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(54) Title: ELECTROLESS NIWP ADHESION AND CAPPING LAYERS FOR TFT COPPER GATE PROCESS

(57) Abstract: Electroless NiWP layers are used for TFT Cu gate process. The NiWP deposition process comprises the following steps. (a) Cleaning of the base surface using for example UV light, ozone solution and/or alkaline mixture solution, (b) micro-etching of the base surface using, e.g. diluted acid, (c) catalyzation of the base surface using, e.g. SnCl₂ and PdCl₂ solutions. (d) conditioning of the base surface using reducing agent solution, and (e) NiWP deposition. It has been discovered that NiWP layers deposited under certain conditions could provide good adhesion to the glass substrate and to the Cu layer with a good Cu barrier capability. A NiWP layer is useful for adhesion, capping and/or barrier layers for TFT Cu gate process (e.g. for flat screen display panels).



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