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(54) **SOUND DAMPING COMPOSITIONS AND METHODS FOR APPLYING AND BAKING SAME ONTO SUBSTRATES**

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(58) **Field of Classification Search** ..... 523/223; 524/425, 449, 494, 560; 181/296; 427/352, 427/372.2, 385.5

See application file for complete search history.

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(57) **ABSTRACT**

An applicator head for connection to a robotic device, and useful for applying a fluid material to a substrate. The applicator head comprises: (a) a body portion; (b) at least one material delivery system comprising an inlet, a fluid delivery cavity, and two or more passageways connecting the inlet to the fluid delivery cavity; and (c) a nozzle plate attached to the bottom surface of the body portion, and having a plurality of openings communicating with the fluid delivery cavity. In one embodiment, the applicator head comprises a nozzle inserted in each of the plurality of openings in the nozzle plate, with each nozzle adapted to apply a bead of a fluid material to a substrate, with the beads spaced less than about 2 mm apart. Also disclosed is a sound-damping composition comprising: (a) n-butyl acrylate-acrylonitrile-styrene copolymer; (b) at least about 0.5% by weight of a low-density glass bead filler; (c) at least one additional filler; and (d) at least one rheological modifier; and having a density of from about 1 to about 2 g/cc. Methods for applying the sound-damping composition by extruding it onto a substrate and baking it to exhaust water in a controlled manner, and methods for increasing the sound-damping efficacy of an aqueous polymeric composition, are also disclosed.

**36 Claims, 5 Drawing Sheets**