



ARDEX CE 580

Rapid Setting High Strength Grout

High early strength

Excellent flowability

Trafficable after 2hrs

Low shrinkage Class C grout

Excellent durability properties

High chloride and sulphate resistance

Pumpable Highly fluid – no segregation

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DESCRIPTION

ARDEX CE 580 is a high early strength, rapid setting cementitious grout suitable for a wide range of civil engineering applications where rapid return to service and high early strength are critical.

ARDEX CE 580 is formulated using special blend of aggregates and advanced cement additives which form a Class C, high strength, low permeability grout which is suitable for permanent applications.

RECOMMENDED USES

- Underpinning
- Structural repairs
- Rock bolt grouting
- Columns and slabs
- Base plate grouting
- Precast panel grouting
- Expansion joint repairs
- Airport lighting installations

SURFACE PREPARATION

The substrate must be clean, sound, and free from all grease, oil, dust, laitance, 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 until the area is squared or boxed in shape. Greater depth is required for heavy-duty trafficable applications. Exposed reinforcing steel should be cleaned to remove all residual rust and concrete residue. Concrete should be removed from around and behind all corroding rebar to avoid future contamination of the repaired area. The substrate must be prepared correctly to remove all the deteriorated and detached concrete until a strong substrate with a rough surface is obtained. Any areas previously repaired and which are not perfectly bonded must also be removed.

PRIMING

To reduce the porosity of the substrate, priming the prepared substrate with ARDEX WR Prime is recommended. Alternatively, the prepared substrate can be pre-soaked using water for at least 2 hours before applying ARDEX CE 580. Remove excess freestanding water on the surface prior to the application of ARDEX CE 580. The surface should be damp to touch without standing water.

FORMWORK PREPARATION

The area to be pumped must be enclosed with good quality rigid watertight formwork. The formwork must be able to rigidly confine the ARDEX CE 580 until it has set. It is recommended to use an appropriate form release agent.

Formwork should be flushed out just prior to an application without any standing water present.

MIXING

Measure approximately 80% of the required water into a clean suitable sized pail and then add the entire contents of the bag while mixing with a heavy-duty electric drill on medium speed (approximately 680rpm). Add the remaining water and mix for about 2 – 3 minutes or until it is fully homogenized. The mixed material must be poured immediately for best results. Mix only the amount of material that can be placed within 20-30 minutes.

APPLICATION

ARDEX CE 580 is to be applied onto the pre-wetted or primed substrate. Make sure that the grout is applied whilst the substrate is still damp, or the substrate primer is still slightly tacky. It should be applied in a continuous pour to avoid cold joints. It is recommended to smooth the material with a steel trowel after the last pour. For ease and efficiency of application, ARDEX CE 580 can be pumped using a suitable automatic concrete or grout mixing pump. Follow the instructions as set by the pump manufacturer.

It is important to note that ARDEX CE 580 is an extremely fast setting material and should be pumped in shorter distances than with regular cementitious products

ARDEX CE 580 can be installed from a minimum depth of 10mm to 100mm. For application depths greater than 100mm, contact ARDEX for further information about aggregate addition for large volume pours.

PUMPING

Once the grout has been mixed, an effective pumping method is required to deliver it to the area of application. Various models of mixers are available for use, all with varying specifications. It is important to match the application's specifics with the capabilities of the mixer and pump. ARDEX can recommend the right mixer for your project.

Prior to pumping grout, rinse the mixer and charge the pump hopper with sufficient water to flush and cool the pump and all grout lines thoroughly. Check to ensure that all lines and hoses are clear and unobstructed. Once grout is mixed, it is important to keep it agitated continuously prior to pumping. It is important to pump continuously and avoid the formation of cold joints.

Following completion, dispose of excess production material in consideration of the environment. Carefully wash out mixer tanks and agitators into the pump hopper and pump the resulting washout material through the grout hoses to a suitable disposal site.

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APPLICATION TEMPERATURES

The mix water's temperature should be kept as low as possible to prevent the grout from hydrating too rapidly. As with the water temperature, the higher the air temperature the more quickly the grout hydrates and sets. ARDEX specifies mixing times and set times at an ambient temperature of 20°C. These times vary with temperature fluctuations, and adjustments will be required to compensate for this. In some cases, it may be necessary to cool the material, the mix water, keep the temperature as low as possible.

It is estimated that every 10°C increase in temperature will halve the product set time. Likewise, every 10°C reduction will double the set time. ARDEX should be consulted for extreme temperature applications.

CURING

It is recommended to apply a curing compound in a consistent film immediately after finishing. Alternatively after the product has set, wet hessian with polythene sheeting taped down at the edges can be used for a minimum 7 days.

PACKAGING

20kg bags.

SHELF LIFE

ARDEX CE 580 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.

TECHNICAL DATA

Mixing Ratio	4.0 – 5.0 Ltrs of clean water per 20kg bag
Coverage	20% - 11.2ltrs per 20kg 25% - 12.2ltrs per 20kg
Application thickness	Refer to ARDEX Australia for advice and approval on pour thicknesses with dimensions exceeding 100mm
Max Particle size	0.3mm

CHARACTERISTICS	TEST METHOD	TEST RESULT	
Compressive Strength	ASTM C942	20%	25%
2hr		20MPa	5MPa
4hr		40MPa	20MPa
1d		55MPa	40MPa
7d		65MPa	50MPa
28d		85MPa	65MPa
Bond Strength	EN 1542: 1999	>1.5MPa	
Dry Shrinkage		<550 µstrain @ 28days	
Setting time		Initial - 25mins Final - 40mins	
Fresh Wet Density		2000 - 2150kg/m3	
Flexural Strength		>7MPa	

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CLEAN UP

All grouting equipment shall be thoroughly washed with clean water after grouting operations are completed.

SAFETY DATA

Causes skin irritation. May cause an allergic skin reaction. Causes serious eye damage. May cause respiratory irritation. Suspected of causing genetic defects. May cause damage to organs through prolonged or repeated exposure. Do not breathe dust/fume. Wear protective gloves, protective clothing, eye protection and face protection. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. IF exposed or concerned: Get medical advice/ attention. Immediately call a POISON CENTER/doctor/physician/ first aider. IF ON SKIN: Wash with plenty of water and soap. If skin irritation or rash occurs: Get medical advice/ attention. Take off contaminated clothing and wash it before reuse. IF INHALED: Remove person to fresh air and keep comfortable for breathing. Store locked up. Store in a well-ventilated place. Keep container tightly closed. Dispose of contents/container to authorised hazardous or special waste collection point in accordance with any local regulation. Additional information is in the Safety Data Sheet (SDS) at ardexaustralia.com.

GUARANTEE

ARDEX Australia Pty Ltd ("we" or "us") guarantees this product ("our goods") is free from manufacturing defects and will perform to any applicable specification published by us for 10 years from the date of purchase. Our liability under this guarantee is limited at our option to replacement of the product, repair of any damage to the immediate surface or area of application of the product, or compensation, in each case if we are satisfied loss or damage was due to a breach of this guarantee. This guarantee does not apply if damage or loss is due to failure to follow published instructions or any act or circumstance beyond our control, including shade variations and efflorescence. If you wish to make a claim under this guarantee you must notify us (ARDEX Australia Pty Ltd, 2 Buda Way, Kemp's Creek, NSW 2178; Toll Free: 1800 224 070; Email: technicalservices@ardexaustralia.com) and provide evidence of your purchase of the product within 30 days of any alleged loss or damage occurring. We reserve the right to ask you for satisfactory evidence of any alleged loss or damage. Any claim under this guarantee is at your cost. This guarantee is in addition to any rights or remedies you may have as a "consumer" under the Australian Consumer Law and to that extent you need to be aware that: "Our goods come with guarantees that cannot be excluded under the Australian Consumer Law. You are entitled to a replacement or refund for a major failure and for compensation for any other reasonably foreseeable loss or damage. You are also entitled to have the goods repaired or replaced if the goods fail to be of acceptable quality and the failure does not amount to a major failure".

DISCLAIMER

The technical details, recommendations and other information contained in this data sheet are given in good faith and represent the best of our knowledge and experience at the time of printing. It is your responsibility to ensure that our products are used and handled correctly and in accordance with any applicable Australian Standards. Our instructions and recommendations are only for the uses they are intended. Users are advised to confirm that this product is suitable for their application and conforms with the specifications of the system. We also reserve the right to update information without prior notice to you to reflect our ongoing research and development program. Country specific recommendations, depending on local standards, codes of practice, building regulations or industry guidelines, may affect specific installation recommendations. The supply of our products and services is also subject to certain terms, warranties and exclusions, which may have already been disclosed to you in prior dealings or are otherwise available to you on request. You should make yourself familiar with them.

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