

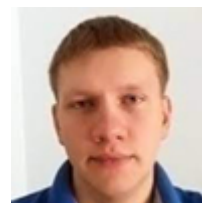
SibFU scientists have developed special foundations for permafrost

Scientists of Siberian Federal University have developed special foundations consisting of engineered wood or metal for use in permafrost.



About 65% of Russia's territory is permafrost. Under degradation of permafrost soils, the issue of designing and building foundations is acute and should take into account the possible thawing of the soil at the base of structures.

“We have developed a spatial foundation platform, which is less sensitive to deformations of the foundation soil due to the integral work of the structure compared to other foundations. For this and a number of other reasons, the use of the platform is promising. We can use engineered wood or metal as the main structural material in spatial foundation platforms,” said **Maxim Semyonov**, senior lecturer at the School of Engineering and Construction, Siberian Federal University. The expert explained that precast concrete is difficult to transport, and monolithic reinforced concrete significantly slows down the construction process.



According to Mr. Semyonov, wood, due to its low thermal conductivity, reduces the risk of thawing of the foundation bases, and in the case of using metal structures, the platforms have the necessary mechanical strength. The platforms will be dismountable. The scientist notes that this design will not require a lot of earthworks — quite laborious in permafrost conditions. The dismountable design of the platform allows solving the issues of transportation and logistics. In addition, the design by the Krasnoyarsk scientists will help to reduce the construction time, and will enable construction in winter.

[SibFU Press Office](#), 21 february 2023

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Web page address: <https://news.sfu-kras.ru/node/27357>