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# ARDEX BR 460 FLOW

**High Performance, Flowable, Structural Micro Concrete**

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Shrinkage compensated

Excellent flow and levelling properties

Excellent adhesion to concrete

Contains active corrosion inhibitor

Low resistivity (<15,000Ω cm)

Used in conjunction with ARDEX BRX 60 LO Low Output Anodes

High early & final strength

Low odour

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# ARDEX BR 460 FLOW

## High Performance, Flowable, Structural Micro Concrete

### DESCRIPTION

ARDEX BR 460 FLOW High Performance, Flowable Structural Micro Concrete is a pourable repair mortar designed for reinstating horizontal concrete surfaces damaged through concrete spalling and other chemical or mechanical causes. ARDEX BR 460 FLOW exhibits superior flow characteristics and is capable of being applied in thicknesses of 20mm to 200mm in one pour. It is designed to be used in conjunction with ARDEX BRX 60 LO Low Output Anodes for ultimate corrosion control and cathodic prevention.

### PREPARATION

The substrate must be clean, sound and free from all grease, oil, dust and other surface contaminants such as curing membranes. Damaged or contaminated concrete must be removed to obtain a good bond to the substrate. Cut the edges of the repair vertically to a minimum depth of 20mm. All surface laitance must be removed. Exposed reinforcing steel should be cleaned to remove all residual rust and concrete residue. In accordance to best practice, as outlined in the ACRA Guide to Concrete Repair and Protection Concrete HB84-2006 Chapter 6, concrete should be removed from around and behind all corroding rebar to avoid future contamination of the repaired area. Exposed reinforcing must be cleaned and protected with BR 10 ZP Zinc-rich Primer in a continuous film. If ARDEX BRX 60 LO Low Output Anodes are used, please refer to respective Technical Datasheet for Surface Preparation and rebar priming methods.

### PRIMING

The prepared substrate should be pre-soaked for 24 hours but at least 2 hours before applying ARDEX BR 460 FLOW to reduce the porosity of the substrate. Remove excess freestanding water on the surface prior to the application of BR 460 FLOW. The surface should be mat damp but without standing water.

#### Priming for reinforcement steel

Use BR 10 ZP Zinc-rich Primer as primer for steel reinforcement in concrete. Apply BR 10 ZP in a continuous film; apply a second coat if needed. ARDEX BR 10 ZP should be cured prior to pouring the micro concrete. If ARDEX BRX 60 LO Low Output Anodes are used, please refer to respective Technical Datasheet for Surface Preparation and rebar priming methods.

### FORMWORK PREPARATION

The area to be poured must be enclosed with good quality rigid watertight formwork. The formwork must be able to rigidly confine the ARDEX BR 460 FLOW until it has set. It is recommended to use an appropriate form release agent. Formwork should be flushed out just prior to application without any standing water present.

### MIXING

Use approximately 2.4 – 2.7L water per 20kg bag of ARDEX BR 460 FLOW. Measure the appropriate amount of water into a clean suitable sized pail and then add the entire contents of the bag while mixing with a heavy duty electric drill and ARDEX Mixing Paddle on slow-medium speed (approx. 400-600 rpm). Once all of the powder has been added, mix for approximately 2 to 3 minutes to fully homogenise. The mixed material should be poured immediately for best results.

### APPLICATION

ARDEX BR 460 FLOW is to be applied onto the pre-wetted substrate. Make sure that the micro concrete is applied whilst the substrate is still wet. It should be applied in a continuous pour to avoid cold joints. It is recommended to smooth the material after each pour with a steel trowel.

### CURING

As with all cementitious products ARDEX BR 460 FLOW must be cured properly to ensure maximum performance. An approved ARDEX curing compound such as ARDEX BA 70 CC must be used on all exposed areas. If formwork is used, the curing compound should be applied immediately after the formwork is removed. Curing compounds should be applied onto the surface of the ARDEX BR 460 FLOW according to the Technical Datasheet of the curing compound. If the surface of ARDEX BR 460 FLOW was not restrained during the cure, any laitance should be removed (generally can be rinsed off) before applying the curing compound.

### SET TIMES

Pot Life: to be used in a continuous pour immediately after mixing  
Initial Set: 5 – 8 hours  
Final Set: 6 – 9 hours

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## **PACKAGING**

ARDEX BR 460 *FLOW* is packed in polylined paper sacks – net weight 20kg.

## **COVERAGE**

20kg of powder makes approximately 10 litres of mortar.

At 20mm thickness: 0.5m<sup>2</sup>

At 100mm thickness: 0.1m<sup>2</sup>

## **SHELF LIFE**

ARDEX BR 460 *FLOW* has a shelf life of 6 months when stored in the original, unopened packaging in a dry place at 23°C and 50% relative humidity.

## **CLEAN UP**

Clean all tools in water immediately after use.

## **Pay Attention to the following:**

Do not over-water. Long narrow repairs should be avoided where possible and pours arranged to achieve a length: minimum thickness ration, of not more than 20:1.

## **SAFETY DATA**

This product may cause irritation and an allergic reaction to the skin. It may cause serious eye injury and irritation to the respiratory system. In case of contact with the eyes rinse with running water (15 mins) including removal of contaminated clothing. Wear protective gloves, clothing, eye and face protection. Avoid inhaling dust/ fume/ gas/ mist/ vapours/ spray. Ensure adequate ventilation during mixing and application. Store locked up. Check with your local Council regarding the disposal of contents. Keep out of the reach of children. Call the Poisons Information Centre on 131 126 (AUS) and 0800 764 766 (NZ) or call a doctor if you feel unwell.

## TECHNICAL DATA

<b>Water</b>	2.4 - 2.7l/20kg
<b>Wet density</b>	~2.30g/cc
<b>pot life @23°C</b>	To be used in a continuous pour immediately after mixing
<b>Initial Set</b>	5 - 8h
<b>Final Set</b>	6 - 9h
<b>Flow AS 1478.2-2005</b>	300mm - 650mm (depending on water ratio)

### EN 1504-3 R4 TESTING DATA

	Test Method	R4 Requirements	Typical Results
<b>Compressive Strength</b>	EN 12190	≥ 45MPa	<b>1d</b> >10MPa <b>7d</b> >35MPa <b>28d</b> 45-70MPa
<b>Chloride Ion Content</b>	EN 1015-17:2000	≤ 0.05%	0.002%
<b>Adhesive Bond</b>	EN 1542	≥ 2.0MPa	≥ 2.0MPa
<b>Shrinkage and Expansion</b>	EN 12617-4	≥ 2.0MPa	≥ 2.0MPa
<b>Carbonation Resistance</b>	EN 13295:2004	d ≤control concrete	pass(MC0.45)
<b>Elastic Modulus</b>	AS 1012.17*	≥ 20GPa	27.4GPa
<b>Coefficient of Thermal Expansion</b>	AASHTO T336-11 **	declared value	13.9ms/°C
<b>Capillary Absorption</b>	EN 13057:2002	≤ 0.5kg/(m <sup>2</sup> Xh <sup>0.5</sup> )	0.08kg/(m <sup>2</sup> Xh <sup>0.5</sup> )

### ADDITIONAL TECHNICAL DATA

	Test Method	Typical Results
<b>Flexural Strength</b>	EN 12190	<b>28d</b> 8-11MPa
<b>Drying Shrinkage 23°C 50% RH</b>	AS 1478.2-2005	<b>7d</b> <400ms <b>28d</b> <700ms
<b>Bulk Resistivity</b>	internal method	<b>7d</b> <6000 Ω.cm <b>28d</b> <10,000 Ω.cm <b>56d</b> <11,000 Ω.cm

\*AS1012.17 done in place of EN 13412

\*\*AASHTO T336-11 done in place of EN1770

ms = micro strains

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