NCKU-YAGEO Research Collaboration

The fabrication of MLCCs involves several ceramic powder processing including the addition of polymeric binders that enhances the strength of formed ceramic powder. As these polymers can give defects in the final ceramic product, they are then removed in later processing steps by decomposing them at elevated temperature into gas-phase products (1, 2). The binder burnout is a process that takes a long time and plays an important role in the defect formation of the ceramic body during the ceramic manufacturing process. Therefore, optimizing the heating strategy is necessary to obtain better quality and a higher yield of the products (3).

Several

1. Feng ZC, He B, Lombardo SJ. Stress Distribution in Porous Ceramic Bodies During Binder Burnout. Journal of Applied Mechanics. 2002;69(4):497-501.

2. Incledon ML. Modeling binder removal in ceramic compacts. 2013.

3. Liau LC-K, Chiu C-C. Optimal Heating Strategies of Polymer Binder Burnout Process Using Dynamic Optimization Scheme. Industrial & Engineering Chemistry Research. 2005;44(13):4586-93.