The press service of the Tomsk State Architectural and Civil Engineering University (TGASU) reported that the university experts have developed a method to increase the strength of ordinary concrete by 10%. The technology is based on the use of water treated with an electromagnetic field, and does not require a change in the composition of the mixture.

During the experiments, scientists found that activated water changes the chemical reaction between the components of cement. After 800 minutes of hardening, the solution demonstrates increased resistance to loads compared to traditional methods. At the same time, the technology does not require expensive additives and are much cheaper than existing analogues.

As explained by the project manager Irina Kurzina, most of the modern methods of strengthening concrete involve the use of nanoconon or special additives, which increases the cost of the material. Tomsk development, on the contrary, reduces energy consumption – water activation requires hundreds of times less energy than heating the mixture with an electric cable.

The new technology can find application in monolithic construction, the construction of bridges and other objects with increased strength requirements. This is especially true for regions with difficult climatic conditions.

This year, tests of the method are planned at the real construction site together with an industrial partner.