

Parallel water main for Kymenlaakso's water distribution



Vključenost Uponsorja

- ✓ A total of 13 km of PE 560 mm PN 10 polyethylene pipes

Security for Kymenlaakso's water supply

The sturdy PE pipes awaiting installation caught the attention of many passersby in the Kouvola area during the winter and spring. The parallel water main built from Utti to Keltakangas improved the reliability of the water supply in southern Kymenlaakso.

Toward the end of March, there aren't many signs of spring yet in the forests and fields of Kymenlaakso. The sun is shining, and the birds are singing, but there's still half a meter of snow in some places. The frost is still biting.

According to Mika Seppälä, site manager at Kreate Oy, the weather is, however, ideal for a contractor. A new parallel water main is being built from Utti to Keltakangas. The total length of the network being constructed east of Kouvola is nearly 26 kilometers.

– In the fall, the start of work was delayed by a couple of months due to rainy weather, as the construction equipment couldn't move on the soft ground. So from our perspective, it's been quite good that the freezing temperatures have lasted so long this year. The ground has been hard and has held up well. Otherwise, large trucks wouldn't be able to reach every location.

Load-bearing capacity has been necessary, as the pipes being moved are larger than usual. Uponsor is supplying a total of 13 kilometers of PE 560 mm PN 10 polyethylene pipes to the site.

– The pipe lengths are 22 meters, so a single truck can deliver 352 meters at a time. For these pipe sizes, this length is fairly standard to minimize the number of joints required, notes Uponsor's regional sales manager.

Water for 100,000 residents

Production Manager Emmi-Maria Ukko of Kymenlaakson Vesi Oy explains that the parallel water line is being built to ensure the reliability of water distribution in southern Kymenlaakso.

The line is being built by the wholesale water company Kymenlaakson Vesi Oy, which supplies water to its member municipalities.

The member municipalities' water utilities, such as Kymen Vesi Oy, distribute the water to customers.

Domestic water is produced at the Utti artificial groundwater plant, at a rate of approximately 20,000 m³ per day, and is supplied to consumers in Kotka, Hamina, Pyhtää, and the former Anjalankoski area in Kouvola.

– Thanks to the parallel water line, water supply will be secured even in the event of disruptions, should anything happen to the main line. This is extremely important—and, from our perspective, certainly very reassuring. The lines serve a total of approximately 100,000 residents, says Emmi-Maria Ukko, who serves as the project manager.

The original main line from Utti to Kotka is 43 kilometers long. In 2010, a parallel water pipeline section between Keltakangas in Kouvola and Korkeakoski in Kotka was already put into service.

A Significant Safety Margin

The main line and the parallel water pipeline do not run side by side; instead, the distance between them varies from one to two kilometers along most of the route.

“This decision was made for safety reasons. The pipes carry truly massive volumes of water—about 850 cubic meters per hour. In a major accident, that amount of water could displace the ground. If the other line were too close, it would be in the danger zone,” Ukko notes.

The alignment of the parallel water pipeline also takes into account the planned widening and interchanges for Highway 15 between Kotka and Kouvola. The road plans and water pipeline routes have been coordinated: when construction of the new road begins, there will be no need to relocate the pipelines.

Maintenance will be easier

Once completed, the parallel water pipeline will be in operation at all times.

– Filling such a long pipeline would take a long time in exceptional situations, and water that has stood in the pipeline for a long time could not be distributed. Once both lines are ready, water distribution can continue without interruption, even if one line is shut down for maintenance.

– This is very welcome from our perspective, as the old main line contains structures that require maintenance, such as old wells, Ukko explains.

The pipes are being installed

The PE pipes are being installed in clay soil and in rocky areas that were already excavated during the winter.

“For the most part, the PE pipes are being installed by digging into the ground. However, we’re also using directional drilling to cross fields so that farmers experience as little disruption as possible,” says Mika Seppälä of Kreate.

The joints are made using butt welding, and in some places also with electrofusion joints.

– We use electrofusion joints when the connections need to be made in a trench or when there is a valve or equipment pit at the location, Seppälä notes.

The pipes are delivered to the construction site from Uponor’s factory in Nastola, located about 60 kilometers from Utti.

“The relatively short distance naturally reduces freight costs and helps with logistics in general,” Rintanen notes.

“It has its advantages that the goods aren’t coming from the other side of the world. Of course, all transport is now carefully agreed upon and scheduled in advance,” Seppälä says.

Long-term partners

Work at the site is scheduled to continue until the end of August.

– After that, it’s time for line flushing and quality assurance, among other things. The goal is to have the line operational by late fall, Ukko explains.

– This has been a major and significant project for us, one that has also tied up a lot of manpower. It’s pretty rare that we get

to work with pipes this heavy-duty.

Uponor has been a long-standing partner of Kymen Vesi.

– Uponor is our contract supplier, from whom we purchase a lot of plastic manholes, sewer pipes, and water mains, among other things. We're in regular contact, the collaboration goes smoothly, and we're already quite familiar with the team.

Uponor is also a familiar company to Mika Seppälä of Kreate.

– We've been working together for decades. Things have always gone smoothly.

Dejstva o projektu:

Location	Zaključek
Finland	2018

Vrsta objekta

Javni objekti

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Adresa

Uponor d.o.o.

Telefon +386 31 773128

E-Mail

ext.david.esih@georgfischer.com

W www.uponor.com