our press release

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Spalling concrete can be potentially hazardous if left untreated with potentially high risks involved from possible property damage or personal injury due to failing detritus.

The term 'spalling' is used to describe the delaminating or fragmenting of the concrete surface. This flaking from the surface is usually accompanied by nearby staining and is often the first symptom of concrete spalling, when steel reinforcement within a concrete structure begins to rust it expands approximately 5 times its original size causing concrete delaminating or fragmenting resulting in rapid degradation of the reinforcing steel which could jeopardise the integrity of the structure. Concrete by nature works under compression and therefore does not perform well under expansion.

In the case of the Silo spalling at PFG Building Glass, R&D Contracting's assessment identified that the rebar had been placed too close to the surface with the moisture ingress causing the steel to corrode. The main damaged areas identified were around the entries to the base of the silo with only small patch incursions on the south (of the plant). Nearly all of the repair areas had significant support steel visible as a result of the corrosion and consequent spalling

After identifying the full extent of the concrete spalling including the identification of delaminated areas not yet broken loose using electronic and mechanical methods, R&D Contracting outlined the appropriate repair methodology and solution to meet the site specific requirements.

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The repair process was initiated by first preparing the spalling areas. This was done by saw-cutting the perimeter of the damaged areas taking care not to cut any existing rebar. Sufficient surface area and depth were exposed in order to allow the non-shrink grout to be placed. Exposed rebar was adjusted deeper to facilitate improved coverage of the rebar with repair mortar.

The steel was mechanically prepared to remove all corrosion to ST2 and primed with Sika Armatech primer, cement based epoxy modified anti corrosion and bonding agent which was applied to the entire spalled area followed by placement of the repair mortar. Specially rolled angle iron steel buffer was installed to prevent accidental damage but forklift traffic utilizing chemical anchors as opposed to expansion bolts to prevent undue expansion stress on the concrete.

The project was completed with a skilled 5-man team without any incidents due to clear safety measures implemented during the project and delivered a quality solution to PFG Building Glass which carries the R&D Contracting workmanship guarantee.

R & D Contracting - *Maintaining through Innovation* - provides comprehensive maintenance services to the industrial and commercial sectors of the market. Our streamlined operation is well equipped to manage any maintenance challenge with its fresh approach, hands-on work ethic and a management team who boast over 45-years' experience in the field.

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