

A

GUIDE FOR THE ASSISTANCE OF BUILDERS
DOING CONVENTIONAL CONSTRUCTION
UP TO TWENTY-FIVE FEET IN HEIGHT

PALM BEACH COUNTY
FLORIDA

ADOPTED MAY 13, 1957

RES. 5A-57
5B-57
5C-57
5-A-58

ADOPTED

AUGUST 2-57
SEPTEMBER 6-57
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ZONING RESOLUTION NO. 5

APPROVING A GUIDE FOR THE ASSISTANCE OF BUILDERS DOING
CONVENTIONAL CONSTRUCTION UP TO TWENTY-FIVE FEET IN
HEIGHT IN PALM BEACH COUNTY, FLORIDA.

ADOPTED MAY 13, 1957

BE IT RESOLVED BY THE ZONING COMMISSION OF PALM BEACH COUNTY,
FLORIDA, IN REGULAR SESSION ASSEMBLED, THIS THE 13 DAY OF MAY A. D.
1957, THAT THE FOLLOWING IS ADOPTED AS A GUIDE FOR THE ASSISTANCE OF BUILDERS
DOING CONVENTIONAL CONSTRUCTION UP TO TWENTY-FIVE (25) FEET IN HEIGHT IN PALM
BEACH COUNTY, FLORIDA:-

101.3 - SCOPE

All building work shall be done in conformity with the Palm Beach
County Building Code; provided, however, that this guide shall be deemed a part
of said code with respect to conventional construction up to twenty-five (25)
feet in height, and with regard to such construction, its wording shall take
precedence over the wording of said code in any case of specific conflict.

105.3 - DRAWINGS AND SPECIFICATIONS

(a) Except as may be otherwise prescribed by law, this code permits
conventional construction up to twenty-five (25) feet in height without requiring
the professional services of architects or engineers; provided, however, that
the Zoning Director may require two or more copies of specifications, and of
drawings drawn to scale with sufficient clarity and detail to indicate the nature
and character of the work, to accompany every application. Such drawings and
specifications shall contain information, in the form of notes or otherwise, as
to the quality of materials, where quality is essential to conformity with this
Code. Such information shall be specific and this Code shall not be cited as a
whole or in part, nor shall the term "legal" or its equivalent be used, as a
substitute for specific information. Notwithstanding the intent of this Code
with respect to conventional construction twenty-five (25) feet and less in
height, the right is reserved, within the limits permitted by law, to require

drawings, specifications, computations, stress diagrams and related data describing such construction and basis of calculations, prepared by architects and engineers as the case may be, when the Zoning Director deems it necessary in the interest of public health, safety or welfare. In any case, drawings, specifications, computations, stress diagrams and related data shall bear the signature of the person responsible for the design, and drawings shall also bear his seal if he is an architect or engineer.

(b) Except as may be otherwise prescribed by law, this Code requires specifications and complete drawings, made by architects and engineers as the case may be, for construction over twenty-five (25) feet in height, and for unconventional construction regardless of height. The drawings shall be to scale, and of sufficient clarity and detail to indicate the nature and character of the work. The Zoning Director may require two or more copies of the specifications and the drawings to accompany every application. Such drawings and specifications shall contain information, in the form of notes or otherwise, as to the quality of materials, where quality is essential to conform with this Code. Such information shall be specific and this Code shall not be cited as a whole or in part, nor shall the term "legal" or its equivalent be used, as a substitute for specific information. The right is also reserved, within the limits prescribed by law, to require computations, stress diagrams and related data describing such construction and basis of calculations, prepared by architects and engineers as the case may be, when the Zoning Director deems it necessary in the interest of public health, safety or welfare. In any case, drawings, specifications, computations, stress diagrams and related data shall bear the signature of the architect or engineer responsible for the design, and drawings shall also bear the responsible architect's or engineer's seal.

106.2 - CONTRACTORS LICENSE AND BOND REQUIRED

(a) Every contractor who shall make contracts for the erection or construction or repair of buildings for which a permit is required, in the County, and every contractor making such contracts and subletting the same, or any part whereof, shall have a State and County Occupational License as required by Chapter 205.07, Florida Statutes, licensing him as a General Contractor. He shall register his name in a book provided for that purpose, with the Zoning

Director, giving full name, residence and place of business, and, in case of removal from one place to another he shall make corresponding change in said register accordingly.

107.4 - SCHEDULE OF PERMIT FEES

On all buildings, structures or alterations requiring a building permit, as set forth in Section 105, fee shall be paid as required at the time of filing application, in accordance with the following schedule:

(a) Permit Fees

1. There shall be a minimum fee of \$1.00 regardless of the value of the work involved.

2. For a valuation over \$100.00 up to and including \$15,000.00 the fee shall be \$3.00 per thousand or fraction thereof.

3. For a valuation over \$15,000.00 up to and including \$100,000.00 the fee shall be \$45.00 for the first fifteen thousand plus \$2.00 for each additional thousand or fraction thereof.

4. For a valuation over \$100,000.00 up to and including \$500,000.00, the fee shall be \$215.00 for the first one hundred thousand plus \$1.00 for each additional thousand or fraction thereof.

5. For a valuation over \$500,000.00 up to and including \$1,000,000.00, the fee shall be \$615.00 for the first five hundred thousand plus 40¢ for each additional thousand or fraction thereof.

6. For a valuation over \$1,000,000.00, the fee shall be \$815.00 for the first million plus 15¢ for each additional thousand or fraction thereof.

(b) Moving of Building or Structures

1. For the moving of any building or structure, the fee shall be \$10.00.

(c) Demolition of Building or Structures

1. For the demolition of any building or structure, the fee shall be \$4.00.

(d) Erection of Signs

1. For signs up to and including twenty (20) square feet in area the fee shall be \$3.00, plus \$0.05 for each additional square foot or fraction thereof.

(e) Wells

1. For wells up to two (2) inch size, the fee shall be \$1.00.

For wells over two (2) inch diameter, the fee shall be \$2.00.

(f) Septic Tanks and Drain Fields

1. For septic tanks the fee shall be \$1.00.

2. For sanitary drain fields with length of lay up to two hundred (200) feet, the fee shall be \$1.00. For sanitary drain fields with length of lay over two hundred (200) feet, the fee shall be \$2.00.

201.2 - DEFINITIONS

Words used in the present tense include the future. Words in the masculine gender include the feminine and neuter. Words in the feminine and neuter gender include the masculine. The singular number includes the plural and the plural number includes the singular.

ALLEY - means any public space or thoroughfare twenty (20) feet or less in width which has been dedicated or deeded for public use.

ALTER OR ALTERATION - means any change or modification in construction or occupancy.

AMUSEMENT DEVICE - means a mechanically operated device which is used to convey persons in any direction as a form of amusement.

APARTMENT - means a room or a suite of rooms occupied, or which is intended or designed to be occupied, as the home or residence of one individual, family or household, for housekeeping purposes.

APARTMENT HOUSE - means any building, or portion thereof, which is designed, built, rented, leased, let or hired out to be occupied, or which is occupied as the home or residence of more than two (2) families living independently of each other and doing their own cooking in the said building, and shall include flats and apartments.

APPROVED - means approved by the Building Official.

ARCHITECT - within the meaning of this Code shall be deemed to be an architect registered in Florida.

AREA - as applied to the dimensions of a building, means the maximum horizontal projected area of the building at grade.

AREA - (See FLOOR AREA)

A. S. A. - means American Standards Association.

A. S. T. M. - means American Society for Testing Materials.

ASSEMBLY OCCUPANCY - (Defined in Section 408.1)

ATTIC - the portion of space in a building located between the top of a ceiling joist and the bottom of the roof rafters with the minimum height between of four feet.

AUTOMATIC - as applied to a fire door or other opening protective, means normally held in open position and automatically closed by a releasing device actuated by abnormal high temperature, or by a pre-determined rate of rise in temperature.

BALCONY - means that portion of the seating space of an assembly room, the lowest part of which is raised four (4) feet or more above level of the main floor.

BASEMENT - means that portion of a building between floor and ceiling, which is partly below and partly above grade (as defined in this Section) but so located that the vertical distance from grade to the floor below is less than the vertical distance from grade to ceiling, provided, however, that the distance from grade to ceiling shall be at least four (4) feet six (6) inches. (see STORY)

BEAM - a primary structural member supporting secondary structural members, floor, roof, joists, and the like.

BOARD OF ADJUSTMENT AND APPEALS - within the meaning of this Code, shall be deemed to be the Board of Adjustment.

BUILDING - means any structure built for the support, shelter, or enclosure of persons, animals, chattels, or property of any kind. The term "building" shall be construed as if followed by the words "or part thereof."

EXISTING BUILDING - means a building erected prior to the adoption of this Code, or one for which a legal building permit has been issued.

BUILDING DEPARTMENT - within the meaning of this Code, shall be deemed to be the Zoning Department.

BUILDING INSPECTOR - within the meaning of this Code, shall be deemed to be the Inspector.

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

BUILDING OFFICIAL - means the Zoning Director or his authorized representative.

BUSINESS OCCUPANCY - (Defined in Section 405.1)

CAST STONE - is a building stone manufactured from cement concrete precast and used as a trim, veneer or facing on or in buildings or structures.

CELLAR - means that portion of a building, the ceiling of which is entirely below grade or less than four (4) feet six (6) inches above grade. (See STORY.)

CHIEF ADMINISTRATOR - within the meaning of this Code, shall be deemed to be the Zoning Commission.

CHIEF APPOINTING AUTHORITY - within the meaning of this Code, shall be deemed to be the Zoning Commission.

CITY - within the meaning of this Code, shall be deemed to mean all of Palm Beach County exclusive of municipalities.

CITY GOVERNING AUTHORITIES - within the meaning of this Code, shall be deemed to be the Board of County Commissioners of Palm Beach County, Florida.

COMBUSTIBLE MATERIAL - means an inflammable material which will ignite at or below a temperature of 1200^o F. and continue to burn or glow.

COMMON-PROPERTY LINE - means a line dividing one lot from another when said lots are not of one ownership.

CONCRETE - all definitions in Section 1601.4.

CONTRACTOR - within the meaning of this Code, shall be deemed to be a contractor having a State and County Occupational License as required by Chapter 205.07, Florida Statutes, licensing him as a General Contractor.

COUNTY - within the meaning of this Code, shall be deemed to mean all of Palm Beach County exclusive of municipalities.

CURB LEVEL - referring to a building, means the elevation at that point of the street grade that is opposite the center of the wall nearest to and facing the street line.

DEPARTMENT OF LAW - within the meaning of this Code, shall be deemed to be the County Attorney.

DEAD LOAD - (See Section 1202).

DIRECTOR OF PUBLIC WORKS - within the meaning of this Code, shall be deemed to be the County Engineer.

DISPLAY SIGN - means a structure that is arranged, intended, designed or used as an advertisement announcement or direction, and includes a sign, sign screen, billboard, and advertising devices of every kind.

DWELLING - when used in this Code without other qualifications, means a structure occupied exclusively for residential purpose by not more than two families.

ENGINEER - within the meaning of this Code, shall be deemed to be an engineer registered in Florida.

EXISTING BUILDING - (See **BUILDING - EXISTING BUILDING**.)

FAMILY - means one or more persons living together, whether related to each other by birth or not, and having common housekeeping facilities.

FILLING STATION - (Defined in Section 505).

FIRE DOOR - means a door and its assembly, so constructed and assembled in place as to give the specified protection against the passage of fire.

FIRE LIMITS - (See Section 301).

FIRE PARTITION - means a partition of construction which subdivides a building to restrict the spread of fire or to provide areas of refuge, but is not necessarily continuous through all stories nor extended through the roof, and which has a fire-resistance rating as required by the Code.

FIREPROOF CONSTRUCTION - (Defined in Section 602).

FIRE-RESISTANCE RATING - means the time in hours that the material or construction will withstand the standard fire exposure as determined by a fire test made in conformity with the "Standard Methods of Fire Tests of Building Construction and Materials" of the American Society for Testing Materials (ASTM Designation E119-50).

FIRE-RESISTIVE CONSTRUCTION - (Defined in Section 603).

FIRE-WALLS - (See Walls).

FLOOR AREA - means the area included within surrounding walls of a building exclusive of vent shafts and courts.

FRONT OF LOT - means the front boundary line of a lot bordering on the street, and in the case of a corner lot, may be either frontage.

GALLERY- means that portion of the seating space of an assembly room having a seating capacity of more than ten (10) located above a balcony.

GARAGE -

PRIVATE GARAGE - (Defined in Section 506).

PUBLIC GARAGE - means any garage other than a private garage.

GRADE - with reference to a building, means, when the curb level has been established, the main elevation of the curb level opposite those walls that are located on, or parallel with and within fifteen (15) feet of, street lines; or, when the curb level has not been established, or all the walls of the building are more than fifteen (15) feet from street lines, GRADE means the average of the finished ground level at the center of all walls of a building.

GRADE - with reference to lumber, means the division of sawn lumber into quality classes with respect to its physical and mechanical properties as defined in published lumber manufacturers' standard grading rules.

HABITABLE ROOM - means a room occupied by one or more persons for living, eating, sleeping, or working purposes. It does not include toilets, laundries, serving and storage pantries, corridors, cellars, and spaces that are not used frequently or during extended periods.

HEATING - (All definitions in Chapter VIII)

HEAVY TIMBER CONSTRUCTION - (Defined in Section 604).

HEIGHT - as applied to a building, means the vertical distance from grade to the highest finished roof surface in the case of flat roofs or to a point at the average height of roofs having a pitch of more than one (1) foot in four and one-half (4½) feet; HEIGHT of a building in stories does not include basements and cellars, except as specifically provided otherwise.

HEIGHT - as applied to a story, means the vertical distance from top to top of two successive finished floor surfaces.

HEIGHT - as applied to a wall, means the vertical distance to the top measured from the foundation wall, or from a girder or other immediate support of such wall.

INCOMBUSTIBLE MATERIAL - is synonymous with NON-COMBUSTIBLE MATERIAL

INDUSTRIAL OCCUPANCY - (Defined in Section 410.1)

INNER COURT - an open unoccupied space bounded by the walls of the building, but located within the exterior walls of the building.

INSTITUTIONAL OCCUPANCY - (Defined in Section 407.1).

LINTEL - means the beam or girder placed over an opening in a wall which supports the wall construction above.

LIVE LOAD - (See Section 1203).

MASONRY - means that form of construction, composed of stone, brick, concrete, gypsum, hollow clay tile, concrete block or tile, or other similar building units or materials or a combination of these materials laid up unit by unit and set in mortar. For the purpose of this Code, plain monolithic concrete shall be considered as Masonry. (See Section 1402.6).

SOLID MASONRY - means masonry built without hollow spaces.

MEZZANINE OR MEZZANINE FLOOR - means an intermediate floor placed in any story or room. When the total area of any "MEZZANINE FLOOR" exceeds thirty-three and one-third (33 1/3) percent of the total floor area in that room, it shall be considered as constituting an additional "story". The floor height above or below a "MEZZANINE FLOOR" construction shall be not less than seven (7) feet.

MIXED TYPES OF CONSTRUCTION - has the meaning as set forth in Section 609 of this Code.

MULTIPLE DWELLING - has the same meaning as APARTMENT HOUSE.

NON-COMBUSTIBLE MATERIAL - means a non-inflammable material which will not ignite at or below a temperature of 1200° F. and will not continue to burn or glow at that temperature.

NON-COMBUSTIBLE CONSTRUCTION - (Defined in Section 605.1).

OCCUPANCY - means the purpose for which a building is used or intended to be used. Change of occupancy is not intended to include change of tenants or proprietors.

MIXED OCCUPANCY - means mixed occupancy as set forth in Section 412 of this Code.

SPECIAL OCCUPANCY - means Group H Occupancy, as set forth in Section 411 of this Code.

ORDINANCE - within the meaning of this Code, shall be deemed to be the Palm Beach County Building Code.

ORDINARY CONSTRUCTION - (Defined in Section 606).

OWNER - includes his duly authorized agent or attorney, a purchaser, devisee, fiduciary, and a person having a vested or contingent interest in the property in question.

PASSAGEWAY - means an enclosed hallway or corridor connecting a required exit to a street.

PENTHOUSE - means an enclosed structure other than a roof structure located on the roof, extending not more than twelve (12) feet above a roof.

PERSON - means a natural person, his heirs, executors, administrators, or assigns, and also includes a firm, partnership, or corporation, its or their successors or assigns, or the agent of any of the aforesaid.

PUBLIC PARKING DECKS - means a special structure limited in use only to the temporary parking of motor vehicles.

PUBLIC PLACE - as used in this Code, means an unoccupied open space adjoining a building and on the same property, that is permanently maintained accessible to the Fire Department and free of all incumbrances that might interfere with its use by the Fire Department.

REPAIR - means the replacement of existing work with the same kind of material used in the existing work, not including additional work that would change the structural safety of the building, or that would affect or change required exit facilities, a vital element of an elevator, plumbing, gas piping, wiring or heating installation, or that would be in violation of a provision of law or ordinance. The term "Repair" or "Repairs" shall not apply to any change of construction.

REQUIRED - means required by some provision of this Code.

RESIDENTIAL OCCUPANCY - (Defined in Section 404.1).

ROOF STRUCTURE - means a structure above a roof or any part of a building enclosing a stairway, tank, elevator machinery or ventilating apparatus or such part of a shaft as extends above the roof.

ROOM CAPACITY - (See Section 1105.1).

SCHOOL OCCUPANCY - (Defined in Section 406.1.)

SEATING CAPACITY - (See Section 408.3).

SELF-CLOSING - as applied to a fire door or other opening protection means normally closed and equipped with an approved device which will insure

closing after having been opened for use.

SHAFT - means a vertical opening extending through one or more stories of a building, for elevators, dumbwaiters, light, ventilation, or similar purpose.

SHALL - as used in this Code, is mandatory.

SIGNS - (See Chapter XXIII).

SPECIAL OCCUPANCY - (Defined in Section 411.1).

SPRINKLERED - means equipped with an approved automatic sprinkler system properly maintained.

STAIRWAY - means one or more flights of stairs and the necessary landings and platforms connecting them, to form a continuous and uninterrupted passage from one story to another in a building or structure.

STANDARD FIRE TEST - means the fire test formulated under the procedure of the American Standards Association as "American Standard". This "American Standard" is the "Standard Methods of Fire Tests of Building Construction and Materials" of the American Society for Testing Materials (ASTM Designation E119-50).

STORY - means that portion of a building included between the upper surface of any floor and the upper surface of the floor next above, except that the topmost story shall be that portion of a building included between the upper surface of the topmost floor and the ceiling or roof above. (For basement of schools see Section 402.5).

STREET - means any public thoroughfare (road, street, avenue, boulevard, park) or space more than twenty (20) feet in width which has been legally dedicated or deeded to the public for public use.

STREET LINE - means a lot line dividing a lot from a street.

STRUCTURE - means that which is built or constructed, an edifice or building of any kind, or any piece of work artificially built up or composed of parts joined together in some definite manner. The term "structure" shall be construed as if followed by the words "or parts thereof".

SURVEYOR - within the meaning of this Code, shall be deemed to be a land surveyor registered in Florida.

THEATRE - means a building, or part thereof, which contains an assembly hall with or without stage which may be equipped with curtains and

permanent stage scenery or mechanical equipment adaptable to the showing of plays, operas, motion pictures, performances, spectacles and similar forms of entertainment. (See Section 408).

VALUATION OR VALUE - as applied to a building, means the estimated cost to replace the building in kind.

VENEER - means a facing of brick, concrete, metal, stone, tile or similar material attached to a wall for the purpose of providing ornamentation, protection, or insulation, but not counted as adding strength to the wall.

WALLS -

BEARING WALLS - means a wall which supports any vertical load in addition to its own weight.

CAVITY WALL - means a wall built of masonry units or of plain concrete, or a combination of these materials, so arranged as to provide an air space within the wall, and in which the inner and outer parts of the wall are tied together with metal ties.

CURTAIN WALL - means a non-bearing wall between columns or piers and which is not supported by girders or beams, but is supported on the ground.

FACED WALL - means a wall in which the masonry facing and backing are so bonded as to exert common action under load.

EXTERIOR WALL - means a wall, bearing or non-bearing, which is used as an enclosing wall for a building, but which is not necessarily suitable for use as a Party Wall or Fire Wall.

FIRE PARTITION - (See definition under "F").

FIRE WALL - means a wall of incombustible construction which subdivides a building or separates buildings to restrict the spread of fire and which starts at the foundation and extends continuously through all stories to and above the roof, except where the roof is of fireproof or fire-resistive construction and the wall is carried up tightly against the underside of the roof slab.

FOUNDATION WALL - means a wall below the first floor extending below the adjacent ground level and serving as support for a wall, pier, column or other structural part of a building.

HOLLOW WALL OF MASONRY - means a wall built of masonry units so arranged as to provide an air space within the wall, and in which the inner and outer parts of the wall are bonded together with masonry units or steel.

NON-BEARING WALL - means a wall which supports no load other than its own weight.

PANEL WALL - means a non-bearing wall in skeleton or framed construction, built between columns or piers and wholly supported at each story.

PARAPET WALL - means that part of any wall entirely above the roof line.

PARTY WALL - means a wall used or adapted for joint service between two (2) buildings.

RETAINING WALL - means any wall used to resist the lateral displacement of any material.

WOOD FRAME CONSTRUCTION - (Defined in Section 607.)

WRITING - includes printing and typewriting.

WRITTEN NOTICE - shall be considered to have been served if delivered in person to the individual, or to the parties intended, or if delivered at, or sent by registered mail to, the last business address to the party giving the notice.

301-3 - ROOF COVERINGS

Roof coverings in the fire districts shall conform to Type A or Type B roof coverings as defined in Section 706 of this Guide, except single family residences used as such and constructed separately with prescribed yard space.

412.5 - FIRE-RESISTIVE RATING OF SEPARATION

For a wall or ceiling between a private garage and a dwelling, combustible framing shall be protected with fire-resistive construction on the garage side. The following types of construction will be acceptable as meeting this requirement:

(a) Partitions consisting of metal, or wire lath and plaster on garage side of two by four (or larger), wood framing effectively fire stopped as follows:

1. Three-fourths (3/4) inch sanded gypsum plaster (mixed 1:2, 1:2), or seven-eighths (7/8) inch sanded gypsum plaster (mixed 1:2, 1:3).

2. Three-fourths (3/4) inch vermiculite-gypsum plaster.

3. Seven-eighths (7/8) inch standard portland cement plaster (mixed 1:2, 1:3), with three (3) pounds of short asbestos fiber per bag of cement.

(b) Partitions consisting of gypsum lath and plaster on garage side of two-by-four (or larger) wood framing effectively fire-stopped as follows:

1. One-half (1/2) inch sanded gypsum plaster (mixed 1:2) applied to three-eighths (3/8) inch perforated gypsum lath.

2. One-half (1/2) inch vermiculite-gypsum, or perlite-gypsum plaster applied to three-eighths (3/8) inch perforated gypsum lath.

(c) Partitions consisting of gypsum wall board on garage side of two-by-four (or larger) wood framing effectively fire-stopped as follows:-

1. Two layers of one-half (1/2) inch gypsum wall board attached to garage side of wood framing.

2. One layer of one-half (1/2) inch gypsum wall board attached to garage side of wood stud, with stud spaces filled with mineral wool insulation bats nailed in place to the framing.

3. One layer five-eighths (5/8) inch gypsum wall board attached to garage side of wood framing, with a gypsum core containing vermiculite.

4. Two layers three-eighths (3/8) inch gypsum wall board attached to garage side of framing, with gypsum core containing vermiculite.

505.5 - STORAGE CAPACITY OF LIQUID FUEL

(a) A permit shall be obtained to install, place, locate, bury, erect or maintain any tank designed or intended to be used for the storage of more than three hundred gallons of any liquid commonly used for fuel, such as gasoline, kerosene, Diesel oil or like substances on any property or premises in the County.

(b) The applicant shall furnish a written application to the Zoning Director accompanied with payment of a fee of \$1.00 per thousand gallons

Galvanized iron sheets

Galvanized iron shingles

Sheet copper

Galvanized iron

Asphalt asbestos felt shingles

Asphalt asbestos roll roofing, and

Asphalt asbestos cement shingles.

706.4 - CLASS 3 OR CLASS C ROOF COVERINGS

Class 3 or Class C roof coverings shall include the following:

Asphalt rag felt, mineral surface, individual or strip shingles, weighing not less than 180 pounds per 100 square feet of material, laid with two inch or more head lap.

Asphalt rag felt, smooth surfaced, rolled roofing laid in single thickness with two inch or more end and side laps.

Wood shingles, Red Cedar shingles, edge grain.

Types of roofing not specifically mentioned, but which under test are rated by the National Fire Underwriters Laboratories may be accepted under the rated class.

706.8 - DETAILS OF ROOF COVERING

A. GENERAL

1. Roof slope:

a. Slate shingles (except porches) three inches in twelve inches minimum.

b. Clay or cement tile roofing, three inches in twelve inches minimum.

c. Slate shingle and clay tile open porch roofs, two inches in twelve inches minimum.

d. Built-up roofs (gravel or slag surface), two inches in twelve inches maximum pitch on flat roof specifications and three and one half inch pitch on steep roof specifications.

e. Built-up roofs with mineral surface cap sheet, two inches in twelve inches minimum.

f. Asphalt and asphalt shingle roofing, four inches in twelve inches minimum.

g. When materials and method of application provide precautions in excess of these minimum requirements to assure a weather tight roof, slopes may be reduced or increased subject to the approval of the Zoning Director.

h. Eighty-five pound mineral surface slate roof shall be minimum of two inches in twelve inches pitch.

2. Double starting rule shall be used on all shingle applications.

3. Nails for attaching roof coverings shall be copper or hot dipped galvanized nails.

B. ASPHALT SHINGLES

1. Fire Underwriters Class C label shall appear on each bundle and comply with standard specifications for asphalt shingles, ASTM II D 225-46; ASTM D 228-48T.

2. Approximate minimum weights per square (shipping weights.):

a. Square butt strip, 210 pounds.

b. Hexagonal strip, 215 pounds.

c. Individual shingles, 250 pounds.

3. Exposure as required for Fire Underwriters Class C label.

4. Head lap shall be as recommended by manufacturers, minimum two inches.

5. The roof covering after application shall provide at least double thickness at all points. Cut outs and spacings between shingles not in excess of 3/4 inch shall be disregarded in determining compliance with this requirement.

6. Underlay:

a. Asphalt saturated felt, weight approximately 30 pounds per 100 square feet, tin tagged to roof sheathing six inches on center of each sheet and 12 inches on center through the sheet.

b. A minimum pitch of three and one half in twelve inches may be used when underlay and roofing comply with the following requirements:

Underlay shall be a minimum of two layers of felt. Base

sheet minimum weight 30 pounds shall be tin tagged to roof six inches on center of perimeter of each sheet, and twelve inches on center through the sheet. Second sheet minimum weight, 15 pounds, shall be laid with hot asphalt or asphalt roofing cement applied to felt to be built up with cold roofing process as per manufacturers recommendations. Asphalt shingles shall have each tab cemented down with asphalt roof cement.

C. WOOD SHINGLES

1. Shingles shall be edge grain tapered shingles (No. 1 grade).
2. Outside of the fire districts dwellings, private garages and barns may be roofed with an approved vertical grain or edged grain wood shingle No. 1 grade. The combined thickness of each five shingles measured at the butt shall be not less than two inches. The exposure of such wood shingles to the weather shall not exceed on a roof greater than 1/3 pitch, five inches for sixteen inch shingles, five and one half inches for eighteen inch shingles, and seven and a half inches for twenty-four inch shingles, nor on roofs with less than 1/3 pitch, four inches for sixteen inch shingles, four and a half inches for eighteen inch shingles or six and a half inches for twenty-four inch shingles. Such shingles shall be firmly nailed to the roof deck on strips in minimum width of one by three inches with non-corrodible and rust resistive nail according to accepted good practice. Unless otherwise specified the commercial standard for wood shingles CS 31-38 of the United States Department of Commerce shall be accepted as means of establishing the grade of shingles.

(Exception - solid roof decking may be omitted under wood shingles when the strips a minimum width of one inch by four inch spaced center to center the distance of the exposure of the wood shingle to the weather.)

3. Wood shingles are not permitted in the fire district except on single family residences constructed separately with prescribed yard space.

D. ASBESTOS SHINGLES

1. Quality shall be dense hard structure and thoroughly seasoned.
2. Fire Underwriters Class A or B label shall appear on each bundle.

3. A minimum roof pitch of four inches in twelve inches shall be required and the underlay shall consist of base sheet in minimum weight of 30 pounds per 100 square feet to be tin tagged to roof sheathing six inches on center of perimeter of each sheet and twelve inches on center throughout the sheet. Second sheet minimum weight 15 pounds, shall be laid with hot asphalt or asphalt roofing cement applied to felt to be built up with cold roofing process as per manufacturers recommendation. Asbestos shingles shall be applied in accordance with the recommendations of the manufacturer.

4. American method:

a. Standard shingle minimum weight per square, 470 pounds.

Length of shingle (inches)	Maximum exposure (inches)
16	7
16	6½
12	5

5. Dutch method:

- a. Minimum weight per square, 265 pounds.
- b. Minimum head lap three inches.
- c. Minimum side lap four inches.

6. French, or Hexagonal Method:

- a. Minimum weight per square, 250 pounds.
- b. Minimum overlap two edges, three inches.

E. TILE ROOFING

1. Quality shall be hard burned clay roofing tile and cement tile.

a. Shingle tile - tests:

Shingle tile shall be subjected to the Modulus of Rupture and Absorption tests, essentially as outlined in the ASTM Standard Method of Testing Brick, serial designation C-67-37. The average modulus of rupture shall be not less than 400 pounds per square inch with no individual specimen less than 350 pounds per square inch.

The absorption shall not exceed 15%, 48 hours immersion.

Barrel Type Tile:

Barrel type tile shall be tested for crushing strength

and absorption by a method modeled after ASTM Standard Specification for Concrete Sewer Pipe, serial designation C-14-35. The crushing strength shall average not less than 450 pounds per lineal foot of tile with no individual specimen being less than 350 pounds per lineal foot of tile

The absorption shall not exceed 15%, 48 hour immersion. All other types of tile shall be tested in accordance with methods similar to the above.

b. All Tile shall be cured at the plant a minimum of 14 days prior to the delivery on the job.

c. Certification:

A test shall be made by a recognized laboratory certifying that the cement tile conforms with the requirements of this specification.

d. Random Tests of the concrete tile roofing may be required at any time during the progress of construction.

2. Underlay shall be 30 pounds asphalt saturated felt, tintagged to solid roof sheathing 6 inches on center on perimeter of each sheet and 12 inches on center throughout the sheet. This surface shall be entirely mopped with hot pitch or asphalt and a second sheet of 85 pounds mineral surfaced or slate surface roofing laid in hot pitch shall be embedded in same while hot. Nail and tintag top edge of slate or mineral surface roofing 12 inches on center with a 4 inch horizontal and 6 inch end lap.

3. Shingle tile - American Method:

Length of Shingle (inches)	Maximum Exposure (inches)
16	7
15	6½
14	6
12	5

4. Interlocking tile and curved tile: Lay in accordance with manufacturers recommendations.

5. All the tile shall be soaked with water a minimum of one-half hour before application on the roof. All barrel tile shall be laid full length

in cement, and shall allow drainage with continuous string of cement mortar horizontally between tile at head lap, but no mortar exposed at butt of tile. Interlocking tile shall have a minimum of 3 inch headlap, and shall be laid with full trowel of cement mortar vertically extending from top edge or head of lower tile up roof to within 3 inches of top of tile, allowing cement mortar to bond upper and lower tiles at headlap. Cement shall be 1 to 3 Portland cement mortar or equal.

6. All starter tile shall be nailed and cemented. All field tile on roofs of 6:12 pitch and over to be spot nailed every third tile in every fifth row, or other approved method.

F. SLATE SHINGLES

1. Quality:

The slate shall be free from knots or knurls and of reasonable smooth cleavage.

2. Underlaying shall be approximately 30 pounds asphalt saturated felt tintagged as in E above and 85 pounds slate mopped on.

3. American Method:

Length of Shingle (inches)	Maximum Exposure (inches)
18	7-1/2
16	6-1/2
14	5-1/2
12	4-1/2
10	3-1/2

4. Special Methods:

Slate shingles laid by other means than American Method may be used if approved by the Zoning Director.

5. Slate shingles shall be laid in cement mortar the same as tile.

G. BUILT UP ROOFS

1. Asphalt, and tar and gravel coverings, including flashings, shall comply with requirements of Underwriters Laboratories, Incorporated.

Class A or Class B, minimum 3 ply - for concrete deck with gravel.

Class A or B minimum 4 ply - for wood deck with gravel.

2. Apply according to manufacturer's directions for Class A, Class B, or Class C roof.

3. Each ply of felt shall have a minimum weight of 14 pounds per 100 square feet.

4. Surface roofs with:

a. Roof gravel or crushed stone or crushed marble, weight approximately 400 pounds per 100 square feet, or

b. Crushed slag, weight approximately 300 pounds per 100 square feet.

5. Top ply of felt and crushed stone or slag surfacing may be replaced with one layer of mineral surface cap sheet, minimum weight 85 pounds per 100 square feet, provided roof pitch is 2 inches in 12 inches minimum,

6. Built up roof shall comply with ASTM D 228-48T; D227-47; D226-4 D146-47; D250-47; D312-44; and D450-41; Standard Specifications for Built Up Roofing, American Society for Testing Materials.

7. Minimum Class C. roof, 30 pound base sheet with 2 layers minimum 14 pound felt hot mopped over same between each layer.

H. METAL ROOFS

1. Materials:

a. Galvanized sheet metal 26 gauge sheets 1.25 ounce (total weight both sides) zinc coating per square foot.

b. Copper; 16 ounce soft (roofing temper).

c. Ternplate (roofing tin) IC or IX, 40 pound coating.

d. Corrugated aluminum (standard minimum thickness) .024 inches nailed with aluminum burred nails, 8 penny minimum with neoprene washers, nailed 5 inches on center, rows 2 feet on center, lap minimum 4 inches or 2 corrugations between and 6 inches on end laps.

e. Lead, hard 2 pounds per square foot minimum. Lead soft 4 pounds per square foot minimum.

2. Nails:

a. Hard copper or copper alloy shall be used for copper roof

b. Hot dipped galvanized nails for galvanized sheet metal

roof. 8 penny minimum with lead head or neoprene washers, spaced to withstand hurricane winds.

3. Seams and joints shall be locked or soldered and made watertight.

4. All metal roofing shall be securely nailed with lead head or gaskets, 8 penny minimum to solid sheathing, to withstand hurricane winds. Rosin paper shall be laid upon all metal roofs subject to corrosion.

5. Metal roofing fastened directly to steel framing shall be attached by approved fastenings to withstand hurricane winds, and shall shed water away from structural members.

6. Corrugated or flat sheetmetal roofing or siding shall be permitted only in the Industrial Zone.

7. Dissimilar metals shall not be used in immediate contact in any roof construction.

I. GENERAL

1. Nails, clips and similar attaching devices shall be galvanized or otherwise suitably corrosion resistant.

2. Wood roof decks to which composition roofing is attached shall be solidly sheathed.

3. For built up roof coverings, cant strips shall be provided at angle of roof and vertical surfaces. Built up roof coverings shall be mopped and carried at least six inches above cant strip to a raglet in parapet and covered with metal flashing caulked into raglet. Raglet may be omitted at parapet walls provided two layers of felt or the equivalent, applied with hot pitch asphalt or mastic cement are carried across the top of the parapet and down parapet to the lower edge of cant strip. The said layers shall run vertically and be properly lapped. Mastic and felt system of base flashing may be used in lieu of cant strips, provided it complies with manufacturer's specifications.

4. Where two or more layers of roofing are applied to wood decks, the first layer shall be tintagged and nailed to the sheathing with nails not over 12 inches on center in each direction and 6 inches on center around the perimeter. Each layer or ply shall be thoroughly mopped (except where 2-15 pound felts are used in lieu of 1-30 pound felt for base sheet, in which case

they shall be tintagged and nailed through both layers) with a bituminous compound, and the finish coating applied in accordance with manufacturer's specifications. Twenty pound rosin paper shall be laid under all built up roofs where pitch is used. There shall be a hot-mopping of asphalt or pitch between each ply of roofing. The minimum weight of each ply of roofing shall be 14 pound felt.

5. Underlay for 85 pound slat roll roof, asbestos, asphalt, metal shingles, composition shingles, shall be minimum 30 pounds, tintagged to solid roof sheathing 6 inches on center on perimeter of sheet and 12 inches on center throughout the sheet. No roof covering shall be placed over or on top of any existing wood shingle roof.

6. Other roof coverings:

- a. Roof coverings such as metal shingles may be used when the type and weight of material and methods of application are acceptable to the Zoning Director. All metal roof shingles shall be a minimum weight 28 gauge and maximum size 8 inches by 12 inches securely fastened by nailing to solid sheathing over 30 pounds asphalt felt to withstand hurricane winds.
- b. If shingles are of corrosive type, rosin paper shall be used under metal in addition to underlay.
- c. Concrete and concrete mixture roofings shall comply with Fire Underwriters and manufacturer's specifications. Concrete or concrete mixed roofing shall be applied to decking of sufficient strength to carry the load of concrete or mixed roofing in addition to the live load and wind pressure on the roof. A built up roof shall be placed over all concrete roof decks as required by this Guide. No cold or hot roofing may be used unless approved by the Zoning Director and meeting the Fire Underwriters Laboratories tests for Class A, B or C rating as roof covering.

706.9 - FLASHING

A. MATERIALS

1. Copper shall be 16 ounce soft (roofing temper).
2. Galvanized sheet metal shall be 26 gauge, 1.25 ounce (total weight both sides), zinc coating per square foot, painted on side exposed to weather.
3. Lead: hard lead, 2 pounds; soft lead, 4 pounds.
4. Tin: 40 pound coating painted on both sides.
5. Other non-corrosive metal approved by the Zoning Director.
6. In areas exposed to salt spray, the flashings, gravel stops and eave drips shall be copper or equivalent.
7. Dissimilar metals shall not be used in immediate contact in any roof construction.

B. VALLEYS

1. Rigid shingle roof covering.
 - a. Flash with sheet galvanized metal.
 - b. Valley flashing shall be minimum of 16 inches wide.
 - c. Valleys and flashing on tile and asbestos shingles shall be minimum of 16 ounce copper or other non-corrosive metal approved by the Zoning Director.
2. Asphalt shingle roof covering:
 - a. Flash with sheet galvanized metal, or
 - b. Two thicknesses of mineral surface roll roofing shall be used, cut from rolls weighing not less than 85 pounds per 100 square feet. Bottom strip shall be not less than 12 inches wide; top strip at least 18 inches wide.

C. EAVES AND GABLES

Provide drip edges or gravel stops at eaves and gables of all roofs. Material used shall be galvanized both sides or copper. Overlap shall be a minimum of 2 inches and all joints of gravel stop shall be soldered.

D. ROOF AND WALL OR PARAPET INTERSECTIONS:

Intersections shall be flashed. If walls are of masonry or masonry veneer, sheet metal counter flashing shall be installed, provided mastic

and felt coping and parapet flashing is not used. Counter flashing shall turn in masonry a minimum of 1½ inches and ½ inch turned up.

E. CHIMNEYS

1. All chimney and roof intersections shall be flashed and counter flashed with sheet metal flashings, roof rafters shall have 2 inch and wood sheathing shall have ½ inch minimum clearance from chimney.

2. Cricket or saddle coverings shall be sheet metal or when acceptable to the Zoning Director, the same material as the roof covering. When other than sheet metal is used, the material shall be flashed and counter flashed at the chimney with sheet metal.

F. NAILING

All flashing, valleys, drip edge and gravel stops shall be nailed to the roof sheathing a minimum of 4 inches on center.

706.5 - GUTTERS AND DOWNSPOUTS

1. Materials:

- a. Copper shall be 16 ounce hard, cornice temper.
- b. Galvanized sheet metal shall be 26 gauge, minimum 1.25 ounce, (total weight both sides), zinc coating per square foot
- c. Other materials may be approved by the Zoning Director.

2. Cross sectional area of downspouts shall be equal to those specified in the Palm Beach County Plumbing Code for rain water conductors.

3. Where leaders are carried down inside the building, they shall be as prescribed in the Palm Beach County Plumbing Code.

706.12 ACCESS TO ATTIC SPACE

Where there is accessible space between the ceiling and a roof, access shall be provided thereto. This may be by means of a stairway, permanent ladder or scuttle. The openings shall be not less than twenty-two inches by thirty inches. It should be located in a hallway or corridor, if possible.

711 - GUTTERS AND LEADERS

Gutters and leaders hereafter placed on buildings other than one (1) or two (2) family dwellings, private garages, or buildings of Type VI Wood

Frame Construction, shall be of non-combustible material. Gutters, leaders and other rainwater conductors shall not be connected in any manner to the sanitary sewer system, but shall instead be conducted without traps to the storm sewer system, street gutter or other storm drainage system. They may discharge onto the ground outside of small buildings where the yard area is sufficient to absorb the water without causing overflow of sidewalks, or adjoining property.

802. CHIMNEYS

(see the Palm Beach County Building Code, Section 802 for the construction of chimneys and fireplaces except as follows:-)

802.1 (c) BRICK

The walls of brick masonry chimneys shall be not less than three and three-quarter inches thick. All brick shall be laid with Class A or B mortar, full mortar joints struck smooth where exposed to the weather. For two stories or more in height the minimum wall thickness of wall chimneys shall be eight inches.

1302.3 - FOOTINGS

Concrete in footings shall have an ultimate compressive strength of not less than 2,500 pounds per square inch at 28 days.

1302.6 - SEPARATE FOOTINGS

Separate footings may be used for frame construction, and when they are used they shall be spaced not over six feet center to center. They shall be 8 inches thick for 1-story and 10 inches thick for 2-story buildings, shall have an area of eight square feet for 1-story and nine square feet for 2-story buildings, shall be reinforced with a steel mat 3 inches above their bottoms consisting of No. 4 Bars both ways on 6 inch centers, shall be set or poured with their bottoms at least one foot below natural ground, and shall be centered under the posts or columns they support.

1302.7 - FOUNDATION WALLS AND CONTINUOUS FOOTINGS

All exterior and interior continuous bearing walls and their footings shall be in conformance with the following table:

**MINIMUM ALLOWABLE DIMENSIONS
FOUNDATION WALLS AND FOOTINGS**

Building	Wall Thickness	Footing Width	Footing Height	Minimum Steel 3" From Bottom
Frame 2-Story	8"	18"	10"	3 - No. 4*
Frame 1-Story	8"***	16"	8"	2 - No. 4
Masonry 2-Story	8"***	20"	10"	3 - No. 5*
Masonry 1-Story	8"***	18"	10"	3 - No. 4*

- * - One rod in top of footing.
- ** - 6" if of reinforced concrete poured monolithic with footings.
- *** - 12" to provide ledge for joist bearing where other than slab floors on grade are used.

The bottom of all footings shall be at least 12 inches below natural ground.

1402.6 - CONCRETE SLABS

Slabs on ground or fill shall have a minimum thickness of four inches, shall be reinforced with 6x6 10x10 welded wire mesh lapped 6 inches, or its equivalent in reinforcement.

1404.1 - BEARING WALLS - GENERAL

Solid masonry bearing walls shall be 12 inches thick except as follows:

The bearing wall for a 1-story building or the second story of a 2-story building may be 8 inches in thickness provided the total height of 8 inch wall is 15 feet or less. Walls of 1-story single-family dwellings and private garages may be six inches thick when not greater in height than 9 feet, with an allowance of an additional 6 feet for gables, if such walls are poured of plain or reinforced concrete having a compressive strength of not less than 2,500 pounds per square inch at 28 days.

1404.7 - HOLLOW UNITS

a. The minimum thickness of exterior bearing walls of hollow masonry shall be 8 inches. Masonry walls (including walls of plain concrete) shall be supported at such intervals that the wall panel within the vertical and horizontal supports shall not exceed 256 square feet in area, provided, however, that for solid masonry walls the distance from center to center of vertical supports shall in no case exceed 20 feet, and for hollow walls of

masonry or walls of hollow masonry units such distance shall not exceed 16 feet.

b. Such lateral support shall be obtained by concrete columns at all corners and at intervals as specified above, and by reinforced concrete tie beams below each tier of floor or ceiling joists and on top of all walls to form a coping. In 1-story residential buildings the corner columns may be omitted, in which case the spacing of columns shall be measured around the corners.

c. Reinforced concrete columns specified in (b) shall be not smaller than 8x12 inches, and have not less than four 5/8-inch reinforcing rods with 1/4 inch ties spaced 12 inches apart.

d. Reinforced concrete tie beams specified in (b) shall be not smaller than 8x12 inches, and have not less than four 5/8 inch reinforcing rods two at the top and two at the bottom. Minimum lap of steel shall be 30 diameter.

e. Reinforced concrete coping beams specified in (b) shall be not less than 6 inches thick but not less than 64 square inches in cross section and shall have not less than two 1/2 inch reinforcing rods. Such beams shall be anchored to the tie beam beneath with reinforced concrete struts not smaller than 8x12 inches having not less than four 1/2 inch reinforcing rods and placed one strut over each column. Coping beams shall be installed along the top of the rakes of gables.

f. Masonry walls shall be thoroughly bonded and anchored at points where they intersect and where they abut or join the reinforced concrete framework of a building.

g. Mortar used in masonry construction shall be cement mortar or cement-lime mortar, provided that footings, foundation walls, rubble stone wall and isolated piers shall be laid in cement mortar only.

h. Where columns carry concentrated loads the minimum size shall be 12x12 inches.

i. In 1-story residences only, 8"x16" filled block may be used in lieu of poured concrete columns with same reinforcement, without ties, required. Filled blocks shall not be used for any beam or lintel over 8 feet in length. When using filled building blocks or lintels the block shall be thoroughly wet down immediately prior to pouring. Pea-rock aggregate containing maximum size rock of 3/8 inch shall be used, with a minimum concrete strength of 2,500 pounds per

square inch at 28 days. All filled building blocks shall be thoroughly rodded when being poured to prevent voids in the pour. The outside of bottom course of building blocks of columns shall be broken out prior to pouring to facilitate clean out and inspection.

1407. - PARAPET WALLS

Parapet walls shall be not less than 8 inches thick, nor shall the height be more than four times the thickness unless properly reinforced. They shall be properly coped with incombustible weather-proof material.

Scuppers for downspouts shall be a minimum of two (2) square inches for every one hundred (100) square feet of roof surface drained, and an overflow of the same size shall be provided not more than two (2) inches above the roof deck. Where the roof is especially designed for water cooling the scuppers may be raised to provide for retaining the water. Scuppers shall be effectively screened against debris stoppage.

1409.2 - CHASES

The maximum size pipe or plumbing stack permitted in an 8 inch exterior masonry wall shall be 2 inches inside diameter, and shall be wrapped with asphalt saturated felt or provided with a metal sleeve where surrounded by concrete.

1415.3 - MASONRY VENEER

Masonry veneer applied to wood or other framing shall be anchored to the structural framing members by approved non-ferrous metal ties or 40 d galvanized nails at intervals of not more than 16 inches vertically and 24 inches horizontally.

Masonry veneer on framed walls shall be supported upon the foundation. Masonry veneer over wood frame exterior walls shall provide a minimum 3/4 inch air space. The wood shall be covered with a waterproof membrane of 30 pound felt or its equivalent.

The bottom course of masonry shall be at least four inches below wood sills (sole plates), with adequate weep holes provided (minimum 3/8 inch every 15 foot lineal length of exterior wall.) The weep holes shall be above finish grade line. Masonry veneer extending below finish grade line shall be joined solidly to the foundation wall, so as to prevent undergrade voids that

encourage hidden termite entrance. Sole plates, studs and sheathing shall be treated for rot and termite damage at least two feet above the finish first floor.

1605.1 - DESIGN OF FORMS

Forms shall conform to the shape, lines and dimensions of the members as called for on the plans, and shall be substantial and sufficiently tight to prevent leakage of mortar. They shall be properly braced or tied together so as to maintain position and shape. All footings shall be properly formed, so that structural design and proper steel placement may be secured. All footing form material shall be removed after its use to prevent the encouragement of termites.

1700.1 - GENERAL

All wood framing, furring, bucks, frames, sills, plates, or any other woodwork below the actual roof framing, that comes in contact with the masonry, whether the masonry is exterior or interior, shall be treated with an approved wood rot and termite preventative to within 2 feet of the point of contact.

1701.4 - MUD SILLS

No mud sills of any type will be permitted on permanent construction. Treated plates, studs, sheathing and siding shall clear the finish grade by at least 6 inches. Wood girders, beams and floor joists shall provide an 18 inch minimum clearance between the bottom of such members and the ground beneath. Vents or other openings shall be flashed to protect structural wood members from the weather, and screened against insects.

1701.7 - FOUNDATION SILLS

All masonry shall be finished to provide a true and even bearing surface for wooden structural members. Such structural members shall be securely fastened to the masonry or concrete bearing surface in the following manner:

All sills and plates shall be bolted with not less than one half inch diameter bolts corrosion resistant, of a length to provide a minimum 6 inch embedment in the masonry or concrete and spaced not more than four feet apart. There shall be one such bolt in addition at each corner or offset in the wall. In exterior frame wall construction, where foundation walls are not poured mono-

lithic with the footings, bolts shall extend through the walls and into the footings, regardless of whether the walls are solid. One half inch steel dowels extending from the footing and adequately lapping the bolts shall be construed as complying with the requirements of this section. If hollow walls are used, the cells in which said dowels are located shall be solidly filled with concrete or grout. All foundation sills shall be treated for rot and termite prevention, and shall be separated from contact with foundation walls of masonry by not less than 28 gauge galvanized iron or other approved corrosion-resistant metal, or by a grout bed of 1:3 mortar at least 4 inches thick.

1704.1 - JOISTS

Floor joists shall be so designed as to adequately sustain all imposed live loads as set forth in Section 1203. For allowable span and spacing of joists the following references are given:

1. For one and two family dwellings: Section 1704.6, Joists or other species, grades, or sizes may be used when properly designed.
2. For all loadings other than above, design shall be in accordance with Section 1707.

1704.2 - BEARING

Floor joists shall be supported by sill, girders, bearing partitions or exterior walls. Where entering exterior stud walls, the joists shall be supported on a plate or, if no plate is provided, by a one by four (1x4) inch nominal size ribbon let in the studs. Joists shall be well nailed to the supporting studs. Studs shall be doubled under the ends of doubled joists. Where joists enter or bear on masonry see Section 1703.4

1704.3 - HEADER JOISTS

Header and trimmer joists more than four (4) feet long shall be doubled. Header joists over six (6) feet long and tail joists over twelve (12) feet long shall be hung in approved stirrup irons or joist hangers or approved equivalent.

1704.4 - JOISTS UNDER PARTITIONS

Joist under and parallel to bearing partition walls shall be doubled and well spiked so as to form a solid beam. Where clearance for pipes

is necessary solid bridging not more than sixteen inches on centers shall be provided (Section 1702.5).

1704.5 - BRIDGING

Cross bridging shall be placed between joists if the span is over eight (8) feet. The distance between bridging or between bridging and bearing, shall not exceed eight (8) feet. Wood cross bridging used in one and two family dwellings shall be not less than one by three (1x3) inches nominal size cross sectional area, but in other buildings shall be not less than one by six (1x6) inches or two by three (2x3) inches nominal size. Metal cross bridging of equal or greater strength may be used in place of wood cross bridging.

Solid bridging shall be placed between floor joists at all supports

1704.6 - MAXIMUM ALLOWABLE SPANS

Table No. 1704.6 gives the maximum allowable spans, according to spacing shown, for floor joists based on 1100 lb. f, and E of 1,600,000 and based on a live load of 40 and 30 lbs. per square foot uniformly distributed. Spans for joists with plastered ceilings are based on deflection or stress, whichever is the lesser.

Floor joists of other grades, or of other sizes, may be used provided they are not stressed to exceed the maximum allowable working stress as shown in Table No. 1707.

Table 1704.6 MAXIMUM ALLOWABLE SPAN BETWEEN SUPPORTS FOR WOOD JOISTS

Joist size (nominal) in inches	Joist spacing center to center in inches	Maximum Allowable Span			
		*Liveload 30 lbs. per sq. ft.		*Liveload 40 lbs per sq. ft.	
		Plastered	Unplastered	Plastered	Unplastered
2x6	12	11'-6"	12'-11"	10'-5"	11'-6"
	16	10'-0"	11'-3"	9'-1"	10'-0"
	24	8'-3"	9'-4"	7'-6"	8'-3"
2x8	12	15'-2"	17'-1"	13'-10"	15'-2"
	16	13'-3"	15'-0"	12'-1"	13'-3"
	24	10'-11"	12'-4"	9'-11"	10'-11"
2x10	12	19'-1"	21'-5"	17'-5"	19'-1"
	16	16'-8"	18'-10"	15'-2"	16'-8"
	24	13'-9"	15'-6"	12'-6"	13'-9"
2x12	12	22'-11"	25'-6"	20'-11"	22'-11"
	16	20'-1"	22'-7"	18'-3"	20'-1"
	24	16'-7"	18'-9"	15'-1"	16'-7"

TABLE 1704.6 (continued)
MAXIMUM ALLOWABLE SPAN BETWEEN SUPPORTS FOR WOOD JOISTS

Joist size (nominal) in inches	Joist spacing center to center in inches	Maximum Allowable Span			
		*Live load 30 lbs. per sq. ft.		*Live load 40 lbs. per sq. ft.	
		Plastered	Unplastered	Plastered	Unplastered
2x14	12	26'-7"	29'-9"	24'-4"	26'-7"
	16	23'-5"	26'-3"	21'-4"	23'-5"
	24	19'-5"	21'-9"	17'-8"	19'-5"
3x6	12	13'-4"	16'-1"	12'-4"	14'-5"
	16	12'-2"	14'-2"	11'-5"	12'-7"
	24	10'-4"	11'-9"	9'-5"	10'-4"
3x8	12	17'-7"	21'-9"	16'-4"	18'-11"
	16	16'-1"	19'-2"	14'-11"	16'-7"
	24	13'-9"	15'-6"	12'-6"	13'-9"
3x10	12	22'-0"	26'-3"	20'-6"	23'-7"
	16	20'-3"	23'-3"	18'-10"	20'-10"
	24	17'-0"	19'-8"	15'-9"	17'-3"
3x12	12	26'-3"	31'-3"	24'-6"	28'-2"
	16	24'-11"	27'-9"	22'-7"	24'-11"
	24	20'-9"	23'-3"	18'-11"	20'-9"

* THIRTY POUNDS PER SQUARE FOOT LIVE LOAD IS FOR ONE STORY DWELLINGS. FORTY POUNDS PER SQUARE FOOT LIVE LOAD IS FOR OTHER OCCUPANCIES HAVING THAT REQUIREMENT

1704.7 - CEILING JOISTS AND ROOF RAFTERS (DWELLINGS)

Table 1704.7 gives the allowable spans, according to spacings shown, for ceiling joists (plastered - no live load in attic) and roof rafters (light weight roofing), using Grade of Lumber based on eleven hundred (1100) Lb./Sq. In. fiber stress.

Ceiling joists and rafters of other grades or other sizes, or for other loads may be used, provided they are properly designed, in accordance with Section 1707.

The span of roof rafters shall be measured from plate to ridge, except that where rafters are braced to ceiling joists so that a complete truss is formed the span may be taken as the distance between the intersecting points of trussing.

TABLE NO. 1704.7
MAXIMUM SPANS OF CEILING JOISTS AND ROOF RAFTERS

Size of joist (nominal) Inches	Spacing of Joist center to center Inches	Maximum Allowable Span			
		Ceiling joists Plastered No live load.		Roof Rafters (For Dwellings)	
		Ft.	In.	Ft.	In.
2x4	12	11	0	11	0
	16	10	1	9	7
	24	8	11	7	11
2x6	12	16	7	16	9
	16	15	4	14	8
	24	13	8	12	.2
2x8	12	21	7	21	10
	16	20	1	19	3
	24	17	11	16	0

1704.8 - ROOF FRAMING AND SHEATHING

Roof framing and trussing shall be thoroughly and effectively braced. Roof joists or rafters when supported on a ribbon board, shall lap and be well nailed to the stud. At four foot intervals rafters shall be securely fastened to the supporting plate, masonry beam, or other supporting member by means of bolts, heavy perforated iron straps, joist anchors or similar galvanize tie-down devices approved by the Zoning Director, with the end result to be that the building is effectively tied down from the rafters through the building to the footings. All strap nailing shall be in shear. Roofs with unusually large overhangs (more than two feet horizontal projection) may require additional tie down if prescribed by the Zoning Director. Show rafters in eave overhangs shall be extended inside of the supporting member approximately the same distance as the cantilever extends outside, and shall be securely fastened to cats cut between the main roof framing. Minimum bolted top plate on masonry shall be 2"x6".

Hip and Valley Rafters shall be not less than 2 inches deeper than the rafters. A four inch minimum bearing shall be provided at each end of joist and plate end of rafters.

Open sheathing for sheet metal or similar roofs, shall be not less than one by four inch nominal size, set not more than eight inches on center, supported sixteen inches on center, and nailed with not less than two 8 d nails

to each supporting rafter. One inch solid wood sheathing shall be nailed 6 inches on center at each bearing with 8 d nails. But joints shall be limited to three consecutive joints at any one bearing.

Plywood roof sheathing shall be of the minimum thicknesses specified in the table below:

PLYWOOD(Thickness)	LIVE LOAD 30 POUNDS	LIVE LOAD 40 POUNDS
	PER SQUARE FOOT	PER SQUARE FOOT
1/2" 5-ply	22" span	16" span
5/8" 5-ply	27" span	21" span
3/4" 5-ply	33" span	24" span

The plywood shall be applied with its face grain perpendicular to the rafters. Nailing shall be 6 d galvanized nails 6 inches on center for the 1/2 inch thickness only. No butt joints shall be allowed consecutively on the same bearing. No edge surfaces of plywood sheathing shall be exposed to the weather. Exterior plywood type A or B only shall be used for roof sheathing.

1704.9 - ROOF JOISTS

Table 1704.9 gives the allowable spans of Roof Joists, based on 20 pounds per square foot uniformly distributed in accordance with Section 1203.2 - Roof Live Loads. It is based on 1100 lb. f. All Roof Joists shall be provided with cross bridging as set forth in Section 1704.5 - Bridging.

TABLE 1704.9
MAXIMUM SPANS OF ROOF JOISTS

Joist size (nominal) in inches	Joist spacing center to center in inches	Roof Joists, Live Load 20 lbs. sq. ft.			
		Supporting Finished Ceiling		Not Supporting Finished Ceiling	
		Ft.	In.	Ft.	In.
2x4	12	7	8	9	0
	16	6	8	8	0
	24	5	8	6	8
2x6	12	12	7	14	2
	16	10	10	12	7
	24	8	10	10	3
2x8	12	16	8	18	11
	16	14	6	16	9
	24	11	10	13	8
2x10	12	21	2	23	10
	16	18	4	21	3
	24	15	0	17	4

1704.10 - SCUTTLES

All buildings shall have a scuttle or opening through the ceiling into the roof attic. Such opening shall be not less than two (2) feet by three (3) feet in dimensions. Scuttle openings shall be provided with a lid that does not require any special effort to remove or open.

1705.2 - SHEATHING - WALL SHEATHING

Wood sheathing shall be not less than 3/4 inch thick and plywood sheathing shall be not less than 1/2 inch exterior grade.

1705.3 - WALL COVERINGS - (c) PLYWOOD

Plywood wall coverings shall be of the exterior type and shall have a minimum thickness of three-eighths inch. Where plywood is applied without sheathing as exterior wall covering it shall be not less than one-half inch thick five-ply, exterior type, nailed with 6 d common galvanized nails 6 inches on center on all studs. All edges shall be protected from the weather.

1707.3 - LUMBER GRADES

Lumber of grades 3, 4, or other similar low quality grade below those listed in Table 1707 of the Palm Beach County Building Code, shall not be used.

1702.1 - COLUMNS AND POSTS

All wood columns and posts supporting loads shall be framed to true end bearings; and shall extend downward to supports of such design as to hold the column or post securely in position and protect its base from deterioration. Bottom or lowest tiers shall be supported at least two inches above grade or finish floor by masonry or concrete footings and shall be separated therefrom by a non-corrosive metal plate; and shall not rest directly or indirectly on floor beams where there is no column below unless the floor beams are specifically designed to hold the load.

1702.2 - STUD WALLS AND PARTITIONS

The maximum allowable height for nominal size 2x4 inch studding for bearing walls or partitions shall be 14 feet, and for 2x6 inch nominal size, 20 feet, spaced not more than 16 inches on center unless the wall is supported laterally by adequate framing in a horizontal direction, perpendicular to the direction of the stud wall.

Bearing walls and partitions of buildings other than residential supporting more than one story and roof, shall have the lowest tier of studs of not less than 2x6 inches in nominal size.

Where studding extends through more than one floor, the floor joists of the second floor may be supported by a 1x4 inch nominal size ribbon notched into the studs and securely nailed.

In bearing partitions or walls, studs shall be provided with top and bottom plates lapped at each intersection. Single bottom plates may be used. Single top and bottom plates shall be permitted for non-bearing walls and partitions. Joints shall be staggered not less than two feet, and such plates shall be not less in size than the studding.

In non-bearing walls and partitions, studs may be spaced not more than 28 inches on center and may be set with long dimension parallel to the wall.

Angles at corners where stud walls or partitions meet shall be framed solid so no lath can extend from one room to another. All exterior and main cross stud partitions shall be effectively and thoroughly angle braced.

Where studs pass through from floor to floor, they shall be fire stopped at point of passage through floor.

1702.3 - PROTECTION OF OPENINGS

Openings in partitions and walls shall be framed around with double studs at each side and double headers across the top, resting on the short stud at each end unless other equal approved method of framing is used.

The double header shall be placed on edge and shall be trussed above all openings over four feet in width, or where more than two studs are cut away.

1702.4 - CORNER BRACING

Studs shall be doubled or tripled at corners of exterior walls, and such corners shall be braced by letting in 1x6 continuous brace extending from the top plate to the bottom plate at an angle of approximately 45 degrees. Where windows or other openings preclude use of such bracing alternative bracing approved by the Zoning Director may be used.

Let in bracing may be omitted where "solid sheathing" of walls is

of lumber applied diagonally or where other sheathing specified in Section 1705.2 of the Palm Beach County Building Code is applied vertically in panels four feet wide and not less than eight feet long and properly nailed as follows:

<u>Sheathing</u>	<u>Nail Size</u>	<u>Spacing of Edges</u>	<u>Spacing at other Bearings</u>
*Plywood	6 d common	6"	12"
Fiberboard	8 d common	3"	6"
Gypsum	11 ga. galvanized	4"	8"

*May be applied horizontally or vertically.

1702.5 - CLEARANCE FROM PIPES

Stud walls containing plumbing, heating or other pipes shall be so framed as to allow proper clearance for such pipes. Where a partition containing such pipes runs parallel to the floor joists, the floor joists under such partition shall be doubled and spaced to provide clearance for such pipes, and shall be bridged with solid bridging. Where plates or soles are cut to permit passage of such pipes, a metal tie not less than 1/8 inch thick and one and one-half inches wide shall be fastened to the plate across and to each side of the opening with not less than four 16 d nails.

1702.6 - FIRE STOPPING

Fire stopping shall be provided to cut off all vertical and horizontal concealed draft openings. Fire stopping shall be as indicated in this Section and as provided in Section 705 of the Palm Beach County Building Code.

Fire stopping when of wood, shall be of not less than 2 inch nominal thickness and shall effectively fill all spaces to the entire width of the framing or structural members. Fire stopping when of other materials shall be of formed coated steel of not less than 20 U.S. Standard Gauge securely and tightly nailed, or in the case of spaces between chimneys and wood framing, such spaces shall be solidly filled with mortar or loose incombustible matter supported on non-metallic supports.

Fire stopping shall be used in the following locations:

1. In all stud walls, partitions and furred spaces, so that no concealed space exceeds eight feet in length.
2. In all stud walls at ceiling and floor levels.

BE IT FURTHER RESOLVED that a copy of this resolution be furnished to all persons upon their request, and the payment of a fee to be set by the Zoning Director.

S/ Roy E. Michael, Jr.
Chairman

S/ Kenneth P. Foster

S/ Lake Lytal

S/ Ben F. Sundy

S/ Paul Rardin
As and Constituting the
Zoning Commission of Palm
Beach County, Florida.

ATTEST:

S/ R. B. McKee
Clerk