

# Industry's Only Published B-Basis Allowable on Additively Manufactured Thermoplastic Components

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Volume 3 of 5  
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DEPARTMENT OF DEFENSE  
HANDBOOK

## COMPOSITE MATERIALS HANDBOOK

VOLUME 3. POLYMER MATRIX COMPOSITES  
MATERIALS USAGE, DESIGN, AND ANALYSIS



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## Maturation of High Temperature Laser Sintering of PEKK Technologies and Infrastructure for Air and Space Vehicles

Final Report

Pedro Gonzalez, Skylar Cobb, Yuri Kapustin, John Barnhart, Dan Schiff, Michael DeVito

Northrop Grumman Aerospace Systems

XXXX 2015



OXFAB®-ESD  
Satellite Bus Panel (25" L)

- B-Basis Allowables is part of the U.S. Department of Defense Composite Materials Handbook containing design certification requirements for aerospace structures
- This is the “Bible” used by OEM engineers for component material analysis & selection (tensile, compression, shear, bearing, stress-strain, modulus, temperature, fatigue, physical properties)
- Analysis based on multiple builds from multiple printers in multiple locations utilizing multiple material lots
- At least 90% of test population equals or exceeds required value with 95% confidence