

PROJECT PROFILE



Project: Cooling Tower, Bishan, **China**

Total area: 8,000 m²

Designer: Sino-Gem Company

Contractor: Engineering Company Jilin

Gemite product: **Cem-Kote Flex ST**

Objective: Protection and waterproofing of an interior of a cooling tower.

The cooling towers at a thermal power plant in Bishan, China, were built in the mid Eighties. The original coal tar epoxy applied to the interior side of one of the cooling tower wall had failed after approximately 10 years of service. In 2000 the original epoxy coating had been removed and another epoxy coating had been applied to the interior. This application failed completely, by severe delamination of the epoxy, in about three to four years. In 2004 it was decided to use **Cem-Kote Flex ST** waterproofing. There were a number of reasons for changing the widely used very low permeability epoxy system, but the main reason was the historically poor performance of epoxy systems in these types of applications throughout northern China and elsewhere. The lower cost of the polymer-modified cement versus the epoxy coating and the ease of application were also important considerations in selecting **Cem-Kote Flex ST** over epoxy. The most difficult task was to remove the existing epoxy coating since only some of the epoxy was completely de-bonded and considerable areas of the epoxy remaining well adhered. Rotating, mechanical, hand held grinders were used to remove the epoxy. Due to time and economic constraints, well-adhered epoxy was not removed. **Cem-Kote Flex ST** was brush applied in two coats to a total thickness of 2 mm. The project was completed in one month including surface preparation and the coating application



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