Concrete Care Reference Guide

Maximising value from your concrete assets

General polished concrete

Garages and sheds

Warehouses and factories

Commercial areas and restaurants

Showrooms and studios

Driveways and stonework

EpiMax

What needs to be considered for products used in concrete protection?

• Sustainability - whole of life

Sustainability is related to the quality of life in a community - whether the economic, social and environmental systems that make up the community are providing a healthy, productive, meaningful life for all community residents, present and future.

With regard to protection systems, sustainability should consider the "whole product life cycle". This includes production, application, service life and disposal.

Volatile Organic Content (VOC) is an important measure of a protection system's environmental impact. Our products meet or exceed the requirements of IEQ.13.1, Green Star Office Interiors, Indoor Environment Quality. We are a member of the Green Building Council of Australia.

Yet a low VOC level is not all that is required to make a coating sustainable. The arithmetic of the application and the durability is very important. If the system lasts longer, it's even better.

Underperforming systems will always have greater environmental impact due to re-installation costs (surface preparation grinding energy, disposal and then the impact of the re-application itself).

• Design life - budget compliance

The first important question to ask when selecting a new protection system is - What is the required design life – 2, 5, 10 or 20 years? And, is frequent or regular maintenance feasible?

It is virtually impossible to keep any concrete structure from cracking. Without proper protection, these cracks become the routes through which moisture, salt, acid rain and other chemicals can begin the degradation process on concrete remarkably quickly.

The specification must meet the agreed design life and the intended maintenance-free period.

• Inherent chemical resistance requirement

Concrete is a widely used engineering material. However whilst strong in certain mechanical aspects, unprotected concrete is extremely susceptible to a wide variety of chemical attack.

The specification for any protection system must address the chemical resistance requirements.

EpiMax offers a range of protection systems that cater to project requirements.

• Mechanical performance

The specification for any protection system must address the mechanical performance requirements including impact and abrasion resistance.

Any protection system applied to concrete must exhibit excellent adhesion and have a bond strength that exceeds the tensile strength of concrete.

• Practical application characteristics

The particular needs of the structure including the practical aspects of access and application are important considerations in any project.

EpiMax supplies protection systems that can be applied by spray or roller in thicknesses of 150 – 3000 microns per pass. Trowel applied systems can achieve 75 mm thickness.

Our systems are self priming.

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***EpiMax is your source** for the latest proven developments in performance protection systems. This is all we do. Our systems build on break-through technologies (extreme chemically resistant third generation epoxy novolac chemistry, high performance water based chemistry, new polyaspartic chemistry).*

At EpiMax we pride ourselves in the chemical technology of the systems we offer, the knowledge value involved in their use and our overall responsiveness.

EpiMax has built its reputation on a construction engineering foundation. Our experience has been forged on an impressive variety of civil, environmental, industrial, mining, defence and general services construction.

This success has been proven through partnerships with forward-thinking architects, consultants, engineers, application contractors, project managers and materials testing agencies. We believe in teamwork, respect and integrity.

Our primary focus is

- Floor Protection Systems
- Wall and Ceiling Protection Systems
- Industrial Concrete Protection Systems
- Green Certified Protection Systems
- Water and Wastewater Processing Protection Systems
- Foundation Protection Systems
- Extreme CAT (Corrosion, Abrasion and Thermal) Protection Systems

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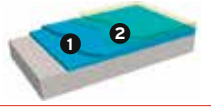
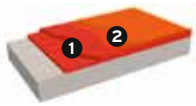
Selection Guide

APPLICATION	SYSTEM	SCHEMATIC
General polished concrete	2 x EM 333WB XP Clear ❶ 2 x EM 777UHD Gloss or Matt ❷ 2 x EM 900 ❷ (external work)	
Garages and sheds	2 x EM 333WB XP Colour ❶ 2 x EM 900 Clear ❷ (optional)	
Warehouses and factories	2 x EM 333WB XP Grey ❶	
Commercial areas and restaurants	2 x EM 333WB XP Clear ❶	
Showrooms and studios	2 x EM 333WB XP Clear ❶ 2 x EM 777UHD Gloss or Matt ❷	
Driveways and stonework	2 x EM 950 ❶	

Note: External and chemically resistant clear coats best achieved with 2 x EM 900

Applications

Residential:

- ***Polished concrete protection***
- ***Garages, sheds***
- ***Driveways and stonework***

Retail:

- ***Polished concrete protection***
- ***General shop fit out flooring***
- ***Restaurants***
- ***Car park floor and wall protection***
- ***Waste management areas***
- ***Factory outlet stores***
- ***Wholesale warehouses***
- ***Stock rooms***
- ***Plant rooms***
- ***Commercial kitchens***
- ***Fire stairs***

Commercial:

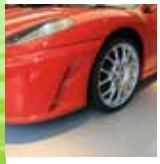
- ***Polished concrete protection***
- ***Plant rooms***
- ***Car park floor and wall protection***
- ***Waste management areas***
- ***Fire stairs***
- ***Commercial kitchens***
- ***Stock rooms***

General polished concrete

Advances in protection systems are also accelerating the acceptance of polished concrete.

- Gloss or matt protection
- Scuff resistant, UV stable
- Roll coat application
- 2 coats EM 333WB XP plus 2 coats EM 777UHD/EM900

Benefits: No solvent, no smell, ZERO VOC, excellent adhesion, scuff resistance, EM 900 for external work



Garages and sheds

Unprotected concrete floors have limited chemical and abrasion resistance. They dust and stain easily and cannot be effectively cleaned. They can look unappealing.

- Clear or grey protection
- High durability, fast finish
- Roll coat application
- 2 coats EM 333WB XP plus 2 coats EM 900

Benefits: No solvent, no smell, ZERO VOC, excellent adhesion, resists auto fluids

Warehouses and factories

Appearance and workplace safety issues are solved by bright, attractive flooring systems. Unprotected concrete floors have limited chemical and abrasion resistance. They dust and stain easily and cannot be effectively cleaned. They can look unappealing.

- Clear or grey protection
- High durability, fast finish
- Roll coat application
- 2 coats EM 333WB XP

Benefits: No solvent, no smell, ZERO VOC, excellent adhesion, resists most chemicals

Commercial areas and restaurants

Bright, attractive floors are critical in today's retail environment.

- Clear or coloured protection
- High durability, fast finish
- Roll coat application
- 2 coats EM 333WB XP

Benefits: No solvent, no smell, ZERO VOC, excellent adhesion, resists most cleaning chemicals

Showrooms and studios

Easy clean, showroom finishes that offer long term durability are in greater demand today.

- Gloss or matt protection, clear or coloured
- Scuff resistant, UV stable
- Roll coat application
- 2 coats EM 333WB XP plus 2 coats EM 777UHD - gloss/matt

Benefits: No solvent, no smell, ZERO VOC, excellent adhesion, scuff resistance, UV stable

Driveways and stonework

External concrete and masonry is subjected to airborne grime and mould. These products protect the exposed surfaces from deterioration.

- Stain and mould protection
- Choice of invisible impregnant or gloss coating
- Single pack application
- Roll coat application
- Impregnant - 2 coats EM 950
- Coating - 2 coats EM 900 (non slip additive if required)

Benefits: No mixing required, no work time issues, roller application, choice of products - invisible protection or UV resistant coating

Special Product Focus EpiMax 575

This is a companion product for concrete care applications that hardens to bond tenaciously to concrete and other stable, clean surfaces.

Applications:

- Sealing concrete pipes and tanks
- Sealing cracks in slabs
- Bonding pre-cast concrete
- Grouting inserts into concrete
- Bonding natural stone
- Metal bonding

Benefits: Excellent adhesion, excellent peel strength, gap filling qualities, bonds to most surfaces, simple 1:1 mix ratio - colour coded, tensile and compressive strength superior to concrete, non sag on vertical surfaces, very good chemical resistance, good strength retention after prolonged immersion in water, contains Kevlar for extra mechanical strength

Application

Safety precautions

Read Material Safety Data Sheet before commencing any application. Keep away from children.
Avoid contact with skin and avoid breathing/vapour.
Always provide adequate personal protection (gloves & goggles etc) during use.
Always provide adequate ventilation, especially in confined spaces. If poisoning occurs, call Doctor or Poisons Information Centre. Phone 13 11 26.
If swallowed, DO NOT induce vomiting. Give plenty of water or milk. If skin contact occurs, quickly remove contaminated clothing and wash affected areas thoroughly with soap and water.

General surface preparation

Concrete should be at least 28 days old.
Ensure sub-floor is clean, dry and free of additives, curing agents, oils, etc. Prepare the sub-floor by professional diamond grinding to expose firmly adhered aggregate.

Surface profile should exceed CSP 3. Scrub with clean water and then vacuum. Allow surfaces to dry. Always confirm preparation adequacy.

Mixing

Keep product cool before use.

Review the area in advance so that a fixed volume of mixed material can be applied over a fixed area to ensure correct application rate.

Select a slow speed (400 rpm) mechanical mixer and ensure thorough mixing. Then add components. Mix until uniform. Apply by short nap roller.

Discard unused material when the work time is exceeded. Work time may be difficult to visually determine, so always keep track of actual time. Always protect from rain for 24 hours after application. Avoid application when relative humidity is >80% and temperature is <12°C.

Curing

Follow curing instructions before subjecting to full use.

Equipment list

- *Gloves, goggles & personal protection*
- *Measuring containers*
- *Mixing containers*
- *Power mixer*
- *Roller, applicator bar, squeegee*

- ***Environmentally sustainable***
- ***Resistance to abrasion and impact***
- ***Durable***
- ***High adhesion***
- ***Resistance to chemicals***

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