



INNOVATIONS IN FIREFIGHTING

Traditional solutions could face serious competition from polymer-based firefighting systems. Development is, however, held back by out-of-date legislation, believe representatives of SLT Aqua Mikhail Bazilevsky, Technical Director, and Mikhail Tovmasyan, CEO.

SLT Aqua produces two lines of products under the private labels SLT AQUA (polypropylene piping systems for water supply and heating) and SLT BLOCKFIRE (polypropylene firefighting piping systems). Polymer pipes used in firefighting systems (automatic firefighting and internal firewater pipelines) are newcomers to the Russian market. Construction market players have been wary about them so far. In fact, international experience of using similar products suggests that this technology holds promise from both an economic and operational perspective.



MIKHAIL BAZILEVSKY

Technical Director of SLT Aqua

What are the requirements for firefighting pipes and systems today and what are long-term trends in this market?

Mikhail Bazilevsky:

The key requirements for any firefighting systems are their installability at existing facilities, a reduced human factor, reliable activation at the initial phase of fire and stable hydraulic properties. Requirements for firefighting system pipelines are set out in the 2009 set of rules of EMERCOM. A pipeline network using polymer pipes and fittings must meet consumption and pressure standards, fire resistance standards, and must be easy to install, operate and maintain. The technical solution we offer meets all these requirements.

Existing market trends are shaped on the one hand by improvements in the regulatory framework for firefighting system design, and on the other hand by consumers seeking out technical solutions that offer lower installation costs and better performance.

SLT Aqua history. Dates, figures and facts

2016 Production was launched at the Tolyattisintez industrial park. SLT AQUA polypropylene pipes and fittings for water supply and heating systems start to be produced.

2018 The launch of SLT BLOCKFIRE polypropylene pipes and fittings for firefighting systems. The sales footprint expands with an entry into the CIS market.

2019 SLT Aqua ranks among the top 15 producers of polypropylene systems.

2020 Production is ramped up to 20,000 km of pipe per year.

In the longer term, as polymer-based firefighting systems gain more credibility as being more cost-effective, demand for them will grow.



SLT Aqua's production facilities did not suspend operations during the pandemic.

What are the pros and cons of polymer-based firefighting systems?

Obvious pros come from the technical properties of the materials: low hydraulic friction, to name one example. It enables the flow rate to be increased while having the same head loss figures. Our pipelines and mounting systems also boast a lower weight, which reduces load on structural parts of buildings. The chemical resistance of the material prevents sprinkler nozzles from clogging. Our systems can be installed at an operating facility faster and at a much lower cost. It is not only in our systems where polymers reduce the cost of the project and simplify its operation. This is typical for all areas of their application.

IN THE LONGER TERM, AS POLYMER-BASED FIREFIGHTING SYSTEMS GAIN MORE CREDIBILITY, THE DEMAND FOR THEM WILL GROW

There are drawbacks, however, related to market penetration rates of the technology. For example, the existing regulations on the design of firefighting systems are heavily weighted towards the use of steel pipelines. There are few existing design developments and proven technical solutions in the Russia market, while the amount of fire resistance tests of polypropylene pipelines during the development of standard technical solutions is also inadequate. There is widespread cognitive inertia against us: “How can a firefighting system be made of plastic?!”

Nevertheless, design engineers who already apply technical solutions based on polypropylene pipelines view them positively. The installation companies highlight more flexible scheduling, since there is no need to obtain work permits for hot works, prepare hot work areas, etc. Public supervisory authorities are also getting more and more used to firefighting system pipelines being made of polymers. The SLT BLOCKFIRE firefighting system that we produce has already been installed at 16 facilities.

SLT BLOCKFIRE products have a full certification package, including Company Standard 22.21.29-015-17207509-2019 registered by EMERCOM’s FGBU VNIPO as a regulatory document for fire safety under code VNPB 102-20.

In which segments are the polymer-based systems competitive?

Outdated regulatory framework is the key factor hampering the adoption of polymer-based firefighting systems. As regulation improves, it will encourage their wider use, and there will be more designers who have gained positive experience of engineering facilities with technical solutions of this kind. It is impossible, however, to fully replace steel piping systems with polymer-based ones. The fire-resistance and failure properties of the materials are too different.



The company uses a multi-level quality control system for its products.

Our system can be used at social and cultural facilities, in production premises with a maximum fire load of 1,400 MJ/m² and in warehouses with low-combustible materials.

Company products

Mikhail Tovmasyan CEO of SLT Aqua:

“We use SIBUR’s high-quality feedstocks to manufacture our products, paying special attention to technical calculations (the full package of documents, tests and certificates). Multi-stage quality control is carried out at production facilities. All products come with installed system quality insurance, have a long warranty period and a full package of certifications. We take full responsibility for our products and value our customers’ trust.”



MIKHAIL TOVMASYAN

CEO of SLT Aqua

Tell us about your cooperation with SIBUR.

Mikhail Tovmasyan:

Feedstocks account for a significant share of the cost of any polymer pipe. Russian petrochemical companies’ willingness to expand their product mix is what drives domestic production. When we were bringing our production facility on stream in 2016, we chose SIBUR as our feedstock supplier for the following reasons. Firstly, reliability is what counts for us, and secondly, we prioritised product quality and long-term partnership above all else. SIBUR’s products are just as good as European alternatives. The launch of new production facilities (ZapSibNeftekhim) and the production of new polymer grades enable us to expand our product ranges.

While the polypropylene pipe market is dominated by feedstocks produced in Russia, the PEX and PERT pipe market has been so far captured by foreign competitors.

How did the pandemic affect the company’s operations and business?

Our core production site is located in Tolyatti. It is a process manufacturing facility – during lockdown, operations were not suspended. So first of all, the epidemiological safety of employees in Tolyatti had to be ensured. A number of administrative personnel at the plant as well as employees at the Moscow office were sent to work from home.

I would say that the period from April to May was the toughest in the market. This is the period when work at construction sites was halted.

When the pandemic broke out, everyone was uncertain, but soon we were looking at the situation as opening up new opportunities. We performed an industry analysis and built market scenarios, after which we drafted an action plan to boost sales in the second half of the year. The cost optimisation programme played a significant part in this, allowing us to minimise losses from the pandemic.

We started reinventing internal processes, automating them as far as possible, and introducing new technologies. For instance, field workshops for clients were replaced with webinars, counterparties were migrated to electronic document flow. We plan to enhance our online presence, in order to stay closer to our consumers in a safe environment. There is a lot of work to do, with a big transformation ahead of us.

How do you see the future of this market?

The construction industry is the key driver for the polypropylene pipe and fittings market. Given that the construction sector has a multiplier effect on the economy, we expect that public support mechanisms for the industry will be continued and maybe expanded.

It should be noted that during crises cost considerations take on major significance, making more cost-effective solutions relevant.