

Rheological Properties of Two Stainless Steel 316L Powders for Additive Manufacturing

Abstract. This study measures the rheological properties of two stainless steel 316L powders which are used for the powder-bed-fusion based additive manufacturing process. The purpose is to evaluate the newly acquired powder in comparison with the used and recycled powder, so that both powders can be mixed with each other to supplement the powder usage. The powder rheology properties, such as dynamic property, bulk property, and shear property, are tested and compared. The results and analysis confirm the compatibility of powder mixing.