Subject Index

A

Acid effects, 149, 167
ASTM standards
  D 2412: 149
  D 3034: 149

B

Bending strain, 180
Bladder, inflatable, 119
Buckling
  compressive, 52, 113
  progressive, 97

C

Calcium carbonate, 167
Casper, 3, 41
Cement, soil, slurry, 41
Centrifuge test, 180
Charpy, 133
Chemical resistance, 79
Collapse resistance, 97
Compaction, 3
Compression, hoop, 119
Compressive strain, 52
Compressive strength, 41
Construction Productivity
  Advancement Research, 206
Crack growth
  propagation, rapid, 133, 234
  resistance, 66
Cured-in-place pipe, 79, 97, 206

D

Deflection, 3, 149, 180, 195
Deformation, 180, 195
Design, 206, 220
  limits, 119
  standards, 180

E

Encased pipes, 97
Epoxy, 79
Excavation method, 180

F

Fatigue resistance, 66
Fiberglass pipe, 3
Finite element analysis, 25
Flexibility, 180
Flexible pipe, 3, 52, 180
Fly ash, 41

G

Gap effect, radial, 97
Gas pipes, 133, 234

H

Hoop compression, 119
Hydrostatic Design Basis, 66
Hydrostatic pressure, 97

I

Impact resistance, 66
Installation, 41, 180, 206
  sewer pipe, 220
Irwin Corten expression, 133

L

Laboratory tests, 119
Loading, 52
  hoop compression, 119
  parallel plate, 25
  rate, 25, 234
Local strain, 25

M

Manholes, 52
Marston-Spangler theory, 180
Microscopy, 167
O
Oriented pipe, 66

P
Plastic pipe (See also specific types)
buckling, 113
cured-in-place, 79, 97, 206
hoop compression, 119
installation, 41
rapid crack propagation, 133
ring bending, 195
Plate loading, 25
Polyester, 79
Polyethylene, 25, 52, 133, 234
Polyvinyl chloride, 41, 66, 149, 220
pipe compound, 167
Pressure pipe, 66, 133
Pressure testing, 113

R
Radial gap effect, 97
Rapid crack propagation, 133, 234
Rapid long range fracture, 234
Rehabilitation
cured-in-place pipe, 79
techniques, 206
Reinforced plastic mortar, 3, 41
Relaxation modulus, 195
Ring bending, 195

S
Scanning electron microscopy, 167
Sewer acid, 149, 167
Sewer pipe, 149, 167, 220
Short-term modulus, 195
Slip lining, 206
Slurry, 41
Soil cement soil, 41
Soil loads, 220
Soil mechanics, 3
Soil-structure interaction, 3
Soil tests, 3
Standards
ASTM
D 2412: 149
D 3034: 149
international pipe test, 133
Japanese design, 180
Stiffness, 25, 52, 79, 149, 195
Strain, 52
Stress relaxation, 149, 195
Sulphuric acid, 149
aging, 167

T
Thermoplastic, 52
Thermoset resins, 79
Thickness, 133
Thin ring theory, 25
Trenchless technology, 206, 220
Tunneling, 220

V
Vinyl ester, 79
Viscoelasticity, 25, 149, 195

W
Water pipes, 133

X
X-ray microanalysis, 167

Y
Young's modulus, 195