

## Subject Index

### A

Aging, 69  
     hardening, 251  
 Ash, 3, 17  
     municipal solid waste, 129  
 Asphalt cement, 39, 69, 145, 159  
 Asphalt concrete, 210  
     copolymer in, 251  
     gasifier slag in, 276  
     municipal solid waste, 129  
     petroleum contaminated soils  
         in, 183  
     rubber in, recycled, 17, 69,  
         262, 293  
 Asphalt rubber, 17, 84, 233  
     case histories, 262  
     cost effectiveness of, 293  
     laboratory testing of, 39, 69

### B

Binder, 293  
     rubber-modified, 262  
 Boil tests, 117  
 Bottom ash, 3

### C

Cellulose, 3  
 Chip seals, 39  
 Copolymer, ethylene based, 251  
 Cracking, low temperature, 69  
 Creep tests, 210

### D

Deformation, permanent, 69, 210  
 Diametral modulus, 262  
 Direct compression, 197  
 Draindown, 159  
 Dry and wet process, 233  
 Durability, 183  
     effects on, 3

### E

Ethylene based copolymer, 251

### F

Fatigue, 69, 262, 276  
     cracking, 251  
     temperature, 210  
 Fiberglass waste, 145  
 Fiber-reinforced hot-mix  
     asphalt, 145  
 Fly ash, 3  
 Force ductility test, 39  
 Fracture fatigue testing, 210  
 Freeze-thaw tests, 183

### G

Gasifier slag, 276  
 Gel permeation chromatography,  
     39  
 Glasphalt, 117  
 Glass, 3, 17, 117

### H

HMA, recycled asphalt roofing  
     material, 159  
 Hveem mix design, 69  
 Hydraulic conductivity, 183

### I

Interlayers, 293

### L

Leachability, 129  
 Lime, 129  
 Low density polyethylene, 251

### M

Marshall mix design, 69  
 Marshall properties, 159  
 Marshall stabilities, 117, 129

### 306 USE OF WASTE MATERIALS IN HOT-MIX ASPHALT

Membrane interlayer, stress  
  absorbing, 39  
Mineral filler, 145  
Mining refuse, 3  
Moisture damage, 117  
Municipal solid waste aggregate,  
  129

#### P

Permanent deformation, 210  
Petroleum contaminated soils,  
  183  
Polyethylene, 210, 251  
  recycled, 197  
Polymers, 210

#### R

Resilient modulus, 145  
Rheometer  
  bending beam, 159  
  shear, 197  
Roofing, in asphalt mixtures,  
  145, 159  
Rubber, 17, 84, 233, 293  
  crumb, 3, 262  
  modified binder, 262  
  recycled tire, 39, 69, 84  
Rut resistance, 159, 251  
Rutting, 210

#### S

SAM, 233, 293  
SAMI, 233, 293  
Seal coats, 293  
Sensitivity, 276  
Shear rheometer, 197  
Shingles, roofing, 3, 145, 159

Slag, 17  
  gasifier, 276  
Slagphalt, 276  
Softening point, 39  
Soils, petroleum contaminated,  
  183  
Split-mastic asphalt, 145  
Stability, 183  
Stabilization, 197  
Stack emissions, 84  
Steric stabilization, 197  
Stone mastic asphalt, 145, 159  
Strategic Highway Research  
  Program (SHRP), 159  
Strength, effects on, 3  
Stress absorbing membrane  
  (SAM), 233, 293  
Stress absorbing membrane  
  interlayer (SAMI), 39,  
  233, 293  
Stripping, 117

#### T

Temperature fatigue, 210  
Tensile characteristics, 145  
Tensile creep, 69  
Tensile strength, 117  
Tires, rubber, 17, 39, 69, 84, 233,  
  262  
Treated Ash Product, 129

#### V

Viscometer, rotational, 39

#### W

Waste-to-energy, 129  
Wet dry, 183, 233  
Wood lignins, 3