

# Clock Spring Repairs Dent Due to Rockfall in Hydro-Electric Pipeline

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United States

### Pipe Details

- 914-mm (36-inch) diameter API 5L Grade X60  
70 Bar (1,015 psi) design pressure.
- 30 mm (1.18 inch) original wall thickness.
- Dent caused by ground movement.
- Access by 75-minute walk or by helicopter only

### Summary

- Falling rock caused by a landslide in a remote area in the French Alps dented a 36-inch (914-mm) API 5L Grade X60 hydro-electric pipeline.
- Clock Spring mobilized a team and equipment to the site by helicopter.
- Clock Spring trained technicians filled the dent and applied four 36-inch (914-mm) Clock Spring composite sleeves to the damaged pipe.
- Repairs were executed in 2 days.
- The Clock Spring solution did not require disruption to service.

A landslide in the French Alps damaged a 914-mm (36-inch) API 5L Grade X60 hydro-electric pipeline with an original wall thickness of 30 mm (1.18 inch). The location of the line posed a challenge. It was in a remote area that required more than an hour and a quarter's walk to reach.

The facility owners needed a repair that could be executed at the isolated site with minimal equipment. In addition, the repair would have to prevent cyclic fatigue of the dent for the life of the pipeline and had to be performed without taking the line out of service.

The company turned to Clock Spring for a solution.

A helicopter delivered the necessary repair equipment and the installation team to the work site, where the Clock Spring trained technicians grit blasted the damaged area of the pipeline to a finish of SA2.5, removing all rust, coating, and mill scale to produce a near-white surface, and washed it with solvent before inspecting for crack-like features that would indicate additional damage.



*Mobilisation of all equipment by helicopter.*



*Dent.*

Finding none, the team began the repair with two single wrap molds, using 23 packs of incompressible MA441 filler to fill the dent. With the circumferential ovality restored, installers applied four 36-inch (914-mm) Clock Spring composite sleeves over the course of 2 days.

This repair was executed in a remote location with a minimum amount of equipment and no disruption to service.

There are nearly 3,000 trained Clock Spring installers around the world who are qualified to provide repairs with Clock Spring products. Clock Spring regularly offers training classes for installers and can custom design training for individual company needs.



*Dent filled with MA441 filler material.*



*Completed repair.*