APPENDIX A

The material contained in this appendix is for clarification purposes only. The notes, illustrations, etc. are numbered to correspond to the number of the rule as it appears in the text of the code.

A-50.10-50.25 FORMS. The following forms (SB2, 8, 9A, 118, 198, 224B and SBD-4927) are referred to in sections Ind 50.10, 50.12, 50.14, 50.18, 50.20 and 50.25. Copies of these forms are available from the Division of Safety and Buildings, P.O. Box 7969, Madison, Wisconsin 53707.
Appendix

Building
Inspection Report and Orders

An inspection of the above occupancy disclosed violations of orders of the Dept. of Industry, Labor & Human Relations promulgated under authority of Chapter 101 of the Revised Statutes of Wisconsin.

SEE REVERSE SIDE FOR APPLICABLE WISCONSIN STATUTES

NOTE

ITEM

ORDER

REQUIREMENTS

D DONE

D TEST DATE

IMPORTANT

* Please report when orders are completed
* Avoid Delay
* Forfeitures for violations are $10 to $100 each day for each violation
* Keep Informed.

"Failure of an employer reasonably to enforce compliance by employees with such statute or order of the Department shall constitute failure by the employer to comply with such statute or order." Sec. 102.07 Wis. Stats.

BY

DEPUTY NO.

DEPUTY

SAFETY & BUILDING DIVISION

Address correspondence Sales and Building Division, Department of Industry, Labor and Human Relations, P.O. Box 7917, Madison, Wisconsin 53707

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Building and heating, ventilating
and air conditioning code
DEPT. OF INDUSTRY, LABOR & HUMAN RELATIONS 297

Appendix

WISCONSIN DEPARTMENT OF INDUSTRY, LABOR AND HUMAN RELATIONS
DIVISION OF SAFETY & BUILDINGS
P. O. BOX 792, MADISON, W1 53707

PETITION REVIEW FEE - $75.00

<table>
<thead>
<tr>
<th>Name/Title of Petitioner</th>
<th>Agency, Authority or Engineering Firm</th>
</tr>
</thead>
<tbody>
<tr>
<td>Company</td>
<td>Tenant, Landlord, etc.</td>
</tr>
<tr>
<td>Street &amp; No.</td>
<td>Building Location, Street &amp; No.</td>
</tr>
<tr>
<td>City</td>
<td>City &amp; Zip</td>
</tr>
<tr>
<td>County</td>
<td>Phone</td>
</tr>
</tbody>
</table>

1. Rule filed: ________ of the Wisconsin Administrative code cannot be evenly satisfied because

2. In lieu of complying exactly with the rule, the following alternate is proposed as a means of providing an equivalent degree of safety:

3. Supporting arguments are:

Verification by owner:

__________________________________________
In my opinion, this rule is not practical for the reason(s) listed below:

__________________________________________
Signature of owner

__________________________________________
Date of signing

__________________________________________
City, County, Wisconsin

__________________________________________
Notary Public

__________________________________________
My commission expires

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### Position Statement:

**Wisconsin Department of Industry, Labor and Human Relations**

Division of Safety & Buildings

P.O. Box 7909, Madison WI 53707

**Register, December, 1978, No. 276**

Building and heating, ventilating and air conditioning code

---

### Table:

<table>
<thead>
<tr>
<th>Name of Owner</th>
<th>Building Occupancy or Use</th>
<th>Agent, Architect or Engineer From</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Street &amp; No.</th>
<th>Building Location, Street &amp; No.</th>
<th>City</th>
<th>State &amp; Zip</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

1. I have read the petition for modification of code: 
   - Ind
   - Dec
   - Applications
   - Conditional Approval
   - No Comment

2. I recommend (check appropriate box)
   - Draft
   - Approval
   - Conditional Approval
   - No Comment

3. Explanation of Recommendation:

---

Sample

4. (Check)
   - I find no conflict with local rules and regulations
   - I find that the petition is in conflict with local rules and regulations

---

Explanations

---

Signature of Fire Chief

Date

---

Please complete and submit promptly to Department of Industry, Labor and Human Relations at the address shown above.
DEPT. OF INDUSTRY, LABOR & HUMAN RELATIONS 299

Appendix

PLANS APPROVAL
APPLICATION
SALES & BUILDING OFFICE
DEPARTMENT OF
INDUSTRY, LABOR AND HUMAN RELATIONS
299 E. Washington Avenue
Madison, Wisconsin 53703

INSTRUCTIONS: Fill in all applicable data. Printed or Handwritten will not be accepted. In addition to the information specified in the form, all data required to be submitted shall be in accordance with the laws of this state. This application and permit is effective for one year from date.

1. THIS APPLICATION IS FOR
   ☐ Building Permit
   ☐ Plan Approval
   ☐ Other

2. PLANS FOR
   ☐ New Building
   ☐ Addition
   ☐ Alteration
   ☐ Heating & Foundation
   ☐ Revision to previously approved

3. PROJECT INFORMATION
   Name of Owner: ___________________________
   Building Occupancy or Use: ___________________________
   Director of Design Firm: ___________________________
   Company: ___________________________
   Street & No.: ___________________________
   Building Location, Street & No.: ___________________________
   City, State & Zip: ___________________________
   County: ___________________________
   Borough, Village: ___________________________
   Village: ___________________________
   Town: ___________________________
   County: ___________________________
   Village: ___________________________
   Town: ___________________________
   Name of Owner: ___________________________
   Address: ___________________________
   Date: ___________________________

4. DETERMINATION OF PERMISSIBLE HOURS FOR FULL SCHEDULE
   SEE BACK OF PAGE FOR FEE CALCULATION AND APPROPRIATE PERIODS
   Total Hours: ___________________________
   4a. Building Permit: ___________________________
   4b. Plan Approval: ___________________________
   4c. Other: ___________________________
   4d. Inspection: ___________________________
   4e. Total: ___________________________

5. OTHER INFORMATION
   5a. Type of Construction
      ☐ Single Family
      ☐ Multi-Family
      ☐ Other: ___________________________
   5b. Hours of Construction: ___________________________
   5c. Type of Frame: ___________________________
   5d. Porch Type: ___________________________
   5e. Other: ___________________________
   5f. Porch: ___________________________
   5g. Ground Cover: ___________________________
   5h. Roof Cover: ___________________________
   5i. Other: ___________________________

6. SEE BEARING CAPACITY (lb/ft²) (P-73)
   6a. Type of Subgrade
      ☐ Rock
      ☐ Gravel
      ☐ Sand
      ☐ Clay
      ☐ Other: ___________________________
   6b. Bearing Capacity: ___________________________
   6c. Load: ___________________________
   6d. Type of Frame: ___________________________
   6e. Porch: ___________________________
   6f. Ground Cover: ___________________________
   6g. Roof Cover: ___________________________
   6h. Other: ___________________________

7. DESIGN AND SUPERVISION INSTRUCTIONS
   ☐ The design plans, specifications and details for this project have been prepared under the supervision of a licensed professional.
   ☐ The design plans, specifications and details for this project have been prepared under the supervision of a licensed professional but not licensed in Wisconsin.
   ☐ The design plans, specifications and details for this project have been prepared under the supervision of a licensed professional but not licensed in Wisconsin.
   ☐ The design plans, specifications and details for this project have been prepared under the supervision of a licensed professional but not licensed in Wisconsin.
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SEE BACK OF PAGE FOR ADDITIONAL INFORMATION ON PUBLIC RECORDS.

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4. DETERMINATION OF FEES

INSTRUCTIONS
1. Refer to the schedule on the front page.
2. Enter all pertinent dimensions in parentheses space.
3. Enter height of each floor level including attic and spaces between levels.
4. Compute volume of each floor level space and total volume for building.
5. Compute building and/or heating fees per building.
6. Enter either (a) or (b) found per building.
7. Compute inspection fees per building.
8. Total fees and transfer information on front page.

"The total volume" determined by the formula given on the front page of the form.

EXAMINATION FEES PER BUILDING

<table>
<thead>
<tr>
<th>Building Plan Fee</th>
<th>Fee per 1000 sq. ft.</th>
<th>Minimum Fee $5.00</th>
</tr>
</thead>
<tbody>
<tr>
<td>Heating &amp; Ventilating Plan Fee</td>
<td>Fee per 1000 cu. ft.</td>
<td>Minimum Fee $5.00</td>
</tr>
<tr>
<td>Alterations to Plans Fee</td>
<td>$1.00 per $1,000</td>
<td>Minimum Fee $5.00</td>
</tr>
<tr>
<td>Structural Plans $15.00 per 1/4 sq. ft.</td>
<td>Minimum Fee $5.00</td>
<td></td>
</tr>
<tr>
<td>Design Fee $9.00 per 100 sq. ft.</td>
<td>Minimum Fee $5.00</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Minimum Fee $5.00 per plan (Maximum)</td>
<td></td>
</tr>
<tr>
<td>Spray Foam $25.00 per Plan (Minimum)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Minimum Fee $5.00 per plan (Maximum)</td>
<td></td>
</tr>
<tr>
<td>Foundation Plan $15.00 per 1/4 sq. ft.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Minimum Fee $5.00 per 1/4 sq. ft.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fire Suppression $25.00 per inspection</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

INSPECTION FEES PER BUILDING

<table>
<thead>
<tr>
<th>Building Volume (All Costs)</th>
<th>Fee</th>
</tr>
</thead>
<tbody>
<tr>
<td>Up to 25,000 cu. ft. (Maximum)</td>
<td>$100.00</td>
</tr>
<tr>
<td>25,001 to 50,000 cu. ft. (Maximum)</td>
<td>$200.00</td>
</tr>
<tr>
<td>50,001 to 100,000 cu. ft. (Maximum)</td>
<td>$300.00</td>
</tr>
<tr>
<td>100,001 to 1,000,000 cu. ft. (Maximum)</td>
<td>$1200.00</td>
</tr>
<tr>
<td>1,000,001 to 3,000,000 cu. ft. (Maximum)</td>
<td>$2400.00</td>
</tr>
<tr>
<td>3,000,001 and over (Maximum)</td>
<td>$3600.00</td>
</tr>
</tbody>
</table>

NOTE
2. Plans other than building or heating require an examination fee of $25.00.
4. Building plans for those exceeding 1,000,000 cu. ft., $25.00 per 100,000 cu. ft. or fraction thereof.
5. Heating & Ventilating plans for buildings exceeding 1,000,000 cu. ft., $25.00 per 100,000 cu. ft. or fraction thereof.
6. Minimum charge for inspection of $15.00 for building or heating.

<table>
<thead>
<tr>
<th>No. of Floors</th>
<th>Area Height</th>
<th>Total Vertical</th>
<th>Total Fee (1000)</th>
<th>X</th>
<th>Engine Fee</th>
</tr>
</thead>
<tbody>
<tr>
<td>Basement/Garage</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1st Floor</td>
<td></td>
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</tr>
<tr>
<td>2nd</td>
<td></td>
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<tr>
<td>3rd</td>
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<tr>
<td>Total Vertical</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Transfer to Front Page</td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>
PERMIT TO START CONSTRUCTION

FEE: $5.00 (per bldg.) IN ADDITION TO EXAMINATION/INSPECTION FEES

Location of Project:

Owner: ____________________________  E. __________________________________

Street: ____________________________  Plan File Number ______________________

City: _______________________________  Date Plans Rcd: _________________________

County: ___________________________

Occupancy: _________________________

We, the undersigned, request to begin footing and foundation work prior to approval of the plans.

Complete plans have been submitted to the Department of Industry, Labor & Human Relations, Division of Industrial Safety and Buildings, and all information required by Code, Ind. 50.02 has been included with the petition.

We have presented the specific code requirements for the building structure including, but not limited to, Ind. 54.01, Ind. 55.02, Ind. 56.01, Ind. 57.01,6.01, 59.02, Ind. 51.03, Ind. 52.03, Ind. 53.03, Ind. 54.03 and Ind. 54.50, when applicable, and have shown compliance on the plans.

We agree to make any changes required so the plans have been revised and to remove or replace non-code complying parts of the foundation and/ or footings.

We agree to proceed with the footing and foundation work only and will not continue with the foundation of the building or structure until approval has been received.

Owner's Signature ____________________________ Date ________________

Name: ____________________________

Address: ____________________________

Designer's Signature ____________________________ Date ________________

Name: ____________________________

Address: ____________________________

Accepted By: ____________________________ Date ________________

Dept. of Ind., Labor & Human Relations

Div. of Industrial Safety & Buildings

Not Accepted Because ____________________________ Date ________________

Plan will be examined within the next ________ days.

NOTE: Footing and foundation plans submitted prior to final building plans will not be accepted for this permit.

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### Appendix

#### Inspection Progress Report

- **Purpose**: Wisconsin Department of Industry, Labor & Human Relations requires a 210 inspection fee for each building inspection conducted, payable at time of plan review.

- **Columns**:
  - **Vol. No.**
  - **Plan File No.**
  - **Building Address**
  - **City**
  - **Zip Code**
  - **County**
  - **Occupy**
  - **Address**
  - **Date Inspected**
  - **Check One**
    - ( ) Type Orders
    - ( ) Plan Review
    - ( ) Final
  - **Person Contacted**
  - **Title**
  - **Deputy Signature**
  - **Reg No.**

<table>
<thead>
<tr>
<th>Vol. No.</th>
<th>Plan File No.</th>
<th>Building Address</th>
<th>City</th>
<th>Zip Code</th>
<th>County</th>
<th>Occupy</th>
<th>Address</th>
<th>Date Inspected</th>
<th>Check One</th>
<th>Person Contacted</th>
<th>Title</th>
<th>Deputy Signature</th>
<th>Reg No.</th>
</tr>
</thead>
<tbody>
<tr>
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</tr>
</tbody>
</table>

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Appendix

DILHR-SBD-4227 (1/77)  
CERTIFICATE OF COMPLETION

Date ____________________________

201 Department of Industry, Labor and Human Relations
Safety and Buildings Division
P. O. Box 2969
201 E. Washington Avenue
Madison, WI 53707

Gentlemen:

RE: File Number: ____________________________

Plan Number: ____________________________

Owner: ____________________________

Occupancy: ____________________________

Building Street Address: ____________________________

City: ____________________________ County: ____________________________

This is to certify that construction of the referenced project was under my supervision,
in accordance with Ind 50.10, and that to the best of my knowledge and belief it has
been completed in substantial compliance with the approved plans and specifications with
the following exceptions: (IF NONE, STATE NONE)

Sample

This certificate covers: Building ☐

Heating & Ventilation ☐

Structural ☐

Other ☐ (Specify) ____________________________

Name: ____________________________

Signature: ____________________________

Registration Number: ____________________________

Address: ____________________________
Appendix

A-50.20 F's. The following reprint of section Ind 69.09 may be used to determine the amount of fee required for building-related services offered by the department:

Ind 69.09 Buildings, structures, heating and ventilating. (1) PLAN EXAMINATION AND APPROVAL FEES. Fees for the examination and approval of all plans submitted in accordance with the requirements of Wis. Adm. Code chapters Ind 60-64 will be determined in accordance with the following schedules.

(a) Building; heating and ventilating. Fees for the examination and approval of building and heating and ventilating plans will be computed on the basis of the total volume of the building and at the following rates:

<table>
<thead>
<tr>
<th>Total volume</th>
<th>Building plans</th>
<th>Heat &amp; vent plans</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-1,000,000 cubic feet</td>
<td>$0.60 per 1000 cubic feet</td>
<td>$0.40 per 1000 cubic feet</td>
</tr>
<tr>
<td></td>
<td>Minimum fee—$26.00 per plan</td>
<td>Minimum fee—$26.00 per plan</td>
</tr>
<tr>
<td>Over 1,000,000 cubic feet</td>
<td>$0.40 per 1000 cubic feet in excess of 1,000,000 cubic feet</td>
<td>$0.25 per 1000 cubic feet in excess of 1,000,000 cubic feet</td>
</tr>
</tbody>
</table>

1. Exceptions.

a. Warehouses. The fee for plan examination and approval of warehouses shall be determined in accordance with Ind 69.09 (1) (a) except that the fee may be reduced by 30%. Minimum fee—$26.00.

b. Replacement of heating equipment. The replacement of a boiler or furnace in an existing heating system with no alterations to the heating system requires no fee. See Ind 69.03 (5) for registration fee for boilers and pressure vessels.

(b) Permit to start................................................................. $35.00 per permit.

(c) Alteration plans for buildings and structures and heating and ventilating may be determined in accordance with (1) (a), based on total building volume affected by such alteration, or the following:

$1.50 for every $1000 or fraction of $1000 estimated cost. Minimum fee—$25.00 per plan.

(Estimated fee need not include cost of razing, piping, electrical, painting or decorating.)

d) Revisions to previously examined plans........................................ $25.00 per plan.

(Appplies when plans are revised, for reasons other than those that were requested by the department, before construction of the specific item commences.)

(e) Footing and foundation plans submitted separately........................... $25.00 per plan.

(f) Structures............................................................................ $25.00 per plan.

(Appplies when submitted separately and not included with general building plans, such as trusses, precast concrete and other structures.)

(g) Fire escapes........................................................................... $25.00 per plan.

(h) Stadia, grandstands and bleachers.............................................. $10.00 per 1000 seats or fraction of 1000 seats. Minimum fee—$25.00.

(i) Industrial exhaust systems for dusts, fumes, vapors and gases (government owned only).................................................. $25.00 per plan.

(j) Spray booth plans (government owned only)................................. $25.00 per plan.

(2) APPROVAL NUMBERS. The fee for approval numbers issued by the department for the approval of materials, equipment and devices ........................................ $200.00 per approval.

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Appendix

(3) Inspection fees. Field inspection fees shall be remitted for each building or structure in accordance with the following:

(a) General building, heating and ventilating inspection fees. When plans for the building and the heating and ventilating system are submitted together, inspection fees shall be determined in accordance with the following:

<table>
<thead>
<tr>
<th>New building construction (cubic feet)</th>
<th>Fee</th>
</tr>
</thead>
<tbody>
<tr>
<td>Up to 25,000 cubic feet..................</td>
<td>$50.00</td>
</tr>
<tr>
<td>25,001 - 100,000 cubic feet ...............</td>
<td>75.00</td>
</tr>
<tr>
<td>100,001 - 500,000 cubic feet ..........</td>
<td>100.00</td>
</tr>
<tr>
<td>500,001 - 1,000,000 cubic feet .......</td>
<td>125.00</td>
</tr>
<tr>
<td>1,000,001 cubic feet and over .........</td>
<td>150.00</td>
</tr>
</tbody>
</table>

(b) Heating and ventilating inspection fees. Heating and ventilating inspection fee, when plans are submitted separately from building plans .................................................. $144.00.

(c) Inspection fees for alterations to existing buildings. Inspection fees for alterations to existing buildings shall be determined in accordance with (3) (a) or the following:

<table>
<thead>
<tr>
<th>Alteration or repair (dollar amount)</th>
<th>Fee</th>
</tr>
</thead>
<tbody>
<tr>
<td>Up to $25,000 ..........................</td>
<td>$50.00</td>
</tr>
<tr>
<td>$25,001 - $100,000 ....................</td>
<td>75.00</td>
</tr>
<tr>
<td>$100,001 - $500,000 ..................</td>
<td>100.00</td>
</tr>
<tr>
<td>$500,001 - $1,000,000 ...............</td>
<td>125.00</td>
</tr>
<tr>
<td>$1,000,001 and over ...................</td>
<td>150.00</td>
</tr>
</tbody>
</table>

(d) Miscellaneous inspection fees. Miscellaneous inspection fees include fire escapes, studios and grandstands, exhaust systems, spray booths and other structures for which plan submission is required ........................................... $26.00.

(4) Collection of fees. All fees shall be remitted at the time the plans are submitted. No plan examinations, approvals or inspections will be made until the fees are received.

(5) Microfilm Fees. Microfilm prints of approved plans for the years 1967-1972 are available at a nominal cost upon approval of the original designer.

(6) Petitions for modification. The department will consider and may grant modification to an administrative rule upon receipt of a fee of $75.00, a completed petition for modification form from the owner, and a position statement from the fire department having responsibility and an interest in the rule, provided an equivalent degree of safety is established in the petition for modification which meets the intent of the rule being petitioned.

A-51.01 (12) Building. The intent was to consider permanent awnings as part of a building.

A-51.01 (42) Family. The intent of this definition is to clarify the use of the word “family” in reference to subsection Ind 57.001 (2) (a); it is not intended as a variance to requirements stated under Ind 57.001 (2) (b).

A-51.01 (67a) Habitable Room. It is the intent that rooms designated as recreation, study, den, family room, office, etc. and providing the only space for living and/or sleeping are considered habitable rooms.

A-51.01 (116) Setback. The intent was to include gutters, downspouts, outdoor lighting fixtures, signs and similar attachments as part of a building.

A-51.01 (121) Stories, number of. For further clarification, refer to A-51.02 (14).

A-51.01 (144) Wall (Division).

(a) Building division wall is intended to denote a wall constructed in a manner sufficient to meet requirements for a party wall [see “Wall (Party)"] and is acceptable as a dividing wall or enclosing wall when determining the volume of a building as referred to in sections Ind 60.07, 60.10 and 60.12.

(b) Fire division wall is intended to relate to construction that provides separation between portions of a building to satisfy allowable floor area limitations, separation between 2 classes of construction, or separation of hazardous occupancies. For other separations, see “occupancy separations” and isolation of hazards sections of this code.

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WALL (PARTY). It is intended that a property consisting of joining plotted subdivisions owned by one individual, that can be owned by separate individuals, is included in the definition of party wall.
A 51.02 (14) DETERMINATION OF NUMBER OF STORIES. The following illustrations are provided to give visual aid to this rule and the definition of Ind 51.01 (121) Stories, Number of.

Note: \( x = 3' - 0'' \) (maximum)
\( y = 6' - 0'' \) (maximum)
A-61.042 (6) The use of the term "high hazard" as referred to in this section is intended to apply to the following list of operations and occupancies:

1. Aircraft hangars.
2. Dry cleaning establishments: using or storing gasoline or other volatile flammable liquids.
3. Enameling or japanning operations.
5. Paint and varnish: manufacturing, storing, handling, spraying, and other related operations.
7. Repair garages.
8. Smoke houses.
9. Storage of explosive gases under pressure (15 psi and over 2,500 cubic feet) such as acetylene, hydrogen, natural gas, etc.
10. Storage of materials with a flash point under 200° F. such as celluloid products, kerosene, oils, etc.
11. Woodworking establishments.

A-61.16 (6) EXAMPLE TO DETERMINE TOTAL AGGREGATE EXIT WIDTH.

<table>
<thead>
<tr>
<th>Floor</th>
<th>Sprinklered Construction</th>
<th>Aggregate Exit Width Required from a Floor into the Stairwell in 30 inches per 100 People on That Floor; I.e.,</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>300</td>
<td>5th Floor to Stairwell = 3 x 30 = 90&quot;</td>
</tr>
<tr>
<td>4</td>
<td>400</td>
<td>4th Floor to Stairwell = 4 x 30 = 120&quot;</td>
</tr>
<tr>
<td>3</td>
<td>500</td>
<td>3rd Floor to Stairwell = 5 x 30 = 150&quot;</td>
</tr>
<tr>
<td>2</td>
<td>200</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>600</td>
<td>Grade 1</td>
</tr>
<tr>
<td>B₁</td>
<td>300</td>
<td>1st Floor to Exterior = 600 persons (100%) + 200 persons (50%) + 300 persons (25%) = 150&quot; (Use 232.5&quot;)</td>
</tr>
<tr>
<td>B₂</td>
<td>400</td>
<td>B₂ to B₁</td>
</tr>
</tbody>
</table>

Stair width required:

5th to 4th  - 300 persons (100%) x 30"/100 persons = 90"
4th to 3rd  - [400 persons (100%) + 300 persons (50%)] 30"/100 persons = 165"
3rd to 2nd  - [500 persons (100%) + 400 persons (50%) + 300 persons (25%)] 30"/100 persons = 232.5"
2nd to 1st  - [200 persons (100%) + 500 persons (50%) + 400 persons (25%)] 30"/100 persons = 165" (Use 232.5")
1st to exterior - [600 persons (100%) + (200 persons + 100 persons) (50%) + (500 persons + 300 persons) (25%)] 30"/100 persons = 285"

B₁ to B₂ - [100 persons (100%) + 300 persons (50%) + 400 persons (25%)] 30"/100 persons = 165" (Use 150"
B₂ to B₁ - [300 persons (100%) + 400 persons (50%)] 30"/100 persons = 150"
B₃ to B₂ - 400 persons (100%) x 30"/100 persons = 120"

Stair width required from B₁ to 1 is 150" as stair cannot decrease in width along path to exit [Ind 51.16-(2)(c)].
Appendix A-52.04 REQUIREMENTS FOR BARRIER-FREE ENVIRONMENTS. The following illustrations are provided to give the designer visual aids for making facilities accessible.

WHEELCHAIR DIMENSIONS

TURNTING SPACE

Register, December, 1976, No. 276
Building and heating, ventilating and air conditioning code
DOORS IN SERIES

18" minimum; 24" preferred

Doors in series should be hinged on the same side and should swing in the same direction. A minimum of 18 inches of clear space should be provided on the door knob side of the door. The length of the vestibule should be a minimum of 48 inches plus the width of the door in the open position (i.e., 32-inch door plus 48 inches length equals 80 inches overall length of vestibule).
EXAMPLES OF ACCESSIBLE TOILET COMPARTMENTS AS SPECIFIED IN TABLE 52.04-A

Recommended features:
1. Extended bowl;
2. Wall mounted.

The door of the 48" x 57" water closet compartment having a frontal approach should not align with the placement of the water closet.

Register, December, 1978, No. 276
Building and heating, ventilating and air conditioning code
EXAMPLES OF ACCESSIBLE TOILET ROOMS CONTAINING ONE LAVATORY AND ONE WATER CLOSET

Note 01: These examples of accessible toilet rooms may be used in health care facilities in that sufficient room for the attendant is provided.

Note 02: These examples may be modified by substituting pocket sliding doors for the swing doors shown in the examples. Surface-mounted hardware is recommended for pocket sliding doors.
EXAMPLES OF ACCESSIBLE BATHROOM LAYOUTS FOR RESIDENTIAL LIVING UNITS

Register, December, 1978, No. 276
Building and heating, ventilating and air conditioning code
EXAMPLES OF ACCESSIBLE TOILET ROOMS

Register, December, 1978, No. 276
Building and heating, ventilating
and air conditioning code
It is recommended that grab bars be from 30 to 42 inches in length and located no more than 12 inches from the back wall.
These diagrams are examples of accessible bathrooms which may be used for motels, hotels, hospitals and nursing homes.
ACCESSIBLE BATHING FACILITIES

1. Accessible shower area
2. Clear floor space of 48 inches (122 cm) in front of the shower area
3. Shower stall with a minimum door opening of 32 inches (81 cm)
4. Handrails on both sides of the shower
5. Non-slip flooring in the shower area

Register, December, 1978, No. 276
Building and heating, ventilating and air conditioning code
EXAMPLES OF ADAPTABLE BATHROOM LAYOUTS FOR RESIDENTIAL LIVING UNITS (not including hotels and motels)

These examples may be modified for accessibility by using outward swinging doors or pocket sliding doors.
INTERNATIONAL SYMBOL FOR BARRIER-FREE ENVIRONMENTS
A-52.04 (4) (b) Lifts for the physically disabled. The stair-mounted lifting devices, providing interior circulation for the physically disabled, are either of a platform type accommodating the wheelchair and its user or a seat type which requires the person to transfer from the wheelchair.

In new construction, the seat-type lifting device will be acceptable only in private group type occupancies such as, but not limited to, senior citizen centers, fraternal organizations, small churches with less than 100 occupants, and private residences. In remodeled situations where adequate space for other lifting devices is not available, a seat-type lifting device will be acceptable.

The following guidelines should be used for lifting devices provided for interior circulation:

1. If the lifting device is to be located in a required exit stairway, the lifting device, in its open position, cannot infringe upon the required exit width for the floor the stairway serves. To determine the required exit width, refer to the specific occupancy chapters of this code.

2. The department recommends that the building plans submitted for approval indicate the type of lifting device to be used, the location, and the width of the lifting device in its open position.

3. The guidelines of the elevator section of this department require platform lifts to be designed with proper safety devices such as 42-inch high sides and gates, gate locks and contacts, guarding of space under the lift, etc., to provide safety for the public and persons using the lift with aids such as wheelchairs, crutches, braces or canes.

4. Vertical lifts having a travel distance in excess of 66 inches are considered to be elevators and must comply with the requirements for passenger elevators, Wis. Adm. Code chapter Ind 4, Elevator Code.

5. After the building plans are approved for the location and use, 3 sets of mechanical drawings for the lifting device must be submitted to the elevator section in accordance with chapter Ind 4, Elevator Code.

   a. Two copies of the elevator application form are required to be submitted along with an examination fee and an inspection fees.

   b. A copy of the building approval letter should accompany the mechanical drawings.
Appendix

A-63.11 (4) (b) Increase in roof loads. The following design provisions may be used to determine the increase in roof loads as required by this section.

SNOW LOAD DISTRIBUTIONS AND COEFFICIENTS

ROOF SHAPES

Lower of multi-level roofs with upper roof sloped towards lower roof

Roof areas adjacent to projections and obstructions on roofs

SNOW LOAD DISTRIBUTIONS AND COEFFICIENTS. LIMITATIONS

Design lower roof for loads applicable to multi-level roofs plus a portion of the sliding snow from the upper roof

Design upper roof for loads applicable to single-level roofs

\[ C_s = 10 \frac{h}{g} \]

When \( 10 \frac{h}{g} < 0.8 \) use \( C_s = 0.8 \)

When \( 10 \frac{h}{g} > 2.0 \) use \( C_s = 2.0 \)

When \( L \leq \frac{g}{6} \) use \( C_s = 0.8 \)

\[ w = 2h \]

When \( h < 5 \text{ ft} \) use \( w = 10 \text{ ft} \)

When \( h > 15 \text{ ft} \) use \( w = 30 \text{ ft} \)

\( h = \) height of projection in ft

\( g = \) roof live load in psf \([53.11(4)]\)

\( w = \) width of snow drift in ft

\( L = \) length of projection in ft

Register, December, 1978, No. 276
Building and heating, ventilating and air conditioning code
Valley areas of two-span and multiple series sloped or curved roofs

Lower level of multi-level roofs (when upper roof is part of the same building or on an adjacent building not more than 15 ft. away)

SNOW LOAD DISTRIBUTIONS AND COEFFICIENTS LIMITATIONS

Case I

\[ C_b = 0.8 - \frac{a - 30}{50} \]

Case II

\[ \frac{l_1}{2} \quad \frac{l_2}{2} \quad 1.0 \]

Case III

\[ \frac{l_1}{4} \quad \frac{l_2}{4} \quad 1.5 \quad 0.5 \]

\[ \beta = \frac{a_1 + a_2}{2} \]

\[ C_b = \frac{15}{g} \left[ 10 + \frac{h}{w} \right] \]

- when \( 15 \frac{h}{g} < 0.8 \) use \( C_b = 0.8 \)
- when \( 15 \frac{h}{g} > 3.0 \) use \( C_b = 3.0 \)
- \( w = 2 \) ft
- when \( h < 5 \) ft use \( w = 10 \) ft
- \( h > 15 \) ft use \( w = 30 \) ft

Design upper roof for loads applicable to single-level roofs

For \( \beta < 10^\circ \) use Case I only
For \( 10^\circ < \beta < 20^\circ \) use Case I and II
For \( \beta > 20^\circ \) use Case I, II and III
Appendix

A-53.15 Load Combinations. It is the intent of this section that the loads specified in sections Ind 53.10 through Ind 53.14 be considered to act in the following combinations, whichever is critical, for the design of the building frame, foundation or structural member:

1. Dead load plus live load.
2. Dead load plus wind load.
3. Dead load plus live load plus wind load.
4. Dead load plus live load plus crane loads.

Distribution of live loads which would cause the maximum shear, bending moment or stress in structural members should be investigated.
A-53.66 WOOD FOUNDATIONS. The following illustrations are provided to give visual aid to the limitations specified in this rule and to indicate the three typical designs permitted by the rule.

One-story with full basement

One-story with ground floor

Two-story with wood foundation (No basement or crawl space)
A-54.02 (a). EXIT DISTANCE. The following illustrations and text are provided to explain the procedure and intent of using the triangulation method of exit distance determination:

Exit travel must terminate at one of the following types of exits:

1. Standard exit to grade (Ind 51.15)
2. Enclosed stairways (Ind 51.17 and 51.18)
3. Horizontal exits (Ind 51.19)
4. Fire escape (Ind 51.20)

Therefore, exit distance must be measured from one of these exit types. All exits must lead to a street, alley or open court which is connected to a street or alley.

Procedure:

1. Beginning at designated exit type, measure required exit distance (100 feet, for example) at right angles to and parallel with (on both sides) the exit.
2. Connect end points to form the "exit triangle."
3. All areas within the triangle are within the required exit distance when traveling toward or at right angles to the exit.
4. All the interior space of a building must fall within the "exit triangle" formed by using the required exits for the building.
5. When measuring exit distance in stairways, only the horizontal travel distance is included in the determination.
A-67.18 The intent of this section is to apply to floor levels not more than one story below grade (at building).

A-67.18 (6) It is the intent of this subsection that each living unit needs only one means of exit from within the unit and that the entire building be provided with no less than 2 exits.

A-60.19 (4). The standard is available from the National Fire Protection Association, 470 Atlantic Ave. Boston, Massachusetts 02210.

A-60.24 Class A fires are fires in ordinary combustible materials such as wood, cloth, paper, rubber, and many plastics. Class B fires are fires in flammable liquids, gases and greases.

A-60.35 See A-60.24.

A-60.36 (1) (a). See A-60.19 (4).

A-62.25 (1) Clearance limitations. The intent is to require the minimum 7 feet 0 inches clearance only in traffic lanes and in all areas normally used by the public to leave and return to their vehicles.

A-63.41 FORM. Copies of the following form (SBD 5315) are available from the Division of Safety and Building, P.O. Box 7969, Madison, Wisconsin 53707. This form may be used to verify compliance with the illumination requirements of this section.
# DEPT. OF INDUSTRY, LABOR & HUMAN RELATIONS
Appendix

## ILLUMINATION BUDGET

**SUBMIT 4 COPIES**

Department of

INDUSTRY, LABOR AND HUMAN RELATIONS

SEE BACK OF SHEET FOR NOTES AND INSTRUCTIONS

**DEPT. OF INDUSTRY, LABOR & HUMAN RELATIONS 327**

**Register, December, 1978, No. 276**

Building and heating, ventilating and air conditioning code
### NOTES AND INSTRUCTIONS

1. Fixture schedules must accompany this form, or be shown on the plans, or in the specifications.

2. A completed SB-118, Plans Approval Application Form, must accompany these calculations if they are submitted separately from the building plans.

3. The last sheet of this form must be signed and initialed by a Wisconsin registered architect, engineer or electrical designer if the total building volume is greater than 50,000 cubic feet.

4. All electric discharge lighting must meet the minimum power factor requirements of Ind 63.40.

5. Use of form:
   - **A.** Calculations are on an individual room or area basis.
   - **B.** Enter room or area designation in column (1). This should correspond to the designation shown on the building plans.
   - **C.** Calculate the floor area, in Sq. Ft., of the room or area. Enter area in column (2).
   - **D.** Determine the allowable “Watts per Sq. Ft.” from Ind 63.41. Enter this value in column (3).
   - **E.** Multiply value in column (3) by value in column (13). Enter product in column (6).
   - **F.** Enter fixture type(s) from fixture schedule in column (5).
   - **G.** Enter number of fixtures of each type, located in the room or area, in column (8).
   - **H.** Enter the wattage for one fixture of that type in column (5).
   - **I.** Multiply value in column (6) by value in column (7). Enter product in column (8).
   - **J.** Total columns (4) and (8), entering sheet totals at the bottom of each sheet, and the total of all sheets at the bottom of the final sheet.
   - **K.** Column (11) building total must be less than, or equal to, the building total in column (14).

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Building and heating, ventilating and air conditioning code
DEPT. OF INDUSTRY, LABOR & HUMAN RELATIONS 329

Appendix

A-64.20. EQUIPMENT RATINGS AND SAFETY CONTROLS. The department recognizes the following reference standards or the testing and installation of heating and ventilating equipment:

(1) National Fire Protection Association, 470 Atlantic Ave., Boston, Mass. 02210:
   (a) OIL-BURNING EQUIPMENT, NFPA No. 31;
   (b) NATIONAL FUEL GAS CODE, NFPA No. 54.

(2) American National Standards Institute, Inc., 1430 Broadway, New York, N.Y. 10018:
   (a) OIL-BURNING EQUIPMENT, Vol. 1, ANSI Z21.11.1;
   (b) GAS-FIRED LOW PRESSURE STEAM AND HOT WATER BOILERS, ANSI Z21.13;
   (c) GAS UNIT HEATERS, ANSI Z21.16;
   (d) DOMESTIC GAS CONVERSION BURNERS, ANSI Z21.17;
   (e) GAS APPLIANCE PRESSURE REGULATORS, ANSI Z21.18;
   (f) AUTOMATIC GAS IGNITION SYSTEMS AND COMPONENTS, ANSI Z21.20;
   (g) AUTOMATIC GAS VALVES, ANSI Z21.21;
   (h) RELIEF VALVES AND AUTOMATIC GAS SHUTOFF DEVICES FOR HOT WATER SYSTEMS, ANSI Z21.22;
   (i) GAS APPLIANCE THERMOSTATS, ANSI Z21.23;
   (j) GAS-FIRED DUCT FURNACES, ANSI Z21.34;
   (k) GAS FILTERS ON APPLIANCES, ANSI Z21.36;
   (l) GAS-FIRED GRAVITY AND FAN TYPE DIRECT VENT WALL FURNACES, ANSI Z21.44;
   (m) GAS-FIRED GRAVITY AND FORCED AIR CENTRAL FURNACES, ANSI Z21.47;
   (n) GAS-FIRED GRAVITY AND FAN TYPE FLOOR FURNACES, ANSI Z21.48;
   (o) GAS-FIRED GRAVITY AND FAN TYPE VENTED WALL FURNACES, ANSI Z21.49;
   (p) VENTED DECORATIVE GAS APPLIANCES, ANSI Z21.50;
   (q) GAS-FIRED SINGLE FIREBOX BOILERS, ANSI Z21.52;
   (r) GAS-FIRED HIGH PRESSURE STEAM AND HOT WATER BOILERS (Inputs not over 400,000 Btu/hour), ANSI Z21.69;
   (s) DECORATIVE GAS APPLIANCES FOR INSTALLATION IN VENTED FIREPLACES, ANSI Z21.60;
   (t) DIRECT GAS-FIRED MAKE-UP AIR HEATERS, ANSI Z33.4;
   (u) GAS-FIRED HEAVY DUTY FORCED AIR HEATERS, ANSI Z33.5;
   (v) GAS-FIRED INFRARED HEATERS, ANSI Z33.6.

(3) Underwriters' Laboratories, Inc., 207 East Ohio St., Chicago, Illinois 60611:
   (a) OIL BURNERS, UL 286;
   (b) CONTROLS, PRIMARY SAFETY FOR GAS- AND OIL-FIRED APPLIANCES, UL 372;
   (c) HEATING APPLIANCES, ELECTRIC, UL 499;
   (d) HEAT PUMPS, UL 555;
   (e) OIL-FIRED BOILER ASSEMBLIES, UL 728;
   (f) OIL-FIRED CENTRAL FURNACES, UL 727;
   (g) HEATERS, AIR, AND DIRECT-FIRED HEATERS, OIL FIRED, UL 733;
   (h) COMMERCIAL-INDUSTRIAL GAS HEATING EQUIPMENT (Inputs over 400,000 Btu/hour), UL 796;
   (i) HEATERS, ELECTRIC, FOR USE IN HAZARDOUS LOCATIONS; Class I, Groups A, B, C and D, and Class II, Groups E, F and G, UL 823;
   (j) ELECTRIC BOILERS, UL 834;
   (k) HEATERS, ELECTRIC DRY BATH, UL 875;
   (l) PAN COIL UNITS AND ROOM PAN HEATER UNITS, UL 883;
   (m) HEATERS, ELECTRIC AIR, UL 1028;
   (n) HEATING EQUIPMENT, ELECTRIC BASEBOARD, UL 1042;
   (o) HEATING EQUIPMENT, ELECTRIC CENTRAL AIR, UL 1096.

Note: The table on the following page is a tabular summary of UL 296 and UL 796.
<table>
<thead>
<tr>
<th>TABULAR SUMMARY UL STANDARD 296 AND UL STANDARD 795</th>
</tr>
</thead>
<tbody>
<tr>
<td>FUNCTION/BURNER INPUTS</td>
</tr>
<tr>
<td>3 GPH Oil Burners UL 296</td>
</tr>
<tr>
<td>7 GPH 1 million Btu or less</td>
</tr>
<tr>
<td>20 GPH 3 million Btu or less</td>
</tr>
<tr>
<td>Over 20 GPH 3 million Btu or less</td>
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<tr>
<td>Over 400,000 Btu to 2,500,000 Btu</td>
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<tr>
<td>Over 2,500,000 Btu to 5,000,000 Btu</td>
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<tr>
<td>Over 5,000,000 Btu to 12,500,000 Btu</td>
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<tr>
<td>Over 12,500,000 Btu</td>
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<tr>
<td>Mechanical Draft Burners</td>
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<td>ATM Draft</td>
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<td>Prepurge timing</td>
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<td>Interlock Controls (Recycle)</td>
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<td>Proven combustion air</td>
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<td>Valve seal overtravel</td>
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<tr>
<td>Low gas pressure</td>
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<td>--</td>
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<tr>
<td>High gas pressure</td>
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<td>--</td>
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<td>Low fire start</td>
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<td>High limit (press. or temp.)</td>
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<td>Low water cutoff</td>
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<td>--</td>
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<tr>
<td>Pilot - Intermittent</td>
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<td>--</td>
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<tr>
<td>Pilot - Interrupted</td>
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<td>--</td>
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<tr>
<td>Direct spark ignition</td>
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<tr>
<td>System &amp; sequence approved</td>
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</tr>
<tr>
<td>Approved safety control</td>
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<tr>
<td>--</td>
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<tr>
<td>Approved safety shutoff valves (SSOV)</td>
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<td>--</td>
</tr>
<tr>
<td>Pilot valve</td>
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<tr>
<td>Proved pilot</td>
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<td>--</td>
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<tr>
<td>Trial for pilot</td>
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<td>--</td>
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<tr>
<td>Flame failure response time</td>
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<tr>
<td>--</td>
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<tr>
<td>Valve closing time (max.)</td>
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</tr>
<tr>
<td>Supervise main flame</td>
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<td>Action on flame failure</td>
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<tr>
<td>--</td>
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<tr>
<td>Action on limit open</td>
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<td>--</td>
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</tbody>
</table>

See following page for footnotes.
FOOTNOTES TO TABULAR SUMMARY UL
STANDARD 296 AND UL STANDARD 795:

SSOV = Safety shutoff valve.

'May relight if ignition is re-energized within 0.8 sec. See 16 and 16.

*Where intermittent pilot is desired, it is allowable to switch from pilot detector to main flame detector if main flame detector responds to main flame only.

*Without shutters, no prepurge required.

*Options (whichever is chosen, a minimum of 4 air changes must be provided): 30 sec at high fire rate; OR
- 60 sec at 1/2 high fire rate; OR
- 90 sec at 1/3 high fire rate.

*With 2-stage lightoff, direct ignition is permitted if first stage is 20 gph or less (requirements for 20 gph or less apply). Pilot is required if igniting more than 20 gph.

*Lockout on interrupted pilot applications; recycle on intermittent pilot applications.

*10 sec for distillate fuel (No. 1 or No. 2); 30 sec for residual fuel (No. 4, 5, 6).

*Conventional type pressure burner—none needed. Needed for applications with combustion air supply separate from oil supply.

*Valve seal over travel switch can be wired into either the start circuit or pre-ignition interlock circuit (if provided).

*Interrupted pilot over 2.5 million Btuh if modulating or high/low firing rate. Otherwise over 5 million Btuh.

*If low fire start is not proved, UL will test for smooth lightoff at high fire.

*Intermittent up to 5 million Btuh unless firing rate control is over 2,500,000 Btuh.

*Requirements same as mechanical draft burners.

*See Table 1 at end of footnotes for main gas valves.

*Up to 16 sec is permitted if intermittent ignition is employed, or if the ignition system is re-energized in not more than 0.8 sec after flame is extinguished.

*Up to 30 sec is permitted if intermittent ignition is employed, or if the ignition system is re-energized in not more than 0.8 sec after flame is extinguished.

*If proved pilot igniter is used, timings for over 20 gal flame safeguard control may be applied.

*Required for electrically ignited, gas-piloted systems.

*Interrupted pilot may be required if using flame safeguard control with a proved pilot. Otherwise, interrupted pilot is optional.

*Safety shutdown by this limit can be accomplished either by manual reset limits or in the programmer limit circuit.

*Required on boilers fired by oil burners—not a requirement of UL 296.

*If intermittent pilot is used, no main burner flame-establishing period is required.

*If a separate oil valve is used, it must close within 5 sec max when de-energized.
### TABLE 1—AUTOMATIC MAIN GAS SAFETY SHUTOFF VALVES (SSOV) FOR MECHANICAL OR ATMOSPHERIC BURNERS—UL 785 REQUIREMENTS, EFFECTIVE OCTOBER 1, 1974

<table>
<thead>
<tr>
<th>Main Valve Requirement</th>
<th>Over 2,500,000 to 5,000,000 BTUH</th>
<th>Over 5,000,000 to Over 12,500,000 BTUH</th>
<th>Over 12,500,000 BTUH</th>
</tr>
</thead>
<tbody>
<tr>
<td>One valve rated for safety shut-off services (SSOV).</td>
<td>Two SSOV's in series, one of which incorporates a valve seal over-travel interlock. Closing time 1 sec max.</td>
<td>Two SSOV's in series, one of which incorporates a valve seal over-travel interlock. Closing time 1 sec max.</td>
<td>Two SSOV's in series, one of which incorporates a valve seal over-travel interlock. When fuel gas has specific gravity of less than 1.0, include a N.O. ¾ inch or larger electrically operated valve in a vent line between the two SSOV's.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>BtuH</th>
<th>400,000 to 2,500,000</th>
<th>Over 2,500,000 to 5,000,000</th>
<th>Over 5,000,000 to Over 12,500,000</th>
<th>Over 12,500,000</th>
</tr>
</thead>
<tbody>
<tr>
<td>2,500,000</td>
<td>2,600,000 BTUH</td>
<td>5,000,000 BTUH</td>
<td>12,500,000 BTUH</td>
<td>12,500,000 BTUH</td>
</tr>
</tbody>
</table>

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Building and heating, ventilating and air conditioning code
**INDEX**

*See also first page of each chapter for listing of section headings.*

**NOTE:** An asterisk (*) following a subject reference indicates further requirements will be found in the “occupancy chapters” of the code—chapters Ind 54 through 62.

### A

<table>
<thead>
<tr>
<th>Subject</th>
<th>Section No(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>ACADEMIES</strong></td>
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<td><strong>ACCESS</strong></td>
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<tr>
<td>Access or accessible, for physically disabled</td>
<td>52.04</td>
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<tr>
<td>To panels, for fire department</td>
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<tr>
<td>To roofs</td>
<td>51.02</td>
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