

Abstract

Aqueous ink formulation containing metal-based nanoparticles for usage in micro contact printing

5 The present invention relates to an aqueous formulation particularly for generating electrically
conductive and/or reflective structures by microcontact printing, characterized in that the
formulation contains at least

- a) ≥ 15 to ≤ 55 parts by weight water,
- b) ≥ 10 to ≤ 50 parts by weight alcohol,
- c) ≥ 15 to ≤ 45 parts by weight metal-based nanoparticles,
- 10 d) $\geq 0,5$ to ≤ 10 parts by weight non-fluorinated surfactant, and
- e) $\geq 0,5$ to ≤ 10 parts by weight fluorinated surfactant,

wherein the above defined constituents a) to e) summarize to a concentration of ≤ 100 parts by
weight in the formulation. The wetting behavior especially of hydrophobic materials may
significantly be improved. The present invention further relates to a method of generating
15 structures, particularly being electrically conductive and/or reflective, on a substrate by
microcontact printing and a substrate comprising such a structure.

FIG 3