References

Faroe Island tunnel with Uponor pipe system



Uponor involvement

- 10 km pressure pipes and tanks
- Pressure pipes and tanks

Under the sea, safety comes first

In December 2020, the Faroe Islands opened the country's longest undersea tunnel, which considerably reduces travel time between the most populated islands. The 11.2-kilometre tunnel represents a significant infrastructure investment, which also boasts the world's first undersea roundabout. Beneath the road, a sophisticated system of pumps and kilometres of plastic pipework ensure that the road is kept free of water and safe for motorists.

Project Facts:

Location	Completion
Denmark	2020
Building Type	Product systems
Transportation	Drainage, Storm water

An underlying network of pipe and pump systems keeps the tunnel free of water and safe for motorists

The Faroe Islands consists of 18 islands in the North Atlantic Ocean, about halfway between Norway and Iceland. The construction of road tunnels through the steep mountains of the islands began in the 1960s. The archipelago now hosts a total of 19 tunnels.

When the country's longest undersea tunnel, the Eysturoy Tunnel, was finished in December 2020, islanders could cut almost 50 minutes off their trip from the capital, Tórshavn, to the towns of Runavík and Strendur, which can now be reached by road in just 15 minutes.

The tunnel is impressive 11.2 kilometres long, and links the two most populated islands, Streymoy and Eysturoy. At its deepest, the tunnel runs 189 metres below sea level. The tunnel is hugely popular with the island nation's residents, who can now also boast the world's first ever undersea roundabout.

Safety hidden beneath the roadway
As motorists drive into the tunnel, they come into a stylish entrance of harmonic arches, and then to a roundabout flooded with light. Here travellers can experience the local artist Tróndur Patursson's multicoloured light show with an 80-metre sculpture that reaches around the roundabout. The steel ring illustrates people dancing the traditional Faroese dance.

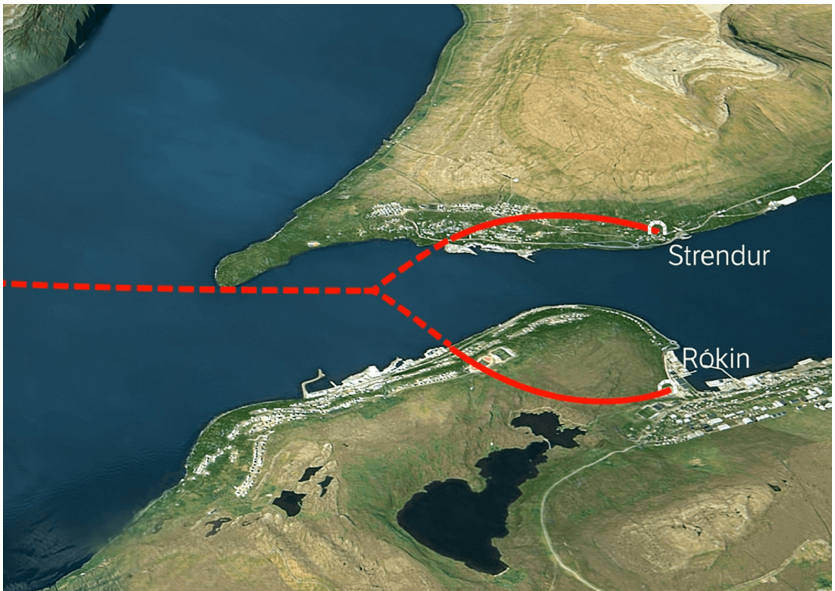
Beneath the road, a sophisticated system of pumps and kilometres of plastic pipework ensure that rain and surface water are kept away from the roadway and technical installations, so that motorists can enjoy the tunnel's aesthetics safely and securely. Gravity leads water into drains and pipes and down to the tunnel's lowest point. Here, large 16 bar pumps send the water back to the surface and out into Skálafjørður fjord.

The system operates with 160-metre water columns and pumps out between 1,200 and 1,500 litres of water a minute. However, it is built to deal with four times this amount, keeping the tunnel safe for motorists at all times. The largest ever infrastructure project The pressure pipes, tanks and ten kilometres of pipework for the project were supplied by Uponor, which has delivered plastic pipe solutions for several earlier tunnel projects on the Faroe Islands – each time in partnership with Faroese company KJ Hydraulik. And there's a reason for this, according to Jonn Sólheim Thomsen, Sales Engineer at KJ Hydraulik. "We have been working with Uponor for over 15 years. As there are such strict safety requirements on a project like this, Uponor's expertise and knowledge of their products' strengths and weaknesses have been absolutely crucial. This was a major reason why we chose to work with them again," says Jonn Sólheim Thomsen. "Plastic is a very strong material with a guaranteed service life of over 100 years, and it's also far easier to handle and install than equivalent pipe systems in other materials."

The Eysturoy Tunnel is the third undersea tunnel in the Faroes. It´s the largest ever infrastructure project in the Faroe Islands and it took almost four years to complete. The tunnel opened for traffic on 19 December 2020.

Uponor has previously supplied similar rain and wastewater systems for projects including the Øresund Fixed Link and the Great Belt Fixed Link.

Faroe Island tunnel solution










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