Journal of Composites Technology & Research
Subject Index
Volume 17, 1995

A

Acousto-ultrasonic
Damage characterization of a cross-ply SiC/CAS-II ceramic composite under fatigue loading using a real-time acousto-ultrasonic NDE technique (Tiwari, A, Henneke, EG, II, and Reifsnider, KL), July, 221

Adhesion
Size and geometry effects in transverse flexural testing of unidirectional graphite/thermoplastic (Wilkinson, S and Hinkley, JA), April, 84

Adhesive joints

Average stress criterion
Failure criterion for thick multifastener graphite-epoxy composite joints (Cohen, D, Hyer, MW, Shuart, MJ, Griffin, OH, Prasad, C, and Yalamanchili, SR), July, 237

B

Bearing/bypass
Biaxial bearing/bypass testing of graphite/epoxy plates (Hoa, SV), April, 125
Characterization of bolted joint behavior: MIL-HDBK-17 accomplishments at standardization (Shyprykevich, P), July, 260

Biaxial loading
Biaxial bearing/bypass testing of graphite/epoxy plates (Hoa, SV), April, 125

Bolted joints
Characterization of bolted joint behavior: MIL-HDBK-17 accomplishments at standardization (Shyprykevich, P), July, 260
Effects of stacking sequences on mechanically fastened joint strength in quasi-isotropic carbon-epoxy laminates (Hamada, H, Haruna, K, and Maekawa, Z), July, 249

Cold expansion
Fastener hole reinforcement in composite using cold-expanded inserts (Rufin, AC), April, 145

Compression testing
Effect of specimen tab configuration on compression testing of composite materials (Xie, M and Adams, DF), April, 77
Wrinkling of composite sandwich structures under compression (Kassapoglou, C, Fantle, SC, and Chou, JC), Oct., 308

Compressive failure
Compressive failure of laminated and woven composites (Fleck, NA, Jelf, PM, and Curtis, PT), July, 212

Compressive strength
Effect of specimen tab configuration on compression testing of composite materials (Xie, M and Adams, DF), April, 77

Conductivity
Thermal conductivity of textile composites with arbitrary preform structures (Gowayed, Y, Hwang, J-C, and Chapman, D), Jan., 56

Creep
Time-dependent behavior of a graphite/thermoplastic composite and the effects of stress and physical aging (Gates, TS and Feldman, M), Jan., 33

D

Debonding
Tensile strength of unidirectional composites: the role of efficiency and strength of fiber-matrix interface (Subramanian, S, Reifsnider, KL, and Stinchcomb, WW), Oct., 289

Delamination
Effect of high-temperature degradation on the Mode I critical strain energy release rate of a graphite/epoxy composite (Walsh, TF and Bakis, CE), July, 228

© 1995 by the American Society for Testing and Materials

www.astm.org
Design guidelines
Novel joining method for smooth-bore composite pressure hulls (Koudela, KL, Sabo, J, Strait, LH, and Karasek, ML), April, 134

Diffusion
Electrodeposited cobalt-tungsten as a diffusion barrier between graphite fibers and nickel (Wheeler, NS and Lashmore, DS), Oct., 301

Distortion
Review of the mechanics of embedded optical sensors (Carman, GP and Sen-deckyj, GP), July, 183

Dropped weight impact
Effect of temperature and moisture on the impact behavior of graphite/epoxy composites: Part II—impact damage (Karasek, ML, Strait, LH, Amateau, MF, and Runt, JP), Jan., 11

Embedded optical fibers
Review of the mechanics of embedded optical sensors (Carman, GP and Sen-deckyj, GP), July, 183

Environmental effects
Effect of temperature and moisture on the impact behavior of graphite/epoxy composites: Part II—impact damage (Karasek, ML, Strait, LH, Amateau, MF, and Runt, JP), Jan., 11

Epoxy
Environmental effects on mechanical properties of thick composite structural elements (Cappelletti, C, Rivolta, A, and Zaffaroni, G), April, 107

Fabrication
Novel joining method for smooth-bore composite pressure hulls (Koudela, KL, Sabo, J, Strait, LH, and Karasek, ML), April, 134

Fasteners
Fastener hole reinforcement in composite using cold-expanded inserts (Rufin, AC), April, 145
Statistical analysis of bushing, sleeve, and oversize hole effects on the bolted joint strength of graphite/epoxy laminates (Schulz, KC, Hietala, HJ, and Packman, PF), Jan., 17

Fatigue
Fatigue-life behavior and matrix fatigue crack spacing in unnotched SCS-6/Titan-al®21S metal matrix composites (Ward, GT; Herrmann, DJ, and Hillberry, BM), July, 205

Fiber composites
Compressive failure of laminated and woven composites (Fleck, NA, Jelf, PM, and Curtis, PT), July, 212

Fiber fractures
Tensile strength of unidirectional composites: the role of efficiency and strength of fiber-matrix interface (Subramanian, S, Reifsnider, KL, and Stinchcomb, WW), Oct., 289

Fiber-reinforced plastics
Effect of high-temperature degradation on the Mode I critical strain energy release rate of a graphite/epoxy composite (Walsh, TF and Bakis, CE), July, 228

Fibrous
Modes of failure of fibrous composite materials as affected by the orientation-angle of fiber (Abu-Farsakh, G and Abdel-Jawad, YA), April, 90

Finite-element analysis
Thermal conductivity of textile composites with arbitrary preform structures (Gowayed, Y, Hwang, J-C, and Chapman, D), Jan., 56

Finite element method
Residual stresses in SCS-6/beta-21S composites (Rangaswamy, P and Jayaraman, N), Jan., 43

Flexural testing
Testing composite-to-metal tubular lap joints (Guess, TR, Reddy, ED, Jr., and Slavin, AM), April, 117

Fracture mechanics
Compressive failure of laminated and woven composites (Fleck, NA, Jelf, PM, and Curtis, PT), July, 212

Graphite/epoxy
Biaxial bearing/bypass testing of graphite/epoxy plates (Hoa, SV), April, 125

Improved Iosipescu shear test fixture (Conant, NR and Odom, EM), Jan., 50

Graphite/epoxy laminates
Statistical analysis of bushing, sleeve, and oversize hole effects on the bolted joint strength of graphite/epoxy laminates (Schulz, KC, Hietala, HJ, and Packman, PF), Jan., 17

Hole reinforcement
Fastener hole reinforcement in composite using cold-expanded inserts (Rufin, AC), April, 145

Hoop fiber strength
Pressurized ring test for composite pressure vessel hoop strength and stiffness evaluation (Cohen, D, Toombes, YT, Johnson, AK, and Hansen, MF), Oct., 331

Hygrothermal effects
Environmental effects on mechanical properties of thick composite structural elements (Cappelletti, C, Rivolta, A, and Zaffaroni, G), April, 107

I-J
Infrastructure
Effects of short-term environmental exposure on axial strengthening capacity of composite jacketed concrete (Karbhari, VM and Eckel, DA, II), April, 99

Interface
Tensile strength of unidirectional composites: the role of efficiency and strength of fiber-matrix interface (Subramanian, S, Reifsnider, KL, and Stinchcomb, WW), Oct., 289

Interference fit
Fastener hole reinforcement in composite using cold-expanded inserts (Rufin, AC), April, 145

Interlaminar shear tests
Experimental study of three- and four-point shear test specimens (Adams, DF and Lewis, EQ), Oct., 341

Iosipescu fixtures
Improved Iosipescu shear test fixture (Conant, NR and Odom, EM), Jan., 50

Jackets
Effects of short-term environmental exposure on axial strengthening capacity of composite jacketed concrete (Karbhari, VM and Eckel, DA, II), April, 99
**Joint strength**
Biaxial bearing/bypass testing of graphite/epoxy plates (Hoa, SV), April, 125

**Mechanical properties**
Properties and analysis of composites reinforced with E-glass weft-knitted fabrics (Wang, Y, Gowayed, Y, Kong, X, Li, J, and Zhao, D), Oct., 283

**Metal matrix**
Study of the residual stress in cold-rolled 7075 Al-SiC whisker-reinforced composites by X-ray and neutron diffraction (Li, J, Lu, J, Perrin, M, Ceretti, M, and Lodini, A), July, 194

**Mixed-mode fracture**

**Modes of failure**
Modes of failure of fibrous composite materials as affected by the orientation-angle of fiber (Abu-Farsakh, G and Abdel-Jawad, YA), April, 90

**Moisture absorption**
Environmental effects on mechanical properties of thick composite structural elements (Cappelletti, C, Rivolta, A, and Zaffaroni, G), April, 107

**Multifastener joints**
Failure criterion for thick multifastener graphite-epoxy composite joints (Cohen, D, Hyer, MW, Shuart, MJ, Griffin, OH, Prasad, C, and Yalamanchili, SR), July, 237

**Neutron diffraction method**
Study of the residual stress in cold-rolled 7075 Al-SiC whisker-reinforced composites by X-ray and neutron diffraction (Li, J, Lu, J, Perrin, M, Ceretti, M, and Lodini, A), July, 194

**Nickel**
Electrodeposited cobalt-tungsten as a diffusion barrier between graphite fibers and nickel (Wheeler, NS and Lashmore, DS), Oct., 301

**Nondestructive evaluations (NDE)**
Damage characterization of a cross-ply SiC/CAS-II ceramic composite under fatigue loading using a real-time acousto-ultrasonic NDE technique (Tiwari, A, Henneke, EG, II, and Reifsnider, KL), July, 221

**Nonlinear**
Modes of failure of fibrous composite materials as affected by the orientation-angle of fiber (Abu-Farsakh, G and Abdel-Jawad, YA), April, 90

**Notch tension and compression**
Characterization of bolted joint behavior: MIL-HDBK-17 accomplishments at standardization (Shyprykevich, P), July, 260

**P-Q**

**Physical aging**
Time-dependent behavior of a graphite/thermoplastic composite and the effects of stress and physical aging (Gates, TS and Feldman, M), Jan., 33

**Polymers**

**Residual stresses**
Residual stresses in SCS-6/beta-21S composites (Rangaswamy, P and Jayaraman, N), Jan., 43

**Sandwich construction**
Wrinkling of composite sandwich structures under compression (Kassapoglou, C, Fantle, SC, and Chou, JC), Oct., 308

**Shear gage**
Shear testing of textile composite materials (Ifju, PG), July, 199

**Silicon carbide**
Fatigue-life behavior and matrix fatigue crack spacing in unnotched SCS-6/Timetal®21S metal matrix composites (Ward, GT, Herrmann, DJ, and Hillberry, BM), July, 205

**Short beam**
Experimental study of three- and four-point shear test specimens (Adams, DF and Lewis, EQ), Oct., 341

**Single-fastener joints**
Failure criterion for thick multifastener graphite-epoxy composite joints (Cohen, D, Hyer, MW, Shuart, MJ, Griffin, OH, Prasad, C, and Yalamanchili, SR), July, 237

**Real time**
Damage characterization of a cross-ply SiC/CAS-II ceramic composite under fatigue loading using a real-time acousto-ultrasonic NDE technique (Tiwari, A, Henneke, EG, II, and Reifsnider, KL), July, 221

**Rehabilitation**
Effects of short-term environmental exposure on axial strengthening capacity of composite jacketed concrete (Karbhari, VM and Eckel, DA, II), April, 99
Split cantilever beam

Stacking sequence
Effects of stacking sequences on mechanically fastened joint strength in quasi-isotropic carbon-epoxy laminates (Hamada, H, Haruna, K, and Maekawa, Z), July, 249

Static testing
Testing composite-to-metal tubular lap joints (Guess, TR, Reedy, ED, Jr., and Slavin, AM), April, 117

Strain energy release rate
Effect of high-temperature degradation on the Mode I critical strain energy release rate of a graphite/epoxy composite (Walsh, TF and Bakis, CE), July, 228

Strength degradation
Review of the mechanics of embedded optical sensors (Carman, GP and Sendeckyj, GP), July, 183

Tab configuration
Effect of specimen tab configuration on compression testing of composite materials (Xie, M and Adams, DF), April, 77

Tensile strengths
Tensile strength of unidirectional composites: the role of efficiency and strength of fiber-matrix interface (Subramanian, S, Reifsnider, KL, and Stinchcomb, WW), Oct., 289

Textile composites
Properties and analysis of composites reinforced with E-glass weft-knitted fabrics (Wang, Y, Gowayed, Y, Kong, X, Li, J, and Zhao, D), Oct., 283
Shear testing of textile composite materials (Ifju, PG), July, 199
Thermal conductivity of textile composites with arbitrary preform structures (Gowayed, Y, Hwang, J-C, and Chapman, D), Jan., 56

Thermoplastic matrix composites
Size and geometry effects in transverse flexural testing of unidirectional graphite/thermoplastic (Wilkinson, S and Hinkley, JA), April, 84

Titanium matrix composites
Fatigue-life behavior and matrix fatigue crack spacing in unnotched SCS-6/Timetal®21S metal matrix composites (Ward, GT, Herrmann, DJ, and Hillberry, BM), July, 205
Residual stresses in SCS-6/beta-21S composites (Rangaswamy, P and Jayaraman, N), Jan., 43

Transverse flex test
Size and geometry effects in transverse flexural testing of unidirectional graphite/thermoplastic (Wilkinson, S and Hinkley, JA), April, 84

Tubular joints
Testing composite-to-metal tubular lap joints (Guess, TR, Reedy, ED, Jr., and Slavin, AM), April, 117

Tungsten
Electrodeposited cobalt-tungsten as a diffusion barrier between graphite fibers and nickel (Wheeler, NS and Lashmore, DS), Oct., 301

Twisting
Improved Iosipescu shear test fixture (Conant, NR and Odom, EM), Jan., 50

U-W

Unidirectional composites
Effect of specimen tab configuration on compression testing of composite materials (Xie, M and Adams, DF), April, 77

Viscoelasticity
Time-dependent behavior of a graphite/thermoplastic composite and the effects of stress and physical aging (Gates, TS and Feldman, M), Jan., 33

Weft knit
Properties and analysis of composites reinforced with E-glass weft-knitted fabrics (Wang, Y, Gowayed, Y, Kong, X, Li, J, and Zhao, D), Oct., 283

Wrinkles
Wrinkling of composite sandwich structures under compression (Kassapoglou, C, Fantle, SC, and Chou, JC), Oct., 308