ASTM INTERNATIONAL CONFERENCE ON ADVANCED MANUFACTURING

Research to Application through Standardization

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AM Feedstock: Characterization, Specification, and Reuse

Additive manufacturing (AM) feedstocks are available for a broad range of material types and come in various forms (e.g., powder, wire, filament, inks). New offerings are continuously introduced to the market with varied and unique characteristics. In some cases, the impact of feedstock characteristics on the process and part quality are not fully understood quantitatively. Therefore, a proper understanding of AM feedstock characteristics and the quantification of their performance during manufacturing is essential for the production of AM parts with repeatable quality, be it for fresh or reused feedstock materials. New characterization methods, acceptance criteria, and standards need to be developed for the complete and reliable characterization of feedstock materials.

Topics of interest include but are not limited to:

- Influence of feedstock characteristics on the final part quality
- Advances in feedstock characterization methods and technologies
- New materials and novel production techniques for AM feedstock
- Economics of AM feedstock
- Developments/requirements for feedstock storage, handling, conditioning, and reuse strategies
- Developments in AM feedstock sustainability
- Standardization needs for AM feedstock
- Development of feedstock standards and specifications based on characterization results
- AM feedstock landscape and process specific requirements
- Comparative studies on broad ranges of feedstock
- Customization of traditional (off the shelf) feedstock compositions for AM
- Metrics for feedstock qualification based on industry sector
- Simulations of feedstock flowability, spreadability & rheology

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Research to Standards
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