



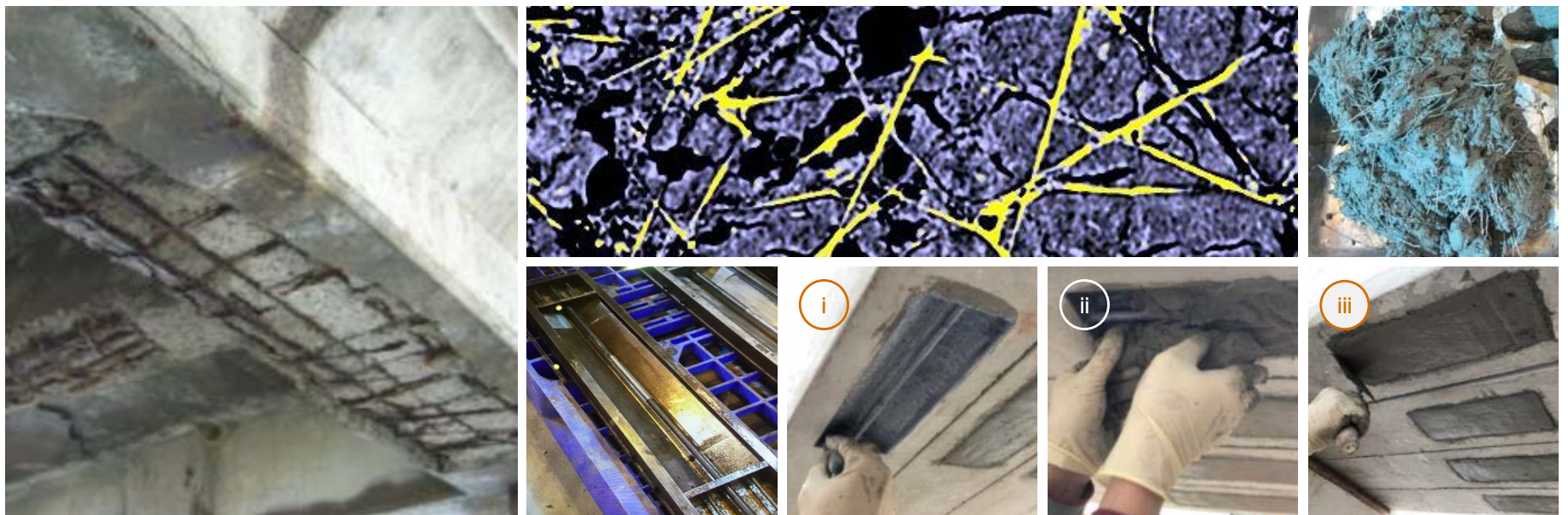
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R²M² - Rapid Repairing Mortar Material

The Hong Kong University of Science & Technology
Chun Wo Construction & Engineering Co. Ltd.
Nano and Advanced Materials Institute Ltd.



R²M² provides a technological breakthrough to upgrade the conventional concrete repair methods. R²M² entails the use of a specifically proportioned steel-fibre reinforced mortar to restore the load-carrying capacity of reinforced concrete slabs where the rebar therein could be corroded up to losing 40% of their steel area.

Currently, where there is a significant loss in rebar steel area (>15%), lapping of compensation rebar(s) is required and sound concrete along the rebar must be removed to create a sufficient space for rebar bond length. With R²M², the additional rebar is no longer necessary and the amount of sound concrete to be removed can be greatly reduced, leading to savings in time, repairing materials and construction cost. In addition to enhancing construction productivity, R²M² helps reduce construction waste, dust and noise, creating safe and improved working conditions for workers.

This innovation is driven by the rapid growth of aging buildings in Hong Kong. In many cases, these aging buildings are poor in maintenance, leading to concrete spalling and rebar corrosion. R²M² provides a cost-effective solution, generating incentive for building owners to repair their properties, noting a proper repair will prolong the service life of aged buildings – an important aspect of sustainable maintenance for the benefits of the society at large.

A comprehensive method statement and training programme for R²M² Qualified Applicators has been developed. A scaled-up commercial production strategy for R²M² has also been mapped out, enabling a smooth market introduction and industry adoption of this much-needed innovation.

