

ABSTRACT

Embodiments of the present disclosure relate to advanced polishing pads with tunable chemical, material and structural properties, and new methods of manufacturing the same. According to one or more embodiments of the disclosure, it has been discovered that a polishing pad with improved properties may be produced by an additive manufacturing process, such as a three-dimensional (3D) printing process. Embodiments of the present disclosure thus may provide an advanced polishing pad that has discrete features and geometries, formed from at least two different materials that include functional polymers, functional oligomers, reactive diluents, and curing agents. For example, the advanced polishing pad may be formed from a plurality of polymeric layers, by the automated sequential deposition of at least one resin precursor composition followed by at least one curing step, wherein each layer may represent at least one polymer composition, and/or regions of different compositions.

Figure 3A