

TABLE OF CONTENTS

CHAPTER 1 SCOPE AND ADMINISTRATION..... 1

PART 1—SCOPE AND APPLICATION 1

Section

101	General	1
102	Applicability	1

PART 2—ADMINISTRATION AND ENFORCEMENT 2

103	Department of Building Safety	2
104	Duties and Powers of Building Official	2
105	Permits	4
106	Floor and Roof Design Loads	5
107	Submittal Documents	5
108	Temporary Structures and Uses	8
109	Fees	9
110	Inspections	9
111	Certificate of Occupancy	10
112	Service Utilities	11
113	Board of Appeals	11
114	Violations	11
115	Stop Work Order	12
116	Unsafe Structures and Equipment	12

CHAPTER 2 DEFINITIONS 15

Section

201	General	15
202	Definitions	15

CHAPTER 3 USE AND OCCUPANCY CLASSIFICATION 27

Section

301	General	27
302	Classification	27
303	Assembly Group A	27
304	Business Group B	28
305	Educational Group E	28
306	Factory Group F	28
307	High-hazard Group H	29
308	Institutional Group I	37
309	Mercantile Group M	39
310	Residential Group R	39
311	Storage Group S	40
312	Utility and Miscellaneous Group U	41

CHAPTER 4 SPECIAL DETAILED REQUIREMENTS BASED ON USE AND OCCUPANCY..... 43

Section

401	Scope	43
402	Covered Mall and Open Mall Buildings	43
403	High-rise Buildings	46
404	Atriums	49
405	Underground Buildings	50
406	Motor-vehicle-related Occupancies	51
407	Group I-2	55
408	Group I-3	56
409	Motion Picture Projection Rooms	58
410	Stages and Platforms	59
411	Special Amusement Buildings	61
412	Aircraft-related Occupancies	61
413	Combustible Storage	64
414	Hazardous Materials	64
415	Groups H-1, H-2, H-3, H-4 and H-5	69
416	Application of Flammable Finishes	80
417	Drying Rooms	81
418	Organic Coatings	81
419	Live/work Units	81
420	Groups I-1, R-1, R-2, R-3	82
421	Hydrogen Cutoff Rooms	82
422	Ambulatory Health Care Facilities	83
423	Storm Shelters	83
424	Piers and Wharves	83
425	Mausoleums and Columbariums	84

CHAPTER 5 GENERAL BUILDING HEIGHTS AND AREAS 85

Section

501	General	85
502	Definitions	85
503	General Building Height and Area Limitations ..	85
504	Building Height	85
505	Mezzanines	87
506	Building Area Modifications	88
507	Unlimited Area Buildings	89
508	Mixed Use and Occupancy	90
509	Special Provisions	93

TABLE OF CONTENTS

CHAPTER 6 TYPES OF CONSTRUCTION..... 95

Section

601 General 95
 602 Construction Classification 95
 603 Combustible Material in
 Type I and II Construction 97

CHAPTER 7 FIRE AND SMOKE PROTECTION FEATURES 99

Section

701 General 99
 702 Definitions 99
 703 Fire-resistance Ratings and Fire Tests 100
 704 Fire-resistance Rating of
 Structural Members 101
 705 Exterior Walls 103
 706 Fire Walls 107
 707 Fire Barriers 109
 708 Shaft Enclosures 110
 709 Fire Partitions 114
 710 Smoke Barriers 115
 711 Smoke Partitions 115
 712 Horizontal Assemblies 115
 713 Penetrations 116
 714 Fire-resistant Joint Systems 119
 715 Opening Protectives 120
 716 Ducts and Air Transfer Openings 123
 717 Concealed Spaces 127
 718 Fire-resistance Requirements for Plaster 129
 719 Thermal- and Sound-insulating Materials 130
 720 Prescriptive Fire Resistance 130
 721 Calculated Fire Resistance 131

CHAPTER 8 INTERIOR FINISHES 181

Section

801 General 181
 802 Definitions 181
 803 Wall and Ceiling Finishes 181
 804 Interior Floor Finish 184
 805 Combustible Materials in Type I
 and II Construction 184
 806 Decorative Materials and Trim 184
 807 Insulation 185
 808 Acoustical Ceiling Systems 185

CHAPTER 9 FIRE PROTECTION SYSTEMS... 187

Section

901 General 187
 902 Definitions 187
 903 Automatic Sprinkler Systems 190
 904 Alternative Automatic
 Fire-extinguishing Systems 195
 905 Standpipe Systems 196
 906 Portable Fire Extinguishers 198
 907 Fire Alarm and Detection Systems 199
 908 Emergency Alarm Systems 207
 909 Smoke Control Systems 208
 910 Smoke and Heat Vents 215
 911 Fire Command Center 217
 912 Fire Department Connections 217
 913 Fire Pumps 218
 914 Emergency Responder Safety Features 218
 915 Emergency Responder Radio Coverage 219

CHAPTER 10 MEANS OF EGRESS 221

Section

1001 Administration 221
 1002 Definitions 221
 1003 General Means of Egress 222
 1004 Occupant Load 223
 1005 Egress Width 225
 1006 Means of Egress Illumination 225
 1007 Accessible Means of Egress 226
 1008 Doors, Gates and Turnstiles 226
 1009 Stairways 232
 1010 Ramps 235
 1011 Exit Signs 236
 1012 Handrails 237
 1013 Guards 238
 1014 Exit Access 239
 1015 Exit and Exit Access Doorways 240
 1016 Exit Access Travel Distance 241
 1017 Aisles 242
 1018 Corridors 243
 1019 Egress Balconies 244
 1020 Exits 244
 1021 Number of Exits and Continuity 244
 1022 Exit Enclosures 245
 1023 Exit Passageways 247
 1024 Luminous Egress Path Markings 248

1025 Horizontal Exits 249
 1026 Exterior Exit Ramps and Stairways. 250
 1027 Exit Discharge. 250
 1028 Assembly. 251
 1029 Emergency Escape and Rescue 256

**CHAPTER 11 ACCESSIBILITY
 AMENDMENT 257**

Section
 1101 General 257
 1102 Definitions. 258
 1103 Scoping Requirements 260
 1104 Accessible Route 261
 1105 Accessible Entrances 262
 1106 Parking and Passenger Loading Facilities. 262
 1107 Dwelling Units and Sleeping Units. 263
 1108 Special Occupancies. 267
 1109 Other Features and Facilities 269
 1110 Signage 272
 1111 Clustered Mailboxes. 273

CHAPTER 12 INTERIOR ENVIRONMENT 335

Section
 1201 General 335
 1202 Definitions. 335
 1203 Ventilation. 335
 1204 Temperature Control. 336
 1205 Lighting. 336
 1206 Yards or Courts 337
 1207 Sound Transmission 337
 1208 Interior Space Dimensions. 337
 1209 Access to Unoccupied Spaces 338
 1210 Surrounding Materials 338

CHAPTER 13 ENERGY EFFICIENCY. 339

Section
 1301 General 339

CHAPTER 14 EXTERIOR WALLS 341

Section
 1401 General 341
 1402 Definitions. 341
 1403 Performance Requirements 341
 1404 Materials 342

1405 Installation of Wall Coverings 343
 1406 Combustible Materials on the
 Exterior Side of Exterior Walls 347
 1407 Metal Composite Materials (MCM) 348
 1408 Exterior Insulation and
 Finish Systems (EIFS) 349

**CHAPTER 15 ROOF ASSEMBLIES AND
 ROOFTOP STRUCTURES. 351**

Section
 1501 General 351
 1502 Definitions. 351
 1503 Weather Protection 351
 1504 Root Drainage. 352
 1505 Performance Requirements 352
 1506 Fire Classification. 353
 1507 Materials 353
 1508 Requirements for Roof Coverings. 354
 1509 Roof Insulation 363
 1510 Rooftop Structures 363
 1511 Reroofing 365

CHAPTER 16 STRUCTURAL DESIGN 367

Section
 1601 General 367
 1602 Definitions and Notations 367
 1603 Construction Documents 368
 1604 General Design Requirements 369
 1605 Load Combinations 371
 1606 Dead Loads 373
 1607 Live Loads. 373
 1608 Snow Loads. 379
 1609 Wind Loads. 379
 1610 Soil Lateral Loads. 387
 1611 Rain Loads 387
 1612 Flood Loads 387
 1613 Earthquake Loads 389
 1614 Structural Integrity 401

**CHAPTER 17 STRUCTURAL TESTS AND
 SPECIAL INSPECTIONS 407**

Section
 1701 General 407
 1702 Definitions. 407

TABLE OF CONTENTS

1703 Approvals 407
 1704 Special Inspections 408
 1705 Statement of Special Inspections 419
 1706 Special Inspections for Wind Requirements . . . 420
 1707 Special Inspections for Seismic Resistance . . . 421
 1708 Structural Testing for Seismic Resistance 422
 1709 Contractor Responsibility 423
 1710 Structural Observations 423
 1711 Design Strengths of Materials 423
 1712 Alternative Test Procedure 423
 1713 Test Safe Load 423
 1714 In-situ Load Tests 423
 1715 Preconstruction Load Tests 424
 1716 Material and Test Standards 425

CHAPTER 18 SOILS AND FOUNDATIONS 427

Section

1801 General 427
 1802 Definitions 427
 1803 Geotechnical Investigations 427
 1804 Excavation, Grading and Fill 432
 1805 Dampproofing and Waterproofing 433
 1806 Presumptive Load-bearing Values of Soils 435
 1807 Foundation Walls, Retaining Walls and
 Embedded Posts and Poles 435
 1808 Foundations 442
 1809 Shallow Foundations 444
 1810 Deep Foundations 446

CHAPTER 19 CONCRETE 459

Section

1901 General 459
 1902 Definitions 459
 1903 Specifications for Tests and Materials 459
 1904 Durability Requirements 459
 1905 Concrete Quality, Mixing and Placing 461
 1906 Formwork, Embedded Pipes and
 Construction Joints 462
 1907 Details of Reinforcement 462
 1908 Modifications to ACI 318 462
 1909 Structural Plain Concrete 465
 1910 Minimum Slab Provisions 465
 1911 Anchorage to Concrete—Allowable
 Stress Design 466
 1912 Anchorage to Concrete—Strength Design 466
 1913 Shotcrete 467

1914 Reinforced Gypsum Concrete 468
 1915 Concrete-filled Pipe Columns 468

CHAPTER 20 ALUMINUM 469

Section

2001 General 469
 2002 Materials 469

CHAPTER 21 MASONRY 471

Section

2101 General 471
 2102 Definitions and Notations 471
 2103 Masonry Construction Materials 474
 2104 Construction 475
 2105 Quality Assurance 476
 2106 Seismic Design 478
 2107 Allowable Stress Design 478
 2108 Strength Design of Masonry 478
 2109 Empirical Design of Masonry 479
 2110 Glass Unit Masonry 480
 2111 Masonry Fireplaces 481
 2112 Masonry Heaters 483
 2113 Masonry Chimneys 483

CHAPTER 22 STEEL 489

Section

2201 General 489
 2202 Definitions 489
 2203 Identification and Protection of Steel
 for Structural Purposes 489
 2204 Connections 489
 2205 Structural Steel 489
 2206 Steel Joists 490
 2207 Steel Cable Structures 491
 2208 Steel Storage Racks 491
 2209 Cold-formed Steel 491
 2210 Cold-formed Steel Light-frame
 Construction 491

CHAPTER 23 WOOD 493

Section

2301 General 493
 2302 Definitions 493
 2303 Minimum Standards and Quality 494
 2304 General Construction Requirements 498

2305	General Design Requirements for Lateral-force-resisting Systems	508	2607	Light-transmitting Plastic Wall Panels	582
2306	Allowable Stress Design	510	2608	Light-transmitting Plastic Glazing	583
2307	Load and Resistance Factor Design.	511	2609	Light-transmitting Plastic Roof Panels	583
2308	Conventional Light-frame Construction	511	2610	Light-transmitting Plastic Skylight Glazing	584
CHAPTER 24 GLASS AND GLAZING		563	2611	Light-transmitting Plastic Interior Signs.	584
Section					
2401	General	563	2612	Fiber Reinforced Polymer and Fiberglass-reinforced Polymer.	585
2402	Definitions.	563	2613	Reflective Plastic Core Insulation	586
2403	General Requirements for Glass	563	CHAPTER 27 ELECTRICAL 587		
2404	Wind, Snow, Seismic and Dead Loads on Glass.	563	Section		
2405	Sloped Glazing and Skylights	565	2701	General	587
2406	Safety Glazing	566	2702	Emergency and Standby Power Systems.	587
2407	Glass in Handrails and Guards	568	CHAPTER 28 MECHANICAL SYSTEMS 589		
2408	Glazing in Athletic Facilities	568	Section		
2409	Glass in Elevator Hoistways and Elevator Cars.	569	2801	General	589
CHAPTER 25 GYPSUM BOARD AND PLASTER		571	CHAPTER 29 PLUMBING SYSTEMS 591		
Section					
2501	General	571	Section		
2502	Definitions.	571	2901	Plumbing Code	591
2503	Inspection	571	2902	Number of Fixtures	591
2504	Vertical and Horizontal Assemblies	571	2903	Drinking Fountains.	592
2505	Shear Wall Construction.	571	2904	Alteration of Existing Group A Occupancies	592
2506	Gypsum Board Materials	572	CHAPTER 30 ELEVATORS AND CONVEYING SYSTEMS 595		
2507	Lathing and Plastering	572	Section		
2508	Gypsum Construction.	572	3001	General	595
2509	Gypsum Board in Showers and Water Closets	573	3002	Hoistway Enclosures	595
2510	Lathing and Furring for Cement Plaster (Stucco).	574	3003	Emergency Operations	595
2511	Interior Plaster	574	3004	Hoistway Venting	596
2512	Exterior Plaster	575	3005	Conveying Systems.	596
2513	Exposed Aggregate Plaster	575	3006	Machine Rooms	597
CHAPTER 26 PLASTIC		577	3007	Fire Service Access Elevator	597
Section					
2601	General	577	3008	Occupant Evacuation Elevators	598
2602	Definitions.	577	CHAPTER 31 SPECIAL CONSTRUCTION. 601		
2603	Foam Plastic Insulation	577	Section		
2604	Interior Finish and Trim.	580	3101	General	601
2605	Plastic Veneer	581	3102	Membrane Structures	601
2606	Light-transmitting Plastics.	581	3103	Temporary Structures.	602
			3104	Pedestrian Walkways and Tunnels.	602
			3105	Awnings and Canopies	603
			3106	Marquees.	604

TABLE OF CONTENTS

3107 Signs 604
3108 Telecommunication and Broadcast Towers.... 604
3109 Swimming Pool Enclosures and
Safety Devices 604
3110 Automatic Vehicular Gates 604

**CHAPTER 32 ENCROACHMENTS INTO THE
PUBLIC RIGHT-OF-WAY 605**

Section
3201 General 605
3202 Encroachments 605

**CHAPTER 33 SAFEGUARDS DURING
CONSTRUCTION 607**

Section
3301 General 607
3302 Construction Safeguards 607
3303 Demolition 607
3304 Site Work..... 607
3305 Sanitary 607
3306 Protection of Pedestrians 608
3307 Protection of Adjoining Property 609
3308 Temporary Use of Streets, Alleys and
Public Property 609
3309 Fire Extinguishers..... 609
3310 Means of Egress 609
3311 Standpipes..... 609
3312 Automatic Sprinkler System 610

CHAPTER 34 EXISTING STRUCTURES..... 611

Section
3401 General 611
3402 Definitions..... 611
3403 Additions..... 611
3404 Alterations..... 612
3405 Repairs..... 613
3406 Fire Escapes 614
3407 Glass Replacement 614
3408 Change of Occupancy..... 614
3409 Historic Buildings..... 615
3410 Moved Structures 615
3411 Accessibility for Existing Buildings 615
3412 Compliance Alternatives 615

CHAPTER 35 REFERENCED STANDARDS..... 627

**APPENDIX A EMPLOYEE
QUALIFICATIONS 647**

Section
A101 Building Official Qualifications 647
A102 Referenced Standards..... 647

APPENDIX B BOARD OF APPEALS 649

Section
B101 General 649

**APPENDIX C GROUP U—AGRICULTURAL
BUILDINGS 651**

Section
C101 General 651
C102 Allowable Height and Area 651
C103 Mixed Occupancies 651
C104 Exits..... 652

APPENDIX D FIRE DISTRICTS 653

Section
D101 General 653
D102 Building Restrictions 653
D103 Changes to Buildings 654
D104 Buildings Located Partially in the
Fire District..... 654
D105 Exceptions to Restrictions in Fire District 654
D106 Referenced Standards..... 655

**APPENDIX E SUPPLEMENTARY
ACCESSIBILITY
REQUIREMENTS 657**

Section
E101 General 657
E102 Definitions..... 657
E103 Accessible Route 657
E104 Special Occupancies..... 657
E105 Other Features and Facilities 658
E106 Telephones 658
E107 Signage 659
E108 Bus Stops..... 660
E109 Transportation Facilities and Stations 660
E110 Airports 661
E111 Referenced Standards..... 661

APPENDIX F RODENTPROOFING 663

Section

F101 General 663

APPENDIX G FLOOD-RESISTANT CONSTRUCTION 665

Section

G101 Administration 665

G102 Applicability 665

G103 Powers and Duties 665

G104 Permits 666

G105 Variances 666

G201 Definitions 667

G301 Subdivisions 668

G401 Site Improvement 668

G501 Manufactured Homes 668

G601 Recreational Vehicles 669

G701 Tanks 669

G801 Other Building Work 669

G901 Temporary Structures and
Temporary Storage 669

G1001 Utility and Miscellaneous Group U 669

G1101 Referenced Standards 670

APPENDIX H SIGNS 671

Section

H101 General 671

H102 Definitions 671

H103 Location 671

H104 Identification 671

H105 Design and Construction 672

H106 Electrical 672

H107 Combustible Materials 672

H108 Animated Devices 672

H109 Ground Signs 672

H110 Roof Signs 673

H111 Wall Signs 673

H112 Projecting Signs 673

H113 Marquee Signs 674

H114 Portable Signs 674

H115 Referenced Standards 674

APPENDIX I PATIO COVERS 675

Section

I101 General 675

I102 Definitions 675

I103 Exterior Openings 675

I104 Structural Provisions 675

APPENDIX J GRADING 677

Section

J101 General 677

J102 Definitions 677

J103 Permits Required 677

J104 Permit Application and Submittals 677

J105 Inspections 678

J106 Excavations 678

J107 Fills 678

J108 Setbacks 678

J109 Drainage and Terracing 680

J110 Erosion Control 680

J111 Referenced Standards 680

APPENDIX K ADMINISTRATIVE PROVISIONS 681

Section

K101 General 681

K102 Applicability 681

K103 Permits 681

K104 Construction Documents 682

K105 Alternative Engineered Design 682

K106 Required Inspections 682

K107 Prefabricated Construction 682

K108 Testing 683

K109 Reconnection 683

K110 Condemning Electrical Systems 683

K111 Electrical Provisions 683

APPENDIX L WILDFIRE HAZARD MITIGATION 685

L101 General 685

APPENDIX N LOW-RISE RESIDENTIAL MULTIFAMILY DWELLING CONSTRUCTION 687

AN101 Scope 687

AN102 Definitions 688

AN103 Building Planning 689

AN104 Fire-resistance-rated Construction 692

AN105 Interior Finishes 697

AN106 Interior Environment 697

AN107 Floors, Floor/ceilings, Roof/ceilings
and Roof Coverings 700

TABLE OF CONTENTS

AN108 RESERVED
AN109 Fire Protection Systems 700
AN110 Means of Egress 701
AN111 Accessibility 708
AN112 Foundations, Concrete and Soils 708
AN113 Chimneys and Fireplaces 708
AN114 Wood 708
AN201 Mechanical 708
AN301 Plumbing Systems 708
AN401 Electrical 708
AN501 Special Construction 708
AN601 Special Provisions 709

**APPENDIX SR SPECIAL RESIDENCE
(ASSISTED SELF-PRESERVATION)
OCCUPANCIES 711**

SR101 General 711
SR102 Definitions 711
SR103 Classification 712
SR104 Special Detailed Occupancy Requirements . . . 712
SR105 Building Height Requirements 713
SR106 Fire-resistive-rated Construction 713
SR107 Fire Protection Systems 713
SR108 Means of Egress 714
SR109 Occupancy Classification Guide 715

INDEX 717