

West Kowloon Expressway

Case study

Focus product: Intercrete® 4841

Client: Highways Department, Government of Hong Kong

Contractor: Kumagai-Maeda-CRABC JV

Summary: Reinstatement of effective cover on precast concrete segments



Background

Built on reclaimed land, the West Kowloon Expressway opened to traffic in 1997. This four kilometre highway runs from Kwai Chung Viaduct to the Western Harbour Crossing toll plaza, carrying traffic out to Hong Kong International Airport.

Whilst the southern section is at ground level, the northern section is carried on a viaduct which is constructed from precast concrete segments. During construction, low cover was detected on a number of segments, requiring an innovative engineering solution.

The solution

In a pioneering move which followed similar use on the Channel Tunnel, Intercrete 4841 was approved as an economic and practical solution to enhance effective cover to reinforcing steel. The contractor cleverly blended white and grey grades of Intercrete 4841 to provide a colour matched solution which could be used in discreet patches. Applied directly to concrete in two coats in a thickness of 2mm, Intercrete 4841 confers an additional 100mm of effective cover. This application has led to the use of Intercrete 4841 on many major infrastructure projects.