

## **Clarification on Minimum Cement Content when using Xypex Admix**

There is no reference to cement contents or mix design requirements in the Xypex Specification and/or the Xypex Product Data Sheets. There is a specified dosage rate for Xypex Admix C-1000NF (No Fines grade) of 0.8% - 1.2% by weight of total cementitious of the concrete mix design. The Xypex Specification references applicable standards for the jurisdictions in which the material is to be used. The specifying engineer shall be aware of the requirements of that standard. Typically, the requirements for Exposure Classification and Design for Durability will determine design of concrete strength and concrete cover over reinforcement, as well as design and placement of reinforcement steel to achieve the level of crack control for the service conditions/location of the project.

In regard to dosage rates for Xypex Admix, the Xypex Admix Specification states “under normal conditions the crystalline waterproofing powder (“No Fines” grade) shall be added to the concrete mix at the rate of 0.8% - 1.0% by weight of total cementitious material. For enhanced chemical protection or meeting specific project requirements, consult with the manufacturer or its authorised representative to determine appropriate dosage rates”. In some instances, the dose rate can be increased to 1.2% by weight of total cementitious to achieve increased durability of the concrete elements, particularly when exposed to aggressive environmental conditions.

In New Zealand, it is recommended that waterproof concrete have a minimum specified 28-day concrete strength of 25 MPa and be produced in accordance with NZS 3104:2003.

Xypex Chemical Corporation have stated that Xypex Admix requires a minimum of 10% Portland cement content. Of course, optimum effectiveness will be dependent on a number of factors such as thickness of the concrete, Portland cement content, whether there is sufficient reinforcing steel for strength and crack control, quality of placing and finishing practices, sealing of construction joints etc. Typically, to perform as expected, Xypex Admix requires a minimum concrete thickness of 5 cm and a minimum design strength of 20 MPa.