

Heat insulation property silica aerogel/polyvinyl alcohol composites with preserved aerogel pores using low press forming

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Silica aerogel/polyvinyl alcohol composites were fabricated by low press forming of silica aerogel powders and PVA solution. Due to the porous structure, silica aerogel showed extremely low thermal conductivity. A new process was designed to preserve pores between hydrophobic silica aerogels and hydrophilic polyvinyl alcohol solution using low press forming. Well-preserved aerogel pores were observed in the silica aerogel/polyvinyl alcohol composites using scanning electron microscope and Heat insulation property was indicated thermal conductivity. And it was measured by the plating method.