

High resolution and process stability tests on new HSQ based resists

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Many new resist providers for hydrogen silsesquioxane (HSQ) based high resolution e-Beam-resist emerged on the market in the last few years. Until now, the experience with these new resists regarding resolution capabilities, process stability and long term behaviour is very limited. To expand the experience with these resist, further testing based on statistical methods like a process capability evaluation based on the CpK-Value is required. This work presents the latest high resolution, process capability and long term stability tests of these HSQ-based resists provided by different resist suppliers. We achieved isolated single pixel lines with sub 6 nm line width with a CpK-Value of 1 and were also able to get a first impression about the resist behaviour over a time frame of almost 30 days.