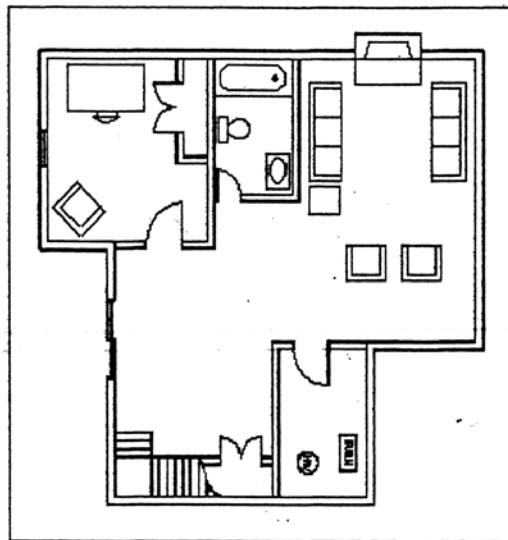


PRINCE GEORGE'S COUNTY

DEPARTMENT OF ENVIRONMENTAL RESOURCES MANAGEMENT SERVICES BRANCH PERMITS AND REVIEW DIVISION

FINISHED BASEMENTS FOR HOMEOWNERS



GENERAL NOTES

1. The use of this package, in lieu of submitted drawings, applies to finishing, remodeling or renovating residential basements, and for residential use only. The project must also be constructed in strict conformance with the details and dimensions contained herein. A copy of this document must be kept on-site and available to the inspector during the construction and inspection process.
2. In the absence of any information on this document, consult the International Residential Code 2000 (IRC). However, general code requirements are cited hereafter for the homeowner's convenience.
3. Deviations from this document and the conditions that do not meet the details shown herein shall require architectural plan submission prior to permit issuance.
4. In no case shall the proposed work include removal, cutting, or alterations to load bearing walls, exterior walls, beams, columns/posts or any other structural members.
5. In no case shall the proposed work adversely affect the existing foundation drainage system, such as deleting, altering or disconnecting the sump pump.
6. In no case shall the proposed work be used to hide any structural defects whatsoever. Any violators of this condition shall be subject to enforcement action.
7. Homeowners/contractors will be required to sign the "Homeowner's Certification and Hold Harmless Agreement." This agreement will allow the homeowner to obtain an electrical permit and perform limited work on their premises.
8. If the existing house has an automatic fire sprinkler system, a sprinkler company must install additional sprinkler coverage. An inspection certification form from a qualified inspector must be submitted to the County Building Inspector to validate the completeness and operation of the sprinkler system.
9. If the proposed work includes any plumbing and/or gas fittings, the owner or their representative shall be responsible for securing the appropriate permit from the Washington Suburban Sanitary Commission at (301) 206-4003.
10. In no case shall the basement be used by anyone other than the owner, for rent or to create occupancy other than the ordinary personal residential use.
11. The Health Department's review and approval is required for a finished basement if the house is served by a septic system. Please contact the Health Department at (301) 883-5885 for specific requirements.

12. Pursuant to the IRC 2000 and Prince George's County regulations, it is the responsibility of the permit holder or the permit holder's representative to notify the County when the stages of construction are reached that require an inspection. Questions regarding inspections should be addressed to the Licenses and Inspections Division, Building Inspection Section, at (301) 883-6010.
13. Stairs, guards and handrails shall comply with the latest edition of the IRC.
14. All lumber contacting below grade masonry or concrete must be pressure treated.

BASIC DEFINITIONS

CLEANOUT: An accessible opening in the drainage system used for the removal of possible obstruction.

COMBUSTION AIR: The air provided for fuel-burning equipment including air for fuel combustion, draft hood dilution and ventilation of the equipment enclosure.

GROUND-FAULT CIRCUIT-INTERRUPTER (GFCI): A GFCI is a device intended for the protection of personnel and functions to de-energize a circuit or portion thereof within an established period of time when a current to ground exceeds the values established for a GFCI.

HABITABLE ROOM: Any room that meets the requirements of the code for sleeping, living, cooking or dining purposes, excluding such enclosed places as closets, pantries, bath or toilet rooms, hallways, laundries, storage spaces, utility rooms and similar spaces.

OVERCURRENT: Any current in excess of the rated current of equipment or the ampacity of a conductor (wire). It may result from overload, short circuit, or ground fault.

OVERCURRENT-PROTECTION DEVICE (CIRCUIT BREAKER): A device designed to open and close a circuit by nonautomatic means and to open a circuit automatically on a predetermined overcurrent without damage to itself when properly applied within its rating.

RECEPTACLE: A receptacle is a contact device installed at the outlet for the connection of an attachment plug. A single receptacle is a single contact device with no other contact device on the same yoke. A multiple receptacle is two or more contact devices on the same yoke.

RECEPTACLE OUTLET: An outlet where one or more receptacles are installed.

GENERAL BUILDING CODE REQUIREMENTS

ROOM SIZES

Habitable rooms shall have an area of not less than 70 square feet. Habitable rooms shall not be less than 7 feet in any direction.

HALLWAYS

The minimum width of a hallway shall not be less than 3 feet.

CEILING HEIGHTS

Habitable basements shall have a ceiling height of a minimum of 7 feet. Beams and girders spaced a minimum of 4 feet on center may not project more than 6 inches below the required ceiling height.

TOILET, BATH, AND SHOWER SPACES

Every toilet, bathtub or shower shall be installed in a room that will afford privacy to the occupant.

Bathrooms, toilet compartments and other similar rooms shall be provided with a window area not less than 3 square feet, one-half of which must be openable. The window requirement shall not be required where artificial light and an approved mechanical ventilation system capable of producing a change of air every 12 minutes are provided. Bathroom exhausts shall be vented directly to the outside. Electrical service equipment shall not be installed in bathrooms.

EMERGENCY EGRESS REQUIREMENTS

Emergency egress is required for all finished basements regardless of when the house was originally constructed. Emergency egress is also required in all basement bedrooms. However, basements with bedrooms are only required to have emergency egress in the bedroom. This requirement is waived if an automatic sprinkler system is provided throughout the house, including the basement. If the basement does not currently have one of the emergency egress options below, you must provide one. Cutting any opening in existing basement walls is outside the scope of this document and details. Therefore, a plan submission is required for the new openings only. Utilizing window wells for emergency egress requires plan submission to the County for review and approval.

Emergency egress options:

- Escape window or door opening directly to the outside (walk-out basement condition).
- Escape window opening into a window well or areaway.
- Door opening to bulkhead enclosure (Bilco or similar type door).

Requirements:

- All doors and windows utilized as emergency egress must be operable from the inside without the need of a key or tool.
- The opening used for emergency egress must be a minimum of 5.7 square feet.
- Windows must have a sill 44" or less above the finished floor.
- See Figure 1 for more detail.

BEDROOM EMERGENCY EGRESS

These bedroom emergency egress requirements are for informational purposes only. Every bedroom shall have at least one openable window or exterior door approved for emergency egress or rescue. The units must be operable from the inside to a full clear opening without the use of a key or tool. Where windows are provided as a means of egress or rescue, they shall have a sill height of not more than 44 inches, a minimum net clear opening of 5.7 square feet, if floor level is below grade, and a minimum net clear opening height of 24 inches and a minimum net clear opening width of 20 inches. See FIGURE 1.

Where emergency egress windows exit to a window well, the minimum area dimensions of that window well shall be equal to 3 feet by 3 feet.

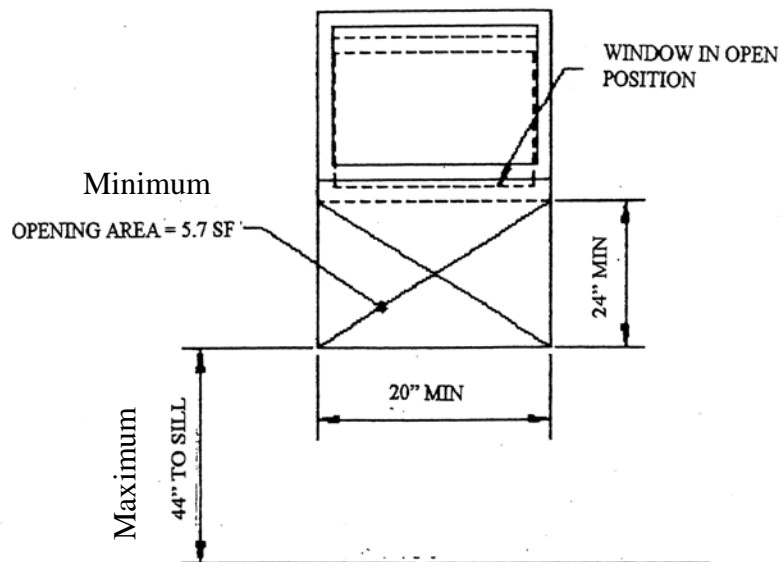


FIGURE 1: BEDROOM EMERGENCY EGRESS DIMENSIONS

UNDER STAIR PROTECTION

Enclosed accessible space under stairs shall have walls and soffits protected on the enclosed side with ½-inch gypsum board (drywall).

SMOKE DETECTORS

Smoke detectors shall be installed in the basement, in each bedroom, and outside of each separate sleeping area in the immediate vicinity of the bedroom(s). Required smoke detectors shall receive their primary power from the building wiring when such wiring is served from a commercial source and, when primary power is interrupted, shall receive power from a battery.

Wiring shall be permanent and without a disconnecting switch other than those required for overcurrent protection (circuit breaker). New smoke detectors shall be hardwired to the smoke detectors at the upper levels.

STAIRWAY ILLUMINATION

All basement stairs must be provided with a means of illumination, including the landings and treads, with an artificial light source located in the immediate vicinity of each landing and where outside entrances enter a stairway in-between landings. The control for activation of the lighting should be accessible at the top and bottom of the stair without traversing any step of the stair.

INSULATION

It is required to provide at least an R-11 battened insulation with the vapor barrier on the warm side of the wall for the full height of the basement wall.

CODE REQUIREMENTS FOR WALL CONSTRUCTION

STUDS

Studs must be utility grade or better. Stud spacing shall be per TABLE 1, shall have a pressure treated bottom plate, and can have a single or double top plate.

TABLE 1: STUD SPACING

Wall Finish Material	Stud spacing, inches on center
Drywall	16 or 24
Wood veneer, hardwood paneling	16

ATTACHMENT REQUIREMENTS

Wall construction shall be fastened in accordance with TABLE 2.

TABLE 2: FASTENING SCHEDULE

Connection	Nailing method
Top plate to stud	end nail, 16d @ 24" o.c.
Stud to bottom plate	toe nail, 2-16d
Bottom plate to floor	face nail, 6d (concrete nail) @ 16" o.c.

DRILLING AND NOTCHING STUDS

Studs in non-load bearing walls may be notched to a depth not to exceed 40 percent of a single stud width. Studs may be bored or drilled, provided that the diameter of the resulting hole is not greater than 40 percent of the stud width, the edge of the hole is no closer than 5/8-inch to the edge of the stud, and the hole is not located in the same section as a cut or notch. See FIGURE 2. The Prince George's County Electrical Code requires at least 1' 1/4" from edge of the stud for cables and conductors or physical protection is required.

HEADERS

A single, flat 2 x 4 member may be used as a header in interior nonbearing walls for openings up to 8 feet in width if the vertical distance to the parallel nailing surface wall above is not more than 24 inches. If the opening does not meet the above conditions, the header size shall be per TABLE 3.

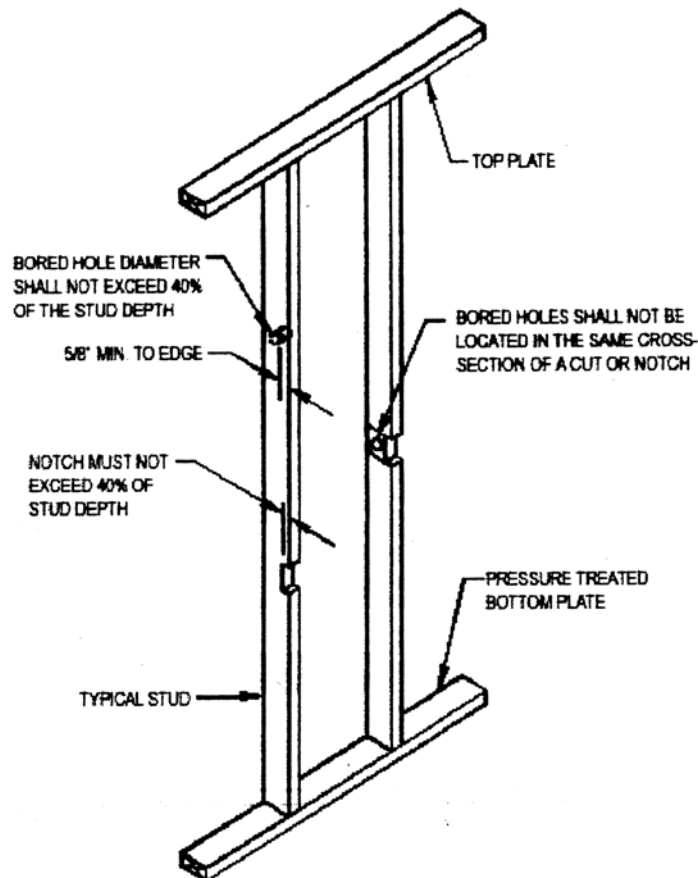


TABLE 3: HEADER SIZE

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Header Size	Span length, feet
(2)2x4	4
(2)2x6	6
(2)2x8	10
(2)2x10	12
(2)2x12	16

FIRESTOPPING

Fireblocking shall be provided to cut off all concealed draft openings (both vertical and horizontal) and to form an effective fire barrier between stories, and between a top story and the roof space. Fireblocking shall be provided in wood-frame construction in the following locations:

1. In concealed spaces of stud walls and partitions, including furred spaces and parallel rows of studs or staggered studs as follows:
 - o Vertically at the ceiling and floor levels.
 - o Horizontally at intervals not exceeding 10 feet.
2. At all interconnections between concealed vertical and horizontal spaces that occur at soffits, drop ceilings, cove ceilings.
3. In concealed spaces between stair stringers at the top and bottom of the run. Enclosed spaces under stairs shall comply with Section R314.8 (IRC).
4. At openings around vents, pipes, and ducts at ceiling and floor level, with an approved material to resist the free passage of flame and products of combustion.
5. For the fireblocking of chimneys and fireplaces, see Section R1001.16 (IRC).
6. Fireblocking of cornices of a two-family dwelling is required at the line of dwelling unit separation.

Except as provided in Section R602.8, Item 4 (IRC), fireblocking shall consist of 2-inch nominal lumber, or a double thickness of 1-inch nominal lumber with broken lap joints, or one thickness of 23/32-inch wood structural panels with joints backed by 23/32-inch wood structural panels, or one thickness of 3/4-inch particleboard with joints backed by 3/4-inch particleboard, 1/2-inch gypsum board, or 1/4-inch cement-based millboard. Batts or blankets of mineral wool or glass fiber or other approved materials installed in such a manner as to be securely retained in place shall be permitted as an acceptable fire block. Batts or blankets of mineral or glass fiber or other approved nonrigid materials shall be allowed as fireblocking in walls constructed using parallel

rows of studs or staggered studs. Loose-fill insulation material shall not be used as a fire block unless specifically tested in the form and manner intended for use to demonstrate its ability to remain in place and to retard the spread of fire and hot gases.

Unfaced fiberglass batt insulation used as fireblocking shall fill the entire cross section of the wall cavity to a minimum height of 16 inches measured vertically. Insulation shall be packed tightly around the obstruction when piping, conduit or similar obstructions are encountered.

The integrity of all fireblocks shall be maintained.

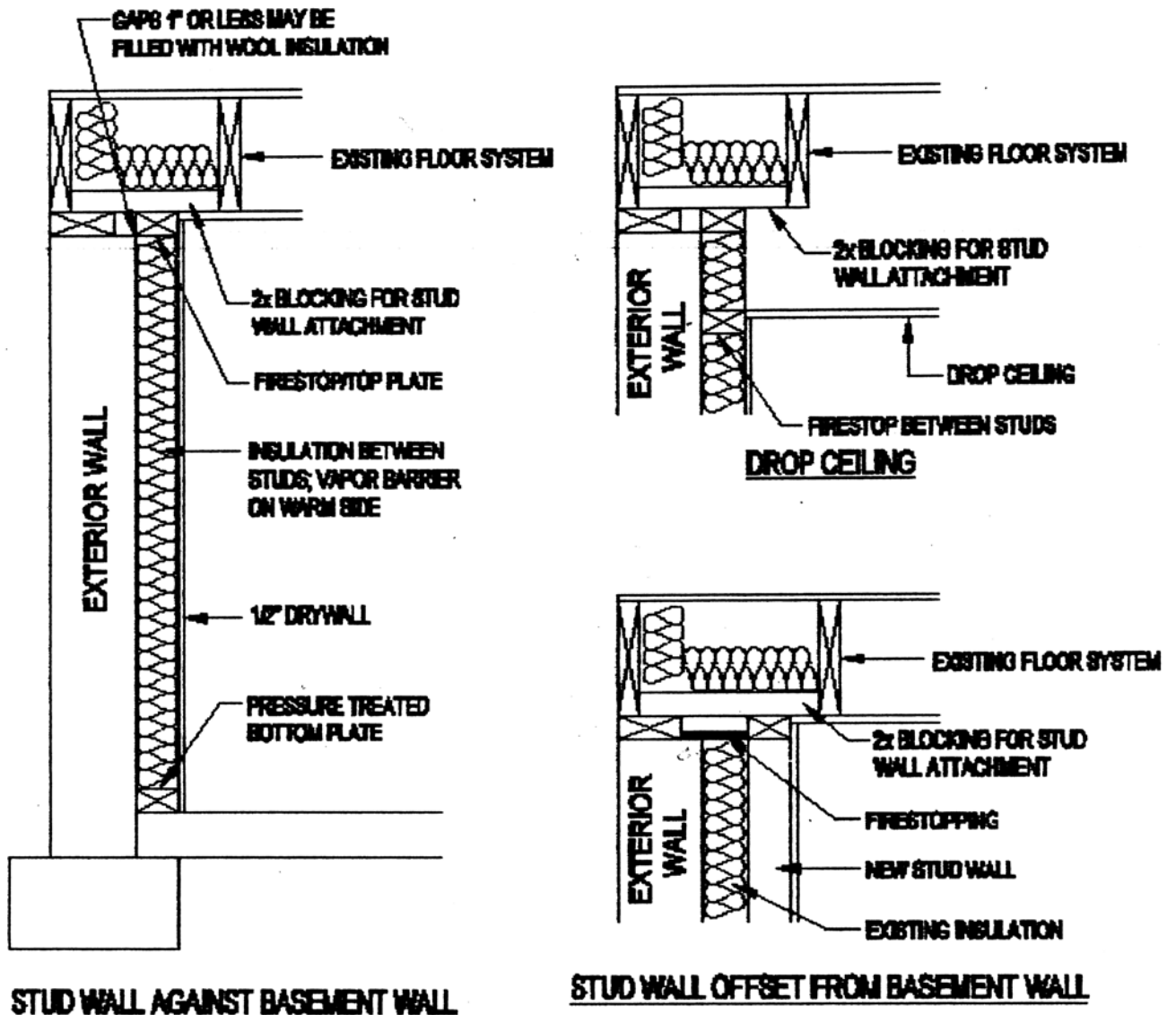


FIGURE 3: TYPICAL WALL SECTION

INTERIOR COVERING

Wall and ceiling finishes shall have a flame spread classification no greater than 200 and a smoke density classification no greater than 450. The flame spread requirement does not apply to trim (picture molds, chair rails, baseboards, handrails), or to doors or their frames.

Water resistant gypsum backing board must be installed on walls of bathtub and shower spaces.

Wood veneer or hardboard paneling not less than ¼-inch shall not have stud spacing in excess of 16 inches on center.

CODE REQUIREMENTS FOR FLOOR/CEILING CONSTRUCTION

DRILLING AND NOTCHING JOISTS

Notches in the top or bottom of joists shall not exceed one-sixth the depth of the joist and shall not be located in the middle third of the span. Cantilevered (overhanging) joists shall not be notched. Holes drilled or bored in joists shall not be within 2 inches of the top or bottom of joists and their diameter shall not exceed one-third the depth of the joist. See FIGURE 4.

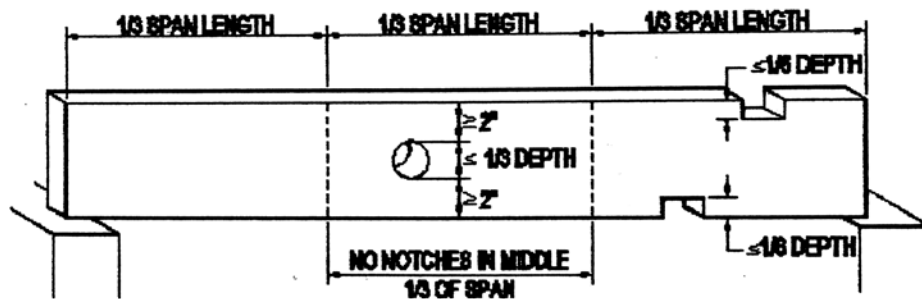


FIGURE 4: DRILLING AND NOTCHING JOISTS

DRAFTSTOPPING

When there is useable space above and below the concealed space of a floor/ceiling assembly, draftstopping shall be installed so that the area of the concealed space does not exceed 1,000 square feet. Draftstopping shall divide the concealed space into approximately equal areas. Draftstopping shall be provided in floor/ceiling assemblies under the following circumstances:

1. Ceiling is suspended under the floor framing; or
2. Floor framing is constructed of truss-type, open-web or perforated members.

Draftstopping material shall not be less than ½-inch gypsum board, 3/8-inch wood structural panels or particleboard. Draftstopping shall be installed parallel to the floor framing members. The integrity of all draftstopping shall be maintained. See FIGURE 5.

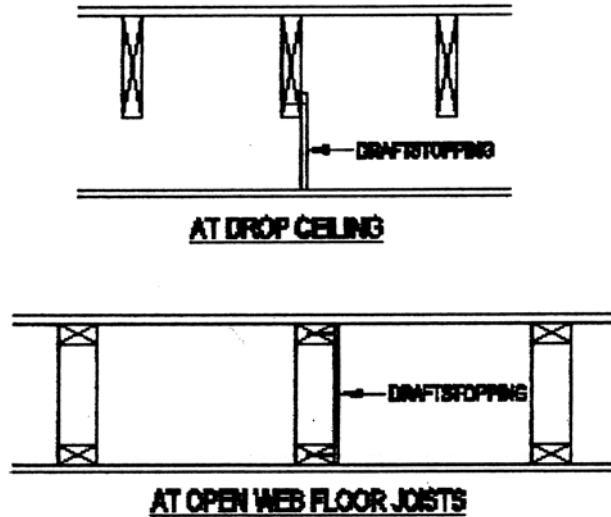


FIGURE 5: DRAFTSTOPPING

MECHANICAL CODE REQUIREMENTS

APPLIANCE ACCESS

Appliances and equipment, such as furnaces and hot water heaters, must remain accessible for inspection, service, repair and replacement without removing permanent construction. The furnace room shall have an opening or door large enough to permit removal of the largest piece of equipment, but not less than 20 inches wide. An unobstructed working space not less than 30 inches wide and not less than 30 inches high shall be provided along the control side of the equipment when the door of the furnace room is open.

COMBUSTION AIR

Fuel-burning appliances shall be supplied with combustion air. Furnace rooms must be provided with two permanent openings to adjacent spaces; one shall be located within 12 inches from the top and one within 12 inches from the bottom of the adjoining wall. Each opening shall have free area equal to a minimum of 1 square inch per 1,000 Btu/h input rating of all appliances installed within the furnace room, but not less than 100 square inches. The openings are not required if a louvered door is provided or the furnace room area is greater than 50 cubic feet per 1,000 Btu/h input rating of all appliances installed in the room.

ELECTRICAL CODE REQUIREMENTS

PANELBOARDS CLEARANCES

The dimension of the working space in the direction of access to panelboards shall not be less than 36 inches in depth and 30 inches in width. The working space shall be clear and shall extend from the floor or platform to a height of 6 feet 7 inches. In all cases, the working space shall allow at least a 90-degree opening of panel doors or hinged parts. A dedicated space directly over a panelboard that extends from the panelboard to the structural ceiling shall be kept clear of unrelated equipment. This required working space should not be designated for storage. Panelboards shall not be located in closets or bathrooms.

BRANCH CIRCUITS

A 15 or 20-ampere branch circuit shall be permitted to supply luminaires (light fixtures) or other equipment or a combination of both. The rating of any one cord and plug device shall not exceed 80 percent of the branch circuit ampere rating. The rating of any equipment fastened in place shall not exceed 50 percent of the branch circuit ampere rating excluding luminaires when also supplying cord or plug devices in the same circuit.

All dwelling unit bedrooms that are supplied by 125-volt, single phase, 15 and 20-ampere outlets are required to be supplied by an Arch-Fault Circuit Interrupter listed to provide protection of the entire branch circuit.

A minimum of one, 20-ampere branch circuit shall be provided for receptacles located in the laundry area and shall serve only receptacle outlet(s) located in the laundry area.

TABLE 6: CONDUCTOR SIZE

	CIRCUIT RATING		
	15 AMP	20 AMP	30 AMP
Conductors (wire): Min. Size (AWG) Circuit Conductors¹	14	12	10

¹ These gages are for copper conductors.

RECEPTACLE OUTLETS SPACING & REQUIRED LOCATIONS

General spacing: In every family room, dining room, library, den, bedroom, recreation or similar room, receptacle outlets shall be installed so that no point along the floor line in any wall space is more than 6 feet, measured horizontally, from an outlet in that space, including any wall space 2 feet or more in width and the wall space occupied by fixed panels in exterior walls, but excluding sliding panels in exterior walls. The wall space afforded by fixed room dividers, such as freestanding bar-type counters or railings, shall be included in the 6-foot measurement. A wall space shall be considered a wall unbroken along the floor line by doorways, fireplaces and

similar openings. Each wall space that is 2 feet or more in width shall be treated individually and separately from other wall spaces within the room. Where unbroken at the floor line, two or more walls of a room that form a corner shall be considered as a wall space. See FIGURE 7.

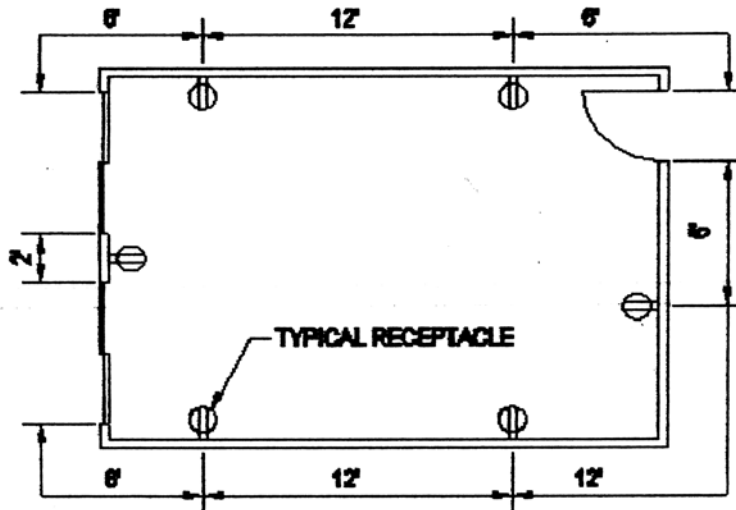


FIGURE 7: GENERAL USE RECEPTACLE DISTRIBUTION

Appliances: Appliance receptacle outlets installed for specific appliances, such as laundry equipment, shall be installed within 6 feet of the intended location of the appliance. (Does not apply to cords on dishwashers.) In cabinets, cord length shall be a maximum of 4 feet from the back plane of the dishwasher to the face of the attachment plug.

Laundry room: At least one receptacle outlet shall be installed to serve laundry appliances.

Bathrooms: In bathrooms, at least one wall receptacle outlet shall be installed 3 feet from the outside edge of each basin.

Hallways: Hallways of 10 feet or more in length shall have at least one receptacle outlet. The hallway length shall be considered the length measured along the centerline of the hall without passing through a doorway.

Unfinished Portion: Each unfinished portion of the basement is required to have at least one receptacle outlet. Outlets must be provided within 25' of heating and air conditioning appliances and equipment.

GROUND-FAULT CIRCUIT-INTERRUPTER (GFCI)

All single 125-volt, single phase, 15 and 20-ampere receptacles installed in bathrooms or to serve countertop surfaces installed within 6 feet of a wet bar sink, shall have GFCI protection.

RECEPTACLE REQUIREMENTS

Receptacles installed for the attachment of portable cords shall be rated at not less than 15 amperes, 125 volts, or 15 amperes, 250 volts, and shall be of the grounding type.

FACEPLATES

Faceplates for flush-mounted receptacles shall be installed and shall completely cover the wall opening and seat against the wall surface. Metal faceplates shall be grounded.

LIGHTING OUTLETS & FIXTURES

At least one wall-switch-controlled lighting outlet shall be installed in every habitable room, bathroom, and hallway. In rooms other than bathrooms, one or more receptacles controlled by a wall switch shall be considered equivalent to the required lighting outlet.

Recessed portions of luminaire enclosures (lighting fixtures), other than at the points of support, shall be spaced not less than ½-inch from combustible materials unless the fixture is specifically listed for direct contact.

Luminaires (lighting fixtures) must not be installed within 3 feet horizontally and 8 feet vertically of a bathtub or shower stall threshold. A luminaire (light fixture) may be installed above a shower if it is constructed so that water cannot enter or accumulate in wiring areas and the luminaire (lighting fixture) is marked “suitable for wet locations.”

At least one lighting outlet containing a switch or controlled by a wall switch shall be provided in under-floor spaces, utility rooms, and basements. At least one lighting outlet containing a switch or controlled by a wall switch shall be installed in spaces used for storage, or contain equipment requiring servicing. The control switch for such lighting outlets shall be located at the point of entry to such spaces. Where equipment requiring servicing is present, the lighting outlet shall be provided at or near such equipment.

LUMINAIRES (LIGHT FIXTURES) IN CLOTHES CLOSETS

The types of light fixtures installed in clothes closets shall be limited to surface-mounted or recessed incandescent luminaires with completely enclosed lamps, and surface-mounted or recessed fluorescent fixtures. Incandescent luminaires with open or partially enclosed lamps and pendant fixtures or lampholders shall be prohibited. Luminaire installations shall be in accordance with one or more of the following:

1. TTTT Surface-mounted incandescent luminaires shall be installed on the wall above the door or on the ceiling, provided there is a minimum clearance of 12 inches between the fixture and the nearest point of a storage space.
2. Surface-mounted fluorescent luminaires shall be installed on the wall above the door or on the ceiling, provided there is a minimum clearance of 6 inches between the luminaire and the nearest point of a storage space.

3. Recessed incandescent luminaires with a completely enclosed lamp shall be installed on the wall or the ceiling provided there is minimum clearance of 6 inches between the fixture and the nearest point of storage space.
4. Recessed fluorescent luminaires shall be installed in the wall or on the ceiling provided there is a minimum clearance of 6 inches between the fixture and the nearest point of storage space.