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Additive Manufacturing Design Guides

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U.S. DEPARTMENT OF ENERGY | NNSA National Nuclear Security Administration | AWE

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Current Design Guides

- Few design guides exist
  - AWE
  - Print Shops
  - Academia
- Why?
  - Proprietary information
  - Difficult to characterize manufacturability details
  - Printability varies between printers and models

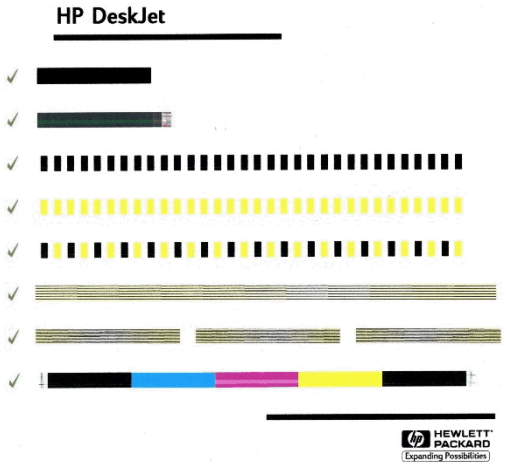
Why important?

- Improve manufacturability
  - Stop the guess and check
  - Reduce design cycle time and waste
  - Enables wider adoption of AM technologies

- Other industries have guides:
  - Design for conventional manufacturability
    - Machining, Stamping, Molding, etc.
  - Microelectronics design guides

Considerations

- Development of standard coupons
  - Similar to paper printer calibration page
  - Evaluate machine to machine capabilities



- Enable use for non-technical users
  - Diagrams, examples, and common language
- Cover multiple materials and machines
  - Enable different design options to new designers
- Reduce “tribal knowledge” from additive manufacturing

Questions

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