

Elizabeth Clarkson, PhD

Vitae

Curriculum

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Ph.D., Statistics, Wichita State University

Certified Quality Engineer, American Society for Quality

I have worked as a professional statistician since 1983, helping manufacturing and service industries through the use of quality improvement techniques, surveys, and statistical analysis of data. I specialize in computing material properties, engineering design basis values, quality improvement, statistical graphics, and basic statistical analysis for research purposes.

Chief Statistician; National Institute for Aviation Research (NIAR)

At NIAR, I develop engineering basis values for new composite materials and research better ways to compute those basis values.

I produce basis value and equivalency reports which serve as documentation to regulatory agencies including the FAA.

I train and supervise engineers in the production of basis value and equivalency reports.

Senior Research Engineer and Chief Statistician; National Center for Advanced Materials Performance (NCAMP)

NCAMP provides a national center for the validation and quality assurance of composites and advanced materials.

Founding member, Board of Directors; Co-Chair of the Statistics Working Group;

Composite Materials Handbook (CMH-17)

CMH-17 is a multi-volume encyclopedia on the correct manufacture of composites, produced by a national coalition of industry, academic and government experts on composite materials sponsored by the Federal Aviation Administration (FAA).

Instruction & Training

I have developed and taught classes in statistics, mathematics, statistical process control, computation of basis values, and equivalency testing for universities and corporations.

2013 – Friends University, Adjunct Professor.

2008 – 2013 National Center for Aviation Research, Chief Statistician.

2001 – 2008 Wichita State University, Mathematics Instructor

200X – 200X Kansas Newman, Adjunct Professor

200X – 200X Butler County Community College, Adjunct Professor

1983 – 1999 Boeing A`:

Education and Certifications:

- 2010 Ph.D. in Mathematics received May 2010
- 1991 M.S. in Mathematics
- 1987 Certified Quality Engineer, American Society for Quality
- 1983 B.S. in Mathematics

Publications and Presentations:

available at <http://www.math.berkeley.edu/~williams>

1. Analysis of Gender Pay disparity for engineering positions at the National Center For Aviation Research, Dr. Elizabeth Clarkson, Gender and Sexuality in Kansas Conference, Wichita State University, Wichita, Kansas, March 7, 2014 , 2014
2. “PREDICTION OF B-BASIS STRENGTH ALLOWABLES OF S2-GLASS COMPOSITES WITH REDUCED TESTING”, M. Garg, G. Abumeri, J. Housner, and F. Abdi, E. Clarkson, Society for the Advancement of Material and Process Engineering (SAMPE) Texas Conference Paper October 18-2011.
3. Multivariate Equivalence Testing for Composite Materials. SAMPE Wichita Fall Technical Conference Paper October at 2009
4. Modified Coefficient of Variation Approach to set basis Values for Newly Developed Composite Materials. SAMPE Wichita Fall Technical Conference Paper October at 2009
5. Survey Says - NewMedia Magazine, April '99 NEED more INFO HERE
6. Internet Surveys - Quirks MKTG. Research - July '99 NEED more INFO HERE
7. Selected Desktop Engineering Magazine Articles
8. S-Plus 2000 – Desktop Engineering Magazine October 2000
9. S-Plus 4.0 - Desktop Engineering Magazine June '98
10. Top-Shelf Applications for Statistics - Desktop Engineering Magazine October '97
11. Statistical Gems - Desktop Engineering Magazine May '97
12. Statistical Software for Engineers - Desktop Engineering Magazine November '98
13. Making Sense of the Data - Desktop Engineering Magazine December '98
14. Understanding your Process - Desktop Engineering Magazine June '98
15. The use of Stepwise Regression with Design of Experiments 1998 Fall Technical Conference of the American Society for Quality.
16. A demonstration of current statistical software to the American Society for Quality, section 1307, Jan '98.
17. Using Statistics in Industry (Book Review)- Quality Progress, August '95
18. How to Make and Use Surveys - A 2-hour workshop at the First International Statistics in Industry Conference in Manhattan, Ks, 1992 and also at the Second International Statistics in Industry Conference in Wichita, Kansas in 1994.
19. Data is NOT Information presented at Juran Institute's IMPRO conference in Atlanta, Georgia in Nov. 1989 AND at Boeing Statistical Methods Symposium in Seattle, Washington in May 1990

NIAR Publications:

1. DIAB Divinycell F90 Material Allowables Statistical Analysis Report; 2013
2. DIAB Divinycell F40 Material Allowables Statistical Analysis Report; 2013
3. DIAB Divinycell F130 Material Allowables Statistical Analysis Report; 2013
4. DIAB Divinycell F90 Material Allowables Statistical Analysis Report; 2013
5. DIAB Divinycell F40 Material Allowables Statistical Analysis Report; 2013
6. DIAB Divinycell F130 Material Allowables Statistical Analysis Report; 2013
7. Cytec Cycom 5320-1 T650 Unitape Gr 145 Qualification Statistical Analysis Report; 2013
8. A Comparison of Equivalence Criteria and Basis Values for HEXCEL 8552 IM7 Unidirectional Tape computed from the NCAMP shared database; 2013
9. Cytec MTM45-1 CF2426A 36%RW Material Allowables Statistical Analysis Report; 2013
10. CYTEC MTM45-1/IM7-160-32.5%RW UNI Material Allowables Statistical Analysis Report; 2013
11. CYTEC MTM45-1 CF7442A – 36% RW Plain Weave Fabric Material Allowables Statistical Analysis Report; 2013
12. DIAB Divinycell F50 Material Allowables Statistical Analysis Report; 2012
13. DIAB Divinycell F50 Material Allowables Statistical Analysis Report; 2012
14. ACG MTM45-1/6781 S2 Glass 35%RW Equivalency Statistical Analysis Report JPS/AGY Resite Facility; 2012
15. Park Aircraft Technologies Corp. E-Glass Fabric E-765/7781 (MS1001 Type 1, Grade A) Equivalency Statistical Analysis Preliminary Report; 2012
16. Park Aircraft Technologies Corp. Graphite Fabric T300 3KPW / E765 (MS1000 Type 1, Grade B) Equivalency Statistical Analysis Preliminary Report; 2012
17. Park Aircraft Technologies Corp. Graphite Fabric T300 6K 5HS/E765 (MS1000 Type 2 Grade C) Equivalency Statistical Analysis Preliminary Report; 2012
18. Park Aircraft Technologies Corp. Graphite Fabric T300 3KPW / IAI E765 (MS1000 Type 1, Grade B) Equivalency Statistical Analysis Preliminary Report; 2012
19. Park Aircraft Technologies Corp. E-Glass Fabric E-765/7781 (MS1001 Type 1, Grade A) ETW Equivalency Statistical Analysis Report; 2012
20. Park Aircraft Technologies Corp. Graphite Fabric T300 3KPW / E765 (MS1000 Type 1, Grade B) ETW Equivalency Statistical Analysis Report; 2012
21. Park Aircraft Technologies Corp. Graphite Fabric T300 3KPW / IAI E765 (MS1000 Type 1, Grade B) Equivalency Statistical Analysis Report; 2012
22. Park Aircraft Technologies Corp. Graphite Fabric T300 3KPW / E765 (MS1000 Type 1, Grade B) Autoclave Cure Equivalency Statistical Analysis Report; 2012
23. DIAB Divinycell F50 Material Allowables Statistical Analysis Report; 2012
24. Park Aircraft Technologies Corp. Porjects 12-59, 12-60 and 12-61 (E-761/7781) Statistical Analysis Report; 2012
25. Park Aircraft Technologies Corp. E-Glass Fabric E-765/7781 (MS1001 Type 1, Grade A) South Treater "AK" line Room Temperature Dry Condition Equivalency Statistical Analysis Report; 2012
26. Park Aircraft Technologies Corp. Graphite Fabric T300 3KPW / E765 (MS1000 Type 1, Grade B) South Treater "AK" line Room Temperature Dry Condition Equivalency Statistical Analysis Report; 2012
27. Park Aircraft Technologies Corp. Graphite Fabric T300 6K 5HS/E765 (MS1000 Type 2 Grade C) South Treater "AK" line Room Temperature Dry Condition Equivalency Statistical Analysis Report; 2012
28. Cytec Cycom 5320-1 T650 3K-PW Fabric Qualification Statistical Analysis Report; 2012
29. Aurora Flight Sciences Corporation Hexcel 8552S AS4 Plain Weave Equivalency Statistical Analysis Report; 2012
30. Statistical Analysis Report for ETP301354, Adhesive Wet Layup Room Temperature Cure 180° F Hot Wet Qualification Testing; 2011
31. Blackhawk – Toray T700SC-12K-50C - Equivalency Statistical Analysis Report; 2011

32. Statistical Analysis Report for ETP301354, Adhesive Wet Layup Room Temperature Cure 180° F Hot Wet Qualification Testing; 2011
33. Blackhawk – Toray T700SC-12K-50C - Equivalency Statistical Analysis Report; 2011
34. DIAB Divinycell F40 Material Allowables Statistical Analysis Report; 2011
35. MVK-14 Polyimide FreeForm™ T650 3K 8HS fabric Prepreg 376 gsm & 36%RC Qualification Statistical Analysis Report; 2011
36. Renegade Materials Corp MVK-14 Polyimide FreeForm™ T650 3K 8HS Fabric Prepreg 376gsm & 36%RC Equivalency Statistical Analysis Report - Encore Composite Holdings, Inc. (Formerly BAE); 2011
37. Renegade Materials Corp MVK-14 Polyimide FreeForm™ T650 3K 8HS Fabric Prepreg 376gsm & 36%RC Equivalency Statistical Analysis Report - GD ATP; 2011
38. Renegade Materials Corp MVK-14 Polyimide FreeForm™ T650 3K 8HS Fabric Prepreg 376gsm & 36%RC Equivalency Statistical Analysis Report - GE Aviation; 2011
39. Renegade Materials Corp MVK-14 Polyimide FreeForm™ T650 3K 8HS Fabric Prepreg 376gsm & 36%RC Equivalency Statistical Analysis Report - Goodrich; 2011
40. Renegade Materials Corp MVK-14 Polyimide FreeForm™ T650 3K 8HS Fabric Prepreg 376gsm & 36%RC Equivalency Statistical Analysis Report - Composite Horizons; 2011
41. Renegade Materials Corp MVK-14 Polyimide FreeForm™ T650 3K 8HS Fabric Prepreg 376gsm & 36%RC Equivalency Statistical Analysis Report - ATK Dayton; 2011
42. Renegade Materials Corp MVK-14 Polyimide FreeForm™ T650 3K 8HS Fabric Prepreg 376gsm & 36%RC Equivalency Statistical Analysis Report - ATK Clearfield; 2011
43. Renegade Materials Corp MVK-14 Polyimide FreeForm™ T650 3K 8HS Fabric Prepreg 376gsm & 36%RC Equivalency Statistical Analysis Report - Northrop Grumman; 2011
44. Renegade Materials Corp MVK-14 Polyimide FreeForm™ T650 3K 8HS Fabric Prepreg 376gsm & 36%RC Equivalency Statistical Analysis Report - Pratt & Whitney; 2011
45. ACG MTM45-1/CF0526A-36% RW 3K Plain Weave G30-500 Fabric, 193 gsm Equivalency Statistical Analysis Report - Sigmatec, Inc.; 2011
46. t-test for SSOW –BRT-0610-2059 Mechanical Testing of Composite Test Specimens; 2010
47. Gulfstream GVI-GER 1350 Statistical Analysis Report; 2010
48. Gulfstream GVI-GER 1350 Statistical Analysis Report; 2010
49. Advanced Composites Group MTM45-1/CF0525-36%RW 3K PW AS4 Fabric - Equivalency Statistical Analysis Report “MH” cure cycle with “LH” cure Cycle; 2010
50. Advanced Composites Goup MTM45-1/CF0525-36%RW 3K PW AS4 Fabric - Equivalency Statistical Analysis Report “MH” cure cycle with “M” cure Cycle; 2010
51. Advanced Composites Group MTM45-1/4581-35%RW Quartz Fabric Qualification Statistical Analysis Report; 2010
52. Nelcote 145 gsm AS7 E752 Unidirectional Tape Qualification Statistical Analysis Report; 2010
53. Advanced Composites Group MTM45-1/CF2412-36%RW (AS4C 6K-5HS) Equivalency Statistical Analysis Report “MH” cure cycle with “LH” cure cycle; 2010
54. Advanced Composites Group MTM45-1/CF2412-36%RW (AS4C 6K-5HS) Equivalency Statistical Analysis Report “MH” cure cycle with “M” cure cycle; 2010
55. Advanced Composites Group MTM45-1 145 Uni AS4 Unidirectional Tape Equivalency Statistical Analysis Report - "MH" cure cycle with "LH" cure cycle; 2010
56. Hexcel 8552 AS4 Unidirectional Prepreg Qualification Statistical Analysis Report; 2010
57. Advanced Composites Group - MTM45-1 CF0526A-36% RW 3K Plain Weave G30-500 Fabric, 193 gsm Equivalency Statistical Analysis Report - ACG M Cure Cycle; 2010
58. Advanced Composites Group - MTM45-1 CF0526A-36% RW 3K Plain Weave G30-500 Fabric, 193 gsm Equivalency Statistical Analysis Report - ACG LH Cure Cycle; 2010
59. Hexcel 8552 AS4 Plain Weave Fabric Qualification Statistical Analysis Report; 2010
60. Hexcel AS4 Unidirectional Equivalency Statistical Analysis Report – Boeing Helicopters; 2010
61. Hexcel AS4 Unidirectional Equivalency Statistical Analysis Report – Israel Aircraft Industries; 2010
62. Hexcel AS4 Unidirectional Equivalency Statistical Analysis Report – Northrop Grumman; 2010
63. Hexcel AS4 Unidirectional Equivalency Statistical Analysis Report – Spirit AeroSystems; 2010
64. Hexcel AS4 Unidirectional Equivalency Statistical Analysis Report – Gulfstream Aerospace; 2010
65. Hexcel AS4 Unidirectional Equivalency Statistical Analysis Report – ATK Space Systems; 2010

66. Hexcel AS4 Unidirectional Equivalency Statistical Analysis Report – Goodrich; 2010
67. Hexcel 8552 IM7 Equivalency Statistical Analysis Report – Bell Helicopter; 2010
68. Hexcel 8552 IM7 Equivalency Statistical Analysis Report – Israel Aircraft Industries; 2010
69. Hexcel 8552 IM7 Equivalency Statistical Analysis Report – Lockheed Martin Aeronautics; 2010
70. Hexcel 8552 IM7 Equivalency Statistical Analysis Report – Northrop Grumman; 2010
71. Hexcel 8552 IM7 Equivalency Statistical Analysis Report – Spirit AeroSystems; 2010
72. Hexcel 8552 IM7 Equivalency Statistical Analysis Report – ATK Space Systems; 2010
73. Hexcel 8552 IM7 Equivalency Statistical Analysis Report – Gulfstream Aerospace; 2010
74. Hexcel 8552 IM7 Equivalency Statistical Analysis Report – Goodrich; 2010
75. Hexcel 8552 IM7 Equivalency Statistical Analysis Report – Hawker Beechcraft; 2010
76. Hexcel 8552 AS4 Plain Weave Equivalency Statistical Analysis Report - Bell Helicopter; 2010
77. Hexcel 8552 AS4 Plain Weave Equivalency Statistical Analysis Report - Boeing Helicopter; 2010
78. Hexcel 8552 AS4 Plain Weave Equivalency Statistical Analysis Report - Israel Aircraft Industries; 2010
79. Hexcel 8552 AS4 Plain Weave Equivalency Statistical Analysis Report - Northrop Grumman; 2010
80. Hexcel 8552 AS4 Plain Weave Equivalency Statistical Analysis Report – Spirit AeroSystems; 2010
81. Hexcel 8552 AS4 Plain Weave Equivalency Statistical Analysis Report – ATK Space Systems; 2010
82. Hexcel 8552 AS4 Plain Weave Equivalency Statistical Analysis Report – Gulfstream Aerospace; 2010
83. Hexcel 8552 AS4 Plain Weave Equivalency Statistical Analysis Report – Goodrich; 2010
84. Hexcel 8552 AS4 Plain Weave Equivalency Statistical Analysis Report – Hawker Beechcraft; 2010
85. Cytec 5215 Uni Qualification Statistical Analysis Report – Cytec; 2010
86. Cytec 5215 Uni Equivalency Statistical Analysis Report – General Atomics; 2010
87. Cytec 5215 Uni Equivalency Statistical Analysis Report – Comtek Advanced Structures; 2010
88. Cytec 5215 Uni Equivalency Statistical Analysis Report – Northrop Grumman; 2010
89. Cytec 5215 Uni Equivalency Statistical Analysis Report – Spirit AeroSystems; 2010
90. Cytec 5215 Uni Equivalency Statistical Analysis Report – Quickstep; 2010
91. Cytec 5215 Uni Equivalency Statistical Analysis Report – Gulfstream Aerospace; 2010
92. Cytec 5215 Uni Equivalency Statistical Analysis Report – Hawker Beechcraft; 2010
93. Cytec 5215 5HS Qualification Statistical Analysis Report – Cytec; 2010
94. Cytec 5215 5HS Equivalency Statistical Analysis Report – Cirrus Design; 2010
95. Cytec 5215 5HS Equivalency Statistical Analysis Report – General Atomics; 2010
96. Cytec 5215 5HS Equivalency Statistical Analysis Report – Bombardier Aerospace; 2010
97. Cytec 5215 5HS Equivalency Statistical Analysis Report – Comtek Advanced Structures; 2010
98. Cytec 5215 5HS Equivalency Statistical Analysis Report – Lockheed Martin; 2010
99. Cytec 5215 5HS Equivalency Statistical Analysis Report – Northrop Grumman; 2010
100. Cytec 5215 5HS Equivalency Statistical Analysis Report – Spirit AeroSystems; 2010
101. Cytec 5215 5HS Equivalency Statistical Analysis Report – Quickstep; 2010
102. Cytec 5215 5HS Equivalency Statistical Analysis Report – Gulfstream Aerospace; 2010
103. Cytec 5215 5HS Equivalency Statistical Analysis Report – Hawker Beechcraft; 2010
104. Cytec 5215 PW Qualification Statistical Analysis Report – Cytec; 2010
105. Cytec 5215 PW Equivalency Statistical Analysis Report – Cirrus Design; 2010
106. Cytec 5215 PW Equivalency Statistical Analysis Report – General Atomics; 2010
107. Cytec 5215 PW Equivalency Statistical Analysis Report – Comtek Advanced Structures; 2010
108. Cytec 5215 PW Equivalency Statistical Analysis Report – Northrop Grumman; 2010
109. Cytec 5215 PW Equivalency Statistical Analysis Report – Spirit AeroSystems; 2010
110. Cytec 5215 PW Equivalency Statistical Analysis Report – Quickstep; 2010
111. Cytec 5215 PW Equivalency Statistical Analysis Report – Gulfstream Aerospace; 2010
112. Cytec 5215 PW Equivalency Statistical Analysis Report – Hawker Beechcraft; 2010
113. Cytec 5250-5 6K-135-5HS Qualification Statistical Analysis Report; 2010
114. Cytec 5250-5 6K-135-5HS Equivalency Statistical Analysis Report – Burnham Composites; 2010
115. Cytec 5250-5 6K-135-5HS Equivalency Statistical Analysis Report – Spirit AeroSystems; 2010

116. Cytec 5250-5 6K T650 Unitape Qualification Statistical Analysis Report; 2010
117. Cytec 5250-5 6K T650 Unitape Equivalency Statistical Analysis Report – Burnham Composites; 2010
118. Cytec 5250-5 6K T650 Unitape Equivalency Statistical Analysis Report – Spirit AeroSystems; 2010
119. Cytec 5250-5 3K70PW T650 fabric Qualification Statistical Analysis Report; 2010
120. Cytec 5250-5 3K70PW T650 fabric Equivalency Statistical Analysis Report – Burnham Composites; 2010
121. Cytec 5250-5 3K70PW T650 fabric Equivalency Statistical Analysis Report – Spirit AeroSystems; 2010
122. Newport NCT4708 MR60H 300gsm 38%RC Unidirectional Material Allowables Statistical Analysis Report; 2010
123. TCAC12k HTS SFP OSI/TC250 42% Fabric Prepreg Statistical Analysis Report; 2010
124. Northrop Grumman M46J/7714A Uni-Tape Preliminary Qualification Statistical Analysis Report; 2009
125. Basis Values and Estimates for Northrop Grumman M-461/7714A Unitape Qualification Statistical Analysis Report; 2009
126. Advanced Composites Group MTM45-1/ Style 6781 S2 Glass Qualification Statistical Analysis Report; 2009
127. Equivalency Analysis for the Advanced Composites Group MTM45-1/IM7-145-32%RW LH cure cycle compared to MH cure cycle; 2009
128. Spirit Tulsa - RUAG Advanced Composites Group MTM45-1/ 12K AS4-145 32%RW Equivalency Statistical Analysis Report; 2009
129. Spirit Tulsa – RUAG Advanced Composites Group MTM45-1 CF0526A-36%RW 3K Plain Weave G30-500 Fabric, 193 gsm Equivalency Statistical Analysis Report; 2009
130. Spirit Tulsa - Advanced Composites Group MTM45-1/ 12K AS4-145 32%RW Unidirectional - Equivalency Statistical Analysis Report; 2009
131. Advanced Composites Group MTM45-1/HTS-145gsm-32R%W 12K HTS5631 Unidirectional Qualification Statistical Analysis Report; 2009
132. ACG 7781 Glass Fabric Statistical Analysis Report; 2009
133. AAR Composites - Advanced Composites Group MTM45-1/ CF0526A-36%RW 3K Plain Weave G30-500 Fabric - Equivalency Statistical Analysis Report; 2009
134. Cirrus Design Corp - Advanced Composites Group MTM45-1/ CF0526A-36%RW 3K Plain Weave G30-500 Fabric - Equivalency Statistical Analysis Report; 2009
135. Comtek Advanced Structures - Advanced Composites Group MTM45-1/ CF0526A-36%RW 3K Plain Weave G30-500 Fabric - Equivalency Statistical Analysis Report; 2009
136. General Atomics - Advanced Composites Group MTM45-1/ CF0526A-36%RW 3K Plain Weave G30-500 Fabric - Equivalency Statistical Analysis Report; 2009
137. Northrop Grumman - Advanced Composites Group MTM45-1/ CF0526A-36%RW 3K Plain Weave G30-500 Fabric - Equivalency Statistical Analysis Report; 2009
138. Scaled Composites - Advanced Composites Group MTM45-1/ CF0526A-36%RW 3K Plain Weave G30-500 Fabric - Equivalency Statistical Analysis Report; 2009
139. Spirit AeroSystems - Advanced Composites Group MTM45-1/ CF0526A-36%RW 3K Plain Weave G30-500 Fabric - Equivalency Statistical Analysis Report; 2009
140. AAR Composites - Advanced Composites Group MTM45-1/ 6781 S-2 Glass 35%RC - Equivalency Statistical Analysis Report; 2009
141. Cirrus Design Corp. - Advanced Composites Group MTM45-1/ 6781 S-2 Glass 35%RC - Equivalency Statistical Analysis Report; 2009
142. Comtek Advanced Structures - Advanced Composites Group MTM45-1/ 6781 S-2 Glass 35%RC - Equivalency Statistical Analysis Report; 2009
143. General Atomics - Advanced Composites Group MTM45-1/ 6781 S-2 Glass 35%RC - Equivalency Statistical Analysis Report; 2009
144. Gulfstream Aerospace - Advanced Composites Group MTM45-1/ 6781 S-2 Glass 35%RC - Equivalency Statistical Analysis Report; 2009
145. Lockheed Martin - Advanced Composites Group MTM45-1/ 6781 S-2 Glass 35%RC - Equivalency Statistical Analysis Report; 2009

146. Northrop Grumman - Advanced Composites Group MTM45-1/ 6781 S-2 Glass 35%RC - Equivalency Statistical Analysis Report; 2009
147. Scaled Composites - Advanced Composites Group MTM45-1/ 6781 S-2 Glass 35%RC - Equivalency Statistical Analysis Report; 2009
148. Spirit AeroSystems - Advanced Composites Group MTM45-1/ 6781 S-2 Glass 35%RC - Equivalency Statistical Analysis Report; 2009
149. Hexcel 8552 IM7 Unidirectional Prepreg 190 gsm & 35%RC Qualification Statistical Analysis Report; 2009
150. Advanced Composites Group MTM45-1/ 6K 5H AS4C Fabric Qualification Statistical Analysis Report; 2009
151. Advanced Composites Group MTM45-1/CF0525-36%RW 3K PW AS4 Fabric Qualification Statistical Analysis Report"; 2009
152. Texstars - Advanced Composites Group MTM45-1 CF0526A-36%RW 3K Plain Weave G30-500 Fabric, 193 gsm Equivalency Statistical Analysis Report; 2009
153. Advanced Composites Group 12K HTS5631 unidirectional MTM45-1/HTS(12K)-145-32%RW Equivalency Statistical Analysis Report – AAR Composites; 2009
154. Advanced Composites Group 12K HTS5631 unidirectional MTM45-1/HTS(12K)-145-32%RW Equivalency Statistical Analysis Report – Bombardier; 2009
155. Advanced Composites Group 12K HTS5631 unidirectional MTM45-1/HTS(12K)-145-32%RW Equivalency Statistical Analysis Report – Comtek Advanced Materials; 2009
156. Advanced Composites Group 12K HTS5631 unidirectional MTM45-1/HTS(12K)-145-32%RW Equivalency Statistical Analysis Report – General Atomics; 2009
157. Advanced Composites Group 12K HTS5631 unidirectional MTM45-1/HTS(12K)-145-32%RW Equivalency Statistical Analysis Report – Gulfstream; 2009
158. Advanced Composites Group 12K HTS5631 unidirectional MTM45-1/HTS(12K)-145-32%RW Equivalency Statistical Analysis Report – Northrop Grumman; 2009
159. Advanced Composites Group 12K HTS5631 unidirectional MTM45-1/HTS(12K)-145-32%RW Equivalency Statistical Analysis Report – Scaled Composites; 2009
160. Advanced Composites Group 12K HTS5631 unidirectional MTM45-1/HTS(12K)-145-32%RW Equivalency Statistical Analysis Report – Spirit AeroSystems; 2009
161. Lockheed Martin - MTM45-1/AS4-GP 145gsm 32%RW - AS4 Unidirectional Tape - Equivalency Statistical Analysis Report; 2008
162. B-Basis Estimates for ACG material MTM45-1/IM7-145gsm-32R%W; 2008
163. Advanced Composites Group MTM45-1 145 Uni AS4 Unidirectional Tape Equivalency Statistical Analysis Report; 2008
164. Laminate Mechanical Properties Toray MTM45-1/HTS(12K)-145gsm 32%RW Unidirectional Tape Statistical Analysis Report; 2008
165. Laminate Mechanical Properties Toray MTM45-1/HTS(12K)-145gsm 32%RW Unidirectional Tape Statistical Analysis Report; 2008
166. Agate Statistical Analysis Program (ASAP) Instruction Guide; 2008
167. Advanced Composites Group MTM45-1 145 Uni AS4 Unidirectional Tape Qualification Statistical Analysis Report; 2008
168. Advanced Composites Group MTM45-1 CF0526A-36%RW 3K Plain Weave G30-500 Fabric, 193 gsm Qualification Statistical Analysis Report; 2008
169. B-Basis Estimates for ACG material MTM45-1/IM7-145gsm-32R%W Qualification Statistical Analysis Report; 2008
170. Advanced Composites Group MTM45-1 145 Uni AS4 Unidirectional Tape Qualification Statistical Analysis Report; 2008
171. Advanced Composites Group MTM45-1 CF0526A-36%RW 3K Plain Weave G30-500 Fabric, 193 gsm Qualification Statistical Analysis Report; 2008
172. B-Basis Estimates for ACG material MTM45-1/IM7-145gsm-32R%W Qualification Statistical Analysis Report; 2008
173. B-Basis Estimates for ACG material MTM45-1/IM7-145gsm-32R%W Qualification Statistical Analysis Report; 2008
174. Equivalency Analysis for the Advanced Composites Group MTM45-1/IM7-145-32%RW M cure cycle compared to MH cure cycle qualification; 2008

175. Equivalency Analysis for the Advanced Composites Group MTM45-1 AS4-145 UNITAPE M cure cycle compared to MH cure cycle qualification; 2008
176. Nelcote 93 gsm 3K Plain Weave G30-500 E752 Fabric Qualification Statistical Analysis Report; 2008
177. Spirit Tulsa Advanced Composites Group MTM45-1 CF0526A-36%RW 3K Plain Weave G30-500 Fabric, 193 gsm Equivalency Statistical Analysis Report; 2008
178. Spirit Tulsa MTM45-1 HTS 12K-145 32%RW 12K HTS5631 unidirectional, 145 gsm Equivalency Statistical Analysis Report; 2008
179. ICI FIBERITE HMF 5-133D/77-2 Eight Harness Satin Graphite Fabric Prepreg Amoco T-300 3K Fiber, Fiberite 977-2 Toughened Epoxy Resin Qualification Material Statistical Analysis Report; 2008
180. ICI Fiberite HMF 5-322D/77-2C Plain Weave Prepreg Amoco T-300 3K Fiber, Fiberite 977-2 Toughened Epoxy Resin Qualification Material Statistical Analysis Report; 2008
181. ICI Fiberite HYE 5377-2A Hercules IM7 12K Fiber, Fiberite 977-2 Toughened Epoxy Resin Qualification Material Statistical Analysis Report; 2008