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- (71) Applicant: ASPEN AEROGELS, INC. [US/US]; 30 Forbes Road, Bldg B, Northborough, Massachusetts 01532 (US).
- (72) Inventors: MIHALCIK, David J.; 114 Brigham Street, Northborough, Massachusetts 01532 (US). DEKRAFFT, Kathryn Elizabeth; 750 Farm Road, Apt 230, Marlborough, Massachusetts 01752 (US). ZAFIROPOULOS, Nicholas Anthony; 282 Main Street, Wayland, Massachusetts 01778 (US). EVANS, Owen Richard; 2 Sonora Drive, Chelmsford, Massachusetts 01824 (US). GOULD, George L.; 174 Millville Road, Mendon, Massachusetts 01756 (US). LÖLSBERG, Wibke; BASF SE, E-PME-BM-F206, Carl-Bosch-Str. 38, 67056 Ludwigshafen am Rhein (DE).
- (74) Agent: MUTHUKUMARAN, Poongunran; Aspen Aerogels, Inc., 30 Forbes Road, Bldg B, Northborough, Massachusetts 01532 (US).
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(54) Title: FIRE-CLASS REINFORCED AEROGEL COMPOSITIONS

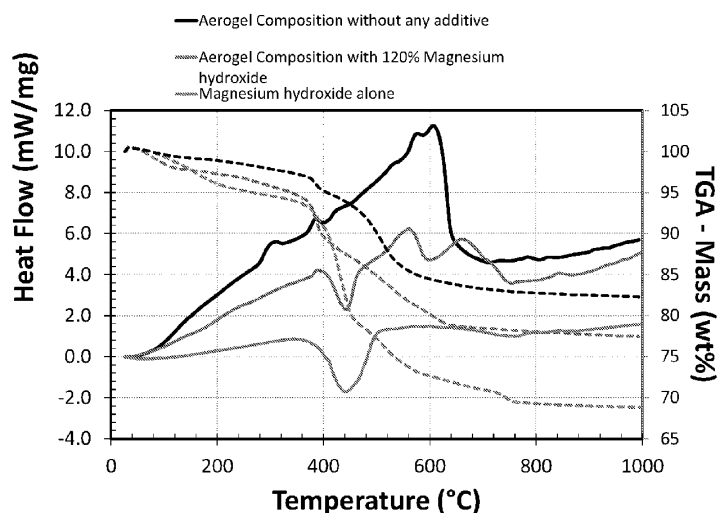


FIG. 1

(57) Abstract: The current disclosure provides reinforced aerogel compositions that are durable and easy to handle, have favorable performance in aqueous environments, have favorable insulation properties, and have favorable, reaction to fire, combustion and flame-resistance properties. Also provided are methods of preparing or manufacturing such reinforced aerogel compositions. In certain embodiments, the composition has a silica-based aerogel framework, reinforced with an open-cell macroporous framework, and includes one or more fire-class additives, where the silica-based aerogel framework comprises at least one hydrophobic bound silicon and the composition or each of its components has desired properties.

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