

# DENSI-PROOF™

## Concrete De-Contamination

Purge deep seated contaminants that cause odour, disease and coatings to delaminate

Densi-Proof is a colloidal silicate that not only improves concrete of any age but also decontaminates old concrete slabs. When the permanent gel forms deep inside the concrete it forces or purges substances out of the concrete. These substances could be harmful chlorides, oils, acids, animal fluids, chemicals, microbes, molds or gases. After the Densi-Proof process is finished the contaminants are either purged or contained passively in the permanent gel enabling any coating or covering to be applied without the fear of being weakened and compromised from the bottom.

### Old Engineering and Workshop Floors

Densi-Proof is the only system that will permanently eliminate deep seated contamination and halt the effects of moisture ensuring floor coverings or coatings will not debond from the concrete substrate. The picture (bottom right) shows an old 30 plus year old engineering workshop that had oil and other contaminants dropped on to the concrete floor. The oil is a weak acid and eats away the concrete's capillaries weakening and making further contamination easier to ingress deep into the concrete's interior and do more damage. This floor was diamond ground to remove the layer of old grease and oil and expose the concrete to receive the Densi-Proof. The floor looked very clean and you would think capable of receiving a coating. We applied Densi-Proof and this is what confronted us the next morning. Years of spills and accidents, a chemical cocktail brooding and bubbling away, off gassing who knows what. The morning we entered the building there was a foul smell, obviously deep seated gases we had displaced. Diamond grinding off the contamination was

decided on because of the extent of purged material. Pressure washing, shotblasting could also have been used as cleaning/recovery methods. Immediately the residue is removed any remaining contamination is usually visible with a bleed or darkening on the surface (see below). These areas are



subsequently reapplied with Densi-Proof until either all the material is purged or encapsulated in the gel. One prolonged and heavily contaminated site in New Zealand required a few small areas to be reapplied 5 times. After cleaning off of the substrate any coating or applied covering will not be compromised from behind. The integrity of the subfloor is assured and is not a source of failure for your coating.



*Purged contaminants a day after the grinding and application of Densi-Proof.*



**THE NAME SAYS IT ALL**

Animal Shelters, Dairies, Nursing Homes

Areas and premises that require clean and sterile environments often overlook the concrete subfloor that provides an ideal environment for microbes, bacteria and disease to thrive. Another concern is the animal body fluids that may penetrate carrying salts, acids and other compounds deep into the concrete matrix and then reacting chemically over the years with moisture and give off foul, unpleasant and potentially harmful odours. We have added an Anti-Microbial to Densi-Proof for the purpose of eliminating the potential for these things to occur and it is called Medi-Vet. We have a 2 part system to Medi-Vet that ensures long and short term solutions to cleanliness, hygiene and visual staining. Always contact your Protect Crete state office for the correct product for your project.



# Concrete De-Contamination continued

## Contaminated Concrete & Hazardous Off Gassing

With the ingress of chemicals, oils, fluids organic and non organic from spills or the work environment, concrete can have a mixture of compounds working in the capillaries that may produce any type of gas that may be harmful or foul smelling.

Tas Fire Service Northern Region Headquarters in Youngtown Launceston was partially built over an existing concrete slab that had been a logistic holding shed. The new Lecture/ Training room was decommissioned after some of the staff and trainees

complained of nausea and dizziness. After months of investigation the cause was put down to an old spill that was now off gassing through the concrete. Peter Allan from Dann & Allan contacted us and after a site visit we suggested a grind to remove the old adhesive and an application of Densi-Proof. The day after the first application there was some visual contamination, this was sanded and vacuumed and Densi-Proof was reapplied just to those areas. The room was kept locked and inspected daily for several weeks before a new

Ensure you contact your nearest PROTECT CRETE office for full technical bulletins and latest application procedures.



floor was installed and the Training room recommissioned. This was 13 months ago and no odours have been evident and more importantly no health issues.

This type of slab contamination or “sick building syndrome” can be alleviated with Densi-Proof. The gas is displaced from the voids and capillaries and will not move back through the very low molecular weight permanent gel.



*Tas Fire Service Northern Head Quarters. The far ground floor window shows an exiting venting tube taking the purged gases from inside the Lecture Room.*

## Out Comes the Honey - NE Beekeeper

A Victorian Bee Keeper in the North east wanted to save and protect his processing room concrete floor so he called Bill Aggenbach owner of Aggenbach’s Carpet Choice in

Wangaratta. Bill specified Densi-Proof to stop the ravages of the acidic honey eating away at the floor, then a resurface with engineered levelling cement and a coat of Protect Crete

Luster Shield for ease of cleaning and protection from acid and chemical spills. As soon as the Densi-Proof was applied years of spilled and penetrated honey started to ooze to the surface of the concrete floor. Bill called it an unbelievable sight and joked he had to restrain the beekeeper from gathering and bottling it.



*The processing room cleaned and repaired having the final stage, Luster Shield, applied.*

Without the option to decontaminate and remove the honey and other chemicals the modified cements or any other coating would have been tested to their limits and the likelihood of a mechanical and/or a chemical failure would have been too high to even attempt the repair. Protect Crete gave a very cost effective out come to an acid ravaged, unsafe and almost unserviceable floor.