

Desired Microstructures for Metallic AM Components

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Though a great deal of progress has been made in recent years in the generation of near net shape additive manufacturing parts, (especially by the use of hybrid additive and subtractive technologies), one area which is yet to be fully explored in blown powder AM is that of designed metallic microstructures. The advantageous use of directional solidification in turbine blade repair is well-known, but a strongly directional microstructure and any associated anisotropic properties can be detrimental in many other applications. During this presentation the desirability and feasibility of tailoring microstructures to end use applications will be discussed, along with possible methods by which these may be achieved during additive manufacture.

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