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# **ARDEX B 20™**

## **Overhead & Vertical Repair Mortar with Corrosion Inhibitor**

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**Portland cement-based, polymer modified structural repair mortar with integral corrosion inhibitor**

**Glass microspheres add body, reduce weight**

**Mixes with water only**

**Easy to apply - non-sag and can be sculpted**

**Installs from 1/4" to 2" in one lift, up to a total of 8" in multiple lifts for deeper applications**

**Freeze-thaw resistant**

**Suitable for overhead and vertical repairs on commercial, institutional and multi-unit residential applications**

**Use for exterior or interior concrete overlays**

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# ARDEX B 20™

## Overhead & Vertical Repair Mortar with Corrosion Inhibitor

### Description and Usage

ARDEX B 20 is a trowel-grade, Portland cement-based, polymer modified, structural repair mortar for vertical and overhead concrete. It is used at depths ranging from 1/4" to 2" (6 mm to 5 cm) in a single lift, and can be installed in multiple lifts up to 8" (20 cm) for deeper repairs of deteriorated exterior or interior concrete. ARDEX B 20 has a corrosion inhibitor built-in to protect reinforcing steel, is easy to apply and readily bonds to concrete. The resulting patch has low shrinkage and resists delamination, producing a surface suitable for commercial, institutional and multi-unit residential applications, including parking garages, overhead walkway and columns - virtually any vertical or overhead concrete surface that needs to be repaired.

### Substrate Preparation

Prior to proceeding with any repair, please refer to the International Concrete Repair Institute's ICRI Guide for Surface Preparation for the Repair of Deteriorated Concrete Resulting from Reinforcing Steel Corrosion; ICRI Guideline for Selecting and Specifying Concrete Surface Preparation for Sealers, Coatings, and Polymer Overlays, and the American Concrete Institute's ACI 546R-04 Concrete Repair Guide for general guidelines for concrete repair.

The repair area must be saw cut in a basic rectangular shape to at least 1/4" (6 mm) in depth. The cuts should be made at approximately a 90° angle, and should be slightly keyed. Chip out the concrete inside the cuts to a minimum depth of 1/4" (6 mm) until the area is squared or boxed in shape.

All substrates must be solid, thoroughly clean and free of oil, wax, grease, asphalt, existing patching materials, curing and sealing compounds, and any contaminant that might act as a bond breaker. Over watered, frozen or otherwise weak concrete surfaces must also be cleaned down to sound, solid concrete by mechanical methods such as needle scaling or similar in accordance with ICRI to create an exposed aggregate surface with a minimum surface profile of approximately 1/16" (1.5 mm). Acid etching, solvents, sweeping compounds and sanding are not acceptable means of preparing the substrate.

For cases with exposed reinforcing steel, mechanically clean the steel to remove all rust and any other contaminants in accordance ICRI. Prime the steel with ARDEX BACA™ Bonding & Anti-Corrosion Agent prior to proceeding with the repair. For further details, please refer to the ARDEX Technical Brochure.

### Cracks and Joints

Saw cuts and dormant cracks greater than 1/16" (1.5 mm) should be filled with ARDEX ARDIFIX™ joint filler or similar in strict accordance with the installation instructions provided by the epoxy manufacturer. The filling of dormant cracks and joints as described is recommended to help prevent telegraphing. However, should movement occur, cracks and joints will reappear.

In no case should expansion joints, isolation joints, construction joints or moving cracks be filled with this epoxy. All moving joints and cracks must be carried up through the ARDEX B 20 by installing a flexible sealing compound specifically designed for use over moving joints, such as ARDEX ARDISEAL™ RAPID PLUS joint filler or similar.

### Recommended Tools

A 1/2" to 3/4" (12 to 19 mm) low speed heavy-duty mixing drill, heavy gauge square box (butterfly) mixing paddle, mixing buckets, measuring container, margin trowel, wood or magnesium float and a steel trowel. Also suitable for mixing in forced action mortar mixers.

### Priming

If ARDEX BACA™ is specified as a primer, follow the application instructions in the ARDEX Technical Brochure.

If this primer is not used, dampen the concrete to be repaired until it is thoroughly saturated. Do not leave any bare spots. Brush or vacuum off puddles and excess liquid. The goal is to saturate the pores of the concrete while leaving the surface free of water (SSD, Saturated Surface Dry). Alternatively, ARDEX P 71™ PRIMER can be used in accordance with the ARDEX Technical Brochure. Do not allow the concrete or ARDEX P 71 to dry before installing the ARDEX B 20. Installing the mortar over a surface that is too dry can result in cracking and bond failure.

### Mixing and Application

Pre-dampen the inside of a 5 gallon pail and remove any excess water. Pour in 6 1/2 to 7 pints (3.07 to 3.31 L) of clean water, and then slowly add one-third of a 55 lb (25 kg) bag of ARDEX B 20. Once this is blended in, add the next third and so on until all of the material is added. Mix with a slow speed drill and mixing paddle for approximately 3 minutes to a uniform, lump-free consistency. If additional water is required, you may add up to 8 oz (0.24 L) of additional mix water per bag.

**Do not overwater.**

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ARDEX B 20 is easily applied to any prepared concrete surface using standard concrete practices. Once mixed, the pot life and working time are 15 to 30 minutes, depending on surface and ambient temperatures. All mixed material must be placed within this time. Once placed, allow the material to take an initial set before finishing. Cool ambient and surface temperatures will slow the setting time, while high temperatures will accelerate it.

Work a scrub coat of the mixed material into the primed or SSD concrete substrate, applying enough pressure to ensure good mortar-to-concrete contact. Apply the repair mortar while the scrub coat is still wet. If the scrub coat is allowed to dry, it must be mechanically removed and reapplied before applying the mortar. Once the mortar is applied, consolidate to remove any air pockets.

Steel trowel the mortar to the desired finish once it takes its initial set. Applications when temperatures are above 85°F (29°C) should follow the appropriate Warm Weather Installation Guidelines available from the ARDEX Technical Service Department.

### Thickness of Installation

ARDEX B 20 can be installed from a minimum of 1/4" up to 2" (6 mm to 5 cm). For application depths greater than 2" (5 cm), mechanically roughen the first lift, and then allow it to set until hardened enough to accept the next lift (approx. 30 minutes). Repeat in 2" (5 cm) lifts until the full depth is filled, to a maximum of 8" (20 cm). Trowel the final lift to the desired finish.

### Curing

Direct sunlight or wind may cause unwanted rapid surface drying. Keep the surface of the installation damp for 48 hours. Do not use solvent-borne curing compounds.

**Note:** if the surface is to receive a topcoat or other type of finish, use moist curing methods only.

### Surface Finish and Sealing

Once the repair has cured for a minimum of 3 to 7 days it can be coated, topped or sealed as specified. To view the toppings, dressing and sealers available from ARDEX, please visit [www.ardexamericas.com](http://www.ardexamericas.com).

### Notes

The working time and pot life of ARDEX B 20 are approximately 15 to 30 minutes at 70°F (21°C). Pot life and working time will vary with ambient temperatures.

ARDEX B 20 is intended for repairing and resurfacing vertical or overhead exterior or interior concrete in institutional, commercial and multi-unit residential areas.

Always install an adequate number of properly located test areas, including the finishes, to determine the suitability of the products for the intended use. As finishes vary, always contact and rely upon the finish manufacturer for specific directives such as maximum allowable moisture content, sealer selection and intended end use of the product.

Never mix with cement or additives. Observe the basic rules of concrete work. Do not install below 50°F (10°C) surface and air temperatures. These temperatures must also be maintained during and for 48 hours after the installation of ARDEX B 20. Install quickly if substrate is warm, and follow warm weather instructions available from the ARDEX Technical Service Department.

### Precautions

ARDEX B 20 contains Portland cement and silica. Avoid eye and skin contact. Mix in a well-ventilated area and avoid breathing powder or dust. KEEP OUT OF REACH OF CHILDREN. Carefully read and follow all cautions and warnings on the product label. For complete safety information, please refer to the Material Safety Data Sheet or visit our website at [www.ardexamericas.com](http://www.ardexamericas.com).

## Technical Data According to ARDEX Quality Standards

All data based on recommended mix ratios at 70°F (21°C).  
Physical properties are typical values and not specifications.

<b>Mixing Ratio:</b>	6 1/2 to 7 pints (3.07 to 3.31 L) of water per 55 lb (25 kg) bag	
<b>Yield:</b>	0.42 cu. ft. per 55 lb bag (0.0119 m <sup>3</sup> per 25 kg bag) 20 sq. ft. per 55 lb bag at 1/4" (1.86 m <sup>2</sup> per 25 kg bag at 6 mm)	
<b>Compressive Strength (psi) ASTM C109:</b>	1 day	3000
	7 days	5000
	28 days	6300
<b>Flexural Strength (psi) ASTM C293:</b>	7 days	1100
	28 days	1500
<b>Splitting Tensile Strength (psi) ASTM 496:</b>	7 days	485
	28 days	565
<b>Modulus of Elasticity (psi) ASTM 469:</b>	28 days	2.26 X 10 <sup>6</sup>
<b>Direct Tensile Bond (psi) ASTM D 4541:</b>	28 days	500 (failure in substrate)
<b>Length Change % ASTM C157:</b>	7 days	<0.1
	28 days	<0.1
<b>ASTM C157 (wet cure):</b>	28 days	<0.03
<b>Pot Life/ Working Time:</b>	Approx. 15 to 20 minutes	
<b>Color:</b>	Gray	
<b>Coat or Seal:</b>	3 to 7 days	
<b>Packaging:</b>	55 lb (25 kg) net weight bags	
<b>Storage:</b>	Store in a cool dry area. Do not leave bags exposed to direct sunlight. Keep from freezing.	
<b>Shelf Life:</b>	1 year if unopened	
<b>Warranty:</b>	ARDEX Engineered Cements Standard Limited Warranty Applies.	

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