

WHY PAINT CONCRETE FLOORS?

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Concrete finds itself used extensively in construction. Its functionality and performance, strength and durability have seen it used more extensively in both residential and commercial construction. The very high compressive strength of concrete, along with its durability and dimensional stability (it won't warp or rot) makes concrete an excellent flooring material. But unpainted concrete does have drawbacks, all of which can be overcome by the application of a protective coating system.

TO RECTIFY IMPERFECTIONS IN CONCRETE

The look and aesthetics of raw concrete are not always appealing; even where the raw, "industrial" concrete look had been desired and specified, the final appearance of concrete is often not what the architect or designer expected, as the surface is often blighted with stains, streaks and marks from curing compounds, form oils, release agents, mortar smears and site damage and wear-and-tear.

Imperfections arising from blowholes, honeycombing and on-site damage affect not only the aesthetics, but also the integrity of the concrete itself, and will require filling and patching.

TO PREVENT SPALLING

When concrete is fresh, it is very highly alkaline. This alkalinity protects reinforcing steel from rapidly corroding. Unfortunately, uncoated concrete readily absorbs moisture and carbon dioxide, which in turn neutralise the concrete, lowering its alkalinity and thus allowing steel to corrode. When steel corrodes, the iron oxide corrosion products occupy up to eight times the original volume of steel, creating stress in the concrete. Whilst compressive strength of concrete is very high, its flexural strength is relatively weak, and so the concrete cracks around the reinforcing steel.

Painting concrete with appropriate products will prevent the neutralisation process from occurring, by protecting the concrete's naturally high alkalinity.

TO INCREASE AESTHETICS

From an aesthetic point of view, painting a floor in an attractive colour not only adds light, it may also impart a sense of space, warmth or elegance.

Coating a floor in a pleasing finish may also lift worker morale. It will most certainly make you feel differently about a space. In fact paint and coatings in general are one of the cheapest and easiest means of changing the mood and feel about a certain space.



Floor coatings add light, safety, cleanliness, aesthetics and asset value



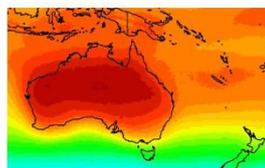
Repair patch showing laitance



An unpainted floor is difficult to keep clean



Even a shopping centre carpark can be beautiful



WHY PAINT CONCRETE FLOORS?

TO RESIST CHEMICAL ATTACK

Concrete is sensitive to chemical attack by certain chemicals. Not only do acids readily eat into concrete (and most foodstuffs and beverages are slightly to moderately acidic), but there are many seemingly benign chemicals, such as sugar, that aggressively attack concrete causing catastrophic failure.

TO INCREASE SAFETY

Unpainted concrete has low light reflectance, absorbing light energy and emitting little. The application of a smooth, light-coloured floor coating greatly increases the light reflectance value of the floor and increases lighting efficiency and improves visibility, creating a brighter, safer working environment.

Colours are used for demarcation of factory floor areas. Yellow identifies safety zones, green identifies safety and first aid areas and blue identifies protective clothing areas for example. For more information, refer to Dulux[®] Protective Coatings Tech Note 5.4.1.

TO INCREASE PRACTICALITY

The natural porosity of concrete (even "high strength") allows absorption of liquids and adhesion of stains, which creates an unsightly appearance, and problems with cleaning and maintenance.

Poorly cured concrete generates surface dust, which continues for the life of the floor or until the concrete is sealed. So painting a floor prevents it from generating and accumulating its own dust. Concrete dust contaminates food, beverages, pharmaceuticals, electronic equipment, and other goods, rendering them useless. Dust can also damage expensive artwork. Dust is often responsible for "shop-soiled" goods by blemishing packaging, reducing their sale price.

A suitable floor coating will also prevent the ingress of liquids. The porous nature of unpainted concrete makes complete removal of spills (and any associated odours) impossible.

Filling the profile of the concrete floor and sealing the porous surface creates a smooth, easily cleaned and maintained floor - dirt is easily removed by broom, mop or vacuum.

In fact, coating a floor is a mandatory requirement for work-place hygiene in many industries.

TO IMPROVE PROPERTY VALUE

All these reasons combine to improve and maintain property value.

An attractive environment, with easily cleaned floors, increases both productivity and property resale value.

And now that it is possible to choose easy-to-use waterborne epoxy coatings such as Dulux[®] Luxafloor[®] ECO₂, what better way to increase your property value than painting your floor!



Safety and cleanliness on display



The Royal Flying Doctor Service hangar's poor lighting is maximised with a light coloured floor



A clear epoxy over a defect-free diamond ground restaurant floor offers great aesthetic appeal



A good showroom floor highlights merchandise

For more information, please contact the Dulux Protective Coatings Technical Consultant in your state.