



ISOPROFLEX-ARCTIC PIPES ARE NOW USED FOR PASSENGER CARRIAGES WATER FILLING PIPELINES

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The implementation of a pilot project for rehabilitating water filling pipelines for passenger carriages, using automated fueling systems, has begun at Agryz station, Gorkiy Railways in 2011.

Water filling lines were designed by the Nizhegorodzheldorproekt Design Institute, Roszheldorproekt OJSC branch in Nizhniy Novgorod. The automatic filling systems (SAZ-1) de-

signed by SKB Infotrans CJSC were used in the new lines.

Automatic filling system provides filling of passenger coaches with water. When the hose is connected to the filler neck of the carriage, pressing of START button on the system's control panel initiates filling. If the carriage is equipped with a restriction valve, the system limits the water supply and automatically pumps out

water from the hose. A signal indicating completion appears on the control panel as soon as the pumping is finished. The hose can be disconnected and spooled back automatically.

This system eliminates water loss when filling carriages. It also prevents hoses from freezing during the winter. Moreover, it reduces the amount of time taken to fill carriages, thereby simplifying the whole process. It is



The first SAZ-01 automated filling system was commissioned on 2 November 2012 at the 4th Platform of the Argyz Station. The second one was put into operation on the 28 February on the 2nd Platform.

The results of the winter operation of the filling pipelines have proved the reliability of the system. Water filling has been carried out at -35°C , and there have been no delays and no filling station malfunctions reported.

Nizhegorodzheldorproekt Design Institute and SKB Infotrans CJSC have been asked to design a unified project for a filling line to be implemented at the Russian Railways. Use of ISO-PROFLEX-ARCTIC insulated PE pipes will ensure stable operation, even in severe weather conditions.

possible to fill 22 carriages within 14–20 minutes.

ISOPROFLEX-ARCTIC insulated pipes, sizes 50/110 mm and 110/200 mm, produced by Cheboksary Pipe Plant (part of the POLYMERTEPLO Group) have been used for the inlet and return pipelines. These pipes feature excellent polyurethane foam, with cable channels designed for self-controlled heating cables like the 33HTP-BT. This allows installation of pipes at a shallow depth (0.7 metres deep in this case) and it reduces construction costs. The pipe heating system also eliminates water freezing during the winter.

The SAZ-01 system elements – the filling stations and hoses, the electromagnetic valves, and the electric pump for pumping excess water – are placed in the heated containers. The containers are heated by electric heaters which maintain the temperature at about $+10^{\circ}\text{C}$. The temperature in the pipes is set at $+4^{\circ}\text{C}$ to avoid freezing.

Filling stations measure half the length of a carriage and are placed every 25 metres along the platform.

