

## References

1. Anderson AM, Carroll MK. *Hydrophobic silica aerogels: review of synthesis, properties and applications*. In: Aegerter M, Leventis N, Koebel M, editors. *Aerogels Handbook*. New York: Springer, 2011; 3: 71-73.
2. Dorcheh Soleimani A, Abbasi MH. Silica aerogel: synthesis, properties and characterization. *J Mater Process Tech*. 2008; 199(1-3): 10-26.
3. Du A, Zhou B, Zhang Z, Shen J. A special material or a new state of matter: A review and reconsideration of the aerogel. *Materials* 2013; 6(3): 941-968.
4. Pierre AC, Pajonk GM. Chemistry of aerogels and their applications. *Chem Rev*. 2002; 102(11): 4243-4265.
5. Thapliyal PC, Singh K, (2014). Aerogels as promising thermal insulating materials: an overview. *J Mater*. 2014; article ID 127049.
6. Stepanian CJ, inventor; Highly flexible aerogel insulated textile-like blankets. United States patent 20070154698. 2007 Jan 2.
7. Universal insulation panels for apparel [homepage on the Internet]. c2018 [updated 2018 Feb 10; cited 2018 Mar 9]. Available from <http://www.aerotherminsulation.com/products-applications/universal-insulation-panels-apparel>
8. <https://gearjunkie.com/primaloft-gold-aerogel-insulation> [accessed 2018 Mar 9].
9. Naeem J, Mazari AA, Havelka A. Review: Radiation Heat Transfer through Fire Fighter Protective Clothing. *FIBRES & TEXTILES in Eastern Europe* 2017; 25, 4(124): 65-74. DOI: 10.5604/01.3001.0010.2665
10. Shaid A, Furgusson M, Wang L. Thermophysiological comfort analysis of aerogel, nanoparticle incorporated fabric for fire fighter's protective clothing. *Chemical and Materials Engineering* 2014; 2(2): 37-43.
11. Zrim PK, Mekjavic IB, Rijavec T. Properties of laminated silica aerogel fibrous matting composites for footwear applications. *Text Res J*. 2015; 86(10): 1063-1073.
12. Venkataraman M, Mishra R, Wiener J, Štěpánková M, Arumugam VK, Militky J. Effect of laser irradiation on kevlar fabric treated with nanoporous aerogel. Paper presented at: *NANOCON 2015. 7th International Conference on Nanomaterials – Research and Application*; 2015 Oct 14-16; Brno, Czech Republic (electronic version)
13. Jiang Y, Zhang L, Xu H, Zhong Y, Mao Z. Preparation and characterization of thermal protective aluminum hydroxide aerogel/PSA fabric composites. *J Sol-Gel Sci Technol*. 2017; 82(2): 370-379.
14. Ghane M, Sarlak H. Study on Radiant Heat Flux Transfer Through Aluminised Multi-Layer Fabric at Low Level Thermal Radiation. *FIBRES & TEXTILES in Eastern Europe* 2016; 24, 4(118): 80-83. DOI: 10.5604/12303666.1201135
15. Lakos A. Investigation of the moisture induced degradation of the thermal properties of aerogel blankets: measurements, calculations, simulations. *Energ Build*. 2017; 139: 506-516.
16. Ihara T, Jelle BP, Gaoa T, Gustavsen A. Aerogel granule aging driven by moisture and solar radiation. *Energy Build*. 2015; 103: 238-248.
17. Whetsell J, Saha MC, Altan C, Liang J, Pan Ch. Investigation of hygrothermal effects on the thermal conductivity characteristics of insulation materials. Paper presented at: *2015 Annual ASHRAE Conference*; 2015 Jun 27- Jul 1; Atlanta, Georgia (electronic version).
18. Rao AV, Haranath D. Effect of methyltrimethoxysilane as a synthesis component on the hydrophobicity and some physical properties of silica aerogels. *Micropor Mesopor Mat*. 1999; 30(2-3): 267-273.
19. Miner MR, Hosticka B, Norris PM. The effects of ambient humidity on the mechanical properties and surface chemistry of hygroscopic silica aerogel. *J Non-Cryst Solids*. 2004; 350: 285-289.
20. Wagh PB, Ingale SV. Comparison of some physico-chemical properties of hydrophilic and hydrophobic silica aerogels. *Ceram Int*. 2002; 28(1): 43-50.
21. Rao VA, Kulkarni MM, Amalnerkar DP, Seth T. Surface chemical modification of silica aerogels using various alkyl-alkoxy/chloro silanes. *Appl Surf Sci*. 2003; 206(1-4): 262-270.
22. Bellunatio T, Calvi M, Coluzza C. Study of ageing effects in aerogel. *Nucl Instr Meth Phys Res*. 2004; 527: 319-328.
23. Tillotson TM, Foster KG, Reynolds JG. Fluorine-induced hydrophobicity in silica aerogels. *J Non-Cryst Solids*. 2004; 350: 202-208.
24. Gurav JL, Rao AV, Nadargi DY. Study of thermal conductivity and effect of humidity on HMDZ modified TEOS based aerogel dried at ambient pressure. *J Sol-Gel Sci Technol*. 2009; 50(3): 275-280.
25. Shi F, Wang L, Liu J, Zeng M. Effect of heat treatment on silica aerogels prepared via ambient drying. *J Mater Sci Technol*. 2007; 23(3): 402-406.

26. Sarawade PB, Kim J-K, Hilonga A, Viet Quang D, Jeon SJ, Kim HT. Synthesis of sodium silicate-based hydrophilic silica aerogel beads with superior properties: effect of heat-treatment. *J Non-Crys Solids*. 2011; 357: 2156-2162.
27. Cui S, Liu Y, Fan M et al. Temperature dependent microstructure of MTES modified hydrophobic silica aerogels. *Mater Lett*. 2011; 65(4): 606-609.
28. Yang J, Liu J, Sui X. Property changes of SiO<sub>2</sub> aerogel on insulation performance under different time and high temperature condition. *Key Eng Mater*. 2014; 602-603: 349-352.
29. Huang D, Guo Ch, Zhang M, Shi L. Characteristics of nanoporous silica aerogel under high temperature from 950°C to 1200°C. *Mater Design*. 2017; 129(5): 82-90.
30. Li Z, Cheng X, Shi L et al. Flammability and oxidation kinetics of hydrophobic silica aerogels. *J Hazard Mater*. 2016; 320: 350–358.
31. Song H, Yang H, Chen X. Facile synthesis of highly porous silica aerogel granules and its burning behavior under radiation. *J Sol-Gel Sci Technol*. 2017; 82(2): 407-416.
32. Rouquerolt J, Avnir D, Fairbridge CW, et al. Recommendations for the characterization of porous solids. *Pure Appl Chem*. 1994; 66(8): 1739–1758.
33. Dorcheh AS, Abbasi MH. Silica aerogel; synthesis, properties and characterization. *J Mater Process Technol*. 2008; 199(1): 10–26.
34. Hüsing N, Schubert U. Aerogels-airy materials: chemistry, structure, and properties. *Angew Chemie Int Ed*. 1998; 37(1/2): 22–45.
35. Kistler SS, Caldwell AG. Thermal conductivity of silica aerogel. *Ind Eng Chem*. 1934; 26(6): 658–62.
36. Safety Data Sheet for Aerogels: ENOVA® IC3100, ENOVA® IC3110 and Lumira® LA1000 [homepage on the Internet]. c2018 [update 2018 Feb 12; cited 2018 Mar 15]. Available from <http://www.cabotcorp.com/solutions/products-plus/aerogel/particles>
37. PN-80/P-04635. Test methods for textiles. Determination of Hygroscopicity. [in Polish].
38. PN-78/C-83602. Extinguishing agents. Extinguishing powders. Determination of hygroscopicity.” [in Polish].
39. ISO 17493: 2016. Clothing and equipment for protection against heat. Test method for convective heat resistance using a hot air circulating oven.
40. EN ISO 6942: 2002. Protective clothing. Protection against heat and fire. Method of test: Evaluation of materials and assemblies when exposed to a source of radiant heat.
41. EN ISO 11612: 2015-11. Protective clothing. Clothing to protect against heat and flame. Minimum performance requirements.
42. Klobes P, Meyer K, Munro RG. NIST Recommended practice guide: porosity and specific surface area measurements for solid materials. Washington: U.S. Government Printing Office; 2006.
43. Thommes M, Kaneko K, Neimark A V., Olivier JP, Rodriguez-Reinoso F, Rouquerol J, et al. Physisorption of gases, with special reference to the evaluation of surface area and pore size distribution (IUPAC Technical Report). *Pure Appl Chem*. 2015; 87(9-10): 1051-69.
44. Monson PA. Understanding adsorption/desorption hysteresis for fluids in mesoporous materials using simple molecular models and classical density functional theory. *Micropor Mesopor Mat*. 2012; 160: 47–66.