

# *Warehouse and Distribution Centre Floor Protection Systems*

*Improving supply chain efficiency*

*EpiMax 222*

*EpiMax 330*

*EpiMax 333AR*

*EpiMax 333WB*

*EpiMax 333WB Express*

*EpiMax 444*

*EpiMax 465*

*EpiMax 570*



**EpiMax**



## **What needs to be considered in the selection of a Distribution Centre Floor Protection System?**

### **• 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 wall and flooring coating 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 coating 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 floor 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 oil, grease 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.

### **• Mechanical performance**

The specification for any flooring 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.

### **• Flooring slip factor - safety under foot**

It is important that the flooring system provides adequate traction in the working conditions of the facility. Traction is greatly influenced by contaminants (water, oil, dust etc) and standards exist for particular environments.

Newer systems can offer enhanced traction and are still easy to clean.

### **• Inherent chemical resistance**

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 wall or floor protection system must address the chemical resistance requirements.

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

### **• Practical application characteristics**

The particular needs of the facility 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 on walls in thicknesses of 150 microns per pass and on floors to 5 mm.

Our systems are self priming.



# **EpiMax**





**Over the last decade,** warehousing and distribution operations have had to adjust to a variety of emerging business trends and forces. The days of straightforward fulfilment operations have given way to a more complex world. Competitive forces have worked their way onto the distribution centre floor with a vengeance. Buying habits have forever changed for manufacturers, wholesalers, retailers and consumers alike. Service levels have become increasingly more demanding. Global mergers and acquisitions are causing distribution networks to be revamped at a rapid rate.

Change is manifesting itself in various ways. Distribution operations have to manage leaner inventory levels, smaller order sizes, longer SKU lists, faster order turnaround, and increased customer packaging and valued-added service requirements. Gone are the days when adjacent links in the supply chain were primarily local. Now they can span the globe. Companies that had a straightforward, brick-and-mortar distribution network are now dealing with multiple distribution channels.

In terms of costs, distribution centres typically account for about a quarter of total logistics costs. Although distribution centre design and operation have a critical influence on both service levels and costs, flooring infrastructure in these critical areas is often overlooked as an important efficiency gain in the overall supply chain.

**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).

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.

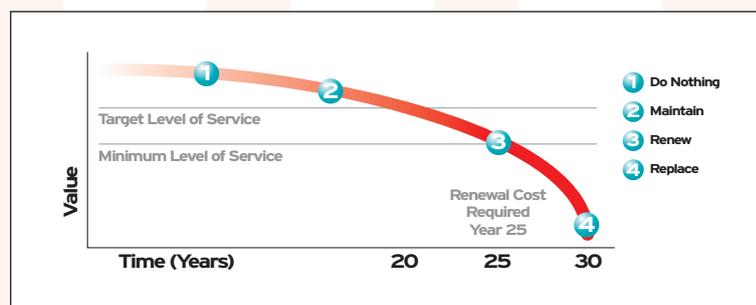
This success has been proven through partnerships with forward-thinking architects, consultants, engineers, application contractors, project managers and materials testing agencies. We believe in teamwork, respect and integrity.

Our primary focus is

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

## ***EpiMax: Expertise Applied, Answers Delivered***

### **Typical Asset Depreciation**



# Applications

## Warehouses:

- Automated
- Climate controlled
- FMCG
- Refrigerated
- Bulk goods
- Bonded
- Mini storage
- Supermarkets
- Shopping malls
- Fork lift re-charge areas

## Distribution Centres:

- High tech and electronics
- Furniture
- Food and beverage
- Consumer products
- Life science and pharmaceuticals
- Automotive
- Industrial
- Chemical products
- Apparel



## EpiMax 222

Exceptional two-pack solventless epoxy flooring system demonstrating excellent adhesion and general durability.

- Trowel application to 5+ mm
- Resistant to a wide range of industrial chemicals
- Certified traction levels available
- Tough and abrasion-resistant; excellent for heavy traffic
- Ideal for wet areas, ramps etc



## EpiMax 330

New two-pack solventless high build epoxy flooring system demonstrating excellent adhesion and general durability.

- Roller or airless spray application to 500 microns
- Resistant to a wide range of industrial chemicals
- Non-tainting to food stuffs during application
- Variable slip resistance available
- Wide range of colours



## EpiMax 333AR

A two-pack high solids novolac coating system demonstrating outstanding chemical resistance and adhesion.

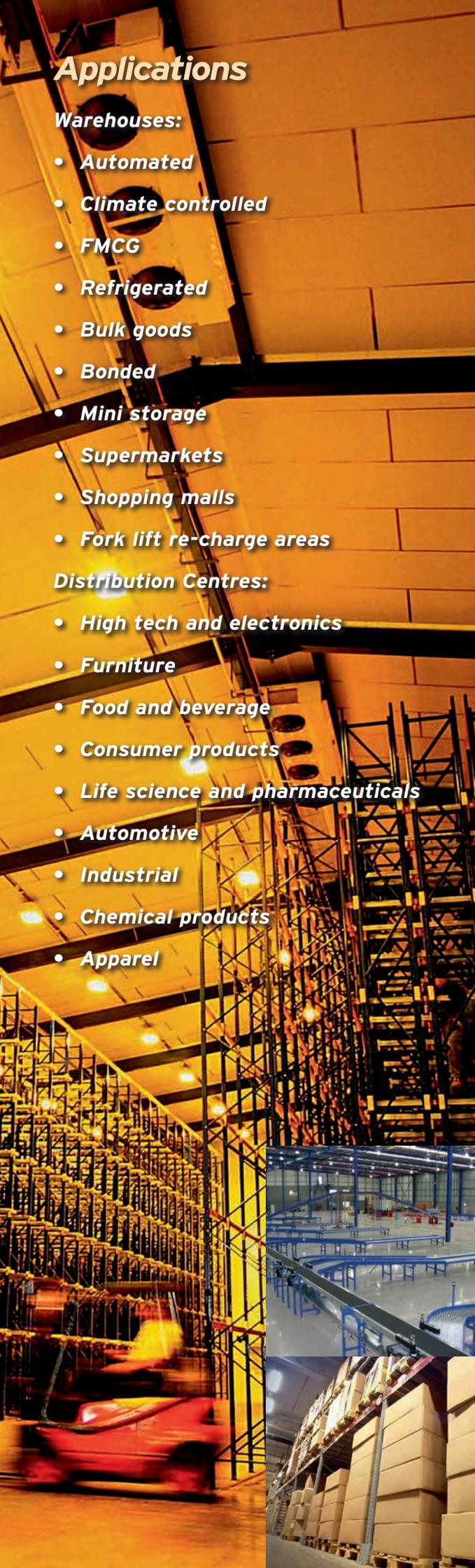
- Roller or airless spray application to 300 microns in two coats
- Highly resistant to splashes and spills of mineral acids etc
- Industrial standard for battery recharge areas
- Variable slip resistance available in flooring applications
- Easy application



## EpiMax 333WB

A two-pack water based epoxy flooring system that provides excellent protection to all forms of concrete. This system can be used to prepare easy-clean wall and floor surfaces for a wide range of applications.

- Roller or airless spray application to walls and floors
- Hazmat free chemistry
- Good adhesion to damp concrete
- Can be applied in non slip finish
- Replaces solvent based systems in many applications





## EpiMax 333WB Express

A rapid hardening two-pack water based epoxy flooring system that provides excellent protection to all forms of concrete. This system can be used to prepare easy-clean wall and floor surfaces for a wide range of applications.

- Roller or airless spray application to 350 microns
- Rapid return to service
- Hazmat free chemistry
- Long lasting durability
- Good adhesion to damp concrete



## EpiMax 444

The proven solution for tough industrial applications where end users want to eliminate floor maintenance problems and expense. This system provides a bright, durable, impervious and chemically resistant floor surface which is both hygienic and easy to clean.

- Professional application at between 2 - 4 mm
- Fast application - minimal downtime
- Chemically and mechanically strong
- Hygienic - provides a dense, impervious, seamless floor surface
- Easily cleanable



## EpiMax 465

Industrial floor protection for areas with the highest mechanical demand. This system offers excellent thermal shock resistance and resistance to abrasion, mechanical stress and mid range chemical action. Installation is fast and placement is easy.

- Typically applied at between 4 - 5 mm
- Fast application - minimal downtime
- Extreme mechanical performance
- Excellent thermal shock resistance
- Easy to clean and sterilise



## EpiMax 570

Semi-rigid, hybrid epoxy system protects edges of internal industrial slab joints from damage caused by the passage of hard-wheeled vehicles. It combines excellent durability and suitable movement capacity.

- Fast installation
- Excellent adhesion to concrete
- High sealant modulus
- Good chemical resistance
- Also available in a paste version - EpiMax 570NS

## Test Standards Met

**AS/NZS 4586:2013**

**Slip resistance classification of new pedestrian surface materials.**

*This Standard provides means of classifying pedestrian surface materials according to their frictional characteristics when determined in accordance with the test methods included. These test methods enable characteristics of surface materials to be determined in either wet or dry conditions.*

*The test methods in this Standard shall be used for the classification of pedestrian surface materials for use in either the wet or the dry condition.*

*The inclining ramp test methods are suitable for measuring the slip resistance of gratings, heavily profiled surfaces and resilient surfaces within the test laboratory environment.*

*In the field, the most commonly accepted and specified method of measuring slip resistance is by use of the TRL Pendulum Tester incorporating a rubber slider.*

**The range of EpiMax Distribution Centre Floor Protection Systems have been tested to AS/NZS 4586:2013.**

**HB 198 An introductory guide to the slip resistance of pedestrian surface materials.**

*This Handbook provides guidelines for the selection of slip-resistant pedestrian surfaces classified in accordance with AS/NZS 4586. It recommends the minimum floor surface classifications for a variety of locations, and includes a commentary on the test methods set out in AS/NZS 4586, as well as information on the consideration of ramped surfaces. Published in conjunction with the CSIRO.*

**AS/ISO 9239.1 2003**

**Reaction to Fire Tests for Floorings. Critical Radiant Flux Energy.**

*To meet the Building Code of Australia, floor materials and floor coverings must meet certain minimum Critical Radiant Flux (CRF) energies, and for non sprinklered buildings, a maximum smoke development rate.*

*The test method for these tests involves heating the horizontal test sample along its length with a radiant panel and then igniting it at the hot end. The sample is allowed to burn until the flame goes out (extinction). The heat energy measured at the point of extinction is the Critical Heat Flux (CHF), also called the Critical Radiant Flux (CRF) in the Building Code of Australia.*

*Smoke is measured over the duration of the test. The total amount of light extinction (measured as a percentage) due to the smoke obscuring a light beam in the flue is multiplied by the time of the test to give the result (in percent minutes).*

**The range of EpiMax Distribution Centre Floor Protection Systems have been tested to AS/ISO 9239.1 2003.**



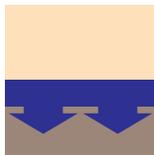
***Environmentally sustainable***



***Resistance to abrasion and impact***



***Durable***



***High adhesion***



***Resistance to chemicals***



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