Selective metallization of polymers using laser induced surface activation (LISA)—characterization and optimization of porous surface topography

Laser induced selective activation (LISA) is a molded interconnected devices technique for selective metallization of polymers. On the working piece, only the laser-machined area can be metalized in the subsequent plating. The principle of the technology is introduced. Surface analysis was performed on the laser-machined polymer using an Alicona InfiniteFocus® microscope. Based on previous experiments, bearing area curve and its parameters are chosen to characterize the surface. In this paper, by comparison of plateable and non-plateable surfaces, and two types of plateable surface made by different lasers, it is found that the normalized bearing area curve is an effective method to characterize porous surface for the subsequent plating. The normalized parameters are available to make a quantitative analysis.