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(19) **United States**(12) **Patent Application Publication****Ronay et al.**(10) **Pub. No.: US 2022/0377885 A1**(43) **Pub. Date: Nov. 24, 2022**(54) **CONTINUOUS INTERCONNECTS BETWEEN HETEROGENEOUS MATERIALS**(71) Applicant: **Liquid Wire Inc.**, Portland, OR (US)(72) Inventors: **Mark William Ronay**, Portland, OR (US); **Jorge E. Carbo, JR.**, Portland, OR (US); **Trevor Antonio Rivera**, Portland, OR (US); **Charles J. Kinzel**, Portland, OR (US); **Michael Adventure Hopkins**, Portland, OR (US); **Sai Srinivas Desabathina**, Beaverton, OR (US)(21) Appl. No.: **17/663,764**(22) Filed: **May 17, 2022****Related U.S. Application Data**

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CPC ..... **H05K 1/036** (2013.01); **H05K 1/181** (2013.01); **H05K 3/303** (2013.01); **H05K 3/42** (2013.01)(57) **ABSTRACT**

A structure may include a first material, a second material joined to the first material at a junction between the first and second materials, and one or more media extending across the junction to form a continuous interconnect between the first and second materials, wherein the first and second materials are heterogeneous. The structure may further include a transition at the junction between the first and second materials. The one or more media may include a functional material which may be electrically conductive. The structure may further include a third material joined to the second material at a second junction between the second and third materials, the media may extend across the second junction to form a continuous interconnect between the first, second, and third materials, and the second and third materials may be heterogeneous.

