Subject Index

A

Alkaline hydrolysis, nonwoven polyester geotextiles, 4-16

Biodegradation, geosynthetic durability, 26– Biological stress, geosynthetics, 26–32 Brittle fracture, polyethylene geomembranes, 57–76

Capillary barrier, geotextile microstructure, 147-164 Chemical degradation, nonwoven polyester geotextiles, 4-16 Chemical stress, geosynthetics, 26-32 Concrete pipe, geomembrane durability, 17-Crack analysis, polvethylene geomembrane seams. 78-89 Craze analysis, polyethylene geomembrane seams, 78-89 D

Differential scanning calorimetry (DSC) geomembrane durability, 17-25 nitric acid degradation, 48–56 polyester geotextiles, 4-16 Dynamic mechanical analysis (DMA) geomembrane durability, 17-25 polyester geotextiles, 4-16

F

Fiber analysis nonwoven geotextiles, 120–135 polyethylene geomembrane seams, 78–89 Field-welding technique, high-density polyethylene geomembrane, 34-47

Filter criterion, nonwoven geotextiles, 102-Filtration, pore size determination, 90–101 Filtration opening size (FOS) geotextile structure, 90-101 nonwoven geotextiles, 102–119 Flake analysis, polyethylene geomembrane seams, 78-89 Flexible membrane fiber, geosynthetics, 26– Flexible membrane liner brittle fracture, 57-76 stress cracking morphology, 78–89 Frost heaves, geotextile microstructure, 147– 164

G

Geomembrane evaluation durability evaluation, 17-25 high-density polyethylene, 34-47 polvethylene brittle fracture, 57-76 stress cracking morphology, 78–89 Geosynthetics (Geotextiles) freezing effects, 147–164 hazardous waste management facilities, microstructural analysis, 137-146 nonwoven orientation analysis, 120–135 porometry and filtration opening size, 102 - 119thermal analysis, 4–16 performance microstructure, 1-3 physical properties, 4-16 pore size determination, 90-101

thermal analysis, 4–16

Hackle analysis, polyethylene geomembrane seams, 78-89

Hazardous waste, geosynthetic durability, 26-32
High-density polyethylene geomembrane evaluation, 34-47

nitric acid degradation, 48-56 Hydroelectric plant, geomembrane durability, 17-25

I

Infrared spectrometry (IR), nitric acid degradation, 48-56

L

Lamellar analysis, polyethylene geomembrane seams, 78-89
Linear medium density polyethylene (LMDPE), nitric acid degradation, 48-56

M

Macrostructure, geosynthetic performance, 1-3
Mechanical stress, geosynthetics, 26-32
Microscopic analysis
high-density polyethylene geomembrane, 34-47
nonwoven geotextile orientation, 120-135
Microstructural analysis
freezing of geotextites, 147-164
geosynthetic performance, 1-3, 137-146
polymers, 17-25
Microtome, nonwoven geotextiles, 120-135
Municipal waste, geosynthetic durability, 26-32

Ν

Nitric acid degradation, polyethylene geomembrane, 48-56 Nonwoven geotextiles orientation, 120-135 porometry and filtration opening size, 102-119

0

Orientation analysis, nonwoven geotextiles. 120–135
Orientation tensor, nonwoven geotextiles. 120–135

P

Peel test, high-density polyethylene geomembrane, 34-47 Performance evaluation geomembrane durability, 17–25 geosynthetics, 1-3 Poissonian polyhedra, nonwoven geotextiles, 102–119 Polyester geotextiles, thermal analysis, 4–16 Polyethylene geomembranes see also High density polyethylene degradation, 48-56 brittle fracture, 57-76 stress cracking morphology, 78–89 Polymer microstructure, 17–25 Porometry nonwoven geotextiles, 102–119 pore size determination, geotextiles, 90-Property sensing techniques, polyethylene

R

geomembrane degradation, 48-56

Retention criterion, nonwoven geotextiles, 102–119

Scanning electron microscopy (SEM), geo-

textile microstructure, 147–164
Seam evaluation
brittle fracture, 57–76
high-density polyethylene geomembrane,
34–47

Seepage phenomena, microscopic analysis, 137–146

Service life, geosynthetics, 26–32

Shear test, high-density polyethylene geomembrane, 34–47

Soil/geotextile system, microscopic analysis, 137–146

Stabilizers, geosynthetic performance, 1-3 Stress cracking, polyethylene geomembranes, 57-76, 78-89

T

Thermal analysis geomembrane durability, 17–25 polyester geotextiles, 4–16 Thermal-gravimetric analysis (TGA) geomembrane durability, 17–25 nitric acid degradation, 48–56

Thermal mechanical analysis (TMA) geomembrane durability, 17–25 polyester geotextiles, 4–16

Triaxial cell, geotextile microstructure, 147–164

W

Water flow, geotextile microstructure, 147-164

Waterproofing, geomembrane durability, 17-25