ARDEX CE 707

Sprayable High Build Shotcrete

Highly durable, microsilica-modified

High build – up to 300mm thick in one pass

Low rebound and dust generation

Low electrical resistivity

Ideal for localized patch repair and reinstatement of large areas of concrete

ARDEX-QUICSEAL SINGAPORE PTE. LTD.
26 Tuas Ave 4 Singapore 639376
Telephone: +65 6861 7700
Fax: +65 6741 4666
Email: sales@ardex-quicseal.com
Website: www.ardex-quicseal.com

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DESCRIPTION
ARDEX CE 707 is a high strength, shrinkage compensated dry-spray shotcrete for structural concrete repair. It is formulated using a blend of well graded sand, portland cement and special chemical additives for infrastructure projects where impressed current cathodic protection systems are used.

The use of silica fume and well graded sand in ARDEX CE 707 delivers outstanding performance of both wet and dry process shotcreting with less rebound loss and thicker applications with each pass.

RECOMMENDED USES
- Sea walls
- Tunnels
- Storm water culverts
- Wharfs and jetties
- Beams
- Parking garages
- Slope stabilization
- Retaining walls
- Repair for structural members in buildings

ADVANTAGES
- High bonding strength
- One component
- High build
- Chloride free
- Low rebound and dust generation
- High chloride and sulphate resistance
- Low electrical resistivity – compatible with impressed current cathodic protection systems

SURFACE 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. Mark out the area of repair. 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. 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. Concrete should be removed from around and behind all corroding rebar to a depth of 20mm to allow proper placement and avoid future contamination of the repaired area.

PRIMING
To reduce the porosity of the substrate, priming the prepared substrate with ARDEX P 507 is recommended. Alternatively, the prepared substrate can be saturated with water for at least 6 hours before applying ARDEX CE 707. Remove excess freestanding water on the surface prior to the application of ARDEX CE 707. The surface should be mat damp but without standing water.

REINFORCMENT STEEL
The reinforcing steel should be cleaned to a standard surface purity of Sa 2.5 for chloride-contaminated concrete and Sa 2.0 for carbonated concrete. Surface rust should be removed manually with a wire brush, followed by a high-pressure water-jet treatment. In case the reinforcing steel is corroded and has lost more than 20% of its diameter, it has to be cut and removed. If chloride contamination is present, then high pressure wet blasting not exceeding a pressure of 18MPa is required to remove the chlorides and other contaminants.

APPLICATION
For Dry Spray:
Break the bag to drop ARDEX CE 707 into the shotcrete machine. The air and water pressure at the nozzle shall be suitably adjusted such that there is no sagging, sloughing or dropout. The sprayed shotcrete shall be applied at an angle as close as possible to 90 degrees to the substrate, and at a distance of between 0.5 and 1m between the nozzle and the substrate. Application shall start from the bottom and be completed at the top. Care is required to avoid the formation of voids behind the reinforcement. Clean the spray machine immediately after the application.

CURING
As with all cementitious products ARDEX CE 707 must be cured properly to ensure maximum performance. It

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is recommended to apply ARDEX P 507 after initial set on all exposed areas. Curing compounds should be applied onto the surface of the ARDEX CE 707 according to the Technical Datasheet of the curing compound. If a curing compound was not used, wet hessians and/or plastic sheets should be placed on the surface after initial set for 3 - 7 days.

PAY ATTENTION TO THE FOLLOWING:

1. Do not over-water. This can lead to sagging, shrinkage, and strength reduction.
2. Store bags and water reservoir for mixing in a shaded or conditioned space. Cool water and powder can greatly extend the working time in hot conditions.

PACKAGING

ARDEX CE 707 is packed in
polylined paper sacks – net weight 25kg,
polylined bulk bags – net weight 1000kg

STORAGE AND SHELF LIFE

ARDEX CE 707 has a shelf life of 12 months when stored in the original, unopened packaging in a dry place at 23°C and 50% relative humidity.

CLEAN UP

Clean the dry spray machine using air gun and clean nozzle with water immediately after use

TECHNICAL DATA

Mixing Ratio	2.7 – 3.3L of water per 25kg bag
Coverage	25kg of powder yields 12.0L of mortar @ 2.8L water 1m^3 of mortar requires 84 bags of powder @ 2.8L water

Characteristics	Test Method	Test Results
Compressive Strength 8 hours 24 hours 7 days 28 days	BS EN 12190 : 1999	 > 5 MPa > 25 MPa > 45 MPa > 65 MPa
Flexural Strength 28 days	BS EN 12190 : 1999	 > 9.0 MPa
Adhesion Strength	BS EN 1542 : 1999	> 1.5 MPa
Wet Density	BS EN 1015-17 : 2000	2290 ± 100kg/m^3
Setting Time Initial Set Final Set	ASTM C953 : 2017	 > 30 min < 180 min

Technical data according to ARDEX Quality Standards. All data based on a partial, in-lab mix at 23 ± 2°C and RH 55 ± 10%, water powder ratio 0.11

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SAFETY PRECAUTIONS

ARDEX CE 707 should not come into contact with the skin and eyes or to be swallowed. Ensure adequate ventilation and avoid inhalation of vapours. Wear suitable gloves, goggles and other protective clothing. The use of barrier creams can provide additional skin protection. When working in confined areas suitable respiratory equipment must be used. In case of contact with skin, rinse with plenty of clean water then wash with soap and water. Do not use solvent. In case of contact with eyes, rinse immediately with plenty of clean water, and then seek medical attention without delay. If swallowed, seek medical attention straight away, do not induce vomiting. The Safety Datasheet (SDS) is available at www.ardex-quicseal.com

DISCLAIMER:

The technical datasheets are based on the latest information and given in good faith and represent the best of our knowledge and experience at the time of printing. They are primarily offered for user's consideration and evaluation. It is the responsibility of the user to conduct their own tests to validate the suitability of the products. It is also the responsibility of the user to ensure that the products are used and handled correctly and in accordance with any applicable standards, the product instructions and recommendations and only for the uses they are intended. As we have no control over site conditions and the execution of the work, we accept no liability for any loss or damage which may rise as a result thereof. We also reserve the right to update the information at any time without prior notice to you to reflect our ongoing research and development program.

Offices:

Malaysia:
ARDEX QUICSEAL MALAYSIA SDN. BHD.
72-2, Jalan Puteri 2/2 Bandar Puteri 47100,
Puchong, Selangor Darul Ehsan
Malaysia
Phone: +603 8051 0311
Email: sales.malaysia@ardex-quicseal.com

Thailand:
ARDEX (THAILAND) CO., LTD
969 2nd Floor Moo, 13, Soi 45, Bangna-Trad Road
Bangkaew, Bangplee, Samutprakarn 10540
Thailand
Tel: +66 2316 3069 Fax: +66 2316 3075
Email: sales@ardex.co.th

Vietnam:
Mobile: +84 901 351 308
Email: sales@ardex-quicseal.com

Hong Kong:
ARDEX SCORETECH LIMITED
1101 New Mandarine Plaza Tower B
14 Science Museum Road, TSTE
Telephone: +852 2529 6325 / +852 2165 0900
Email: sales@ardexscoretech.com

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