

CA 83-69

RULES CERTIFICATE

STATE OF WISCONSIN)
) SS
DEPT. OF INDUSTRY,)
LABOR & HUMAN RELATIONS)

TO ALL TO WHOM THESE PRESENTS SHALL COME, GREETINGS:

I, Howard S. Bellman, Secretary of the Department of Industry, Labor and Human Relations, and custodian of the official records of said department, do hereby certify that the annexed rule(s) relating to Chs Ind 50-64 Bldg & Htg, Vent & A/C Code-Classes of Construction were duly approved and adopted by this department on 11/14/83.
(Subject) (Date)

I further certify that said copy has been compared by me with the original on file in this department and that the same is a true copy thereof, and of the whole of such original.

IN TESTIMONY WHEREOF, I have hereunto set my hand and affixed the official seal of the department at 8:00 am in the city of Madison, this 14th day of November A.D. 1983.

Howard S. Bellman
Secretary

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8:15 am
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ORDER OF ADOPTION

Pursuant to authority vested in the Department of Industry, Labor and Human Relations by section(s) 101.02(1), 101.02(15)(h)-(j), Stats., the Department of Industry, Labor and Human Relations hereby creates; amends; repeals and recreates; and repeals and adopts rules of Wisconsin Administrative Code chapter(s):

Ind. 50-64 Building & Heating, Ventilating & Air Conditioning Code
(Number) Classes of Construction
(Title)

The attached rules shall take effect on the first day of the month following
publication in the Wisconsin Administrative Register, pursuant to section
227.026, Stats.

Adopted at Madison, Wisconsin, this 14th
day of November, A.D., 1983.

DEPARTMENT OF INDUSTRY, LABOR AND HUMAN RELATIONS

Howard S. Bellman
Secretary

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RULES in FINAL DRAFT FORM

Rule: Chs. Ind 50-64

Relating to: Building & Heating, Ventilating & Air Conditioning

Code - Class of Construction

Clearinghouse Rule No.: 83-69

Administrative rules to repeal ss. Ind 51.03 (1) (h), (i), (2) (i), (j), 51.045 (1) (f); to renumber s. Ind 57.05 (2) (b) 7.; to amend ss. Ind Table 51.03-A, 51.03 (3) (d), 51.03 (6) (e), Table 51.07 Footnote 3, 54.03 (1) (d) (intro.), 54.03 (1) (d) 5., 54.03 (1) (d) 6., 57.05 (2) (b) (intro.), 57.05 (2) (b) 6.; to repeal and recreate s. Ind 51.045 Table 2 Line 12; to create ss. Ind 51.02 (4) (c), 51.03 (4) (i), 51.03 (7) (g), 51.042 (8), 51.045 (1) (r), 51.07 (6), 54.03 (1) (d) 7., 57.02 (3), 57.05 (2) (b) 7., relating to class of construction, fire-resistive materials standards and interior finishes of public buildings and places of employment.

* * * * *

ANALYSIS OF RULES

The proposal updates and expands various portions of the Building and Heating, Ventilating and Air Conditioning Code. The proposal includes provisions to address the in-filling of fenestration openings in existing buildings for energy conservation; correction to the class of construction table; deletion of interior finish rules from the class of construction requirements; bay and oriel construction in heavy timber and wood frame protected buildings; update the fire-resistivity rules for hollow masonry walls; address the application of interior finish materials; require pressure treated or inherently decay-resistant wood for rescue platform construction; and mandate fire department access roadways for residential occupancies.

The proposed rules were developed in conjunction with the Project Committee for Classes of Construction and the Building Code Advisory Review Board. The following is a listing of the members of the project committee and the Review Board:

Project Committee for Classes of Construction

- William G. Bakken, City of Madison
- Peter Billing, National Forest Products Association
- Robert E. Franklin, Metropolitan Builders Association of Greater Milwaukee
- Wilbert King, Wisconsin Society of Architects/AIA
- James Knothe, Wisconsin Society of Architects/AIA
- Henry Kominek, American Iron and Steel Institute
- Patrick Murphy, Wisconsin Builders Association
- Dale Strub, Wisconsin Society of Professional Engineers
- Richard Walter, Wisconsin Concrete Product Association

Building Code Advisory Review Board

- Sharyl Bisgard, League of Women Voters
- Ronald W. Chiapete, Wisconsin State Fire Chiefs Association
- Victor Halloran, Wisconsin Society of Architects/AIA
- Lee C. Jensen, City of Milwaukee
- James E. Knothe, Wisconsin Society of Professional Engineers
- Marshall Kuhnly, Wisconsin State AFL-CIO
- Michael G. Laskis, State Bar of Wisconsin
- Thomas Lorenz, Master Builders Association of Wisconsin, Inc.
- George J. Mark, Wisconsin Builders Association
- Donald Roth, League of Wisconsin Municipalities
- David J. Schield, Wisconsin Association of Manufacturers and Commerce
- Stephen D. Schlough, Wisconsin Department of Health and Social Services
- Richard C. Schumacher, Wisconsin Chapter, Associated General Contractors of America, Inc.
- William Shea, Building Owners and Manufacturers Association/Income Property Owners Association
- Jahn Tinglum, Wisconsin Department of Public Instruction
- Fred Wegener, Wisconsin Department of Administration, Division of State Facilities Management
- Larry J. Wills, Wisconsin Chapter, Society of Fire Protection Engineers

* * * * *

Pursuant to the authority vested in the state of Wisconsin's Department of Industry, Labor and Human Relations by ss. 101.02 (1) and 101.02 (15) (h) to (j), Stats., the department hereby repeals, renumbers, amends, repeals and recreates and creates rules interpreting ss. 101.02 (15) (h) to (j) Stats., as follows:

SECTION 1. Ind 51.02 (4) (c) is created to read:

Ind 51.02 (4) (c) 1. Except as provided in subd. 2., fenestration in-fill panels in the exterior walls of existing buildings of types 1, 2, 3, 5A and 5B construction meeting the percentage of openings requirements of Table 51.03-B shall be of noncombustible construction.

2. a. The studding and structural framework may be of fire retardant treated wood.

b. The interior finish of the in-fill panel may be of combustible materials providing the materials comply with the provisions of s. Ind 51.07.

c. Foam plastic insulation complying with the provisions of s. Ind 51.06 may be used in the construction of the in-fill panels provided the foam plastic is protected on both sides by an approved thermal barrier as specified in s. Ind 51.06 (4).

3. In-fill panels located in exterior walls required to have a fire resistive rating need not be constructed to provide the hourly rating provided the panels satisfy the requirements of this section.

4. The exterior finish of the in-fill panel shall comply with the requirements of Table 51.03-A for the class of construction of the building in which the panel is located except that the exterior finish of in-fill panels located in buildings of types 5A or 5B construction need not be of masonry.

SECTION 2. Table 51.03-A is amended to read:

BUILDING ELEMENT	MODIFYING CONDITIONS			TYPES OF CONSTRUCTION										APPLICABLE NOTES
	NUMBER OF STORIES	SEE NOTES f g SLOG SETBACK DIS. TO P/L OR TO OTHER BLDG. ON SAME PROP.	BEARING OR NONBEARING	FIRE RESISTIVE TYPE A	FIRE RESISTIVE TYPE B	METAL FRAME PROTECTED	HEAVY TIMBER	EXTERIOR MASONRY, PROT.	EXTERIOR MASONRY, UNPROT.	METAL FRAME UNPROTECTED	WOOD FRAME PROTECTED	WOOD FRAME UNPROTECTED		
				NO. 1	NO. 2	NO. 3	NO. 4	NO. 5A	NO. 5B	NO. 6	NO. 7	NO. 8	SEE S. IND 51.03 FOR CONSTRUCTION STANDARDS	
1. INTERIOR SUPPORTS (COLUMNS, PIERS, FRAME LRTS, POSTS)	Over 8 stories or more than 85 ft. in height			NC-4	NP	NP	NP	NP	NP	NP	NP	NP	a d	
2.	8 stories or 85 ft. in height or less			NC-3	NC-2	See s. Ind 51.03 (3) NC-1	See s. Ind 51.03 (4) H.T. or 1	See s. Ind 51.03 (5) 1	See s. Ind 51.03 (5) 0	See s. Ind 51.03 (6) NC-0	See s. Ind 51.03 (7) 1	See s. Ind 51.03 (8) 0	a d	
3. FLOOR FRAMING (BEAMS, GIRDERS, JOISTS, SLABS, DECK)	More than 2 stories			NC-3	NC-2	See s. Ind 51.03 (3) NC-1	See s. Ind 51.03 (4) H.T. or 1	See s. Ind 51.03 (5) 1	See s. Ind 51.03 (5) 0	See s. Ind 51.03 (6) NC-0	1	NP	a	
4.	2 stories or less			NC-2	NC-1	NC-1	See s. Ind 51.03 (4) H.T. or 1 1 Story-HT or 0	1	0	See s. Ind 51.03 (6) NC-0	1	0	a	
5. ROOF FRAMING (TRUSSES, BEAMS, GIRDERS, JOISTS, FRAME RAFTERS, PURLINS, DECK)	Over 8 stories or more than 85 ft. in height			NC-2	NP	NP	NP	NP	NP	NP	NP	NP	a	
6.	3 to 8 stories or 85 ft. in height or less			NC-2	NC-1-1/2	See s. Ind 51.03 (3) NC-1	See s. Ind 51.03 (4) H.T. or 1	See s. Ind 51.03 (5) 1	See s. Ind 51.03 (5) 0	See s. Ind 51.03 (6) NC-0	1	NP	a	
7.	2 stories, or under 35 ft. in height			NC-1	NC-1	NC-1	See s. Ind 51.03 (4) H.T. or 1	See s. Ind 51.03 (5) 1	See s. Ind 51.03 (5) 0	NC-0	See s. Ind 51.03 (7) 1	0	a	
8.	1 story - roof framing more than 20 ft. above fl.			NC-0	See s. Ind 51.03 (2) NC-0	NC-0	See s. Ind 51.03 (4) H.T. or 1	0	0	0	0	0	a	
9.	1 story - roof framing 20 ft. or less above fl.			NC-1	NC-1	NC-1	See s. Ind 51.03 (4) H.T. or 1	1	0	0	See s. Ind 51.03 (7) 1	0	a	
10. ROOF COVERING				CLASS A	CLASS A	CLASS A	CLASS B	CLASS B	CLASS B	CLASS C	CLASS C	CLASS C	a	
11. EXTERIOR WALLS & COURT WALLS		Less than 10 ft.	Bearing	NC-4	NC-3	NC-2	NC-2	2	2	NC-2	See s. Ind 51.03(7)(e) NP	See s. Ind 51.03(8)(d) NP	a d e f k	
12.	3 stories	10 ft. to 30 ft. inclusive	Bearing	NC-3	NC-2	NC-3/4	1	2	1	NC-0	See s. Ind 51.03(7)(f) NP	NP	a c d e	
	2 stories or less										1	0	f k	
13. (NOT INCLUDING INTERIOR FURRING ATTACHED TO INSIDE SURFACE OF WALL)		Over 30 ft.	Bearing	NC-2	NC-1	NC-0	1	2	1	NC-0	1	0	a c d e f k	
14.		Less than 10 ft.	Nonbearing	NC-2	NC-2	NC-1	NC-1	2	1	NC-1	See s. Ind 51.03(7)(e) NP	See s. Ind 51.03(8)(d) NP	a d e f k	
15.	3 stories	10 ft. to 30 ft. inclusive	Nonbearing	NC-1	NC-1	NC-0	1	2	1	NC-0	See s. Ind 51.03(7)(f) NP	NP	a c d e	
	2 stories or less										1	0	f k	
16.		Over 30 ft.	Nonbearing	NC-0	NC-0	NC-0	3/4	1	0	NC-0	1	0	a c d e f h k	
17. INTERIOR WALLS BEARING				NC-3	NC-2	NC-1	1	1	1	NC-0	1	0	a i	
18. PARTITIONS				NC-0	NC-0	NC-0	0	0	0	0	0	0	a j	
19. REQUIRED EXIT CORRIDOR ENCLOS.	Over 3 stories					NC-2	2	2						
	3 stories or less			NC-2	NC-2	NC-1	1	1	1	1	1	1	a	
20. FIRE ENCLOSURE (STAIRWAYS, ELEVATORS, VERTICAL SHAFTS)	Over 3 stories			NC-2	NC-2	NC-2	2	2	NP	NP	NP	NP	a f	
	3 stories or less			NC-2	NC-2	NC-1	1	1	1	1	1	1	a f	
21. PENTHOUSE WALLS				NC-0	NC-0	NC-0	0	NC-0 or 3/4	NC-0 or 3/4	0	0	0	a h	
22. PENTHOUSE ROOF				NC-0	NC-0	NC-0	0	0	0	0	0	0	a b	

KEY TO ABBREVIATIONS

NC - Noncombustible
 NP - Not Permitted
 H.T. - Heavy Timber
 P/L - Property Line

- a - See occupancy sections of the code for other basic requirements and more restrictive limitations.
- b - Roof covering same as for main building.
- c - Walls of solid wood 4 inches in thickness are acceptable as equal to one hour fire-resistive rating.
- d - Fire-resistive requirements also apply for those bracing members required for gravity loading.
- e - Refer to Table 51.03-B for allowable areas for windows and other openings in exterior walls.
- f - For exceptions refer to s. Ind 51.02.
- g - Setbacks and distances to P/L or other buildings on same property do not apply to P/L along streets.
- h - Approved fire-retardant treated wood will be accepted in lieu of 3/4-hour fire-resistive ratings.
- i - For openings in partitions and interior bearing walls, see s. Ind 51.02.
- k - Hourly ratings specified as for fire exposure from the inside of the building only.

KEY EXAMPLE TO READING CHART

0 = 2 1/2 Hour Rating
 1 = Combustible or Noncombustible 1 Hour Rating

SECTION 3. Ind 51.03 (1) (h) and (i), (2) (i) and (j) are repealed.

SECTION 4. Ind 51.03 (3) (d) is amended to read:

Ind 51.03 (3) (d) Bays, oriels and similar exterior projections from the walls shall be constructed of material with fire-resistive ratings ~~not less than that specified~~ as required for exterior walls ~~in Table 51.03-A.~~

SECTION 5. Ind 51.03 (4) (i) is created to read:

Ind 51.03 (4) (i) Bays, oriels, and similar exterior projections from the walls shall be constructed of material with fire-resistive ratings as required for exterior walls.

SECTION 6. Ind 51.03 (6) (e) is amended to read:

Ind 51.03 (6) (e) Bays, oriels and similar exterior projections from the walls shall be constructed of material with fire-resistive ratings ~~not less than that specified~~ as required for exterior walls ~~in Table 51.03-A.~~

SECTION 7. Ind 51.03 (7) (g) is created to read:

Ind 51.03 (7) (g) Bays, oriels and similar exterior projections from the walls shall be constructed of material with fire-resistive ratings as required for exterior walls.

SECTION 8. Ind 51.042 (8) is created to read:

Ind 51.042 (8) Structural elements which support building components or assemblies required to have a fire-resistive rating shall be protected to afford at least the same fire-resistive rating of the component or assembly supported.

SECTION 9. Ind 51.045 Table 2, Line 12 is repealed and recreated to read:

TYPICAL EXAMPLES OF FIRE RESISTIVE STRUCTURAL COMPONENTS, TABLE 2 (CON'T)

TYPE OF MEMBER	BOX NO.	STRUCTURAL COMPONENTS	SKETCHES	INSULATING MATERIAL	DESCRIPTION	MINIMUM REQUIREMENTS			
						4 HR.	3 HR.	2 HR.	1 HR.
CURRY WALLS AND PARTIAL WALLS	12.	HOLLOW MASONRY WALLS & PARTITION WALLS, GLASS TILE, CORED BRICKS, CAVITY WALLS		COARSE AGGREGATE (a) (b)	EQUIV. THICK' (c)				
				EXPANDED SLAG	EQUIV. THICK' (c)	4.7	4.0	3.2	2.1
				EXPANDED CLAY, SHALE OR SLATE	EQUIV. THICK' (c)	5.1	4.4	3.6	2.6
				LIMESTONE, CINDERS, UNEXPANDED SLAG	EQUIV. THICK' (c)	5.9	5.0	4.0	2.7
				CALCAREOUS OR SILICEOUS GRAVEL	EQUIV. THICK' (c)	6.2	5.3	4.2	2.8

SECTION 10. Ind 51.045 (1) (f) is repealed.

SECTION 11. Ind 51.045 (1) (r) is created to read:

Ind 51.045 (1) (r) The specified hourly rating may be increased by 2 hours if the cores are filled with loose, dry expanded slag, water repellent vermiculite or burned clay or shale.

SECTION 12. Table 51.07 Footnote 3 is amended to read:

³ Requirements for rooms or enclosed spaces are based upon the spaces being separated from exit access corridors and exits by partitions extending from the floor to the ceiling. ~~Where partitions do not satisfy this criteria, the room or space is considered part of the exit access or the exit.~~ Where the room or enclosed space is not separated from the exit access corridor, the room or space is considered part of the exit access or the exit.

SECTION 13. Ind 51.07 (6) is created to read:

Ind 51.07 (6) APPLICATION OF INTERIOR FINISH. (a) Attachment. Interior finish materials shall be applied or otherwise fastened in such a manner that they will not readily become detached when subjected to room temperatures of 200 degrees F. or less for 30 minutes, or otherwise become loose through changes in the setting medium from the effects of time or conditions or occupancy.

(b) Application to Structural Elements. 1. Interior finish materials applied to walls, ceilings or structural elements of a building or structure which are required to be of fire-resistive rated or noncombustible construction shall be applied directly against the exposed surface of such structural elements or to furring strips attached to such surfaces.

2. Where furring strips are used, all concealed spaces shall be firestopped into areas not greater than 10 square feet in area or 8 feet in any dimension.

(c) Furred construction. Where walls, ceilings or other structural elements are required to be of fire-resistive rated or noncombustible construction, and the interior finish is set out or dropped distances greater than 1-3/4 inches from the surface of the elements, only material of which both faces qualify as Class A shall be used, unless the finish material is protected on both sides by an approved automatic fire suppression system or is attached to a noncombustible backing as specified in par. (e) or to furring strips applied directly to such backing as specified in par. (b).

(d) Class B and C finish materials. Interior finish materials, other than Class A materials which are less than 1/4 inch in thickness, shall be applied directly against a noncombustible backing or a backing of fire-retardant treated wood unless the tests under which such material has been classified were made with the materials suspended from the noncombustible backing.

(e) Backing material. 1. Backing for interior finish materials shall be a continuous surface with permanently tight joints, equal in area to the area of the finish, and extending completely behind such finish in all directions.

2. Backing shall be of noncombustible or fire retardant treated wood materials.

3. When the backing does not constitute an integral part of the structural elements or system, it shall be attached directly to the structural elements or to furring strips as specified in par. (b) or may be suspended from the structural members at any distance provided concealed spaces are firestopped as specified in s. Ind 53.63 (1).

SECTION 14. Ind 54.03 (1) (d) (intro) is amended to read:

Ind 54.03 (1) (d) Exception. A rescue platform (exterior balcony) of combustible construction may be used as a required second exit for ~~2-story~~ buildings of type 7 and 8 construction, provided the following conditions are satisfied:

SECTION 15. Ind 54.03 (1) (d) 5. is amended to read:

Ind 54.03 (1) (d) 5. Railings are provided in accordance with the provisions of s. Ind 51.162; ~~and~~

SECTION 16. Ind 54.03 (1) (d) 6. is amended to read:

Ind 54.03 (1) (d) 6. Platforms having solid floors are provided with a roof equal in area to that of the platform; and

SECTION 17. Ind 54.03 (1) (d) 7. is created to read:

Ind 54.03 (1) (d) 7. All wood used in the construction of the rescue platform shall be pressure treated wood satisfying the requirements of the applicable standards specified in s. Ind 51.27 (6a) unless the wood is inherently resistant to decay.

SECTION 18. Ind 57.02 (3) is created to read:

Ind 57.02 (3) ACCESS ROADWAYS FOR FIRE APPARATUS. (a) Buildings shall be accessible to fire department apparatus by means of streets as specified in s. Ind 51.01 (124) or access roadways. Access roadways shall be at least 20 feet in width, be capable of supporting the imposed loads of the fire apparatus and have a minimum of 13 feet 6 inches in vertical clearance.

1. For buildings 3 stories or less in height, the street or access roadway shall be located within 150 feet of all portions of the exterior walls of the first story.

2. For buildings more than 3 stories in height, the street or access roadway shall extend along at least one entire side of the building with the road edge closest to the building at least 10 feet but not more than 50 feet from the building.

(b) The required streets and access roadways shall be kept free at all times of all obstructions, including parked vehicles and snow.

SECTION 19. Ind 57.05 (2) (b) (intro) is amended to read:

Ind 57.05 (2) (b) A rescue platform (exterior balcony) of combustible construction may be used as a required second exit for ~~2~~ 3-story buildings of type 5 through type ~~6~~ 7 construction or 2-story buildings of type 8 construction, provided the following conditions are satisfied:

SECTION 20. Ind 57.05 (2) (b) 6. is amended to read:

Ind 57.05 (2) (b) 6. Platforms having solid floors are provided with a roof equal in area to that of the platform; ~~and~~

SECTION 21. Ind 57.05 (2) (b) 7. is renumbered Ind 57.05 (2) (b) 8.

SECTION 22. Ind 57.05 (2) (b) 7. is created to read:

Ind 57.05 (2) (b) 7. All wood used in the construction of the rescue platform shall be pressure treated wood satisfying the requirements of the applicable standards specified in s. Ind 51.27 (6a) unless the wood is inherently resistant to decay; and

EFFECTIVE DATE

Pursuant to s. 227.026 (1), (intro), Stats., these rules shall take effect on the first day of the month following publication in the Wisconsin Administrative Register.
