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(54) Chemical mechanical polishing pad

(57) The polishing pad is for polishing patterned semiconductor substrates. The pad includes a polymeric matrix and hollow polymeric particles within the polymeric matrix. The polymeric matrix is a polyurethane reaction product of a curative agent and an isocyanate-terminated polytetramethylene ether glycol at an NH_2 to NCO stoichiometric ratio of 80 to 97 percent. The isocyanate-terminated polytetramethylene ether glycol has an unreacted NCO range of 8.75 to 9.05 weight percent. The hollow polymeric particles having an average diameter of 2 to 50 μm and a $wt\%_b$ and $density_b$ of constituents forming the polishing pad as follows:

$$\frac{wt\%_a * density_b}{density_a} = wt\%_b$$

where $density_a$ equals an average density of 60 g/l, where $density_b$ is an average density of 5 g/l to 500g/l, where $wt\%_a$ is 3.25 to 4.25 wt%. The polishing pad has a porosity of 30 to 60 percent by volume; and a closed cell structure within the polymeric matrix forms a continuous network surrounding the closed cell structure.

EP 2 151 299 A3

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EUROPEAN SEARCH REPORT

Application Number
EP 09 15 4680

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The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
Munich	6 May 2013	Gelder, Klaus

CATEGORY OF CITED DOCUMENTS

X : particularly relevant if taken alone
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