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Michigan Building Code

Incorporating the 2003 edition of
the International Building Code

2003

**Michigan Department of Labor & Economic Growth
Bureau of Construction Codes & Fire Safety**



Providing for Michigan's Safety in the Built Environment

2003 Michigan Building Code

First Printing

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Introduction

Amendments to the Construction Code Rules (Michigan Building Code) take effect February 29, 2004. All units of government who administer and enforce a construction code are required to use the rules promulgated under 1972 PA 230, the Stille-DeRossett-Hale Single State Construction Code Act. The Act was amended by 1999 PA 245, effective December 28, 1999, requiring the use of the State Codes as they are updated by rules promulgated after October 15, 1999.

These rules adopt by reference, in R 408.30401 of the Michigan Administrative Code, the International Building Code, 2003 edition, as published by the International Code Council, Inc., and includes deletions, additions, and amendments to the International Code. The subsequent rules either add, amend, or delete certain provisions of the International Building Code. The deletions, additions, and amendments have been incorporated into this publication for ease of use.

Michigan amendments are identified as follows:

Double vertical lines denote amendments and additions promulgated by the State of Michigan, Department of Labor & Economic Growth, modifying the 2003 International Building Code. An asterisk in the margin identifies sections of the 2003 International Building Code not adopted by the State of Michigan.

Additional copies of this publication are available from the Michigan Department of Labor & Economic Growth, Bureau of Construction Codes and Fire Safety, P.O. Box 30255, Lansing, Michigan 48909 at a cost of \$65.00. Please make checks payable to the State of Michigan. This publication is also available from International Code Council, 5203 Leesburg Pike, Suite 600, Falls Church, VA 22041.

Additional information relating to code administration and enforcement in the State of Michigan is available on the Bureau of Construction Codes and Fire Safety's web site www.michigan.gov/bccfs.

(By authority conferred on the director of the department of labor & economic growth by section 4 of 1972 PA 230 and Executive Reorganization Order No. 1996-2, MCL 125.1504 and 445.2001 and Executive Reorganization Order No. 2003-18, MCL 445.2011)

R 408.30401, R 408.30404, R 408.30408, R 408.30409, R 408.30410, R 408.30411, R 408.30412, R 408.30415a, R 408.30427, R 408.30429a, R 408.30437, R 408.30443, R 408.30445, R 408.30447, R 408.30448d, R 408.30449, R 408.30458, R 408.30475, R 408.30499, R 408.30503, R 408.30505, R 408.30506, R 408.30508, R 408.30510, R 408.30511, R 408.30512, R 408.30513, R 408.30514, R 408.30515, R 408.30517, R 408.30518, R 408.30519, R 408.30520, R 408.30521, R 408.30522, R 408.30523, R 408.30524, R 408.30526, R 408.30531, R 408.30534, R 408.30536, and R 408.30537 of the Michigan Administrative Code are amended, R 408.30414, R 408.30416, R 408.30417, R 408.30418, R 408.30419, R 408.30420, R 408.30421, R 408.30444, R 408.30539, R 408.30540, R 408.30541, R 408.30542, R 408.30543, R 408.30544, R 408.30545, R 408.30546, and R 408.30547 are added to the Code, and R 408.30406, R 408.30461, and R 408.30495a of the Code are rescinded as follows:

R 408.30401 Applicable code.

Rule 401. The provisions of the international building code, 2003 edition, including appendices F, G, and H, except for sections 104.8, 108.2 to 108.6, 112.2, 112.3, 114.3, 415.7.2.2 to 415.7.2.10, 415.7.3.1 to 415.7.3.5.2, table 1608.2, 2902 to 2902.6.2, 3006.5, the definition of "recreational vehicle" in Appendix G, and, IECC-2003, ICC EC-2003, IMC-2003, IPC-2003, IPSDC-2003 listed in chapter 35, and the provisions of the international residential code, 2003 edition, including appendices A, B, C, D, E, F, G, J, K, and L, except for sections R104.8, R108.2, R108.3, R108.4, R108.5, R112.3, N1101 to N1104.1, tables N1101.2, N1102.1, N1102.1.1.1(1), N1102.1.1.1(2), N1102.1.1.2, N1102.4, N1103.1, N1103.5, and N1104.1, sections P2503.8, P2709.2.1, AJ102.4, and IBC-2003, ICC EC-2003, IECC-2003, IMC-2003, IPC-2003, NFPA 70-02 listed in chapter 43 govern the construction, alteration, relocation, demolition, use, and occupancy of buildings and structures, and, with exceptions noted, the international building code and the international residential code are adopted by reference in these rules. All references to the International Building Code, International Residential Code, International Energy Conservation Code, International Electrical Code, International Existing Building Code, International Mechanical Code, and International Plumbing Code mean the Michigan Building Code, Michigan Residential Code, Michigan Uniform Energy Code, Michigan Electrical Code, Michigan Rehabilitation Code for Existing Buildings, Michigan Mechanical Code, and Michigan Plumbing Code respectively. The codes are available for inspection at the Okemos office of the Michigan Department of Consumer and Industry Services, Bureau of Construction Codes and Fire Safety. The codes may be purchased from the International Code Council, 5203 Leesburg Pike, Suite 600, Falls Church, VA 22041, or from the Michigan Department of Consumer and Industry Services, Bureau of Construction Codes and Fire Safety, 2501 Woodlake Circle, Okemos, Michigan 48864, at a cost as of the time of adoption of these amendatory rules of \$65.00 and \$45.00, re-

spectively.

The following rules were rescinded from this rule set: R 408.30406, R 408.30461, and R 408.30495a.

Mailing Addresses:

P.O. Box 30254 (Codes: general correspondence)

P.O. Box 30255 (Codes: permits, licenses, and other documents containing payments)

P.O. Box 30700 (Office of Fire Safety)

P.O. Box 30704 (Office of Land Survey and Remonumentation)

P.O. Box 30222 (Office of Local Government and Consumer Services)

Lansing, Michigan 48909

Fax Numbers:

Administration – 517/241-9570

Codes – 517/241-9308

Fire Fighters Training Council – 517/322-6540

Office of Fire Safety – 517/322-1356

Office of Land Survey and Remonumentation – 517/241-6301

Office of Local Government and Consumer Services – 517/241-6371

Office of the State Fire Marshal – 517/322-2908

Web site:

www.michigan.gov/bccfs

Telephone Numbers:

<i>Administration</i>	<i>517/241-9302</i>
<i>Office of Administrative Services (OAS)</i>	<i>517/335-2972</i>
<i>Office of Management Services (OMS).</i>	<i>517/241-9313</i>
<i>Boiler Division</i>	<i>517/241-9334</i>
<i>Building Division</i>	<i>517/241-9317</i>
<i>Electrical Division</i>	<i>517/241-9320</i>
<i>Elevator Safety Division</i>	<i>517/241-9337</i>
<i>Fire Fighters Training Council.</i>	<i>517/322-5444</i>
<i>Mechanical Division</i>	<i>517/241-9325</i>
<i>Office of Fire Safety (OFS)</i>	<i>517/322-1123</i>
<i>Office of Land Survey and Remonumentation (OLSR)</i>	<i>517/241-6300</i>
<i>Office of Local Government and Consumer Services (OLGCS).</i>	<i>517/241-9347</i>
<i>Office of the State Fire Marshal.</i>	<i>517/322-1924</i>
<i>Plan Review Division.</i>	<i>517/241-9328</i>
<i>Plumbing Division</i>	<i>517/241-9330</i>

SAMPLE ORDINANCE STATE CODE

Ordinance number _____

An ordinance to designate an enforcing agency to discharge the responsibility of the _____ (County, City, Village or Township) of _____ (Name of Unit of Government) located in _____ County, under the provisions of the State Construction Code Act, Act No. 230 of the Public Acts of 1972, as amended.

The _____ (County, City, Village, or Township) of _____ (Name of Unit of Government) ordains:

Section 1. AGENCY DESIGNATED. Pursuant to the provisions of the Michigan _____ (Building, Electrical, Mechanical or Plumbing) Code, in accordance with Section 8b(6) of Act 230, of the Public Acts of 1972, as amended, the _____ (Building, Electrical, Mechanical, or Plumbing) Official of the _____ (County, City, Village or Township) of _____ (Name of Unit of Government) is hereby designated as the enforcing agency to discharge the responsibility of the _____ (County, City, Village, or Township) of _____ (Name of Unit of Government) under Act 230, of the Public Acts of 1972, as amended, State of Michigan. The _____ (County, City, Village, or Township) of _____ (Name of Unit of Government) assumes responsibility for the administration and enforcement of said Act throughout its corporate limits.

Section 2. REPEALS. All ordinances inconsistent with the provisions of this ordinance are hereby repealed.

Section 3. PUBLICATION. This ordinance shall be effective after legal publication and in accordance with provisions of the Act governing same.

Adopted this _____ day of _____, _____ (Year).

This ordinance duly adopted on _____ at a regular meeting of the _____ (adopting body) and will become effective _____.

Date: _____ (Year).

Signed: _____

Clerk of the _____ (County, City, Village, or Township) of _____ (Name of Unit of Government).

Attested: _____ (Chair, Mayor, Supervisor or President)

of the _____ (County, City, Village, or Township) of _____ (Name of Unit of Government).

PREFACE

Introduction

Internationally, code officials recognize the need for a modern, up-to-date plumbing code addressing the design and installation of plumbing systems through requirements emphasizing performance. The International Building Code®, in this 2003 edition, is designed to meet these needs through model code regulations that safeguard the public health and safety in all communities, large and small.

This comprehensive building code establishes minimum regulations for building systems using prescriptive and performance-related provisions. It is founded on broad-based principles that make possible the use of new materials and new building designs. This 2003 edition is fully compatible with all the International Codes ("I-Codes") published by the International Code Council (ICC), including the ICC Electrical Code, International Energy Conservation Code, International Existing Building Code, International Fire Code, International Fuel Gas Code, International Mechanical Code, ICC Performance Code, International Plumbing Code, International Private Sewage Disposal Code, International Property Maintenance Code, International Residential Code, International Urban-Wildland Interface Code and International Zoning Code.

The International Building Code provisions provide many benefits, among which is the model code development process that offers an international forum for building professionals to discuss performance and prescriptive code requirements. This forum provides an excellent arena to debate proposed revisions. This model code also encourages international consistency in the application of provisions.

Development

The first edition of the International Building Code (2000) was the culmination of an effort initiated in 1997 by the ICC. This included five drafting subcommittees appointed by ICC and consisting of representatives of the three statutory members of the International Code Council: Building Officials and Code Administrators International, Inc. (BOCA), International Conference of Building Officials (ICBO) and Southern Building Code Congress International (SBCCI). The intent was to draft a comprehensive set of regulations for building systems consistent with and inclusive of the scope of the existing model codes. Technical content of the latest model codes promulgated by BOCA, ICBO and SBCCI was utilized as the basis for the development, followed by public hearings in 1997, 1998 and 1999 to consider proposed changes. This 2003 edition presents the code as originally issued, with changes approved through the ICC Code Development Process through 2002. A new edition such as this is promulgated every three years.

With the development and publication of the family of International Codes in 2000, the continued development and maintenance of the model codes individually promulgated by BOCA ("BOCA National Codes"), ICBO ("Uniform Codes") and SBCCI ("Standard Codes") was discontinued. This 2003 International Building Code, as well as its predecessor—the 2000 edition, is intended to be the successor building code to those codes previously developed by BOCA, ICBO and SBCCI.

The development of a single set of comprehensive and coordinated family of International Codes was a significant milestone in the development of regulations for the built environment. The timing of this publication mirrors a milestone in the change in structure of the model codes, namely, the pending Consolidation of BOCA, ICBO and SBCCI into the ICC. The activities and services previously provided by the individual model code organizations will be the responsibility of the Consolidated ICC.

This code is founded on principles intended to establish provisions consistent with the scope of a building code that adequately protects public health, safety and welfare; provisions that do not unnecessarily increase construction costs; provisions that do not restrict the use of new materials, products or methods of construction; and provisions that do not give preferential treatment to particular types or classes of materials, products or methods of construction.

Adoption

The International Building Code is available for adoption and use by jurisdictions internationally. Its use within a governmental jurisdiction is intended to be accomplished through adoption by reference in accordance with proceedings establishing the jurisdiction's laws. At the time of adoption, jurisdictions should insert the appropriate information in provisions requiring specific local information, such as the name of the adopting jurisdiction. These locations are shown in bracketed words in small capital letters in the code and in the sample ordinance. The sample adoption ordinance on page v addresses several key elements of a code adoption ordinance, including the information required for insertion into the code text.

Maintenance

The International Building Code is kept up to date through the review of proposed changes submitted by code enforcing officials, industry representatives, design professionals and other interested parties. Proposed changes are carefully considered through an open code development process in which all interested and affected parties may participate.

The contents of this work are subject to change both through the Code Development Cycles and the governmental body that enacts the code into law. For more information regarding the code development process, contact the Code and Standard Development Department of the International Code Council.

While the development procedure of the International Building Code assures the highest degree of care, ICC and the founding members of ICC—BOCA, ICBO, SBCCI—their members and those participating in the development of this code do not accept any liability resulting from compliance or noncompliance with the provisions because ICC and its founding members do not have the power or authority to police or enforce compliance with the contents of this code. Only the governmental body that enacts the code into law has such authority.

Letter Designations in Front of Section Numbers

In each code development cycle, proposed changes to this code are considered at the Code Development Hearing by the International Building Code Development Committee, whose action constitutes a recommendation to the voting membership for final action on the proposed change. Proposed changes to a code section whose number begins with a letter in brackets are considered by a different code development committee. For instance, proposed changes to code sections which have the letter [F] in front (e.g., [F] 1001.3), are considered by the International Fire Code Development Committee at the Code Development Hearing. Where this designation is applicable to the entire content of a main section of the code, the designation appears at the main section number and title and is not repeated at every subsection in that section.

The content of sections in this code which begin with a letter designation is maintained by another code development committee in accordance with the following: [E] = International Energy Conservation Code Development Committee; [EB] = International Existing Building Code Development Committee; [EL] = ICC Electrical Code Development Committee; [F] = International Fire Code Development Committee; [M] = International Mechanical Code Development Committee; [P] = International Plumbing Code Development Committee; [PC] = ICC Performance Code Development Committee; [PM] = International Property Maintenance Code Development Committee; [RBE] = International Residential Code Building and Energy Development Committee; [RMP] = International Residential Code Mechanical/Plumbing Development Committee; [UW] = International Urban-Wildland Interface Code Development Committee; and [Z] = International Zoning Code Development Committee.

Marginal Markings

Solid vertical lines in the margins within the body of the code indicate a technical change from the requirements of the 2000 edition. Deletion indicators (¯) are provided in the margin where a paragraph or item has been deleted. Double vertical lines in the margin denote amendments and additions promulgated by the State of Michigan Department of Consumer and Industry Services, modifying the 2003 International Building Code. An asterisk in the margin identifies sections of the 2003 International Building Code not adopted by the State of Michigan.

TABLE OF CONTENTS

CHAPTER 1	ADMINISTRATION	1	404	Atriums	43
<i>Section</i>			405	Underground Buildings	43
101	General	1	406	Motor-Vehicle-Related Occupancies	44
102	Applicability	1	407	Group I-2	48
103	Department of Building Safety	2	408	Group I-3	49
104	Duties and Powers of Building Official	2	409	Motion Picture Projection Rooms	51
105	Permits	3	410	Stages and Platforms	51
106	Construction Documents	5	411	Special Amusement Buildings	53
107	Temporary Structures and Uses	6	412	Aircraft-Related Occupancies	54
108	Fees	6	413	Combustible Storage	56
109	Inspections	7	414	Hazardous Materials	56
110	Certificate of Occupancy	7	415	Groups H-1, H-2, H-3, H-4 and H-5	58
111	Service Utilities	8	416	Application of Flammable Finishes	70
112	Board of Appeals	8	417	Drying Rooms	70
113	Violations	8	418	Organic Coatings	71
114	Stop Work Order	8			
115	Unsafe Structures and Equipment	9	CHAPTER 5	GENERAL BUILDING HEIGHTS AND AREAS	73
			<i>Section</i>		
CHAPTER 2	DEFINITIONS	11	501	General	73
<i>Section</i>			502	Definitions	73
201	General	11	503	General Height and Area Limitations	73
202	Definitions	11	504	Height Modifications	75
			505	Mezzanines	75
CHAPTER 3	USE AND OCCUPANCY CLASSIFICATION	23	506	Area Modifications	76
<i>Section</i>			507	Unlimited Area Buildings	76
301	General	23	508	Special Provisions	77
302	Classification	23			
303	Assembly Group A	24	CHAPTER 6	TYPES OF CONSTRUCTION	81
304	Business Group B	26	<i>Section</i>		
305	Educational Group E	26	601	General	81
306	Factory Group F	26	602	Construction Classification	81
307	High-Hazard Group H	27	603	Combustible Material in Type I and II Construction	82
308	Institutional Group I	34			
309	Mercantile Group M	36	CHAPTER 7	FIRE-RESISTANCE-RATED CONSTRUCTION	85
310	Residential Group R	36	<i>Section</i>		
311	Storage Group S	36	701	General	85
312	Utility and Miscellaneous Group U	37	702	Definitions	85
			703	Fire-Resistance Ratings and Fire Tests	86
CHAPTER 4	SPECIAL DETAILED REQUIREMENTS BASED ON USE AND OCCUPANCY	39	704	Exterior Walls	87
<i>Section</i>			705	Fire Walls	90
401	Scope	39	706	Fire Barriers	92
402	Covered Mall Buildings	39	707	Shaft Enclosures	93
403	High-Rise Buildings	41	708	Fire Partitions	95

TABLE OF CONTENTS

709	Smoke Barriers	96	1010	Ramps	206	
710	Smoke Partitions	96	1011	Exit Signs	207	
711	Horizontal Assemblies	96	1012	Guards	208	
712	Penetrations	97	1013	Exit Access	209	
713	Fire-resistant Joint Systems	99	1014	Exit and Exit Access Doorways	210	
714	Fire-resistance Rating of Structural Members	99	1015	Exit Access Travel Distance	211	
715	Opening Protectives	100	1016	Corridors	212	
716	Ducts and Air Transfer Openings	103	1017	Exits	213	
717	Concealed Spaces	107	1018	Number of Exits and Continuity	213	
718	Fire-resistance Requirements for Plaster	108	1019	Vertical Exit Enclosures	214	
719	Thermal- and Sound-Insulating Materials	109	1020	Exit Passageways	216	
720	Prescriptive Fire Resistance	109	1021	Horizontal Exits	216	
721	Calculated Fire Resistance	110	1022	Exterior Exit Ramps and Stairways	217	
CHAPTER 8 INTERIOR FINISHES			157	1023	Exit Discharge	217
Section				1024	Assembly	219
801	General	157	1025	Emergency Escape and Rescue	223	
802	Definitions	157	CHAPTER 11 ACCESSIBILITY			225
803	Wall and Ceiling Finishes	157	Section			
804	Interior Floor Finish	160	1101	General	225	
805	Decorations and Trim	160	1102	Definitions	225	
CHAPTER 9 FIRE PROTECTION SYSTEMS			163	1103	Scoping Requirements	225
Section				1104	Accessible Route	226
901	General	163	1105	Accessible Entrances	227	
902	Definitions	163	1106	Parking and Passenger Loading Facilities	228	
903	Automatic Sprinkler Systems	166	1107	Dwelling Units and Sleeping Units	228	
904	Alternative Automatic Fire-Extinguishing Systems	170	1108	Special Occupancies	231	
905	Standpipe Systems	171	1109	Other Features and Facilities	233	
906	Portable Fire Extinguishers	173	1110	Signage	236	
907	Fire Alarm and Detection Systems	173	CHAPTER 12 INTERIOR ENVIRONMENT			239
908	Emergency Alarm Systems	180	Section			
909	Smoke Control Systems	181	1201	General	239	
910	Smoke and Heat Vents	189	1202	Definitions	239	
911	Fire Command Center	191	1203	Ventilation	239	
CHAPTER 10 MEANS OF EGRESS			193	1204	Temperature Control	240
Section				1205	Lighting	240
1001	Administration	193	1206	Yards or Courts	241	
1002	Definitions	193	1207	Sound Transmission	241	
1003	General Means of Egress	194	1208	Interior Space Dimensions	241	
1004	Occupant Load	195	1209	Access to Unoccupied Spaces	242	
1005	Egress Width	196	1210	Surrounding Materials	242	
1006	Means of Egress Illumination	197	CHAPTER 13 ENERGY EFFICIENCY			243
1007	Accessible Means of Egress	197	Section			
1008	Doors, Gates and Turnstiles	199	1301	General	243	
1009	Stairways and Handrails	204				

CHAPTER 14 EXTERIOR WALLS.....	245	1620 Earthquake Loads—Design, Detailing	336
Section		Requirements and Structural Component	
1401 General.....	245	Load Effects	336
1402 Definitions	245	1621 Architectural, Mechanical and Electrical	340
1403 Performance Requirements	245	Component Seismic Design Requirements ...	340
1404 Materials	246	1622 Nonbuilding Structures Seismic Design	340
1405 Installation of Wall Coverings	246	Requirements	340
1406 Combustible Materials on the		1623 Seismically Isolated Structures.....	341
Exterior Side of Exterior Walls	250		
1407 Metal Composite Materials (MCM)	251	CHAPTER 17 STRUCTURAL TESTS AND	343
CHAPTER 15 ROOF ASSEMBLIES AND	253	SPECIAL INSPECTIONS.....	343
Section		Section	
1501 General.....	253	1701 General.....	343
1502 Definitions	253	1702 Definitions	343
1503 Weather Protection	253	1703 Approvals	343
1504 Performance Requirements	254	1704 Special Inspections	344
1505 Fire Classification.....	254	1705 Quality Assurance for Seismic Resistance.....	351
1506 Materials	255	1706 Quality Assurance for Wind Requirements ...	352
1507 Requirements for Roof Coverings.....	255	1707 Special Inspections for Seismic Resistance ...	353
1508 Roof Insulation	264	1708 Structural Testing for Seismic Resistance ...	354
1509 Rooftop Structures.....	264	1709 Structural Observations	355
1510 Reroofing	265	1710 Design Strengths of Materials	355
CHAPTER 16 STRUCTURAL DESIGN.....	267	1711 Alternative Test Procedure	355
Section		1712 Test Safe Load	355
1601 General.....	267	1713 In-Situ Load Tests	356
1602 Definitions	267	1714 Preconstruction Load Tests.....	356
1603 Construction Documents.....	269	1715 Material and Test Standards.....	357
1604 General Design Requirements	270	CHAPTER 18 SOILS AND FOUNDATIONS	359
1605 Load Combinations	273	Section	
1606 Dead Loads	274	1801 General.....	359
1607 Live Loads	274	1802 Foundation and Soils Investigations.....	359
1608 Snow Loads	279	1803 Excavation, Grading and Fill.....	360
1609 Wind Loads.....	280	1804 Allowable Load-Bearing Values of Soils	361
1610 Soil Lateral Load.....	296	1805 Footings and Foundations.....	362
1611 Rain Loads.....	296	1806 Retaining Walls	370
1612 Flood Loads.....	297	1807 Dampproofing and Waterproofing	370
1613 Earthquake Loads Definitions	299	1808 Pier and Pile Foundations	371
1614 Earthquake Loads—General.....	300	1809 Driven Pile Foundations	376
1615 Earthquake Loads—Site Ground Motion.....	301	1810 Cast-in-Place Concrete Pile Foundations	379
1616 Earthquake Loads—Criteria Selection	323	1811 Composite Piles.....	382
1617 Earthquake Loads—Minimum Design		1812 Pier Foundations	383
Lateral Force and Related Effects.....	327	CHAPTER 19 CONCRETE	385
1618 Dynamic Analysis Procedure for the		Section	
Seismic Design of Buildings	336	1901 General.....	385
1619 Earthquake Loads—Soil-Structure		1902 Definitions	385
Interaction Effects	336	1903 Specifications for Tests and Materials	386
		1904 Durability Requirements.....	387

TABLE OF CONTENTS

1905	Concrete Quality, Mixing and Placing.....	390	2210	Cold-Formed Steel Light-Framed Construction.....	438
1906	Formwork, Embedded Pipes and Construction Joints	392	2211	Cold-Formed Steel Light-Framed Shear Walls.....	438
1907	Details of Reinforcement.....	393	CHAPTER 23	WOOD.....	443
1908	Modifications to ACI 318	395	Section		
1909	Structural Plain Concrete	396	2301	General.....	443
1910	Seismic Design Provisions	397	2302	Definitions	443
1911	Minimum Slab Provisions	398	2303	Minimum Standards and Quality	444
1912	Anchorage to Concrete—Allowable Stress Design	398	2304	General Construction Requirements	447
1913	Anchorage to Concrete—Strength Design	399	2305	General Design Requirements for Lateral-Force-Resisting Systems.....	455
1914	Shotcrete.....	399	2306	Allowable Stress Design	461
1915	Reinforced Gypsum Concrete	400	2307	Load and Resistance Factor Design.....	468
1916	Concrete-Filled Pipe Columns	401	2308	Conventional Light-Frame Construction	470
CHAPTER 20	ALUMINUM.....	403	CHAPTER 24	GLASS AND GLAZING	513
Section			Section		
2001	General.....	403	2401	General.....	513
2002	Materials	403	2402	Definitions	513
CHAPTER 21	MASONRY.....	405	2403	General Requirements for Glass.....	513
Section			2404	Wind, Snow, Seismic and Dead Loads on Glass	513
2101	General.....	405	2405	Sloped Glazing and Skylights	521
2102	Definitions and Notations	405	2406	Safety Glazing	522
2103	Masonry Construction Materials	408	2407	Glass in Handrails and Guards	524
2104	Construction.....	412	2408	Glazing in Athletic Facilities	524
2105	Quality Assurance	414	2409	Glass in Floors and Sidewalks	524
2106	Seismic Design.....	415	CHAPTER 25	GYPSUM BOARD AND PLASTER.....	527
2107	Working Stress Design.....	416	Section		
2108	Strength Design of Masonry	417	2501	General.....	527
2109	Empirical Design of Masonry.....	417	2502	Definitions	527
2110	Glass Unit Masonry.....	423	2503	Inspection.....	527
2111	Masonry Fireplaces.....	425	2504	Vertical and Horizontal Assemblies	527
2112	Masonry Heaters	429	2505	Shear Wall Construction.....	527
2113	Masonry Chimneys	429	2506	Gypsum Board Materials	528
CHAPTER 22	STEEL.....	435	2507	Lathing and Plastering	528
Section			2508	Gypsum Construction	528
2201	General.....	435	2509	Gypsum Board in Showers and Water Closets	529
2202	Definitions and Nomenclature	435	2510	Lathing and Furring for Cement Plaster (Stucco)	530
2203	Identification and Protection of Steel for Structural Purposes	435	2511	Interior Plaster	530
2204	Connections	435	2512	Exterior Plaster.....	531
2205	Structural Steel	437	2513	Exposed Aggregate Plaster.....	531
2206	Steel Joists	437			
2207	Steel Cable Structures.....	437			
2208	Steel Storage Racks	437			
2209	Cold-Formed Steel.....	437			

CHAPTER 26 PLASTIC	533	3108 Radio and Television Towers	554
Section		3109 Swimming Pool Enclosures	
2601 General.....	533	and Safety Devices.....	554
2602 Definitions.....	533	CHAPTER 32 ENCROACHMENTS INTO THE PUBLIC	
2603 Foam Plastic Insulation.....	533	RIGHT-OF-WAY	557
2604 Interior Finish and Trim.....	536	Section	
2605 Plastic Veneer.....	536	3201 General.....	557
2606 Light-Transmitting Plastics.....	536	3202 Encroachments.....	557
2607 Light-Transmitting Plastic Wall Panels.....	537	CHAPTER 33 SAFEGUARDS DURING	
2608 Light-Transmitting Plastic Glazing.....	538	CONSTRUCTION	559
2609 Light-Transmitting Plastic Roof Panels.....	538	Section	
2610 Light-Transmitting Plastic Skylight Glazing...	539	3301 General.....	559
2611 Light-Transmitting Plastic Interior Signs.....	540	3302 Construction Safeguards.....	559
CHAPTER 27 ELECTRICAL	541	3303 Demolition.....	559
Section		3304 Site Work.....	559
2701 General.....	541	3305 Sanitary.....	559
2702 Emergency and Standby Power Systems.....	541	3306 Protection of Pedestrians.....	559
CHAPTER 28 MECHANICAL SYSTEMS	543	3307 Protection of Adjoining Property.....	561
Section		3308 Temporary Use of Streets, Alleys and	
2801 General.....	543	Public Property.....	561
CHAPTER 29 PLUMBING SYSTEMS	545	3309 Fire Extinguishers.....	561
Section		3310 Exits.....	561
2901 General.....	545	3311 Standpipes.....	561
CHAPTER 30 ELEVATORS AND		3312 Automatic Sprinkler System.....	562
CONVEYING SYSTEMS	547	CHAPTER 34 EXISTING STRUCTURES	563
Section		Section	
3001 General.....	547	3401 General.....	563
3002 Hoistway Enclosures.....	547	3402 Definitions.....	563
3003 Emergency Operations.....	547	3403 Additions, Alterations or Repairs.....	563
3004 Hoistway Venting.....	548	3404 Fire Escapes.....	563
3005 Conveying Systems.....	548	3405 Glass Replacement.....	564
3006 Machine Rooms.....	549	3406 Change of Occupancy.....	564
CHAPTER 31 SPECIAL CONSTRUCTION	551	3407 Historic Buildings.....	564
Section		3408 Moved Structures.....	564
3101 General.....	551	3409 Accessibility for Existing Buildings.....	564
3102 Membrane Structures.....	551	3410 Compliance Alternatives.....	566
3103 Temporary Structures.....	552	CHAPTER 35 REFERENCED STANDARDS	575
3104 Pedestrian Walkways and Tunnels.....	552	APPENDIX F RODENT PROOFING	595
3105 Awnings and Canopies.....	553	Section	
3106 Marquees.....	554	F101 General.....	595
3107 Signs.....	554		

TABLE OF CONTENTS

APPENDIX G FLOOD-RESISTANT CONSTRUCTION 597

Section

G101 Administration	597
G102 Applicability.	597
G103 Powers and Duties	597
G104 Permits	598
G105 Variances	598
G201 Definitions	599
G301 Subdivisions	599
G401 Site Improvement	600
G501 Manufactured Homes	600
G601 Recreational Vehicles	600
G701 Tanks.	600
G702 Referenced Standards	601

APPENDIX H SIGNS 603

Section

H101 General.	603
H102 Definitions	603
H103 Location	603
H104 Identification	603
H105 Design and Construction	604
H106 Electrical	604
H107 Combustible Materials	604
H108 Animated Devices	604
H109 Ground Signs	604
H110 Roof Signs	605
H111 Wall Signs.	605
H112 Projecting Signs.	605
H113 Marquee Signs	606
H114 Portable Signs	606
H115 Referenced Standards	606

INDEX 607

CHAPTER 1

ADMINISTRATION

SECTION 101 GENERAL

101.1 Title. These rules shall be known as the Michigan building code, hereinafter referred to as "the code."

R 408.30402

101.2 Scope. The provisions of this code shall apply to the construction, alteration, movement, enlargement, replacement, repair, equipment, use and occupancy, location, maintenance, removal and demolition of every building or structure or any appurtenances connected or attached to such buildings or structures.

Exceptions:

- 1. Detached one- and two-family dwellings and multiple single-family dwellings (town houses) not more than three stories above grade plane in height with a separate means of egress and their accessory structures shall comply with the International Residential Code.*
- 2. Existing buildings undergoing repair, alterations or additions and change of occupancy shall be permitted to comply with the International Existing Building Code.*

101.2.1 Appendices. Provisions in the appendices shall not apply unless specifically adopted.

101.3 Intent. The purpose of this code is to establish the minimum requirements to safeguard the public health, safety and general welfare through structural strength, means of egress facilities, stability, sanitation, adequate light and ventilation, energy conservation, and safety to life and property from fire and other hazards attributed to the built environment and to provide safety to fire fighters and emergency responders during emergency operations.

101.4 Referenced codes. The other codes listed in Sections 101.4.1 through 101.4.7 and referenced elsewhere in this code shall be considered part of the requirements of this code to the prescribed extent of each such reference.

101.4.1 Electrical. The provisions of the ICC Electrical Code shall apply to the installation of electrical systems, including alterations, repairs, replacement, equipment, appliances, fixtures, fittings and appurtenances thereto.

101.4.2 Gas. The provisions of the International Fuel Gas Code shall apply to the installation of gas piping from the point of delivery, gas appliances and related accessories as covered in this code. These requirements apply to gas piping systems extending from the point of delivery to the inlet connections of appliances and the installation and operation of residential and commercial gas appliances and related accessories.

101.4.3 Mechanical. The provisions of the International Mechanical Code shall apply to the installation, alterations, repairs and replacement of mechanical systems, including equipment, appliances, fixtures, fittings and/or

appurtenances, including ventilating, heating, cooling, air-conditioning and refrigeration systems, incinerators and other energy-related systems.

101.4.4 Plumbing. The provisions of the International Plumbing Code shall apply to the installation, alteration, repair and replacement of plumbing systems, including equipment, appliances, fixtures, fittings and appurtenances, and where connected to a water or sewage system and all aspects of a medical gas system. The provisions of the International Private Sewage Disposal Code shall apply to private sewage disposal systems.

101.4.5 Property maintenance. The provisions of the International Property Maintenance Code shall apply to existing structures and premises; equipment and facilities; light, ventilation, space heating, sanitation, life and fire safety hazards; responsibilities of owners, operators and occupants; and occupancy of existing premises and structures.

101.4.6 Fire prevention. The provisions of the International Fire Code shall apply to matters affecting or relating to structures, processes and premises from the hazard of fire and explosion arising from the storage, handling or use of structures, materials or devices; from conditions hazardous to life, property or public welfare in the occupancy of structures or premises; and from the construction, extension, repair, alteration or removal of fire suppression and alarm systems or fire hazards in the structure or on the premises from occupancy or operation.

101.4.7 Energy. The provisions of the International Energy Conservation Code shall apply to all matters governing the design and construction of buildings for energy efficiency.

SECTION 102 APPLICABILITY

102.1 General. Where, in any specific case, different sections of this code specify different materials, methods of construction or other requirements, the most restrictive shall govern. Where there is a conflict between a general requirement and a specific requirement, the specific requirement shall be applicable.

102.2 Other laws. The provisions of this code shall not be deemed to nullify any provisions of local, state or federal law.

102.3 Application of references. References to chapter or section numbers, or to provisions not specifically identified by number, shall be construed to refer to such chapter, section or provision of this code.

102.4 Referenced codes and standards. The codes and standards referenced in this code shall be considered part of the requirements of this code to the prescribed extent of each such reference. Where differences occur between provisions of this code and referenced codes and standards, the provisions of this code shall apply.

102.5 Partial invalidity. In the event that any part or provision of this code is held to be illegal or void, this shall not have the effect of making void or illegal any of the other parts or provisions.

102.6 Existing structures. The legal occupancy of any structure existing on the date of adoption of this code shall be permitted to continue without change, except as is specifically covered in this code, the International Property Maintenance Code or the International Fire Code, or as is deemed necessary by the building official for the general safety and welfare of the occupants and the public.

SECTION 103 DEPARTMENT OF BUILDING SAFETY

103.1 Creation of enforcement agency. The Department of Building Safety is hereby created and the official in charge thereof shall be known as the building official.

103.2 Appointment. The building official shall be appointed by the chief appointing authority of the jurisdiction.

103.3 Deputies. In accordance with the prescribed procedures of this jurisdiction and with the concurrence of the appointing authority, the building official shall have the authority to appoint a deputy building official, the related technical officers, inspectors, plan examiners and other employees. Such employees shall have powers as delegated by the building official. For the maintenance of existing properties, see the International Property Maintenance Code.

SECTION 104 DUTIES AND POWERS OF BUILDING OFFICIAL

104.1 General. The building official is hereby authorized and directed to enforce the provisions of this code. The building official shall have the authority to render interpretations of this code and to adopt policies and procedures in order to clarify the application of its provisions. Such interpretations, policies and procedures shall be in compliance with the intent and purpose of this code. Such policies and procedures shall not have the effect of waiving requirements specifically provided for in this code.

104.2 Applications and permits. The building official shall receive applications, review construction documents and issue permits for the erection, and alteration, demolition and moving of buildings and structures, inspect the premises for which such permits have been issued and enforce compliance with the provisions of this code.

104.3 Notices and orders. The building official shall issue all necessary notices or orders to ensure compliance with this code.

104.4 Inspections. The building official shall make all of the required inspections, or the building official shall have the authority to accept reports of inspection by approved agencies or individuals. Reports of such inspections shall be in writing and be certified by a responsible officer of such approved agency or by the responsible individual. The building official is authorized to engage such expert opinion as deemed necessary to report upon unusual technical issues that arise, subject to the approval of the appointing authority.

104.5 Identification. The building official shall carry proper identification when inspecting structures or premises in the performance of duties under this code.

104.6 Right of entry. Where it is necessary to make an inspection to enforce the provisions of this code, or where the building official has reasonable cause to believe that there exists in a structure or upon a premises a condition which is contrary to or in violation of this code which makes the structure or premises unsafe, dangerous or hazardous, the building official is authorized to enter the structure or premises at reasonable times to inspect or to perform the duties imposed by this code, provided that if such structure or premises be occupied that credentials be presented to the occupant and entry requested. If such structure or premises is unoccupied, the building official shall first make a reasonable effort to locate the owner or other person having charge or control of the structure or premises and request entry. If entry is refused, the building official shall have recourse to the remedies provided by law to secure entry.

104.7 Department records. The building official shall keep official records of applications received, permits and certificates issued, fees collected, reports of inspections, and notices and orders issued. Such records shall be retained in the official records for the period required for retention of public records.

104.9 Approved materials and equipment. Materials, equipment, and devices shall be constructed or installed in accordance with approvals granted under section 21 of 1972 PA 230, MCL 125.1521 or by the building official.

R 408.30404

104.9.1 Used materials and equipment. The use of used materials which meet the requirements of this code for new materials is permitted. Used equipment and devices shall not be reused unless approved by the building official.

104.10 Modifications. Wherever there are practical difficulties involved in carrying out the provisions of this code, the building official shall have the authority to grant modifications for individual cases, upon application of the owner or owner's representative, provided the building official shall first find that special individual reason makes the strict letter of this code impractical and the modification is in compliance with the intent

and purpose of this code and that such modification does not lessen health, accessibility, life and fire safety, or structural requirements. The details of action granting modifications shall be recorded and entered in the files of the department of building safety.

104.11 Alternative materials, design and methods of construction and equipment. The provisions of this code are not intended to prevent the installation of any material or to prohibit any design or method of construction not specifically prescribed by this code, provided that any such alternative has been approved. An alternative material, design or method of construction shall be approved where the building official finds that the proposed design is satisfactory and complies with the intent of the provisions of this code, and that the material, method or work offered is, for the purpose intended, at least the equivalent of that prescribed in this code in quality, strength, effectiveness, fire resistance, durability and safety.

104.11.1 Research reports. Supporting data, where necessary to assist in the approval of materials or assemblies not specifically provided for in this code, shall consist of valid research reports from approved sources.

104.11.2 Tests. Whenever there is insufficient evidence of compliance with the provisions of this code, or evidence that a material or method does not conform to the requirements of this code, or in order to substantiate claims for alternative materials or methods, the building official shall have the authority to require tests as evidence of compliance to be made at no expense to the jurisdiction. Test methods shall be as specified in this code or by other recognized test standards. In the absence of recognized and accepted test methods, the building official shall approve the testing procedures. Tests shall be performed by an approved agency. Reports of such tests shall be retained by the building official for the period required for retention of public records.

SECTION 105 PERMITS

105.1 Required. Any owner or authorized agent who intends to construct, enlarge, alter, repair, move, demolish, or change the occupancy of a building or structure, or to erect, install, enlarge, alter, repair, remove, convert or replace any electrical, gas, mechanical or plumbing system, the installation of which is regulated by this code, or to cause any such work to be done, shall first make application to the building official and obtain the required permit.

105.1.1 Annual permit. In place of an individual permit for each alteration to an already approved electrical, gas, mechanical, or plumbing installation, the enforcing agency is authorized to issue an annual permit upon application therefore to any person, firm, or corporation. The applicant shall be licensed in accordance with the requirements of 1956 PA 217, MCL 338.881 et seq., 1984 PA 192, MCL 338.971 et seq., or 2002 PA 733, MCL 338.3511 et seq.

105.1.2 Annual permit records. The person to whom an annual permit is issued shall keep a detailed record of alterations made under an annual permit. Access to the records

shall be provided at all times and the records shall be filed with the enforcing agency.

105.2 Work exempt from permit. Exemptions from permit requirements of the code shall not be deemed to grant authorization for any work to be done in any manner in violation of the provisions of the code or any other laws or ordinances of this jurisdiction. Permits shall not be required for any of the following:

- a. Building permits shall not be required for any of the following:
 - i. One-story detached accessory structures used as tool and storage sheds, playhouses and similar uses, provided the floor area does not exceed 120 square feet (11.15 m²).
 - ii. A fence that is not more than 6 feet (1829 mm) high.
 - iii. Oil derricks.
 - iv. A retaining wall that is not more than 4 feet (1219 mm) in height measured from the bottom of the footing to the top of the wall, unless supporting a surcharge or impounding class I, II or III-A liquids.
 - v. A water tank supported directly upon grade if the capacity is not more than 5,000 gallons (18 927 L) and the ratio of height to diameter or width is not greater than 2 to 1.
 - vi. A sidewalk or driveway that is not more than 30 inches (762 mm) above grade and is not over any basement or story below and which are not part of an accessible route.
 - vii. Painting, papering, tiling, carpeting, cabinets, counter tops and similar finish work.
 - viii. Temporary motion picture, television and theater stage sets and scenery.
 - ix. Prefabricated swimming pools accessory to a group R-3 occupancy, as applicable in section 101.2, which are less than 24 inches (610 mm) deep, do not exceed 5,000 gallons (19 000 L) and are installed entirely above ground.
 - x. Shade cloth structures constructed for nursery or agricultural purposes and not including service systems.
 - xi. Swings and other playground equipment accessory to 1- and 2-family dwellings.
 - xii. Window awnings supported by an exterior wall which do not project more than 54 inches (1372 mm) from the exterior wall and do not require additional support of group R-3, as applicable in section 101.2 and group U occupancies.
 - xiii. Movable cases, counters, and partitions.
- b. Electrical permits shall not be required for any of the following:
 - i. Repairs and maintenance: Minor repair work, including the replacement of lamps or the connection of approved portable electrical equip-

ment to approved permanently installed receptacles.

ii. *Radio and television transmitting stations:* The provisions of the code do not apply to electrical equipment used for radio and television transmissions, but do apply to equipment and wiring for power supply and to the installation of towers and antennas.

iii. *Temporary testing systems:* A permit is not required for the installation of any temporary system required for the testing or servicing of electrical equipment or apparatus.

c. *Mechanical permits shall not be required for any of the following:*

i. *Portable gas heating appliance.*

ii. *Replacement of any minor part that does not alter approval of equipment or make the equipment unsafe.*

iii. *Portable heating appliance.*

iv. *Portable ventilation equipment.*

v. *Portable cooling unit.*

vi. *Steam, hot or chilled water piping within any heating or cooling equipment regulated by the code.*

vii. *Replacement of any part that does not alter its approval or make it unsafe.*

viii. *Portable evaporative cooler.*

ix. *Self-contained portable refrigeration unit that is not more than 1.5 horsepower (1119 W).*

d. *Plumbing permits shall not be required for any of the following:*

i. *The stopping of leaks in drains, water, soil, waste, or vent pipe. However, if any concealed trap, drainpipe, water, soil, waste, or vent pipe becomes defective and it becomes necessary to remove and replace the drain or pipe with new material, then the work is considered new work and a permit shall be obtained and inspection made as provided in the code.*

ii. *The clearing of stoppages or the repairing of leaks in pipes, valves, or fixtures, and the removal and reinstallation of water closets, if the repairs do not involve or require the replacement or rearrangement of valves, pipes, or fixtures.*

of any structural beam or load-bearing support, or the removal or change of any required means of egress, or rearrangement of parts of a structure affecting the egress requirements; nor shall ordinary repairs include addition to, alteration of, replacement or relocation of any standpipe, water supply, sewer, drainage, drain leader, gas, soil, waste, vent or similar piping, electric wiring or mechanical or other work affecting public health or general safety.

105.2.3 *Public service agencies.* A permit shall not be required for the installation, alteration or repair of generation, transmission, distribution or metering or other related equipment that is under the ownership and control of public service agencies by established right.

105.3 *Application for permit.* To obtain a permit, the applicant shall first file an application therefor in writing on a form furnished by the department of building safety for that purpose. Such application shall:

1. *Identify and describe the work to be covered by the permit for which application is made.*
2. *Describe the land on which the proposed work is to be done by legal description, street address or similar description that will readily identify and definitely locate the proposed building or work.*
3. *Indicate the use and occupancy for which the proposed work is intended.*
4. *Be accompanied by construction documents and other information as required in Section 106.3.*
5. *State the valuation of the proposed work.*
6. *Be signed by the applicant, or the applicant's authorized agent.*
7. *Give such other data and information as required by the building official.*

105.3.1 *Action on application.* The building official shall examine or cause to be examined applications for permits and amendments thereto within a reasonable time after filing. If the application or the construction documents do not conform to the requirements of pertinent laws, the building official shall reject such application in writing, stating the reasons therefor. If the building official is satisfied that the proposed work conforms to the requirements of this code and laws and ordinances applicable thereto, the building official shall issue a permit therefor as soon as practicable.

105.3.2 *Time limitation of application.* An application for a permit for any proposed work shall be deemed to have been abandoned 180 days after the date of filing, unless such application has been pursued in good faith or a permit has been issued; except that the building official is authorized to grant one or more extensions of time for additional periods not exceeding 90 days each. The extension shall be requested in writing and justifiable cause demonstrated.

105.4 *Validity of permit.* The issuance or granting of a permit shall not be construed to be a permit for, or an approval of, any violation of any of the provisions of this code or of any other ordinance of the jurisdiction. Permits presuming to give authority to violate or cancel the provisions of this code or other ordinances of the jurisdiction shall not be valid. The issuance of a permit based on construction documents and other data shall

R 408.30409

105.2.1 *Emergency repairs.* Where equipment replacements and repairs must be performed in an emergency situation, the permit application shall be submitted within the next working business day to the building official.

105.2.2 *Repairs.* Application or notice to the building official is not required for ordinary repairs to structures, replacement of lamps or the connection of approved portable electrical equipment to approved permanently installed receptacles. Such repairs shall not include the cutting away of any wall, partition or portion thereof, the removal or cutting

not prevent the building official from requiring the correction of errors in the construction documents and other data. The building official is also authorized to prevent occupancy or use of a structure where in violation of this code or of any other ordinances of this jurisdiction.

105.5 Expiration. Every permit issued shall become invalid unless the work on the site authorized by such permit is commenced within 180 days after its issuance, or if the work authorized on the site by such permit is suspended or abandoned for a period of 180 days after the time the work is commenced. The building official is authorized to grant, in writing, one or more extensions of time, for periods not more than 180 days each. The extension shall be requested in writing and justifiable cause demonstrated.

105.6 Suspension or revocation. The building official is authorized to suspend or revoke a permit issued under the provisions of this code wherever the permit is issued in error or on the basis of incorrect, inaccurate or incomplete information, or in violation of any ordinance or regulation or any of the provisions of this code.

105.7 Placement of permit. The building permit or copy shall be kept on the site of the work until the completion of the project.

SECTION 106 CONSTRUCTION DOCUMENTS

106.1 Submittal documents. Construction documents, special inspection and structural programs and other data shall be submitted in 1 or more sets with each application for a permit. The construction documents shall be prepared by, or under the direct supervision of, a registered design professional when required by article 20 of 1980 PA 299, MCL 339.101 et seq. Where special conditions exist, the building official is authorized to require additional construction documents to be prepared by a registered design professional.

R 408.30405

106.1.1 Information on construction documents. Construction documents shall be dimensioned and drawn upon suitable material. Electronic media documents are permitted to be submitted when approved by the building official. Construction documents shall be of sufficient clarity to indicate the location, nature and extent of the work proposed and show in detail that it will conform to the provisions of this code and relevant laws, ordinances, rules and regulations, as determined by the building official.

106.1.1.1 Fire protection system shop drawings. Shop drawings for the fire protection system(s) shall be submitted to indicate conformance with this code and the construction documents and shall be approved prior to the start of system installation. Shop drawings shall contain all information as required by the referenced installation standards in Chapter 9.

106.1.2 Means of egress. The construction documents shall show in sufficient detail the location, construction, size and character of all portions of the means of egress in compliance with the provisions of this code. In other than occupancies in Groups R-2, R-3, as applicable in Section 101.2, and

I-1, the construction documents shall designate the number of occupants to be accommodated on every floor, and in all rooms and spaces.

106.1.3 Exterior wall envelope. Construction documents for all buildings shall describe the exterior wall envelope in sufficient detail to determine compliance with this code. The construction documents shall provide details of the exterior wall envelope as required, including flashing, intersections with dissimilar materials, corners, end details, control joints, intersections at roof, eaves or parapets, means of drainage, water-resistive membrane and details around openings.

The construction documents shall include manufacturer's installation instructions that provide supporting documentation that the proposed penetration and opening details described in the construction documents maintain the weather resistance of the exterior wall envelope. The supporting documentation shall fully describe the exterior wall system which was tested, where applicable, as well as the test procedure used.

106.2 Site plan. The construction documents submitted with the application for permit shall be accompanied by a site plan showing to scale the size and location of new construction and existing structures on the site, distances from lot lines, the established street grades and the proposed finished grades and, as applicable, flood hazard areas, floodways, and design flood elevations; and it shall be drawn in accordance with an accurate boundary line survey. In the case of demolition, the site plan shall show construction to be demolished and the location and size of existing structures and construction that are to remain on the site or plot. The building official is authorized to waive or modify the requirement for a site plan when the application for permit is for alteration or repair or when otherwise warranted.

106.3 Examination of documents. The building official shall examine or cause to be examined the accompanying construction documents and shall ascertain by such examinations whether the construction indicated and described is in accordance with the requirements of this code and other pertinent laws or ordinances.

106.3.1 Approval of construction documents. When the building official issues a permit, the construction documents shall be approved, in writing or by stamp, as "Reviewed for Code Compliance." One set of construction documents so reviewed shall be retained by the building official. The other set shall be returned to the applicant, shall be kept at the site of work and shall be open to inspection by the building official or a duly authorized representative.

106.3.2 Previous approvals. This code shall not require changes in the construction documents, construction or designated occupancy of a structure for which a lawful permit has been heretofore issued or otherwise lawfully authorized, and the construction of which has been pursued in good faith within 180 days after the effective date of this code and has not been abandoned.

106.3.3 Phased approval. The building official is authorized to issue a permit for the construction of foundations or any other part of a building or structure before the construc-

tion documents for the whole building or structure have been submitted, provided that adequate information and detailed statements have been filed complying with pertinent requirements of this code. The holder of such permit for the foundation or other parts of a building or structure shall proceed at the holder's own risk with the building operation and without assurance that a permit for the entire structure will be granted.

106.3.4 Design professional in responsible charge.

106.3.4.1 General. When it is required that documents be prepared by a registered design professional, the building official shall be authorized to require the owner to engage and designate on the building permit application a registered design professional who shall act as the registered design professional in responsible charge. If the circumstances require, the owner shall designate a substitute registered design professional in responsible charge who shall perform the duties required of the original registered design professional in responsible charge. The building official shall be notified in writing by the owner if the registered design professional in responsible charge is changed or is unable to continue to perform the duties.

The registered design professional in responsible charge shall be responsible for reviewing and coordinating submittal documents prepared by others, including phased and deferred submittal items, for compatibility with the design of the building.

Where structural observation is required by Section 1709, the inspection program shall name the individual or firms who are to perform structural observation and describe the stages of construction at which structural observation is to occur (see also duties specified in Section 1704).

106.3.4.2 Deferred submittals. For the purposes of this section, deferred submittals are defined as those portions of the design that are not submitted at the time of the application and that are to be submitted to the building official within a specified period.

Deferral of any submittal items shall have the prior approval of the building official. The registered design professional in responsible charge shall list the deferred submittals on the construction documents for review by the building official.

Documents for deferred submittal items shall be submitted to the registered design professional in responsible charge who shall review them and forward them to the building official with a notation indicating that the deferred submittal documents have been reviewed and been found to be in general conformance to the design of the building. The deferred submittal items shall not be installed until the design and submittal documents have been approved by the building official.

106.4 Amended construction documents. Work shall be installed in accordance with the approved construction documents, and any changes made during construction that are not in compliance with the approved construction documents shall be resubmitted for approval as an amended set of construction documents.

106.5 Retention of construction documents. One set of approved construction documents shall be retained by the building official for a period of not less than 180 days from date of completion of the permitted work, or as required by state or local laws.

SECTION 107 TEMPORARY STRUCTURES AND USES

107.1 General. The building official is authorized to issue a permit for temporary structures and temporary uses. Such permits shall be limited as to time of service, but shall not be permitted for more than 180 days. The building official is authorized to grant extensions for demonstrated cause.

107.2 Conformance. Temporary structures and uses shall conform to the structural strength, fire safety, means of egress, accessibility, light, ventilation and sanitary requirements of this code as necessary to ensure the public health, safety and general welfare.

107.3 Temporary power. The building official is authorized to give permission to temporarily supply and use power in part of an electric installation before such installation has been fully completed and the final certificate of completion has been issued. The part covered by the temporary certificate shall comply with the requirements specified for temporary lighting, heat or power in the ICC Electrical Code.

107.4 Termination of approval. The building official is authorized to terminate such permit for a temporary structure or use and to order the temporary structure or use to be discontinued.

SECTION 108 FEES

108.1 Payment of fees. The fees prescribed by section 22 of 1972 PA 230, MCL 125.1522, shall be paid to the enforcing agency of the jurisdiction before a permit to begin work for new construction, alteration, removal, demolition, or other building operation may be issued. In addition, an amendment to a permit necessitating an additional fee shall not be approved until the additional fee has been paid.

R 408.30408

SECTION 109 INSPECTIONS

109.1 General. Construction or work for which a permit is required shall be subject to inspection by the building official and such construction or work shall remain accessible and exposed for inspection purposes until approved. Approval as a result of an inspection shall not be construed to be an approval of a violation of the provisions of this code or of other ordinances of the jurisdiction. Inspections presuming to give authority to violate or cancel the provisions of this code or of other ordinances of the jurisdiction shall not be valid. It shall be the duty of the permit applicant to cause the work to remain accessible and exposed for inspection purposes. Neither the building official nor the jurisdiction shall be liable for expense entailed in the removal or replacement of any material required to allow inspection.

109.2 Preliminary inspection. Before issuing a permit, the building official is authorized to examine or cause to be examined buildings, structures and sites for which an application has been filed.

109.3 Required inspections. The building official, upon notification, shall make the inspections set forth in Sections 109.3.1 through 109.3.10.

109.3.1 Footing and foundation inspection. Footing and foundation inspections shall be made after excavations for footings are complete and any required reinforcing steel is in place. For concrete foundations, any required forms shall be in place prior to inspection. Materials for the foundation shall be on the job, except where concrete is ready mixed in accordance with ASTM C 94, the concrete need not be on the job.

109.3.2 Concrete slab and under-floor inspection. Concrete slab and under-floor inspections shall be made after in-slab or under-floor reinforcing steel and building service equipment, conduit, piping accessories and other ancillary equipment items are in place, but before any concrete is placed or floor sheathing installed, including the subfloor.

109.3.3 Lowest floor elevation. In flood hazard areas, upon placement of the lowest floor, including the basement, and prior to further vertical construction, the elevation certification required in Section 1612.5 shall be submitted to the building official.

109.3.4 Frame inspection. Framing inspections shall be made after the roof deck or sheathing, all framing, fireblocking and bracing are in place and pipes, chimneys and vents to be concealed are complete and the rough electrical, plumbing, heating wires, pipes and ducts are approved.

109.3.5 Lath and gypsum board inspection. Lath and gypsum board inspections shall be made after lathing and gypsum board, interior and exterior, is in place, but before any plastering is applied or gypsum board joints and fasteners are taped and finished.

Exception: Gypsum board that is not part of a fire-resistance-rated assembly or a shear assembly.

109.3.6 Fire-resistant penetrations. Protection of joints and penetrations in fire-resistance-rated assemblies shall not be concealed from view until inspected and approved.

109.3.7 Energy efficiency inspections. Inspections shall be made to determine compliance with Chapter 13 and shall include, but not be limited to, inspections for: envelope insulation R and U values, fenestration U value, duct system R value, and HVAC and water-heating equipment efficiency.

109.3.8 Other inspections. In addition to the inspections specified above, the building official is authorized to make or require other inspections of any construction work to ascertain compliance with the provisions of this code and other laws that are enforced by the department of building safety.

109.3.9 Special inspections. For special inspections, see Section 1704.

109.3.10 Final inspection. The final inspection shall be made after all work required by the building permit is completed.

109.4 Inspection agencies. The building official is authorized to accept reports of approved inspection agencies, provided such agencies satisfy the requirements as to qualifications and reliability.

109.5 Inspection requests. It shall be the duty of the holder of the building permit or their duly authorized agent to notify the building official when work is ready for inspection. It shall be the duty of the permit holder to provide access to and means for inspections of such work that are required by this code.

109.6 Approval required. Work shall not be done beyond the point indicated in each successive inspection without first obtaining the approval of the building official. The building official, upon notification, shall make the requested inspections and shall either indicate the portion of the construction that is satisfactory as completed, or notify the permit holder or his or her agent wherein the same fails to comply with this code. Any portions that do not comply shall be corrected and such portion shall not be covered or concealed until authorized by the building official.

SECTION 110 CERTIFICATE OF OCCUPANCY

110.1 Use and occupancy. A building or structure shall not be used or occupied, and a change in the existing occupancy classification of a building or structure or portion thereof shall not be made until a certificate of occupancy has been issued in accordance with section 13 of 1972 PA 230, MCL 125.1513.

R 408.30412

110.2 Certificate issued. After the building official inspects the building or structure and finds no violations of the provisions of this code or other laws that are enforced by the department of building safety, the building official shall issue a certificate of occupancy that contains the following:

- 1. The building permit number.*
- 2. The address of the structure.*
- 3. The name and address of the owner.*
- 4. A description of that portion of the structure for which the certificate is issued.*
- 5. A statement that the described portion of the structure has been inspected for compliance with the requirements of this code for the occupancy and division of occupancy and the use for which the proposed occupancy is classified.*
- 6. The name of the building official.*
- 7. The edition of the code under which the permit was issued.*
- 8. The use and occupancy, in accordance with the provisions of Chapter 3.*
- 9. The type of construction as defined in Chapter 6.*
- 10. The design occupant load.*
- 11. If an automatic sprinkler system is provided, whether the sprinkler system is required.*
- 12. Any special stipulations and conditions of the building permit.*

110.3 Temporary occupancy. The building official is authorized to issue a temporary certificate of occupancy before the completion of the entire work covered by the permit, provided that such portion or portions shall be occupied safely. The building official shall set a time period during which the temporary certificate of occupancy is valid.

110.4 Revocation. The building official is authorized to, in writing, suspend or revoke a certificate of occupancy or completion issued under the provisions of this code wherever the certificate is issued in error; or on the basis of incorrect information supplied, or where it is determined that the building or structure or portion thereof is in violation of any ordinance or regulation or any of the provisions of this code.

SECTION 111 SERVICE UTILITIES

111.1 Connection of service utilities. No person shall make connections from a utility, source of energy, fuel or power to any building or system that is regulated by this code for which a permit is required, until released by the building official.

111.2 Temporary connection. The building official shall have the authority to authorize the temporary connection of the building or system to the utility source of energy, fuel or power.

111.3 Authority to disconnect service utilities. The building official shall have the authority to authorize disconnection of utility service to the building, structure or system regulated by this code and the codes referenced in case of emergency where necessary to eliminate an immediate hazard to life or property. The building official shall notify the serving utility, and wherever possible the owner and occupant of the building, structure or service system of the decision to disconnect prior to taking such action. If not notified prior to disconnecting, the owner or occupant of the building, structure or service system shall be notified in writing, as soon as practical thereafter.

SECTION 112 BOARD OF APPEALS

112.1 Means of appeal. A person may appeal a decision of the enforcing agency to the board of appeals. An application for appeal shall be based on a claim that the true intent of the code or the rules governing construction have been incorrectly interpreted, the provisions of the code do not apply, or an equal or better form of construction is proposed. The application shall be filed in accordance with section 14 of 1972 PA 230, MCL 125.1514.

R 408.30414

SECTION 113 VIOLATIONS

113.1 Unlawful acts. It shall be unlawful for any person, firm or corporation to erect, construct, alter, extend, repair, move, remove, demolish or occupy any building, structure or equipment regulated by this code, or cause same to be done, in conflict with or in violation of any of the provisions of this code.

113.2 Notice of violation. The building official is authorized to serve a notice of violation or order on the person responsible for the erection, construction, alteration, extension, repair, moving, removal, demolition or occupancy of a building or structure in violation of the provisions of this code, or in violation of a permit or certificate issued under the provisions of this code. Such order shall direct the discontinuance of the illegal action or condition and the abatement of the violation.

113.3 Prosecution of violation. If the notice of violation is not complied with promptly, the building official is authorized to request the legal counsel of the jurisdiction to institute the appropriate proceeding at law or in equity to restrain, correct or abate such violation, or to require the removal or termination of the unlawful occupancy of the building or structure in violation of the provisions of this code or of the order or direction made pursuant thereto.

113.4 Violation penalties. It is unlawful for any person, firm, or corporation to violate a provision of the code or fail to conform with any of the requirements thereof, or erect, construct, alter, extend, repair, move, remove, demolish, or occupy any building, structure, or equipment regulated by the code, or cause work to be performed or done, in conflict with or in violation of

the approved construction documents or directive of the enforcing agency, or a permit or certificate issued under the code. A violator shall be assessed a fine in accordance with section 23 of 1972 PA 230, MCL 125.1523.

R 408.30410

SECTION 114 STOP WORK ORDER

114.1 Authority. Whenever the building official finds any work regulated by this code being performed in a manner either contrary to the provisions of this code or dangerous or unsafe, the building official is authorized to issue a stop work order.

114.2 Notice to owner. Upon notice from the enforcing agency, work on any building or structure that is being done contrary to the code or in a dangerous or unsafe manner shall immediately cease. Notice shall be in accordance with section 12 of 1972 PA 230, MCL 125.1512. A person who is served with a stop work order, except for work that the person is directed to perform to remove a violation or unsafe condition is subject to the penalty provisions prescribed in section 23 of 1972 PA 230, MCL 125.1523.

R 408.30411

SECTION 115 UNSAFE STRUCTURES AND EQUIPMENT

115.1 Conditions. Structures or existing equipment that are or hereafter become unsafe, insanitary or deficient because of inadequate means of egress facilities, inadequate light and ventilation, or which constitute a fire hazard, or are otherwise dangerous to human life or the public welfare, or that involve illegal or improper occupancy or inadequate maintenance, shall be deemed an unsafe condition. Unsafe structures shall be taken down and removed or made safe, as the building official deems necessary and as provided for in this section. A vacant structure that is not secured against entry shall be deemed unsafe.

115.2 Record. The building official shall cause a report to be filed on an unsafe condition. The report shall state the occupancy of the structure and the nature of the unsafe condition.

115.3 Notice. If an unsafe condition is found, the building official shall serve on the owner, agent or person in control of the structure, a written notice that describes the condition deemed unsafe and specifies the required repairs or improvements to be made to abate the unsafe condition, or that requires the unsafe structure to be demolished within a stipulated time. Such notice shall require the person thus notified to declare immediately to the building official acceptance or rejection of the terms of the order.

115.4 Method of service. Such notice shall be deemed properly served if a copy thereof is (a) delivered to the owner personally; (b) sent by certified or registered mail addressed to the owner at the last known address with the return receipt requested; or (c) delivered in any other manner as prescribed by local law. If the certified or registered letter is returned showing that the letter was not delivered, a copy thereof shall be posted in a conspicuous place in or about the structure affected by such notice. Service of such notice in the foregoing manner upon the owner's agent or upon the person responsible for the structure shall constitute service of notice upon the owner.

115.5 Restoration. The structure or equipment determined to be unsafe by the building official is permitted to be restored to a safe condition. To the extent that repairs, alterations or additions are made or a change of occupancy occurs during the restoration of the structure, such repairs, alterations, additions or change of occupancy shall comply with the requirements of Section 105.2.2 and Chapter 34.

CHAPTER 2

DEFINITIONS

SECTION 201 GENERAL

201.1 Scope. Unless otherwise expressly stated, the following words and terms shall, for the purposes of this code, have the meanings shown in this chapter.

201.2 Interchangeability. Words used in the present tense include the future; words stated in the masculine gender include the feminine and neuter; the singular number includes the plural and the plural, the singular.

201.3 Terms defined in other codes. Where terms are not defined in this code and are defined in the International Fuel Gas Code, International Fire Code, International Mechanical Code or International Plumbing Code, such terms shall have the meanings ascribed to them as in those codes.

201.4 Terms not defined. Where terms are not defined through the methods authorized by this section, such terms shall have ordinarily accepted meanings such as the context implies.

SECTION 202 DEFINITIONS

ACCESSIBLE. See Section 1102.1.

ACCESSIBLE MEANS OF EGRESS. See Section 1002.1.

ACCESSIBLE ROUTE. See Section 1102.1.

ACCESSIBLE UNIT. See Section 1102.

ACCREDITATION BODY. See Section 2302.1.

ACTIVE FAULT/ACTIVE FAULT TRACE. See Section 1613.1.

ADDITION. An extension or increase in floor area or height of a building or structure.

ADHERED MASONRY VENEER. See Section 1402.1.

ADJUSTED SHEAR RESISTANCE. (Steel Construction). See Section 2202.1.

ADJUSTED SHEAR RESISTANCE. (Wood Construction). See Section 2302.1.

ADMIXTURE. See Section 1902.1.

ADOBE CONSTRUCTION. See Section 2102.1.

Stabilized adobe. See Section 2102.1.

Unstabilized adobe. See Section 2102.1.

[F] AEROSOL. See Section 307.2.

Level 1 aerosol products. See Section 307.2.

Level 2 aerosol products. See Section 307.2.

Level 3 aerosol products. See Section 307.2.

[F] AEROSOL CONTAINER. See Section 307.2.

AGGREGATE. See Section 1902.1.

AGGREGATE, LIGHTWEIGHT. See Section 1902.1.

AGRICULTURAL, BUILDING. A structure designed and constructed to house farm implements, hay, grain, poultry, livestock or other horticultural products. This structure shall not be a place of human habitation or a place of employment where agricultural products are processed, treated or packaged, nor shall it be a place used by the public.

AIR-INFLATED STRUCTURE. See Section 3102.2.

AIR-SUPPORTED STRUCTURE. See Section 3102.2.

Double skin. See Section 3102.2.

Single skin. See Section 3102.2.

AISLE ACCESSWAY. See Section 1002.1.

[F] ALARM NOTIFICATION APPLIANCE. See Section 902.1.

[F] ALARM SIGNAL. See Section 902.1.

[F] ALARM VERIFICATION FEATURE. See Section 902.1.

ALLEY. See "Public way."

ALLOWABLE STRESS DESIGN. See Section 1602.1.

ALTERATION. Any construction or renovation to an existing structure other than repair or addition.

ALTERNATING TREAD DEVICE. See Section 1002.1.

ANCHOR. See Section 2102.1.

ANCHOR BUILDING. See Section 402.2.

ANCHORED MASONRY VENEER. See Section 1402.1.

ANNULAR SPACE. See Section 702.1.

[F] ANNUNCIATOR. See Section 902.1.

APPROVED. Acceptable to the building official.

APPROVED AGENCY. See Section 1702.1.

APPROVED FABRICATOR. See Section 1702.1.

APPROVED SOURCE. An independent person, firm or corporation, approved by the building official, who is competent and experienced in the application of engineering principles to materials, methods or systems analyses.

ARCHITECTURAL TERRA COTTA. See Section 2102.1.

AREA. See Section 2102.1.

Bedded. See Section 2102.1.

Gross cross-sectional. See Section 2102.1.

Net cross-sectional. See Section 2102.1.

AREA, BUILDING. See Section 502.1.

AREA OF REFUGE. See Section 1002.1.

AREAWAY. A subsurface space adjacent to a building open at the top or protected at the top by a grating or guard.

ATRIUM. See Section 404.1.1.

ATTACHMENTS, SEISMIC. See Section 1613.1.

DEFINITIONS

ATTIC. The space between the ceiling beams of the top story and the roof rafters.

[F] **AUDIBLE ALARM NOTIFICATION APPLIANCE.** See Section 902.1.

[F] **AUTOMATIC.** See Section 902.1.

[F] **AUTOMATIC FIRE-EXTINGUISHING SYSTEM.** See Section 902.1.

[F] **AUTOMATIC SPRINKLER SYSTEM.** See Section 902.1.

[F] **AVERAGE AMBIENT SOUND LEVEL.** See Section 902.1

AWNING. An architectural projection that provides weather protection, identity or decoration and is wholly supported by the building to which it is attached. An awning is comprised of a lightweight, rigid skeleton structure over which a covering is attached.

BACKING. See Section 1402.1.

BALCONY, EXTERIOR. See Section 1602.1.

[F] **BARRICADE.** See Section 307.2.

Artificial barricade. See Section 307.2.

Natural barricade. See Section 307.2.

BASE. See Section 1613.1.

BASE FLOOD. See Section 1612.2.

BASE FLOOD ELEVATION. See Section 1612.2.

BASE SHEAR. See Section 1602.1.

BASIC SEISMIC-FORCE-RESISTING SYSTEMS. See Section 1602.1.

Bearing wall system. See Section 1602.1.

Building frame system. See Section 1602.1.

Dual system. See Section 1602.1.

Inverted pendulum system. See Section 1602.1.

Moment-resisting frame system. See Section 1602.1.

Shear wall-frame interactive system. See Section 1602.1.

BASEMENT. That portion of a building that is partly or completely below grade (see "Story above grade plane" and Sections 502.1 and 1612.2).

BED JOINT. See Section 2102.1.

BLEACHERS. See Section 1002.1.

BOARDING HOUSE. See Section 310.2.

[F] **BOILING POINT.** See Section 307.2.

BOND BEAM. See Section 2102.1.

BOND REINFORCING. See Section 2102.1.

BOUNDARY ELEMENT. See Sections 1602.1 and 1613.1.

BOUNDARY MEMBERS. See Section 1602.1.

BRACED WALL LINE. See Section 2302.1.

BRACED WALL PANEL. See Section 2302.1.

BRICK. See Section 2102.1.

Calcium silicate (sand lime brick). See Section 2102.1.

Clay or shale. See Section 2102.1.

Concrete. See Section 2102.1.

BRITTLE. See Section 1613.1.

BUILDING. "Building" means a combination of materials, whether portable or fixed, forming a structure affording a facility or shelter for use or occupancy by persons, animals, or property. The term does not include a building incidental to the use for agricultural purposes of the land on which the building is located if it is not used in the business of retail trade. The term shall be construed as though followed by the words "or part or parts of the building and all equipment in the building" unless the context clearly requires a different meaning.

R 408.30415a

BUILDING, ENCLOSED. See Section 1609.2.

BUILDING LINE. The line established by law, beyond which a building shall not extend, except as specifically provided by law.

BUILDING, LOW-RISE. See Section 1609.2.

BUILDING OFFICIAL. "Building official" means the person who is appointed and employed by a governmental subdivision charged with the administration and enforcement of the state code or codes and who is registered in accordance with the requirements of 1986 PA 54, MCL 338.2301 et seq.

R 408.30415a

BUILDING, OPEN. See Section 1609.2.

BUILDING, PARTIALLY ENCLOSED. See Section 1609.2.

BUILDING, SIMPLE DIAPHRAGM. See Section 1609.2.

BUILT-UP ROOF COVERING. See Section 1502.1.

BUTTRESS. See Section 2102.1.

CABLE-RESTRAINED, AIR-SUPPORTED STRUCTURE. See Section 3102.2.

CANOPY. An architectural projection that provides weather protection, identity or decoration and is supported by the building to which it is attached and at the outer end by not less than one stanchion. A canopy is comprised of a rigid structure over which a covering is attached.

CANTILEVERED COLUMN SYSTEM. See Section 1602.1.

[F] **CARBON DIOXIDE EXTINGUISHING SYSTEMS.** See Section 902.1.

CAST STONE. See Section 2102.1.

[F] **CEILING LIMIT.** See Section 902.1.

CEILING RADIATION DAMPER. See Section 702.1.

CELL. See Section 2102.1.

CEMENT PLASTER. See Section 2502.1.

CEMENTITIOUS MATERIALS. See Section 1902.1.

CERAMIC FIBER BLANKET. See Section 721.1.1.

CERTIFICATE OF COMPLIANCE. See Section 1702.1.

CHIMNEY. See Section 2102.1.

CHIMNEY TYPES. See Section 2102.1.

High-heat appliance type. See Section 2102.1.

Low-heat appliance type. See Section 2102.1.

Masonry type. See Section 2102.1.

Medium-heat appliance type. See Section 2102.1.

- CIRCULATION PATH.* See Section 1102.1.
- CLADDING.* See "Components and cladding."
- [F] *CLEAN AGENT.* See Section 902.1.
- CLEANOUT.* See Section 2102.1.
- [F] *CLOSED SYSTEM.* See Section 307.2.
- COLLAR JOINT.* See Section 2102.1.
- COLLECTOR.* See Sections 1613.1 and 2302.1.
- COLLECTOR ELEMENTS.* See Section 1602.1.
- COLUMN.* See Section 1902.1.
- COLUMN, MASONRY.* See Section 2102.1.
- COMBINATION FIRE/SMOKE DAMPER.* See Section 702.1.
- [F] *COMBUSTIBLE DUST.* See Section 307.2.
- [F] *COMBUSTIBLE FIBERS.* See Section 307.2.
- [F] *COMBUSTIBLE LIQUID.* See Section 307.2.
- Class II. See Section 307.2.
- Class IIIA. See Section 307.2.
- Class IIIB. See Section 307.2.
- COMMON PATH OF EGRESS TRAVEL.* See Section 1002.1.
- COMPONENT.* See Section 1613.1.
- Component equipment. See Section 1613.1.
- Component, flexible. See Section 1613.1.
- Component, rigid. See Section 1613.1.
- COMPONENTS AND CLADDING.* See Section 1609.2.
- COMPOSITE MASONRY.* See Section 2102.1.
- [F] *COMPRESSED GAS.* See Section 307.2.
- COMPRESSIVE STRENGTH OF MASONRY.* See Section 2102.1.
- CONCRETE.* See Section 1902.1.
- CONCRETE CARBONATE AGGREGATE.* See Section 721.1.1.
- CONCRETE, CELLULAR.* See Section 721.1.1.
- CONCRETE, LIGHTWEIGHT AGGREGATE.* See Section 721.1.1.
- CONCRETE, PERLITE.* See Section 721.1.1.
- CONCRETE, SAND-LIGHTWEIGHT.* See Section 721.1.1.
- CONCRETE, SILICEOUS AGGREGATE.* See Section 721.1.1.
- CONCRETE (F_c), SPECIFIED COMPRESSIVE STRENGTH OF.* See Section 1902.1.
- CONCRETE, VERMICULITE.* See Section 721.1.1.
- CONFINED REGION.* See Section 1602.1.
- CONNECTOR.* See Section 2102.1.
- [F] *CONSTANTLY ATTENDED LOCATION.* See Section 902.1.
- CONSTRUCTION DOCUMENTS.* Written, graphic and pictorial documents prepared or assembled for describing the design, location and physical characteristics of the elements of a project necessary for obtaining a building permit.
- CONSTRUCTION TYPES.* See Section 602.
- Type I. See Section 602.2.
- Type II. See Section 602.2.
- Type III. See Section 602.3.
- Type IV. See Section 602.4.
- Type V. See Section 602.5.
- [F] *CONTINUOUS GAS-DETECTION SYSTEM.* See Section 415.2.
- CONTRACTION JOINT.* See Section 1902.1.
- [F] *CONTROL AREA.* See Section 307.2.
- CONTROLLED LOW-STRENGTH MATERIAL.* A self-compacted, cementitious material used primarily as a backfill in place of compacted fill.
- CONVENTIONAL LIGHT-FRAME WOOD CONSTRUCTION.* See Section 2302.1.
- CORRIDOR.* See Section 1002.1.
- CORROSION RESISTANCE.* The ability of a material to withstand deterioration of its surface or its properties when exposed to its environment.
- [F] *CORROSIVE.* See Section 307.2.
- COURT.* An open, uncovered space, unobstructed to the sky, bounded on three or more sides by exterior building walls or other enclosing devices.
- COVER.* See Section 2102.1.
- COVERED MALL BUILDING.* See Section 402.2.
- CRIPPLE WALL.* See Section 2302.1.
- CRYOGENIC FLUID.* See Section 307.2.
- DALLE GLASS.* See Section 2402.1.
- DAMPER.* See Section 702.1.
- DEAD LOADS.* See Section 1602.1.
- DECK.* See Section 1602.1.
- DECORATIVE GLASS.* See Section 2402.1.
- [F] *DEFLAGRATION.* See Section 307.2.
- DEFORMABILITY.* See Section 1602.1.
- High deformability element. See Section 1602.1.
- Limited deformability element. See Section 1602.1.
- Low deformability element. See Section 1602.1.
- DEFORMATION.* See Section 1602.1.
- Limited deformation. See Section 1602.1.
- Ultimate deformation. See Section 1602.1.
- DEFORMED REINFORCEMENT.* See Section 1902.1.
- [F] *DELUGE SYSTEM.* See Section 902.1.
- DESIGN EARTHQUAKE.* See Section 1613.1.
- DESIGN FLOOD.* See Section 1612.2.
- DESIGN FLOOD ELEVATION.* See Section 1612.2.
- DESIGN STRENGTH.* See Section 1602.1.
- DESIGNATED SEISMIC SYSTEM.* See Section 1613.1.
- [F] *DETACHED STORAGE BUILDING.* See Section 307.2.

DEFINITIONS

DETECTABLE WARNING. See Section 1102.1.

[F] DETECTOR, HEAT. See Section 902.1.

[F] DETONATION. See Section 307.2.

DIAPHRAGM. See Sections 1602.1 and 2102.1.

Diaphragm, blocked. See Sections 1602.1 and 2102.1.

Diaphragm, boundary. See Section 1602.1.

Diaphragm, chord. See Section 1602.1.

Diaphragm, flexible. See Section 1602.1.

Diaphragm, rigid. See Section 1602.1.

Diaphragm, unblocked. See Section 2302.1.

DIMENSIONS. See Section 2102.1.

Actual. See Section 2102.1.

Nominal. See Section 2102.1.

Specified. See Section 2102.1.

DISPENSING. See Section 307.2.

DISPLACEMENT. See Section 1613.1.

Design displacement. See Section 1613.1.

Total design displacement. See Section 1613.1.

Total maximum displacement. See Section 1613.1.

DISPLACEMENT RESTRAINT SYSTEM. See Section 1613.1.

DOOR, BALANCED. See Section 1002.1.

DORMITORY. See Section 310.2.

DRAFTSTOP. See Section 702.1.

DRAG STRUT. See Section 2302.1.

[F] DRY-CHEMICAL EXTINGUISHING AGENT. See Section 902.1.

DRY FLOODPROOFING. See Section 1612.2.

DURATION OF LOAD. See Section 1602.1.

DWELLING. A building that contains one or two dwelling units used, intended or designed to be used, rented, leased, let or hired out to be occupied for living purposes.

DWELLING UNIT. See Section 310.2.

DWELLING UNIT OR SLEEPING UNIT, MULTISTORY. See Section 1102.

DWELLING UNIT OR SLEEPING UNIT, TYPE A. See Section 1102.

DWELLING UNIT OR SLEEPING UNIT, TYPE B. See Section 1102.

EFFECTIVE DAMPING. See Section 1613.1.

EFFECTIVE EMBEDMENT DEPTH. See Section 1913.2.2.

EFFECTIVE HEIGHT. See Section 2102.1.

EFFECTIVE STIFFNESS. See Section 1613.1.

EFFECTIVE WIND AREA. See Section 1609.2.

EGRESS COURT. See Section 1002.1.

ELEMENT. See Section 1602.1.

Ductile element. See Section 1602.1.

Limited ductile element. See Section 1602.1.

Nonductile element. See Section 1602.1.

[F] EMERGENCY ALARM SYSTEM. See Section 902.1.

[F] EMERGENCY CONTROL STATION. See Section 415.2.

EMERGENCY ESCAPE AND RESCUE OPENING. See Section 1002.1.

[F] EMERGENCY VOICE/ALARM COMMUNICATIONS. See Section 902.1.

EMPLOYEE WORK AREA. See Section 1102.1.

EQUIPMENT SUPPORT. See Section 1602.1.

ESSENTIAL FACILITIES. See Section 1602.1.

[F] EXHAUSTED ENCLOSURE. See Section 415.2.

EXISTING CONSTRUCTION. See Section 1612.2.

EXISTING STRUCTURE. A structure erected prior to the date of adoption of the appropriate code, or one for which a legal building permit has been issued.

EXIT. See Section 1002.1.

EXIT ACCESS. See Section 1002.1.

EXIT DISCHARGE. See Section 1002.1.

EXIT DISCHARGE, LEVEL OF. See Section 1002.1.

EXIT ENCLOSURE. See Section 1002.1.

EXIT PASSAGEWAY. See Section 1002.1.

EXPANDED VINYL WALL COVERING. See Section 802.1.

[F] EXPLOSION. See Section 902.1.

[F] EXPLOSIVE. See Section 307.2.

High explosive. See Section 307.2.

Low explosive. See Section 307.2.

Mass detonating explosives. See Section 307.2.

UN/DOTn Class 1 Explosives. See Section 307.2.

Division 1.1. See Section 307.2.

Division 1.2. See Section 307.2.

Division 1.3. See Section 307.2.

Division 1.4. See Section 307.2.

Division 1.5. See Section 307.2.

Division 1.6. See Section 307.2.

EXTERIOR SURFACES. See Section 2502.1.

EXTERIOR WALL. See Section 1402.1.

EXTERIOR WALL COVERING. See Section 1402.1.

EXTERIOR WALL ENVELOPE. See Section 1402.1.

F RATING. See Section 702.1.

FABRICATED ITEM. See Section 1702.1.

[F] FABRICATION AREA. See Section 415.2.

FACILITY. See Section 1102.1.

FACTORED LOAD. See Section 1602.1.

FIBERBOARD. See Section 2302.1.

[F] FIRE ALARM CONTROL UNIT. See Section 902.1.

[F] FIRE ALARM SIGNAL. See Section 902.1.

[F] FIRE ALARM SYSTEM. See Section 902.1.

FIRE AREA. See Section 702.1.

FIRE BARRIER. See Section 702.1.

- [F] FIRE COMMAND CENTER. See Section 902.1.
- FIRE DAMPER. See Section 702.1.
- [F] FIRE DETECTOR, AUTOMATIC. See Section 902.1.
- FIRE DOOR. See Section 702.1.
- FIRE DOOR ASSEMBLY. See Section 702.1.
- FIRE EXIT HARDWARE. See Section 1002.1.
- FIRE PARTITION. See Section 702.1.
- FIRE PROTECTION RATING. See Section 702.1.
- [F] FIRE PROTECTION SYSTEM. See Section 902.1.
- FIRE RESISTANCE. See Section 702.1.
- FIRE-RESISTANCE RATING. See Section 702.1.
- FIRE-RESISTANT JOINT SYSTEM. See Section 702.1.
- [F] FIRE SAFETY FUNCTIONS. See Section 902.1.
- FIRE SEPARATION DISTANCE. See Section 702.1.
- FIRE WALL. See Section 702.1.
- FIRE WINDOW ASSEMBLY. See Section 702.1.
- FIREBLOCKING. See Section 702.1.
- FIREPLACE. See Section 2102.1.
- FIREPLACE THROAT. See Section 2102.1.
- FIREWORKS. See Section 307.2.
- FIREWORKS, 1.3G. See Section 307.2.
- FIREWORKS, 1.4G. See Section 307.2.
- FLAME RESISTANCE. See Section 802.1.
- FLAME SPREAD. See Section 802.1.
- FLAME SPREAD INDEX. See Section 802.1.
- [F] FLAMMABLE GAS. See Section 307.2.
- [F] FLAMMABLE LIQUEFIED GAS. See Section 307.2.
- [F] FLAMMABLE LIQUID. See Section 307.2.
- Class IA. See Section 307.2.
- Class IB. See Section 307.2.
- Class IC. See Section 307.2.
- [F] FLAMMABLE MATERIAL. See Section 307.2.
- [F] FLAMMABLE SOLID. See Section 307.2.
- [F] FLAMMABLE VAPORS OR FUMES. See Section 415.2.
- [F] FLASH POINT. See Section 307.2.
- FLEXIBLE BUILDINGS AND OTHER STRUCTURES. See Section 1609.2.
- FLEXIBLE EQUIPMENT CONNECTIONS. See Section 1602.1.
- FLEXURAL LENGTH. See Section 1808.1.
- FLOOD OR FLOODING. See Section 1612.2.
- FLOOD DAMAGE-RESISTANT MATERIALS. See Section 1612.2.
- FLOOD HAZARD AREA. See Section 1612.2.
- FLOOD HAZARD AREA SUBJECT TO HIGH VELOCITY WAVE ACTION. See Section 1612.2.
- FLOOD INSURANCE RATE MAP (FIRM). See Section 1612.2.
- FLOOD INSURANCE STUDY. See Section 1612.2.
- FLOODWAY. See Section 1612.2.
- FLOOR AREA, GROSS. See Section 1002.1.
- FLOOR AREA, NET. See Section 1002.1.
- FLOOR FIRE DOOR ASSEMBLY. See Section 702.1.
- FLY GALLERY. See Section 410.2.
- [F] FOAM-EXTINGUISHING SYSTEMS. See Section 902.1.
- FOAM PLASTIC INSULATION. See Section 2602.1.
- FOLDING AND TELESCOPIC SEATING. See Section 1002.1.
- FOOD COURT. See Section 402.2.
- FRAME. See Section 1602.1.
- Braced frame. See Section 1602.1.
- Concentrically braced frame (CBF). See Section 1602.1.
- Eccentrically braced frame (EBF). See Section 1602.1.
- Ordinary concentrically braced frame (OCBF). See Section 1602.1.
- Special concentrically braced frame (SCBF). See Section 1602.1.
- Moment frame. See Section 1602.1.
- [F] GAS CABINET. See Section 415.2.
- [F] GAS ROOM. See Section 415.2.
- GLASS FIBERBOARD. See Section 721.1.1.
- GLUED BUILT-UP MEMBER. See Section 2302.1.
- GRADE FLOOR OPENING. A window or other opening located such that the sill height of the opening is not more than 44 inches (1118 mm) above or below the finished ground level adjacent to the opening.
- GRADE (LUMBER). See Section 2302.1.
- GRADE PLANE. See Section 502.1.
- GRANDSTAND. See Section 1002.1.
- GRAVITY LOAD. See Section 1613.1.
- GRIDIRON. See Section 410.2.
- GROSS LEASABLE AREA. See Section 402.2.

DEFINITIONS

GROUTED MASONRY. See Section 2102.1.

Grouted hollow-unit masonry. See Section 2102.1.

Grouted multiwythe masonry. See Section 2102.1.

GUARD. See Section 1002.1.

GYPSUM BOARD. See Section 2502.1.

GYPSUM PLASTER. See Section 2502.1.

GYPSUM VENEER PLASTER. See Section 2502.1.

HABITABLE SPACE. A space in a building for living, sleeping, eating or cooking. Bathrooms, toilet rooms, closets, halls, storage or utility spaces and similar areas are not considered habitable spaces.

[F] HALOGENATED EXTINGUISHING SYSTEMS. See Section 902.1.

[F] HANDLING. See Section 307.2.

HANDRAIL. See Section 1002.1.

HARDBOARD. See Section 2302.1.

HAZARDOUS CONTENTS. See Section 1613.1.

[F] HAZARDOUS MATERIALS. See Section 307.2.

[F] HAZARDOUS PRODUCTION MATERIAL (HPM). See Section 415.2.

HEAD JOINT. See Section 2102.1.

HEADER (Bonder). See Section 2102.1.

[F] HEALTH HAZARD. See Section 307.2.

HEIGHT, BUILDING. See Section 502.1.

HEIGHT, STORY. See Section 502.1.

HEIGHT, WALLS. See Section 2102.1.

HELIPORT. See Section 412.5.2.

HELISTOP. See Section 412.5.2.

[F] HIGHLY TOXIC. See Section 307.2.

HISTORIC BUILDINGS. Buildings that are listed in or eligible for listing in the National Register of Historic Places, or designated as historic under an appropriate state or local law (see Section 3406).

HORIZONTAL EXIT. See Section 1002.1.

[F] HPM FLAMMABLE LIQUID. See Section 415.2.

[F] HPM ROOM. See Section 415.2.

HURRICANE-PRONE REGIONS. See Section 1609.2.

IMMEDIATELY DANGEROUS TO LIFE AND HEALTH (IDLH). See Section 415.2.

IMPACT LOAD. See Section 1602.1.

IMPORTANCE FACTOR, I. See Section 1609.2.

INCOMPATIBLE MATERIALS. See Section 307.2.

INDUSTRIAL EQUIPMENT PLATFORM. See Section 502.1.

[F] INITIATING DEVICE. See Section 902.1.

INSPECTION CERTIFICATE. See Section 1702.1.

INTENDED TO BE OCCUPIED AS A RESIDENCE. See Section 1102.

INTERIOR FINISH. See Section 802.1.

INTERIOR FLOOR FINISH. See Section 802.1.

INTERIOR SURFACES. See Section 2502.1.

INTERIOR WALL AND CEILING FINISH. See Section 802.1.

INTERLAYMENT. See Section 1502.1.

INVERTED PENDULUM-TYPE STRUCTURES. See Section 1613.1.

ISOLATION INTERFACE. See Section 1613.1.

ISOLATION JOINT. See Section 1902.1.

ISOLATION SYSTEM. See Section 1613.1.

ISOLATOR UNIT. See Section 1613.1.

JOINT. See Sections 702.1 and 1602.1.

JURISDICTION. The governmental unit that has adopted this code under due legislative authority.

LABEL. See Section 1702.1.

LIGHT-DIFFUSING SYSTEM. See Section 2602.1.

LIGHT-FRAME CONSTRUCTION. A type of construction whose vertical and horizontal structural elements are primarily formed by a system of repetitive wood or light gage steel framing members.

LIGHT-TRANSMITTING PLASTIC ROOF PANELS. See Section 2602.1.

LIGHT-TRANSMITTING PLASTIC WALL PANELS. See Section 2602.1.

LIMIT STATE. See Section 1602.1.

[F] LIQUID. See Section 415.2.

[F] LIQUID STORAGE ROOM. See Section 415.2.

[F] LIQUID USE, DISPENSING AND MIXING ROOMS. See Section 415.2.

LISTED. See Section 902.1.

LIVE LOADS. See Section 1602.1.

LIVE LOADS (ROOF). See Section 1602.1.

LOAD. See Section 1613.1.

Gravity load (W). See Section 1613.1.

LOAD AND RESISTANCE FACTOR DESIGN (LRFD). See Section 1602.1.

LOAD FACTOR. See Section 1602.1.

LOADS. See Section 1602.1.

LOADS EFFECTS. See Section 1602.1.

LOT. A portion or parcel of land considered as a unit.

LOT LINE. A line dividing one lot from another, or from a street or any public place.

[F] LOWER FLAMMABLE LIMIT (LFL). See Section 415.2.

LOWEST FLOOR. See Section 1612.2.

MAIN WINDFORCE-RESISTING SYSTEM. See Section 1609.2.

MALL. See Section 402.2.

- [F] **MANUAL FIRE ALARM BOX.** See Section 902.1.
- MANUFACTURER'S DESIGNATION.** See Section 1702.1.
- MARK.** See Section 1702.1.
- MARQUEE.** A permanent roofed structure attached to and supported by the building and that projects into the public right-of-way.
- MASONRY.** See Section 2102.1.
- Ashlar masonry. See Section 2102.1.
 - Coursed ashlar. See Section 2102.1.
 - Glass unit masonry. See Section 2102.1.
 - Plain masonry. See Section 2102.1.
 - Random ashlar. See Section 2102.1.
 - Reinforced masonry. See Section 2102.1.
 - Solid masonry. See Section 2102.1.
- MASONRY UNIT.** See Section 2102.1.
- Clay. See Section 2102.1.
 - Concrete. See Section 2102.1.
 - Hollow. See Section 2102.1.
 - Solid. See Section 2102.1.
- MAXIMUM CONSIDERED EARTHQUAKE.** See Section 1613.1.
- MEAN DAILY TEMPERATURE.** See Section 2102.1.
- MEAN ROOF HEIGHT.** See Section 1609.2.
- MEANS OF EGRESS.** See Section 1002.1.
- MECHANICAL-ACCESS OPEN PARKING GARAGES.** See Section 406.3.2.
- MECHANICAL EQUIPMENT SCREEN.** See Section 1502.1.
- MEMBRANE-COVERED CABLE STRUCTURE.** See Section 3102.2.
- MEMBRANE-COVERED FRAME STRUCTURE.** See Section 3102.2.
- MEMBRANE PENETRATION.** See Section 702.1.
- MEMBRANE-PENETRATION FIRESTOP.** See Section 702.1.
- METAL COMPOSITE MATERIAL (MCM).** See Section 1402.
- METAL COMPOSITE MATERIAL SYSTEM.** See Section 1402.
- METAL ROOF PANEL.** See Section 1502.1.
- METAL ROOF SHINGLE.** See Section 1502.1.
- MEZZANINE.** See Section 502.1.
- MINERAL BOARD.** See Section 721.1.1.
- MODIFIED BITUMEN ROOF COVERING.** See Section 1502.1.
- MORTAR.** See Section 2102.1.
- MORTAR, SURFACE-BONDING.** See Section 2102.1.
- MULTILEVEL ASSEMBLY SEATING.** See Section 1102.1.
- [F] **MULTIPLE-STATION ALARM DEVICE.** See Section 902.1.
- [F] **MULTIPLE-STATION SMOKE ALARM.** See Section 902.1.
- NAILING, BOUNDARY.** See Section 2302.1.
- NAILING, EDGE.** See Section 2302.1.
- NAILING, FIELD.** See Section 2302.1.
- NATURALLY DURABLE WOOD.** See Section 2302.1.
- Decay resistant. See Section 2302.1.
 - Termite resistant. See Section 2302.1.
- NOMINAL LOADS.** See Section 1602.1.
- NOMINAL SIZE (LUMBER).** See Section 2302.1.
- NONBUILDING STRUCTURE.** See Section 1613.1.
- NONCOMBUSTIBLE MEMBRANE STRUCTURE.** See Section 3102.2.
- [F] **NORMAL TEMPERATURE AND PRESSURE (NTP).** See Section 415.2.
- NOSING.** See Section 1002.1.
- [F] **NUISANCE ALARM.** See Section 902.1.
- OCCUPANCY IMPORTANCE FACTOR.** See Section 1613.1.
- OCCUPANT LOAD.** See Section 1002.1.
- OCCUPIABLE SPACE.** A room or enclosed space designed for human occupancy in which individuals congregate for amusement, educational or similar purposes or in which occupants are engaged at labor; and which is equipped with means of egress and light and ventilation facilities meeting the requirements of this code.
- OPEN PARKING GARAGE.** See Section 406.3.2.
- [F] **OPEN SYSTEM.** See Section 307.2.
- OPERATING BUILDING.** See Section 307.2.
- [F] **ORGANIC PEROXIDE.** See Section 307.2.
- Class I. See Section 307.2.
 - Class II. See Section 307.2.
 - Class III. See Section 307.2.
 - Class IV. See Section 307.2.
 - Class V. See Section 307.2.
 - Unclassified detonable. See Section 307.2.
- OTHER STRUCTURES.** See Section 1602.1.
- OWNER.** Any person, agent, firm or corporation having a legal or equitable interest in the property.
- [F] **OXIDIZER.** See Section 307.2.
- Class 4. See Section 307.2.
 - Class 3. See Section 307.2.
 - Class 2. See Section 307.2.
 - Class 1. See Section 307.2.
- [F] **OXIDIZING GAS.** See Section 307.2.
- P-DELTA EFFECT.** See Section 1602.1.
- PANEL (PART OF A STRUCTURE).** See Section 1602.1.
- PANIC HARDWARE.** See Section 1002.1.
- PARTICLEBOARD.** See Section 2302.1.
- PEDESTAL.** See Section 1902.1.
- PENETRATION FIRESTOP.** See Section 702.1.
- PENTHOUSE.** See Section 1502.1.

DEFINITIONS

PERMIT. An official document or certificate issued by the authority having jurisdiction which authorizes performance of a specified activity.

PERSON. An individual, heirs, executors, administrators or assigns, and also includes a firm, partnership or corporation, its or their successors or assigns, or the agent of any of the aforesaid.

PERSONAL CARE SERVICE. See Section 310.2.

[F] PHYSICAL HAZARD. See Section 307.2.

PIER FOUNDATIONS. See Section 1808.1.

Belled piers. See Section 1808.1.

PILE FOUNDATIONS. See Section 1808.1.

Auger uncased piles. See Section 1808.1.

Caisson piles. See Section 1808.1.

Concrete-filled steel pipe and tube piles. See Section 1808.1.

Driven uncased piles. See Section 1808.1.

Enlarged base piles. See Section 1808.1.

Piles. See Section 1808.1.

Steel-cased piles. See Section 1808.1.

PINRAIL. See Section 410.2.

PLAIN CONCRETE. See Section 1902.1.

PLAIN REINFORCEMENT. See Section 1902.1.

PLASTIC, APPROVED. See Section 2602.1.

PLASTIC GLAZING. See Section 2602.1.

PLASTIC HINGE. See Section 2102.1.

PLATFORM. See Section 410.2.

POSITIVE ROOF DRAINAGE. See Section 1502.1.

PRECAST CONCRETE. See Section 1902.1.

PRESERVATIVE-TREATED WOOD. See Section 2302.1.

PRESTRESSED CONCRETE. See Section 1902.1.

PRESTRESSED MASONRY. See Section 2102.1.

á *Prestressed masonry shear wall.* See Section 2102.1.

Ordinary plain prestressed masonry shear wall. See Section 2102.1.

Special prestressed masonry shear wall. See Section 2102.1.

Special reinforced masonry shear wall. See Section 2102.1.

PRISM. See Section 2102.1.

PROJECTED AREA. See Section 1913.2.2.

PROSCENIUM WALL. See Section 410.2.

PUBLIC ENTRANCE. See Section 1102.1.

PUBLIC-USE AREAS. See Section 1102.1.

PUBLIC WAY. See Section 1002.1.

[F] PYROPHORIC. See Section 307.2.

[F] PYROTECHNIC COMPOSITION. See Section 307.2.

QUALITY ASSURANCE PLAN. A written procedure complying with the requirements of Section 1705.

RAMP. See Section 1002.1.

RAMP-ACCESS OPEN PARKING GARAGES. See Section 406.3.2.

[F] RECORD DRAWINGS. See Section 902.1.

REFERENCE RESISTANCE (D). See Section 2302.1.

REGISTERED DESIGN PROFESSIONAL. "Registered design professional" means an individual who is licensed under article 20, 1980 PA 299, MCL 339.2001 et seq.

R 408.30415a

REINFORCED CONCRETE. See Section 1902.1.

REINFORCED PLASTIC, GLASS FIBER. See Section 2602.1.

REINFORCEMENT. See Section 1902.1.

REPAIR. The reconstruction or renewal of any part of an existing building for the purpose of its maintenance.

REQUIRED STRENGTH. See Sections 1602.1 and 2102.1.

REROOFING. See Section 1502.1.

RESHORES. See Section 1902.1.

RESIDENTIAL AIRCRAFT HANGAR. See Section 412.3.1.

RESIDENTIAL CARE/ASSISTED LIVING FACILITIES. See Section 310.2.

RESISTANCE FACTOR. See Section 1602.1.

RESTRICTED ENTRANCE. See Section 1102.1.

RETRACTABLE AWNING. See Section 3105.2.

ROOF ASSEMBLY. See Section 1502.1.

ROOF COVERING. See Section 1502.1.

ROOF COVERING SYSTEM. See Section 1502.1.

ROOF DECK. See Section 1502.1.

ROOF RECOVER. See Section 1502.1.

ROOF REPAIR. See Section 1502.1.

ROOF REPLACEMENT. See Section 1502.1.

ROOF VENTILATION. See Section 1502.1.

ROOFTOP STRUCTURE. See Section 1502.1.

RUBBLE MASONRY. See Section 2102.1.

Coursed rubble. See Section 2102.1.

Random rubble. See Section 2102.1.

Rough or ordinary rubble. See Section 2102.1.

RUNNING BOND. See Section 2102.1.

SCISSOR STAIR See Section 1002.1.

SCUPPER. See Section 1502.1.

SEISMIC DESIGN CATEGORY. See Section 1613.1.

SEISMIC-FORCE-RESISTING SYSTEM. See Section 1613.1.

SEISMIC FORCES. See Section 1613.1.

SEISMIC RESPONSE COEFFICIENT. See Section 1613.1.

SEISMIC USE GROUP. See Section 1613.1.

SELF-CLOSING. See Section 702.1.

SELF-SERVICE STORAGE FACILITY. See Section 1102.1.

[F] SERVICE CORRIDOR. See Section 415.2.

SERVICE ENTRANCE. See Section 1102.1.

SHAFT. See Section 702.1.

SHAFT ENCLOSURE. See Section 702.1.

SHALLOW ANCHORS. See Section 1602.1.

SHEAR PANEL. See Section 1602.1.

SHEAR WALL. See Sections 1602.1, 1613.1 and 2102.1.

Detailed plain masonry shear wall. See Section 2102.1.

Intermediate reinforced masonry shear wall. See Section 2102.1.

Ordinary plain masonry shear wall. See Section 2102.1.

Ordinary reinforced masonry shear wall. See Section 2102.1.

Perforated shear wall. See Section 2302.1.

Perforated shear wall segment. See Section 2302.1.

Special reinforced masonry shear wall. See Section 2102.1.

Type I shear wall. See Section 2202.1.

Type II shear wall. See Section 2202.1.

Type II shear wall segment. See Section 2202.1.

SHEAR WALL-FRAME INTERACTIVE SYSTEM. See Section 1613.1.

SHELL. See Section 2102.1.

SHORES. See Section 1902.1.

SHOTCRETE. See Section 1914.1.

SINGLE-PLY MEMBRANE. See Section 1502.1.

[F] SINGLE-STATION SMOKE ALARM. See Section 902.1.

SITE. See Section 1102.1.

SITE CLASS. See Section 1613.1.

SITE COEFFICIENTS. See Section 1613.1.

SKYLIGHT, UNIT. A factory-assembled, glazed fenestration unit, containing one panel of glazing material that allows for natural lighting through an opening in the roof assembly while preserving the weather-resistant barrier of the roof.

SKYLIGHTS AND SLOPED GLAZING. Glass or other transparent or translucent glazing material installed at a slope of 15 degrees (0.26 rad) or more from vertical. Glazing material in skylights, including unit skylights, solariums, sunrooms, roofs and sloped walls, are included in this definition.

SLEEPING UNIT. A room or space in which people sleep, which can also include permanent provisions for living, eating, and either sanitation or kitchen facilities but not both. Such rooms and spaces that are also part of a dwelling unit are not sleeping units.

[F] SMOKE ALARM. See Section 902.1.

SMOKE BARRIER. See Section 702.1.

SMOKE COMPARTMENT. See Section 702.1.

SMOKE DAMPER. See Section 702.1.

[F] SMOKE DETECTOR. See Section 902.1.

SMOKE-DEVELOPED INDEX. See Section 802.1.

SMOKE-PROTECTED ASSEMBLY SEATING. See Section 1002.1.

SMOKEPROOF ENCLOSURE. See Section 902.1.

[F] SOLID. See Section 415.2.

SPACE FRAME. See Section 1602.1.

SPECIAL AMUSEMENT BUILDING. See Section 411.2.

SPECIAL INSPECTION. See Section 1702.1.

Special continuous inspection. See Section 1702.1.

Special periodic inspection. See Section 1702.1.

SPECIAL FLOOD HAZARD AREA. See Section 1612.2.

SPECIAL TRANSVERSE REINFORCEMENT. See Section 1602.1.

SPECIFIED. See Section 2102.1.

SPECIFIED COMPRESSIVE STRENGTH OF MASONRY (f_m). See Section 2102.1.

SPIRAL REINFORCEMENT. See Section 1902.1.

SPLICE. See Section 702.1.

SPRAYED FIRE-RESISTANT MATERIALS. See Section 1702.1.

STACK BOND. See Section 2102.1.

STAGE. See Section 410.2.

STAIR. See Section 1002.1.

STAIRWAY. See Section 1002.1.

STAIRWAY, EXTERIOR. See Section 1002.1.

STAIRWAY, INTERIOR. See Section 1002.1.

STAIRWAY, SPIRAL. See Section 1002.1.

[F] STANDPIPE SYSTEM, CLASSES OF. See Section 902.1.

Class I system. See Section 902.1.

Class II system. See Section 902.1.

Class III system. See Section 902.1.

[F] STANDPIPE, TYPES OF. See Section 902.1.

Automatic dry. See Section 902.1.

Automatic wet. See Section 902.1.

Manual dry. See Section 902.1.

Manual wet. See Section 902.1.

Semiautomatic dry. See Section 902.1.

START OF CONSTRUCTION. See Section 1612.2.

STEEL CONSTRUCTION, COLD-FORMED. See Section 2202.1.

STEEL JOIST. See Section 2202.1.

STEEL MEMBER, STRUCTURAL. See Section 2202.1.

STEEP SLOPE. A roof slope greater than two units vertical in 12 units horizontal (17-percent slope).

STONE MASONRY. See Section 2102.1.

Ashlar stone masonry. See Section 2102.1.

Rubble stone masonry. See Section 2102.1.

[F] STORAGE, HAZARDOUS MATERIALS. See Section 415.2.

STORY. That portion of a building included between the upper surface of a floor and the upper surface of the floor or roof next above (also see "Basement," "Mezzanine" and Section 502.1).

DEFINITIONS

It is measured as the vertical distance from top to top of two successive tiers of beams or finished floor surfaces and, for the topmost story, from the top of the floor finish to the top of the ceiling joists or, where there is not a ceiling, to the top of the roof rafters.

STORY ABOVE GRADE PLANE. Any story having its finished floor surface entirely above grade plane, except that a basement shall be considered as a story above grade plane where the finished surface of the floor above the basement is:

1. More than 6 feet (1829 mm) above grade plane;
2. More than 6 feet (1829 mm) above the finished ground level for more than 50 percent of the total building perimeter; or
3. More than 12 feet (3658 mm) above the finished ground level at any point.

STORY DRIFT RATIO. See Section 1613.1.

STRENGTH. See Section 2102.1.

Design strength. See Section 2102.1.

Nominal strength. See Sections 1602.1 and 2102.1.

STRENGTH DESIGN. See Section 1602.1.

STRUCTURAL CONCRETE. See Section 1902.1.

STRUCTURAL GLUED-LAMINATED TIMBER. See Section 2302.1.

STRUCTURAL OBSERVATION. See Section 1702.1.

STRUCTURE. "Structure" means that which is built or constructed, an edifice or building of any kind, or a piece of work artificially built up or composed of parts joined together in some definite manner. Structure does not include a structure incident to the use for agricultural purposes of the land on which the structure is located and does not include works of heavy civil construction including without limitation any of the following:

- (a) A highway.
- (b) A bridge.
- (c) A dam.
- (d) A reservoir.
- (e) A lock.
- (f) A mine.
- (g) A harbor.
- (h) A dockside port facility.
- (i) An airport landing facility.
- (j) A facility for the generation, or transmission, or distribution of electricity.

Structure shall be construed as though followed by the words "or part or parts of the structure and all equipment in the structure," unless the context clearly indicates otherwise.

R 408.30415a

SUBDIAPHRAGM. See Section 2302.1.

SUBSTANTIAL DAMAGE. See Section 1612.2.

SUBSTANTIAL IMPROVEMENT. See Section 1612.2.

[F] **SUPERVISING STATION.** See Section 902.1.

[F] **SUPERVISORY SERVICE.** See Section 902.1.

[F] **SUPERVISORY SIGNAL.** See Section 902.1.

[F] **SUPERVISORY SIGNAL-INITIATING DEVICE.** See Section 902.1.

SWIMMING POOLS. See Section 3109.2.

T RATING. See Section 702.1.

TECHNICALLY INFEASIBLE. See Section 3402.

TENDON. See Section 1902.1.

TENT. Any structure, enclosure or shelter which is constructed of canvas or pliable material supported in any manner except by air or the contents it protects.

THERMOPLASTIC MATERIAL. See Section 2602.1.

THERMOSETTING MATERIAL. See Section 2602.1.

THROUGH PENETRATION. See Section 702.1.

THROUGH-PENETRATION FIRESTOP SYSTEM. See Section 702.1.

TIE-DOWN (HOLD-DOWN). See Section 2302.1.

TIE, LATERAL. See Section 2102.1.

TIE, WALL. See Section 2102.1.

TILE. See Section 2102.1.

TILE, STRUCTURAL CLAY. See Section 2102.1.

[F] **TIRES, BULK STORAGE OF.** See Section 902.1.

TORSIONAL FORCE DISTRIBUTION. See Section 1613.1.

TOUGHNESS. See Section 1613.1.

[F] **TOXIC.** See Section 307.2.

TREATED WOOD. See Section 2302.1.

TRIM. See Section 802.1.

[F] **TROUBLE SIGNAL.** See Section 902.1.

UNADJUSTED SHEAR RESISTANCE. See Section 2202.1.

UNDERLAYMENT. See Section 1502.1.

[F] **UNSTABLE (REACTIVE) MATERIAL.** See Section 307.2.

Class 4. See Section 307.2.

Class 3. See Section 307.2.

Class 2. See Section 307.2.

Class 1. See Section 307.2.

[F] **USE (MATERIAL).** See Section 415.2.

VAPOR-PERMEABLE MEMBRANE. A material or covering having a permeance rating of 5 perms ($52.9 \cdot 10^{-10}$ kg/Pa s m^2) or greater, when tested in accordance with the desiccant method using Procedure A of ASTM E 96. A vapor-permeable material permits the passage of moisture vapor.

VAPOR RETARDER. A vapor-resistant material, membrane or covering such as foil, plastic sheeting or insulation facing having a permeance rating of 1 perm ($5.7 \cdot 10^{-11}$ kg/Pa s m^2) or less, when tested in accordance with the desiccant method using Procedure A of ASTM E 96. Vapor retarders limit the amount of moisture vapor that passes through a material or wall assembly.

VENEER. See Section 1402.1.

VENTILATION. The natural or mechanical process of supplying conditioned or unconditioned air to, or removing such air from, any space.

[F] VISIBLE ALARM NOTIFICATION APPLIANCE. See Section 902.1.

WALKWAY, PEDESTRIAN. A walkway used exclusively as a pedestrian trafficway.

WALL. See Section 2102.1.

Cavity wall. See Section 2102.1.

Composite wall. See Section 2102.1.

Dry-stacked, surface-bonded wall. See Section 2102.1.

Masonry-bonded hollow wall. See Section 2102.1.

Parapet wall. See Section 2102.1.

WALL, LOAD-BEARING. See Section 1602.1.

WALL, NONLOAD-BEARING. See Section 1602.1.

[F] WATER-REACTIVE MATERIAL. See Section 307.2.

Class 3. See Section 307.2.

Class 2. See Section 307.2.

Class 1. See Section 307.2.

WEATHER-EXPOSED SURFACES. See Section 2502.1.

WEB. See Section 2102.1.

[F] WET-CHEMICAL EXTINGUISHING SYSTEM. See Section 902.1.

WHEELCHAIR SPACE. See Section 1102.1.

WHEELCHAIR SPACE CLUSTER. See Section 1102.1.

WIND-BORNE DEBRIS REGION. See Section 1609.2.

WIND-RESTRAINT SEISMIC SYSTEM. See Section 1613.

WIRE BACKING. See Section 2502.1.

[F] WIRELESS PROTECTION SYSTEM. See Section 902.1.

WOOD SHEAR PANEL. See Section 2302.1.

WOOD STRUCTURAL PANEL. See Section 2302.1.

Composite panels. See Section 2302.1.

Oriented strand board (OSB). See Section 2302.1.

Plywood. See Section 2302.1.

[F] WORKSTATION. See Section 415.2.

WYTHER. See Section 2102.1.

YARD. An open space, other than a court, unobstructed from the ground to the sky, except where specifically provided by this code, on the lot on which a building is situated.

[F] ZONE. See Section 902.1.

CHAPTER 3

USE AND OCCUPANCY CLASSIFICATION

SECTION 301 GENERAL

301.1 Scope. The provisions of this chapter shall control the classification of all buildings and structures as to use and occupancy.

SECTION 302 CLASSIFICATION

302.1 General. Structures or portions of structures shall be classified with respect to occupancy in one or more of the groups listed below. Structures with multiple uses shall be classified according to Section 302.3. Where a structure is proposed for a purpose which is not specifically provided for in this code, such structure shall be classified in the group which the occupancy most nearly resembles, according to the fire safety and relative hazard involved.

1. *Assembly (see Section 303): Groups A-1, A-2, A-3, A-4 and A-5*
2. *Business (see Section 304): Group B*
3. *Educational (see Section 305): Group E*
4. *Factory and Industrial (see Section 306): Groups F-1 and F-2*
5. *High Hazard (see Section 307): Groups H-1, H-2, H-3, H-4 and H-5*
6. *Institutional (see Section 308): Groups I-1, I-2, I-3 and I-4*
7. *Mercantile (see Section 309): Group M*
8. *Residential (see Section 310): Groups R-1, R-2, R-3 as applicable in Section 101.2, and R-4*
9. *Storage (see Section 311): Groups S-1 and S-2*
10. *Utility and Miscellaneous (see Section 312): Group U*

302.1.1 Incidental use areas. Spaces which are incidental to the main occupancy shall be separated or protected, or both, in accordance with Table 302.1.1 or the building shall be classified as a mixed occupancy and comply with Section 302.3. Areas that are incidental to the main occupancy shall be classified in accordance with the main occupancy of the portion of the building in which the incidental use area is located.

Exception: Incidental use areas within and serving a dwelling unit are not required to comply with this section.

302.1.1.1 Separation. Where Table 302.1.1 requires a fire-resistance-rated separation, the incidental use area shall be separated from the remainder of the building with a fire barrier. Where Table 302.1.1 permits an automatic fire-extinguishing system without a fire barrier, the incidental use area shall be separated by construction capable of resisting the passage of smoke. The partitions

shall extend from the floor to the underside of the fire-resistance-rated floor/ceiling assembly or fire-resistance-rated roof/ceiling assembly or to the underside of the floor or roof deck above. Doors shall be self-closing or automatic-closing upon detection of smoke. Doors shall not have air transfer openings and shall not be undercut in excess of the clearance permitted in accordance with NFPA 80.

**TABLE 302.1.1
INCIDENTAL USE AREAS**

ROOM OR AREA	SEPARATION ^a
Furnace room where any piece of equipment is over 400,000 Btu per hour input	1 hour or provide automatic fire-extinguishing system
Rooms with any boiler over 15 psi and 10 horsepower	1 hour or provide automatic fire-extinguishing system
Refrigerant machinery rooms	1 hour or provide automatic sprinkler system
Parking garage (Section 406.2)	2 hours; or 1 hour and provide automatic fire-extinguishing system
Hydrogen cut-off rooms	1-hour fire barriers and floor/ceiling assemblies in Group B, F, H, M, S and U occupancies. 2-hour fire barriers and floor/ceiling assemblies in Group A, E, I and R occupancies.
Incinerator rooms	2 hours and automatic sprinkler system
Paint shops, not classified as Group H, located in occupancies other than Group F	2 hours; or 1 hour and provide automatic fire-extinguishing system
Laboratories and vocational shops, not classified as Group H, located in Group E or I-2 occupancies	1 hour or provide automatic fire-extinguishing system
Laundry rooms over 100 square feet	1 hour or provide automatic fire-extinguishing system
Storage rooms over 100 square feet	1 hour or provide automatic fire-extinguishing system
Group I-3 cells equipped with padded surfaces	1 hour
Group I-2 waste and linen collection rooms	1 hour
Waste and linen collection rooms over 100 square feet	1 hour or provide automatic fire-extinguishing system
Stationary lead-acid battery systems having a liquid capacity of more than 100 gallons used for facility standby power, emergency power or uninterrupted power supplies	1-hour fire barriers and floor/ceiling assemblies in Group B, F, H, M, S and U occupancies. 2-hour fire barriers and floor/ceiling assemblies in Group A, E, I and R occupancies

For SI: 1 square foot = 0.0929 m², 1 pound per square inch = 6.9 kPa, 1 British thermal unit = 0.293 watts, 1 horsepower = 746 watts, 1 gallon = 3.785 L.

a. Where an automatic fire-extinguishing system is provided, it need only be provided in the incidental use room or area.

302.2 Accessory use areas. A fire barrier shall be required to separate accessory use areas classified as Group H in accordance with Section 302.3.2, and incidental use areas in accordance with Section 302.1.1. Any other accessory use area shall not be required to be separated by a fire barrier provided the accessory use area occupies an area not more than 10 percent of the area of the story in which it is located and does not exceed the tabular values in Table 503 for the allowable height or area for such use.

302.2.1 Assembly areas. Accessory assembly areas are not considered separate occupancies if the floor area is equal to or less than 750 square feet (69.7 m²). Assembly areas that are accessory to Group E are not considered separate occupancies. Accessory religious educational rooms and religious auditoriums with occupant loads of less than 100 are not considered separate occupancies.

302.3 Mixed occupancies. Where a building is occupied by two or more uses not included in the same occupancy classification, the building or portion thereof shall comply with Section 302.3.1 or 302.3.2 or a combination of these sections.

Exceptions:

1. Occupancies separated in accordance with Section 508.
2. Areas of Group H-2, H-3, H-4 or H-5 occupancies shall be separated from any other occupancy in accordance with Section 302.3.2.
3. Where required by Table 415.3.2, areas of Group H-1, H-2 or H-3 occupancy shall be located in a separate and detached building or structure.
4. Accessory use areas in accordance with Section 302.2.
5. Incidental use areas in accordance with Section 302.1.1.

302.3.1 Nonseparated uses. Each portion of the building shall be individually classified as to use. The required type of construction for the building shall be determined by applying the height and area limitations for each of the applicable occupancies to the entire building. The most restrictive type of construction, so determined, shall apply to the entire building. All other code requirements shall apply to each portion of the building based on the use of that space except that the most restrictive applicable provisions of Section 403 and Chapter 9 shall apply to these nonseparated uses. Fire separations are not required between uses, except as required by other provisions.

302.3.2 Separated uses. Each portion of the building shall be individually classified as to use and shall be completely separated from adjacent areas by fire barrier walls or horizontal assemblies or both having a fire-resistance rating determined in accordance with Table 302.3.2 for uses being separated. Each fire area shall comply with this code based on the use of that space. Each fire area shall comply with the height limitations based on the use of that space and the type of construction classification. In each story, the building area shall be such that the sum of the ratios of the floor area of each use divided by the allowable area for each use shall not exceed one.

Exception: Except for Group H and I-2 areas, where the building is equipped throughout with an automatic sprinkler system, installed in accordance with Section 903.3.1.1, the fire-resistance ratings in Table 302.3.2 shall be reduced by 1 hour but to not less than 1 hour and to not less than that required for floor construction according to the type of construction.

302.4 Spaces used for different purposes. A room or space that is intended to be occupied at different times for different purposes shall comply with all the requirements that are applicable to each of the purposes for which the room or space will be occupied.

SECTION 303 ASSEMBLY GROUP A

303.1 Assembly Group A. Assembly Group A occupancy includes, among others, the use of a building or structure, or a portion thereof, for the gathering together of persons for purposes such as civic, social or religious functions, recreation, food or drink consumption or awaiting transportation. A room or space used for assembly purposes by less than 50 persons and accessory to another occupancy shall be included as a part of that occupancy. Assembly areas with less than 750 square feet (69.7 m²) and which are accessory to another occupancy according to Section 302.2.1 are not assembly occupancies. Assembly occupancies which are accessory to Group E in accordance with Section 302.2 are not considered assembly occupancies. Religious educational rooms and religious auditoriums which are accessory to churches in accordance with Section 302.2 and which have occupant loads of less than 100 shall be classified as A-3.

Assembly occupancies shall include the following:

A-1 Assembly uses, usually with fixed seating, intended for the production and viewing of the performing arts or motion pictures including, but not limited to:

Motion picture theaters
Symphony and concert halls
Television and radio studios admitting an audience
Theaters

A-2 Assembly uses intended for food and/or drink consumption including, but not limited to:

Banquet halls
Night clubs
Restaurants
Taverns and bars

A-3 Assembly uses intended for worship, recreation or amusement and other assembly uses not classified elsewhere in Group A including, but not limited to:

Amusement arcades
Art galleries
Bowling alleys
Churches
Community halls
Courtrooms
Dance halls (not including food or drink consumption)
Exhibition halls

TABLE 302.3.2
REQUIRED SEPARATION OF OCCUPANCIES (HOURS)^a

USE	A-1	A-2	A-3	A-4	A-5	B ^b	E	F-1	F-2	H-1	H-2	H-3	H-4	H-5	I-1	I-2	I-3	I-4	M ^b	R-1	R-2	R-3, R-4	S-1	S-2 ^c	U
A-1	—	2	2	2	2	2	2	3	2	NP	4	3	2	4	2	2	2	2	2	2	2	2	3	2	I
A-2 ^e	—	—	2	2	2	2	2	3	2	NP	4	3	2	4	2	2	2	2	2	2	2	2	3	2	I
A-3	—	—	—	2	2	2	2	3	2	NP	4	3	2	4	2	2	2	2	2	2	2	2	3	2	I
A-4	—	—	—	—	2	2	2	3	2	NP	4	3	2	4	2	2	2	2	2	2	2	2	3	2	I
A-5	—	—	—	—	—	2	2	3	2	NP	4	3	2	4	2	2	2	2	2	2	2	2	3	2	I
B ^b	—	—	—	—	—	—	2	3	2	NP	2	I	I	I	2	2	2	2	2	2	2	2	3	2	I
E	—	—	—	—	—	—	—	3	2	NP	4	3	2	3	2	2	2	2	2	2	2	2	3	2	I
F-1	—	—	—	—	—	—	—	—	3	NP	2	I	I	I	3	3	3	3	3	3	3	3	3	3	3
F-2	—	—	—	—	—	—	—	—	—	NP	2	I	I	I	2	2	2	2	2	2	2	2	3	2	I
H-1	—	—	—	—	—	—	—	—	—	—	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP
H-2	—	—	—	—	—	—	—	—	—	—	—	I	2	2	4	4	4	4	4	2	4	4	4	2	I
H-3	—	—	—	—	—	—	—	—	—	—	—	—	I	I	4	3	3	3	I	3	3	3	I	I	I
H-4	—	—	—	—	—	—	—	—	—	—	—	—	—	I	4	4	4	4	I	4	4	4	I	I	I
H-5	—	—	—	—	—	—	—	—	—	—	—	—	—	—	4	4	4	3	I	4	4	4	I	I	3
I-1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2	2	2	2	2	2	2	4	3	2
I-2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2	2	2	2	2	2	3	2	I
I-3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2	2	2	2	2	3	2	I
I-4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2	2	2	2	3	2	I
M ^b	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2	2	3	2	I
R-1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2	2	3	2	I
R-2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2	3	2	I
R-3, R-4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3	2 ^d	I ^d
S-1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3	3
S-2 ^c	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	I
U	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

For SI: 1 square foot = 0.0929 m².

NP = Not permitted.

a. See exception to Section 302.3.2 for reductions permitted.

b. Occupancy separation need not be provided for storage areas within Groups B and M if the:

1. Area is less than 10 percent of the floor area;
 2. Area is provided with an automatic fire-extinguishing system and is less than 3,000 square feet; or
 3. Area is less than 1,000 square feet.
- c. Areas used only for private or pleasure vehicles shall be allowed to reduce separation by 1 hour.
- d. See Section 406.1.4.
- e. Commercial kitchens need not be separated from the restaurant seating areas that they serve.

USE AND OCCUPANCY CLASSIFICATION

Funeral parlors
Gymnasiums (without spectator seating)
Indoor swimming pools (without spectator seating)
Indoor tennis courts (without spectator seating)
Lecture halls
Libraries
Museums
Waiting areas in transportation terminals
Pool and billiard parlors

A-4 Assembly uses intended for viewing of indoor sporting events and activities with spectator seating including, but not limited to:

Arenas
Skating rinks
Swimming pools
Tennis courts

A-5 Assembly uses intended for participation in or viewing outdoor activities including, but not limited to:

Amusement park structures
Bleachers
Grandstands
Stadiums

303.1.1 Nonaccessory assembly use. A building or tenant space used for assembly purposes by less than 50 persons shall be considered a Group B occupancy.

SECTION 304 BUSINESS GROUP B

304.1 Business Group B. Business Group B occupancy includes, among others, the use of a building or structure, or a portion thereof, for office, professional or service-type transactions, including storage of records and accounts. Business occupancies shall include, but not be limited to, the following:

Airport traffic control towers
Animal hospitals, kennels and pounds
Banks
Barber and beauty shops
Car wash
Civic administration
Clinic—outpatient
Dry cleaning and laundries; pick-up and delivery stations and self-service
Educational occupancies above the 12th grade
Electronic data processing
Laboratories; testing and research
Motor vehicle showrooms
Post offices
Print shops
Professional services (architects, attorneys, dentists, physicians, engineers, etc.)
Radio and television stations
Telephone exchanges

SECTION 305 EDUCATIONAL GROUP E

305.1 Educational Group E. Educational Group E occupancy includes, among others, the use of a building or structure, or a

portion thereof, by six or more persons at any one time for educational purposes through the 12th grade. Religious educational rooms and religious auditoriums, which are accessory to churches in accordance with Section 302.2 and have occupant loads of less than 100, shall be classified as A-3 occupancies.

305.2 Day care. The use of a building or structure, or portion thereof, for educational, supervision or personal care services for more than five children older than 2½ years of age, shall be classified as a Group E occupancy.

SECTION 306 FACTORY GROUP F

306.1 Factory Industrial Group F. Factory Industrial Group F occupancy includes, among others, the use of a building or structure, or a portion thereof, for assembling, disassembling, fabricating, finishing, manufacturing, packaging, repair or processing operations that are not classified as a Group H hazardous or Group S storage occupancy.

306.2 Factory Industrial F-1 Moderate-Hazard Occupancy. Factory industrial uses which are not classified as Factory Industrial F-2 Low Hazard shall be classified as F-1 Moderate Hazard and shall include, but not be limited to, the following:

Aircraft
Appliances
Athletic equipment
Automobiles and other motor vehicles
Bakeries
Beverages; over 12-percent alcohol content
Bicycles
Boats
Brooms or brushes
Business machines
Cameras and photo equipment
Canvas or similar fabric
Carpets and rugs (includes cleaning)
Clothing
Construction and agricultural machinery
Disinfectants
Dry cleaning and dyeing
Electric generation plants
Electronics
Engines (including rebuilding)
Food processing
Furniture
Hemp products
Jute products
Laundries
Leather products
Machinery
Metals
Millwork (sash & door)
Motion pictures and television filming (without spectators)
Musical instruments
Optical goods
Paper mills or products
Photographic film
Plastic products
Printing or publishing

Recreational vehicles
 Refuse incineration
 Shoes
 Soaps and detergents
 Textiles
 Tobacco
 Trailers
 Upholstering
 Wood; distillation
 Woodworking (cabinet)

306.3 Factory Industrial F-2 Low-Hazard Occupancy. *Factory industrial uses that involve the fabrication or manufacturing of noncombustible materials which during finishing, packing or processing do not involve a significant fire hazard shall be classified as F-2 occupancies and shall include, but not be limited to, the following:*

Beverages; up to and including 12-percent alcohol content
 Brick and masonry
 Ceramic products
 Foundries
 Glass products
 Gypsum
 Ice
 Metal products (fabrication and assembly)

SECTION 307 HIGH-HAZARD GROUP H

[F] 307.1 High-Hazard Group H. *High-Hazard Group H occupancy includes, among others, the use of a building or structure, or a portion thereof, that involves the manufacturing, processing, generation or storage of materials that constitute a physical or health hazard in quantities in excess of those found in Tables 307.7(1) and 307.7(2) (see also definition of "Control area").*

[F] 307.2 Definitions. *The following words and terms shall, for the purposes of this section and as used elsewhere in this code, have the meanings shown herein.*

AEROSOL. *A product that is dispensed from an aerosol container by a propellant.*

Aerosol products shall be classified by means of the calculation of their chemical heats of combustion and shall be designated Level 1, 2 or 3.

Level 1 aerosol products. Those with a total chemical heat of combustion that is less than or equal to 8,600 British thermal units per pound (Btu/lb) (20 kJ/g).

Level 2 aerosol products. Those with a total chemical heat of combustion that is greater than 8,600 Btu/lb (20 kJ/g), but less than or equal to 13,000 Btu/lb (30 kJ/g).

Level 3 aerosol products. Those with a total chemical heat of combustion that is greater than 13,000 Btu/lb (30 kJ/g).

AEROSOL CONTAINER. *A metal can or a glass or plastic bottle designed to dispense an aerosol. Metal cans shall be limited to a maximum size of 33.8 fluid ounces (1,000 ml). Glass or*

plastic bottles shall be limited to a maximum size of 4 fluid ounces (118 ml).

BARRICADE. *A structure that consists of a combination of walls, floor and roof, which is designed to withstand the rapid release of energy in an explosion and which is fully confined, partially vented or fully vented; or other effective method of shielding from explosive materials by a natural or artificial barrier.*

Artificial barricade. An artificial mound or revetment a minimum thickness of 3 feet (914 mm).

Natural barricade. Natural features of the ground, such as hills, or timber of sufficient density that the surrounding exposures that require protection cannot be seen from the magazine or building containing explosives when the trees are bare of leaves.

BOILING POINT. *The temperature at which the vapor pressure of a liquid equals the atmospheric pressure of 14.7 pounds per square inch (psi) (101 kPa) gage or 760 mm of mercury. Where an accurate boiling point is unavailable for the material in question, or for mixtures which do not have a constant boiling point, for the purposes of this classification, the 20-percent evaporated point of a distillation performed in accordance with ASTM D 86 shall be used as the boiling point of the liquid.*

CLOSED SYSTEM. *The use of a solid or liquid hazardous material involving a closed vessel or system that remains closed during normal operations where vapors emitted by the product are not liberated outside of the vessel or system and the product is not exposed to the atmosphere during normal operations; and all uses of compressed gases. Examples of closed systems for solids and liquids include product conveyed through a piping system into a closed vessel, system or piece of equipment.*

COMBUSTIBLE DUST. *Finely divided solid material that is 420 microns or less in diameter and which, when dispersed in air in the proper proportions, could be ignited by a flame, spark or other source of ignition. Combustible dust will pass through a U.S. No. 40 standard sieve.*

COMBUSTIBLE FIBERS. *Readily ignitable and free-burning fibers, such as cocoa fiber, cloth, cotton, excelsior, hay, hemp, henequen, istle, jute, kapok, oakum, rags, sisal, Spanish moss, straw, tow, wastepaper, certain synthetic fibers or other like materials.*

COMBUSTIBLE LIQUID. *A liquid having a closed cup flash point at or above 100°F (38°C). Combustible liquids shall be subdivided as follows:*

Class II. Liquids having a closed cup flash point at or above 100°F (38°C) and below 140°F (60°C).

Class IIIA. Liquids having a closed cup flash point at or above 140°F (60°C) and below 200°F (93°C).

Class IIIB. Liquids having a closed cup flash point at or above 200°F (93°C).

The category of combustible liquids does not include compressed gases or cryogenic fluids.

USE AND OCCUPANCY CLASSIFICATION

[F] TABLE 307.7(1) MAXIMUM ALLOWABLE QUANTITY PER CONTROL AREA OF HAZARDOUS MATERIALS POSING A PHYSICAL HAZARD^{a, i, m, n}

MATERIAL	CLASS	GROUP WHEN THE MAXIMUM ALLOWABLE QUANTITY IS EXCEEDED	STORAGE ^b			USE-CLOSED SYSTEMS ^b			USE-OPEN SYSTEMS ^b		
			Solid pounds (cubic feet)	Liquid gallons (pounds)	Gas (cubic feet at NTP)	Solid pounds (cubic feet)	Liquid gallons (pounds)	Gas (cubic feet at NTP)	Solid pounds (cubic feet)	Liquid gallons (pounds)	
Combustible liquid ^{c, i}	II	H-2 or H-3	N/A	120 ^{d, e}	N/A	N/A	N/A	120 ^d	N/A	30 ^d	
	IIIA	H-2 or H-3	N/A	330 ^{d, e}	N/A	N/A	N/A	330 ^d	N/A	80 ^d	
	IIIB	N/A	N/A	13,200 ^{e, f}	N/A	N/A	N/A	13,200 ^f	N/A	3,300 ^f	
Combustible fiber	Loose Baled	H-3	(100) (1,000)	N/A	N/A	N/A	(100) (1,000)	N/A	(20) (200)	N/A	
Consumer fireworks (Class C, Common)	1.4G	H-3	125 ^{d, e, l}	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
Cryogenics flammable	N/A	H-2	N/A	45 ^d	N/A	N/A	N/A	45 ^d	N/A	10 ^d	
Cryogenics, oxidizing	N/A	H-3	N/A	45 ^d	N/A	N/A	N/A	45 ^d	N/A	10 ^d	
Explosives	Division 1.1	H-1	1 ^{e, g}	(1) ^{e, g}	N/A	N/A	0.25 ^g	(0.25) ^g	N/A	0.25 ^g	
	Division 1.2	H-1	1 ^{e, g}	(1) ^{e, g}	N/A	N/A	0.25 ^g	(0.25) ^g	N/A	0.25 ^g	
	Division 1.3	H-1 or 2	5 ^{e, g}	(5) ^{e, g}	N/A	N/A	1 ^g	(1) ^g	N/A	1 ^g	
	Division 1.4	H-3	50 ^{e, g}	(50) ^{e, g}	N/A	N/A	50 ^g	(50) ^g	N/A	N/A	
	Division 1.4G	H-3	125 ^{d, e, l}	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
	Division 1.5	H-1	1 ^{e, g}	(1) ^{e, g}	N/A	N/A	0.25 ^g	(0.25) ^g	N/A	0.25 ^g	
Division 1.6	H-1	1 ^{d, e, g}	N/A	N/A	N/A	N/A	N/A	N/A	N/A		
Flammable gas	Gaseous liquefied	H-2	N/A	N/A	1,000 ^{d, e} N/A	N/A	N/A	N/A	1,000 ^{d, e} N/A	N/A	
Flammable liquid ^c	1A 1B and 1C	H-2 or H-3	N/A	30 ^{d, e} 120 ^{d, e}	N/A	N/A	N/A	30 ^d 120 ^d	N/A	10 ^d 30 ^d	
Combination flammable liquid (1A, 1B, 1C)	N/A	H-2 or H-3	N/A	120 ^{d, e, h}	N/A	N/A	N/A	120 ^{d, h}	N/A	30 ^{d, h}	
Flammable solid	N/A	H-3	125 ^{d, e}	N/A	N/A	N/A	125 ^d	N/A	25 ^d	N/A	
Organic peroxide	UD	H-1	1 ^{e, g}	(1) ^{e, g}	N/A	N/A	0.25 ^g	(0.25) ^g	N/A	0.25 ^g	
	I	H-2	5 ^{d, e}	(5) ^{d, e}	N/A	N/A	1 ^d	(1) ^d	N/A	1 ^d	
	II	H-3	50 ^{d, e}	(50) ^{d, e}	N/A	N/A	50 ^d	(50) ^d	N/A	10 ^d	
	III	H-3	125 ^{d, e}	(125) ^{d, e}	N/A	N/A	125 ^d	(125) ^d	N/A	25 ^d	
	IV	N/A	NL	NL	N/A	N/A	N/L	N/L	N/A	NL	
V	N/A	N/A	NL	NL	N/A	N/A	N/L	N/L	N/A	NL	
Oxidizer	4	H-1	1 ^{e, g}	(1) ^{e, g}	N/A	N/A	0.25 ^g	(0.25) ^g	N/A	0.25 ^g	
	3 ^k	H-2	10 ^{d, e}	(10) ^{d, e}	N/A	N/A	2 ^d	(2) ^d	N/A	2 ^d	
	2	H-3	250 ^{d, e}	(250) ^{d, e}	N/A	N/A	250 ^d	(250) ^d	N/A	50 ^d	
1	H-3	4,000 ^{e, f}	(4,000) ^{e, f}	N/A	N/A	4,000 ^f	(4,000) ^f	N/A	1,000 ^f	(1,000) ^f	
Oxidizing gas	Gaseous liquefied	H-3	N/A	N/A	1,500 ^{d, e} N/A	N/A	N/A	N/A	1,500 ^{d, e} N/A	N/A	N/A
			N/A	15 ^{d, e}	N/A	N/A	N/A	15 ^{d, e}	N/A	N/A	N/A

(continued)

[F] TABLE 307.7(1)—continued
MAXIMUM ALLOWABLE QUANTITY PER CONTROL AREA OF HAZARDOUS MATERIALS POSING A PHYSICAL HAZARD^{a, i, m, n}

MATERIAL	CLASS	GROUP WHEN THE MAXIMUM ALLOWABLE QUANTITY IS EXCEEDED	STORAGE ^b			USE-CLOSED SYSTEMS ^b			USE-OPEN SYSTEMS ^b	
			Solid pounds (cubic feet)	Liquid gallons (pounds)	Gas (cubic feet at NTP)	Solid pounds (cubic feet)	Liquid gallons (pounds)	Gas (cubic feet at NTP)	Solid pounds (cubic feet)	Liquid gallons (pounds)
Pyrophoric material	N/A	H-2	4 ^{c, g}	(4) ^{c, g}	50 ^{c, g}	1 ^g	(1) ^g	10 ^{c, g}	0	0
Unstable (reactive)	4	H-1	1 ^{c, g}	(1) ^{c, g}	10 ^{d, g}	0.25 ^g	(0.25) ^g	2 ^{c, g}	0.25 ^g	(0.25) ^g
	3	H-1 or H-2	5 ^{d, e}	(5) ^{d, e}	50 ^{d, e}	1 ^d	(1)	10 ^{d, e}	1 ^d	(1) ^d
	2	H-3	50 ^{d, e}	(50) ^{d, e}	250 ^{d, e}	50 ^d	(50) ^d	250 ^{d, e}	10 ^d	(10) ^d
Water reactive	1	N/A	NL	NL	N/L	NL	N/L	NL	NL	NL
	3	H-2	5 ^{d, e}	(5) ^{d, e}	N/A	5 ^d	(5) ^d	N/A	1 ^d	(1) ^d
	2	H-3	50 ^{d, e}	(50) ^{d, e}	N/A	50 ^d	(50) ^d	N/A	10 ^d	(10) ^d
	1	N/A	NL	NL	N/A	NL	NL	N/A	NL	NL

For SI: 1 cubic foot = 0.023 m³, 1 pound = 0.454 kg, 1 gallon = 3.785 L.

NL = Not Limited; N/A = Not Applicable; UD = Unclassified Detonable

a. For use of control areas, see Section 414.2.

b. The aggregate quantity in use and storage shall not exceed the quantity listed for storage.

c. The quantities of alcoholic beverages in retail and wholesale sales occupancies shall not be limited providing the liquids are packaged in individual containers not exceeding 1.3 gallons. In retail and wholesale sales occupancies, the quantities of medicines, foodstuffs, consumer or industrial products, and cosmetics containing not more than 50 percent by volume of water-miscible liquids with the remainder of the solutions not being flammable, shall not be limited, provided that such materials are packaged in individual containers not exceeding 1.3 gallons.

d. Maximum allowable quantities shall be increased 100 percent in buildings equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1. Where Note e also applies, the increase for both notes shall be applied cumulatively.

e. Maximum allowable quantities shall be increased 100 percent when stored in approved storage cabinets, gas cabinets, exhausted enclosures or safety cans as specified in the International Fire Code. Where Note d also applies, the increase for both notes shall be applied cumulatively.

f. The permitted quantities shall not be limited in a building equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1.

g. Permitted only in buildings equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1.

h. Containing not more than the maximum allowable quantity per control area of Class IA, IB or IC flammable liquids.

i. Inside a building, the maximum capacity of a combustible liquid storage system that is connected to fuel-oil piping system shall be 660 gallons provided such system conforms to the International Fire Code.

j. Quantities in parentheses indicate quantity units in parentheses at the head of each column.

k. A maximum quantity of 200 pounds of solid or 20 gallons of liquid Class 3 oxidizers is allowed when such materials are necessary for maintenance purposes, operation or sanitation of equipment. Storage containers and the manner of storage shall be approved.

l. Net weight of the pyrotechnic composition of the fireworks. Where the net weight of the pyrotechnic composition of the fireworks is not known, 25 percent of the gross weight of the fireworks, including packaging, shall be used.

m. For gallons of liquids, divide the amount in pounds by 10 in accordance with Section 2703.1.2 of the International Fire Code.

n. For storage and display quantities in Group M and storage quantities complying with Section 414.2.4, see Table 414.2.4.

[F] TABLE 307.7(2)
MAXIMUM ALLOWABLE QUANTITY PER CONTROL AREA OF HAZARDOUS MATERIAL POSING A HEALTH HAZARD^{a, b, c, j}

MATERIAL	STORAGE ^d			USE-CLOSED SYSTEMS ^d			USE-OPEN SYSTEMS ^d	
	Solid pounds ^{e, f}	Liquid gallons (pounds) ^{e, f}	Gas (cubic feet at NTP) ^e	Solid pounds ^e	Liquid gallons (pounds) ^e	Gas (cubic feet at NTP) ^e	Solid pounds ^e	Liquid gallons (pounds) ^e
Corrosive	5,000	500	810 ^{f, g}	5,000	500	810 ^{f, g}	1,000	100
Highly toxic	10	(10) ⁱ	20 ^h	10	(10) ⁱ	20 ^h	3	(3) ⁱ
Toxic	500	(500) ⁱ	810 ^f	500	(500) ⁱ	810 ^f	125	(125) ⁱ

For SI: 1 cubic foot = 0.028 m³, 1 pound = 0.454 kg, 1 gallon = 3.785 L.

a. For use of control areas, see Section 414.2.

b. In retail and wholesale sales occupancies, the quantities of medicines, foodstuffs, consumer or industrial products, and cosmetics, containing not more than 50 percent by volume of water-miscible liquids and with the remainder of the solutions not being flammable, shall not be limited, provided that such materials are packaged in individual containers not exceeding 1.3 gallons.

c. For storage and display quantities in Group M and storage quantities in Group S occupancies complying with Section 414.2.4, see Table 414.2.4.

d. The aggregate quantity in use and storage shall not exceed the quantity listed for storage.

e. Quantities shall be increased 100 percent in buildings equipped throughout with an approved automatic sprinkler system in accordance with Section 903.3.1.1. Where Note f also applies, the increase for both notes shall be applied accumulatively.

f. Quantities shall be increased 100 percent when stored in approved storage cabinets, gas cabinets or exhausted enclosures as specified in the International Fire Code. Where Note e also applies, the increase for both notes shall be applied accumulatively.

g. A single cylinder containing 150 pounds or less of anhydrous ammonia in a single control area in a nonsprinklered building shall be considered a maximum allowable quantity. Two cylinders, each containing 150 pounds or less in a single control area, shall be considered a maximum allowable quantity provided the building is equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1.

h. Allowed only when stored in approved exhausted gas cabinets or exhausted enclosures as specified in the International Fire Code.

i. Quantities in parenthesis indicate quantity units in parenthesis at the head of each column.

j. For gallons of liquids, divide the amount in pounds by 10 in accordance with Section 2703.1.2 of the International Fire Code.

COMPRESSED GAS. A material, or mixture of materials which:

1. Is a gas at 68°F (20°C) or less at 14.7 pounds per square inch atmosphere (psia) (101 kPa) of pressure; and
2. Has a boiling point of 68°F (20°C) or less at 14.7 psia (101 kPa) which is either liquefied, nonliquefied or in solution, except those gases which have no other health- or physical-hazard properties are not considered to be compressed until the pressure in the packaging exceeds 41 psia (282 kPa) at 68°F (20°C).

The states of a compressed gas are categorized as follows:

1. Nonliquefied compressed gases are gases, other than those in solution, which are in a packaging under the charged pressure and are entirely gaseous at a temperature of 68°F (20°C).
2. Liquefied compressed gases are gases that, in a packaging under the charged pressure, are partially liquid at a temperature of 68°F (20°C).
3. Compressed gases in solution are nonliquefied gases that are dissolved in a solvent.
4. Compressed gas mixtures consist of a mixture of two or more compressed gases contained in a packaging, the hazard properties of which are represented by the properties of the mixture as a whole.

CONTROL AREA. Spaces within a building that are enclosed and bounded by exterior walls, fire walls, fire barriers and roofs, or a combination thereof, where quantities of hazardous materials not exceeding the maximum allowable quantities per control area are stored, dispensed, used or handled.

CORROSIVE. A chemical that causes visible destruction of, or irreversible alterations in, living tissue by chemical action at the point of contact. A chemical shall be considered corrosive

if, when tested on the intact skin of albino rabbits by the method described in DOTn 49 CFR, Part 173.137, such a chemical destroys or changes irreversibly the structure of the tissue at the point of contact following an exposure period of 4 hours. This term does not refer to action on inanimate surfaces.

CRYOGENIC FLUID. A liquid having a boiling point lower than -150°F (-101°C) at 14.7 pounds per square inch atmosphere (psia) (an absolute pressure of 101 kPa).

DEFLAGRATION. An exothermic reaction, such as the extremely rapid oxidation of a flammable dust or vapor in air, in which the reaction progresses through the unburned material at a rate less than the velocity of sound. A deflagration can have an explosive effect.

DETACHED BUILDING. A separate single-story building, without a basement or crawl space, used for the storage or use of hazardous materials and located an approved distance from all structures.

DETONATION. An exothermic reaction characterized by the presence of a shock wave in the material which establishes and maintains the reaction. The reaction zone progresses through the material at a rate greater than the velocity of sound. The principal heating mechanism is one of shock compression. Detonations have an explosive effect.

DISPENSING. The pouring or transferring of any material from a container, tank or similar vessel, whereby vapors, dusts, fumes, mists or gases are liberated to the atmosphere.

EXPLOSIVE. Any chemical compound, mixture or device, the primary or common purpose of which is to function by explosion. The term includes, but is not limited to, dynamite, black powder, pellet powder, initiating explosives, detonators, safety fuses, squibs, detonating cord, igniter cord, igniters and display fireworks, 1.3G (Class B, Special).

The term "explosive" includes any material determined to be within the scope of USC Title 18: Chapter 40 and also includes any material classified as an explosive other than consumer fireworks, 1.4G (Class C, Common) by the hazardous materials regulations of DOTn 49 CFR.

High explosive. Explosive material, such as dynamite, which can be caused to detonate by means of a No. 8 test blasting cap when unconfined.

Low explosive. Explosive material that will burn or deflagrate when ignited. It is characterized by a rate of reaction that is less than the speed of sound. Examples of low explosives include, but are not limited to, black powder; safety fuse; igniters; igniter cord; fuse lighters; fireworks, 1.3G (Class B, Special) and propellants, 1.3C.

Mass-detonating explosives. Division 1.1, 1.2 and 1.5 explosives alone or in combination, or loaded into various types of ammunition or containers, most of which can be expected to explode virtually instantaneously when a small portion is subjected to fire, severe concussion, impact, the impulse of an initiating agent or the effect of a considerable discharge of energy from without. Materials that react in this manner represent a mass explosion hazard. Such an explosive will normally cause severe structural damage to adjacent objects. Explosive propagation could occur immediately to other items of ammunition and explosives stored sufficiently close to and not adequately protected from the initially exploding pile with a time interval short enough so that two or more quantities must be considered as one for quantity-distance purposes.

UN/DOTn Class 1 explosives. The former classification system used by DOTn included the terms "high" and "low" explosives as defined herein. The following terms further define explosives under the current system applied by DOTn for all explosive materials defined as hazard Class 1 materials. Compatibility group letters are used in concert with the division to specify further limitations on each division noted (i.e., the letter G identifies the material as a pyrotechnic substance or article containing a pyrotechnic substance and similar materials).

Division 1.1. Explosives that have a mass explosion hazard. A mass explosion is one which affects almost the entire load instantaneously.

Division 1.2. Explosives that have a projection hazard but not a mass explosion hazard.

Division 1.3. Explosives that have a fire hazard and either a minor blast hazard or a minor projection hazard or both, but not a mass explosion hazard.

Division 1.4. Explosives that pose a minor explosion hazard. The explosive effects are largely confined to the package and no projection of fragments of appreciable size or range is to be expected. An external fire must not cause virtually instantaneous explosion of almost the entire contents of the package.

Division 1.5. Very insensitive explosives. This division is comprised of substances that have a mass explosion hazard, but that are so insensitive there is very little proba-

bility of initiation or of transition from burning to detonation under normal conditions of transport.

Division 1.6. Extremely insensitive articles which do not have a mass explosion hazard. This division is comprised of articles that contain only extremely insensitive detonating substances and which demonstrate a negligible probability of accidental initiation or propagation.

FIREWORKS. Any composition or device for the purpose of producing a visible or audible effect for entertainment purposes by combustion, deflagration or detonation that meets the definition of 1.4G fireworks or 1.3G fireworks as set forth herein.

FIREWORKS, 1.3G. (Formerly Class B, Special Fireworks.) Large fireworks devices, which are explosive materials, intended for use in fireworks displays and designed to produce audible or visible effects by combustion, deflagration or detonation. Such 1.3G fireworks include, but are not limited to, firecrackers containing more than 130 milligrams (2 grains) of explosive composition, aerial shells containing more than 40 grams of pyrotechnic composition, and other display pieces which exceed the limits for classification as 1.4G fireworks. Such 1.3G fireworks are also described as fireworks, 49 CFR (172) by the DOTn.

FIREWORKS, 1.4G. (Formerly Class C, Common Fireworks.) Small fireworks devices containing restricted amounts of pyrotechnic composition designed primarily to produce visible or audible effects by combustion. Such 1.4G fireworks which comply with the construction, chemical composition and labeling regulations of the DOTn for fireworks, 49 CFR (172), and the U.S. Consumer Product Safety Commission (CPSC) as set forth in CPSC 16 CFR: Parts 1500 and 1507, are not explosive materials for the purpose of this code.

FLAMMABLE GAS. A material that is a gas at 68°F (20°C) or less at 14.7 pounds per square inch atmosphere (psia) (101 kPa) of pressure [a material that has a boiling point of 68°F (20°C) or less at 14.7 psia (101 kPa)] which:

1. Is ignitable at 14.7 psia (101 kPa) when in a mixture of 13 percent or less by volume with air; or
2. Has a flammable range at 14.7 psia (101 kPa) with air of at least 12 percent, regardless of the lower limit.

The limits specified shall be determined at 14.7 psi (101 kPa) of pressure and a temperature of 68°F (20°C) in accordance with ASTM E 681.

FLAMMABLE LIQUEFIED GAS. A liquefied compressed gas which, under a charged pressure, is partially liquid at a temperature of 68°F (20°C) and which is flammable.

FLAMMABLE LIQUID. A liquid having a closed cup flash point below 100°F (38°C). Flammable liquids are further categorized into a group known as Class I liquids. The Class I category is subdivided as follows:

Class 1A. Liquids having a flash point below 73°F (23°C) and a boiling point below 100°F (38°C).

Class 1B. Liquids having a flash point below 73°F (23°C) and a boiling point at or above 100°F (38°C).

Class 1C. Liquids having a flash point at or above 73°F (23°C) and below 100°F (38°C).

USE AND OCCUPANCY CLASSIFICATION

The category of flammable liquids does not include compressed gases or cryogenic fluids.

FLAMMABLE MATERIAL. A material capable of being readily ignited from common sources of heat or at a temperature of 600°F (316°C) or less.

FLAMMABLE SOLID. A solid, other than a blasting agent or explosive, that is capable of causing fire through friction, absorption or moisture, spontaneous chemical change, or retained heat from manufacturing or processing, or which has an ignition temperature below 212°F (100°C) or which burns so vigorously and persistently when ignited as to create a serious hazard. A chemical shall be considered a flammable solid as determined in accordance with the test method of CPSC 16 CFR; Part 1500.44, if it ignites and burns with a self-sustained flame at a rate greater than 0.1 inch (2.5 mm) per second along its major axis.

FLASH POINT. The minimum temperature in degrees Fahrenheit at which a liquid will give off sufficient vapors to form an ignitable mixture with air near the surface or in the container, but will not sustain combustion. The flash point of a liquid shall be determined by appropriate test procedure and apparatus as specified in ASTM D 56, ASTM D 93 or ASTM D 3278.

HANDLING. The deliberate transport by any means to a point of storage or use.

HAZARDOUS MATERIALS. Those chemicals or substances that are physical hazards or health hazards as defined and classified in this section and the International Fire Code, whether the materials are in usable or waste condition.

HEALTH HAZARD. A classification of a chemical for which there is statistically significant evidence that acute or chronic health effects are capable of occurring in exposed persons. The term "health hazard" includes chemicals that are toxic or highly toxic, and corrosive.

HIGHLY TOXIC. A material which produces a lethal dose or lethal concentration that falls within any of the following categories:

1. A chemical that has a median lethal dose (LD50) of 50 milligrams or less per kilogram of body weight when administered orally to albino rats weighing between 200 and 300 grams each.
2. A chemical that has a median lethal dose (LD50) of 200 milligrams or less per kilogram of body weight when administered by continuous contact for 24 hours (or less if death occurs within 24 hours) with the bare skin of albino rabbits weighing between 2 and 3 kilograms each.
3. A chemical that has a median lethal concentration (LC50) in air of 200 parts per million by volume or less of gas or vapor, or 2 milligrams per liter or less of mist, fume or dust, when administered by continuous inhalation for 1 hour (or less if death occurs within 1 hour) to albino rats weighing between 200 and 300 grams each.

Mixtures of these materials with ordinary materials, such as water, might not warrant classification as highly toxic. While this system is basically simple in application, any hazard evaluation that is required for the precise categorization of this type of material shall be performed by experienced, technically competent persons.

INCOMPATIBLE MATERIALS. Materials that, when mixed, have the potential to react in a manner that generates heat, fumes, gases or byproducts which are hazardous to life or property.

OPEN SYSTEM. The use of a solid or liquid hazardous material involving a vessel or system that is continuously open to the atmosphere during normal operations and where vapors are liberated, or the product is exposed to the atmosphere during normal operations. Examples of open systems for solids and liquids include dispensing from or into open beakers or containers, dip tank and plating tank operations.

OPERATING BUILDING. A building occupied in conjunction with the manufacture, transportation or use of explosive materials. Operating buildings are separated from one another with the use of intraplant or intraline distances.

ORGANIC PEROXIDE. An organic compound that contains the bivalent -O-O- structure and which may be considered to be a structural derivative of hydrogen peroxide where one or both of the hydrogen atoms have been replaced by an organic radical. Organic peroxides can pose an explosion hazard (detonation or deflagration) or they can be shock sensitive. They can also decompose into various unstable compounds over an extended period of time.

Class I. Those formulations that are capable of deflagration but not detonation.

Class II. Those formulations that burn very rapidly and that pose a moderate reactivity hazard.

Class III. Those formulations that burn rapidly and that pose a moderate reactivity hazard.

Class IV. Those formulations that burn in the same manner as ordinary combustibles and that pose a minimal reactivity hazard.

Class V. Those formulations that burn with less intensity than ordinary combustibles or do not sustain combustion and that pose no reactivity hazard.

Unclassified detonable. Organic peroxides that are capable of detonation. These peroxides pose an extremely high explosion hazard through rapid explosive decomposition.

OXIDIZER. A material that readily yields oxygen or other oxidizing gas, or that readily reacts to promote or initiate combustion of combustible materials. Examples of other oxidizing gases include bromine, chlorine and fluorine.

Class 4. An oxidizer that can undergo an explosive reaction due to contamination or exposure to thermal or physical shock. Additionally, the oxidizer will enhance the burning rate and can cause spontaneous ignition of combustibles.

Class 3. An oxidizer that will cause a severe increase in the burning rate of combustible materials with which it comes in contact or that will undergo vigorous self-sustained decomposition due to contamination or exposure to heat.

Class 2. An oxidizer that will cause a moderate increase in the burning rate or that causes spontaneous ignition of combustible materials with which it comes in contact.

Class 1. An oxidizer whose primary hazard is that it slightly increases the burning rate but which does not cause sponta-

neous ignition when it comes in contact with combustible materials.

OXIDIZING GAS. A gas that can support and accelerate combustion of other materials.

PHYSICAL HAZARD. A chemical for which there is evidence that it is a combustible liquid, compressed gas, cryogenic, explosive, flammable gas, flammable liquid, flammable solid, organic peroxide, oxidizer, pyrophoric or unstable (reactive) or water-reactive material.

PYROPHORIC. A chemical with an autoignition temperature in air, at or below a temperature of 130°F (54.4°C).

PYROTECHNIC COMPOSITION. A chemical mixture that produces visible light displays or sounds through a self-propagating, heat-releasing chemical reaction which is initiated by ignition.

TOXIC. A chemical falling within any of the following categories:

1. A chemical that has a median lethal dose (LD50) of more than 50 milligrams per kilogram, but not more than 500 milligrams per kilogram of body weight when administered orally to albino rats weighing between 200 and 300 grams each.
2. A chemical that has a median lethal dose (LD50) of more than 200 milligrams per kilogram but not more than 1,000 milligrams per kilogram of body weight when administered by continuous contact for 24 hours (or less if death occurs within 24 hours) with the bare skin of albino rabbits weighing between 2 and 3 kilograms each.
3. A chemical that has a median lethal concentration (LC50) in air of more than 200 parts per million but not more than 2,000 parts per million by volume of gas or vapor, or more than 2 milligrams per liter but not more than 20 milligrams per liter of mist, fume or dust, when administered by continuous inhalation for 1 hour (or less if death occurs within 1 hour) to albino rats weighing between 200 and 300 grams each.

UNSTABLE (REACTIVE) MATERIAL. A material, other than an explosive, which in the pure state or as commercially produced, will vigorously polymerize, decompose, condense or become self-reactive and undergo other violent chemical changes, including explosion, when exposed to heat, friction or shock, or in the absence of an inhibitor, or in the presence of contaminants, or in contact with incompatible materials. Unstable (reactive) materials are subdivided as follows:

Class 4. Materials that in themselves are readily capable of detonation or explosive decomposition or explosive reaction at normal temperatures and pressures. This class includes materials that are sensitive to mechanical or localized thermal shock at normal temperatures and pressures.

Class 3. Materials that in themselves are capable of detonation or of explosive decomposition or explosive reaction but which require a strong initiating source or which must be heated under confinement before initiation. This class in-

cludes materials that are sensitive to thermal or mechanical shock at elevated temperatures and pressures.

Class 2. Materials that in themselves are normally unstable and readily undergo violent chemical change but do not detonate. This class includes materials that can undergo chemical change with rapid release of energy at normal temperatures and pressures, and that can undergo violent chemical change at elevated temperatures and pressures.

Class 1. Materials that in themselves are normally stable but which can become unstable at elevated temperatures and pressure.

WATER-REACTIVE MATERIAL. A material that explodes; violently reacts; produces flammable, toxic or other hazardous gases; or evolves enough heat to cause self-ignition or ignition of nearby combustibles upon exposure to water or moisture. Water-reactive materials are subdivided as follows:

Class 3. Materials that react explosively with water without requiring heat or confinement.

Class 2. Materials that may form potentially explosive mixtures with water.

Class 1. Materials that may react with water with some release of energy, but not violently.

[F] 307.3 High-Hazard Group H-1. Buildings and structures containing materials that pose a detonation hazard shall be classified as Group H-1. Such materials shall include, but not be limited to, the following:

Explosives:

- Division 1.1
- Division 1.2
- Division 1.3

Exception: Materials that are used and maintained in a form where either confinement or configuration will not elevate the hazard from a mass fire to mass explosion hazard shall be allowed in H-2 occupancies.

Division 1.4

Exception: Articles, including articles packaged for shipment, that are not regulated as an explosive under Bureau of Alcohol, Tobacco and Firearms regulations, or unpackaged articles used in process operations that do not propagate a detonation or deflagration between articles shall be allowed in H-3 occupancies.

- Division 1.5
- Division 1.6

Organic peroxides, unclassified detonable

Oxidizers, Class 4

Unstable (reactive) materials, Class 3 detonable and Class 4

Detonable pyrophoric materials

[F] 307.4 High-Hazard Group H-2. Buildings and structures containing materials that pose a deflagration hazard or a hazard from accelerated burning shall be classified as Group H-2.

USE AND OCCUPANCY CLASSIFICATION

Such materials shall include, but not be limited to, the following:

Class I, II or IIIA flammable or combustible liquids which are used or stored in normally open containers or systems, or in closed containers or systems pressurized at more than 15 psi (103.4 kPa) gage.

Combustible dusts

Cryogenic fluids, flammable

Flammable gases

Organic peroxides, Class I

Oxidizers, Class 3, that are used or stored in normally open containers or systems, or in closed containers or systems pressurized at more than 15 psi (103 kPa) gage

Pyrophoric liquids, solids and gases, nondetonable

Unstable (reactive) materials, Class 3, nondetonable

Water-reactive materials, Class 3

[F] 307.5 High-Hazard Group H-3. Buildings and structures containing materials that readily support combustion or that pose a physical hazard shall be classified as Group H-3. Such materials shall include, but not be limited to, the following:

Class I, II or IIIA flammable or combustible liquids which are used or stored in normally closed containers or systems

pressurized at less than 15 psi (103.4 kPa) gage.

Combustible fibers

Consumer fireworks, 1.4G (Class C Common)

Cryogenic fluids, oxidizing

Flammable solids

Organic peroxides, Classes II and III

Oxidizers, Class 2

Oxidizers, Class 3, that are used or stored in normally closed

containers or systems pressurized at less than 15 pounds per square inch (103 kPa) gauge

Oxidizing gases

Unstable (reactive) materials, Class 2

Water-reactive materials, Class 2

[F] 307.6 High-Hazard Group H-4. Buildings and structures which contain materials that are health hazards shall be classified as Group H-4. Such materials shall include, but not be limited to, the following:

Corrosives

Highly toxic materials

Toxic materials

[F] 307.7 Group H-5 structures. Semiconductor fabrication facilities and comparable research and development areas in which hazardous production materials (HPM) are used and the aggregate quantity of materials is in excess of those listed in Tables 307.7(1) and 307.7(2). Such facilities and areas shall be designed and constructed in accordance with Section 415.9.

[F] 307.8 Multiple hazards. Buildings and structures containing a material or materials representing hazards that are classified in one or more of Groups H-1, H-2, H-3 and H-4 shall conform to the code requirements for each of the occupancies so classified.

[F] 307.9 Exceptions: The following shall not be classified in Group H, but shall be classified in the occupancy that they most nearly resemble. Hazardous materials in any quantity shall

conform to the requirements of this code, including Section 414, and the International Fire Code.

1. Buildings and structures that contain not more than the maximum allowable quantities per control area of hazardous materials as shown in Tables 307.7(1) and 307.7(2) provided that such buildings are maintained in accordance with the International Fire Code.
2. Buildings utilizing control areas in accordance with Section 414.2 that contain not more than the maximum allowable quantities per control area of hazardous materials as shown in Tables 307.7(1) and 307.7(2).
3. Buildings and structures occupied for the application of flammable finishes, provided that such buildings or areas conform to the requirements of Section 416 and the International Fire Code.
4. Wholesale and retail sales and storage of flammable and combustible liquids in mercantile occupancies conforming to the International Fire Code.
5. Closed systems housing flammable or combustible liquids or gases utilized for the operation of machinery or equipment.
6. Cleaning establishments that utilize combustible liquid solvents having a flash point of 140°F (60°C) or higher in closed systems employing equipment listed by an approved testing agency, provided that this occupancy is separated from all other areas of the building by 1-hour fire-resistance-rated fire barrier walls or horizontal assemblies or both.
7. Cleaning establishments which utilize a liquid solvent having a flash point at or above 200°F (93°C).
8. Liquor stores and distributors without bulk storage.
9. Refrigeration systems.
10. The storage or utilization of materials for agricultural purposes on the premises.
11. Stationary batteries utilized for facility emergency power, uninterrupted power supply or telecommunication facilities provided that the batteries are provided with safety venting caps and ventilation is provided in accordance with the International Mechanical Code.
12. Corrosives shall not include personal or household products in their original packaging used in retail display or commonly used building materials.
13. Buildings and structures occupied for aerosol storage shall be classified as Group S-1, provided that such buildings conform to the requirements of the International Fire Code.
14. Display and storage of nonflammable solid and nonflammable or noncombustible liquid hazardous materials in quantities not exceeding the maximum allowable quantity per control area in Group M or S occupancies complying with Section 414.2.4.
15. The storage of black powder, smokeless propellant and small arms primers in Groups M and R-3 and special industrial explosive devices in Groups B, F, M and S, provided such storage conforms to the quantity limits and requirements prescribed in the International Fire Code.

SECTION 308 INSTITUTIONAL GROUP I

308.1 Institutional Group I. Institutional Group I occupancy includes, among others, the use of a building or structure, or a portion thereof, in which people are cared for or live in a supervised environment, having physical limitations because of health or age are harbored for medical treatment or other care or treatment, or in which people are detained for penal or correctional purposes or in which the liberty of the occupants is restricted. Institutional occupancies shall be classified as Group I-1, I-2, I-3 or I-4.

308.2 Group I-1. This occupancy shall include buildings, structures or parts thereof housing more than 16 persons, on a 24-hour basis, who because of age, mental disability or other reasons, live in a supervised residential environment that provides personal care services. The occupants are capable of responding to an emergency situation without physical assistance from staff. This group shall include, but not be limited to, the following:

- Residential board and care facilities*
- Assisted living facilities*
- Halfway houses*
- Group homes*
- Congregate care facilities*
- Social rehabilitation facilities*
- Alcohol and drug centers*
- Convalescent facilities*

A facility such as the above with five or fewer persons shall be classified as a Group R-3 or shall comply with the International Residential Code in accordance with Section 101.2. A facility such as above, housing at least six and not more than 16 persons, shall be classified as Group R-4.

308.3 Group I-2. This occupancy shall include buildings and structures used for medical, surgical, psychiatric, nursing or custodial care on a 24-hour basis of more than five persons who are not capable of self-preservation. This group shall include, but not be limited to, the following:

- Hospitals*
- Nursing homes (both intermediate-care facilities and skilled nursing facilities)*
- Mental hospitals*
- Detoxification facilities*

A facility such as the above with five or fewer persons shall be classified as Group R-3 or shall comply with the International Residential Code in accordance with Section 101.2.

308.3.1 Child care facility. A child care facility that provides care on a 24-hour basis to more than five children 2½ years of age or less shall be classified as Group I-2.

308.4 Group I-3. This occupancy shall include buildings and structures that are inhabited by more than five persons who are under restraint or security. An I-3 facility is occupied by persons who are generally incapable of self-preservation due to security measures not under the occupants' control. This group shall include, but not be limited to, the following:

- Prisons*
- Jails*
- Reformatories*

- Detention centers*
- Correctional centers*
- Prerelease centers*

Buildings of Group I-3 shall be classified as one of the occupancy conditions indicated in Sections 308.4.1 through 308.4.5 (see Section 408.1).

308.4.1 Condition 1. This occupancy condition shall include buildings in which free movement is allowed from sleeping areas, and other spaces where access or occupancy is permitted, to the exterior via means of egress without restraint. A Condition 1 facility is permitted to be constructed as Group R.

308.4.2 Condition 2. This occupancy condition shall include buildings in which free movement is allowed from sleeping areas and any other occupied smoke compartment to one or more other smoke compartments. Egress to the exterior is impeded by locked exits.

308.4.3 Condition 3. This occupancy condition shall include buildings in which free movement is allowed within individual smoke compartments, such as within a residential unit comprised of individual sleeping units and group activity spaces, where egress is impeded by remote-controlled release of means of egress from such a smoke compartment to another smoke compartment.

308.4.4 Condition 4. This occupancy condition shall include buildings in which free movement is restricted from an occupied space. Remote-controlled release is provided to permit movement from sleeping units, activity spaces and other occupied areas within the smoke compartment to other smoke compartments.

308.4.5 Condition 5. This occupancy condition shall include buildings in which free movement is restricted from an occupied space. Staff-controlled manual release is provided to permit movement from sleeping units, activity spaces and other occupied areas within the smoke compartment to other smoke compartments.

308.5 Group I-4, day care facilities. This group shall include buildings and structures occupied by persons of any age who receive custodial care for less than 24 hours by individuals other than parents or guardians, relatives by blood, marriage or adoption, and in a place other than the home of the person cared for. A facility such as the above with five or fewer persons shall be classified as a Group R-3 or shall comply with the International Residential Code in accordance with Section 101.2. Places of worship during religious functions are not included.

308.5.1 Adult care facility. A facility that provides accommodations for less than 24 hours for more than five unrelated adults and provides supervision and personal care services shall be classified as Group I-4.

Exception: A facility where occupants are capable of responding to an emergency situation without physical assistance from the staff shall be classified as Group A-3.

308.5.2 Child care facility. A facility that provides supervision and personal care on less than a 24-hour basis for more than five children 2½ years of age or less shall be classified as Group I-4.

Exception: A child day care facility that provides care for more than five but no more than 100 children 2½ years or less of age, when the rooms where such children are cared for are located on the level of exit discharge and each of these child care rooms has an exit door directly to the exterior, shall be classified as Group E.

SECTION 309 MERCANTILE GROUP M

309.1 Mercantile Group M. Mercantile Group M occupancy includes, among others, buildings and structures or a portion thereof, for the display and sale of merchandise, and involves stocks of goods, wares or merchandise incidental to such purposes and accessible to the public. Mercantile occupancies shall include, but not be limited to, the following:

- Department stores*
- Drug stores*
- Markets*
- Motor fuel-dispensing facilities*
- Retail or wholesale stores*
- Sales rooms*

309.2 Quantity of hazardous materials. The aggregate quantity of nonflammable solid and nonflammable or noncombustible liquid hazardous materials stored or displayed in a single control area of a Group M occupancy shall not exceed the quantities in Table 414.2.4.

SECTION 310 RESIDENTIAL GROUP R

310.1 Residential Group R. Residential Group R includes, among others, the use of a building or structure, or a portion thereof, for sleeping purposes when not classified as an Institutional Group I. Residential occupancies shall include the following:

R-1 Residential occupancies where the occupants are primarily transient in nature, including:

- Boarding houses (transient)*
- Hotels (transient)*
- Motels (transient)*

R-2 Residential occupancies containing sleeping units or more than two dwelling units where the occupants are primarily permanent in nature, including:

- Apartment houses*
- Boarding houses (not transient)*
- Convents*
- Dormitories*
- Fraternities and sororities*
- Monasteries*
- Vacation timeshare properties*
- Hotels (nontransient)*
- Motels (nontransient)*

R-3 Residential occupancies where the occupants are primarily permanent in nature and not classified as R-1, R-2, R-4 or I and where buildings do not contain more than two dwelling units as applicable in Section 101.2,

or adult and child care facilities that provide accommodations for five or fewer persons of any age for less than 24 hours. Adult and child care facilities that are within a single-family home are permitted to comply with the International Residential Code in accordance with Section 101.2.

R-4 Residential occupancies shall include buildings arranged for occupancy as residential care/assisted living facilities including more than five but not more than 16 occupants, excluding staff.

Group R-4 occupancies shall meet the requirements for construction as defined for Group R-3 except as otherwise provided for in this code or shall comply with the International Residential Code in accordance with Section 101.2.

310.2 Definitions. The following words and terms shall, for the purposes of this section and as used elsewhere in this code, have the meanings shown herein.

BOARDING HOUSE. *A building arranged or used for lodging for compensation, with or without meals, and not occupied as a single-family unit.*

DORMITORY. *A space in a building where group sleeping accommodations are provided in one room, or in a series of closely associated rooms, for persons not members of the same family group, under joint occupancy and single management, as in college dormitories or fraternity houses.*

DWELLING UNIT. *A single unit providing complete, independent living facilities for one or more persons, including permanent provisions for living, sleeping, eating, cooking and sanitation.*

PERSONAL CARE SERVICE. *The care of residents who do not require chronic or convalescent medical or nursing care. Personal care involves responsibility for the safety of the resident while inside the building.*

RESIDENTIAL CARE/ASSISTED LIVING FACILITIES. *A building or part thereof housing persons, on a 24-hour basis, who because of age, mental disability or other reasons, live in a supervised residential environment which provides personal care services. The occupants are capable of responding to an emergency situation without physical assistance from staff. This classification shall include, but not be limited to, the following: residential board and care facilities, assisted living facilities, halfway houses, group homes, congregate care facilities, social rehabilitation facilities, alcohol and drug abuse centers and convalescent facilities.*

SECTION 311 STORAGE GROUP S

311.1 Storage Group S. Storage Group S occupancy includes, among others, the use of a building or structure, or a portion thereof, for storage that is not classified as a hazardous occupancy.

311.2 Moderate-hazard storage, Group S-1. Buildings occupied for storage uses which are not classified as Group S-2 including, but not limited to, storage of the following:

Aerosols, Levels 2 and 3
Aircraft repair hangar
Bags; cloth, burlap and paper
Bamboos and rattan
Baskets
Belting; canvas and leather
Books and paper in rolls or packs
Boots and shoes
Buttons, including cloth covered, pearl or bone
Cardboard and cardboard boxes
Clothing, woolen wearing apparel
Cordage
Furniture
Furs
Glues, mucilage, pastes and size
Grains
Horns and combs, other than celluloid
Leather
Linoleum
Lumber
Motor vehicle repair garages complying with the maximum allowable quantities of hazardous materials listed in Table 307.7(1) (see Section 406.6)
Photo engravings
Resilient flooring
Silks
Soaps
Sugar
Tires, bulk storage of
Tobacco, cigars, cigarettes and snuff
Upholstery and mattresses
Wax candles

311.3 Low-hazard storage, Group S-2. *Includes, among others, buildings used for the storage of noncombustible materials such as products on wood pallets or in paper cartons with or without single thickness divisions; or in paper wrappings. Such products are permitted to have a negligible amount of plastic trim, such as knobs, handles or film wrapping. Storage uses shall include, but not be limited to, storage of the following:*

Aircraft hangar
Asbestos
Beverages up to and including 12-percent alcohol in metal, glass or ceramic containers
Cement in bags
Chalk and crayons
Dairy products in nonwaxed coated paper containers
Dry cell batteries
Electrical coils
Electrical motors
Empty cans
Food products
Foods in noncombustible containers
Fresh fruits and vegetables in nonplastic trays or containers
Frozen foods
Glass
Glass bottles, empty or filled with noncombustible liquids
Gypsum board
Inert pigments
Ivory
Meats

Metal cabinets
Metal desks with plastic tops and trim
Metal parts
Metals
Mirrors
Oil-filled and other types of distribution transformers
Parking garages, open or enclosed
Porcelain and pottery
Stoves
Talc and soapstones
Washers and dryers

SECTION 312 **UTILITY AND MISCELLANEOUS GROUP U**

312.1 General. *Buildings and structures of an accessory character and miscellaneous structures not classified in any specific occupancy shall be constructed, equipped and maintained to conform to the requirements of this code commensurate with the fire and life hazard incidental to their occupancy. Group U shall include, but not be limited to, the following:*

Agricultural buildings
Aircraft hangars, accessory to a one- or two-family residence (see Section 412.3)
Barns
Carports
Fences more than 6 feet (1829 mm) high
Grain silos, accessory to a residential occupancy
Greenhouses
Livestock shelters
Private garages
Retaining walls
Sheds
Stables
Tanks
Towers

CHAPTER 4

SPECIAL DETAILED REQUIREMENTS BASED ON USE AND OCCUPANCY

SECTION 401 SCOPE

401.1 Detailed use and occupancy requirements. In addition to the occupancy and construction requirements in this code, the provisions of this chapter apply to the special uses and occupancies described herein.

SECTION 402 COVERED MALL BUILDINGS

402.1 Scope. The provisions of this section shall apply to buildings or structures defined herein as covered mall buildings not exceeding three floor levels at any point nor more than three stories above grade. Except as specifically required by this section, covered mall buildings shall meet applicable provisions of this code.

Exceptions:

- 1. Foyers and lobbies of Groups B, R-1 and R-2 are not required to comply with this section.*
- 2. Buildings need not comply with the provisions of this section where they totally comply with other applicable provisions of this code.*

402.2 Definitions. The following words and terms shall, for the purposes of this chapter and as used elsewhere in this code, have the meanings shown herein.

ANCHOR BUILDING. *An exterior perimeter building of a group other than H having direct access to a covered mall building but having required means of egress independent of the mall.*

COVERED MALL BUILDING. *A single building enclosing a number of tenants and occupants such as retail stores, drinking and dining establishments, entertainment and amusement facilities, passenger transportation terminals, offices, and other similar uses wherein two or more tenants have a main entrance into one or more malls. For the purpose of this chapter, anchor buildings shall not be considered as a part of the covered mall building.*

FOOD COURT. *A public seating area located in the mall that serves adjacent food preparation tenant spaces.*

GROSS LEASABLE AREA. *The total floor area designed for tenant occupancy and exclusive use. The area of tenant occupancy is measured from the centerlines of joint partitions to the outside of the tenant walls. All tenant areas, including areas used for storage, shall be included in calculating gross leasable area.*

MALL. *A roofed or covered common pedestrian area within a covered mall building that serves as access for two or more tenants and not to exceed three levels that are open to each other.*

402.3 Lease plan. Each covered mall building owner shall provide both the building and fire departments with a lease plan showing the location of each occupancy and its exits after the certificate of occupancy has been issued. No modifications or changes in occupancy or use shall be made from that shown on the lease plan without prior approval of the building official.

402.4 Means of egress. Each tenant space and the covered mall building shall be provided with means of egress as required by this section and this code. Where there is a conflict between the requirements of this code and the requirements of this section, the requirements of this section shall apply.

402.4.1 Determination of occupant load. The occupant load permitted in any individual tenant space in a covered mall building shall be determined as required by this code. Means of egress requirements for individual tenant spaces shall be based on the occupant load thus determined.

402.4.1.1 Occupant formula. In determining required means of egress of the mall, the number of occupants for whom means of egress are to be provided shall be based on gross leasable area of the covered mall building (excluding anchor buildings) and the occupant load factor as determined by the following equation.

$$OLF = (0.00007) (GLA) + 25 \quad \text{(Equation 4-1)}$$

where:

OLF = The occupant load factor (square feet per person).

GLA = The gross leasable area (square feet).

402.4.1.2 OLF range. The occupant load factor (OLF) is not required to be less than 30 and shall not exceed 50.

402.4.1.3 Anchor buildings. The occupant load of anchor buildings opening into the mall shall not be included in computing the total number of occupants for the mall.

402.4.1.4 Food courts. The occupant load of a food court shall be determined in accordance with Section 1004. For the purposes of determining the means of egress requirements for the mall, the food court occupant load shall be added to the occupant load of the covered mall building as calculated above.

402.4.2 Number of means of egress. Wherever the distance of travel to the mall from any location within a tenant space used by persons other than employees exceeds 75 feet (22 860 mm) or the tenant space exceeds an occupant load of 50, not less than two means of egress shall be provided.

402.4.3 Arrangements of means of egress. Assembly occupancies with an occupant load of 500 or more shall be so located in the covered mall building that their entrance will be immediately adjacent to a principal entrance to the mall and shall have not less than one-half of their required means