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(54) Title: INFILTRATED NANOPOROUS MATERIALS AND METHODS OF PRODUCING SAME

(57) Abstract: In accordance with the present invention, a low dielectric constant structural layer is produced having increased mechanical strength and having a plurality of voids that comprises a substrate layer; a low dielectric structural layer juxtaposing the substrate layer; and an infiltrating layer comprising an infiltrating material having a volatile component and a reinforcing component juxtaposing the structural layer and coating at least some of the plurality of voids. Also, methods are provided in which the mechanical strength of a structural layer having a plurality of voids is increased by a) depositing the structural layer on a substrate layer; b) providing an infiltrating material having a volatile component and a reinforcing component; c) introducing the infiltrating material into at least some of the plurality of voids; and d) treating the infiltrating material such that the structural strength is increased by a substantial amount.

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