

Introducing the Thin-film High-heat Insulation Material “Finesulight™”

Sumitomo Riko Company Limited (Headquarters: Nakamura-ku, Nagoya-shi; President & CEO: Kazushi Shimizu) is pleased to announce the development and commercialization of Finesulight™, a thin-film high-heat insulation material, coated with a high-thermal insulation filler.



Finesulight™ Thin-film High-heat Insulation Material (Sheet-type)

Utilizing our core competence, polymer materials technology, we made a high-heat insulating filler (silica aerogel) containing nanopores small enough to block the passage of air, into a coating liquid. Then, by coating base materials such as non-woven fabric and

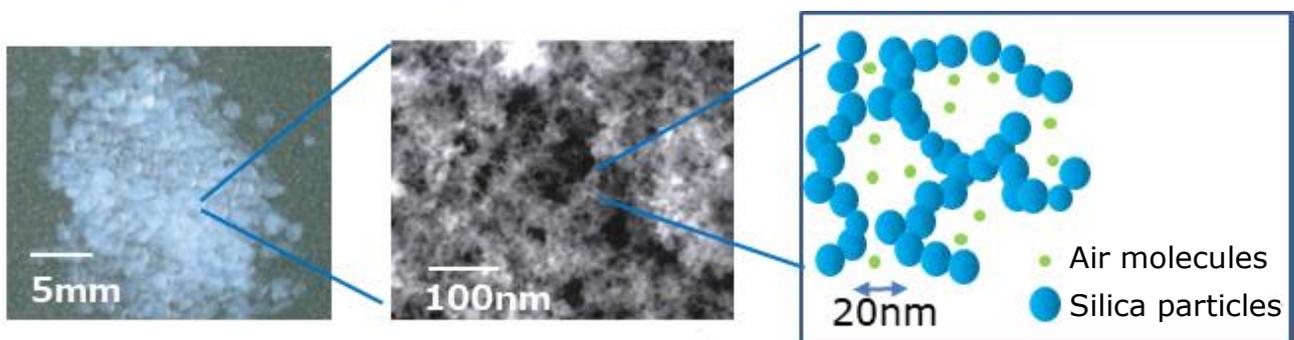
molded resin, we developed a thin, flexible insulating material which exhibits high-heat insulation properties at a level of still air or higher.

Of the three methods of heat transfer, convection, conduction, and radiation, Sumitomo Riko focused on conduction. Silica aerogel has the lowest heat transfer rate of solid substances. Its internal pores are spatially positioned so that air cannot move and, because there is no air convection, thermal conduction is suppressed. We have processed silica aerogel into a minutely crushed insulating filler. Our polymer materials technology has made coating possible, while maintaining a high filler density level, achieving a thermal conductivity of 0.020 W/mK, which is less than the still-air thermal conductivity of 0.026 W/mK as a coating film.

We have now begun supplying Finesulight™ coated onto non-woven fabric sheets. It can be installed in narrow gaps and spaces and, due to its light weight, it is perfect for automobiles, Sumitomo Riko's core business, and can also be used for a broad range of insulation applications, including electrical appliances, residences and cooler boxes that require heat management. Furthermore, as it can be used on various base materials other than non-woven fabric, we are continuing to develop Finesulight™ for other products.

Through our technology and product development in the heat management field, the Sumitomo Riko Group helps to make life more comfortable while improving energy efficiency.

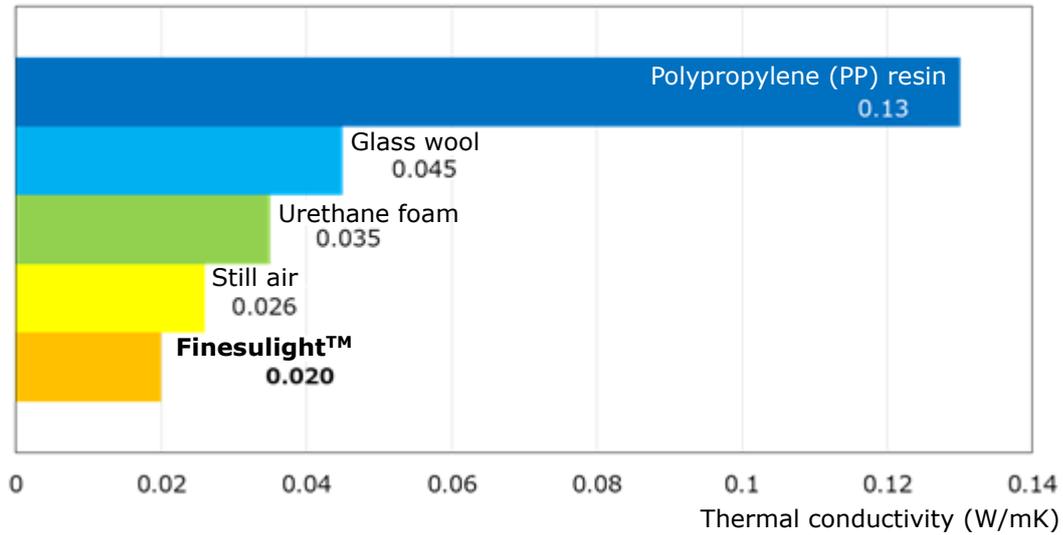
<Structure of the Insulating Filler>



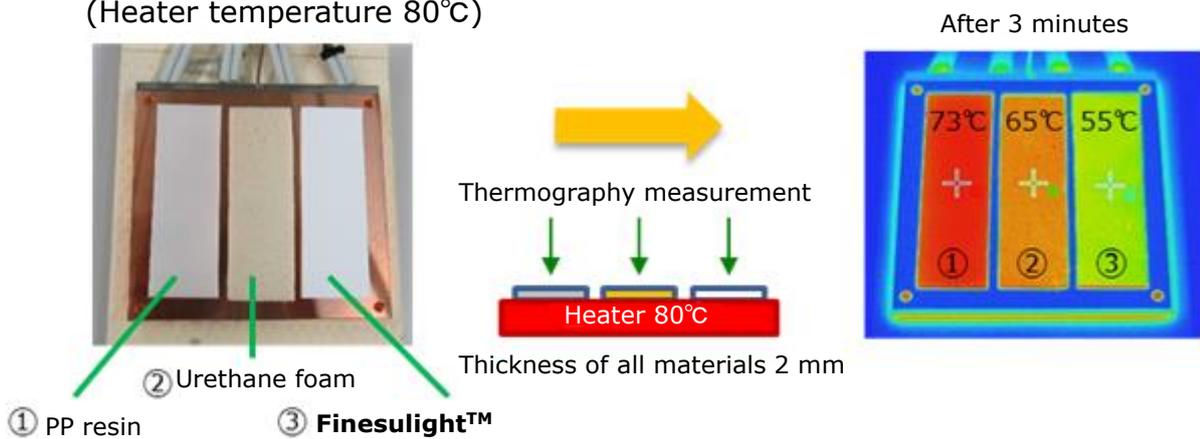
Insulating filler (silica aerogel)

<Properties of the Insulation Sheet>

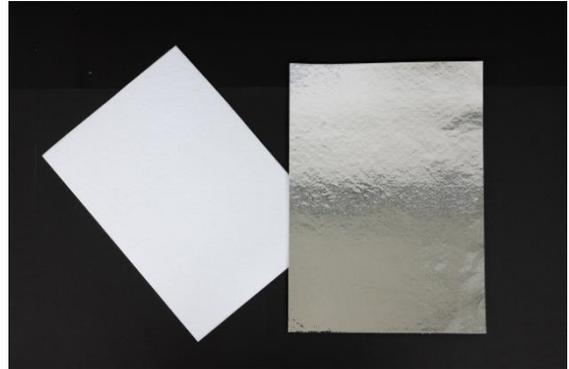
Thermal conductivity of various materials



Temperature rise evaluation by material
(Heater temperature 80°C)



<Insulating material that can be applied to various base materials>



Left : Minutely crushed insulating filler mixed with water to make a coating liquid

Top Right : Lamination with aluminum deposited film (insulation sheet)

Bottom Right : Coated molded resin (insulation duct)

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