

TESTED BY THE ELEMENTS

A PLASTIC GAS PIPELINE HAS SURVIVED TWO FLOODS

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The gas pipeline of Kubangazifikasiya OJSC was like hundreds of other gas pipelines designed and constructed all over Russia. However, this gas pipeline was the one that had the opportunity to demonstrate high reliability of plastic pipes and their resistance to natural calamities.

DAG Institute has started the design of "High pressure gas pipeline construction from Svetloe to Aderbievka village in Gelendzhik" in the end of 2010. The length was over 5 km with a diameter of 160 mm. The gas pipeline route was crossing rock grounds and after a technical and financial assessment the proposal from POLYPLASTIC Group to use PE100 SDR 11 160 mm PROTECT pipe with a PP composite protective jacket was accepted. This pipe allows to construct without a sand bed. The project had successfully passed State Expert Review and construction set off in 2011.

Donator LLC, the Contractor, started construction works. The project was going quite fast, way ahead of the deadlines, so in less than in two months the major part of the pipeline was built and part of the pipes were laid in trenches and along their edges.

On 5 October 2011 a torrential rain in Gelendzhik Region of the Krasnodar territory caused floods. The survey done by Marine Hydrometeorological Service of Gelendzhik the next day showed that the levels of Aderba river raised to 3.8 metres from its normal summer levels of 50 cm, stayed for 6 hours and then dropped to 2.5 metres. The river destroyed the bridge, roads, flooded some houses, structures, allotments. The water flow turned cars upside down, pulled the trees out of the ground, knocked down numerous pylons. The gas pipeline was also under the risk. About 3 kilometres of the trench prepared for the laying of the pipe was washed away or submerged with stones, trees, and debris.

However, the plastic pipeline withstood the impact, even the open parts of the pipelines that were not yet laid into their trenches were intact. In some places the protective jacket was damaged or partially torn but the survey showed that the pipe itself has maintained its integrity.

That was not the end of the trouble for this gas pipeline. Several months later, in the beginning of July, Krasnodar Region had another disaster – the notorious flood of 2012 which saw 3–5-months' norm of precipitation in two days. The levels of rivers Aderba, Bakanka, Adagum had reached dangerous levels causing flooding of residential areas. The disaster damaged 7200 houses, wrecked gas, power, water supply, created disruption of railway and road traffic. The number of victims was about 34,000 and 171 casualties. Specialists called the flood devastating and some compared the flood to a tsunami.

The gas pipeline had survived this flood too, apart from several sections of uninstalled pipes that were gone with the flood. After another inspection of the gas pipeline, Gaz-Novaciya LLC has made corrections in the project and installed 1500 more metres of pipeline. The plastic gas pipeline, which survived two floods had successfully passed pressure tests, is currently running like clockwork.

