

Makes a heat insulation diagnostics to attain energy saving with a very thin, high-performance heat insulation material.

High-performance Heat Insulator Aerogel

Features

- Makes a heat insulation diagnosis of high-temperature equipment for a proposal of energy-saving effects.
- A 5-mm-thick coating drops a heat conducting temperature of 200°C to around 60°C within limited space.
- A water-repellent material with ease of processing and application available in a temperature range of -200°C to 650°C outdoors and indoors.

Overview

(Technical principles, actions, etc.)

● GUNZE ENGINEERING's Technology and Services

GUNZE ENGINEERING provides or applies Aerogel after making a heat insulation diagnosis and estimating the effect of insulation brought by Aerogel on each customer basis as a part of GUNZE ENGINEERING's energy service company (ESCO) business.

● Types of Aerogel

Two product types (i.e., the AEG for high-temperature applications and the AEP for low-temperature applications) are available with thicknesses of 5 and 10 mm.

● Main Ingredients of Aerogel

The base material is made of nonwoven glass fabric mainly consisting of silica (SiO₂).

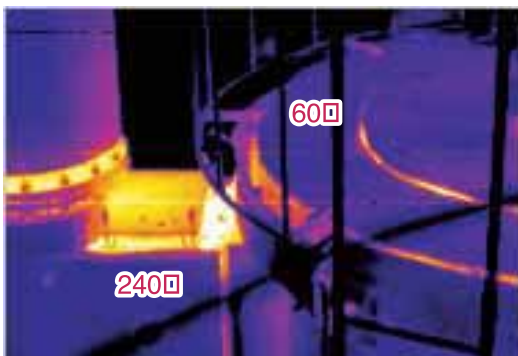
● Popularity of Aerogel

Aerogel is used in a variety of industries in Europe and the USA. The number of plants, such as Mitsui Chemicals, Inc, adopting Aerogel is on the increase in Japan.

Fukushima Plastics Co., Ltd.



Upper part of boiler



Upper part of boiler (Thermographic image)

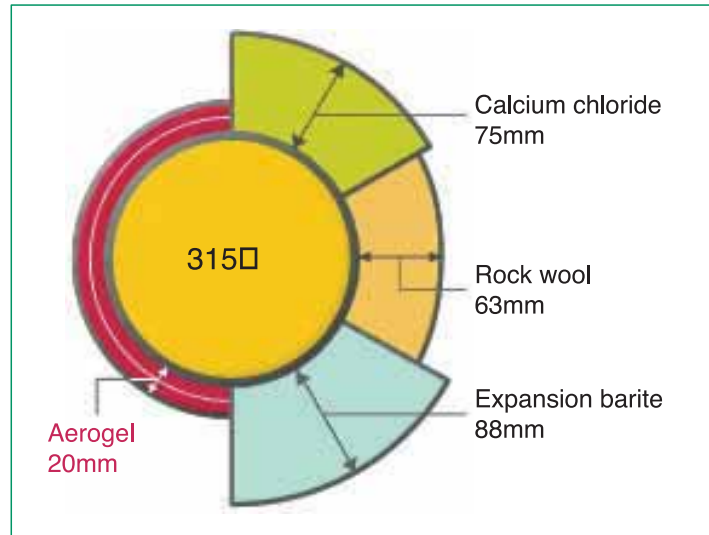


Illustration of Comparison in Thickness between Materials Same in Heat Insulation Effect



Photograph of Comparison in Thickness between Materials Same in Heat Insulation Effect

Introductory Track Record

- Fukushima Plastics Co., Ltd.
- Mitsui Chemicals, Inc.
- Toyota Motor Corporation

Effects

◎ Conditions

Object: Flat plate facing upward
 Temperature of heat insulated surface (upper surface of flat plate): 150°C; Outdoor temperature: 20°C; Wind speed: 0 m/s
 Other conditions: Operating 6,000 hours annual; unit price of electricity: 15 yen

◎ Results

Heat reduction rate 1.5 kW/m²
 Annual cost reduction: Approx. 135,000 yen/m²
 ※The above is the results of our experiment, and the actual effects of Aerogel will vary with each local condition.

Applicable field
 Various plants, buildings, machine manufactures,
 and heating furnace manufacturers

Water

Energy saving/Energy recovery

Energy storage/Energy creation

New energy

Waste disposal/
 Recycling/
 Resource saving

Air

Soil

Other

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