

Subject Index

A

Alloys, 71
 amorphous, 49
 Amorphous alloys, 49
 Amorphous metallic ribbons, 49
 Aramid fibers, 120
 Asphalt cement, 176
 D 2170: 176
 D 2171: 176
 ASTM standards
 D 5: 176
 D 36: 176
 D 573: 168
 D 696: 150
 D 1149: 168
 D 1637: 100
 D 2170: 176
 D 2171: 176
 D 3025: 176
 D 4637: 168
 E 691: 22
 E 831: 3, 71
 E 967: 108
 E 1363: 3, 22, 71, 108
 G 26: 168
 Automotive sheet moulding compound,
 150

B

Balsa, 84
 Bamboo, 84
 Beech wood, 84
 Bituminous materials, 176

C

Calibration
 calibration, 3
 D 3025: 176
 E 1363: 22
 thermomechanical analyzers,
 22
 Carbonaceous materials, 3

Cellulose, 84
 acetate, 100
 Cement, asphalt, 176
 Ceramics, 71
 Chromatography, high performance gel
 permeation, 176
 Circuit board, 108, 161
 Coefficient of thermal expansion (See
 Thermal expansion coefficient)
 Composites, 71, 108, 120, 150
 Kevlar, 161
 Cracking, low temperature, 176
 Creep, 3, 71, 138
 Crystallization, 49
 Curie point, 49, 71

D

Dielectric thermal analysis, 129
 Differential scanning calorimetry, 49, 71,
 84, 129, 150, 176
 calibration E 967: 108
 Differential thermal analyzers
 calibration E 967: 108
 Dilatometers, 84, 161
 thermodilatometry, 3, 49
 Dynamic mechanical analysis, 108

E

Elasticity characterization, 84
 Elastomers, 3, 84
 Electrolytes, polymer, 129
 Electronics, thermomechanical analysis
 and, 3
 Epoxy composite, 108, 161
 Epoxy printed circuit board, 108, 161
 Ethylene propylene diene terpolymer
 (EPDM), 168
 Expansion analysis, 108
 Expansion coefficient, for
 thermomechanical analysis (See
 Thermal expansion coefficient)
 Expansion difference, coefficient
 measurements, 32

F

Fiber reinforced composites, effect on
coefficient of thermal expansion, 150
Films, polymer, 100, 120, 129, 138
Flexure analysis, 108
bending, 120

G

Glasses, metallic, 49
Glass point, 84
Glass transition, 3, 49, 108, 120, 129, 168,
176
Heat deflection
temperature, 71
test, 108

H

Heat distortion, 71, 100
Heat exposure, roofing membranes
D 573: 168
Heating rate, 32
High performance gel permeation
chromatography, 176

I

Indentation creep, 138
Indentation hardness testing, 3, 138
Indentation modulus, 138
Interlaboratory testing, temperature
calibration, 22
E 1363: 22

K-L

Kevlar, 161
Linear thermal expansion coefficient (*See*
Thermal expansion coefficient)
Linear variable differential transformer, 32,
120, 138
Load-elongation, roofing membrane, 168

M-N

Magnetic transition temperature, 71
Materials science, application of
thermomechanical analysis in, 3, 71
McLean-Anderson experimental design,
150
Metal halide salt, 129
Metallic glasses, 49

Metallic ribbons, thin, 49
Metals, 3, 49
Molding compound, 150
Molecular size distribution, 176
Motor oil, 71
Neel magnetic transition temperature, 71

O-P

Organic coatings, 138
Ozone exposure, roofing membranes
D 1149: 168
Penetration/indentation, 138
Penetrometry, 84
Phenoxybenzene, 22
Poly (ethylene oxide) (PEO), 129
Polyethyleneterephthalate (PET), 84, 100
Polymers, 3, 71, 138
electrolytes, 129
ethylene propylene diene terpolymer
(EPDM), 168
films, 100, 120, 129, 138
poly (ethylene oxide) (PEO), 129
polyethyleneterephthalate (PET), 84, 100
poly (methyl methacrylate) (PMMA), 84
Poly (methyl methacrylate) (PMMA), 84
Precision, test
E 691: 22
Printed circuit board, 161
epoxy, 108

Q-R

Quebracho blanco, 84
Repeatability, temperature calibration test
E 691: 22
Reproducibility, temperature calibration
test
E 691: 22
Roofing membranes
D 4637: 168
Rubber, 84

S

Scheffe special cubic model, 150
Sequoia sempervirens, 84
Sheet molding compound, 150
Single-ply roofing membranes, 168
Soda lime glass, 84
Soda-titania-silicate glass, 84
Softening point, 138
D 36: 176
Stiffness, 176

Stress relaxation, 3
 Stress relief analysis, 108
 Structural relaxation, 49
 Surface mount technology, 161
 Temperature calibration, differential
 scanning calorimeters
 E 1363: 108

T

Temperature calibration, thermal analyzers
 E 1363: 108
 Temperature calibration,
 thermomechanical analyzers, 100
 E 1363: 22, 108
 Temperature sensor, 32
 Tensile heat distortion temperature
 D 1637: 100
 Tensile stress, 100
 Thermal expansion coefficient, 22, 120,
 150, 161
 D 696: 150
 E 831: 3, 71
 measurement accuracy, 32
 Thermal heat distortion, 100
 Thermodilatometry, 3, 49, 84, 161
 Thermomechanical analysis
 advances, 120

computer interfacing, 138
 dynamic load, 84
 industrial applications, 71
 in materials science, 3
 property characterization by
 intrinsic, 3
 process, 3
 product, 3
 simultaneous, 129
 tensile heat distortion temperature
 determination, 100
 Thermomechanical analyzers, calibration,
 22
 Tin, 22
 Transition temperature, mechanical, 3
 Two point calibration procedure, 22

U-Y

Ultraviolet light exposure, roofing
 membranes
 G 26: 168
 Vicat softening temperature, 71
 Viscoelastic behavior, 84
 Viscosity, 3
 Volume dilatometry, 3
 Yield stress, 71
 Young's modulus, 84