Title (en)

Chemical mechanical polishing pad

Title (de)

Chemisch-mechanisches Polierpad

Title (fr)

Plaquette de polissage mécanique et chimique

Publication

EP 2151299 A3 20130619 (EN)

Application

EP 09154680 A 20090309

Priority

US 22158108 A 20080805

Abstract (en)

[origin: EP2151299A2] 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: 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.

IPC 8 full level

B24B 37/04 (2012.01); **B24D 3/32** (2006.01)

CPC (source: EP US)

B24B 37/24 (2013.01 - EP US); **B24D 3/32** (2013.01 - EP US)

Citation (search report)

- [AD] US 7169030 B1 20070130 - KULP MARY JO [US]
- [A] US 2007275226 A1 20071129 - KULP MARY JO [US]
- [A] US 2008182492 A1 20080731 - CRKVENAC T TODD [US], et al

Designated contracting state (EPC)

AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO SE SI SK TR

Designated extension state (EPC)

AL BA RS

DOCDB simple family (publication)

EP 2151299 A2 20100210; **EP 2151299 A3 20130619**; **EP 2151299 B1 20140611**; CN 101642897 A 20100210; CN 101642897 B 20110803; JP 2010041056 A 20100218; KR 20100017064 A 20100216; TW 201006854 A 20100216; TW I482789 B 20150501; US 2010035529 A1 20100211

DOCDB simple family (application)

EP 09154680 A 20090309; CN 200910161171 A 20090804; JP 2009182027 A 20090805; KR 20090071492 A 20090804; TW 98123685 A 20090714; US 22158108 A 20080805