

Revisions:

Rev	By	Date	Pages Revised or Added
N/C	John Tomblin, Brian Smith	TBD	Document Initial Release
A	Neville Tay and Jorge Chavez- Salas	10/16/23	<ol style="list-style-type: none"> 1. Table 1: Notes and reference to notes were added to specify incoming raw feedstock lot requirements. 2. Table 2: Notes and reference to notes were added to specify in-process filament material requirements. 3. Filament class, glass transition, melt temperature and composition requirements for outgoing filament testing were removed from Table 3 and revised with cross-sectional area, and single-axis diameter requirements. 4. Table 3: Notes and reference to notes were added to specify outgoing filament lot requirements. 5. Specification limits added to Table 4 and Table 5 6. Table 5 note 2: The appropriate amount of material lot to represent a set of specimens was detailed for both the OFRA and CFRA material.
B	Neville Tay	11/13/23	<ol style="list-style-type: none"> 1. Added “The value for the Class must be immediately appended to the Composition abbreviation (e.g. CF30 for 30% carbon fiber and the remaining 70% is a Type 1 and FR blend).” to the end of the sentence in section 1.1 2. Units were added to the Requirement columns in Table 1 and 2.

1. SCOPE

This detailed specification along with the base specifications NMS 754 and NMS 755 establishes the requirements for the manufacturing of Onyx FR-A with Carbon Fiber FR-A Aerospace Fused Filament Fabrication (FFF) filament/fiber. The filament/fiber is produced using an extrusion process.

This detailed specification contains additional superseding requirements. The base specifications must govern where no additional requirement is specified; in such cases, the applicable sections are omitted from

Orientation: ZX			Modulus: 0.1858 to 0.3304 Msi
Compressive Strength and Modulus ⁽⁵⁾ Room Temperature, Dry Orientation: XZ	PF	ASTM D6641	Strength: Min. Ind. 8.000 ksi Strength: Average 13.02 ksi Modulus: 1.672 to 2.521 Msi
Flexural Strength and Modulus ⁽⁶⁾ Room Temperature, Dry Orientation: XZ	PF	ASTM D790	Strength: Min. Ind. 20.24 ksi Strength: Average 24.16 ksi Modulus:

