

Fosfertil Prill Tower

Case study

Focus products: Intercrete® 4840, Intercrete 4801, Intercrete 4871

Location: Curitiba, Brazil

Client: Fosfertil S.A.

Contractor: Maker Engenharia Ltda

Summary: Reinstatement of cover to steel reinforcements inside Prill tower

Background

Fosfertil is Brazil's largest producer of raw materials used in fertilisers. At this plant, urea is deposited down a tower to form pellets. This results in a hot and chemically aggressive atmosphere which quickly attacks normal concrete to cause spalling and corrosion of the steel reinforcement. The worst areas were recorded in the top 15m of the 100m tower where the concrete cover was almost completely eroded.

The solution

The urea deposits which had accumulated on the prill tower were mechanically removed. All exposed steel reinforcement was protected with Intercrete 4871 and concrete repairs to the heavily damaged areas in the top section of the tower were undertaken with Intercrete 4801, chosen for its high build characteristics. The workers abseiled down the tower in order to spray-apply Intercrete 4840, an epoxy cementitious coating, which is applied directly to the concrete. Intercrete 4840 was selected to give long term protection against abrasion and chemical attack from the urea.

