

Weld line optimization on thermoplastic elastomer micro injection moulded components using 3D focus variation optical microscopy - DTU Orbit (08/11/2017)

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The presented study investigates weld line depth development across a micro suspension ring. A focus variation microscope was used to obtain 3D images of the weld line area. Suspension rings produced with different micro injection moulding process parameters were examined to identify the correlation between the weld lines depths and the different process settings. Results showed that injection speed and clamping force have a significant effect on the weld line depth dimensions. The undertaken optimization showed in general a reduction of 50 to 70% of the weld line depth over its entire length reducing maximum depth from 34 μm to 11 μm .

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