Examinations of the Thermal Stability of Aerogel Blankets

Prof. Dr. Ákos Lakatos
Faculty of Engineering, Department of Building Services and Building Engineering, University of Debrecen, Debrecen, Hungary

Abstract

The energetic industry accounts for almost 75% of global energy use. Insulation may drastically reduce energy use in the building and automotive industries. The use of conventional insulation materials, such as polystyrene or wool sheets, is frequently no longer feasible in modern times. Instead, new materials and solutions are required, such as vacuum or aerogel thermal insulation panels and thermal insulation materials doped with graphite. These days, "Super Insulation Materials" like vacuum insulation panels and aerogels are frequently used to describe these materials.

Although the majority of the long-term thermal parameters are unknown, the aforementioned goods have far superior thermal insulating qualities. We will discuss the research on the thermal stability of several aerogel blanket samples as they mature through heat treatments in the presentation. Various techniques will be used to monitor the changes in the structure and thermal characteristics (specific heat capacity, thermal conductivity).