

Subject index

a

acid rain 11
 acid-resistant brick linings 645
 aeration cells 132
 aircraft carriers 50
 aircraft construction 50, 288
 alkali metal sulfate melts 142, 698
 aluminide coatings 650, 666, 668,
 670–674, 677, 679, 715
 aluminide layer 673
 aluminium coatings 288
 aluminizing 673
 anodic dissolution 408
 antiknocking agents 492
 aqueous sulfur dioxide solutions 88, 125
 Aramid fibers 638
 ASTM D-1141 386
 ASTM D-1655 386
 atmospheric corrosion 45, 86, 131, 213,
 247, 435
 atmospheric pollutants 131
 automobile industry 213
 auxiliary radiator 498
 aviation 681

b

bacteria 594
 batteries 580
 Benson boilers 112
 1,4-benzoquinone (as inhibitor) 438
 black liquor 455
 bleaching agent 19
 bleaching processes 10
 blistering 654
 breweries 19
 burner test stand 670, 673, 676, 688

c

calcination 499

carbonation 596
 Celicote® 645
 cellulose industry 19, 170, 192, 214, 237,
 239, 244, 265
 cellulose production 76, 84, 265
 centrifuge 498
 ceramic linings 296
 chamotte brick 615
 chemical vapor deposition 624
 chloroprene rubber coatings 291
 Chromalloy® 679
 Chromalloy® RT-22 678
 chromium-nickel steels 181
 chromium pack cementation 651
 Chronitherm® 70 214
 Chronitherm® 80 214
 circulation pump 497–499
 Claus reaction 9
 coal ashes 513
 coal-fired boilers 110
 coal-fired plants 33
 coal-fired power plant 487
 coal-fired power plants 485
 coal-fired power station 179–180
 coal firing 117
 coastal atmosphere 208
 coastal climate 42
 coastal test climate 41
 coating 660, 664
 coating for containers 644–645
 coating for floors 644
 coating materials 658
 coatings 287, 650, 666, 714–715
 coatings containing yttrium 663
 coatings of chromium 650, 714
 CoCrAlY coatings 650, 677, 715
 CoCrAlY layer 674
 CoCrX coatings 666
 combination bleaches 19

combustion engines 10
 combustion gas 674
 combustion gases 57
 combustion of fossil fuels 126
 composite materials 681–682
 condensed steam collector 497
 condensed steam pump 497
 condenser 497
 copper smelter 50
 corrosion fatigue cracking 420, 434, 447,
 451, 507
 corrosion protection 295
 corrosion protection measures 164
 corundum brick 615
 corundum-containing brick 615
 Cowper stoves 420, 433
 crevice corrosion 170, 175–176, 178–180,
 196, 205, 218, 243
 CrSi-coatings 657
 crystallizer 498
 CVD coatings 662
 CVD process 48

d

Dean test 352, 378–379, 555, 576, 673,
 683
 deionized water 507
 dezincification 405, 407–408
 dezincification potential 406
 Diesel fuel 674, 678
 diffusion layers 674, 679
 discharge electrodes 174
 discharge jets 174
 diselenocarbamic acid (as inhibitor) 439
 disinfectant 19
 dithiocarbamic acid (as inhibitor) 439
 dolphin piles 434
 drilling platforms 434
 duplex coatings 651, 677–679, 715
 Duracor® FRP 645

e

EB-PVD 677
 Edeleanu process 10
 electrically conducting coating 628
 electrofilter 174
 electron beam-PVD 677
 electron beam PVD coating 664
 electronics industry 37, 240, 242, 288
 electroplated chromium 714
 electroplating facilities 606
 erosion corrosion 296, 402, 404, 412–413,
 496, 501, 583

erosion corrosion test rig 414
 evaporators 499, 522, 578
 exhaust vapors condensate collector 497

f

feed pump 499
 fillers 259, 274, 282, 291
 filtrate tank 499
 flexible graphite foil 593
 floor coatings 282
 flue gas ash 36
 flue gas desulfurization 15, 119, 143, 170,
 176–177, 181–182, 184–185, 206, 214,
 225, 227
 flue gas desulfurization plants 16, 36, 120,
 143, 145, 162, 176, 179–181, 183–184,
 218–219, 228, 244, 251, 254–259, 261,
 268–269, 271–274, 278, 280, 283–284,
 286–288, 291, 293, 295–296
 flue gas desulfurization processes 18
 flue gas purification plants 267
 flue gas washing plants 284
 flue gas wash solutions 193
 fluidized bed combustion 126
 food additive 343
 food industry 134, 275
 foodstuffs industry 19, 223
 forsterite brick 615
 fossil fuels 33
 fuel/air ratio 688

g

galvanic corrosion 518, 579
 garbage incineration 141, 159, 175, 256
 garbage incineration plants 162, 164, 218,
 230
 gas desulfurization plants 178
 gaskets 497–499
 gas purification plants 237, 277
 gas turbine blades 678
 gas turbines 650, 674, 677, 682–683, 691,
 705, 714
 gas washers 237
 gas washing solutions 121
 geothermal vapors 55
 glass fiber reinforced coatings 635
 glass flake coatings 272
 glass flakes 274, 278, 280
 glass flake spray coating 274
 glass melting furnaces 125
 Glauber's salt 342, 357, 506, 578, 592,
 606–607, 615, 634
 Glauber's salt melts 446, 608

Glauber's salt solution 447, 465, 496, 630, 646
 gold coatings 55
 gold layers 241
 gold plating 38

h

habor structures 434
 hard coal fly ash 596
 heater 499
 heat exchangers 256, 259, 284, 273, 498
 heat-exchanger tubes 404, 415, 442, 499, 583
 heat recovery condenser 497
 heat recovery plants 141, 175
 heavy metal wastes 606
 heavy oil firing 116
 high speed burner test 691
 high speed burner test stand 683
 high-temperature corrosion 32, 35–36, 208, 211, 215–218, 221, 223–224, 229–230, 235, 246
 High-temperature corrosion in SO₂-containing gases 172
 homopiperazine (as inhibitor) 439
 hot flue gases 176
 hot gas corrosion 663, 665–667
 hot gas corrosion resistance 663, 666–667, 674, 682, 686
 humid climate test 52
 hydrocyclone 499
 hydrogen peroxide 9
 hydrogen sulfide 9

i

imidazolidin-2-thione (as inhibitor) 439
 indoor climate 42
 indoor test climate 41
 industrial atmosphere 45–46, 50, 79, 81, 85, 88, 92, 95, 99, 131–133, 147, 150, 166, 206, 208, 225, 237, 240, 248
 industrial climate 42–43
 industrial furnaces 103, 531
 industrial gas turbines 145, 288
 industrial-marine atmosphere 49
 industrial test climate 41
 inert flakes 280
 inhibiting effect 439
 inhibition efficiency 439–440
 inhibitor efficiency 438
 inhibitors 121, 193, 233, 436, 438
 intergranular corrosion 527
 intermediate tank 498

intermetallic phases 625
 ion implantation 652
 ion plated layer 677

j

Jet A-1 528
 jet fuel 528

k

Keraflamm process 259
 Kesternich apparatus 167
 Kesternich test 27, 52, 131–132, 134, 276
 Knauf Research-Cottrell process 176
 Kraft pulp process 371

l

layers 714
 lead batteries 580
 lead chambers 237
 lead impurities 563
 lead in fuel 529
 leather industry 19
 limestone suspension 280
 linings 287, 293, 296
 London smog 11
 LPPS 677

m

magnesite brick 615
 marine atmosphere 167
 Masonry linings 257
 maximum concentration at work 11
 melter 499
 metallic coatings 705
 metallic materials as coatings 287
 2-methylbenzoquinone (as inhibitor) 438
 milk of lime 279
 moist sulfur dioxide 37, 72, 85, 122, 125, 146, 237, 244, 255, 258, 261, 264, 266, 277
 MoSi₂ coating 521
 motor vehicle exhaust gases 10

n

1,4-naphthaquinone (as inhibitor) 438
 naphthotriazole (as inhibitor) 88
 Na₂SO₄ melts 347
 natural gas burner 665
 nickel-chromium coatings 213
 nickel-chromium-molybdenum alloys 219
 noble metal protective coatings 41
 non-metallic linings 290
 nuclear power plants 469

o

oil-fired boilers 33
 oil firing 117
 organic coated CrNi steel 653
 organic coatings 653–657
 O-ring seals 681
 oxide ceramic coatings 261, 658

p

pack cementation 665, 672–673, 679–680, 715
 packings 290, 680
 paint coatings 655
 palladium-gold layers 241
 paper industry 85, 122, 130, 146, 165, 195, 227, 260, 280
 papermill 78, 84, 88
 PE film 654
 petroleum industry 257
 petroleum refineries 485
 pharmaceutical industry 19
 phenylthiourea (as inhibitor) 439
 phosphorus bronze 122
 PIB film 654
 pitting corrosion 162, 166, 170, 176–179, 195–197, 205, 218, 230, 242–243, 246, 288, 357, 363, 365, 420, 427, 430, 447, 454, 457, 459, 465, 467, 482, 501, 505, 509, 526, 588, 622, 681, 684, 701–702, 704
 pitting corrosion potentials 361, 363–364, 458, 502, 651
 pitting index 177–178, 206
 plasma-sprayed coating 715
 plasma spraying 665
 plasma spraying layer 677
 platinum aluminide 673, 678
 platinum aluminide coatings 674
 platinum vessels 580
 polyester diaphragms 642
 polyester mortar 642
 powder coating 290
 powder pack process 677
 power stations 174
 PP lining 654
 primer coatings 635
 production of chlorine dioxide 238, 245
 production of sodium sulfate 657
 production of sulfur dioxide 11
 production of sulfuric acid 283
 protective layers 663
 protective oxide film 130
 pump wheels 122

PUR lacquer 655
 putties 641
 PVC pastes 634
 PVDF diaphragms 646
 pyrite roasting 12

r

railway tunnels 85
 refining crude oil 10
 refractory materials 615
 regenerate pump 498
 Reynolds number 425
 ring-disk electrode 588
 rubber-coated steels 120
 rubber coatings 291–293, 296
 rubber lined steel 657
 rural atmosphere 208

s

salt slurry pump 499
 salt spray test 52, 528
 sand blasting 684
 screw materials 283
 seals 290, 680
 Sermaloy[®] J 673, 676–677, 679
 Sermetal[®] XP 676–677, 679
 settling tank 498–499
 shirt lining 287
 silicate brick 615
 silicide coatings 662
 silicide protective layers 660
 silicon carbide 662
 silicon nitride 662
 sillimanite brick 615
 silver contacts 40
 silver sulfate 354
 sintered chamotte brick 615
 sodium chlorate reduction 19
 sodium sulfate melt 347
 sodium sulfate solutions 354
 SO₂ production 11
 spinning bath 498
 spinning bath solutions 371, 522–524, 578
 spray coatings 272, 274
 spray nozzles 52
 spread coatings 635
 Sprinkler test 665
 sputtering process 653
 steam boilers 114
 steam generation plants 127
 steam generator plants 74
 steam turbines 702
 sterilizing agent 19

Strauss test 133, 477
 stress corrosion cracking 163, 170, 177,
 183, 192–193, 195, 197, 218, 268, 281,
 354, 367, 401, 404, 408, 411, 419, 433,
 447, 465, 469–473, 475, 477, 480,
 519–520, 698, 702–703
 stress corrosion cracking in SO₂ 120
 sugar factories 85
 sulfate-reducing bacteria 452
 sulfite cellulose industry 172
 Sulfur combustion furnaces 13
 sulfur dioxide production 15
 sulfuric acid plant 130
 sulfuric acid production 11, 19
 sulfurous acid 8, 44, 48, 55, 72, 76, 78, 82,
 84–85, 100, 102, 120, 122, 124, 130,
 133–134, 147, 153, 163, 165–166,
 169–170, 176, 195, 206, 208, 214, 217,
 223, 225, 227, 237, 242–243, 246, 251,
 255, 260–261, 265–266, 271, 275–276,
 282, 284–286, 290, 295–296
 superheater deposits 33, 35
 superheater pipes 32, 110, 157, 174
 superheaters 174
 suspension pump 498
 swelling 275–276, 634, 638, 642, 646, 692,
 711
 synthetic flue gas 221
 synthetic oil ash 513

t

Teflon tanks 283
 textile industry 19
 thickener 498
 tungsten fibers 683
 tungsten inert gas welding 178
 turbine blade materials 222–224
 turbine blades 388

u

unalloyed steel 656
 urban atmosphere 237
 urotropine (as inhibitor) 439

v

vanadium-containing melts 32
 vanadium impurities 347
 Venturi gas washer 252
 Venturi washer 203, 261
 Veranin[®] NS 439
 vertical evaporator 522
 vinyl resin cover layer 656
 volcanic gases 55, 136, 197, 226

w

waste acid 14
 waste acid treatment 14
 waste gas desulfurization plants 196
 waste gas desulfurization unit 237
 waste incinerating plants 442
 waste incineration plants 347
 waste industrial gases 14
 waste sulfuric acid 14
 wastewater 594
 water/cement ratio 598–599, 604
 water ring pump 498–499
 weathering experiments 167
 weld filler materials 178–179
 Wellman-Lord process 177
 wet flue gas desulfurization plants 181
 wet processes 291
 wet washing processes 162
 wine production 154

z

zinc coatings 587
 zinc electrolysis 280
 zirconium silicate brick 615

