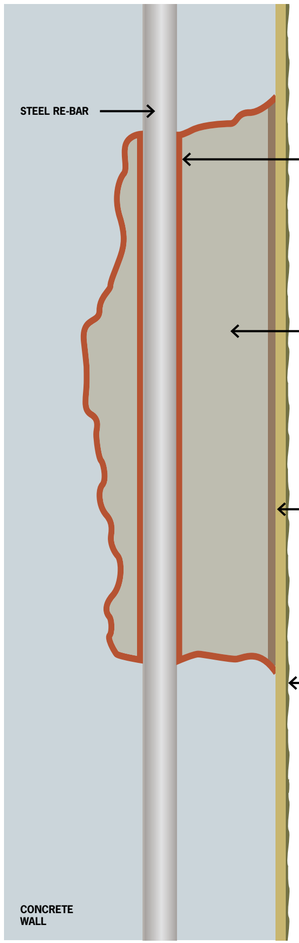
Ardex system façade restoration



1 Prepare

Reinforced steel around spalled concrete areas should be exposed back to clean un-corroded steel.

2 Prime

ARDEX B 34 Anti Corrosive Primer/Bonding Bridge

- Prime damaged and exposed areas with ARDEX B 34 Anti Corrosive Primer

3 Patch

ARDEX B 36 Concrete Patching and Repair Mortar

- While ARDEX B 34 is still wet, apply ARDEX B 36 to the primed areas
- Ensure that ARDEX B 36 is sufficiently forced or compacted into all cracks and holes

4 Fairing Coat

ARDEX B 34 Fairing Coat

- ARDEX B 34 can be used as a Fairing Coat that will provide an overall smooth finish
- Apply ARDEX B 34 with a trowel over pre-dampened ARDEX B 36

5 Membrane Application

ARDEX WPM 270 Primer

- Prime surface with ARDEX WPM 270 prior to the application of ARDEX WPM 330

ARDEX WPM 330 External Anti-Carbonation Façade Membrane

- Can be applied with a nap roller, textured roller, paint brush or airless spray gun
- Ensure that ARDEX WPM 330 is evenly applied at recommended coverage rates

Technical data

	ARDEX B 34	ARDEX B 36
Form and Colour	Grey powder	Lightweight formable grey mortar
Mixing Ratio	**Primer and Bonding Bridge:** mix 250mL/kg **Fairing Coat:** mix 200mL/kg	4.0 litres per 20kg bag
Mixed Mortar Density	2kg/L wet	1.5kg/L
Compact Mortar Density	n/a	1.5kg/L
Pot Life (23°C)	45 – 60 mins	45 – 60 mins
Application Thickness	**Primer/Bonding Mortar:** 1-2mm **Fairing Coat:** 1-3mm	Max 100mm Min 5mm
Coverage (20kg):	**At 3mm thickness:** 4m² **At 1mm thickness:** 12m²	**At 10mm thickness:** 1.5m²
Yield	12L	15L mortar per 20kg
Application Temperature	10°C – 35°C	10°C – 35°C
Tensile Strength and Elongation (AS 1145-1989)	1.7Mpa	1.0Mpa
Flexural Strength	**28 days:** 7Mpa	**7 days:** 6Mpa **28 days:** 8Mpa
Compression Strength	**28 days:** 24Mpa	**1 day:** 12Mpa **7 days:** 24Mpa **28 days:** 30Mpa
Shelf Life	12 months	6 months
Curing Time	n/a	3-4 hours
Hardening Time	>4 hours	n/a
Ph Level	14	n/a

	ARDEX WPM 330
Description	Water based acrylic
Form and Colour	Viscous liquid in standard colours. Special colours on request at a premium
Gloss Level	Low Satin
Dirt Collection	Excellent
Volume Solids	49%
Specific Gravity	1.26g/cm³
Dry Film Thickness (2 coats)	0.35mm per coat
Application Tools	Nap roller, textured roller, brush, air less spray
Application Temperature	10°C – 35°C
Drying Time	**Recoat:** 4 hours **Hard Dry:** 24 hours
Water Vapor Transmission (S_d) (STM E96-94)	39.8g/m²/24hrs
Carbon Dioxide Diffusion Resistance (R_c) (min reqd. R>50m)	124m
C.I. Diffusion Rate (Dci)	$7.7x10^{-14}$m²/sec
Sulfur Dioxide Diffusion Resistance Industry Accepted (min reqd R_c>100)	124m
Tensile Strength and Elongation (AS 1145-1989)	**After 28 days dry:** 3.9MPa (310%) **After 14 days UV exposure:** 4.3MPa (370%)

Further technical information available upon request.

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FAÇADE RESTORATION

EVERYTHING YOU NEED FROM START TO FINISH

Giving you peace of mind with a guaranteed system that works.

SYSTEMARDEX PREMIUM PERFORMANCE

ARDEX

With a range of products including an **anti-corrosive** primer, **bonding bridge** mortar, **high build** patch mortar, **fairing** coat and **façade membrane** coatings.

ARDEX **Systems Façade** is your solution to façade restoration.

ARDEX B 34
Anti Corrosive Primer, Bonding Bridge/Mortar and Fairing Coat

- Corrosion inhibiting primer/bonding bridge mortar prior to application of renders and patching mortars
- Fairing/skim coat for final smoothing over patched areas or generally on masonry and brick walls
- Façade preparation/restoration prior to application of ARDEX coating membranes
- For aerated concrete panelled walls
- In situ poured concrete repairs
- Ideal for spalling concrete and pre cast panel repairs

ARDEX B 36
Concrete Patching and Repair Mortar

- High build patching mortar designed for reinstating concrete surfaces damaged through concrete spalling or other mechanical causes
- For façade preparation/restoration prior to application of ARDEX coating membranes
- Ideal for spalling concrete and pre cast panel repairs
- For repairing aerated concrete panelled walls
- Can be used for repairs under ARDEX membranes and tile adhesives
- As a repair mortar for pool repairs – prior to waterproofing and tiling

ARDEX WPM 270
Solvent Based Primer

- ARDEX WPM 270 is a clear primer designed to lock particles on the substrate to achieve maximum adhesion for subsequent coatings
- Seals absorbent substrates and penetrates dust
- Designed for external applications
- Suitable applications new and old concrete, compressed fibreboards and timber

ARDEX WPM 330
External Anti Carbonation Façade Membrane

- A premium acrylic membrane for building façades, external walls, roof parapets, silos, lighthouses and other external structures
- Prevents moisture, salt and carbon dioxide entering and damaging the building structure whilst allowing the surface to breathe
- Excellent flexibility and high build properties, suitable over hairline cracks
- Textured finish to mask surface imperfections
- Meets all industry standards in relation to CO_2 diffusion rate, chloride ion diffusion rate and sulfide ion diffusion rate

ARDEX WPM 330 Façade

Product

ARDEX WPM 330 (Sheltercoat Façade) is a pure acrylic, high build, water based, protective barrier designed to preserve a building's structure and enhance its aesthetic value.

ARDEX WPM 330 prevents the ingress of moisture, carbon dioxide, sulfide ions and chloride ions thereby preventing the occurrence of reinforced corrosion and concrete spalling.

Being an exposed membrane, ARDEX WPM 330 protects the building from extreme climatic conditions and the harsh effects of UV rays.

ARDEX WPM 330 can be applied with a nap roller, textured roller, paint brush or airless spray.

ARDEX WPM 330 is available in a range of colours, it is highly resistant to dirt pick-up, fungi and algae, making for easy maintenance.

Typical usage

ARDEX WPM 330 has been designed specifically for exterior vertical surfaces – external building walls/façades, silos, lighthouses and other external structures.

ARDEX WPM 330 can also be used in any external situation including balcony slab edges, roof parapets and car park ceilings, providing the areas are non trafficable and not subject to ponding.

Suitable substrates

- Rendered walls
- Brick and masonry walls
- Tilt up and pre-cast concrete
- Light weight aerated concrete blocks (e.g. hebel)
- Fibre cement sheets

Criteria for selecting a protective coating

Effective anti carbonation coating

An effective anti carbonation coating is a protective membrane that resists the ingress of carbon dioxide while allowing the outward flow of water vapour (i.e. allows the coating to breathe).

Carbon Dioxide Diffusion Resistance, R_c>50m
ARDEX WPM 330 R_c=124m

R_c is the measure of the resistance of a coating to carbon dioxide diffusion. It is expressed in metres and represents the thickness of a layer of air with equivalent resistance. Klopfer's criterion for protective coatings for concrete is R_c greater than 50m. Coatings such as ARDEX WPM 330 that have a resistance greater than 100m, are considered to be very effective barriers against the infiltration of acid gases (carbon and sulphur dioxide). By reducing the passage of these gases, protective coatings help maintain the pH of concrete, thereby maintaining the passive environment around the steel and preventing corrosion. (Independent test conducted by Taywood Engineering)

Water Vapour Transmission S_d<4m
ARDEX WPM 330 S_d = 1.1m

In order to prevent blistering, protective coatings must allow excess water in the concrete to escape in the form of vapour as to prevent condensation development internally due to internal/external temperature differentials, external walls must be allowed to breathe to allow this moisture to escape to the atmosphere and not accumulate on internal surfaces.

Therefore protective coatings allow the passage of water vapour, not resist it. This is reflected in Klopfer's resistance criterion requiring less than 4 metres. ARDEX WPM 330 with S_d of 1.1m, falls well within this limit. (Tested by Taywood Engineering to ASTM E96-94, section 12)

Chloride Ion Diffusion Resistant
ARDEX WPM 330 = 7.7 x 10^{-14} m^2/sec

A protective coating must also restrict the ingress of chloride ions. The principle entry into concrete of these ions is through saline solutions e.g. salt spray or underground water. In the absence of a standard, it is commonly accepted that a protective coating with diffusion resistance less than $10^{-12}m^2$/sec is suitable for normal use, whereas for severe conditions a resistance of less than $10^{-13}m^2$/sec is required. (Independent test conducted by Taywood Engineering)

Photo taken in 2009, job completed in 2003

Before

After

Before

After