



# RELAY™



## RESURFACES:

- Decks
- Walls
- Floors
- Sidewalks
- Pavements
- Overheads

## APPLY OVER:

- Asphalt
- Gypsum
- Coatings
- Adhesives
- Concrete
- Wood
- Metal
- Terrazzo

## PRODUCT DESCRIPTION

**RELAY™** is a polymer formulated to be mixed with water, cement and sand, for resurfacing a wide variety of surfaces. **RELAY™** mixture becomes a highly mobile, thin-bond resurfacer that is easily workable, with controlled sag and flow characteristics.

**RELAY™** mixture is a primerless system that will adhere to virtually all types of substrates to produce a new, waterproof, bondable surface compatible with all types of coatings and adhesives. It will feather to a “zero edge” without losing strength, flexibility or adhesion. A normal 2- coat application is approximately 18 mils thick.

## APPLICATION

**Surface Preparation.** **RELAY™** mixture will adhere to virtually everything, but its ultimate bond-strength can only be as strong as the bond and the strength of the materials it is applied over. Surface should be clean, dry, and free of loose debris.

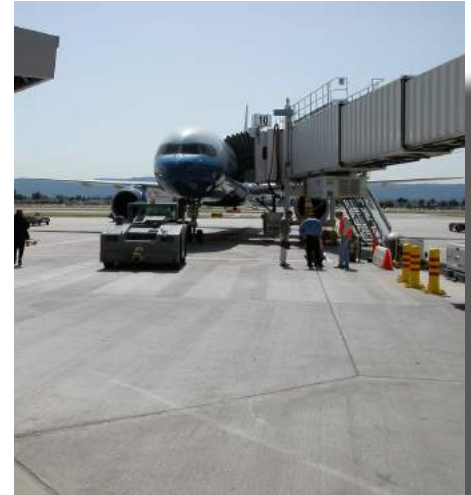
**RELAY™** mixture forms a wearing surface that is strong, durable, and abrasion resistant. The new surface will withstand all kinds of weather conditions including freeze-thaw.

Materials that are soft, flaky, dusty or chalky, or that have low internal strength, should be removed. Glossy surfaces should be roughened by sanding or grinding.

**Mixing.** **RELAY™** is mixed with any of the Portland cements and sand. Other cements may be used for quicker drying, higher chemical and heat resistance, and drying in low temperatures. 90-grit sand is recommended for normal resurfacing projects. Smaller grits may be used for smoother surfaces. Larger grits will further increase skid resistance and surface texture.

**Overlaying.** Spreading of the **RELAY™** mixture on horizontal surfaces is easily accomplished with squeegees, although it readily lends itself to troweling. Troweling is recommended for tight spots, vertical and overhead surfaces.

**Patching & Deep Fills.** Deep cracks, non-moving joints, pits and potholes can be repaired during surface prep with **RELAY™** mixture. A thicker mixture works best; simply add equal parts of cement and sand. *Note: Moving (structural) cracks and joints should never be filled with rigid or semi-rigid materials.*



Airport Passenger Gates Parking and Ramps



Repair and Overlay



Relay over epoxy repaired weather deck

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# RELAY™



## TEST RECAP

Results at 72°F and 50% Relative Humidity  
Color: Concrete Gray  
Mixing Ratio: 3 quarts per 60lb bag  
Working Time: Approximately 30 minutes to initial set

### Compression Strength (ASTM C-109 Mortar)

3 hours: 4500 psi  
24 hours: 6667 psi  
7 day: 7723 psi  
28 day: 8300 psi

### Flexural Strength (ASTM C-78)

3 hour: 930 psi  
24 hour: 994 psi  
7 day: 1319 psi  
28 day: 1800 psi

### Bond Strength (ASTM C-1583/ACI 503.1R)

3 hour > 300 psi  
28 day > 500 psi

### ASTM B-117-11 – Salt-spray (fog)

250 hours and 500 hours: no rust or blistering

### Slant Sheer (ASTM C-882)

3 hour: 3012 psi  
28 day: 6194 psi

### Abrasion Resistance (ASTM C-944)

Depth of wear < 0.020 inches

### Skid Resistance (ASTM E-274)

Greater than 45 SN

### Chloride Permeability (ASTM C-1202)

Charge passed < 180 coulombs

### Freeze Thaw Resistance (ASTM C-666)

0% loss after 50 cycles

## LIMITATIONS

RELAY™ Mixture will not properly adhere to standing oil or grease, visibly wet or damp surfaces, or to silicone coatings or residue.

## POST APPLICATION PROTECTION

If the RELAY™ application is not to be overlaid with a floor covering, a water based coating is recommended to protect against staining.

## WARRANTY

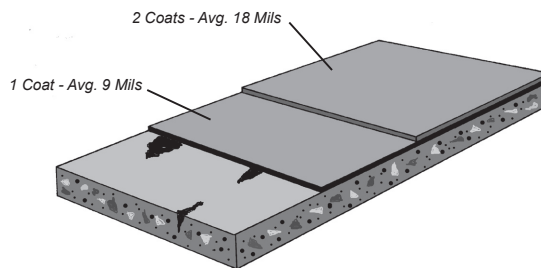
A limited 5-year bonding warranty is available when RELAY™ mixture is applied by certified applicators.



Patching and Filling



Squeegeeing



2 Coats - Avg. 18 Mils





# Relay<sup>®</sup> Polymer resurfacer



## Product Information Sheet

### PRODUCT DESCRIPTION

**RELAY™** is a primerless ready-to-use water base polymer that when mixed with RELAY Powder, can be used for thin bond resurfacing, deep patch and overlay applications. The **RELAY** mix-design is ideal for resurfacing old, worn or damaged surfaces. It's unrivaled adhesion and flexibility characteristics allow effective applications to a wide variety of surfaces e.g. roads, bridges, airports, parking garages, sidewalks, shopping centers, etc.

**RELAY** can be used to produce a feather edge without losing strength or adhesion; or can be placed up to 12" deep in a single lift. It is ideal for repairing and texturing while establishing a safe slip coefficient surface. It is both durable and reliable.

Using the appropriate powder formulation, **RELAY** can produce a smooth, textured, broom or tined surface. It can be colored using water-based or powder pigments. Treated surfaces can be acid stained, painted, coated or sealed. While **RELAY** is primarily used in horizontal applications, it is also excellent for vertical applications.

### POWDER

SINAK Corporation produces 4 different powder formulations to provide different surface profiles and depth.

**RELAY Smooth** – Excellent for producing an ultra-smooth surface. It can be used for floor preparation, or restoring the look and function of older, damaged warehouse floors. Refer to the RELAY Smooth data sheet for additional mixing, usage and application information.

**RELAY 90-QS** – A quick drying easy to use thin bond resurfacer that is excellent for repairing damaged concrete

and will produce a relatively smooth (100 grit) surface profile or a light broom or textured surface. It is recommended for applications less than 1/4". Refer to the RELAY 90-QS data sheet for additional mixing, usage and application information.

**RELAY Overlay** – A quick drying easy to use overlay product that is excellent for overlaying, patching and repairing damaged concrete. It is recommended for applications up to 1/2". For applications greater than 1/2", add equal volume of pea gravel aggregate to powder. Refer to the RELAY Overlay data sheet for additional mixing, usage and application information.

**RELAY Concrete Mix** – A quick drying easy to use concrete mixture that can be used at a depth of 3/4" or more. Refer to the RELAY Concrete Mix data sheet for additional mixing, usage and application information.

### ADVANTAGES

- Unrivaled adhesion
- Waterproof
- Bonds to asphalt, epoxy, and urethanes with no primer
- Excellent abrasion resistance
- Open to traffic in as little as 1 hour
- Outstanding durability

### APPLICATION

#### Tools, Equipment and Materials

##### General tools

Mixing motor, mixing paddle, eye goggles, particle mask, polyethylene sheeting (and/or rosin paper), duct or blue tape, measuring containers, containers for mixing and cleanup, gloves.

Additional speciality tools may be required.

### Surface Preparation

Surface must be clean and dry (**RELAY** will not adhere to damp surfaces). Remove surface bumps and imperfections. Vacuum or sweep up loose debris.

### MIXING INSTRUCTIONS

See appropriate product information sheet for mixing details.

#### Mixing Procedure:

1. Mix or stir **RELAY** Polymer prior to use.
2. Pour **RELAY** into mixing container.
3. Add RELAY Powder, while mixing continuously.
4. Mix thoroughly.
5. Immediately wash mixing equipment.

Note: Applicator must determine the mixture consistency and method suitable for their particular application. To thin the mixture, add additional **RELAY**. To thicken the mixture, add additional powder.

#### Precautions:

Remove all materials that may have low internal strength or a weak bond to the substrate.

If glossy or sealed surfaces are to be treated they should be prepared by sanding or grinding.

For standing surface oil or grease, scrape and/or wipe surface clean. Remove residue with a degreaser. Rinse well with clean water. The application may begin after the surface has dried completely.

**RELAY** mixture will not adhere to standing oil, grease, visibly damp surfaces, or surfaces that have been treated with a silicone or wax based product.

Protect all surfaces not intended for resurfacing. **RELAY** bonds tenaciously



to most surfaces. Should **RELAY** get on surfaces unintentionally, remove **IMMEDIATELY**. If allowed to harden, removal may not be possible without damaging the surface.

Do not allow **RELAY** to harden on tools or equipment. Do not leave exposed to direct sunlight.

### **APPLICATION INSTRUCTIONS**

Do not pour more than can be easily spread in 5 minutes. Drying will take longer in shaded areas, indoors, and in holes and cracks. Increased ventilation (e.g. fans, moving air) will shorten drying time, and is recommended for all indoor applications.

### **COVERAGE**

Coverage is dependent on the type of powder and depth of application. Applicable spread rates can be found on the **RELAY** Powder product information sheet.

### **STORAGE AND HANDLING**

**RELAY** Polymer has 1 year shelf life from date of manufacture when stored in a cool dry area out of direct sunlight.

### **AVAILABILITY**

**RELAY** is available in 1-gallon jugs, 5-gallon pails, and 55-gallon drums. Call SINAK Corporation for most convenient source.

### **LIMITED WARRANTY**

SINAK Corporation warrants its products to be of the highest quality. Since application of the product is a crucial factor in obtaining satisfactory results, and is beyond the control of SINAK Corporation, refund of purchase price or replacement of product shall constitute the limit of SINAK Corporation's liability. SINAK Corporation makes no other warranties, expressed or implied, with respect to the products or any service and disclaims all other warranties, including any warranty of merchantability and fitness for a particular purpose. This limited warranty may not be modified by representatives of SINAK Corporation, its distributors or dealers.

### **TECHNICAL ASSISTANCE**

Technical assistance is available from the manufacturer, trained field representatives, and approved applicators.



# Relay<sup>®</sup> DOT Overlay



Very High Early Strength Latex Modified Mortar

## PRODUCT DESCRIPTION

RELAY DOT Overlay is a Very High Early Strength Latex Modified Mortar (VHESLMM) material that is used for repairing surface spalling, erosion and re-establishing high friction surfaces on roads and bridges. It is specifically designed for 1/4" – 3/4" thickness applications and will establish a superior bond to both the substrate and itself. RELAY DOT Overlay is a low-permeable, very low shrinkage, and highly abrasion resistant product that will reliably perform in high-traffic conditions. Treated surfaces may accept light traffic in one hour and heavy volume traffic within 3 hours after application.

RELAY DOT Overlay combines a unique VOC compliant polymer with a next generation cement and graded sand which produces low exothermic heat. In most cases, heat generated at peak is less than 100°F. Field results and laboratory testing has proven that cracking, cold joints, joint separation and delamination will be negligible.

RELAY DOT Overlay has proven effective in protecting substrates from chloride ion intrusion, freeze-thaw damage, damage due to tire rutting and surface spalling, while re-establishing an aggressive surface profile that will not significantly diminish over time.

## APPLICATIONS

- Very thin-resurfacing
- Fast turn around
- Minimal prep
- Expansion joint nosing repair
- Re-establish high friction wear surface

## ADVANTAGES

- Very early strength >3500 psi/3 hours
- Minimal cracking/joint separation
- Outstanding abrasion resistance
- Low/negligible permeability
- Excellent freeze/thaw durability

## TEST RESULTS

**(AASHTO Certified Laboratory Results-Texas Transportation Institute; NV5)**

*Compression Strength (ASTM C-109):*  
- 3 hour: 6,050 psi  
- 7 days: 9,000 psi  
- 28 days: 10,150 psi

*Flexural Strength (ASTM C-348):*  
- 1,350 psi (1 day)  
- 1,700 psi (28 day)

*Bond-Pull Strength (ASTM C-1583):*  
- 295 psi

*Salt Spray (ASTM B-117-11):*  
- 500 hours –No rust or blistering was observed.

*Slant Shear (ASTM C-882):*  
- 3,012 psi (3 hours)  
- 6,070 (7 day)

*Abrasion Resistance (ASTM C-944):*  
Depth of wear less than 0.020 inches.

*Skid Resistance (ASTM E-274):*  
- Greater than 45 SN

*Chloride Permeability (ASTM C-1202):*  
- 150 coulombs (28 day)

## APPLICATION

### Surface Preparation

Prepare the surface using the following methods: scarifying, chipping, shot blasting, sandblasting, hydro-demolition equipment, or other appropriate

methods. Preparation should leave a minimum CSP-4, absorbent surface profile that is structurally sound and free from loose concrete, oils, dirt, etc., that may affect proper bonding. Saw-cut or chip the patch perimeter to create a perpendicular edge when removing unsound concrete.

### Mixing Procedure:

Choose mixing equipment that is suitable for the project. For small projects, a drill paddle/bucket is suggested. For larger projects, a gasoline powered 4 – 9 cubic foot drum type mixer may be required. If a volumetric truck is required, please contact SINAK Corporation for guidelines.

1. Mix RELAY DOT Polymer well immediately prior to use.
2. Mix 3 quarts of RELAY DOT Polymer with 1, 60-lb bag of RELAY DOT Overlay dry ingredients. Adjust mixture to project requirements.
3. Mix for approximately 2 to 3 minutes to achieve a workable consistency. RELAY DOT Overlay has a working-time of approximately 20 – 30 minutes at 80 F. If additional working-time is needed, contact SINAK.

### Placement:

1. Using a tank-type sprayer, apply the undiluted RELAY DOT Polymer onto the prepared concrete. Uniformly dampen the surface.
2. RELAY DOT Overlay can be placed in one lift. For horizontal repairs or overlay applications, discharge the RELAY DOT Overlay immediately over sprayed polymer. Do not allow sprayed polymer to dry. If allowed to dry it could



affect the bond. For small projects, use suitable equipment e.g., screed rake adjusted for required thickness, then finish as required. For larger projects, motorized paving equipment can be used to distribute, consolidate and level the material. Other finishing equipment can be used e.g., vibrating screed or roller screed.

3. Final surface profiling may take place immediately after the RELAY DOT Overlay has been placed and becomes suitably firm. If specified, the RELAY DOT Overlay can be ground and grooved after the material has fully hardened. In most cases, the repaired area can be opened to traffic within one-hour of hardening.

#### **Clean up:**

During placement, be sure to clean all tools and equipment periodically with water to ensure RELAY DOT Overlay mixture does not dry.

#### **Precautions:**

Be sure to mix the polymer WELL immediately prior to use. Improperly mixed polymer may affect performance. Store all RELAY DOT components in a cool, dry area. Do not allow liquid, bagged or mixed product to be exposed to direct sunlight. This may affect performance and working time.

#### **YIELD:**

3 quarts of RELAY DOT Polymer mixed with 1, 60-lb bag of RELAY DOT Overlay will yield approximately .50 cubic foot of material.

#### **AVAILABILITY**

RELAY DOT Polymer is available in 5-gallon pails, 55-gallon drums and 250-gallon totes.

RELAY DOT Overlay dry ingredients is available in 2000-lb super sacks or 60-lb bags.

Color: Concrete Grey when mixed

#### **LIMITED WARRANTY**

SINAK Corporation warrants its products to be of the highest quality. Since application of the product is a crucial factor in obtaining satisfactory results, and is beyond the control of SINAK Corporation, refund of purchase price or replacement of product shall constitute the limit of SINAK Corporation's liability. SINAK Corporation makes no other warranties, expressed or implied, with respect to the products or any service and disclaims all other warranties, including any warranty of merchantability and fitness for a particular purpose. This limited warranty may not be modified by representatives of SINAK Corporation, its distributors or dealers.

#### **TECHNICAL ASSISTANCE**

Technical assistance is available from the manufacturer.



# Relay<sup>®</sup> Concrete Mix Powder

resurfacer



## Product Information Sheet

### PRODUCT DESCRIPTION

**RELAY Concrete Mix Powder** when mixed with RELAY Polymer is a quick drying easy to use overlay product that is excellent for overlaying, patching and repairing damaged concrete or asphalt. It does not require a primer and is recommended for applications over 3/4". It can be place at lifts of 12" at one time and will not develop an exothermic reaction of greater than 120 degrees F. **RELAY Concrete Mix** has proven to be a superior option in bridge, highway and airport applications.

### ADVANTAGES

- ✔ **Unrivalled adhesion**
- ✔ **Waterproof**
- ✔ **Bonds to asphalt, epoxy, and urethanes with no primer**
- ✔ **Excellent abrasion resistance**
- ✔ **Open to traffic in as little as 1 hour**
- ✔ **Outstanding durability**

### APPLICATION INSTRUCTIONS

1. Shotblast, grind, scabble or scarify surface; then vacuum or sweep prior to applying RELAY Mixture.
2. Mix or stir RELAY Polymer prior to use.
3. Add 60-lbs of **RELAY Concrete Mix** powder to 1 gallon of RELAY Polymer, mix thoroughly. Adjust mixture to desired consistency by adding additional powder to thicken or liquid to further dilute. Adding additional powder or liquid will not affect performance or adhesion.
4. Use the appropriate tool(s) for your project e.g., trowel, gauge rake,

notched, straight rubber or metal blade squeegees. Spread material evenly over the surface. For tined or broom finishes, use appropriate finishing broom or tine rake.

5. Should a second coat be required, be sure to vacuum or sweep surface prior to application.
6. Clean all tools and equipment with water or Windex®.

Note: Applicator must determine the mixture consistency and method suitable for their particular application.

### COVERAGE

A 60-lb bag **RELAY Concrete Mix Powder** when mixed with 1-gallon of RELAY Polymer will yield approximately .5 cubic feet.

### Precautions:

Remove all materials that may have low internal strength or a weak bond to the substrate.

For standing surface oil or grease, scrape and/or wipe surface clean. Remove residue with a degreaser. Rinse well with clean water. The application may begin after the surface has dried completely.

RELAY mixture will not adhere to standing oil, grease, damp surfaces, or surfaces that have been treated with a silicone or wax based product.

Protect all surfaces not intended for resurfacing. RELAY bonds tenaciously to most surfaces. Should RELAY get on surfaces unintentionally, remove IMMEDIATELY. If allowed to harden, removal may not be possible without damaging the surface.

Do not pour more than can be easily spread in 15 minutes. Drying will take longer in shaded areas, indoors, and in cool conditions.

### STORAGE AND HANDLING

**RELAY Concrete Mix** has 1 year shelf life from date of manufacture when stored in a cool dry area out of direct sunlight.

### AVAILABILITY

**RELAY Concrete Mix** is available in 60-lb bags. RELAY Polymer is available in 5-gallon pails and 55-gallon drums. Call SINAK Corporation for most convenient source.

### LIMITED WARRANTY

SINAK Corporation warrants its products to be of the highest quality. Since application of the product is a crucial factor in obtaining satisfactory results, and is beyond the control of SINAK Corporation, refund of purchase price or replacement of product shall constitute the limit of SINAK Corporation's liability. SINAK Corporation makes no other warranties, expressed or implied, with respect to the products or any service and disclaims all other warranties, including any warranty of merchantability and fitness for a particular purpose. This limited warranty may not be modified by representatives of SINAK Corporation, its distributors or dealers.

### TECHNICAL ASSISTANCE

Technical assistance is available from the manufacturer, trained field representatives, and approved applicators.

Manufactured in the U.S.A. 