



The Expert >>

Surface Coatings: Part 1 - Dry Shake Toppings >>

My recent articles have dealt, almost exclusively, with joints because they are the most important elements of any floor. The surfaces of floors are also important but we must keep things in perspective. The vast majority of warehouse floors are constructed from fairly "ordinary" concrete with no additional treatments. The concrete has to be of the correct quality, but "high performance" concrete is not needed. Provided that the concrete is laid and finished by skilled operatives the finished result is highly durable, reasonable to look at, and with care and minimal basic maintenance it will last for many years.

There are, however, environments and applications where additional coatings or treatments have a part to play but they should receive careful and cautious consideration - you need to be sure that you are getting value for money.

Coatings and treatments come in two basic types. Broadly, these are dry shake toppings that are incorporated into the surface of fresh concrete and resin bound or cement bound layers that are applied to a hardened concrete surface. The latter can be applied to new floors or to old floors either to upgrade the floor or to deal with damaged surfaces



and will be considered in the next edition.

Dry Shake Toppings

Dry shake toppings are used for three reasons or combinations of reasons.

- To mask the steel fibres at the surface of steel fibre reinforced floors.
- To improve the abrasion resistance of a floor.
- To enhance the appearance of a floor.

These materials are essentially combinations of fine aggregate and cement, along with wetting agents and sometimes pigments. They are spread on the surface of the fresh concrete and combine with the water in the concrete to set just like the rest of the concrete underneath. They become a part of the floor slab and are not a separate layer as such. When considering their use, it is helpful to think of them as fine aggregate and cement in just the same way as the fine aggregate and cement in the main concrete. This then poses the question of how are they different from the materials in the concrete and how do they provide benefits to the floor user. This depends on what you are looking for and brings us back to the list above.

Steel Fibres

The use of steel fibre reinforcement is now commonplace, particularly in jointed floors and piled floors. Some fibres will inevitably be close to the surface and so a topping of about 2 to 3 mm is applied to minimise the number actually seen. This is generally very effective but contractors would be unlikely to give a guarantee that there will be NO fibre at the surface. Unless there is any other requirement, the qualities of the topping need be no different to those of the underlying concrete.

Abrasion Resistance

In the majority of warehouses, there is no requirement for specific measures to enhance abrasion resistance. Good quality concrete and finishing is all that is



needed. If you are convinced that more is required, then the supplier should be able to demonstrate that his material can out-perform ordinary concrete. To do this, metallic aggregates might be used in very aggressive conditions otherwise reliance will be placed on having very well graded fine aggregates of suitable mineral qualities.

Appearance

If appearance really matters then toppings with coloured aggregates or pigments can be used. If you require a colour then you must realise that toppings will not give the same colour consistency or intensity as would be found for example on a painted surface. I am thinking of a wall surface here, not a floor surface as floor paints are another potential problem area that will be discussed in the next edition. What do seem to work well are the light grey toppings often used in out of town DIY centres. The intention is not to make the floor look like anything other than concrete, but lighter tones can be achieved along with improvement to consistency across the floors.

Next Edition: Resin floorings and other overlays.

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