

TABLE OF CONTENTS

CHAPTER 1 ADMINISTRATION 1	
Section	
101 General 1	317 Combustible Decorative Materials— Field Flame Test 44
102 Applicability 1	318 Gas Meters and Piping 44
103 Division of Fire Prevention 2	319 Manufactured Home and Recreational Vehicle Sites 44
104 General Authority and Responsibilities 2	320 Excavations and Confined Spaces 44
105 Permits, Fees and Annual Assessment Fees 4	321 Swimming Pool Barriers 45
106 Inspections 15	
107 Maintenance 16	CHAPTER 4 EMERGENCY PLANNING AND PREPAREDNESS 47
108 Fire Safety Advisory Board 16	Section
109 Enforcement 17	401 General 47
110 Unsafe Buildings 18	402 Definitions 47
111 Stop Work Order 19	403 Public Assemblages and Events 48
112 Certificate of Insurance 19	404 Fire Safety and Evacuation Plans 48
113 Fire Watch 19	405 Emergency Evacuation Drills 49
	406 Employee Training and Response Procedures 50
CHAPTER 2 DEFINITIONS 21	407 Hazard Communication 50
Section	408 Use and Occupancy-related Requirements 50
201 General 21	
202 General Definitions 21	CHAPTER 5 FIRE SERVICE FEATURES 55
	Section
CHAPTER 3 GENERAL PRECAUTIONS AGAINST FIRE 35	501 General 55
Section	502 Definitions 55
301 General 35	503 Fire Apparatus Access Roads 55
302 Definitions 35	504 Access to Building Openings and Roofs 58
303 Asphalt Kettles 36	505 Premises Identification 59
304 Combustible Waste Material 36	506 Key Boxes 60
305 Ignition Sources 37	507 Hazards to Fire Fighters 61
306 Motion Picture Projection Rooms and Film 37	508 Fire Protection Water Supplies 61
307 Open Burning and Recreational Fires 37	509 Fire Command Center 67
308 Open Flames 38	510 Fire Department Access to Equipment 68
309 Powered Industrial Trucks and Equipment 40	511 Controlled Access Gates 68
310 Smoking 40	512 Pedestrian Gates 69
311 Vacant Premises 41	513 Emergency Medical Access 69
312 Vehicle Impact Protection 42	514 Hillside Development 70
313 Fueled Equipment 42	
314 Indoor Displays 42	CHAPTER 6 BUILDING SERVICES AND SYSTEMS 81
315 Miscellaneous Combustible Materials Storage 42	Section
316 Commercial Open Flame Cooking Operations 43	601 General 81
	602 Definitions 81
	603 Fuel-fired Appliances 81

TABLE OF CONTENTS

604 Emergency and Standby Power Systems 83
 605 Electrical Equipment, Wiring and Hazards 85
 606 Mechanical Refrigeration 86
 607 Elevator Recall and Maintenance 88
 608 Stationary Storage Battery Systems 88
 609 Commercial Kitchen Hoods 90

CHAPTER 7 FIRE-RESISTANCE-RATED CONSTRUCTION 91

Section
 701 General 91
 702 Definitions 91
 703 Fire-resistance-rated Construction 91
 704 Floor Openings and Shafts 91

CHAPTER 8 INTERIOR FINISH, DECORATIVE MATERIALS AND FURNISHINGS. 93

Section
 801 General 93
 802 Definitions 93
 803 Interior Wall and Ceiling Finish and Trim in Existing Buildings 93
 804 Interior Wall and Ceiling Trim in New and Existing Buildings 95
 805 Upholstered Furniture and Mattresses in New and Existing Buildings 95
 806 Decorative Vegetation in New and Existing Buildings 97
 807 Decorative Materials Other Than Decorative Vegetation in New and Existing Buildings . . . 98
 808 Furnishings Other Than Upholstered Furniture and Mattresses or Decorative Materials in New and Existing Buildings . . . 99

CHAPTER 9 FIRE PROTECTION SYSTEMS. . . 101

Section
 901 General 101
 902 Definitions 103
 903 Automatic Sprinkler Systems 105
 904 Alternative Automatic Fire-extinguishing Systems 114
 905 Standpipe Systems 117
 906 Portable Fire Extinguishers 119
 907 Fire Alarm and Detection Systems 120
 908 Emergency Alarm Systems 131
 909 Smoke Control Systems 132
 910 Smoke and Heat Vents 137

911 Explosion Control 139
 912 Fire Department Connections 140
 913 Fire Pumps 141
 914 Fire Protection Based on Special Detailed Requirements of Use and Occupancy 142
 915 Fire-fighter Air Systems 143

CHAPTER 10 MEANS OF EGRESS 147

Section
 1001 Administration 147
 1002 Definitions 147
 1003 General Means of Egress 148
 1004 Occupant Load 149
 1005 Egress Width 150
 1006 Means of Egress Illumination 151
 1007 Accessible Means of Egress 151
 1008 Doors, Gates and Turnstiles 153
 1009 Stairways 158
 1010 Ramps 161
 1011 Exit Signs 162
 1012 Handrails 162
 1013 Guards 163
 1014 Exit Access 164
 1015 Exit and Exit Access Doorways 166
 1016 Exit Access Travel Distance 167
 1017 Corridors 168
 1018 Exits 169
 1019 Number of Exits and Continuity 169
 1020 Vertical Exit Enclosures 170
 1021 Exit Passageways 173
 1022 Horizontal Exits 173
 1023 Exterior Exit Ramps and Stairways 174
 1024 Exit Discharge 174
 1025 Assembly 176
 1026 Emergency Escape and Rescue 180
 1027 Means of Egress for Existing Buildings 181
 1028 Maintenance of the Means of Egress 185

CHAPTER 11 AVIATION FACILITIES. 187

Section
 1101 General 187
 1102 Definitions 187
 1103 General Precautions 187
 1104 Aircraft Maintenance 187
 1105 Portable Fire Extinguishers 188

1106 Aircraft Fueling 188
 1107 Helistops and Heliports 193

CHAPTER 12 DRY CLEANING 195

Section
 1201 General 195
 1202 Definitions 195
 1203 Classifications 195
 1204 General Requirements 195
 1205 Operating Requirements 196
 1206 Spotting and Pretreating 196
 1207 Dry Cleaning Systems 197
 1208 Fire Protection 197

**CHAPTER 13 COMBUSTIBLE DUST-
 PRODUCING OPERATIONS 199**

Section
 1301 General 199
 1302 Definitions 199
 1303 Precautions 199
 1304 Explosion Protection 199

**CHAPTER 14 FIRE SAFETY DURING
 CONSTRUCTION AND
 DEMOLITION 201**

Section
 1401 General 201
 1402 Definitions 201
 1403 Temporary Heating Equipment 201
 1404 Precautions Against Fire 201
 1405 Flammable and Combustible Liquids 201
 1406 Flammable Gases 202
 1407 Explosive Materials 202
 1408 Owner’s Responsibility for Fire Protection 202
 1409 Fire Reporting 202
 1410 Access for Fire Fighting 202
 1411 Means of Egress 202
 1412 Water Supply for Fire Protection 203
 1413 Standpipes 203
 1414 Automatic Sprinkler System 203
 1415 Portable Fire Extinguishers 203
 1416 Motorized Equipment 204
 1417 Safeguarding Roofing Operations 204
 1418 Fire Safety During Demolition 204

CHAPTER 15 FLAMMABLE FINISHES 205

Section
 1501 General 205
 1502 Definitions 205
 1503 Protection of Operations 205
 1504 Spray Finishing 207
 1505 Dipping Operations 211
 1506 Powder Coating 212
 1507 Electrostatic Apparatus 213
 1508 Organic Peroxides and Dual-component
 Coatings 214
 1509 Indoor Manufacturing of Reinforced
 Plastics 214
 1510 Floor Surfacing and Finishing Operations 215
 1511 Indoors Manufacturing of Reinforced Plastics 215

CHAPTER 16 FRUIT AND CROP RIPENING 217

Section
 1601 General 217
 1602 Definitions 217
 1603 Ethylene Gas 217
 1604 Sources of Ignition 217
 1605 Combustible Waste 217
 1606 Ethylene Generators 217
 1607 Warning Signs 217

CHAPTER 17 PLACES OF ASSEMBLY 219

Section
 1701 General 219
 1702 Definitions 219
 1703 Fire Safety Requirements 219
 1704 Outdoor Assembly Events 221
 1705 Special Amusement Buildings 222
 1706 Outdoor Mazes 222
 1707 Covered Mall Buildings 223

**CHAPTER 18 SEMICONDUCTOR FABRICATION
 FACILITIES 225**

Section
 1801 General 225
 1802 Definitions 225
 1803 General Safety Provisions 225
 1804 Storage 229
 1805 Use and Handling 230

TABLE OF CONTENTS

CHAPTER 19 LUMBER YARDS AND WOODWORKING FACILITIES... 235

Section

1901 General..... 235
 1902 Definitions 235
 1903 General Requirements 235
 1904 Fire Protection 235
 1905 Plywood, Veneer and Composite Board Mills 236
 1906 Log Storage Areas 236
 1907 Storage of Wood Chips and Hogged Material Associated With Timber and Lumber Production Facilities 236
 1908 Storage and Processing of Wood Chips, Hogged Material, Fines, Compost and Raw Product Associated With Yard Waste and Recycling Facilities 236
 1909 Exterior Storage of Finished Lumber Products 237

CHAPTER 20 MANUFACTURE OF ORGANIC COATINGS 239

Section

2001 General..... 239
 2002 Definitions 239
 2003 General Precautions..... 239
 2004 Electrical Equipment and Protection 239
 2005 Process Structures 240
 2006 Process Mills and Kettles 240
 2007 Process Piping 240
 2008 Raw Materials in Process Areas 241
 2009 Raw Materials and Finished Products 241

CHAPTER 21 INDUSTRIAL OVENS 243

Section

2101 General..... 243
 2102 Definitions 243
 2103 Location 243
 2104 Fuel Piping 243
 2105 Interlocks 243
 2106 Fire Protection 244
 2107 Operation and Maintenance 244

CHAPTER 22 MOTOR FUEL-DISPENSING FACILITIES AND REPAIR GARAGES..... 245

Section

2201 General..... 245

2202 Definitions 245
 2203 Location of Dispensing Devices..... 245
 2204 Dispensing Operations 246
 2205 Operational Requirements..... 247
 2206 Flammable and Combustible Liquid Motor Fuel-dispensing Facilities 247
 2207 Liquefied Petroleum Gas Motor Fuel-dispensing Facilities 251
 2208 Compressed Natural Gas Motor Fuel-dispensing Facilities 252
 2209 Hydrogen Motor Fuel-dispensing and Generation Facilities 254
 2210 Marine Motor Fuel-dispensing Facilities..... 257
 2211 Repair Garages..... 259

CHAPTER 23 HIGH-PILED COMBUSTIBLE STORAGE 263

Section

2301 General..... 263
 2302 Definitions 263
 2303 Commodity Classification..... 264
 2304 Designation of High-piled Storage Areas 265
 2305 Housekeeping and Maintenance 265
 2306 General Fire Protection and Life Safety Features 268
 2307 Solid-piled and Shelf Storage 271
 2308 Rack Storage 271
 2309 Automated Storage 272
 2310 Specialty Storage..... 272

CHAPTER 24 TENTS, CANOPIES AND OTHER MEMBRANE STRUCTURES 273

Section

2401 General..... 273
 2402 Definitions 273
 2403 Temporary Tents, Canopies and Membrane Structures 273
 2404 Temporary and Permanent Tents, Canopies and Membrane Structures 275

CHAPTER 25 TIRE REBUILDING AND TIRE STORAGE 279

Section

2501 General..... 279
 2502 Definitions 279
 2503 Tire Rebuilding 279
 2504 Precautions Against Fire..... 279
 2505 Outdoor Storage..... 279

2506 Fire Department Access 280
 2507 Fencing 280
 2508 Fire Protection 280
 2509 Indoor Storage Arrangement 280

**CHAPTER 26 WELDING AND OTHER
 HOT WORK 281**

Section
 2601 General 281
 2602 Definitions 281
 2603 General Requirements 281
 2604 Fire Safety Requirements 282
 2605 Gas Welding and Cutting 283
 2606 Electric Arc Hot Work 283
 2607 Calcium Carbide Systems 283
 2608 Acetylene Generators 283
 2609 Piping Manifolds and Hose Systems for
 Fuel Gases and Oxygen 284

**CHAPTER 27 HAZARDOUS MATERIALS—
 GENERAL PROVISIONS 285**

Section
 2701 General 285
 2702 Definitions 287
 2703 General Requirements 289
 2704 Storage 304
 2705 Use, Dispensing and Handling 307

CHAPTER 28 AEROSOLS 313

Section
 2801 General 313
 2802 Definitions 313
 2803 Classification of Aerosol Products 313
 2804 Inside Storage of Aerosol Products 313
 2805 Outside Storage 315
 2806 Retail Display 316
 2807 Manufacturing Facilities 317

CHAPTER 29 COMBUSTIBLE FIBERS 319

Section
 2901 General 319
 2902 Definitions 319
 2903 General Precautions 319
 2904 Loose Fiber Storage 319
 2905 Baled Storage 320

CHAPTER 30 COMPRESSED GASES 321

Section
 3001 General 321
 3002 Definitions 321
 3003 General Requirements 321
 3004 Storage of Compressed Gases 325
 3005 Use and Handling of Compressed Gases 325
 3006 Medical Gas Systems 326
 3007 Compressed Gases Not Otherwise
 Regulated 326

CHAPTER 31 CORROSIVE MATERIALS 327

Section
 3101 General 327
 3102 Definitions 327
 3103 General Requirements 327
 3104 Storage 327
 3105 Use 327

CHAPTER 32 CRYOGENIC FLUIDS 329

Section
 3201 General 329
 3202 Definitions 329
 3203 General Requirements 329
 3204 Storage 331
 3205 Use and Handling 333

**CHAPTER 33 EXPLOSIVES, PYROTECHNIC
 SPECIAL EFFECTS AND
 FIREWORKS 335**

Section
 3301 General 335
 3302 Definitions 338
 3303 Record Keeping and Reporting 341
 3304 Explosive Materials Storage and Handling 341
 3305 Manufacture, Assembly and Testing of
 Explosives, Explosive Materials and
 Fireworks 348
 3306 Small Arms Ammunition 350
 3307 Blasting 352
 3308 Fireworks Display 354

**CHAPTER 34 FLAMMABLE AND
 COMBUSTIBLE LIQUIDS 357**

Section
 3401 General 357
 3402 Definitions 357

TABLE OF CONTENTS

3403 General Requirements 358
 3404 Storage 362
 3405 Dispensing, Use, Mixing and Handling 383
 3406 Special Operations 388

CHAPTER 35 FLAMMABLE GASES 399

Section

3501 General 399
 3502 Definitions 399
 3503 General Requirements 399
 3504 Storage 400
 3505 Use 401

CHAPTER 36 FLAMMABLE SOLIDS 403

Section

3601 General 403
 3602 Definitions 403
 3603 General Requirements 403
 3604 Storage 403
 3605 Use 403
 3606 Magnesium 403

CHAPTER 37 HIGHLY TOXIC AND TOXIC MATERIALS 407

Section

3701 General 407
 3702 Definitions 407
 3703 Highly Toxic and Toxic Solids and Liquids 408
 3704 Highly Toxic and Toxic Compressed Gases 409
 3705 Ozone Gas Generators 413

CHAPTER 38 LIQUEFIED PETROLEUM GASES 415

Section

3801 General 415
 3802 Definitions 415
 3803 Installation of Equipment 415
 3804 Location of Containers 417
 3805 Prohibited Use of LP-gas 417
 3806 Dispensing and Overfilling 417
 3807 Safety Precautions and Devices 417
 3808 Fire Protection 418
 3809 Storage of Portable LP-gas Containers Awaiting Use or Resale 418
 3810 Containers Not in Service 419
 3811 Parking and Garaging 419

3812 Liquefied Petroleum Gas Exchange Program 420
 3813 Distance Between Point of Transfer and Exposures 420

CHAPTER 39 ORGANIC PEROXIDES 421

Section

3901 General 421
 3902 Definitions 421
 3903 General Requirements 421
 3904 Storage 421
 3905 Use 422

CHAPTER 40 OXIDIZERS 425

Section

4001 General 425
 4002 Definitions 425
 4003 General Requirements 425
 4004 Storage 426
 4005 Use 428

CHAPTER 41 PYROPHORIC MATERIALS 429

Section

4101 General 429
 4102 Definitions 429
 4103 General Requirements 429
 4104 Storage 429
 4105 Use 430
 4106 Silane Gas 430

CHAPTER 42 PYROXYLIN (CELLULOSE NITRATE) PLASTICS 433

4201 General 433
 4202 Definitions 433
 4203 General Requirements 433
 4204 Storage and Handling 433

CHAPTER 43 UNSTABLE (REACTIVE) MATERIALS 435

Section

4301 General 435
 4302 Definitions 435
 4303 General Requirements 435
 4304 Storage 436
 4305 Use 436

CHAPTER 44 WATER-REACTIVE SOLIDS AND LIQUIDS 437

Section

4401 General 437
 4402 Definitions 437
 4403 General Requirements 437
 4404 Storage 437
 4405 Use 438

CHAPTER 45 REFERENCED STANDARDS 439

CHAPTER 46 FEES 447

4601 General 447
 4602 Plan Review Fees 447
 4603 Inspection Fees 447
 4604 Annual Inspection Fees 448
 4605 Assisted Living Facility Inspection Fees 448
 4606 Certificate Fees 448

APPENDIX A BOARD OF APPEALS 463

Section

A101 General 463

APPENDIX B FIRE-FLOW REQUIREMENTS FOR BUILDINGS 465

Section

B101 General 465
 B102 Definitions 465
 B103 Modifications 465
 B104 Fire-flow Calculation Area 465
 B105 Fire-flow Requirements for Buildings 465
 B106 Referenced Standards 465

APPENDIX C FIRE HYDRANT LOCATIONS AND DISTRIBUTION (Not Adopted) 467

Section

C101 General 467
 C102 Location 467
 C103 Number of Fire Hydrants 467
 C104 Consideration of Existing Fire Hydrants 467
 C105 Distribution of Fire Hydrants 467

APPENDIX D FIRE APPARATUS ACCESS ROADS (Not Adopted) 469

Section

D101 General 469
 D102 Required Access 469
 D103 Minimum Specifications 469
 D104 Commercial and Industrial Developments 470
 D105 Aerial Fire Apparatus Access Roads 470
 D106 Multiple-family Residential Developments 470
 D107 One- or Two-family Residential Developments 471

APPENDIX E HAZARD CATEGORIES (Not Adopted) 473

Section

E101 General 473
 E102 Hazard Categories 473
 E103 Evaluation of Hazards 476

APPENDIX F HAZARD RANKING (Not Adopted) 479

Section

F101 General 479
 F102 Referenced Standards 479

APPENDIX G CRYOGENIC FLUIDS—WEIGHT AND VOLUME EQUIVALENTS (Not Adopted) 481

Section

G101 General 481

INDEX 483

