# 기술강좌 III

## On the Growth Process of Grains Dispersed in a Liquid Matrix

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The growth process of solid grains in a liquid matrix is usually explained in terms of Ostwald ripening.

The variation of growth (dissolution) rate as a function of grain size during Ostwald ripening predicted that the dissolution rate becomes very large as grain size decreases but the growth rate of a large grain is rather limited.

Therefore, a rather uniform size distribution of grain size is maintained once after the quasi-equilibrium state is reached. Quite frequently, however, the exaggerated grain growth (EGG) is observed to occur: only a limited number of grains grow exceptionally.

From the observation that the EGG occurs only for the faceted grains with apparently straight solid-liquid interfaces, the EGG is suggested to be the consequence of growth process controlled by 2-dimensional nucleation.

In this study, the result by computer calculation on the grain growth process controlled by various mechanisms will be given.