



TECHNICAL DATA

Epoxy Self Levelling Flooring Kit

ESL Flooring System

Epoxy Self Levelling Flooring Kit applied as a solventless self levelling mix to prepared subfloors. It provides an extremely hard wearing and chemically resistant seamless floor surfacing. The ultra smooth finish achieved means that it offers very attractive appearance and easy cleaning.

Epoxy Self Levelling Flooring Kit is available in a wide range of attractive colours for application throughout industry and the community.

Areas of application

- Aircraft hangars
- Brewery / distilleries
- Car dealerships / service
- Kitchens, commercial
- Laundries
- Manufacturing / production
- Plant rooms
- Supermarkets
- Shops / malls
- Television studios
- Animal shelters
- Bottling plants
- Clean rooms
- Industrial workshops
- Hospitals
- Hygiene areas
- Laboratories
- Pharmaceuticals
- Showrooms
- School rooms
- Warehouses

The information contained in this Technical Bulletin is as up to date and correct as possible as at the time of issue. The data provided should be used as a guide only as the performance of the product will vary depending on differing operating conditions and application methods.

The sale of any product described in this Technical Bulletin will be in accordance with ITW Polymers & Fluids Conditions Of Sale, a copy of which is available on request. To the extent permitted by law, ITW Polymers & Fluids excludes all other warranties in relation to this product.

Features

- Fast application - minimal downtime
- Hygienic - seamless finish for hospitals, clean rooms etc
- Chemically resistant - withstands chemical attack
- Superflat surface profile - vehicles travel smoothly
- Longlife - reduces mechanical damage to forklifts etc
- Attractive appearance - glossy to slightly matt finish
- Solvent free - low odour during application
- Non-shrink - 100% solids system
- Colour range - brightens work areas

General Properties

Appearance	: Gloss to slight matt
Shrinkage	: Nil
Adhesion	: Excellent to most clean surfaces
Bending Tensile Strength	: 36 MPa
Compressive Strength	: 93 MPa
Modulus of Elasticity	: 15 GPa
Abrasion Resistance	: 40 mg (Taber CS10, 1kg, 500 cycles)
Impact Strength	: >18 joules
Light Foot Traffic	: 24 hours at 25°C
Full Cure	: 7 days at 25°C

Chemical Resistance

Epoxy Self Levelling floors are resistant to splashes and spills of many chemicals eg.

Acids:	• Hydrochloric Acid	20%
	• Sulphuric Acid	20%
	• Nitric Acid	20%
	• Acetic Acid	10%
	• Lactic Acid	5%
	• Phosphoric Acid	20%
Alkalies:	• Caustic Soda	20%
	• Ammonia Solution	10%
Solvents:	• Alcohol	
	• Acetone	
	• Trichloroethylene	
	• Ethyl Acetate	
	• Hexane	

Surface staining may result from exposure to some aggressive chemicals. Good housekeeping practice calls for spills to be quickly diluted and washed away.

Estimating Data

Epoxy Self Levelling Binder (7kg)+ Colourpack (1kg) + Epoxy Self Levelling Aggregate (14kg) = approximately 11.5 litres and will cover 5.75 m² at 2 mm

Colours

The Epirez **Colourpack** system provides an off-the-shelf range of colours. Please contact ITW Polymers & Fluids for an example of what is available for your requirements.

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Application Directions

Important: EPOXY SELF LEVELLING FLOORING KIT IS BEST APPLIED BY APPROVED APPLICATORS

Surface Preparation

The installation of high quality, durable, industrial floor surfaces are completely dependent on the type and condition of the subfloor to which they are applied.

Subfloor Strength

The subfloors must have sufficient compressive and tensile strength to withstand dynamic loadings. They should also have adequate surface strength.

Generally, concrete floor slabs in these situations have been designed to have a minimum compressive strength of 25 MPa. There are a number of non-destructive test methods available for evaluating the strength of existing concrete floors.

Surface preparation guidelines cannot cover all site or field contingencies and it is always recommended that an on-the-spot adhesion test be performed as part of the standard Quality Assurance audit for the project.

Subfloor Flatness and Level

In general, subfloor flatness should be such that the difference in height measured over 600mm should not be greater than 3.5 mm.

Subfloor levels should be taken on a 3 metre grid. Differences in elevation on the grid should not exceed 4.5 mm.

Subfloor Decontamination and Surface Profiling

Complete removal of all surface contaminants is essential for long term performance.

New concrete should be at least 28 days old. Remove all oils and grease from surfaces using a suitable surface degreaser.

Surface profile or texture has a major influence on the adhesion and bond of the system to the surface.

Captive Blast Cleaning

Captive blast clean to expose firmly held aggregate to industrially accepted standards. Captive blasting (trackblasting) provides decontamination and profiling in one pass.

The metallic abrasive (steel shot) used in trackblasters scours the concrete surface. Shot is propelled by a rotating wheel, impacts the concrete surface and rebounds into a recovery unit. A pneumatically driven vacuum system collects dust and shot, separates the two materials, recycles the re-usable shot and removes the dust through a filter system.

Good dust control is one of the major advantages of captive blast cleaning.

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Application

Level the Subfloor

Epoxy Self Levelling Flooring System can remove unevenness and imperfections in subfloors but only when applied at sufficient thickness. However, since this system is normally applied at 2-4 mm, prelevelling may be required for very uneven subfloors.

Where levelling is required, an initial screed of **Epoxy Self Levelling Binder/Patching & Flooring Mortar Aggregate (QA2)** can be applied to the primed subfloor to level out imperfections. Then apply **Epoxy Self Levelling Flooring Kit** at the required thickness over this surface after initial hardening.

Subfloors that have falls, or need to have falls for drainage purposes should be reviewed first.

Prime the Subfloor

Apply **Epoxy Primer/Sealer (123)** by spray or roller at a rate of 5-10m²/litre. Allow to cure for a minimum of 8 hours but not more than 24 hours before applying **Epoxy Self Levelling Flooring Kit**. Inspect and ensure no pinholes exist and the surface is fully sealed. Porous concrete may require two coats of primer to fully seal the surface.

Mix the Epoxy Self Levelling Flooring Kit

Complete mixing of Hardener, Compound, Colourpack and Aggregate is essential, and efficient mechanical mixing is **mandatory**. Where several batches are required, mixing times should be constant, to maintain consistent workability.

Undermixing may mean that the Hardener components are not fully dispersed, and will not fully react, producing "soft spots" in the finished floor. Overmixing introduces air into the system which can lead to inconsistent colour, surface pin-holing and blistering.

Contact ITW Polymer & Fluids Technical Department for more information.

Do Not Proportion Kits. Add complete contents of Aggregate bag into Compound and mix with a low speed (400 rpm) power mixer for 3-5 minutes. Then add the Colourpack and Hardener and mix for a further 2-3 minutes until homogeneous and even in colour.

Apply the Epoxy Self Levelling Flooring Kit

Self-levelling systems provide a smooth, high gloss, finished floor, which should be well protected from dust and other contaminants during application and curing.

Pour the mixed **Epoxy Self Levelling Flooring Kit** onto the subfloor and spread evenly over the surface using either a steel float or depth-regulated spreader bar. The product will self-level to form an even-coloured, continuous floor topping. Roll well with a "spiked" roller to release entrapped air bubbles and to ensure even finish, but allow sufficient time for the floor to completely level before it sets.

The applicator may wear spiked overshoes for this operation. Do not attempt to spike roller or walk on the surface with spiked shoes, once the material has started to set.

Epoxy Self Levelling Flooring System is suitable for applications from 2-4mm thickness.

Epoxy Self Levelling Flooring System is an industrial floor and may lose some gloss under certain service conditions. If the gloss finish is required for architectural reasons then Epoxy Self Levelling Binder should be overcoated with a suitable sealer/polish as required.

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Joists

In all instances, joints in the subfloor or new base concrete should be carried through overlay materials, and filled with a suitable sealant.

The designer of any new concrete base slab is responsible for specifying the correct type, spacing, layout and detailing of all joints. These joints can be of several types.

Control Joints

Control joints in concrete slabs are formed by crack induction during curing to prevent random shrinkage cracking. There are a number of methods available for crack induction during concrete placement, but sawn joints offer better durability.

Isolation Joints

Isolation joints are required around the perimeter of the concrete slab or around columns, manholes, channels or fixed bases to allow the floor to move independently of the structure.

Construction or Day Joints

Construction or day joints are formed when continuous flooring operations are not possible.

Expansion Joints

Expansion joints are rarely required in normal constructions, but should be included in areas that experience exceptional temperature variations.

Movement Joints

Movement joints are typically placed on suspended slabs over support positions, or in slabs subject to vibration.

Maintenance

Once the flooring system is in service, it makes sense to maintain the finish by appropriate cleaning and adequate maintenance.

Epoxy Self Levelling Flooring System provides an easily cleaned surface but with the wide range of possible contaminants in industry and in modern cleaning chemicals and equipment, any cleaning procedure should be proven and developed. ITW Polymers & Fluids Technical Department can recommend cleaning procedures for most applications. A variety of organisations can offer proven cleaning systems for use with Epirez floors.

All Epirez flooring systems can be repaired if subject to excessive mechanical damage.

Note: It is important that manufacturer's instructions on dilutions of cleaning solutions are followed.

Cleaning

Tools and equipment can be cleaned before hardening commences by washing with **Epirez Clean Up Solvent**.

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Limitations

Epoxy Self Levelling Flooring Kit should not be applied at temperatures below 10°C or at temperatures above 40°C.

Storage and Shelf Life

Store in dry conditions between 10°C and 30°C, away from sources of heat and naked flames. Protect from frost. When stored in original sealed containers the minimum shelf life is 2 years.

Packaging

Epoxy Self Levelling Flooring Kit is supplied as a multi component system comprising **Epoxy Self Levelling Binder** (Hardener and Compound), **Epoxy Self Levelling Aggregate** and **Colourpack**. Selected Colourpack must be added.

Ordering Information:

Epoxy Self Levelling Binder	7 kg	#991566
Epoxy Self Levelling Aggregate	14 kg	#991568
Colourpack	1 kg	#Various

Safety Precautions

Avoid contact with skin and avoid breathing vapour. Wear gloves and goggles when mixing and using. Keep away from children. Provide adequate ventilation if applied in confined places. If poisoning occurs call Doctor or Poisons Information Centre. If swallowed **DO NOT** induce vomiting. Give plenty of water or milk. If skin contact occurs remove contaminated clothing and wash affected area thoroughly with soap and water.

TDG Code: Hardener - UN1760 Compound, Aggregate & Colourpack - Not Classified

Note

The figures quoted for work time, curing time and coverage are not definitive. They are dependent on job site conditions and will vary accordingly. In all cases we endeavour to provide typical figures for use as a guide.

Health & Safety Information

The product is hazardous. A Material Safety Data Sheet is available from the ITW Polymers & Fluids Technical Department upon request or available on our website www.epirez.com.au.

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