

SUBJECT INDEX

- Abaca, 2
Absorbancy, 452
Accelerated bleaching of blends, 167
Accelerated hypochlorite bleaching,
---, by steaming method, 167
---, conjunction with H_2O_2 , 166
---, elevated temperature, 166
---, in danger zone, 166
---, in presence of additives, 167
Acetate fibres,
--, manufacturing of, 35
Acid hydrolysis of cotton, 346
Acrilan, 181
Acrylic fibres, 34
Action of acids, 350
---, on cotton, 345
Action of alkalies,
---, on cotton, 86, 346
---, -, nylon, 31
---, -, polyester, 357
---, -, silk, 86, 356
---, -, wool, 86, 355
Activated sludge plant, 385
Activators for,
--, chlorite bleaching, 183-185
--, H_2O_2 bleaching of silk, 179
--, --, wool, 174
--, peracetic acid, 189
Advantage of bleaching with,
----, chlorite, 187
----, hypochlorite, 167
----, peracetic acid, 191
----, peroxide, 181
Air pollution, 370
Air in kiers, 346, 348
Alkali cellulose, 285
Alkali earth metal, 88
Allwörden reaction, 463
Alpaca, 2
Amino acid content,
---, on silk, 12,15
---, -, wool, 12
Ammonia mercerization, 309
Amorphous region, 4
Amphoteric surfactants, 98
Amylase, 69,418,419
Amylopectin, 70
Analysis of non-cellulosic residues,
----, ash content, 443
----, calcium and magnesium, 444
----, iron and copper, 445
----, silicate and phosphate, 444
Analysis of water,
---, calcium hardness, 443
---, magnesium hardness, 443
---, suspended matter, 442
---, temporary and permanent hardness, 443
---, total hardness, 442
---, total soluble salt, 442
Animal fibres, 2
Anion active substances, 94
Anti-chlor treatment, 164, 166
Anti-redeposition agents,
---, CMC structure, 102

- , PVP structure, 103
- AOX, 168, 372
- Assistants, kier boiling, 134
- Available chlorine, 165, 455
- Auxiliary products in,
 - , emulsifying bath, 101, 103, 106
 - , mercerizing liquor, 250
 - , kier boiling, 90, 91
- Barium activity number, 466
- Bast fibres, 16
- Batch equipment,
 - , cotton desizing, 79
 - , -, scouring, 132
 - , -, bleaching, 217
- Battrice machine, 148
- Becoflex roller, 255
- Becco J- Box, 138, 224
- Ben-bleach system, 230-232, 340
- Beta-alkoxy reaction, 347
- Bicomponent fibres, 43
- Bio-degradation, 380, 384
- Bilateral structure of,
 - , cotton, 11
 - , wool, 10
- Bioplastic fibres, 43
- Bio-polishing, 428
- Bio-technology, 418
- Bleaching agents,
 - , chlorinated trisodium phosphate, 163
 - , classification of, 161
 - , emulsion, 178
 - , oxidising, 161, 168, 188
 - , lithium hypochlorite, 163
 - , peroxygen derivatives, 196
 - , reducing, 192
- Bleaching of,
 - Bleaching of,
 - , acetate, 180
 - , acrylics, 180
 - , blended fabrics, 203-299
 - , cotton, 161, 168, 173, 183, 190
 - , jute, 196-201
 - , linen, 201, 202
 - , nylon, 184, 195
 - , polyester, 184
 - , polyvinyl alcohol, 186
 - , polyvinyl chloride, 185
 - , regenerated fibres, 180
 - , silk, 178
 - , weft-knitted cotton, 193, 194, 209
 - , wool, 192-194
- Bleaching of blended fabrics,
 - , acetate/cellulose, 208
 - , acrylic/cellulose, 207
 - , acrylic/wool, 206
 - , nylon/ cellulose, 206, 207
 - , nylon/wool, 207
 - , polyester/cotton, 203-206
 - , polyester/linen, 208
 - , polyester/wool, 206
 - , viscose/cotton, 209, 210
 - , wool/viscose, 209
- Bleaching of coloured woven goods, 166
- Bleaching equipment, batch,
 - , -, jiggers, 219
 - , -, rope, 221

- , -, spiral jet, 222
- , -, winches, 220
- Bleaching equipment, semi-continuous,
 - , -, pad-batch, 222
 - , -, pad-jig, 224
 - , -, pad-roll, 223
- Bleaching equipment, continuous rope,
 - , --, 3-stage J-Box, 225
 - , --, 2-stage J-Box, 226
 - , --, DuBec system, 228
 - , --, FMC Wet bottom, J-Box, 228
 - , --, single stage plant, 226
- Bleaching equipment, continuous open-width,
 - , --, Ben-bleach, 230
 - , --, combi-steamers, 236-237
 - , --, multilayer conveyer, 235
 - , --, PKS system, 238
 - , --, without plaited strorage, 233
 - , --, -, pre-steeping, 234
- Bleaching, major break-throughs, 180
- Bleaching powder,
 - , action of acid, 162, 165
 - , analysis of, 455
 - , catalytic decomposition of, 165
 - , chemical structure, 161
 - , effect of pH & temp., 165
 - , manufacture of, 162
 - , rate of attack on cotton, 162,165
- Blueing tints, 188
- Boilers,
 - , scaling, 362
 - , water supply, 361
- Brushing, 52
- BOD, 372
- Builders,
 - , definition of, 93
 - , effect on detergency, 93
- Burrs, 107, 433
- Cadoxen, 460,465,468
- Calcium hypochlorite, 128
 - , preparation of, 162
 - , decomposition of, 162
- Carbon fibres, 41
- Carbonisation of wool, 355
 - , enzymatic process, 113
 - , rapid process, 111
- Carbonising machineries, 150-152
- Casein fibre, 27
- Cannizaro intermediates, 349
- Causticization, 287
- Catalytic damage, 350, 354, 358
- Cationic surfactants, 96
- Cellobiose, 4
- Cellulase treatment, 420
 - , effect of temperature, 422
 - , --, pH, 422
- Cellulose,
 - , chemical composition, 3
 - , molecular weight, 4
 - , morphology, 3
 - , structure, 4
- Cellulose I, II, 5, 24, 285, 286
- Cellulose fibres,
 - , continuous bleaching, 224-229
 - , copper number, 352

- , fluidity, 458
- , man-nade, acetate, 25
- , --, cuprammonium rayon, 22
- , --, polynosic, 24
- Chain mercerizing machine, 293
- Chainless mercerizing machine, 294
- Chelating agents, 91
- Chemical structure of,
 - , acetate fibres, 25
 - , acrylics, 34
 - , carbon fibres, 42
 - , chloro fibres, 39
 - , elastomeric fibres, 40
 - , flax, 8
 - , jute, 20
 - , modified nylon, 33
 - , -, polyester, 28-30
 - , nylon, 30, 32
 - , polyester, 28
 - , polypropylene, 38
 - , PTO fibres, 42
 - , silk, 14-16
 - , wool, 11
- Chlorine dioxide, 182
- Chlorite bleaching, 182
- , corrosion of, 186
- Chlorous acid, 182
- Cloud point, 98
- Coagulation of impurities, 382
 - , mechanism, 383
 - , -, bridging, 383
 - , -, charge patch, 383
- Cold bleaching, 365, 369
- Cold desizing, 78
- Colour woven goods,
 - , scouring of, 90, 94
 - , kiering of, 133
 - , bleaching of, 175
- Combined processes,
 - , scouring and bleaching, 180, 185, 210, 337, 339
 - , --, acetate fibres, 189
 - , --, knitted cotton, 210
 - , --, Polyester/cotton, 126, 206
 - , --, silk, 180
 - , scouring and desizing, 79, 84, 336
 - , scouring and milling, 149
 - , scouring and relaxation, 125
 - , solvent assisted, 341
 - , emulsified solvent, 337, 341
 - , enzyme treatment, 342
 - , desizing, scouring and bleaching, 82, 123
- Combined processing equipment,
 - , Ben-bleach, 340
 - , C.R.C. process, 340
 - , desizing / scouring/ bleaching, 399
 - , Flex-nip, 340
 - , Markal process, 340
 - , mercerizing and bleaching, 305
 - , mercerizing and desizing, 309
 - , Reco-Yet, 340
 - , solar system, 342
- Combined plasma and enzyme treatment, 423, 434
- Contact angle, 101
- Cortex in wool, 10
- Cotton fabric,

- , bleaching of, 85-120
- , boiling -off, 89
- , colouring matter, 166
- , desizing of, 69
- , scouring, 86
- , singeing, 55-65
- , mercerizing, 285
- , -, ammonia, 39
- , -, hot, 306
- Crabbing of wool, 110,152
- Critical micelle concentration, 94, 103
- Corpping, 52
- Cross-section of,
 - , acrylics, 35
 - , cotton, 4
 - , flax, 17
 - , hemp, 19
 - , jute, 19
 - , modacrylic, 36
 - , nylon, 31, 34
 - , plasma treated wool, 409
 - , polyester, 29
 - , polypropylene, 38
 - , remie, 18
- Cross-links in wool, 111
- Crystallinity of,
 - , cotton,
 - , polyester, 28
 - , silk, 15
 - , wool, 13
- Decatising apparatus 152-155
- Dechlorinating agent, 204
- Decomposition of H_2O_2 , 77
- Deconvolution count, 464
- Degradation of cellulose, 344-355
 - , during bleaching, 163, 166, 350
 - , -, desizing, 344
 - , -, scouring, 346-349
 - , in hypochlorite, 350-353
 - , -, hydrogen peroxide, 170, 173, 182, 353
 - , -, alkali, 346
- Degradation of,
 - , flax, 203
 - , jute, 197
 - , silk, 179, 194, 356
- Degradation of nylon,
 - , during bleaching, 185
 - , -, chlorite bleaching, 188
- Degradation of polyester, 357
 - , on exposure to γ -rays, 413
- Deagradation of wool, 354-356
 - , in acids and alkalies, 355
 - , -, bleaching, 355
 - , -, carbonising, 355
 - , -, decatising, 355
- Degreasing of wool by plasma, 407
- Degree of polymerisation,
 - , flax, 17
 - , silk, 15
 - , polypropylene, 37
- Degumming of,
 - , remie 118
 - , silk, 114 -116
 - , silk by plasma, 407
- Degumming 351, 399, 409

- , and pH, 116
- , with alkali and acid, 116
- , -, enzymes, 117
- , -, foam, 117
- , -, soap, 116
- , -, synthetic detergent, 116
- , partial, 117
- , weight loss, 115
- Delignification of flax, 203
- Delustering of acetate fibres, 123
- Demineralisation of cotton, 88
- Desizing, 69-84
 - , after-wash, 100
 - , BOD, 377
 - , mixture, 99
 - , of blended fabrics, 78
 - , -, cotton, 69
 - , -, synthetic fabrics, 77
- Desizing of starch,
 - , acid application, 73
 - , enzyme attack, 72 - 75
 - , oxidation method, 75-77
 - , peroxy compounds, 337
- Desizing machineries, 79-84
 - , batch process, 79
 - , pad-batch, 80
 - , pad-roll, 81
 - , pad-steam, 337
 - , pad-store, 338
 - , continuous, 81
 - , -, J-Box, 83
 - , -, rope form, 80
 - , -, solvent, 83
- Desuinting, 230
- Detergency, 44, 101, 103
 - , detachment of oils, 101
 - , effect of CMC, 344
 - , effect of enzyme, 431
 - , theory of soil removal, 102
- Detergents,
 - , anionic group, 118
 - , interfacial tension, 101
 - , cloud point, 88
 - , concentration, 94
 - , non-ionic structure, 97
 - , soiling activity, 101
 - , soil suspending, 101, 102
- Dimensional stability, 270
- Disadvantages of,
 - , bleaching with peroxide, 181
 - , --, bleaching powder, 167
 - , --, sodium chlorite, 187
 - , --, sulphur dioxide, 193
 - , -, of jute, 199
- Draves test, 452
- Dolly machine, 149
- Double bleach of silk, 195
- Dynel, 39
- Ecru silk, 115
- Ecology, 372
- Economy through,
 - , process modification, 368
 - , -, sequence, 369
- Effluent problems in,
 - , auxiliaries, 378

- , bleaching, 378
- , desizing, 376
- , scouring, 377
- Effluent treatment,
 - , and biotechnology, 435
- Elastic recovery of Spandex, 41
- Electrolyte effect during,
 - , desizing, 95
 - , mercerizing, 292
 - , optical brightening, 325
- Electrolytic method,
 - , hypochlorite, 163
 - , peroxide, 169
- Emulsification of oil, 87, 88
- Emulsified sovents, 105
- Emulsion scouring, 337
 - , mechanism of, 106
 - , recipe, 106
- Enzymes,
 - , textile application, 418
 - , chemistry of, 418
 - , mechanism on textile, 418
 - , heat protection, 14
 - , pH response, 74
 - , salt addition, 75
 - , toxins, 422
- Enzymatic degradation during,
 - , bleaching of jute, 201
 - , desizing, 345
 - , bio-polishing, 428
- Enzymatic processing,
 - , advantages of, 424
 - , disadvantages of, 425
- , of cotton, 425
- , -, silk, 428
- , -, wool, 432
- Enzymatic,
 - , bleaching of cotton, 428
 - , --, wool, 432
 - , carbonisation of wool, 433
 - , degumming of silk, 426
 - , desizing of cotton, 426
 - , hand modification of wool, 435
 - , mercerization, 426
 - , shrink proofing of wool, 435
 - , scouring of cotton, 426, 427
- Enzyme effect on,
 - , dyes, 429
 - , mechanical agitation, 431
 - , resins, 430
 - , surfactants, 430
 - , washing process, 431
- Epicuticle, 10
- Eumelanin, 173
- Evaluation of,
 - , lubricants, 446
 - , saponification value, 447
 - , unsaponified matter, 447
 - , whitening efficiency, 468
 - , wax content in cotton, 445
- Fabrics,
 - , blend mercerization of, 291
 - , knitted mercerization of, 303
 - , liquid ammonia treatment of, 309
- Fatty acids, 131

- , in cotton wax, 7, 440
- , in wool, 14, 107
- Fatty alcohols in cotton wax, 7
- Fibril, 4
- Fibrion, 14
- Fibre,
 - , acetate, 25
 - , cotton, 3
 - , flax, 17
 - , hemp, 19
 - , jute, 19
 - , rayon, 22
 - , remie, 18
 - , regenerated proteins, 26
 - , synthetic, 27-54
 - , viscose, 28
 - , wool, 8
- Fibre classification, 2
- Fibre structure,
 - , casein, 27
 - , cotton, 2
 - , linen, 4
 - , protein fibres, 26
 - , rayon, 22, 23
 - , silk, 14, 15
 - , synthetic fibres, 22-24
- Fibrolane, 26
- Flax,
 - , bleaching of, 201, 202
 - , removal of rust, 202
- Flavone pigment, 180
- Fleissner scouring bowl, 146
- Flex-nip, 340
- Flue gas, 382
- Fluidity of cotton, 350, 458
- Fluorescent brightening agents (FBA),
 - , absorption and emission curves, 320
 - , mechanism of, 323
 - , photo-yellowing and tendering, 327
 - , quanitative measurements of, 468
 - , salt sensitivity, 325
 - , solubility in bleach liquor, 326
 - , temperature and exhaustion, 324
 - , wet fastness, 327
- FBA, application to,
 - , --, acrylics, 330
 - , --, blended fabrics, 322
 - , --, cellulosic fibres, 326
 - , --, CDPET fibres, 331
 - , --, nylon, 329
 - , --, polyester 328
 - , --, polyvinyl chloride, 332
 - , --, silk, 328
 - , --, wool, 327
- Gas singeing of,
 - , blended fabrics, 57
 - , cotton, 56
 - , polyester, 57
 - , regenerated fibres, 56
 - , wool, 56
- Gas singeing machines, 58-63
- Galacturonic acid, 8
- Gebauer kier, 135
- Generic names of fibres, 3
- Glass fibres, 43

- Glass-transition temperature of,
----, acrylics, 36
----, olefin fibres, 37
----, polyester, 29
----, Spandex, 41
----, effect on singeing, 57
- Glucose, 4, 449
- Gluconates, 172
- Glutamic acid, 12
- Goldthwait test, 466
- Glycerines, 12, 87
- Hard water, 441
--, effect on cotton, 353
--, --, silk, 199
- Harsh handle of,
--, silk, 179, 199
--, plasma treated wool, 410
- Harrison test, 462
- Heat-setting, 259-277
--, in autoclave, 261
--, bond rupture, 260
--, changes in dyeability, 271
--, --, structure, 272
--, by contact method, 261
--, by convection (tenter), 263
--, by infra-red, 266
--, of knitted fabrics, 265
--, of polyester, 259
--, stages, 230
--, of texturised fabrics, 256
- Heat-setting of blended fabrics,
-----, polyester/cotton, 271
-----, polyester/linen, 272
-----, polyester/silk, 272
-----, polyester/wool, 271
-----, polyvinyl chloride/cellulose, 272
- Heat-setting degree, determination by,
---, --, assessment of handle,
---, --, crease recovery, 469
---, --, iodine absorption, 470
---, --, shrinkage test, 469
- Hemi-cellulose, in
-, -, cotton, 8
-, -, flax, 17
-, -, hemp, 19
-, -, jute, 20, 21, 199
-, -, linen, 201
- Hexa-methylene diamine, 30
- High energy radiation,
---, bleaching of textiles, 413
---, degradation and cross-linking, 412
- High pressure kier, 133
- High wet modulus viscose, 23
- Histidine, 12
- Hydrocellulose, 182, 345
-, staining test, 461
- Hydrosulphite,
-, in bleaching, 193
-, stabilised, 195
-, analysis of, 457
- HLB system, 95
- Hydrogen peroxide,
--, activation of, 170
--, analysis of, 456
--, bleaching action, 169

- , catalytic acceleration, 354
- , decomposition of, 169, 355, 356
- , expression of strength, 169
- , manufacture of, 166, 172
- , reaction with cellulose, 350
- , stabilisers, 170-173
- , reaction with wool, 355
- Hydrogen peroxide bleaching of,
 - , acetate, 180
 - , acrylics, 180
 - , cotton, 172
 - , jute, 97
 - , silk, 178
 - , viscose, 180
 - , wool, 173-178
- Hydrogen peroxide, effect of,
 - , --, concentration, 173
 - , --, fluidity, 170
 - , --, impurities, 169
 - , --, metal ions, 353, 354
 - , --, pH, 172
 - , --, sodium silicate, 353
 - , --, temperature, 172
 - , --, time, 173
 - , --, water, 171
- Hyperfiltration, 388
(see reverse osmosis)
- Hypochlorite bleaching, 162-168
- Hot mercerization,
 - , advantages of, 308
 - , changes in properties, 307
 - , comparison, 307
 - , methods, 307
- Husk in cotton, 88
- Identification of starch, 450
- Immature cotton, 210
- Impurities in,
 - , cotton, 5, 86
 - , jute, 120
 - , silk, 115
 - , water, 361
 - , wool, 13, 107
- Impregnation,
 - , Ben-impacta, 230
- Inorganic salts in,
 - , cotton, 7, 87
 - , jute, 20
 - , synthetic fibres, 120
 - , wool, 126
- Inspection of fabric,
 - , burling, 50
 - , by laser beams, 50
 - , mending, 50
 - , perchng, 49
- Interlock stitch, 51
- Ion-exchange resin, 364
- Jackson kier, 136
- Jafferson Walker Kier, 134
- J-Box,
 - , Becco, 139, 229
 - , bleaching range, 224-226
 - , desizing, 83
 - , Du Bec system, 228
 - , Du Pont, 139, 229

- , FMC wet bottom, 227
- , material of construction, 224
- , preparation range, 126
- Jet washer, 250
- Jig,
 - , process, 79
 - , scouring, 137
- J-piler, 224
- Jute,
 - , bleaching of, 196-198
 - , chemical constitution of, 21
 - , cottonisation of, 201
 - , dimensions of, 20
 - , drawback of, 129
 - , lignin content, 19, 21
 - , properties of, 21
- KB value, 106
- Kenaf, 2
- Keratin, 11
- Kinds of fibres, 1-47
- Kier,
 - , circulation, 33
 - , high pressure, 133
 - , horizontal, 135
 - , Jackson, 138
 - , low pressure, 132
 - , open-width, 136
 - , vertical, 133
 - , Walsh's, 133
- Kier boiling,
 - , assistants, 134
 - , coloured goods, 90
- , effect of air, 348
- , procedure, 134
- , yarn in hank, 109
- Kitties, 447
- Knitted fabrics,
 - , bleaching equipment, 220, 227, 237
 - , heat-setting of, 265
 - , mercerization of, 304
 - , opening of, 224
 - , scouring of, 104
 - , singeing of, 163
 - , solvent scouring, 106
 - , treatment with liquid ammonia, 311
 - , wax content, 446
- Lanolin, 18
- Laminated structure of silk, 15
- Lignin in,
 - , coir, 21
 - , flax, 21
 - , jute, 19, 21, 199
 - , -, action on bleaching, 197
 - , -, removal of, 201
- Lime-soda scouring, 89
- Linen,
 - , bleaching of, 201
 - , -, loss in weight, 14, 201
 - , reaction with chlorite, 202
 - , --, hydrogen peroxide, 202
 - , --, peracetic acid, 202
 - , scouring of, 119
- Lipases, 418
- Liquid ammonia,

- , comparison, 312
- , effect of, 311
- , Prograde process, 310
- , properties of treated goods, 313-315
- , Sanfor-set process, 309
- , treated, test, 466
- Lithium hypochlorite, 163
- Lo-flo process, 142
- Long vegetable fibres, 18
- , aspect ratio, 20
- Loose wool scouring, 107
- Lot number, 52
- Low energy processes, 316, 317
- Lubricants, 69, 103, 104, 446
 - , for wool yarn, 109
 - , for worsted, 110
 - , removal of 110
- Magnesium sulphate in bleaching, 171
- Malt amylases, 73
- Malt enzyme, 449
- Maltose, 78, 89
- Man-made fibres,
 - , acrylics, 34
 - , miscellaneous, 38
 - , nylon, 29
 - , olefin fibres, 37
 - , polyester, 27
 - , regenerated fibres, 22
- Manufacturing process,
 - , acetates, 25
 - , acrylics, 35
 - , nylon, 31
- , polyester, 28
- , rayon, 23
- Markal process, 144
- Maturity of cotton, 466
- Mechanism of bleaching with,
 - , chlorite, 182
 - , hypochlorite, 162, 163
 - , lithium hypochlorite 143
 - , peracetic acid, 189, 190
 - , peroxide, 170
 - , peroxygen compounds 196
 - , reductive agents, 176
 - , TAED/H₂O₂, 190
- Mechanism of reaction with,
 - , alkali, 348
 - , enzyme, 420
 - , in wool scouring, 108
 - , emulsion scouring, 106
- Mechanical cleaning process,
 - , brushing, 52
 - , cropping, 52
 - , shearing, 54
- Mechanical removal of water, 345
- Medulla in wool, 11
- Melanine, 173
- Mending, 50
- Mercerization of,
 - , blended fabrics, 291
 - , cotton, 279-315
 - , flax, 290
 - , knit goods, 303
- Mercerization of cotton,
 - , adsorption of barium hydroxide, 460

- , --, caustic soda, 283
- , --, dyes, 289
- , --, water, 288
- , changes in properties, 280-290
- , in hank form, 302
- Mercerization, effect of,
 - , --, alkalies, 281, 282
 - , --, fabric construction, 288
 - , --, immature cotton, 290
 - , --, lustre, 286
 - , --, structural modification, 285
 - , --, shrinkage, 285, 286
 - , --, swelling, 281
 - , --, temperature, 282
 - , --, tension, 287
 - , --, water during washing, 284
 - , --, wetting agents, 280
- Mercerization,
 - , half mercerization, 289
 - , hot, 306
 - , liquid ammonia, 309
 - , recovery of caustic soda, 387
 - , strength, 288
 - , theory, 283
- Mercerizing efficiency, test by ,
 - , --, barium activity number, 466
 - , --, benzopurpurine, 465
 - , --, deconvolution count, 464
 - , --, Goldthwait method, 466
 - , --, infra-red analysis, 468
 - , --, lustre, 467
 - , --, staining, 466
 - , --, spotting, 465
- , --, swelling index, 465
- , --, X-ray analysis, 467
- Mercerizing machines
 - , causticizing, 298
 - , chainless, 295, 297
 - , clip-chain, 293
 - , cloth (woven), 293
 - , combined, 305
 - , core, 300
 - , Dimensa, 301
 - , dual purpose, 301
 - , Ecommerce, 296, 299
 - , Flex-nip, 300
 - , Goller perfecta, 301
 - , hot, 301
 - , knit goods, 304
 - , liquid ammonia, 311
 - , minimerce, 293
 - , Prograde, 310
 - , recuperator, 297
 - , Sanforset range, 211
 - , yarn, 302
- Methods to generate plasma, 398
- Methylene blue absorption, 352
- Micellisation of surfactants, 100
- Modacrylic fibre, 34, 36
- Modified fibres,
 - , acrylic, 36
 - , nylon, 33
 - , polyester, 30
- Moisture sorption,
 - , determination of, 447
 - , of acetates, 26

- , -, acrylics, 35
- , -, cotton, 288
- , -, flax, 21
- , -, jute, 21
- , -, nylon, 32
- , -, PBI fibres, 34
- , -, polyester, 29
- , -, polypropylene, 38
- , -, viscose, 23

- Molecular structure of,
 - , acrylics, 34
 - , cotton, 4
 - , polyethylene, 37
 - , polypropylene, 37, 38
 - , polyvinyl alcohol, 40
- Motes, 5, 14, 86
- , removal of, 453
- Multi-layer stenter, 261

- Natural fibres, impurities of,
 - , --, cellulose and non-cellulosic, 6
 - , --, cotton, 5
 - , --, cotton wax, 7
 - , --, flax, 21
 - , --, silk, 21
 - , --, wool, 13
- Natural yellowish tint in,
 - , cotton, 16
 - , jute, 196
 - , linen, 202
 - , silk, 178
 - , weft knitted cotton, 210

- , wool, 173
- Nylon, 29-34
 - , manufacturing of, 31
 - , modified, 33
 - , properties of, 32
 - Nylon, bleaching with,
 - , --, peracetic acid, 190
 - , --, peroxygen compounds, 196
 - , --, reductive agents, 195
 - , --, sodium chlorite, 184
 - Nylon, scouring of, 121
 - , heat-setting of, 267

- Olefin fibres, 37
- Opener (fabric), 244
- Open-width bleaching equipment,
 - , bleaching, 281
 - , desizing, 80
 - , scouring, 138
 - , washing, 247-255
- Optical brightening agents,
 - , chemical constitution of, 322
 - , consumption of, 321
 - , mechanism of, 325
 - , application of, 325-337
- Orlon, 42, 181
- Oxon, 196
- Oxidation of cellulose, 352, 358
 - , with bromite, 345
- Oxidative damage of cellulose, 348, 354
 - , wool, 355
- Oxycellulose, 89, 90, 346, 350
 - , determination of, 455

- Pad-steam process, 337
Pad-store process, 338
Paraffin wax, 88
Pectic substances, 5, 6, 88
Peracetic acid,
--, activators for, 189
--, bleaching of acetate, 191
--, --, acrylics, 191
--, --, jute, 198
--, --, nylon, 190
--, --, polyester/cotton, 205
--, manufacture of, 188
--, merits and demerits of, 191
--, properties of, 189
--, stability of, 189
--, in household detergents, 189
Perborates, 189
Perching, 49
Perfumed fibres, 43
Perhydroxyl ions, 179
Permanent hardness, 363
Permonosulphuric acid, 178
Permonosulphonate, 196
Peroxide,
-, advantage and disadvantages, 181
-, bleaching of cotton, 170
--, --, blended fabrics, 206
--, --, silk, 178
--, --, synthetic fibres, 180
--, --, wool, 174
-, volume defined, 169
Photo-bleaching of wool, 194
Photo-stability of bleached jute, 199, 200
Photo-yellowing of,
--, acrylics, 18
--, jute, 199
--, optical brighteners, 325
--, silk, 328
--, wool, 174, 327
Piler, 244
PKS unit, 238
Plasma,
-, concept to, 395
-, cold, 396
-, corona discharge, 396
-, generation, 397
-, glow-discharge, 396
-, interaction with substrate, 404
-, reaction, 405
-, -, initiation for grafting, 406
-, -, oxidation, 406
-, -, peroxide formation, 406
-, -, recombination, 405
Plasma generating equipment,
---, batch, 403
---, continuous, 404
---, corona reactor, 401
---, laboratory, 399
---, low pressure, 401
---, one atmosphere, 402
Plasma treatment for,
---, bleaching, 410
---, desizing, 410, 411
---, improved dye absorption, 407-409
---, mercerization, 410
---, soil repellency, 411

- , surface modification, 407
- , wettability and wetting, 410, 411
- Prevention of corrosion,
 - , in chlorite bleaching, 486
- Prograde process, 309
- Properties of fibres,
 - , acetate, 26
 - , acrylics, 35
 - , cotton, 24
 - , flax, 21
 - , jute, 21
 - , modacrylics, 36
 - , nylon, 32
 - , polyester, 29
 - , viscose, 24
- Protein in cotton, 5, 6, 88
- Polyacrylate of sugar, 172
- Polycarbonate fibre, 43
- Polyethylene fibres, 37
- Polyester, 27-29
- Polynosic fibres, 23
- Polypropylene fibre, 37
- Polyvinyl chloride, 39
- Pollution,
 - , air and water, 372
 - , loads of cotton, 374, 375
 - , --, synthetic fibres, 373
 - , --, wool, 378
 - , assessment of parameters, 372
 - , problems in textiles, 371
 - , tolerance limit, 373
 - , effluents from bleaching, 378
 - , --, desizing, 376
- , --, scouring, 377
- , --, textile auxiliaries, 379
- , --, wool scouring, 378
- , from ozon depletion, 390
- , -, uv radiation, 390
- , -, -, absorption, 390
- , -, -, protection, 391
- Pot eyes, 241
- Potting of woollen fabrics, 110
- Quality control, 404
- Quina fibre, 34
- Rayon,
 - , cellulose acetate, 25
 - , cuprammonium, 22
 - , regenerated cellulose, 23
 - , --, acetate, 25, 26
 - , -, protein, 20
- Reactivity of mercerized cotton, 290
- Reco-yet, 348
- Reductive bleaching of,
 - , nylon, 195
 - , silk, 194
 - , wool, 192
 - , -, with sodium bisulphite, 193
 - , -, -, sodium hydrosulphite, 193
 - , -, -, sulphur dioxide, 192
 - , -, -, thio-urea dioxide, 194
- Relaxation of,
 - , textured nylon, 121
 - , -, polyester, 124
 - , acrylonitrile fibres, 122

- , wool, 110
- Relaxing machines, 44
- Remie, 18
 - , degumming of, 116
- Removal of impurities,
 - , from cotton, 87, 88
- Retting of,
 - , flax, 17
 - , remie, 19
 - , jute, 19
- Reverse osmosis, 386
- Rope,
 - , detwister, 245
 - , expander, 245, 246
 - , piler, 218, 244
 - , squeezing, 244
- Saran, 39
- Sanforset, process, 309
 - , range, 311
- Saponification of wax, 39
- Scouring of,
 - , blended fabrics, 125
 - , cotton, 89
 - , coloured woven goods, 94
 - , Jute, 120
 - , linen, 119
 - , raw wool, 107
 - , synthetic fibres, 120
 - , texturised fabrics, 123
 - , wool yarn and fabric, 109
- Scouring of blended fabrics,
 - , acetate/wool, 128
 - , acrylic/cellulose, 127
 - , acrylic/wool, 127
 - , containing casein, 129
 - , -, viscose, 128
 - , polyester/acrylic, 127
 - , polyester/cotton, 125
 - , polyester/silk, 129
 - , polyester/wool, 126
- Scouring of cotton with,
 - , alkaline agents, 89-94
 - , blended surfactants, 99
 - , caustic soda boil, 89
 - , emulsion process, 183
 - , lime-soda boil, 89
 - , mixed alkali, 90
 - , soda-ash, 90
 - , soap/soda boil, 90
- Scouring efficiency, determination by,
 - , --, Draves test, 452
 - , --, wax content, 452
 - , --, weight loss, 452
- Scouring machines,
 - , batch, rope, 132
 - , -, jig, 137
 - , -, paddle, 125
 - , -, rotary drum, 125
 - , -, open-width, 135
 - , semi-continuous, 138
 - , continuous, 138
 - , -, conveyer system, 142
 - , -, J-Box, 138
 - , -, steamer, 138
 - , -, Vaporloc, 140

- , with relaxing, 142
- , in solvent, 144
- Scouring of wool,
 - , emulsion, 108
 - , multi-stage, 108
 - , raw, 107
 - , refrigeration, 109
 - , suint, 109
- Scouring machine for wool,
 - , fabric, 149
 - , Fleissner, 146
 - , hank, 147
 - , jet, 146
 - , Lo-flo, 147
 - , raw wool, 145
- Scooping, 118
- Scroll roller, 245
- Scutcher, 245
- Sericin, 14, 178
- Semi-continuous bleaching equipment,
 - , pad-batch, 222
 - , pad-roll, 223
 - , pad-jig, 224
- Semi-continuous scouring equipment,
 - , pad-roll, 128
 - , -, perforated cylinder, 136
 - , pad-steam-roll, 138
- Semi-mercerization, 289
- Setting of woollen fabric, 110
- Sequestering agent,
 - , chemical structures, 91
 - , effect of pH, 92
 - , mechanism of action, 95
- , organic, 92
- , organophosphates, 93
- , in scouring, 91
- , --, function of, 91
- Sequential bleaching of,
 - , jute, 198
 - , wool, 126
- Silk,
 - , degumming, 115
 - , gum content, 115
 - , impurities, 115
 - , photomicrograph of, 114
- Silk bleaching with,
 - , hydrogen peroxide, 178
 - , --, process, 179
 - , --, recipe, 179
 - , --, stabilisers, 179
- Silk deguming machines,
 - , continuous, 157
 - , piece goods, 157
 - , star, 157
- Singeing of fabrics,
 - , blended, 67
 - , knitted cotton, 63
 - , polyester, 57
 - , vegetable fibres, 56
 - , wool, 56
- Singeing machines,
 - , gas, 56-60
 - , gas range, 62
 - , knitted fabrics, 64
 - , plate, 57
 - , position of burner, 61

- , rotary cylinders, 58
Silver nitrate test, 462
Sizes,
-, analysis of, 451
-, identification of, 449
-, for filament yarn, 448
-, -, spun yarn, 449
Soap, 96
Sodium bisulphite,
--, analysis of, 457
--, bleaching of wool, 193
Sodium chlorite bleaching,
---, acetate fibres, 185
---, acrylic fibres, 185
---, activation, 183-185
---, analysis of, 456
---, cotton, 183
---, damage of cotton, 182
---, jute, 198
---, mechanism of, 182
---, merits and demerits, 187
---, nylon, 184
---, polyester, 184
---, polyvinyl alcohol, 186
---, problems of corrosion, 186
Sodium hypochlorite bleaching
---, accelerated, 166
---, analysis of, 456
---, catalytic acceleration, 351
---, cotton, 165
---, decomposition of, 105, 163
---, factors effecting, 164
---, in danger zone, 166
---, -, conjunction with H_2O_2 , 166
---, -, presence of additives, 167
---, -, steaming process, 167
---, merits and demerits of, 168
---, preparation of, 162
---, rate of attack, 350
---, reaction species, 352
---, -, with cellulose, 352, 353
Sodium silicate,
--, as stabiliser, 17
--, in kier boiling, 89
Soil repellency, 411
Solar heating, 342
Solvent,
-, booster, 106
-, difficulties, 107
-, detergents, 106
-, desizing machine, 83
-, scouring, 106, 108
-, -, machine, 144, 145
-, -, of wool, 109
-, -, with trichloroethylene, 127
Spin finishing agents, 104
Starch, 69, 70
-, liquifying enzymes, 73
Stabilisers,
-, analysis of, 457
-, bleaching silk, 179
-, -, wool, 174
-, for hydrogen peroxide, 169, 170, 172
-, -, sodium chlorite, 163
-, -, -, analysis of, 468
-, as sequestrants, 171, 172

- , -, sodium silicate, 353
- Stabilisation of wool, 40
- Stabilised hydrosulphite, 192
- , analysis of, 457
- Stain remover,
 - , emulsion scouring, 105
 - , emulsified solvents, 105
 - , oxalic acid 106
- Steamer, 82, 231, 236
- Steam consumption, 365
- Stenter, 260
- Stereo structure of polypropylene, 38
- Stoving process, 192
- , disadvantage of, 193
- Stone washing, 431
- Structure of cotton, 4
 - , silk, 14
 - , wool, 11
- Suint in wool,
 - , constitution of, 13, 14, 107
 - , scouring, 109
- Sulphur dioxide,
 - , bleaching of silk, 194
 - , bleaching of wool, 192
- Sulphurous acid, 193
- Surface activity, in water, 100
- Surface tension, 94, 100, 103
- Surfactants,
 - , amphoteric, 98
 - , anionic, 95
 - , blends, 99
 - , cationic, 96
 - , classification of, 95
- , cloud point , 98
- , HLB, 95
- , non-ionic, 97
- , as detergents, 101
- , -, emulsifier, 103
- , -, scouring agents, 101
- , -, wetting agents, 99
- , in synthetic fibre scouring, 95
- , -, wool scouring, 95
- Tallow (Triglycerides), 87
- , evaluation of, 446
- Tape scouring machine, 127
- Tendering of cotton, 354
 - , during bleaching with bromite, 345
 - , ---, hydrogen peroxide, 353, 354
 - , ---, hypochlorite, 350-352
 - , --, wool, 355
 - , during carbonising of wool, 355
 - , -, desizing, 344
 - , -, scouring, 94, 346, 350
- Tendering of,
 - , silk, 356
 - , -, during degumming, 356
 - , polyester, 357
 - , wool, 354
 - , -, assessment of, 463-464
 - , --, microscopic test, 463
 - , --, solubility test, 463
 - , --, swelling test, 463
- Tendering of cotton, determination of,
 - , --, acidic group, 462
 - , --, copper number, 460

- , --, fluidity, 458
---, --, methylene blue, absorption, 461
---, --, silver nitrate test, 462
Tentering, 260
Temporary hardness, 361
--, analysis of, 442
Textone, 182
Textured fabric,
--, heat-setting of, 260
--, relaxation of, 124
--, scouring of, 123
Textured yarns,
--, spin finishes, 124
--, --, removal of, 124
Thermosetting, 256
Thiourea
-, dioxide, 177, 192, 194
-, reductive bleaching, 176
Throwing of silk, 115
Triacetate, 25
Trichloroethylene, 106, 127
Trithiocyanuric acid, 177
Tussah silk, 178

Ultrafiltration method, 388
Ultramarine blue, 180, 320
Unsaponifiable matter,
---, analysis of, 447
uv radiation, 390
--, protection from, 391, 392
--, surface coating, 414

Vaporloc machine, 140
Vapour phase treatment, 414
Vegetable fibres, 16
--, chemical composition of, 16-21
Vicara, 22
Vinyon, 39
Viscose process, 39
Viscometer for fluidity, 459
Viscosity, 350

Washing of,
--, degummed silk, 118
--, scoured goods, 91
Washing machines,
--, rope, high speed, 241
--, -, slack, 242
--, -, square beater, 243
--, -, tight, 249
--, open-width, aquatex, 253
--, --, Becoflex, 253
--, --, Ben-extracta, 230
--, --, counter-current, 254
--, --, horizontal, 255
--, --, jet, 250
--, --, open soaper, 252
--, --, --, with beater, 252
--, --, roller conveyer, 251
--, --, Rotowa, 249
--, --, -, range, 250
--, --, spray drum, 250
--, --, suction drum, 247
--, --, --, ranges, 248
Waste water,
--, activated sludge, 385

- , assessment of, 372
- , incineration of, 390
- , pollution, 370
- , -, load, 374
- , management activity, 382
- , tolerance limit, 373
- , treatment plant, 380
- Waste water pollution from,
 - , auxiliary effluents, 379
 - , bleaching effluents, 378
 - , desizing effluents, 376
 - , scouring effluents, 377
- Waste water, recovery of,
 - , --, caustic soda, 386
 - , --, sizing agents, 386
 - , --, size mixtures, 389
 - , --, polyvinyl alcohol, 387
- , treatments, 380
- , -, tertiary, 385
- , -, by hyperfiltration, 386
- , -, precipitation and coagulation, 383
- , -, -, removal of inorganic matter, 386
- , -, --, organic matter, 386
- , plant, for wool scouring effluents, 384.
- Water,
 - , alkalinity, 361
 - , analysis of, 435
 - , consumption of, 249, 360
 - , dissolved matter, 362
 - , hardness, 436, 362
 - , turbidity of, 362
 - , for boiler, 362
 - , mangle, 246
- , metal content, 361
- , structure, 100
- , purification process,
 - , --, base exchange, 364
 - , --, lime-soda, 363
 - , --, soda-alum, 363
- Walsh's kier, 133
- Wax/es,
 - , acid value, 447
 - , alcohol, 7
 - , chemical nature, 13
 - , content, evaluation of, 439-441
 - , -, in cotton, 5, 6, 87, 88
 - , -, --, composition of, 7
 - , -, --, evaluation of, 445
 - , -, in flax, 17
 - , -, -, silk, 14
 - , -, -, wool, 10, 13, 107
 - , iodine value, 441
 - , saponification value, 89
 - , --, evaluation of, 449
 - , unsaponified matter, 446
- Weft knitted fabrics,
 - , bleaching of, 209
 - , mercerization of, 303
 - , singeing of, 63
- Wetting agents, 99
- Wetting of textiles, 95, 100
- Whitler rope regulator, 246
- Wild silk, 14
- , bleaching of, 179
- Wool,
 - , action of steam, 110

- , amino acid content of, 12
- , burrs, 107, 103, 104
- , carbonising, 110-113
- , chemical composition of, 12
- , cortex, 9, 10
- , crimp, 8
- , cuticle, 9
- , degradation, 44, 354
- , -, assessment of, 463, 464
- , disulphide exchange, 111, 112
- , -, rupture, 457
- , impurities, 13
- , process sequence, 47
- , pigmented, bleaching, 176
- , rapid carbonising, 113
- , structure, 11
- , yellowness, 11
- Wool bleaching with,
 - , acidic peroxide, 174
 - , alkaline peroxide, 174
 - , emulsified peroxide, 178
 - , mordanting and peroxide, 175
 - , Na₃TTCA, 177
 - , photobleaching, 194
 - , sequential, 176
 - , sodium hydrosulphite, 193
 - , sulphur dioxide, 192
- Wool scouring,
 - , emulsion, 108
 - , refrigeration, 109
 - , solvent extraction, 109
 - , suint, 109
 - , systems, 107
- , yarn, 109
- , -, battrice machine, 148
- , -, tape machine, 148
- , fabric, 113
- , -, Dolly, 149
- , -, rapid, 150
- Wool scouring machine,
 - , conventional, 145
 - , Fleissner, 146
 - , jet, 146
 - , Lo-flo, 147
 - , treatment plant, 384
- Woollen fabric,
 - , carbonising range, 151
 - , -, and washing, 151
 - , -, in solvent, 152
 - , crabbing of, 110
 - , decatising, 155
 - , -, machine, conticrabbing, 153
 - , -, continuous multi-set, 153
 - , -, -, kier decatising, 154
 - , -, -, lustre decatising, 156
 - , -, -, NR decatising, 154
 - , -, -, permanent decatising, 156
 - , singeing of, 56
 - , potting of, 110, 112
- Wool and Worsted fabrics,
 - , burling, 49
 - , mending, 50
 - , perchng, 49
- Xanthation, 23
- Xylanase, 201

- Yarn,
-, liquid NH₃ treatment of, 310
-, mercerization, 302
-, -, with tension, 303
-, -, machine, 302
- Yarn bleaching,
--, package form, 218
--, hank form, 192
- Yellowness in,
--, acrylics, 35
--, cotton, 7, 8, 160
- , flax, 202
--, jute, 199
--, silk, 178
--, nylon, 31
--, wool, 174
- Yellowness of fabrics, 174
---, during bleaching, 350
---, -, scouring, 348, 350
---, -, heat-setting, 184
---, -, optical whitening, 327
---, -, potting, 83