutai.co.jp](mailto:info@kutai.co.jp) by e-mail.

#### GUARANTEES

10 year guarantees for RC-GUARDEX treated areas are available where approved applicators are used and in appropriate situations.

Contact the manufacturer for further information and confirmation of suitability.

#### APPROVALS & TESTING

##### Japan Testing Center for Construction Materials (JTCCM)

Resistance against Neutralization	(JSCE-K 572)
Chloride ion penetration depth test	(JSCE-K 572)
Water Permeability	(JSCE-K 572)
Water Absorption Percentage	(JSCE-K 572)
Crack Water Permeability	(JSCE-K 572)
Water Permeability under Pressure	(JSCE-K 572)
Scaling Resistance	(JSCE-K 572)
Reactivity Verification	(JSCE-K 572)
Dry Solid Content Percentage	(JSCE-K 572)

##### Japan Railway Construction, Transport and Technology Agency (JRTT)

freezing and frost heaving (300 cycles)
Resistance against Neutralization
wear resistance test
Water Absorption Percentage test

##### General Building Research Corporation of Japan

wear resistance test	(JIS A 1453)
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##### Bureau of Sewerage Tokyo Metropolitan Government.

acid resistance test
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##### Japan Food Research Laboratories

Leaching test	(JWWA Z 108)
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##### Own company exam

Alkali recovery test	(NDIS 3419)
Surface layer strength test	(JIS A 1155)
pH value	(JIS Z 8802)
Viscosity	(JIS Z 8803)
Density	(JIS Z 8804)
water vapor permeability test	(JSCE-K 571)

#### FURTHER INFORMATION

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Note: The information presented is intended guide only and is correct to the best of our knowledge at the time of publication. It should not be considered as a definitive approval for suitability for a particular purpose. Please contact the manufacture, distributor or approved applicator for confirmation of suitability. Ancillary detailing recommendations are provided in good faith to assist in achieving final water proof result. We accept no liability for those recommendations or those products performance in use.