



NANO-FABRICATION IN PRECISION POLYMER MOULDING

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Nanopatterning was achieved by application of nanoporous anodic aluminum oxide (AAO) membranes as mold inserts in injection molding and thermal nanoimprinting. The AAO membrane has closely packed nanoholes. Depending on the AAO membrane used, the nanoholes have a diameter of 30–200 nm and a depth that varies from a few hundred nanometers to 60 μm . Effects of structure size on polystyrene surface properties were investigated. Contact angle measurements with water indicate that the contact angle increased from 85 deg on the smooth surface to 140 deg on the polystyrene nanostructure.