



Second Orinoco River Bridge

Ciudad Guayana, Venezuela



Completion Date
2005

Contractor
CONSTRUCTORA NORBERTO ODEBRECHT, S.A.

Engineer
LUCAS VALERA NIÑO

Products
CONCENTRATE

Project Type
BRIDGES



The Second Orinoco River Bridge in Venezuela, is viewed by the government as the country's most important infrastructure project of recent years. The bridge is a 3.2 km (two miles) long road-rail crossing, carrying four lanes of highway traffic separated into two carriageways by a single railway track in the centre. The crossing comprises two back-to-back cable-stayed bridges, each having a 300 m (984 ft.) mainspan and two 120 m (394 ft.) side-spans.

The general contractor, Constructora Norberto Odebrecht, S.A., concerned about water seepage and possible corrosion of the reinforcing steel in the concrete forming the base for the railway, used Xypex to waterproof and protect it. Odebrecht was confident in [Xypex Crystalline Technology](#) having used it suc-

cessfully on the Metro project in Caracas. Prior to the Xypex application, there was already obvious leakage from the concrete. This problem ceased after the application of over 63,000 lbs. of Xypex [Concentrate](#) to the concrete base and walls underlying the rail track.

The Orinoco and its tributaries constitute the northernmost of South America's four major river systems. This new crossing, at Ciudad Guayana, was built to complement the existing Angostura Bridge (100 km upstream) and is intended to provide a rail connection that enables heavy industrial products to be transported to the ports of Venezuela's Caribbean coast. It also strengthens transport links between Venezuela and Brazil to the south.