

Surface Preparation and Mixing and Laying Instructions for Durosil Concretes

PREPARATION

To ensure that full bond strength is achieved between the base concrete and the Durosil topping it is crucial that all fats, laitence and loose materials are removed from the surface, and that some aggregate is exposed. Suitable mechanical methods include scalers, vacuum blastracking for large areas and pole or pram scabblers. Tamped finishes, however rough the surface may appear are not suitable as tamping brings too many fines to the surface.

Chemically attacked concrete should have all loose, degraded and contaminated material removed, and be dressed back to a sound face. Existing brick and tile finishes should be treated as old concrete.

Nothing adheres to loose, corroded material.

After mechanical prep work the surface should be swept and vacuumed to remove the last traces of loose material and washed down with water. Small puddles should be dried, but a damp surface aids adhesion between the base and acid proof concretes.

MIXING

A forced action mixer has been found by experience to be the most suitable type of machine to mix Durosil products, as the fines in the mix need a high energy input to incorporate them. A mix time of at least 4 minutes is essential to ensure that the fines are fully dispersed throughout the mix. This is achieved when the material in the mixer takes on a much creamier consistency than at the start of mixing.

LAYING

As the working time of the material is relatively short the following checks should be made prior to commencing:-

- Ensure mixer is clean. (No old civil concrete).
- Have sufficient material to hand to complete the task.
- All operatives to be instructed in the safe handling of Durosil and issued with the correct PPE.
- All formwork to have at least 2 coats of good quality mould oil.
- Check all formwork for stability and dimensions.
- Have a good supply of clean water available for tool and equipment washing.

When everything is ready add a small amount of DR11 solution to the mixer to reduce dusting. Add the powder and liquid (2 bags powder to one bottle of mixing liquid) and mix for at least 4 minutes until the mix becomes creamy in consistency. Slump can be modified by adding or holding back small amounts of mixing liquid. If the mix is too sloppy it will be difficult to trowel to a good finish. When the mix is ready it can be discharged to a suitable transfer vessel, or directly on to the area to be lined.

Cast vertical areas first, taking care not to allow mould oil onto other areas to be Durosilled later. Do not use pokers to consolidate as this can cause stratification of the aggregate.

When laying horizontal surfaces work continuously once started, always working the new mix into a wet edge. A 2 metre wide front is the optimum per man. Tamp down between 40 mm battens and quickly float off the surface. Do not overwork as this will cause surface tears and cracks as the surface air dries over the chemical set of the bulk material.

CURING

The concrete sets chemically, so ambient temperature has a significant effect on setting times.

At 20°C **DR11** reaches initial set in 2.5 hours and final set in 5 hours. (Final Set = 3.5 N/mm²). In average British Summer conditions light traffic can use the surface after 24 hours. In colder periods setting times are more extended.

HEALTH and SAFETY

Please read carefully our Health and Safety Data Sheets

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