(17-010) - Yttria nettings by replica processing

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In the context of green economy supported and widespread by United Nations (UN), the renewable energy sources are the unique mechanism to universalize the access to energy. Face to this strategic direction of change is essential to develop efficient components for saving energy such as porous ceramics that associate light with mechanical strength. Thus, the objective of this work concerns to improve the homogeneity of porous size distribution of yttria porous ceramics by evaluating their morphology during replica processing. Samples were subject to immersion into 30vol% yttria aqueous suspensions during an interval from 1min to 120min and sintered through careful thermal conditions. Based on the results, the weight and morphology of porous structure samples were directly influenced by immersion time, whereby intervals from 30-120min showed the best final products.