Aerospace and Aviation Floor Protection Systems

Aircraft line maintenance and MRO facilities

EpiMax 222

EpiMax 330

EpiMax 330AR

EpiMax 333WB-SR

EpiMax 444

EpiMax 465

EpiMax 777UHD

EpiMax 999WB

EpiMax

What needs to be considered in the selection of an Aviation 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 flooring 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 flooring 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 flooring 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.

• Chemical and mechanical durability

Concrete is a widely used engineering material. However whilst strong in certain mechanical aspects, unprotected concrete is extremely susceptible to a wide variety of damage. The specification for any flooring system must address the mechanical loading, impact, abrasion and chemical resistance requirements. In particular the system must be resistant to all types of Skydrol fluids likely to be encountered.

• 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.

• Contamination and FOD prevention - seamless continuity

Foreign Object Damage (FOD) is damage to or malfunction to an aircraft caused by an object that is alien to an area or system or is ingested by or lodged in a mechanism of an aircraft. Seamless floor protection systems will eliminate the concrete sub floor sources and will also provide safer easier working environment by making it easier to identify and manage FOD sources.

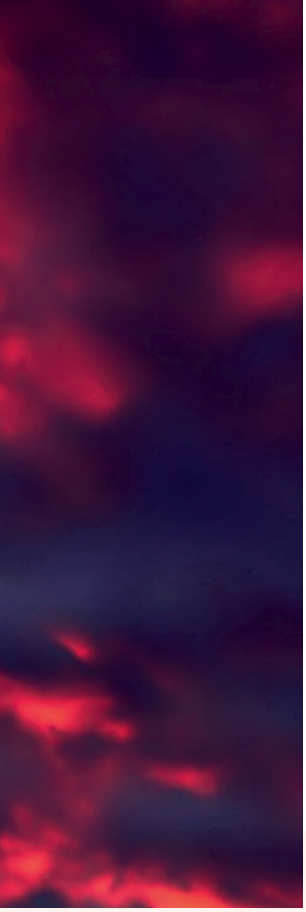
• Practical application characteristics

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



***The aviation industry** is an innovative industry that drives global economic and social progress. It connects people, countries and cultures; provides access to global markets and generates trade and tourism. It also forges links between developed and developing nations.*

Today, the challenges to aviation industry decision-makers are even more numerous.

- Safety – critically important in today's world
- Security – aviation security is widely viewed as a critical public policy issue
- Maintenance quality – critical for safety and security
- Sustainability - everything is going green, including maintenance facilities
- Scalability – allow expansion with growth

Across aerospace and defence, organisations face increasing and changing challenges, ranging from intensifying competition to a fundamental change in the nature of warfare. Although the drivers vary, the effects are the same: responsiveness, agility and end-to-end visibility are key in delivering enhanced efficiency and asset availability or utilization. The relentless drive is one of 'more for less'.

In today's world, it is the back up of state-of-the-art maintenance and off-airport/off-base support facilities that is critical in meeting these challenges. Maintenance and off-airport /off-base support facility infrastructure has also evolved. Unprotected concrete floors have limited chemical and abrasion resistance. They dust easily and cannot be effectively cleaned. They can be unsafe. They can also create serious FOD issues. Professionally applied protection systems will improve maintenance staff safety, reduce cleaning costs, reduce lighting costs and enhance the general facility appearance.

EpiMax is your source for the latest proven developments in performance protection systems. 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

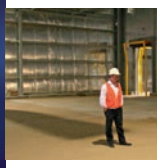
EpiMax: Expertise Applied, Answers Delivered

Performance Guidelines for Main Hangar Floor Protection System

Criteria	Requirement	Test Standards
Environmental	ZERO VOC	SCAQMD Method 303-91
Self-priming	Moisture tolerant; dense slab surface penetration	BS EN 12636:1999
Adhesion	Exceeds slab tensile strength	BS EN 12636:1999
Slip resistance	Maintains R11 / R12 as specified	AS/NZS 4586:2013
Fire test	Very low energy / smoke release	AS/ISO 9239.1-2003
Fuel resistance	Resists jet fuel (Jet A, Jet A-1, JP-8, JP-8+100)	ASTM C722-04
Skydrol resistance	Resists Skydrol ((500-B4, LD-4, LD-5, PE-5)	ASTM C722-04
Abrasion resistance	Longterm durability	ASTM D4060-10
Light reflectivity	Gloss finish; reflects incident light	BS 8493:2008
Stain resistance	Cleans and restores easily	ASTM D4828 - 94(2008)

Applications

- *Airframe overhaul and maintenance*
- *APU maintenance and inspection*
- *Avionics maintenance facilities*
- *Jet turbine maintenance and inspection*
- *Fuel and fluid stations*
- *Airline catering facilities*
- *Simulator centres*
- *Inventory warehousing*
- *Helicopter maintenance centres*
- *Military maintenance training simulators*
- *Consumables warehousing*
- *Composite repair facilities*
- *Aircraft hangars and storage sheds*
- *Military catering facilities*
- *Military ordnance facilities*



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
- Anti-microbial formulation
- Tough and abrasion-resistant; excellent for heavy traffic
- Ideal for wet areas, ramps etc

EpiMax 330

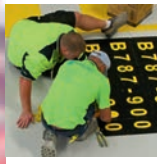
New two-pack solventless high build epoxy flooring system demonstrating excellent adhesion and general durability.

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

EpiMax 330AR

A two-pack solventless novolac coating system demonstrating highest chemical resistance and adhesion.

- Roller or airless spray application to 300 microns in two coats
- Highly resistant to splashes and spills of hostile chemicals (acids, bleaches etc)
- Ideal for materials handling and other battery acid resistance
- Variable slip resistance available in flooring applications
- Easy application



EpiMax 333WB-SR

A two-pack hazmat free/non flammable main hangar floor protection system offering an exceptional combination of installed performance and low cost of ownership.

- Excellent adhesion - self priming
- Meets GBCA Low VOC standard
- Meets AS 4586 Slip Resistance standard
- Meets BCA CRF Fire standard
- Skydrol resistant

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
- Attractive finish
- Chemically resistant
- High mechanical strength
- 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
- Good chemical resistance
- Easy to clean and sterilise
- Non-tainting, non-dusting

EpiMax 777UHD

A high performance, gloss, two-pack solventless polyurethane coating that provides a durable gloss finish to coated and uncoated concrete.

- Thin film chemistry – 150 microns
- Hazmat free chemistry
- Fast hardening
- Non yellowing, UV stabilised - external applications
- Excellent scuff resistance
- Re-coatable

EpiMax 999WB

The maintenance free solution for general material control warehouses demonstrating excellent adhesion and general durability.

- Fast installation – guarantees sealed concrete surface
- Mechanically durable, high surface integrity and non dusting
- Good general chemical resistance
- Minimal tyre squeal – non marking
- Environmentally sustainable - maintenance free

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 Aviation 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 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 Aviation 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

EpiMax

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