Contribution ID: **72** Type: **2. Invited speaker (by invitation only)**

Dimensional and Geometrical Changes During Sintering of Binder Jetting Components

Monday, 31 August 2026 14:10 (30 minutes)

In this study, the sintering behavior of stainless steel 316L components produced by binder jetting process is detailed. It explores the effects of initial particle/pores distribution, gravity, and friction on sintering, leading to anisotropic shrinkage and shape distortions. Dilatometry tests were conducted to experimentally investigate the anisotropy behavior and microstructural evolution at different sintering temperatures.
The influence of the gravity and friction forces during sintering are experimentally investigated through the analysis of the distortions developed in sintered parts with overhangs and tee-pipe connectors. Moreover, in this work, the novel sintering simulation framework for gravity-affected sintering of stainless-steel including the Rios-Olevsky-Hryha sintering model and the constitutive law which includes material constants to account for the powder packing effects and the delta-ferrite transformation occurring at high temperatures is presented.

Professional Status of the Speaker

Senior Scientist

Interest in submitting a paper in a special issue of

Journal of the European Ceramic Society (Elsevier)

Invitation letter for visa

No

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