Regularity of spectral measures of some self-similar tilings

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In recent works, Bufetov and Solomyak have linked their result of speed of convergence of ergodic averages for the translation flow on self similar tilings to regularity properties of spectral measures of this same dynamical system. They proved in particular that, in the case of a substitutive tiling the real line, the spectral measures of cylindrical functions behaved, near zero, like Radon measures, which can be interpreted as some sort of Hölder regularity for measures. We give a natural generalization of this theorem in the case of self-similar tilings of $\mathbb{R}^d$.