La Meije Hydroelectric Power Plant (Hautes-Alpes Department of France)

A first in France: telescoping of large diameter pipes!

Saint-Gobain PAM and its partners have proposed a special previously unused solution - telescoping of large diameter pipes -, for the construction of La Meije Hydroelectric Power Plant (Hautes-Alpes). The objective is to insert DN 1400 pipes into DN 1600 pipes. A difficult operation, which aims to reduce transport costs by 40%. A total of almost 3,200 tonnes of pipes and fittings will be sent to the site. This is the first time that such a telescoping operation has been performed on large diameter ductile cast iron pipes.

A 4.2-kilometre long penstock will connect a water intake at an elevation of 1,431 metres to La Meije hydroelectric power plant 1,318 metres below. The drop height will be 113 metres and the maximum flow 4 m3/s. The installed electrical power will be 3,570 kW for an average annual production of 13,580 MWh, which is equivalent to the electricity consumption of 5,000 households.

Commissioning of La Meije hydroelectric power plant is planned for 2019.
Telescoping, a solution with a future

The Saint-Gobain PAM Technocentre has developed an innovative technique to telescope pipes in order to optimise transport of the pipes. The smaller pipe is nested inside the larger pipe using a protection film and levelling bags, thus optimising the space occupied during transport.

The protection film is made by the French Gunther Packaging company. It is made of cellulose fibre reinforced recycled polyethylene. Levelling bags are capable of resisting 11 tonnes. As a precaution, teams always use 2 bags per pipe. All elements of the device can be reused on other sites.

“A few years ago, we used wooden levelling pads to prevent pipes from moving during transport. Now, we install a protective film over the entire length of the penstock and levelling bags at its ends. This also protects internal and external coatings against impacts and protects their integrity.”

Johan Grasser
Packaging Manager
Saint-Gobain PAM

Special transport and unloading of the pipes takes place under the supervision of a Saint-Gobain PAM team that monitors that operations take place correctly and provides technical assistance in the field.

In terms of innovation, this unique site also offered Saint-Gobain PAM the opportunity to validate extension of the range of VE Universal Standard pipes for DN 1600 pipes.
A strong commitment towards the environment

C12 pipes are delivered and transported every day by 6 trucks, the number being limited by the weight. Use of the telescoping technique has therefore reduced the environmental impact by half (256 fewer truck journeys).

“We were committed to respecting strict environmental constraints for this work done in the Ecrins Protected National Park. Therefore we chose Saint-Gobain PAM who proposed ductile cast iron pipes with a 25-year guarantee, thus assuring the durability of the structure. Furthermore, the pipe telescoping technique was a great help in optimising transport costs and limiting any impact of the work on the environment”.

Pierre Bonicel
Development Manager
Hydrowatt

Pipes will be buried under the existing road to reduce the impact of the work on the landscape. The work site will be suspended during the tourist season in summer and in the winter due to weather conditions.

“All partners in this important project held many discussions before the work started, so that the work could be organised optimally. Since Le Meije is a popular mountaineering region, it was important to keep our presence as discreet as possible. Special attention was paid particularly to the environment and respect for nature.”

Pierre Rampa
CEO
RAMPA TP
Technical points

Project owner: HYDROWATT
Prime contactor: HYDROWATT
Pipe-laying contractor: RAMPA TP / SOGEA
Nature of work: Telescoping of large diameter pipes in the context of the construction of La Meije hydroelectric power plant.
Work duration: 2 years

Pictures and further information available on request

About Saint-Gobain PAM
World leader in complete solutions for ductile iron piping, Saint-Gobain PAM is currently active in more than 110 countries. Saint-Gobain PAM designs, makes and sells a full range of solutions dedicated to water supplies. For over 160 years, its reputation in the piping field has been based on its know-how and the reliability of its products, together with the high levels of services provided for its customers.
You can find out more about Saint-Gobain PAM on the site: www.pamline.com

You can find out more about Saint-Gobain on the site: www.saint-gobain.com and on the Twitter @saintgobain account, or download the “Saint-Gobain Shareholder” application for tablets and smartphones (on iOS or Android).