



Vapogard™ AC220

High Performance Anti-carbonation Coating



Anti-carbonation Coating Systems

The House of Scandinavian Finishing Materials

Anti-carbonation coatings are surface treatments that have a high resistance to carbon dioxide (CO₂) as they protect concrete from carbonation by acting as a carbon dioxide barrier.

Terraco Vapogard™ AC220 is a superior quality 100% pure acrylic water based anti-carbonation coating. This ultra-low VOC coating is suitable for use on exterior and interior surfaces of concrete and anti-rust primed steel. Vapogard AC220 protects concrete from carbonation (anti-carbonation coating) and provides outstanding protection to the substrate against UV rays.

Causes of decay in concrete

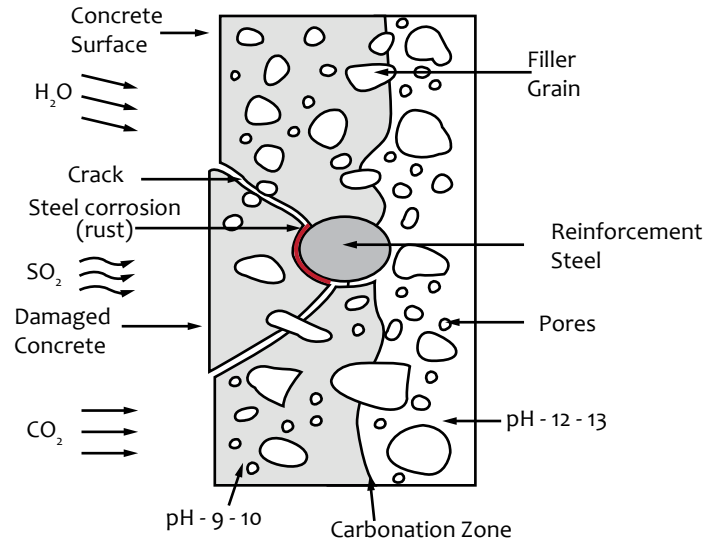
The major causes of concrete decay in reinforced concrete is carbonation and the ingress of chlorides.

Concrete has a high alkalinity, typically pH12 and pH13, which provides a protective passivation layer around the steel reinforcing bars. Ingress of carbon dioxide has the effect of reducing the alkalinity of the concrete to a pH of 9 and below leading to spalling concrete.

Furthermore, the ingress of chlorides and sulphates (SO₂) increases the risk of rebar corrosion resulting in a volumetric expansion of the steel of up to 2.5 times and the consequential spalling and cracking of the concrete.

The main culprits causing decay in concrete are:

- Weathering [wind and water (H₂O)] leading to erosion
- Atmospheric pollutants (carbon dioxide and sulphur dioxide)
- Chlorides in solution (de-icing salts and salt water)
- Lack of sufficient concrete cover
- Poor quality concrete (cracks, honeycombing etc.)



How Vapogard AC 220 works

Terraco's anti-carbonation system concentrates on using barrier coatings to protect from the ingress of water and carbon dioxide.

Terraco's system also understands that it is necessary for anti-carbonation coatings to be breathable which allows the free passage of moisture vapour, keeping the surfaces drier and free from the build-up of moisture which can enable diffusion of CO₂ and chlorides more easily into the concrete.

Benefits

- Weather resistant
- Pollution resistant
- Anti-carbonation
- UV resistant
- Ultra-low VOC (<5 g/L) (USEPA 24)
- Interior and exterior application
- Matt finish when dry
- Water based
- Ease of application
- Extensive colour range

Areas of use

Vapogard AC220 can be used on new or old surfaces of concrete, brickwork, plasterwork, plywood, galvanised steel and anti-rust primed steel.

Suitable for:

- Car park walls and ceilings
- Concrete civil structures
- Concrete bridges
- Concrete jetties
- Concrete viaducts
- Concrete soffits



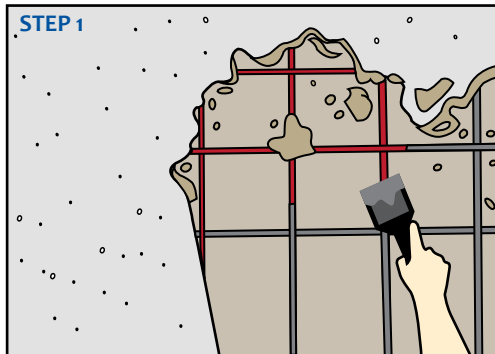
Surface Preparation

New Exterior / Interior Surfaces

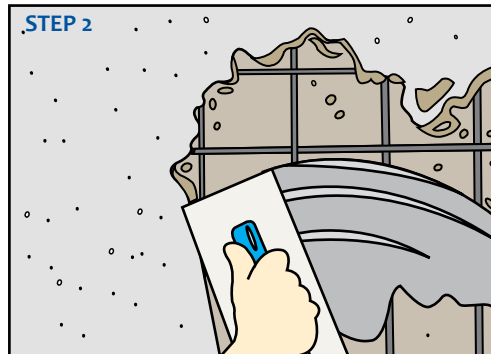
Ensure that all dust dirt and foreign matter is scraped and brushed away. Ensure that all surfaces are free from salts, oil, grease and ridges. Repair all cracks, chips, voids and damages with:

- Terraco Handycoat Exterior for exterior surfaces
- Terraco Handycoat Interior Stucco Putty / Handycoat Fine for interior surfaces (Non-wet areas).

Old Exterior / Interior Surfaces (in particular car park basements)

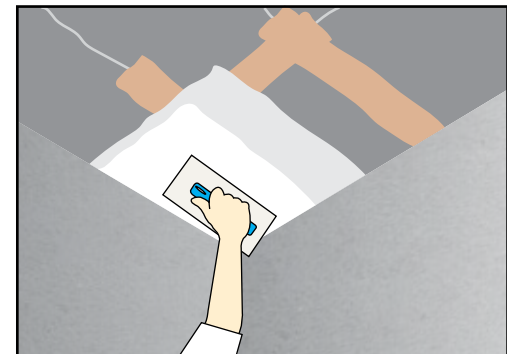


Remove all spalling concrete surfaces exposed to the elements. Treat steel with Terraco Epiprime ZR (anti-corrosion 2K primer) or other suitable anti-corrosion primer.



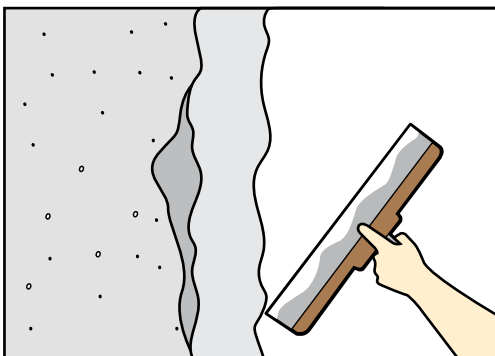
Patch areas using one of the Terraco Terraroc Concrete Repair products and allow to cure.

Fair-faced Concrete Ceilings



Apply one coat of Sprayplaster Basecoat (BC) to feather out joints if necessary. Thereafter, apply Finish Coats as shown in the next drawing.

Finish Coats for walls and ceilings

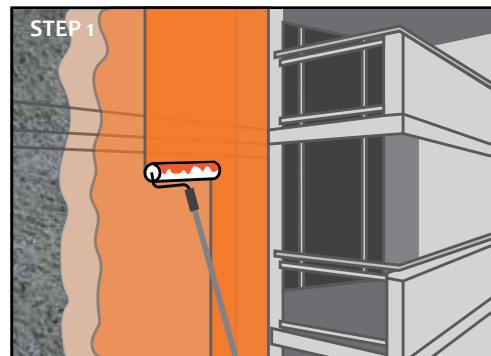


Trowel apply two coats of:

- Sprayplaster Finishcoat (FC) to internal surfaces not exposed to water / rain, or
- Sprayplaster Finishcoat Washable to internal surfaces exposed to water / rain, or
- Handycoat Exterior to external surfaces.

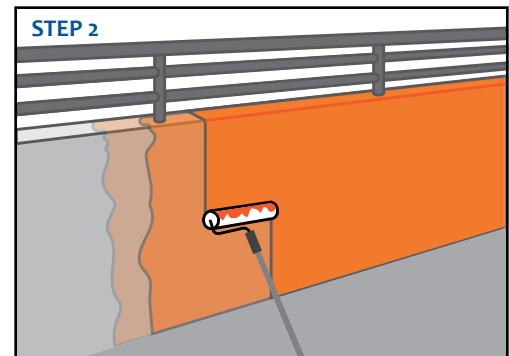
Application

New / Old Surfaces



Priming

For dusty surfaces, apply one coat of Terraco P Primer by roller and allow to dry. For very porous surfaces, apply one coat of Terraco Vapogard AC220 by roller diluted 10% with clean water.



Anti-carbonation Coating

Apply two coats of Terraco Vapogard AC220 by brush, roller, airless or conventional spray allowing 2 to 4 hours drying time between coats. Application work should be continuous in order to avoid dry edges.

| Anti-carbonation System | Exterior | | Interior (Non-wet areas) | |
|--|--------------------|--------------------|---|---|
| | New | Old | New | Old |
| Surface Preparation Products | | | | |
| Clean surface and repair all cracks, chips & voids | Handycoat Exterior | - | Handycoat Interior | - |
| Remove spalling concrete & treat steel | - | Epiprime ZR | - | Epiprime ZR |
| Patch areas using concrete repair compound | - | Terraroc | - | Terraroc |
| Level surface with lightweight render – 2 coats 1 st coat : 2mm & 2 nd coat : 1 - 2mm thickness | Handycoat Exterior | Handycoat Exterior | Sprayplaster FC / Sprayplaster FC Washable | Sprayplaster FC / Sprayplaster FC Washable |
| System Application (after substrate has been rendered) | | | | |
| Penetrating primer coat | P Primer Clear | P Primer Clear | P Primer Clear | P Primer Clear |
| Anti-carbonation coating – 2 coats | Vapogard AC220 | Vapogard AC220 | Vapogard AC220 | Vapogard AC220 |

Technical Information: Vapogard AC220

| | |
|---|---|
| Coverage | 1 - 4 m ² / Ltr Civil Structures 1 - 2 m ² / Ltr Car parks 3 - 4 m ² / Ltr |
| Application Method | Brush, roller, airless or conventional spray equipment |
| Drying Time | 1 – 2 hours per coat Recoating time: 2 – 4 hours depending on site conditions |
| Dilution | With water if necessary. The first coat can be diluted 10% with clean water |
| pH Value | 8.0 – 9.0 |
| Carbon Dioxide Diffusion SD (m) (=μ Co ₂ s) | 400 meters DIN EN 1062-6: 10-2002 |
| Average Carbon Dioxide Permeability (i) in g/m ² d | 0.71 |
| VOC | <5 g/L (USEPA 24) |
| Packaging | 18 litre and 3.6 litre plastic pails |
| Storage | 12 months in original unopened containers |



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