

Safety Certified Industrial Flooring System

Introduction

A properly engineered, applied and maintained flooring system is the key element in providing a durable, hygienic and safe working environment in a great variety of demanding industrial applications.

This **EpiMax** system combines the mechanical and chemical resistance features of a high performance, second generation epoxy system with the specially engineered benefits derived from the latest developments aimed at reducing workplace health and safety risks.

Systems and services that set new standards

EpiMax 222 Safety Certified Flooring System is just one element of the complete **EpiMax Floor Safety Process**.

The implementation of this process has the potential to:

- reduce the risks of workplace injuries generally
- reduce the human and economic cost of slip, trip and fall injuries
- reduce insurance claims and costs
- reduce exposure of companies, management and boards to workplace duty of care action

Slips, trips and falls are a serious cause of injury and death in both working and non-occupational environments. The annual cost of fall injuries in Australia is greater than any other single cause of accidental injury.

According to a leading independent Australian authority, the total annual cost of fall injuries is some A\$3 billion, and the largest Australian settlement for a single slip and fall accident was believed to be A\$2.75 million.

Although the exact number is not available (it may be hidden in secondary effects of the accident), based on international trends, it can be estimated that total (occupational & non-occupational) fatalities due to slips, trips and falls exceed 500 per year.

Workplace floor safety is influenced by a variety of factors including the floor surface characteristics, footwear traction properties, environmental factors (contaminants such as water, oil, etc.), human factors (gait, human activity, etc.) and the psychological and physiological conditions of the walker. An effective and regular housekeeping regime can be critical.

This process, which incorporates the **EpiMax 200 Point Hazard Reduction Analysis**, professionally and competently reviews potential safety hazards in the walking/working surface environments and highlights recommendations for change based upon the real working environment. This analysis draws on the direct benefit from many decades of experience in the industrial floor safety environment. With new expectations on employers to provide a safe working environment for all employees and visitors alike, the implementation of this process will be beneficial to employers and organizations large and small.

The full implementation of the analysis will lead to a plan of action to address the walking/working surfaces issues at sites on a case by case basis. It does this by hazard identification, risk assessment, and risk elimination or control.



How does floor contamination influence safety?

It is the nature and volume of the floor contaminants themselves that can have a dramatic influence on the traction of many walking/working surfaces. Contaminants can be natural (rain, dust, ice) or they can be a direct result of the industrial or manufacturing processes or activities themselves (water, food, flour, oils).

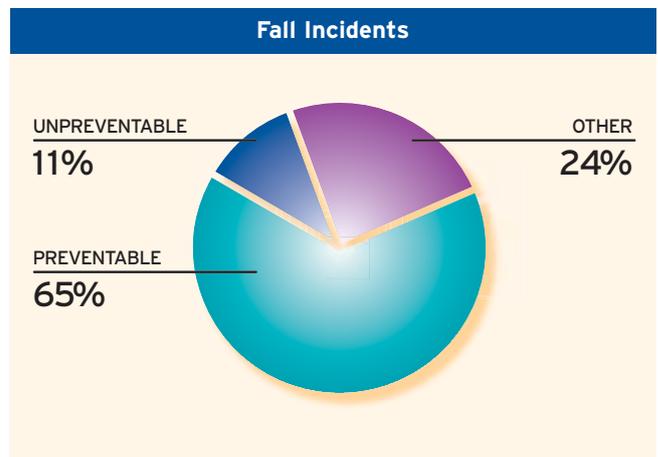
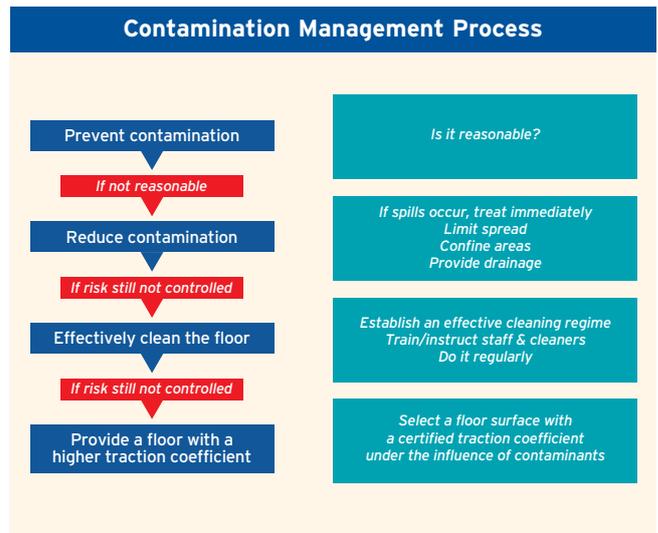
The challenge for safety management is to determine if the contamination can be eliminated or, if not, to select a working system that accommodates the nature and volume of contamination without degrading traction qualities. Regular cleaning and good housekeeping standards will improve workplace safety.

The correct selection and application of **EpiMax 222 Safety Certified Flooring System** can ensure that traction is maintained on contaminated surfaces by tailoring the installed system features to the walking/working surfaces issues on the particular site.

Slips, trips and falls are preventable

An independent analysis of the cause of slips, trips and falls in Australia shows that a very large percentage is preventable. The elimination of the most hazardous situations can offer significant benefits. Injuries can be wholly or partly due to several causes other than the walking/working surface itself, but the absence of a suitably practical and safe floor surface will generally result in injuries regardless of other controls. Poor lighting and incorrect cleaning practices will also impact safety performance.

Source: Anderson, C.R., Public liability insurance costs, Building Owner & Manager



The table below shows how to generally equate floor condition, safety, activities and traction levels.

Condition	Safety rating	Acceptable activities	Traction level
Absolutely not slippery	Unquestionably safe	Safe for widest range of abnormal stride and pace	High at all paces
Noticeably less slippery	Adequately safe	Safe for rapid stride and pace	High at very rapid paces
Detectably less slippery	Acceptably safe	Safe for hurried stride and pace and minimal attention	High at rapid paces
Non-slip	Safe	Safe for normal stride and pace and moderate attention	Medium at involuntary pace
Detectably slippery	Marginally safe	Safe for normal stride and pace and attention	Low
Noticeably slippery	Marginally unsafe	Safe for reduced stride and cautious pace	Low
Extremely slippery	Unquestionably unsafe	Safe for short stride and extreme care	Low

Adapted from BCE Publication Number: vb2/345/62

What is the EpiMax goal?

Our goal is to provide traction equal to the safest categories represented in this table in the real working environment.

Anti-microbial function

Another feature of the **EpiMax 222 Safety Certified Flooring System** is that it has been formulated to provide enhanced bacterial protection in areas that need to be kept clean and sterile.

General description

The **EpiMax 222 Safety Certified Flooring System** is a multi-layer, high strength second generation epoxy system that hardens quickly to an attractive, durable finish. The practical surface finish achieved with this system will meet a minimum traction coefficient of >0.5 using the **EpiMax Tractometer**. The system has been proven to inhibit the growth of many micro-organisms that can attach themselves to pharmaceutical, food, health care or other industrial floors.

The **EpiMax 222 Safety Certified Flooring System** will find use in many different industries where a durable, chemically resistant flooring surface with certified traction coefficient and anti bacterial qualities is required.

Key features

- Tough and abrasion-resistant; excellent for heavy traffic
- Resistant to a wide range of industrial chemicals
- Certified traction levels available
- Anti-microbial formulation
- Non flammable

Typical applications

- | | |
|------------------------------|--------------------------|
| Water treatment & supply | Correctional facilities |
| Food processing & production | Paper manufacturing |
| Meat processing | Beverage production |
| Dairy production | Commercial laundries |
| Sugar production | Port & marine usage |
| Textile production | Washrooms & change-rooms |
| Chemical production | Waste water treatment |
| Warehousing facilities | Healthcare & retirement |

Typical properties

- | | |
|------------------------------|--------------------------------------|
| Traction coefficient: >0.5* | Flexural strength: 75 MPa |
| Tensile strength: 50 MPa | Linear thermal expansion: none noted |
| Indentation, 900 Kg: none | Hardness: 70-80 Shore D |
| Compressive strength: 90 MPa | Water absorption: 0.03% |

*typical contamination

Installation techniques

EpiMax 222 Safety Certified Flooring System will only be applied by **EpiMax Accredited Applicators** for traction certified projects. These applicators have been fully trained in the installation techniques demanded on specific applications.

The **EpiMax 200 Point Hazard Reduction Analysis** reviews the existing safety culture and the physical and management issues that affect walking/working surface traction. A regular housekeeping, maintenance and performance verification program will be required to ensure safe traction levels are maintained.

Sub-floor preparation

Concrete should be at least 28 days old. Ensure sub-floor is clean, dry and free of additives, curing agents, oils, etc. Prepare sub-floor by acid etching/neutralizing/washing, professional grinding or captive blast cleaning as applicable to expose firmly adhered aggregate. Allow to dry if wet. Always confirm preparation adequacy. Surface profile should exceed CSP 5.

Priming

Prime concrete sub-floor using mixed EpiMax 222 at a rate of 5 sq m/litre. Protect all newly primed surfaces and allow to harden fully, but the next stage should be applied within 24 hours of priming. If this time is exceeded the sub-floor must be re-primed.

Application

Review the sub-floor 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. Add EpiMax 222 Hardener to EpiMax 222 Compound. Mix until uniform. Combine with nominated quantity and grade of aggregate/s slowly, while mixing, until a uniform consistency is obtained. Apply to prepared sub-floor as nominated. Seal the finished surface appropriately with EpiMax 222.



General cleaning

Housekeeping is critical in keeping floor surfaces safe. Vacuum, wash, scrub or sweep daily in accordance with recommendations. Mechanical sweepers and scrubbers can provide excellent results. Verify that the frequency and effectiveness of the cleaning process is appropriate for site conditions. Remove spills immediately, scrub and allow the floor to dry completely.

Packaging

EpiMax 222 is available in 20 litre packs. It is pre-packed in correct proportions for use.

Ordering Information: EpiMax 222 20 litre #9022220

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.

TDG Code: Hardener - UN 1760 Compound - Not Classified

EpiMax 222 specification

The system is **EpiMax 222 Safety Certified Flooring System** as supplied by **EpiMax**.

This system can be applied to achieve certified traction levels. Refer to the EpiMax Traction Certification Process for full details. The system also offers high mechanical and chemical performance and anti-bacterial qualities.

The procedure for sub-floor preparation, priming, application and curing should be in strict accordance with the manufacturer's instructions as stated in the current Product Bulletin.

All statements, technical information, and recommendations related to **EpiMax** systems are based on information believed to be reliable, but the accuracy or completeness is not guaranteed. Before using this system, you must evaluate it and determine if it is suitable for your intended application. You assume all risks and liability associated with such use. Any statements related to the system which are not contained in **EpiMax** current publications, or any contrary statements contained on your purchase order shall have no force or effect unless expressly agreed upon, in writing, by an authorized officer of **EpiMax**.

An important note regarding standards testing

A great many slip resistance standards have been proposed around the world. Intense debate has been generated over the applicability of particular standards. Where industries and organizations have a need to have their facilities tested to a particular standard, **EpiMax** has close relationships with testing agencies and we can make recommendations. **EpiMax** is not an International or Australian standards testing agency. We will certify that our systems meet our published company standards only. We make no charge for this service. **EpiMax 222** can be applied to meet the requirements of HB197 Pedestrian Flooring Selection System Guidance.

An important note regarding safety performance

Workplace floor safety can be influenced by a variety of factors including the floor surface characteristics, spills, drips, leaks or condensation; cables or objects left in traffic areas; inappropriate footwear; poor lighting; cleaning regime etc. Obscured vision due to carrying large loads can also cause accidents. Other factors include human factors and the psychological and physiological conditions of the walker. In an occupational context, this leads to the need for risk analysis and the implementation of appropriate training. **EpiMax** makes no claims guaranteeing workplace safety. However, our direct experience and the experience of partners internationally shows that the correct implementation of our process will reduce walking/working safety risks.

Social responsibility

The founders of EpiMax Systems are genuinely committed to occupational safety. We are continually working with industry and the community generally, to provide a safer walking/working environment. It is a core value and belief of our company.

"Never doubt that a small group of thoughtful committed citizens can change the world; indeed it is the only thing that ever has."

- Margaret Mead, anthropologist



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