# Journal of Testing and Evaluation Subject Index to Volume 15 1987

#### A-B

### Adhesive joints

Stress analysis of the cracked-lap-shear specimen: an ASTM round-robin (Johnson), Nov., 303

#### Air barrier systems

A proposed test procedure for the evaluation of air barrier systems (Timusk and Seskus), July, 191

# Airtightness

A proposed test procedure for the evaluation of air barrier systems (Timusk and Seskus), July, 191

#### Alloy

Thermoelectric differences used for metal sorting (Stuart), July, 224

#### Aluminides

Temperature and composition dependence of Young's modulus in polycrystalline B2 Ni-Al (Harmouche and Wolfenden), March, 101

### Aluminum alloys

A method for determining the tensile properties and anisotropy of aluminum alloys (Srivatsan, Meyers, and Berry), July, 196

J-integral testing of aluminum alloys: a new technique for marking crack fronts (Beaver), Nov., 350

## Alveolar macrophage

Cytoxicity of incinerator fly ash on alveolar macrophages (Liu, Wong, and Tam), Jan.. 3

### Analog-to-digital converter

Computerization of the NBS smoke chamber with a microcomputer and an A/D converter (Eichhorn, Barrow, and Davis), Sept., 281

# Asphalt durability

A suggested methodology for the analysis of asphalt age-hardening (Ishai), May, 127

# **ASTM** E 119

Comparison of severity of exposure in ASTM E 119 and ISO 834 fire resistance tests (Harmathy, Sultan, and MacLaurin), Nov., 371

### **ASTM E 662**

Computerization of the NBS smoke chamber with a microcomputer and an A/D converter (Eichhorn, Barrow, and Davis), Sept., 281

# ASTM Standard E 9

Inelastic buckling of ASTM Standard E 9 compression specimens (Papirno), May, 133

# Bend test

A new method of measuring the modulus of elasticity of material by analyzing the relation between loading position and displacement of a beam bent by a traveling load (Kuroda), March, 105

### Book reviews

Electromagnetic Method of Nondestructive Testing edited by Lord (Starin), Sept., 299

Coyright © 1987 by ASTM International

Flavor Chemistry of Fats and Oils edited by Min and Smouse (Mirmira), Sept., 299

Fundamentals of Packaging Dynamics by Brandenburg and Lee (McKinlay), Jan., 76

Materials and Processes—Part A: Materials edited by Young and Shane (Hartwig), March, 125

### Brittle fracture

Evaluation of intergranular fracture initiation in transition region of retired steam turbine rotor steel using small specimens and the acoustic emission technique (Shimomura, Shoji, and Takahashi), Sept., 257

#### **Building enclosures**

A proposed test procedure for the evaluation of air barrier systems (Timusk and Seskus), July, 191

#### $\mathbf{C}$

### Calibrated hot box

Calibration of the NBS calibrated hot box (Zarr, Burch, Faison, Arnold, and O'Connell), May, 167

Design and calibration of a guard added to an existing hot box (Broderick), May, 145

Hot box operating techniques and procedures: a survey (Miller), May, 153

Measuring thermal performance of wall assemblies under dynamic temperature conditions (Van Geem), May, 178

### Calibration

Calibration of the NBS calibrated hot box (Zarr, Burch, Faison, Arnold, and O'Connell), May, 167

# Ceramic materials

A compression test for high strength ceramics (Tracy), Jan., 14

### Charpy notch toughness

A statistical analysis of the notch toughness of 9% nickel steels obtained from production heats (Tarby and Stout), Nov., 355

# Chemical analysis

Theory, characteristics, and operating parameters of portable optical emission spectrometers for the on-site sorting and identification of steels (Spencer), July, 231

# Coal slurry fuels

An experimental technique for studying the dynamic stability of slurry fuels (Kesavan, Chu, Reddy, and Yazdani), Jan., 9

### Coal slurry transportation

An experimental technique for studying the dynamic stability of slurry fuels (Kesavan, Chu, Reddy, and Yazdani), Jan., 9

# Combustible lining materials

Prediction of heat release rates of surface materials in large-scale fire tests based on cone calorimeter results (Wickström and Göransson), Nov., 364

#### Compact specimens

A simple method for fatigue precracking specimens for fracture mechanics tests (Herrera, Mejias, Stocchi, and de Vedia), Sept., 291

# Compliance equation

Compliance expression for the middle cracked tension specimen: 2a/W = f(EBV/P) (Kirk), Nov., 337

#### Composite materials

Improved impulse-frequency response techniques for measurement of dynamic mechanical properties of composite materials (Suarez and Gibson), March, 114

### Compression specimen

Inelastic buckling of ASTM Standard E 9 compression specimens (Papirno), May, 133

#### Compression tests

A compression test for high strength ceramics (Tracy), Jan., 14

#### Conductivity

Thermoelectric differences used for metal sorting (Stuart), July, 224

#### Crack front marking

J-integral testing of aluminum alloys: a new technique for marking crack fronts (Beaver), Nov., 350

# Crack growth rate

Interlaboratory evaluation of  $K_{lscc}$  and da/dt determination procedures for high-strength steels (Wei and Novak), Jan., 38

# Crack propagation

Near-threshold fatigue crack growth behavior for 316 stainless steel (Mills and James), Nov., 325

# Crack simulation

Equivalent crack lengths in thin sheet materials subjected to tensile loads (Huculak), July, 205

### Crystalline structure

Thermoelectric differences used for metal sorting (Stuart), July, 224

### D-E

### **Damping**

Improved impulse-frequency response techniques for measurement of dynamic mechanical properties of composite materials (Suarez and Gibson), March, 114

# Data acquisition

Experience with a digitized instrumented impact testing system (Mark-Markowitch, Rosenthal, and Adam), Sept., 265

# Deflection

A new method of measuring the modulus of elasticity of material by analyzing the relation between loading position and displacement of a beam bent by a traveling load (Kuroda), March, 105

# Digitizer

Experience with a digitized instrumented

impact testing system (Mark-Markowitch, Rosenthal, and Adam), Sept., 265

#### **Ductile fracture**

Absence of stretch zones in austenitic stainless steels fractured at cryogenic temperatures (Purtscher), Sept., 296

### Dynamic mechanical properties

Improved impulse-frequency response techniques for measurement of dynamic mechanical properties of composite materials (Suarez and Gibson), March, 114

#### Eddy current test

Monitoring of oxide layer thickness on Zircaloy-2 by the eddy current test method (Sinha, Shah, and Kulkarni), Nov., 333

#### Elastic-plastic fracture

Evaluation of intergranular fracture initiation in transition region of retired steam turbine rotor steel using small specimens and the acoustic emission technique (Shimomura, Shoji, and Takahashi), Sept., 257

#### Ellipical cut-out

Equivalent crack lengths in thin sheet materials subjected to tensile loads (Huculak), July, 205

#### Energy

Measuring thermal performance of wall assemblies under dynamic temperature conditions (Van Geem), May, 178

### **Energy** balance

Design and calibration of a guard added to an existing hot box (Broderick), May, 145

# Environmental pollution

Basic principles of contaminant transfer modeling (Ismail), Sept., 274

### Enzymes

Cytoxicity of incinerator fly ash on alveolar macrophages (Liu, Wong, and Tam), Jan., 3

# Equivalent crack length

Equivalent crack lengths in thin sheet materials subjected to tensile loads (Huculak), July, 205

# F-H

### Fatigue (materials)

Near-threshold fatigue crack growth behavior for 316 stainless steel (Mills and James), Nov., 325

# Fatigue precracking

A simple method for fatigue precracking specimens for fracture mechanics tests (Herrera, Mejias, Stocchi, and de Vedia), Sept., 291

# Fatigue testing

Effects of the average increment  $\Delta C$  on the scatter in da/dN data and mean life cycles in HY-80 steel plate (Betancourt and Matthews) Jan., 20

# Fire exposure

Comparison of severity of exposure in ASTM E 119 and ISO 834 fire resistance tests (Harmathy, Sultan, and MacLaurin), Nov., 371

### Fire tests

Prediction of heat release rates of surface materials in large-scale fire tests based on cone calorimeter results (Wickström and Göransson), Nov., 364

# Flanking loss

Calibration of the NBS calibrated hot box

(Zarr, Burch, Faison, Arnold, and O'Connell), May, 167

# Flexure testing

A comparison of three methods for determining elastic constants of wood (Sinclair and Farshad), March, 77

#### Fracture

A model for predicting fracture toughness of a cementitious particulate composite molded under impact pressure (Crockford and Little), July, 211

#### Fracture mechanics

A simple method for fatigue precracking specimens for fracture mechanics tests (Herrera, Mejias, Stocchi, and de Vedia), Sept., 291

#### Fracture toughness

Evaluation of intergranular fracture initiation in transition region of retired steam turbine rotor steel using small specimens and the acoustic emission technique (Shimomura, Shoji, and Takahashi), Sept., 257

#### Fracture toughness testing

Absence of stretch zones in austenitic stainless steels fractured at cryogenic temperatures (Purtscher), Sept., 296

### Grading

An experimental sieving machine (Carter), March. 87

#### Guarded hot box

An operational procedure for guarded hot box testing (Gerace, Derderian, Cirignano, Orlandi, and Shu), May, 138 Hot box operating techniques and procedures: a survey (Miller), May, 153

# Heat transmission

Measuring thermal performance of wall assemblies under dynamic temperature conditions (Van Geem), May, 178

# High strain rate

Strain distribution and temperature increase during plane strain compression testing (Colas and Sellars), Nov., 342

### High-strength steels

Interlaboratory evaluation of K<sub>Iscc</sub> and da/ dt determination procedures for highstrength steels (Wei and Novak), Jan., 38

# High temperature

Results of an interlaboratory fatigue test program conducted on Alloy 800H at room and elevated temperatures (Ellis), Sept., 249

Strain distribution and temperature increase during plane strain compression testing (Colas and Sellars), Nov., 342

# Hot box operators

Hot box operating techniques and procedures: a survey (Miller), May, 153

### I-N

### Impact testing

Experience with a digitized instrumented impact testing system (Mark-Markowitch, Rosenthal, and Adam), Sept., 265

# Incinerator fly ash

Cytoxicity of incinerator fly ash on alveolar macrophages (Liu, Wong, and Tam), Jan.. 3

### Inelastic buckling

Inelastic buckling of ASTM Standard E 9 compression specimens (Papirno), May, 133

#### Intense strain region

Characterization of fracture behavior in small punch test by combined recrystallization-etch method and rigid plastic analysis (Mao, Shoji, and Takahashi), Jan., 30

#### Interlaboratory study

Interlaboratory evaluation of ASTM Practice for X-Ray Determination of Retained Austenite in Steel with Near-Random Crystallographic Orientation (E 975) (Hinton), March, 95

#### **ISO 834**

Comparison of severity of exposure in ASTM E 119 and ISO 834 fire resistance tests (Harmathy, Sultan, and MacLaurin), Nov., 371

#### J-integral testing

J-integral testing of aluminum alloys: a new technique for marking crack fronts (Beaver), Nov., 350

#### Low-cycle fatigue

Results of an interlaboratory fatigue test program conducted on Alloy 800H at room and elevated temperatures (Ellis), Sept., 249

### Materials testing

Effects of the average increment  $\Delta C$  on the scatter in da/dN data and mean life cycles in HY-80 steel plate (Betancourt and Matthews), Jan., 20

#### Mathematical modelling

Basic principles of contaminant transfer modeling (Ismail), Sept., 274

### Mechanical properties

A compression test for high strength ceramics (Tracy), Jan., 14

# Metal scrap

Large-scale metals identification and sorting using instrumented techniques (Riley, Brown, and Larrain), July, 239

# Middle cracked tension [M(T)] specimen

Compliance expression for the middle cracked tension specimen: 2a/W = f(EBV/P) (Kirk), Nov., 337

# Modulus of elasticity

A new method of measuring the modulus of elasticity of material by analyzing the relation between loading position and displacement of a beam bent by a traveling load (Kuroda), March, 105

# NBS Smoke Density Chamber

Computerization of the NBS smoke chamber with a microcomputer and an A/D converter (Eichhorn, Barrow, and Davis), Sept., 281

# 9% nickel steels

A statistical analysis of the notch toughness of 9% nickel steels obtained from production heats (Tarby and Stout), Nov., 355

# Nondestructive evaluation

A survey of grade verification methods for steel plants (Henry and Patsey), July, 220

# Nondestructive test method

Monitoring of oxide layer thickness on Zircaloy-2 by the eddy current test method (Sinha, Shah, and Kulkarni), Nov., 333

### O-R

# Operational procedure

An operational procedure for guarded hot box testing (Gerace, Derderian, Cirignano, Orlandi, and Shu), May, 138

### Optical emission

Theory, characteristics, and operating parameters of portable optical emission spectrometers for the on-site sorting and identification of steels (Spencer), July, 231

#### Orientation

A method for determining the tensile properties and anisotropy of aluminum alloys (Srivatsan, Meyers, and Berry), July, 196

#### Oxide layer

Monitoring of oxide layer thickness on Zircaloy-2 by the eddy current test method (Sinha, Shah, and Kulkarni), Nov., 333

#### Particulate composite

A model for predicting fracture toughness of a cementitious particulate composite molded under impact pressure (Crockford and Little), July, 211

#### Pavement durability

A suggested methodology for the analysis of asphalt age-hardening (Ishai), May, 127

#### Pavement performance

A suggested methodology for the analysis of asphalt age-hardening (Ishai), May, 127

#### Plane strain compression tests

Strain distribution and temperature increase during plane strain compression testing (Colas and Sellars), Nov., 342

#### **Production heats**

A statistical analysis of the notch toughness of 9% nickel steels obtained from production heats (Tarby and Stout), Nov., 355

#### Rate of heat release

Prediction of heat release rates of surface materials in large-scale fire tests based on cone calorimeter results (Wickström and Göransson), Nov., 364

### Recrystallization-etch technique

Characterization of fracture behavior in small punch test by combined recrystallization-etch method and rigid plastic analysis (Mao, Shoji, and Takahashi), Jan., 30

### Regression model

A model for predicting fracture toughness of a cementitious particulate composite molded under impact pressure (Crockford and Little), July, 211

### Retained austenite

Interlaboratory evaluation of ASTM Practice for X-Ray Determination of Retained Austenite in Steel with Near-Random Crystallographic Orientation (E 975) (Hinton), March, 95

### Rigid plastic bending

Characterization of fracture behavior in small punch test by combined recrystallization-etch method and rigid plastic analysis (Mao, Shoji, and Takahashi), Jan., 30 S

#### Separation

Large-scale metals identification and sorting using instrumented techniques (Riley, Brown, and Larrain), July, 239

### Settling stability

An experimental technique for studying the dynamic stability of slurry fuels (Kesavan, Chu, Reddy, and Yazdani), Jan., 9

# Sieving

An experimental sieving machine (Carter), March, 87

#### Soils

An experimental sieving machine (Carter), March, 87

# Specimen preparation

An operational procedure for guarded hot box testing (Gerace, Derderian, Cirignano, Orlandi, and Shu), May, 138

## Spectrometry/spectrography

A survey of grade verification methods for steel plants (Henry and Patsey), July, 220

#### Stainless steel

Near-threshold fatigue crack growth behavior for 316 stainless steel (Mills and James), Nov., 325

# Steel grade verification

A survey of grade verification methods for steel plants (Henry and Patsey), July, 220

#### Steels

Effects of the average increment  $\Delta C$  on the scatter in da/dN data and mean life cycles in HY-80 steel plate (Betancourt and Matthews), Jan., 20

### Strain-energy-release rates

Stress analysis of the cracked-lap-shear specimen: an ASTM round-robin (Johnson), Nov., 303

### Stress analysis

Stress analysis of the cracked-lap-shear specimen: an ASTM round-robin (Johnson), Nov., 303

## Stress corrosion cracking

Interlaboratory evaluation of  $K_{lscc}$  and da/dt determination procedures for high-strength steels (Wei and Novak), Jan., 38

# Stretch zone

Absence of stretch zones in austenitic stainless steels fractured at cryogenic temperatures (Purtscher), Sept., 296

### T-Z

# Tensile properties

A method for determining the tensile properties and anisotropy of aluminum alloys (Srivatsan, Meyers, and Berry), July, 196

#### Test method

Results of an interlaboratory fatigue test program conducted on Alloy 800H at room and elevated temperatures (Ellis), Sept., 249

#### Thermal guarding

Design and calibration of a guard added to an existing hot box (Broderick), May, 145

#### Torsion

System for the adaptation of tensile testing machines for executing torsional tests (Wolfseher, Inhelder, and Helbling), March, 122

#### Torsion testing

System for the adaptation of tensile testing machines for executing torsional tests (Wolfseher, Inhelder, and Helbling), March, 122

#### Torsion testing machine

System for the adaptation of tensile testing machines for executing torsional tests (Wolfseher, Inhelder, and Helbling), March, 122

### Transport phenomena

Basic principles of contaminant transfer modeling (Ismail), Sept., 274

#### Ultrasonics

Temperature and composition dependence of Young's modulus in polycrystalline B2 Ni-Al (Harmouche and Wolfenden), March, 101

### Ultrasonic testing

A comparison of three methods for determining elastic constants of wood (Sinclair and Farshad), March, 77

### Utilization

Large-scale metals identification and sorting using instrumented techniques (Riley, Brown, and Larrain), July, 239

# Verification

Theory, characteristics, and operating parameters of portable optical emission spectrometers for the on-site sorting and identification of steels (Spencer), July, 231

# Wood testing

A comparison of three methods for determining elastic constants of wood (Sinclair and Farshad), March, 77

### X-ray diffraction method

Interlaboratory evaluation of ASTM Practice for X-Ray Determination of Retained Austenite in Steel with Near-Random Crystallographic Orientation (E 975) (Hinton), March, 95

### Young's modulus

Temperature and composition dependence of Young's modulus in polycrystalline B2 Ni-Al (Harmouche and Wolfenden), March, 101