

# ISR AG

**Durable, crack resistant repair material utilizing ISR (Internal Stress Relief) technology with ECB-Tech corrosion protection.**

## WHERE TO USE

**Pour, pump or hand patch material for parking and plaza decks, balconies and marine structures.**

### Performance Characteristics

#### Pumpable sustainable green technology

- Contains significant concentrations of both pre-and post-consumer recycled content.

#### Low shrinkage

- Maintains integrity of repair, resists cracking.

#### Thermal compatibility

- Prevents delamination due to temperature change.

#### ECB-Tech corrosion protection

- Protects reinforcing steel in repair zone and suppresses ring anode effect.

#### Durable

- Resistant to weathering action, excellent freeze/thaw stability and abrasion resistance.

#### Low permeability

- Resistant to deicing salts, carbonation, chloride, and chemical attack.

#### Dimensionally stable

- Ideal for large areas.

#### Abrasion resistant

- Hard, durable surface for long term wear.

### Surface Preparation

- Remove loose and deteriorated material, laitance, dirt, dust, oil and any surface contaminants that will inhibit proper bond.
- Saw cut edges with a diamond blade at a 90° angle to eliminate feather edging. Avoid polishing the edges as this will inhibit bond.

- Avoid bruising or micro cracking during surface preparation. Refer to ICRI Surface Preparation Guide 03732.
- Repair zone must be a minimum of 3/4 inch deep, of simple geometry, with no complex edge conditions.
- Avoid long narrow repairs; these have a tendency to crack.
- Saturate substrate with clean water, (saturated surface dry/SSD), with no standing water during *Application*.
- Remove concrete from corroded steel and several inches beyond to expose non-corroded steel.
- Provide a 3/4-inch clearance between the concrete and steel.
- Damaged reinforcing steel should be inspected by a qualified engineer an appropriate action taken.

### Mixing

- Mechanically mix using a mortar mixer.
- Pour 2.5 quarts of potable water into a clean mixing vessel and slowly add all of the powder.
- Mix continuously for 3 minutes to a uniform, lump-free consistency.
- Add additional water to increase slump and flowability. Do not exceed 3 quarts of water per 60 lbs. of material.
- For form and pour applications, add up to a total of 3 quarts of water to produce an 8-inch slump.
- Allow to "breathe" for 1 minute.
- Do not overmix, this will entrain excess air.

### Application

- At the time of application, surfaces should be saturated surface dry (SSD) but hold no standing water.
- Form applications must be consolidated with vibrator.
- Place material continuously to break points.
- Finish with a magnesium float or trowel.
- Avoid overworking material during placement and finishing - this will produce surface (map) cracking.

### Curing

- Dampen the repair with a fine mist of water for 24 hours or moist cure with wet burlap and polyethylene.
- Protect repair from direct sunlight, wind, rain and frost during curing period.

### Clean Up

- Clean tools and equipment with water immediately after use.
- Cured material must be removed mechanically.

# ISR AG

## Coverage/Yield

- 0.49 ft<sup>3</sup>/60 lb. bag

## Product Handling

### Packaging

- 60 lb. paper bag.

### Shelf Life

- 12 months when properly stored.

### Storage

- Transport and store in cool, clean, dry conditions in unopened containers.
- High temperature or high humidity will reduce shelf life.

## Limitations

- Do not apply unless substrate and ambient temperature can be maintained at a minimum of 40°F for 24 hours. Refer to ACI Cold Weather Application Guidelines.

- Cold mixing water and low temperature will retard set. Hot water and high temperature will accelerate set.
- Protect application from precipitation and high wind for at least 8 hours.
- Do not add more water than specified, this will lower strengths and cause shrinkage cracking.
- Avoid overworking material during placement and finishing - this will produce surface (map) cracking.

## Health and Safety

- Product is alkaline.
- Do not ingest.
- Avoid breathing dust.
- Avoid contact with skin and eyes.
- Refer to Safety Data Sheet (SDS) for additional information.

## First Aid

- If swallowed, contact a medical professional immediately. Do not induce vomiting unless directed to do so by a qualified medical professional.
- In case of skin contact, wash thoroughly with soap and water.
- In case of eye contact, flush with a high volume of water for at least 15 minutes.
- For respiratory problems, remove person to fresh air. If difficulty persists, contact a medical professional.

## Disposal

- Dispose of material in accordance with local, state and federal regulations.

## Technical Data

Physical state and appearance		Dry powder with aggregate.		
Base		Portland cement		
pH		>12		
Aggregate type		Sharp quartz silica with 3/8-inch pea stone		
Slump	ASTM C143	8-9" @ 2.5 quarts of water		
Length change	ASTM C157	<500 $\mu$ strains @ 28 days		
Restrained shrinkage cracking	ASTM C1581	No cracking after 256 days		
Chloride Ion Penetration	ASTM C1202	1,218 coulombs @ 28 days		
Short-term bond strength	ICRI 03739*	400 psi		
Scaling resistance (Rating 0-1)	ASTM C672	Weight loss after 50 cycles (kg/m <sup>2</sup> ) .04		
Freeze/thaw resistance – procedure A	ASTM C666	Weight gain (%) 0. Expansion (%) 0. Durability Factor DF (%) 99.		
		<b>1 day</b>	<b>7 days</b>	<b>28 days</b>
Compressive strength - psi	ASTM C39	1500	4230	5325
Flexural strength – psi	ASTM C78	382	516	662
Splitting tensile strength – psi	ASTM 496/C496M	182	299	463
Direct tensile strength – psi	CRD C164		293	420
Modulus of elasticity (10 <sup>6</sup> psi/GPa)	ASTM C469	1.96/13.5	2.64/18.2	3.07/21.2
Compressive creep (10 <sup>6</sup> psi)	ASTM C512		0.64	0.97

## FOR PROFESSIONAL USE ONLY

Conproco warrants this product for one year from the date of manufacture to be free from manufacturing defects and to meet the technical properties on the current technical data sheet if used as directed within shelf life. User determines suitability of product for use and assumes all risks. Buyer's sole remedy shall be limited to the purchase price or replacement of product, exclusive of labor or cost of labor. May 23, 2019

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