

Project Profile - Civil Engineering & Infrastructure



PROJECT

Transmission Towers, Japan

SUMMARY

Concrete repairs and protective, decorative coating of the transmission bases

PRODUCTS

Monomix
Monodex Smooth

CLIENT

Japanese Electric Power Company

BACKGROUND ►

These high voltage transmission towers in Japan support overhead power lines. Comprising steel lattice towers, their bases are of reinforced concrete construction and over time, due to weathering and attack from chlorides, carbon dioxide, water ingress and freeze/thaw attack particularly during the aggressive winter period, the exposed concrete had deteriorated. Concrete repairs needed to be carried out first prior to the application of an anti-carbonation coating to provide a protective, decorative finish.

THE SOLUTION ►

Monomix, a single component, high strength, shrinkage compensated cementitious mortar, was chosen for this project as it was ideal for the structural repair, rendering and profiling of the transmission bases. It is rapidly applied by trowel up to 80mm in a single application and is easily used on-site, only requiring the addition of clean water. Its high bond strength exceeds the tensile strength of concrete and it has low permeability to water, even at 10 bar pressure, with very high diffusion resistance to acid gases and chloride ions.

An aesthetic finish was required and once **Monomix** was applied, the whole surface was overcoated with **Monodex Smooth**, a waterborne, elastomeric, high build, decorative anti-carbonation coating. Chosen on the basis of its superb track record of protecting structures all around the world from the damaging effects of carbonation and water ingress, **Monodex Smooth** affords outstanding durability with a design life of up to 15 years before first maintenance is required. It is a low hazard, water-based product with minimal VOC levels and an encapsulated in-film biocide inhibits the growth of mould, mildew and lichens.

Like **Monomix**, **Monodex Smooth** is CE marked in accordance with the demands of BS EN 1504. **Monodex Smooth** is highly elastomeric, allows damp substrates to breathe and is able to accommodate thermal and structural movement without cracking or flaking. **Monodex Smooth** is available in a range of colours, of which steel grey was chosen for this project.



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