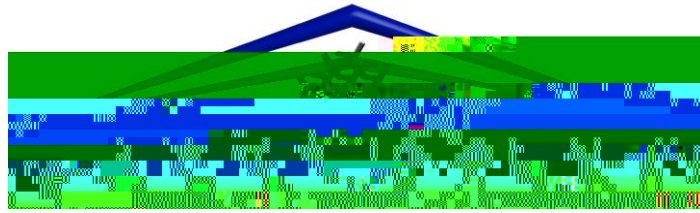


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Date: June 22, 2018



NC

AIR Qualification Process:

1. Minimum requirements listed on the previous page must be met.
2. Select the applicable section of this NCAMP AIR Application Form

[Section 1: For Prepreg Materials](#)

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[1.A. Test Panel Fabrication](#)

[1.B. Lamina and Laminate Test Specimen Inspection Verification](#)

[Section 2 For Additive Manufacturing Materials](#)

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[2.A. Test Specimen Fabrication](#)

[2.B. Test](#)

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1.B. For Lamina and Laminate Test Specimen Inspection Verification:

Do you have knowledge in and able to perform the following inspection activities?

- | | |
|--|--------|
| I. Verify that NCAMP Form 1681 for the panel fabrication process has been completed. | Yes/No |
| II. For test specimen inspection verification, verify that the specimen dimensions are in accordance with the drawings in the test plan (or the test methods | |

Please provide three verifiable technical references:

Please provide any additional relevant information here:

Comments by NCAMP (for office use only):

Section 2: For Additive Manufacturing Materials
NCAMP Authorized Inspection Representative (AIR) Application Form

| | | |
|----------------|----------------|-----------|
| First Name | Middle Initial | Last Name |
| Street Address | CW* n94 | |

| | | |
|--------|---|--------|
| VII. | Check to see that materials are protected in sealed bags, have followed specified handling procedures to avoid condensation before use, and the bags are resealed and water tight before placing back into storage. | Yes/No |
| VIII. | Verify that coupon build orientation and thickness are per test plan | Yes/No |
| IX. | Verify that thermocouple placement is in accordance with the governing process specification guidelines. | Yes/No |
| X. | Review plan for build location and orientation and verify operations completed satisfactorily and accepted by Quality Assurance and/or Engineering. | Yes/No |
| XI. | Verify that material mechanical and handling out times were not exceeded prior to build. | Yes/No |
| XII. | Verify Time/Temperature/Pressure meet the governing process specific requirements | Yes/No |
| XIII. | Verify NDI requirements called for in the governing process specification have been accomplished satisfactorily | Yes/No |
| XIV. | , Q V S H F W W K H F R X S R Q V W R Y H U L I \ F R X S R C naming requirements. | Yes/No |
| XV. | Review and verify Quality Assurance and/or Engineering has accepted the coupons | Yes/No |
| XVI. | Review any MRA/MRB documents for engineering acceptance, including NCAMP AER concurrence when necessary. | Yes/No |
| XVII. | Verify personnel qualification as applicable. | Yes/No |
| XVIII. | Verify that the measuring instruments such as temperature, pressure, and vacuum transducers are calibrated. | Yes/No |

2.B. For Test Specimen Inspection Verification:

| Do you have knowledge in and able to perform the following inspection activities? | |
|---|--------|
| I. Verify that NCAMP Form 1681 for the specimen fabrication process has been completed. | Yes/No |
| II. For test specimen inspection verification, verify that the specimen dimensions are in accordance with the drawings in the test plan (or the test method called out by the test plan). At minimum, QA must have inspected at least one specimen per test method for all the dimensions specified in the drawing such as perpendicularity, parallelism, hole size and location, etc. (this assumes that all the specimens are processed at the same time using the same jig setup and technician). In addition, NCAMP AIR should physically measure selected dimensions of representative specimens at a frequency of his/her discretion. | Yes/No |
| III. When specimen dimensions fail to meet or more of the drawing requirements, review any MRA/MRB documents for engineering acceptance including NCAMP AER concurrence when necessary. | Yes/No |
| IV. When conducting specimen inspection verification per item (II), the following test methods are typically used: | Yes/No |
| a. ASTM D638 ±Standard Test Method for Tensile Properties of Plastics | Yes/No |
| b. ASTM D790 ±Standard Test Method for Flexural Properties of Unreinforced and Reinforced Plastics and Electrical Insulating Materials | Yes/No |
| c. ASTM D695 ±Standard Test Method for Compressive Properties of Rigid Plastics | Yes/No |
| d. ISO 15310 ±Fibre-reinforced plastic composites Determination of the in plane shear modulus by the plate twist method | Yes/No |
| e. ASTM D5766 ±Standard Test Method for Open Hole Tensile Strength of Polymer Matrix Composite Laminates | Yes/No |
| f. ASTM D5961 ±Standard Test Method for Bearing Response of Polymer Matrix Composite Laminates | Yes/No |
| g. ASTM D6415 ±Standard Test Method for Measuring the Curved Beam Strength of a Fibre Reinforced Polymer Matrix Composite | Yes/No |
| h. ASTM D6484 ±Standard Test Method for Open Hole Compressive Strength of Polymer Matrix Composite Laminates | Yes/No |
| i. ASTM D6641 ±Standard Test Method for Determining the Compressive Properties of Polymer Matrix Composite Laminates using a Combined Loading Compression (CLC) Test Fixture | Yes/No |
| j. ASTM D6742 ±Standard Practice for Filled Hole Tension and Compression Testing of Polymer Matrix Composite Laminates | Yes/No |
| k. ASTM D256 ±Standard Test Methods for Determining the IZOD Pendulum Impact Resistance of Plastics | Yes/No |

Please provide three verifiable technical references:

Please provide any additional relevant information here:

Comments by NCAMP (for office use only):

| | | |
|-------|---|--------|
| VII. | Check to see that refrigerated materials are protected in sealed bags, have followed specified handling procedures, and that the bags are resealed and water tight before being placed back into the refrigerator | Yes/No |
| VIII. | Verify that the tool used matches that required to produce the part specified in the test plan. All the tools should be flat | Yes/No |
| IX. | | |

3.B. For Lamina and Laminate Test Specimen Inspection/Verification:

| Do you have knowledge in and able to perform the following inspection activities? | |
|---|--------|
| I. Verify that NCAMP Form 1681 for the panel fabrication process has been completed. | Yes/No |
| II. For test specimen inspection verification, verify that the specimen dimensions are in accordance with the drawings in the test plan (or the test methods called out by the test plan). At minimum, QA must have inspected at least one specimen per panel per test method for all the dimensions specified in drawing such as perpendicularity, parallelism, hole size and location, etc (this assumes that all the specimens are processed at the same time using same jig setup and technician). In addition, NCAMP AIR should physically measure selected dimensions of representative specimens at a frequency of his/her discretion. | Yes/No |
| III. When specimen dimensions fail to meet one or more of the drawing requirements, review any MRA/MRB documents for engineering acceptance including NCAMP AER concurrence when necessary. | Yes/No |
| IV. When conducting specimen inspection verification per item (II), the following test methods are typically used: | Yes/No |
| a. ASTM C1275 ± Standard Test Method for Monotonic Tensile Behavior of Continuous Fiber Reinforced Advanced Ceramics with Solid Rectangular Cross Section Test Specimens at Ambient Temperature | Yes/No |
| b. ASTM C1292 ± Standard Test Method for Shear Strength of Continuous Fiber- | |

| | | |
|-------|---|--------|
| VII. | Check to see that frozen materials are protected in sealed bags, have for specified handling procedures to avoid condensation before, and that the bags are resealed and water tight before refreezing. | Yes/No |
| VIII. | Verify that the tool used matches that required to produce the part specified in the test plan. | Yes/No |
| IX. | Verify that the tool surface quality is acceptable (i.e. smooth and flat) and that the tool is held in vacuum). | Yes/No |
| X. | Verify that substrate material, substrate thickness, surface preparation, and expected bondline thickness are per test plan. | Yes/No |
| XI. | Verify that thermocouple placement is in accordance with the governing process specification guidelines. | Yes/No |
| XII. | Review plan for ply lay up and orientation and verify operations completed satisfactorily and accepted by Quality Assurance and/or Engineering. | Yes/No |
| XIII. | Verify that vacuum bagging meets the requirements of the governing process specification and verify operations completed satisfactorily and accepted (ra | |

4.B. For Lamina and Laminate Test Specimen Inspection Verification:

Please provide three verifiable technical references:
