

Architectural Concrete Repair Information

GreyMatter concrete carry out high quality Architectural concrete repair to existing and new fair-faced in situ concrete. The ultimate aim of any intervention is to repair concrete so that any remedial work does not affect the overall appreciation of the fair-faced concrete aesthetic and design.

Introduction to the project

When embarking upon any new repair work it is important to initially review as much detail regarding the project as possible and what issues have been flagged up. Information that is required is as follows:

- Plans of the building marking areas on Architectural concrete.
- The original specification.
- The mix design.
- Details of the formwork face material.
- A general overview of the issues concerned.
- Photographic imagery contextualising those concerns.
- Details of the Client/Architect, main contractor and/or sub contractor.
- Location of the project.
- Proposed hand over date.

GreyMatter concrete will provide an initial opinion with regard to the possible benefits of repairs being undertaken along with relevant images of similar repair work. A site visit can then be arranged if suitable.

Initial site visit

The focus here is to gain an understanding of the general state of the existing concrete, the overall vision and expectation that the Client/Architect has in respect to the final desired finish. It should also allow the contractor to share their view and for all concerned to openly discuss the general direction that any remedial works may take if required. GreyMatter concrete will also form an opinion as to how beneficial any repairs may be based on past experience the degree of positive impact that any intervention will have on the aesthetic quality of the concrete. Following this site visit a brief report will be compiled by GreyMatter concrete to be distributed to all parties concerned.

Site survey

Once it is fully agreed that the concrete should be repaired a full survey should be undertaken. Whilst it is sometimes useful to have a snagging list prepared by the Architect we have found that preparing a full visual survey agreed by all parties to be the most constructive and efficient way forward. The survey that is compiled should detail the following information:

- The location of the agreed repair
- The extent of the agreed repair
- A photographic image of the defect
- The category of defect
- Basic methodology for repair strategy
- Any relevant notes

The survey is an important document as it serves to draw up a definitive list of repairs. We have found in the past that working without a schedule is confusing, does not provide clear images, can be open to misinterpretation and the list of repairs can 'grow' or be added to which can be seen as being weighted against the contractor. The document also affords GreyMatter concrete with clear instruction as to what work is to be carried out. Photographing the areas not only allows for easy identification but also provides for before/after imagery once the repairs are complete. An example survey is available to download at <http://www.greymatterconcrete.co.uk> in the repair download section.

Benchmark sample production

Once the survey is compiled the repairs will be categorised for benchmark sample production. Examples of categories are as follows:

- Patch repairs to blowholes, arrises, honeycombing
- Repairs to areas of grout loss and surrounding dark patches
- Treatment of stains to the concrete surface
- Repairs to areas of spalling or dusting
- Construction damage
- General cleaning
- Polishing of inadequate or dusting flatwork
- Cleaning up of excessive spillage and reinstatement of joint lines
- Tie hole filling/repair

Benchmark sample work should ideally be carried out in situ to an agreed area. It is not usually very informative for the sample work to be carried out on concrete that was not designed to be exposed in the first place. The benchmark samples will cover each category of repairs and should be approved prior to commencing the main works. Repairs cannot be undertaken without producing sample work, as it is a fundamental role of the sample session to establish the success of each repair carried out in order for levels of expectation to be agreed. In this way the quality of future repairs can be measured and controlled along with comparison to a previously agreed aesthetic opinion.

Specifics of repair work

GreyMatter concrete use proprietary polymer modified cementitious repair materials with the addition of iron oxide pigments. Each repair requires four stages involving cleaning of the surrounding concrete, selection and application of the repair material, abrasion of the surface using diamond nickel bonded pads and final tone matching of the new and existing surfaces. If a sealant is specified then the repairs should be undertaken after the sealant is applied. A small quantity of sealant should therefore be available for the sample work.

Repairs should ideally be undertaken several weeks after the concrete has been poured to allow for a natural tone to be achieved. Ideally works are carried out after glazing is installed and the building is watertight. If this is not possible and repairs must be undertaken earlier, then it is viable to split the works into two phases and carry out final colour matching at a later date. All projects vary in their requirements and can usually be easily accommodated. Cold weather external repair work may require the use of propane heaters.

Our team

GreyMatter concrete comprises of a small team of experienced concrete repair specialists. The nature of the work demands sensitivity and respect for the original characteristics and nature of the material. It is by adopting this position and working practice that we are able to complete high quality repairs on high profile projects that ultimately allows the concrete to exist in harmony with the surrounding environment as was originally designed.