



KEIM Mineral Paints – Technical Digest

Mineral Paint Application onto Self-Compacting Concrete

Self-compacting concrete, also known as SCC, is a flowing concrete mixture that is designed to be able to consolidate under its own weight. The highly fluid nature of SCC is making it increasingly popular for use in difficult conditions, in sections with congested reinforcement and to help with time constraints. The use of SCC can also help minimize hearing-related damages on the worksite that are induced by vibration of concrete.

From a mineral paint perspective, the addition of a very high quantity of plasticisers, which are introduced to SCC to obtain the fluidity, can create issues as this changes the fundamental 'mineral' composition of the concrete itself. Traditional concrete mixes are inherently compatible with mineral paints due to their composition of mineral components. The introduction of plasticisers, whilst not uncommon in traditional concrete, is done so in such high quantities in SCC to achieve fluidity, that is fundamentally changes the concrete's mineral properties.

Whilst this does not completely preclude the use of opaque mineral paints onto SCC, it does mean that site trials are required to ensure optimum product selection. The biggest challenge is with the use of the translucent, unifying, Keim Concretal Lasur system. Due to the way in which the SCC sets, under its own weight, during numerous trials, our experience has found that it creates visible differences, usually in the form of lines on the underside of the concrete. As concrete is often used for soffits, utilising the underside of the pour, for the soffit finish, this creates darker and lighter lines which specifiers often wish to disguise. As the Keim Concretal Lasur is a translucent mineral coating and depends on even absorption over the surfaces to give a truly consistent and unified finish – this is not always achievable due to the high plasticiser content of SCC.



This photograph below shows the typical difference in a traditional (wall) and SCC (soffit) concrete finish

Whilst we understand that the composition and concrete requirements of a site/project are not likely to be changed based on this information, we feel that it is important to make specifiers and contractors aware of the limitations and difficulties which our colourist team can face when trying to apply Keim Concretal Lasur onto Self Compacting Concrete.

