

## A Study on the Characteristics of AlOOH Doped UO<sub>2</sub> Pellet

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### Abstract

*Characteristics of AlOOH doped UO<sub>2</sub> pellet have been examined. Sintered density decreased linearly with increasing the contents of AlOOH added. Open porosity was also reduced due to the addition of AlOOH but it was independent upon the quantity of AlOOH. AlOOH increased the grain size of UO<sub>2</sub> pellet up to about 10.4  $\mu$  m. However, more addition of AlOOH than 0.06wt% didn't lead to further coarsening of grain. The degree of densification of AlOOH doped UO<sub>2</sub> pellet resulting from annealing for 216 hr was similar to dopant free UO<sub>2</sub> pellet as 1.2% T.D.. Pores of UO<sub>2</sub> pellet containing AlOOH had grown and turned into spherical shape after annealing. The maximum grain was obtained after annealing for 144 hr and its size was 25  $\mu$  m.*