

CBS MIDDLE EAST QUALITY ASSURANCE AND AFTERCARE

ISO 9001 REG NO. BQSR22097

Introducing Concrete Building Solutions Pour Manager® AI Application

One of the things that sets CBS Middle East apart from the competition is our focus on Quality Assurance and Aftercare. We've invested heavily on technology, training and procedures to ensure installation quality is checked and recorded, for both our clients piece of mind and our own.

We leave our clients with a clean, organised, complete and tidy QA pack with records of the construction process you can refer back to at any point. We believe this transparency builds confidence and trust in our methods and products.

Our Quality Assurance Process

We have developed our own bespoke AI enhanced APP, (Concrete Building Solutions Pour Manager®), which allows us to cross check for compliance to and store documents with ease.

Design and Engineering - As members of THE CONCRETE SOCIETY, our inhouse designers and architects follow TR34 to ensure the suitability of our design and work closely with material suppliers such as fibre, joint and concrete suppliers to confirm suitability. Our app stores all these drawings and product documents and checks their compatibility and suitability.

Prepour Assessment - Our APP in conjunction with our UK trained QA Assessors check the materials and environmental conditions are ready for the pour, its all in the preparation!

During the Pour - Our Assessors check, check and check again against the APP's checklists, ensuring we are hitting the required standards. We also use our sister company 3DAC's live surveying services to make sure we are in tolerance.

Sampling - We take a huge number of samples during our pours to check material compliance, no stone is left unturned.

After the Pour - We survey our own work for a health sense check, but we also bring in external surveyors to provide an independent report on our work.

Aftercare - Although our QA procedures minimise snags, we know that we are building in real life, and imperfections happen, caused by either workmanship, other contractors, or other suppliers. When things go wrong, what is important is how we deal with those issues. See our Aftercare Policy for our pro-active attitude to at making and keeping our slabs in top condition.



CBS MIDDLE EAST AFTERCARE

CBS Middle East provide the industry leading 10 year warranty on our installation design and installation, backed up with a Design Liability Warranty Insurance.

Furthermore, our Gold, and Platinum Packages come with additional guarantees provided by our polishing and densifying system partners, that cover the surface finish and its durability for 10 Years, giving further piece of mind.

So what does that mean in practice? We promise that CBS Middle East will:

- Respond within 1 week of receiving notification
- Evaluate on-site within 2 weeks of notification
- Repair within 4 weeks of evaluation

So how can we be so proactive?

Through our relationship with the DAC Group we have access to:

- A permanent, physical presence in Jeddah, Riyadh , Dammam and Dubai giving us local engineers to provide quick response time.
- Access to Sheildtech – a specialised concrete repair division.
- Access to Rhino’s crack repair knowledge and technology through DAC’S exclusive partnership with the leading US based crack repair specialist.
- A strong financial backing and a reputational interest to uphold.
- The warranty covers defects in materials and workmanship, but it does not cover minor cosmetic defects or defects caused by factors outside of CBS’s control, caused by other contractors’ etc.

Examples of some of the defects we encounter, and our typical response are as below, but please bear in mind we are a friendly and proactive company looking to build long term relationships, and as such take a big picture view on helping our clients out where we can.

Defect	Action
Colour Variation	To be expected with natural product variation. This will settle and become more uniform so should be assessed 28 days after curing. Unless unreasonable no action needs to be taken. Where our Gold or Platinum packages have been taken out, our partners warranty against colour degradation as part of their package. With these packages Colour variation is massively reduced by the grinding and densifying process and the likelihood and severity of spill staining is also minimized with the Gold and Platinum packages.
Cracking < 0.8mm	To be assessed and determined if it is due to groundworks, impact, overloading, external movement or due to CBSME product, design or method error. Repair method to be epoxy resin repair, colour variation to be expected and tolerated. CBS along with Rhino uses two main methods to epoxy repair cracks in concrete floors: gravity feed and resin injection. Gravity feed is a method in which a repair material is poured into the crack and allowed to flow in under gravity. Resin injection is a method in which a resin material is injected into the crack under pressure. Stitching with carbon fibre may be needed where there is significant subsidence. We colour tint our resins to match the surrounding areas as near as possible, but some aesthetic difference is to be expected with any repair.
Cracking > 0.8mm	To be assessed and determined if it is due to groundworks, impact, overloading, external movement or due to CBSME product, design or method error. Repair method to be epoxy resin repair, colour variation to be expected and tolerated. CBS along with Rhino uses two main methods to epoxy repair cracks in concrete floors: gravity feed and resin injection. Gravity feed is a method in which a repair material is poured into the crack and allowed to flow in under gravity. Resin injection is a method in which a resin material is injected into the crack under pressure. Stitching with carbon fibre may be needed where there is significant subsidence. We colour tint our resins to match the surrounding areas as near as possible, but some aesthetic difference is to be expected with any repair.
Delamination	The Gold and Platinum packages show virtually no delamination due to the construction methods. Testing by chain test or tapping around affected area to be undertaken to determine extent of affected area. Repair method is to square of section affected and to replace with an epoxy mortar. Sheildtech, our repair specialist sister company, reduce colour variation by tinting the resin to colour match the surroundings but some colour variation to be expected and tolerated.
Fibers at Surface < 6 per m ²	Gold and Platinum packages eliminate vertical fibre protrusion, but some flat surface fibres may occasionally remain. These are of no detriment to the performance of the floor and generally are left insitu. Where silver packages has been purchased, some fibre protrusion is to be accepted in line with TV204 Standard as follows; ‘Good/Reasonable is where $6 \leq x < 10$ surface, where x = the amount of visible fibres at the surface per m ² . To determine the amount of fibres/m ² , a number of 100m ² squares are marked on the floor surface. The number of squares that have to be reviewed is 5 if the floor is smaller than 10,000m ² , and 10 if the surface is greater than 10,000m ² . In each square, one determines 5 arbitrary 1m ² areas, and counts the number of visible fibres at the surface contained within. The average/mean is determined and compared with $6 \leq x < 10$. For example, a floor of 9,000m ² would require 5 squares of 100m ² to be taken. In each square, 5 smaller squares of 1m ² are taken, therefore 25 values are determined. The average of those 25 values is then calculated and compared with the table. 5x 100m ² sections per 10,000m ² to be sampled if there are concerns.’ Should the number of fibres fall outside of these boundaries, protruding fibers to be clipped with nips and holes repaired with epoxy resin repair.
Level or Flatness Tolerance Failure	To be assessed when floor is less than 30 days old only. If remedial action is required, grinding and or levelling up with overlays will be accepted method, some colour variation to be expected and tolerated. Again, with Gold and Platinum packages, this failure is very unlikely, and the repair is much more invisible as grinding already forms part of the installation process
Joint Failure	Joint repairs are to be with epoxy mortar, colour matched by Sheildtech to blend in as well as possible