NCAMP Prepreg Specifications

- Draft prepreg material specifications are being created
- Base material specification for unidirectional prepreg is based on draft AMS P-17 specification
- Base material specifications for plain weave and 5HS weave prepregs are based on draft FAA technical document and similar in format to draft AMS P-17 specification
- Detail specifications for unidirectional, plain weave, and 5HS weave prepregs are all new
- ALL WILL BE SENT TO YOU FOR REVIEW WITHIN THE NEXT 2-12 MONTHS
  - Use of NCAMP Forum for document reviews (a trial forum has been set up at http://yeow.web.aplus.net/phpbb/index.php, a permanent NCAMP Forum will be created soon)
An Example of How NCAMP is Collaborating With P-17
(Prepreg Material Specification Names)

Option 1, fully generic, least meaningful:
• Base: Prepreg, epoxy, carbon fiber reinforced, aerospace grade
• slash 1: 33% RC, 145 FAW unidirectional carbon (40/800/xk/x)
• slash 2: 36% RC, 280 FAW 5HS carbon (37/650/6k/x)
• slash 3: 36% RC, 193 FAW PW carbon (37/650/3k/x)

Option 2, partially generic (resin number used, need to check with SAE):
• Base: Prepreg, 5215 epoxy, carbon fiber reinforced, aerospace grade
• slash 1: 33% RC, 145 FAW unidirectional carbon (40/800/xk/x)
• slash 2: 36% RC, 280 FAW 5HS carbon (37/650/6k/x)
• slash 3: 36% RC, 193 FAW PW carbon (37/650/3k/x)

Option 3, least generic, most meaningful (resin & fiber numbers used, need to check with SAE):
• Base: Prepreg, 5215 epoxy, carbon fiber reinforced, aerospace grade
• slash 1: 33% RC, 145 FAW unidirectional T40-800 carbon (40/800/xk/x)
• slash 2: 36% RC, 280 FAW 5HS T650 carbon (37/650/6k/x)
• slash 3: 36% RC, 193 FAW PW T650 carbon (37/650/3k/x)

By Rich Fields, Lockheed Martin Missiles and Fire Control - Orlando
An Example of How NCAMP is Collaborating With P-17
(Prepreg Material Specification Names)

Option 4, specify fiber modulus & product form:
- Base: Standard Modulus Unidirectional Carbon Fiber Reinforced Epoxy Prepreg Composite Material
- slash 1: 33% RC, 145 FAW unidirectional carbon (33/300/xk/x)
- slash 2: 36% RC, 190 FAW unidirectional carbon (33/300/6k/x)

Option 5, specify fiber modulus, product form, and cure temp:
- Base: Standard Modulus Unidirectional Carbon Fiber Reinforced 350F Cure Epoxy Prepreg Composite Material
- slash 1: 33% RC, 145 FAW unidirectional carbon (33/300/xk/x)
- slash 2: 36% RC, 190 FAW unidirectional carbon (33/300/6k/x)

Option 6, specify fiber modulus, product form, cure temp, and category:
- Base: Standard Modulus Unidirectional Carbon Fiber Reinforced 350F Vacuum Bag Cure Epoxy Prepreg Composite Material
- slash 1: 33% RC, 145 FAW unidirectional carbon (33/300/xk/x)
- slash 2: 36% RC, 190 FAW unidirectional carbon (33/300/6k/x)
NCAMP Prepreg Process Control Document (PCD)

• Material suppliers to write prepreg PCD based on industry reviewed NCAMP prepreg PCD preparation guide

• Material users will be invited to review the draft prepreg PCD

• NCAMP will mediate any comments not incorporated by the material supplier
  - Material user’s specific PCDs may still be used!
NCAMP Carbon Fiber Specifications

• Draft carbon fiber base specifications are being created
• Draft carbon fiber detail specifications are being created
• Fiber is qualified through prepreg qualification
• ALL WILL BE SENT TO YOU FOR REVIEW WITHIN THE NEXT 2-12 MONTHS
NCAMP Fiber PCDs

- Material suppliers to write fiber PCD based on industry reviewed *NCAMP fiber PCD preparation guide*
- Material users will be invited to review the draft fiber PCD
- NCAMP will mediate any comments not incorporated by the material supplier
NCAMP Fabric Specifications & Weaver Qualification

• A draft fabric base specification is being created
• Two draft fabric detail specifications are being created
  – 3K Plain Weave
  – 6K 5HS Weave
• Weaver is qualified through prepreg qualification
• No PCD will be used
Summary of Specifications & PCDs

- Prepreg material specifications & prepreg PCDs
- Carbon fiber material specifications & carbon fiber PCD
- Carbon fiber fabric material specifications