

**Project:**  
Ituango Hydropower

**Site:**  
Gallery 4

**Location:**  
Antioquia Region, COLOMBIA, SA

**Project execution:**  
June to July 2019

**Market sector:**  
Tunneling

**Products used:**  
MasterRoc MP 368 Part A and B (resin bi-component)  
MasterRoc MP 355 Part A and B (resin bi-component)  
MasterRoc MP 355 Accelerator 15  
MasterRoc MP 355 Accelerator 25

### Challenge

In April 2018, the project was to reach completion of the construction phase, when a series of landslides obstructed the diversion of water at the hydroelectric supply tunnels. Since the tunnels had collapsed and the reservoir began to fill early, several stoppers had not been completed. Though a stopper was built in the concrete, as the final seal of the gallery to the main reservoir, it produced severe water ingress. The challenge was sealing the collapsed tunnels through the construction of a pre-stopper.

### Our solution

We proposed an injection program utilizing MasterRoc MP 368 and MasterRoc MP 355 with Accelerator 15 and 25. Several pipes and valves, supporting the injection were designed, constructed and installed. The injection systems were designed to improve the rock mass condition and seal the rock to reduce and control water ingress.

ASGPOLINJECTPIRES SAS injected with MasterRoc MP 368 and MasterRoc MP 355 with Accelerator 15 and 25. MasterRoc MP 368 improved the rock mass condition around the stopper, and MasterRoc MP 355 sealed the rock to eliminate water ingress. The clients and partners were fully satisfied with the performance of the Master Builders Solutions products used.

## Ituango Hydropower



COLOMBIA, Ituango Hydropower

### Master Builders Solutions by BASF

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Master Builders Solutions is built on the experience gained from more than a century in the construction industry. At the core of the Master Builders Solutions brand is the combined know-how and experience of a global community of BASF construction experts, who connect with you to solve all your construction challenges.

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