

Project Profile - Civil Engineering & Infrastructure



PROJECT

Upgrading of ASR affected structures in Sendai Prefecture, Japan

SUMMARY

Effective waterproofing to arrest ASR and protection from chloride ingress

PRODUCTS

Steel Reinforcement Protector 841
Monomix
Cemprotec Elastic

CLIENT

Japan Highways

CONTRACTOR

Kitanihon Boshoku Co Ltd

BACKGROUND ►

In maintaining its reinforced concrete structures against the normally anticipated demands of weather extremes and attack by de-icing salts, the Japanese Highway Authorities must also contend with cracking caused by ASR - alkali silica reaction.

In the presence of water, alkalies from the cement react with reactive silica in the sand used in construction to form an expansive gel, which, when left unchecked, leads to a cycle of degradation and premature failure.

THE SOLUTION ►

In the Prefecture of Sendai, modern repair and protection methods are now adopted for the reinstatement and preservation of ASR affected structures. **Monomix** - a high build, structural grade mortar modified with microsilica to reduce the level of alkalies - is used to re-profile surfaces to a high quality finish. Further ASR induced expansion is prevented by stopping the ingress of spray and rainwater by an overall application of **Cemprotec Elastic**. Applied directly to a damp surface, it cures to an impermeable film which is capable of accommodating any movement over cracks caused by ASR.



FM 41091
EMS 597350
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Environmental
Health & Safety

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