

Krvavec Transmitter Tower

Case study

Focus products: Intercrete® 4801, Intercrete 4811, Intercrete 4891

Location: Slovenia

Client: RTV Slovenija

Summary: Concrete repairs and coating of reinforced concrete tower



Background

This Radio and Television (RTV) Transmitter Tower is situated in the Krvavec Mountains in Slovenia's Kamnik-Savinja Alps. Around 100 metres high and based at an altitude of 1,740 metres, it is the largest and most important Transmitting Centre in Slovenia, supplying the radio and TV network throughout many parts of the country, as well as international coverage. In fact, it facilitated the first television broadcast ever in Slovenia in 1957.

The tower is of reinforced concrete construction and was built in the 1980's, having replaced a former metal tower originally constructed in 1955. The structure has to withstand hostile conditions, as it is located in the ski resort of Krvavec and in 1991 it was even bombed by Yugoslav fighter planes during the Ten Day War, otherwise known as the Slovenian Independence War.

The solution

An Intercrete repair and protection system was chosen for this project as the products are proven all around the world in demanding environments. Concrete repairs were first carried out on the tower using Intercrete 4801, a rapid hardening cementitious repair mortar with exceptional high strength and abrasion resistance. It offers low permeability to water, even at 10 bar pressure, and very high diffusion resistance to acid gases and chloride ions. It enables easy high build trowel application and is CE marked in accordance with the demands of BS EN 1504.

Intercrete 4811 was then applied to seal and consolidate the substrate prior to the application of Intercrete 4891, a highly advanced, waterborne, single component, waterproof, anti-carbonation coating. With a service life of up to 15 years and CE marked to BS EN 1504, it has an elastomeric formulation and can withstand substrate and thermal movement without deteriorating. It is exceptionally fast drying and two coats can be applied on the same day all year round, even in hostile climatic conditions. Intercrete 4891 has an attractive, decorative finish and is available in a range of colours, of which light grey was chosen for this project, ensuring the tower will maintain an aesthetic, protective finish for many years.