

SUBCHAPTER 2 DEFINITIONS

SECTION 13-201 GENERAL

201.1 Application of Terms . For the purpose of this code, certain abbreviations, terms, phrases, words, and their derivatives, shall be construed as set forth in this chapter.

201.2 Words Not Defined. Words not defined herein shall have the meanings stated in the Webster's Ninth New Collegiate Dictionary, as revised.

SECTION 13-202 DEFINITIONS

ABOVE-GRADE-WALL. See "WALL".

ACCESS HATCH. See "DOOR".

ACCESSIBLE (as applied to equipment). Admitting close approach; not guarded by locked doors, elevation or other effective means. (See "READILY ACCESSIBLE".)

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

ADJACENT WALL, CEILING or FLOOR. A wall, ceiling or floor of a structure that separates conditioned space from enclosed but unconditioned space, such as an unconditioned attached garage, storage or utility room.

~~**ADJUSTED LIGHTING POWER (ALP).** Lighting power, assigned to a luminaire(s), that has been reduced by deducting a lighting power control credit based on use of an automatic control device(s).~~

AEROSOL SEALANT. A closure product for duct and plenum systems, which is delivered internally to leak sites as aerosol particles using a pressurized air stream.

~~**AFUE (ANNUAL FUEL UTILIZATION EFFICIENCY).** The ratio of annual output energy to annual input energy including any non-heating season pilot input loss.~~

AIR BARRIER.

Relating to air distribution systems, a material object(s) which impedes or restricts the free movement of air under specified conditions. For fibrous glass duct, the air barrier is its foil cladding; for flexible non-metal duct, the air barrier is the non-porous core; and for sheet metal duct and air handling units, the air barrier is the metal in contact with the air stream. For mechanical closets, the air barrier may be a uniform panelized material such as gypsum wall board which meets ASTM C36, or it may be a membrane which alone acts as an air barrier which is attached to a panel, such as the foil cladding of fibrous glass duct board.

Relating to the building envelope, air barriers comprise the planes of primary resistance to air flow between the interior spaces of a building and the outdoors and the planes of primary air flow resistance between adjacent air zones of a building, including planes between adjacent conditioned and unconditioned air spaces of a building. To be classed as an air barrier, a building plane must be substantially leak free; that is, it shall have an air leakage rate not greater than 0.5 cfm/ft² when subjected to an air pressure gradient of 25 pascal. In general, air barriers are made of durable, non-porous materials and are sealed

to adjoining wall, ceiling or floor surfaces with a suitable long-life mastic. House wraps and taped and sealed drywall may constitute an air barrier but dropped acoustical tile ceilings (T-bar ceilings) may not. Batt insulation facings and asphalt-impregnated fiberboard and felt paper are not considered air barriers.

AIR CONDITIONING. The process of treating air to control its temperature, humidity, cleanliness and distribution to meet requirements of the conditioned space.

AIR DISTRIBUTION SYSTEMS. Include all building elements (duct systems, air handling units, cavities of the building structure and mechanical closets) through which air is delivered to or from the conditioned spaces.

AIR DUCT. A passageway for conducting air to or from heating, cooling, air conditioning, or ventilating equipment, but not including the plenum. For material requirements see local mechanical codes.

AIR HANDLING UNIT. The fan unit of a furnace and the fan-coil unit of a split-system, packaged air conditioner or heat pump.

AIR INFILTRATION. See "INFILTRATION".

~~**AIR POROSITY.** The ability to transmit air through minute openings in a substance or material.~~

ALTERATION. Replacement or addition to a building or its systems and equipment; routine maintenance, repair, and service or a change in the building's use classification or category shall not constitute an alteration.

ANNUAL FUEL UTILIZATION EFFICIENCY (AFUE). Efficiency descriptor of the ratio of annual output energy to annual input energy as developed in accordance with the requirements of U.S. Department of Energy (DOE) 10 CFR Part 430.

~~**APPLICATION PART LOAD VALUE (APLV).** A single number part load efficiency figure of merit calculated in accordance with the method described in ARI Standard 550 or 590 referenced to modified rating conditions described in those standards.~~

AS-BUILT. Building components to be actually installed in a structure. In some cases, this may be a worst case condition. See "WORST CASE".

ASHRAE CLIMATE ZONE 1. Broward, Miami-Dade and Monroe Counties.

ASHRAE CLIMATE ZONE 2. All of Florida except Broward, Miami-Dade and Monroe Counties.

ASTRONOMICAL TIME SWITCH. A device that turns the lighting on at a time relative to sunset and off at a time relative to sunrise, accounting for geographic location and day of year.

ATTIC. An enclosed unconditioned space located immediately below an uninsulated roof and immediately above the ceiling of a building. For the roof to be considered insulated, roof insulation shall be at least the R-value required to meet section 13-404.ABC.1 in Subchapter 4 and section 13-604.ABC.1 in Subchapter 6. See "UNDER ATTIC"; "ROOF".

ATTIC RADIANT BARRIER. See "RADIANT BARRIER".

AUTHORITY HAVING JURISDICTION. The agency or agent responsible for enforcing this standard.

AUTOMATIC. Self-acting, operating by its own mechanism when actuated by some nonmanual influence, such as a change in current strength, pressure, temperature, or mechanical configuration.

AUTOMATIC CONTROL DEVICE. A device capable of automatically turning loads off and on without manual intervention.

BALANCING, AIR SYSTEM: adjusting air flow rates through air distribution system devices, such as fans and diffusers, by manually adjusting the position of dampers, splitter vanes, extractors, etc., or by using automatic control devices, such as constant air volume or variable air volume boxes.

BALANCING, HYDRONIC. Adjusting water flow rates through hydronic distribution system devices, such as pumps and coils, by manually adjusting the position valves, or by using automatic control devices, such as automatic flow control valves.

BALLAST. A device used in conjunction with an electric discharge lamp to cause the lamp to start and operate under the proper circuit conditions of voltage, current, wave form, electrode heat, etc.

(a) electronic ballast: a ballast constructed using electronic circuitry.

(b) hybrid ballast: a ballast constructed using a combination of magnetic core and insulated wire winding and electronic circuitry.

(c) magnetic ballast: a ballast constructed with magnetic core and a winding of insulated wire.

BASELINE. Building component performance target or the total building performance target which is compared with the As-Built building performance.

BEDROOM. Any residential room which has an area of 70 square feet or more and a clothes storage closet, and is not part of the common living area. For the purposes of this Code, the number of "main" bedrooms for homes of three bedrooms or more is the total number of bedrooms less one. In one and two bedroom homes, all bedrooms are "main" bedrooms.

BELOW-GRADE WALL. See "WALL".

BOILER. A self-contained low-pressure appliance for supplying steam or hot water.

BOILER CAPACITY. The rate of heat output in Btu/h of the boiler, at the design inlet and outlet conditions and rated fuel or energy input, measured at the boiler outlet, at the design pressure and/or temperature, and rated fuel input.

BOILER, PACKAGED. A boiler that is shipped complete with heating equipment, mechanical draft equipment, and automatic controls; usually shipped in one or more sections. A packaged boiler includes factory-built boilers manufactured as a unit or system, disassembled for shipment, and reassembled at the site.

BRANCH CIRCUIT. The circuit conductors between the final overcurrent device protecting the circuit and the outlet(s); the final wiring run to the load.

BUDGET (Baseline). Building design: a computer representation of a hypothetical design based on the actual proposed building design. This representation is used as the basis for calculating the Method A energy cost budget.

BTU (British Thermal Unit). The standard unit for measuring heat energy, such as the heat content of fuel. It is the amount of heat energy necessary to raise the temperature of one pound of water one degree Fahrenheit. 1 BTU per minute = 17.6 watts.

BTU. Per Kilowatt Hour - See HEAT RATE.

BUILDING. Any structure that includes provision for any of the following or any combination of the following: a space heating system, a space cooling system, or a service water heating system. For each purpose of this Code each portion of a building separated from other portions by a rated fire wall shall be considered as a separate building. The term "building" shall be construed as if followed by the words "or part thereof."

BUILDING CONSTRUCTION. Any new building or structure or addition to any existing building or structure.

BUILDING ENTRANCE. Any doorway, set of doors, turnstiles, or other form of portal that is ordinarily used to gain access to the building by its users and occupants.

BUILDING ENVELOPE. The exterior plus the semi-exterior portions of a building. For the purposes of determining building envelope requirements, the classifications are defined as follows:

(a) building envelope, exterior: the elements of a building that separate conditioned spaces from the exterior.

(b) building envelope, semi-exterior: the elements of a building that separate conditioned space from unconditioned space or that enclose semiheated spaces through which thermal energy may be transferred to or from the exterior, or to or from unconditioned spaces, or to or from conditioned spaces.

BUILDING EXIT. Any doorway, set of doors, or other form of portal that is ordinarily used only for emergency egress or convenience exit.

BUILDING GROUNDS LIGHTING, Lighting provided through a building's electrical service for parking lot, site, roadway, pedestrian pathway, loading dock, and security applications.

BUILDING MATERIAL. Any element of the building envelope through which heat flows and that is included in the component U-factor calculations other than air films and insulation.

BUILDING OFFICIAL. The officer or other designated representative authorized to act on behalf of the authority having jurisdiction.

BUILDING SYSTEMS. See "SYSTEM".

C-FACTOR (thermal conductance). Time rate of steady state heat flow through unit area of a material or construction, induced by a unit temperature difference between the body surfaces. Units of C are Btu/h-ft²·°F. Note that the C-factor does not include soil or air films.

CIRCUIT BREAKER. A device designed to open and close a circuit by non-automatic means and to open the circuit automatically at a pre-determined overcurrent without damage to itself when properly applied within its rating.

CLASS OF CONSTRUCTION. For the building envelope, a subcategory of roof, above-grade wall, below-grade wall, floor, slab-on-grade floor, opaque door, vertical fenestration, or skylight. (See roof, wall, floor, slab-on-grade floor, door, and fenestration.)

CLERESTORY. That part of a building that rises clear of the roofs or other parts and whose walls contain windows for lighting the interior.

CODE OFFICIAL. See "BUILDING OFFICIAL".

COEFFICIENT OF PERFORMANCE (COP) – COOLING. The ratio of the rate of heat removal to the rate of energy input, in consistent units, for a complete refrigerating system or some specific portion of that system under designated operating conditions.

COEFFICIENT OF PERFORMANCE (COP) - (HEAT PUMP)—HEATING. Heating: the ratio of the rate of heat delivered to the rate of energy input, in consistent units, for a complete heat pump system, including the compressor and, if applicable, auxiliary heat, under designated operating conditions.

COMBUSTION APPLIANCE, DIRECT VENT. A system consisting of: (1) an appliance for indoor installation; (2) combustion air connections between the appliance and the outdoor atmosphere; (3) flue gas connections between the appliance and the vent cap; and, (4) vent cap for installation outdoors, supplied by the manufacturer and constructed so that all air for combustion is obtained

from the outdoor atmosphere and all flue gases are discharged to the outdoor atmosphere.

COMFORT CONDITIONING. Treating air to control its temperature, relative humidity, cleanliness, and distribution to meet the comfort requirements of the occupants of the conditioned space.

COMFORT ENVELOPE. The area on a psychrometric chart enclosing all those conditions described as being comfortable in Figure 1, ASHRAE Standard 55-84, Thermal Environmental Comfort Conditions for Human Occupancy.

COMMON CEILING. The ceiling/floor assembly separating conditioned tenancies, one above the other.

COMMON WALL. A wall separating conditioned tenancies, one next to the other.

CONDITIONED FLOOR AREA. The horizontal projection (outside measurements) of that portion of space which is conditioned directly or indirectly by an energy-using system. See "FLOOR AREA"; "GROSS FLOOR AREA").

CONDITIONED SPACE----that volume of a structure which is either mechanically heated, cooled, or both heated and cooled by direct means. Spaces within the thermal envelope that are not directly conditioned shall be considered buffered unconditioned space. Such spaces may include, but are not limited to, mechanical rooms, stairwells, and unducted spaces beneath roofs and between floors. Air leakage into dropped ceiling cavities does not constitute conditioned space. See "SPACE".

CONDUCTANCE. See "THERMAL CONDUCTANCE".

CONSTRUCTION. The fabrication and erection of a new building or any addition to or alteration of an existing building.

CONSTRUCTION DOCUMENTS. Drawings and specifications used to construct a building, building systems, or portions thereof.

CONTINUOUS INSULATION (cont. ins. or ci). Insulation that is continuous across all structural members without thermal bridges other than fasteners and service openings. It is installed on the interior, exterior, or is integral to any opaque surface of the building envelope.

CONTROL. To regulate the operation of equipment.

CONTROL DEVICE. A specialized device used to regulate the operation of equipment.

CONVENTIONAL ATTIC. Traditionally, the space directly below the roof and above the ceiling of the upper story of a building.

COOL DOWN. Reduction of space temperature down to occupied set point after a period of shutdown or setup.

COOLED SPACE. See "SPACE".

COOLING DEGREE DAY. See "DEGREE-DAY".

COOLING DESIGN TEMPERATURE. The outdoor dry-bulb temperature equal to the temperature that is exceeded 1% of the number of hours during a typical weather year.

COOLING DESIGN WET-BULB TEMPERATURE. The outdoor wet bulb temperature for sizing cooling systems and evaporative heat rejection systems such as cooling towers.

DEAD BAND. The range of values within which a sensed variable can vary without initiating a change in the controlled process.

DECORATIVE LIGHTING. See "LIGHTING, DECORATIVE".

DEGREE-DAY. The difference in temperature between the outdoor mean temperature over a 24-hour period and a given base temperature. For the purposes of determining building envelope requirements, the classifications are defined as follows:

(a) cooling degree-day base 50°F, CDD50: for any one day, when the mean temperature is more than 50°F, there are as many degree-days as degrees Fahrenheit temperature difference between the mean temperature for the day and 50°F. Annual cooling degree-days (CDDs) are the sum of the degree-days over a calendar year.

(b) heating degree-day base 65°F, HDD65: for any one day, when the mean temperature is less than 65°F, there are as many degree-days as degrees Fahrenheit temperature difference between the mean temperature for the day and 65°F. Annual heating degree-days (HDDs) are the sum of the degree-days over a calendar year.

DEMAND. The highest amount of power (average Btu/h over an interval) recorded for a building or facility in a selected time frame.

DEMAND CONTROL VENTILATION (DCV). A ventilation system capability that provides for the automatic reduction of outdoor air intake below design rates when the actual occupancy of spaces served by the system is less than design occupancy.

DESIGN CAPACITY. Output capacity of a system or piece of equipment at design conditions.

DESIGN CONDITIONS. Specified environmental conditions, such as temperature and light intensity, required to be produced and maintained by a system and under which the system must operate.

DESIGN ENERGY COST. The annual energy cost calculated for a proposed design.

DESIGN PROFESSIONAL. An architect or engineer licensed to practice in accordance with applicable state licensing laws.

DIRECT DIGITAL CONTROL (DDC)., A type of control where controlled and monitored analog or binary data (e.g., temperature, contact closures) are converted to digital format for manipulation and calculations by a digital computer or microprocessor, then converted back to analog or binary form to control physical devices.

DISCONNECT. A device or group of devices or other means by which the conductors of a circuit can be disconnected from their source of supply.

DISTRIBUTION SYSTEM. Conveying means, such as ducts, pipes, and wires, to bring substances or energy from a source to the point of use. The distribution system includes such auxiliary equipment as fans, pumps, and transformers.

DOOR. All operable opening areas (which are not fenestration) in the building envelope, including swinging and roll-up doors, fire doors, and access hatches. Doors that are more than one-half glass are considered fenestration. (See fenestration.) For the purposes of determining building envelope requirements, the classifications are defined as follows:

(a) non-swinging: roll-up, sliding, and all other doors that are not swinging doors.

(b) swinging: all operable opaque panels with hinges on one side and opaque revolving doors.

DOOR AREA. Total area of the door measured using the rough opening and including the door slab and the frame. See "FENESTRATION AREA".

DRAWBAND. A fastener which surrounds and fastens a duct fitting with either the inner lining or the outer jacket of flexible ducts. Tension ties, clinch bands, draw ties, and straps are considered drawbands.

DUCT FITTING. Couplings that join sections of ducting together or to other air distribution system components. When used to join sections of flexible non-metal duct, duct fittings are typically metal

or other rigid material and have a raised bead or indented groove against which the drawband is secured. *Terminal fittings* join ducting to supply outlets and return inlets at the end of the distribution system and include register and return boots and register and return boxes. *Intermediate fittings* join flexible non-metal duct to other sections of flexible non-metal duct, to sections of other types of ducting, and to mechanical equipment and include collars, take-offs, tap-ins, sleeves, and the supply and return ends of air handlers and furnaces. See "INTEGRAL FLANGE DUCT COLLAR FITTING".

DUCTS IN CONDITIONED SPACE. Ductwork located on the conditioned side of the envelope insulation and constructed in such a manner that any leakage will be discharged into the conditioned space.

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

ECONOMIZER, AIR. A duct and damper arrangement and automatic control system that together allow a cooling system to supply outside air to reduce or eliminate the need for mechanical cooling during mild or cold weather.

ECONOMIZER, WATER. A system by which the supply air of a cooling system is cooled indirectly with water that is itself cooled by heat or mass transfer to the environment without the use of mechanical cooling.

EFFECTIVE AIR SPACE EMITTANCE---the radiation heat transfer property E of an air space determined by the emissivity of the surfaces bounding that air space. (See the 2001-ASHRAE Handbook of Fundamentals, Chapter 38, Table 3).

EFFICACY (OF A LAMP). The ratio of the total luminous output of a lamp to the total power input to the lamp. Typically expressed in lumens per watt.

EFFICIENCY. Performance at specified rating conditions.

EFFICIENCY, HVAC SYSTEM. The ratio of useful energy output (at the point of use) to the energy input in consistent units for a designated time period, expressed in percent.

~~**ELECTRIC METER.** A mechanical/electrical device that can measure electric power.~~

~~**ELECTRIC SUPPLIER.** An agency that sells and/or distributes electric power.~~

EMERGENCY POWER SYSTEM. A system that is required by codes or other laws to automatically supply illumination or power or both in the event of failure of the normal supply or in the event of accidents to such systems. Such systems may also include standby loads incidental to system operations but shall not include systems for optional standby loads only.

EMISSIVITY. The ratio of the total radiant flux emitted by a body to that emitted by an ideal black body at the same temperature.

EMITTANCE. The ratio of the radiant heat flux emitted by a specimen to that emitted by a blackbody at the same temperature and under the same conditions.

ENCLOSED SPACE. A volume substantially surrounded by solid surfaces such as walls, floors, roofs, and operable devices such as doors and operable windows.

ENCLOSED SUPPORT PLATFORM. A framed enclosure located inside or outside the conditioned space, which supports a furnace or central heating/air conditioning air handler and which may contain and protect a return duct section of the air distribution system.

ENCLOSURE. The case or housing of an apparatus, or the fence or walls surrounding an installation, to prevent personnel from accidentally contacting energized parts or protect equipment from physical damage.

ENERGY. The capacity for doing work. It takes a number of forms that may be transformed from one into another such as thermal (heat), mechanical (work), electrical, and chemical. Customary measurement units are British thermal units (Btu).

ENERGY COST BUDGET. The annual energy cost for the budget building.

ENERGY EFFICIENCY RATIO (EER). The ratio of net cooling capacity in Btu/h to total rate of electric input in watts under designated operating conditions. See “COEFFICIENT OF PERFORMANCE (COP)—COOLING”.

ENERGY FACTOR (EF). A measure of water heater overall efficiency.

ENERGY MANAGEMENT SYSTEM. A control system designed to monitor the environment and the use of energy in a facility and to adjust the parameters of local control loops to conserve energy while maintaining a suitable environment.

ENERGY PERFORMANCE LEVEL. An indicator of the energy-related performance of a building, including, but not limited to, the levels of insulation, the amount and type of glass, and the HVAC and water heating system efficiencies.

ENERGY, RECOVERED. See “RECOVERED ENERGY”.

ENVELOPE PERFORMANCE FACTOR. The trade-off value for the building envelope performance compliance option calculated using the procedures specified in Appendix B for Compliance Methods B and C. For the purposes of determining building envelope requirements, the classifications are defined as follows:

- (a) base envelope performance factor: the building envelope performance factor for the base design.
- (b) proposed envelope performance factor: the building envelope performance factor for the proposed design.

EQUIPMENT. Devices for comfort conditioning, electric power, lighting, transportation, or service water heating including, but not limited to, furnaces, boilers, air conditioners, heat pumps, chillers, water heaters, lamps, luminaires, ballasts, elevators, escalators, or other devices or installations.

EXISTING BUILDING. A building or portion thereof that was previously occupied or approved for occupancy by the authority having jurisdiction.

EXISTING EQUIPMENT. Equipment previously installed in an existing building.

EXISTING SYSTEM. A system or systems previously installed in an existing building.

EXFILTRATION. Uncontrolled outward air leakage from inside a building including leakage through cracks and interstices around windows and doors and through any other exterior partition or penetration.

EXTERIOR BUILDING ENVELOPE. See “BUILDING ENVELOPE”.

EXTERIOR LIGHTING POWER ALLOWANCE. See “LIGHTING POWER ALLOWANCE”.

EXTERIOR WALL. A wall of a structure that is exposed to outdoor climate conditions and which forms a boundary between a conditioned and an outdoor space. See “ADJACENT WALL”.

EYE ADAPTATION. The process by which the retina becomes accustomed to more or less light than it was exposed to during an immediately preceding period. It results in a change in the sensitivity to light.

FAÇADE AREA. Area of the facade, including overhanging soffits, cornices, and protruding columns, measured in elevation in a vertical plane parallel to the plane of the face of the building.

Nonhorizontal roof surfaces shall be included in the calculation of vertical facade area by measuring the area in a plane parallel to the surface.

F-FACTOR. The perimeter heat loss factor for slab-on-grade floors, expressed in Btu/h-ft.²°F.

FACTORY-SEALED AIR HANDLING UNIT. A furnace, or an air conditioner or heat pump fan-coil unit which is certified by its manufacturer to withstand, without leakage, an air pressure of one (1) inch water gauge, when all air inlets, air outlets and condensate drain port(s), when present, are sealed at an air pressure of one (1) inch water gauge with no greater than 2 design CFM discharge.

FAN BRAKE HORSEPOWER. The horsepower delivered to the fan's shaft. Brake horsepower does not include the mechanical drive losses (belts, gears, etc.).

FAN SYSTEM BHP. The sum of the fan brake horsepower of all fans that are required to operate at fan system design conditions to supply air from the heating or cooling source to the conditioned space(s) and return it to the source or exhaust it to the outdoors.

FAN SYSTEM DESIGN CONDITIONS. Operating conditions that can be expected to occur during normal system operation that result in the highest supply airflow rate to conditioned spaces served by the system.

FAN SYSTEM MOTOR NAMEPLATE HP. The sum of the motor nameplate horsepower FAN SYSTEM ENERGY DEMAND (or FAN SYSTEM POWER). The sum of the nominal power demand (nameplate horsepower) of motors of all fans that are required to operate at design conditions to supply air from the heating or cooling source to the conditioned space(s) and return it to the source or exhaust it to the outdoors.

FEEDER CONDUCTORS. The wires that connect the service equipment to the branch circuit breaker panels.

FENESTRATION. All areas (including the frames) in the building envelope that let in light, including windows, plastic panels, clerestories, skylights, glass doors that are more than one-half glass, and glass block walls. (See building envelope and door.)

(a) skylight: a fenestration surface having a slope of less than 60 degrees from the horizontal plane. Other fenestration, even if mounted on the roof of a building, is considered vertical fenestration.

(b) vertical fenestration: all fenestration other than skylights. Trombe wall assemblies, where glazing is installed within 12 in. of a mass wall, are considered walls, not fenestration.

FENESTRATION AREA. Total area of the fenestration measured using the rough opening and including the glazing, sash, and frame. For doors where the glazed vision area is less than 50% of the door area, the fenestration area is the glazed vision area. For all other doors, the fenestration area is the door area. See "DOOR AREA".

FENESTRATION, VERTICAL. See "FENESTRATION"; "SKYLIGHT".

FIREWALL. Fire resistant wall, having protective openings, which restricts the spread of fire and extends continuously from the foundation to or through the roof, with sufficient structural stability under fire conditions to allow collapse of construction on either side without collapse of the wall.

FIXTURE. The component of a luminaire that houses the lamp or lamps, positions the lamp, shields it from view, and distributes the light. The fixture also provides for connection to the power supply, which may require the use of a ballast.

FLEXIBLE NON-METAL DUCT. A type of flexible air duct comprised of a wire-reinforced core (usually plastic), an insulation layer and an outer jacket (usually a durable reinforced plastic).

~~FLOODLIGHTING. A lighting system designated to light an area using projector-type luminaires usually capable of being pointed in any direction.~~

FLOOR, ENVELOPE. That lower portion of the building envelope, including opaque area and fenestration, that has conditioned or semiheated space above and is horizontal or tilted at an angle of less than 60 degrees from horizontal but excluding slab-on-grade floors. For the purposes of determining building envelope requirements, the classifications are defined as follows:

- (a) mass floor: a floor with a heat capacity that exceeds (1) 7 Btu/ft²·°F or (2) 5 Btu/ft²·°F provided that the floor has a material unit mass not greater than 120 lb/ft³.
- (b) steel joist floor: a floor that (1) is not a mass floor and (2) that has steel joist members supported by structural members.
- (c) wood framed and other floors: all other floor types, including wood joist floors. (See building envelope, fenestration, opaque area, and slab-on-grade floor).

FLOOR AREA, GROSS. The sum of the floor areas of the spaces within the building including basements, mezzanine and intermediate-floored tiers, and penthouses with headroom height of 7.5 ft or greater. It is measured from the exterior faces of exterior walls or from the centerline of walls separating buildings, but excluding covered walkways, open roofed-over areas, porches and similar spaces, pipe trenches, exterior terraces or steps, chimneys, roof overhangs, and similar features.

- (a) gross building envelope floor area: the gross floor area of the building envelope, but excluding slab-on-grade floors.
- (b) gross conditioned floor area: the gross floor area of conditioned spaces.
- (c) gross lighted floor area: the gross floor area of lighted spaces.
- (d) gross semiheated floor area: the gross floor area of semiheated spaces. (See building envelope, floor, slab-on-grade floor, and space.)

FLUE DAMPER. A device in the flue outlet or in the inlet of or upstream of the draft control device of an individual, automatically operated, fossil fuel-fired appliance that is designed to automatically open the flue outlet during appliance operation and to automatically close the flue outlet when the appliance is in a standby condition.

FOSSIL FUEL. Fuel derived from a hydrocarbon deposit such as petroleum, coal, or natural gas derived from living matter of a previous geologic time.

FUEL. A material that may be used to produce heat or generate power by combustion.

GASKETING. A compressible, resilient elastic packing, made of foam rubber or of a synthetic foam polymer. A gasket is distinct from the components being joined and must be capable of closing all air leakage pathways between the air barriers of the joint and of creating an air-tight seal.

GENERAL LIGHTING. See "LIGHTING, GENERAL".

GENERALLY ACCEPTED ENGINEERING STANDARD. A specification, rule, guide, or procedure in the field of engineering, or related thereto, recognized and accepted as authoritative.

GLAZED WALL SYSTEM. A category of site-assembled fenestration products, which includes, but is not limited to, curtainwalls and solariums.

GLAZING. Sunlight-transmitting fenestration, including the area of sash, curbing or other framing elements, that enclose conditioned space. Glazing includes the area of sunlight-transmitting fenestration assemblies in walls bounding conditioned basements.

GRADE. The finished ground level adjoining a building at all exterior walls.

GROSS FLOOR AREA. The sum of the floor areas of the conditioned spaces including basements, mezzanine and intermediate-floored tiers and penthouses of headroom height 7.5 ft. or greater. It is measured from the exterior faces of exterior walls or from the centerline of walls separating buildings.

GROSS LIGHTED AREA (GLA). See "FLOOR AREA, GROSS"; "GROSS LIGHTED FLOOR AREA".

GROSS ROOF AREA. See "ROOF AREA, GROSS".

GROSS WALL AREA. See "WALL AREA, GROSS".

HEAT. The form of energy that is transferred by virtue of a temperature difference or a change in the state of a material.

HEAT CAPACITY (HC): The amount of heat necessary to raise the temperature of a given mass 1°F. Numerically, the sum of the products of the mass per unit area of each individual material in the roof, wall, or floor surface multiplied by its individual specific heat (Btu/ft²·°F).

HEAT PUMP. A mechanical refrigeration-cycle system which has been designed to accomplish space heating, water heating or both and, when the evaporator and condenser effects are reverse, may be used for space air conditioning or water chilling.

HEAT TRACE. A heating system where the externally applied heat source follows (traces) the object to be heated, e.g., water piping.

HEAT TRAP. A device or arrangement of the hot water piping leaving the water heater, constructed to counteract the convective forces of the heated water (thermosyphoning) during stand-by periods.

HEATED BUILDING. Any building with heating equipment installed at the time of construction, or designed for the future installation of heating equipment, using electricity or fossil fuels.

HEATED SLAB. A floor, usually constructed of concrete, that has heat energy supplied into the slab to provide heating to an interior space.

HEATED SPACE. See "SPACE".

HEATING DESIGN TEMPERATURE. The outdoor dry-bulb temperature equal to the temperature that is exceeded at least 99.6% of the number of hours during a typical weather year.

HEATING DEGREE-DAY. See "DEGREE-DAY".

HEATING SEASONAL PERFORMANCE FACTOR (HSPF). The total heating output of a heat pump during its normal annual usage period for heating (in Btu) divided by the total electric energy input during the same period.

HIGH-FREQUENCY ELECTRONIC BALLAST. Ballasts that operate at a frequency greater than 20 kHz.

HISTORIC. A building or space that has been specifically designated as historically significant by the adopting authority or is listed in "The National Register of Historic Places" or has been determined to be eligible for listing by the U.S. Secretary of the Interior.

HOME INSULATION. Any material, mainly insulation, used to retard the flow of heat through the building envelope that is tested and labeled with an installed R-value as required by the Federal Trade Commission rules, 16 U.S. Code of Federal Regulations (CFR) Part 460.

HORSEPOWER (HP). Unit of power; work done at a rate equal to 745.7 Watts, 550 foot lb. per second, or 33,000 foot lb. per minute.

HOT WATER SUPPLY BOILER. A boiler used to heat water for purposes other than space heating.

HUMIDISTAT. An automatic control device used to maintain humidity at a fixed or adjustable set point.

HVAC. Heating, ventilating and air conditioning.

HVAC SYSTEM. The equipment, distribution systems, and terminals that provide, either collectively or individually, the processes of heating, ventilating, or air conditioning to a building or portion of a building.

INDIRECTLY CONDITIONED SPACE. See **SPACE**.

~~**INDIRECTLY CONDITIONED SPACE.** See **"SPACE"**.~~

INDOOR. Within the conditioned building envelope.

INFILTRATION. The uncontrolled inward air leakage through cracks and crevices in any building element and around windows and doors of a building caused by pressure differences across these elements due to factors such as wind, inside and outside temperature differences (stack effect), and imbalance between supply and exhaust air systems.

INFILTRATION BARRIER. A product or system designed to limit the free passage of air through a building envelope component (wall, ceiling or floor). Such products and systems are sealed together to form a continuous barrier against air infiltration.

INSTALLED INTERIOR LIGHTING POWER. The power in watts of all permanently installed general, task, and furniture lighting systems and luminaires.

INSULATION. Material mainly used to retard the flow of heat. See **"HOME INSULATION"**.

INSULATION BAFFLE. A device installed at the eave of an attic to prevent insulation from blocking the air flow channel between the soffits and attic.

INSULATION CHUTE. See **"INSULATION BAFFLE"**.

INSULATION DAMS. A flexible device used between rafters at the eave line of roof systems that holds loose fill insulation away from soffit ventilation areas and prevents blockage of natural ventilation flow.

INTEGRAL-FLANGE DUCT COLLAR FITTING. A type of duct collar fitting having a flange that is secured to and sealed to the cylinder or sleeve of the fitting. A function of this flange is to provide a surface which can be sealed to rigid ductboard.

INTEGRATED PART-LOAD VALUE (IPLV). A single-number figure of merit based on part-load EER, COP, or kW/ton expressing part-load efficiency for air-conditioning and heat pump equipment on the basis of weighted operation at various load capacities for the equipment.

INTERIOR LIGHTING POWER ALLOWANCE (ILPA). See **"LIGHTING POWER ALLOWANCE"**.

ISOLATION DEVICES. Devices that isolate HVAC zones so that they can be operated independently of one another. Isolation devices include, but are not limited to, separate systems, isolation dampers, and controls providing shutoff at terminal boxes.

JOIST, STEEL. Any structural steel member of a building or structure made of hot-rolled or cold-rolled solid or open-web sections.

KILOVOLT-AMPERE (kVA). Where the term "kilovoltampere" (kVA) is used in this standard, it is the product of the line current (amperes) times the nominal system voltage (kilovolts) times 1.732 for three-phase currents. For single-phase applications, kVA is the product of the line current (amperes) times the nominal system voltage (kilovolts).

KILOWATT (kW). The basic unit of electric power, equal to 1000 W

KNEE WALLS. Vertical walls which separate conditioned space from the attic.

LABELED. Devices, appliances, assemblies or materials included in a list published by an approved testing laboratory, inspection agency or other organization concerned with product evaluation that maintains periodic inspection of production of listed equipment, appliances, assemblies or material, and whose listing states either that the equipment, appliances, assemblies, or material meets nationally recognized standards or has been tested and found suitable for use in a specified manner.

LAMP. A generic term for a man-made light source often called a bulb or tube.

(a) compact fluorescent lamp: a fluorescent lamp of a small compact shape, with a single base that provides the entire mechanical support function.

(b) fluorescent lamp: a low-pressure electric discharge lamp in which a phosphor coating transforms some of the ultraviolet energy generated by the discharge into light.

(c) general service lamp: a class of incandescent lamps that provide light in virtually all directions. General service lamps are typically characterized by bulb shapes such as A, standard; S, straight side; F, flame; G, globe; and PS, pear straight.

(d) high-intensity discharge (HID) lamp: an electric discharge lamp in that light is produced when an electric arc is discharged through a vaporized metal such as mercury or sodium. Some HID lamps may also have a phosphor coating that contributes to the light produced or enhances the light color.

(e) incandescent lamp: a lamp in which light is produced by a filament heated to incandescence by an electric current.

(f) reflector lamp: a class of incandescent lamps that have an internal reflector to direct the light. Reflector lamps are typically characterized by reflective characteristics such as R, reflector; ER, ellipsoidal reflector; PAR, parabolic aluminized reflector; MR, mirrorized reflector; and others.

LIGHTING, DECORATIVE. Lighting that is purely ornamental and installed for aesthetic effect. Decorative lighting shall not include general lighting.

LIGHTING, GENERAL. Lighting that provides a substantially uniform level of illumination throughout an area. General lighting shall not include decorative lighting or lighting that provides a dissimilar level of illumination to serve a specialized application or feature within such area.

LIGHTING SYSTEM. A group of luminaires circuited or controlled to perform a specific function.

LIGHTING POWER ALLOWANCE.

(a) interior lighting power allowance: the maximum lighting power in watts allowed for the interior of a building.

(b) exterior lighting power allowance: the maximum lighting power in watts allowed for the exterior of a building.

LIGHTING POWER DENSITY (LPD). The maximum lighting power per unit area of a building classification of space function.

LISTED. Equipment, materials or services included in a list published by an organization acceptable to the building official and concerned with evaluation of products or services that maintains periodic inspection of production of listed equipment or materials or periodic evaluation of services and whose listing states either that the equipment, material or service meets identified standards or has been tested and found suitable for a specified purpose.

LOW-RISE RESIDENTIAL. Single-family houses, multi-family structures of three stories or fewer above grade, manufactured houses (mobile homes), and manufactured houses (modular).

LUMINAIRE. A complete lighting unit consisting of a lamp or lamps together with the housing designed to distribute the light, position and protect the lamps, and connect the lamps to the power supply.

MANUAL (NONAUTOMATIC). Requiring personal intervention for control. Nonautomatic does not necessarily imply a manual controller, only that personal intervention is necessary. See "AUTOMATIC".

MANUFACTURED BUILDING. Means a closed structure, building assembly, or system of subassemblies, which may include structural, electrical, plumbing, heating, ventilating, or other service systems manufactured for installation or erection, with or without other specified components, as a finished building or as part of a finished building, which shall include, but not be limited to, residential, commercial, institutional, storage, and industrial structures.

MANUFACTURED HOME. As defined by the U.S. Department of Housing and Urban Development, residential units constructed in accordance with Federal Mobile Construction and Safety Standards, pursuant to 42 USC 55.5401, et. seq. and 24 CFR 3282 and 3283.

MANUFACTURER. The company engaged in the original production and assembly of products or equipment or a company that purchases such products and equipment manufactured in accordance with company specifications.

MASS FLOOR. See "FLOOR".

MASS WALL. See "WALL".

MASTIC. A thick, pliable substance that adheres well to specific materials and is used for sealing different building components together. Mastics are often used in conjunction with fibrous or mesh fabric.

MASTIC RIBBONS. Malleable, putty-like packings which are used in applications akin to those of gasketing; but, they do not have elasticity of gasketing. Such mastics contain nearly 100 percent solids, require no curing in air, and are used without reinforcing fabric.

MEAN TEMPERATURE. One-half the sum of the minimum daily temperature and maximum daily temperature.

MECHANICAL CLOSET. For the purposes of this code, a closet used as an air plenum which contains the blower unit or air handler of a central air conditioning or heating unit.

MECHANICAL EQUIPMENT PLENUM CHAMBER. In an air distribution system, that part of the casing, or an air chamber furnace, to or from which the air duct system delivers conditioned air.

MECHANICAL HEATING. Raising the temperature of a gas or liquid by use of fossil fuel burners, electric resistance heaters, heat pumps, or other systems that require energy to operate.

MECHANICAL COOLING. Reducing the temperature of a gas or liquid by using vapor compression, absorption, desiccant dehumidification combined with evaporative cooling, or another energy-driven thermodynamic cycle. Indirect or direct evaporative cooling alone is not considered mechanical cooling.

MECHANICAL VENTILATION. The process of supplying or removing air by mechanical means to or from any space.

METAL BUILDING. A complete integrated set of mutually dependent components and assemblies that form a building, which consists of a steel-framed superstructure and metal skin.

METAL BUILDING ROOF. See "ROOF".

METAL BUILDING WALL. See "WALL".

METERING. Instruments that measure electric voltage, current, power, etc.

MOTOR POWER, RATED. The rated output power from the motor.

MULTIPLE FAMILY RESIDENCE. Any residential dwelling unit that is attached to another such unit by a common wall, ceiling or floor such as a duplex, townhouse, condominium or similar unit, regardless of ownership.

MULTI-SCENE CONTROL. A lighting control device or system that allows for two or more pre-defined lighting settings, in addition to all off, for two or more groups of luminaires to suit multiple activities in the space, and allows the automatic recall of those settings.

MULTI-ZONE SYSTEM(S)----one or more HVAC system(s) designed to supply conditioned air to more than one independently serviced area of a building. Each zone must have separate thermostats and be separated by walls or closable doors not exceeding forty square feet between zones.

NAMEPLATE HORSEPOWER. The nominal motor horsepower rating stamped on the motor nameplate.

NAMEPLATE RATING. The design load operating conditions of a device as shown by the manufacturer on the nameplate or otherwise marked on the device.

NEW ENERGY. Energy, other than recovered energy, used for the purpose of heating or cooling. See "ENERGY"

NONAUTOMATIC. See "MANUAL".

NON-DEPLETABLE ENERGY SOURCES. Sources of energy derived from incoming solar radiation, including photo-synthetic processes, wind, waves, and tides, lake or pond thermal differences and energy derived from the internal heat of the earth, including nocturnal thermal exchanges.

NONRECIRCULATING SYSTEM. A domestic or service hot water distribution system that is not a recirculating system.

NONRENEWABLE ENERGY. Energy derived from a fossil fuel source.

NONRESIDENTIAL. All occupancies other than residential. See "RESIDENTIAL".

NON-STANDARD PART LOAD VALUE (NPLV). A single number part-load efficiency figure of merit calculated and referenced to conditions other than IPLV conditions, for units that are not designed to operate at ARI Standard Rating Conditions.

NON-SWINGING DOOR. See "DOOR".

NORTH-ORIENTED. Facing within 45 degrees of true north (northern hemisphere).

OCCUPANCY. The purpose for which a building, or part thereof, is used or intended to be used. For the purposes of determining changes of occupancy for this Code, the occupancy shall be considered the major occupancy group designations established by the locally adopted building code.

OCCUPANT SENSOR. A device that detects the presence or absence of people within an area and causes lighting, equipment, or appliances to be regulated accordingly.

OPAQUE. All areas in the building envelope, except fenestration and building service openings such as vents and grilles. (See building envelope and fenestration.)

OPERABLE APERTURE AREAS. Areas of windows, sliding glass doors and screened entry doors that provide access to incoming breezes in their fully extended open position.

OPTIMUM START CONTROLS. Controls that are designed to automatically adjust the start time of an HVAC system each day with the intention of bringing the space to desired occupied temperature levels immediately before scheduled occupancy.

ORIENTATION. The direction an envelope element faces, i.e., the direction of a vector perpendicular to and pointing away from the surface outside of the element. ~~For vertical fenestration, the two categories are north-oriented and all other. See "NORTH-ORIENTED".~~

OUTDOOR. The environment exterior to the building structure.

OUTDOOR (OUTSIDE) AIR. Air that is outside the building envelope or is taken from outside the building that has not been previously circulated through the building.

OUTSIDE. The environment exterior to the conditioned space of the building and may include attics, garages, crawlspaces, etc., but not return air plenums.

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

OVERHANG HEIGHT. The vertical measure of the distance from the bottom of a window to the bottom of the overhang.

OVERHANG LENGTH. The horizontal measure of how far a window overhang projects out from the glass surface.

OVERHANG SEPARATION. The vertical measure of the distance from the top of a window frame to the bottom of an overhang.

PACKAGED TERMINAL AIR CONDITIONER (PTAC). A factory selected wall sleeve and separate unencased combination of heating and cooling components, assemblies, or sections. It may include heating capability by hot water, steam, or electricity and is intended for mounting through the wall to serve a single room or zone.

PACKAGED TERMINAL HEAT PUMP (PTHP). A PTAC capable of using the refrigerating system in a reverse cycle or heat pump mode to provide heat.

PARTY WALL. A fire wall on an interior lot line used or adapted for joint service between two buildings.

PERMANENTLY INSTALLED. Equipment that is fixed in place and is not portable or movable.

PHOTOSENSOR. A device that detects the presence of visible light, infrared transmission (IR), and/or ultraviolet (UV) energy.

PLENUM. A compartment or chamber to which one or more ducts are connected, that forms a part of the air distribution system, and that is not used for occupancy or storage. A plenum often is formed in part or in total by portions of the building.

POOL. Any structure, basin, or tank containing an artificial body of water for swimming, diving, or recreational bathing. The term includes, but is not limited to, swimming pool, whirlpool, spa, hot tub.

POOL COVER. Sheet of material, typically plastic, designed to cover the water which may prevent water or heat loss through convection, radiation and evaporation.

POSITIVE INDOOR PRESSURE. A positive pressure condition within a conditioned space caused by bringing in more outside air than the amount of air that is exhausted and/or lost through air leakage.

POST OR PIER CONSTRUCTION. Raised wood floor supported above grade on posts or piers

with unenclosed space beneath.

POWER. In connection with machines, power is the time rate of doing work. In connection with the transmission of energy of all types, power refers to the rate at which energy is transmitted. It is measured in watts (W) or British thermal units per hour (Btu/h). (See also "HORSEPOWER".)

PRESSURE ENVELOPE. The primary air barrier of a building; that part of the envelope that provides the greatest resistance to air flow to or from the building.

PRESSURE-SENSITIVE TAPE. Tape used for sealing duct system components and air barriers which adheres when pressure is applied and is not heat activated.

PRIMARY AIR SYSTEM. The central air-moving heating and cooling equipment that serves multiple zones through mixing boxes, VAV boxes, or reheat coils.

PRIMARY LIVING AREA. A family room or great room, or a living room if no family room or great room is present. Formal living rooms, where a family room or great room is present, dining rooms and kitchens are not considered primary living areas.

PROCESS ENERGY. Energy consumed in support of a manufacturing, industrial, or commercial process other than conditioning spaces and maintaining comfort and amenities for the occupants of a building.

PROCESS LOAD. The load on a building resulting from the consumption or release of process energy.

PROJECTION FACTOR (PF). The ratio of the horizontal depth of the external shading projection divided by the sum of the height of the fenestration and the distance from the top of the fenestration to the bottom of the farthest point of the external shading projection, in consistent units.

PROPOSED DESIGN. A computer representation of the actual proposed building design or portion thereof used as the basis for calculating the design energy cost.

PUBLIC FACILITY RESTROOM. A restroom used by the transient public.

PUMP SYSTEM ENERGY DEMAND (PUMP SYSTEM POWER). The sum of the nominal power demand (nameplate horsepower) of motors of all pumps that are required to operate at design conditions to supply fluid from the heating or cooling source to all heat transfer devices (e.g., coils, heat exchanger) and return it to the source.

RADIANT BARRIER SYSTEM (RBS). A building construction consisting of a low emittance (normally 0.1 or less) surface (usually aluminum foil) bounded by an open air space. A RBS is used for the sole purpose of limiting heat transfer by radiation and is not specifically intended to reduce heat transfer by convection or conduction.

RADIANT HEATING SYSTEM. A heating system that transfers heat to objects and surfaces within the heated space primarily (greater than 50%) by infrared radiation.

RATED LAMP WATTAGE. See "LAMP WATTAGE, RATED".

RATED MOTOR POWER. See "MOTOR POWER, RATED".

RATED R-VALUE OF INSULATION. The thermal resistance of the insulation alone as specified by the manufacturer in units of h-ft²·°F/Btu at a mean temperature of 75°F. Rated R-value refers to the thermal resistance of the added insulation in framing cavities or insulated sheathing only and does not include the thermal resistance of other building materials or air films. See "THERMAL RESISTANCE".

READILY ACCESSIBLE. Capable of being reached quickly for operation, renewal, or inspections

without requiring those to whom ready access is requisite to climb over or remove obstacles or to resort to portable ladders, chairs, etc. In public facilities, accessibility may be limited to certified personnel through locking covers or by placing equipment in locked rooms.

RECIRCULATING SYSTEM. A domestic or service hot water distribution system that includes a closed circulation circuit designed to maintain usage temperatures in hot water pipes near terminal devices (e.g., lavatory faucets, shower heads) in order to reduce the time required to obtain hot water when the terminal device valve is opened. The motive force for circulation is either natural (due to water density variations with temperature) or mechanical (recirculation pump).

RECOOLING. Lowering the temperature of air that has been previously heated by a mechanical heating system.

RECORD DRAWINGS. Drawings that record the conditions of the project as constructed. These include any refinements of the construction or bid documents.

RECOVERED ENERGY. Energy utilized which would otherwise be wasted from an energy utilization system.

REFLECTANCE. The ratio of the light reflected by a surface to the light incident falling upon it.

REHEAT. The application of sensible heat to supply air that has been previously cooled below the temperature of the conditioned space by either mechanical refrigeration or the introduction of outdoor air to provide space cooling.

REHEATING. Raising the temperature of air that has been previously cooled either by mechanical refrigeration or an economizer system.

RENOVATION. Any structural repair, reconstruction or restoration to a structure, the costs of which equals or exceeds, over a 1-year period, a cumulative total of 30 percent of the assessed value of the structure when that value is assessed, either:

1. Before the improvement or repair is started; or
2. Before the damage occurred, if the structure has been damaged.

For the purposes of this Code, renovation occurs when the first alteration of any wall, ceiling, floor, or other structural part or mechanical system of the building commences, whether or not that alteration affects the external dimensions of the structure.

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

REPLACEMENT. The installation of part or all of an existing mechanical or electrical system in an existing building.

RESET. Automatic adjustment of the controller set point to a higher or lower value.

RESISTANCE, ELECTRIC. The property of an electric circuit or of any object used as part of an electric circuit that determines for a given circuit the rate at which electric energy is converted into heat or radiant energy and that has a value such that the product of the resistance and the square of the current gives the rate of conversion of energy.

RESIDENTIAL. Spaces in buildings used primarily for living and sleeping. Residential spaces include, but are not limited to, dwelling units, hotel/motel guest rooms, dormitories, nursing homes, patient rooms in hospitals, lodging houses, fraternity/sorority houses, hostels, prisons, and fire stations.

RETROFIT. Modification of existing equipment or systems to incorporate improved performance of operation.

ROOF. The upper portion of the building envelope, including opaque areas and fenestration, that

is horizontal or tilted at an angle of less than 60° from horizontal. For the purposes of determining building envelope requirements, the classifications are defined as follows:

(a) attic and other roofs: all other roofs, including roofs with insulation entirely below (inside of) the roof structure (i.e., attics, cathedral ceilings, and single-rafter ceilings), roofs with insulation both above and below the roof structure, and roofs without insulation but excluding metal building roofs.

(b) metal building roof: a roof that is constructed with (a) a metal, structural, weathering surface, (b) has no ventilated cavity, and (c) has the insulation entirely below deck (i.e., does not include composite concrete and metal deck construction nor a roof framing system that is separated from the superstructure by a wood substrate) and whose structure consists of one or more of the following configurations: metal roofing in direct contact with the steel framing members or (2) insulation between the metal roofing and the steel framing members or (3) insulated metal roofing panels installed as described in (1) or (2).

(c) roof with insulation entirely above deck: a roof with all insulation (1) installed above (outside of) the roof structure and (2) continuous (i.e., uninterrupted by framing members).

(d) single-rafter roof: a subcategory of attic roofs where the roof above and the ceiling below are both attached to the same wood rafter and where insulation is located in the space between these wood rafters.

ROOF AREA, GROSS. The area of the roof measured from the exterior faces of walls or from the centerline of party walls. See "ROOF"; "WALL"

ROOF ASSEMBLY. All components of the roof/ceiling envelope through which heat flows, thereby creating building heat loss or gain, where such assembly is exposed to outdoor air and encloses a conditioned space. The gross area of a roof assembly consists of the total interior surface of such assembly, including skylights exposed to the conditioned space.

ROOM AIR CONDITIONER. An encased assembly designed as a unit to be mounted in a window or through a wall, or as a console. It is designed primarily to provide direct delivery of conditioned air to an enclosed space, room, or zone. It includes a prime source of refrigeration for cooling and dehumidification and a means for circulating and cleaning air. It may also include a means for ventilating and heating.

ROOM CAVITY RATIO (RCR). A factor that characterizes room configuration as a ratio between the walls and ceiling and is based upon room dimensions.

SEAL or SEALING - AIR DUCT. The use of closure products either welds, mastic, mastic plus embedded fabric, adhesives, caulking, gaskets, pressure sensitive tapes, heat-activated tapes or combinations thereof as allowed by specific sections of this Code, to close cracks, joints, seams, and other openings in the air barriers of air duct, air handling units, and plenum chambers for the purpose of preventing air leakage. No joint or opening from which a closure product is absent shall be considered sealed unless considered otherwise in specific cases identified by this Code. Closeness of fit between mated parts alone shall not be considered a seal.

SEASONAL COEFFICIENT OF PERFORMANCE - COOLING (SCOPC). The total cooling output of an air conditioner during its normal annual usage period for cooling divided by the total electric energy input during the same period in consistent units (analogous to the SEER but for IP or other consistent units).

SEASONAL COEFFICIENT OF PERFORMANCE--HEATING (SCOPH). The total heating output of a heat pump during its normal annual usage period for heating divided by the total electric energy input during the same period in consistent units (analogous to the HSPF but for IP or other consistent units).

SEASONAL ENERGY EFFICIENCY RATIO (SEER). The total cooling output of an air conditioner during its normal annual usage period for cooling (in Btu) divided by the total electric energy input during the same period (in Wh).

SEMI-EXTERIOR BUILDING ENVELOPE. See "BUILDING ENVELOPE".

SEMIHEATED FLOOR AREA. See "FLOOR AREA".

SEMIHEATED SPACE. See "SPACE".

SEQUENCE. A consecutive series of common events.

SERVICE. The equipment for delivering energy from the supply or distribution system to the premises served.

SERVICE AGENCY. Agency capable of providing calibration, testing, or manufacture of equipment, instrumentation, metering, or control apparatus, such as a contractor, laboratory, or manufacturer.

SERVICE EQUIPMENT. The necessary equipment, usually consisting of a circuit breaker or switch and fuses and accessories, located near the point of entrance of supply conductors to a building or other structure (or an otherwise defined area) and intended to constitute the main control and means of cutoff of the supply. Service equipment may consist of circuit breakers or fused switches provided to disconnect all under-grounded conductors in a building or other structure from the service-entrance conductors.

SERVICE WATER HEATING. Heating water for domestic or commercial purposes other than space heating and process requirements.

SETBACK. Reduction of heating (by reducing the set point) or cooling (by increasing the set point) during hours when a building is unoccupied or during periods when lesser demand is acceptable.

SET POINT. Point at which the desired temperature (°F) of the heated or cooled space is set.

SHADING COEFFICIENT (SC). The ratio of solar heat gain at normal incidence through glazing to that occurring through 1/8 in. thick clear, double-strength glass. Shading coefficient, as used herein, does not include interior, exterior, or integral shading devices.

SHELL BUILDING. A commercial building that is permitted prior to design completion or which will be finished in sections at a time after construction of the shell.

SIMULATION PROGRAM. A computer program that is capable of simulating the energy performance of building systems.

SINGLE-LINE DIAGRAM. A simplified schematic drawing that shows the connection between two or more items. Common multiple connections are shown as one line.

SINGLE-RAFTER ROOF/ See "ROOF".

SINGLE-ZONE SYSTEM. An HVAC system serving a single HVAC zone.

SINGLE ASSEMBLY. A roof and ceiling structure that is constructed as one unit with no attic space in between.

SINGLE FAMILY RESIDENCE. Detached residential building suited for tenancy by one family unit.

SINGLE PACKAGE VERTICAL AIR CONDITIONER (SPVAC). A type of air-cooled small or large commercial package airconditioning and heating equipment; factory assembled as a single package having its major components arranged vertically, which is an encased combination of cooling and optional heating components; is intended for exterior mounting on, adjacent interior to, or through an outside wall; and is powered by single or three-phase current. It may contain separate indoor grille(s), outdoor louvers, various ventilation options, indoor free air discharge, ductwork, wall

plenum, or sleeve. Heating components may include electrical resistance, steam, hot water, gas, or no heat but may not include reverse cycle refrigeration as a heating means.

SINGLE PACKAGE VERTICAL HEAT PUMP (SPVHP). An SPVAC that utilizes reverse cycle refrigeration as its primary heat source, with secondary supplemental heating by means of electrical resistance, steam, hot water, or gas.

SITE-INSTALLED COMPONENTS AND FEATURES. Equipment, materials, measures, practices and features which are affixed to a new manufactured home at its first set-up that are not initially installed by the manufacturer.

SITE-RECOVERED ENERGY. Waste energy recovered at the building site that is used to offset consumption of purchased fuel or electrical energy supplies.

SITE-SOLAR ENERGY. Thermal, chemical, or electrical energy derived from direct conversion of incident solar radiation at the building site and used to offset consumption of purchased fuel or electrical energy supplies. For the purposes of applying this standard, site-solar energy shall not include passive heat gain through fenestration systems.

SKYLIGHT. See "FENESTRATION".

SKYLIGHT WELL. The shaft from the skylight to the ceiling.

SLAB-ON-GRADE FLOOR. That portion of a slab floor of the building envelope that is in contact with the ground and that is either above grade or is less than or equal to 24 in. below the final elevation of the nearest exterior grade.

(a) heated slab-on-grade floor: a slab-on-grade floor with a heating source either within or below it.

(b) unheated slab-on-grade floor: a slab-on-grade floor that is not a heated slab-on-grade floor.

SOLAR ENERGY SOURCE. Source of thermal, chemical, or electrical energy derived from direct conversion of incident solar radiation at the building site.

SOLAR ENERGY SYSTEM. A complete set of coordinated components, which may be comprised of collectors, piping, pumps, heat exchangers, photovoltaic (PV) arrays, wiring, controls, power converters, and applicable storage, the design of which is intended to convert and utilize incident solar radiation to either heat water for hot water or space conditioning needs or to produce photovoltaic (PV) power for electrical needs.

SOLAR HEAT GAIN COEFFICIENT (SHGC). The ratio of the solar heat gain entering the space through the fenestration area to the incident solar radiation. Solar heat gain includes directly transmitted solar heat and absorbed solar radiation, which is then reradiated, conducted, or convected into the space. (See fenestration area.)

SPACE. An enclosed space within a building. The classifications of spaces are as follows for the purpose of determining building envelope requirements.

(a) conditioned space: a cooled space, heated space, or indirectly conditioned space defined as follows.

(1) cooled space: an enclosed space within a building that is cooled by a cooling system whose sensible output capacity exceeds 5 Btu/h-ft² of floor area.

(2) heated space: an enclosed space within a building that is heated by a heating system whose output capacity relative to the floor area is greater than or equal to the criteria in Table 3-2.

(3) indirectly conditioned space: an enclosed space within a building that is not a heated space or a cooled space, which is heated or cooled indirectly by being connected to adjacent space(s) provided (a) the product of the U-factor(s) and surface area(s) of the space adjacent to connected space(s) exceeds the combined sum of the product of the U-factor(s) and surface area(s) of the space adjoining the outdoors, unconditioned spaces,

- and to or from semiheated spaces (e.g., corridors) or (b) that air from heated or cooled spaces is intentionally transferred (naturally or mechanically) into the space at a rate exceeding 3 air changes per hour (ACH) (e.g., atria).
- (b) semiheated space: an enclosed space within a building that is heated by a heating system whose output capacity is greater than or equal to 3.4 Btu/h-ft² of floor area but is not a conditioned space.
- (c) unconditioned space: an enclosed space within a building that is not a conditioned space or a semiheated space. Crawl spaces, attics, and parking garages with natural or mechanical ventilation are not considered enclosed spaces.

SPACE-CONDITIONING CATEGORY. (1) nonresidential conditioned space, (2) residential conditioned space, and (3) nonresidential and residential semiheated space. (See nonresidential, residential, and space.)

SPACE CONSTRAINED PRODUCT – means a central air conditioner or heat pump:

- 1) that has rated cooling capabilities no greater than 30,000 BTU/h;
- 2) that has an outdoor or indoor unit having at least two overall exterior dimensions or an overall displacement that
 - (a) is substantially smaller than those of other units that are either currently usually installed in site-built single family homes, and of a similar cooling and, if heat pump, heating capacity; and
 - (b) if increased, would certainly result in a considerable increase in the usual cost of installation or would certainly result in a significant loss in the utility of the product to the consumer, and
- 3) is of a product type that was available for purchase in the United States as of December 1, 2000.

SPACE PERMITTING – INSULATION. Where an enclosed space exists in which insulation can be placed without the creation of space for that purpose only; e.g. dropped ceiling below a floor deck or space between joists.

SPACE TYPE. Descriptor of the visual activity to take place in a space; “space types” are those used for the FLA/COM calculation.

SPLIT SYSTEM. Air conditioning system or heat pump with compressor and air handler in separate cabinets with the compressor typically located exterior to conditioned space.

STACK LOSSES. Unused heat energy escaping through a flue or chimney to the outdoors in a combustion heating system.

STEADY-STATE CONDITIONS (for gas- or oil-fired heating equipment). Equilibrium conditions as indicated by temperature variations of not more than 3°F (1.7°C) in the stack gas temperature for units equipped with integral draft diverters, or not more than 5°F (2.8°C) in flue gas temperature for units equipped with draft hoods, barometric draft regulators, or direct vent systems, in three successive temperature readings taken 15 minutes apart.

STEEL-FRAMED WALL. See “WALL”.

STEEL-JOIST FLOOR. See “FLOOR”.

STEM WALL CONSTRUCTION. A type of raised floor system consisting of a wood floor supported above grade by a continuous stem wall around its perimeter.

STORY. Portion of a building that is between one finished floor level and the next higher finished floor level or the roof, provided, however, that a basement or cellar shall not be considered a story

STRUCTURE. That which is built or constructed.

SUBSTANTIAL CONTACT. A condition where adjacent building materials are placed so that

proximal surfaces are contiguous, being installed and supported so they eliminate voids between materials without compressing or degrading the thermal performance of either product.

SUN SPACE. A totally enclosed, unconditioned space which is built substantially of glass, attached to the conditioned space of the building, and designed primarily for winter space heating.

SUPPLEMENTARY HEAT. Heat provided, generally electric resistance heat, to make up the difference between heat provided by the refrigeration cycle of a heat pump and that required to meet the heating load at low temperatures. Supplementary heat shall not be construed as the heat required to provide 100% backup in case of system failure.

SWINGING DOOR. See "DOOR"..

SYSTEM. A combination of equipment and auxiliary devices (e.g., controls, accessories, interconnecting means, and terminal elements) by which energy is transformed so it performs a specific function such as HVAC, service water heating, or lighting.

SYSTEM, EXISTING. A system or systems previously installed in an existing building.

TANDEM WIRING. Pairs of luminaires operating with lamps in each luminaire powered from a single ballast contained in one of the luminaires.

TASK LIGHTING. Lighting directed to a specific surface or area that provides illumination for visual tasks designed to provide illumination over a relatively small task area without providing significant general surrounding lighting.

TERMINAL. A device by which energy from a system is finally delivered, e.g., registers, diffusers, lighting fixtures, faucets, etc.

THERMAL BLOCK. A collection of one or more HVAC zones grouped together for simulation purposes. Spaces need not be contiguous to be combined within a single thermal block.

THERMAL CONDUCTANCE. See "C-FACTOR".

THERMAL EFFICIENCY – For the purposes of this code, Thermal Efficiency shall be defined as included in the American National Standard Institute, Inc. standard ANSI Z 21.10.3-2001.

THERMAL RESISTANCE (R-VALUE). The reciprocal of the time rate of heat flow through a unit area induced by a unit temperature difference between two defined surfaces of material or construction under steady-state conditions. Units of R are h-ft²·°F/Btu.

THERMAL ENVELOPE. The primary insulation layer of a building; that part of the envelope that provides the greatest resistance to heat flow to or from the building.

THERMAL MASS. Materials with mass heat capacity and surface area capable of affecting building loads by storing and releasing heat as the interior and/or exterior temperature and radiant conditions fluctuate. (See "WALL HEAT CAPACITY").

THERMAL MASS WALL INSULATION POSITION

1. Exterior Insulation Position----a wall having all or nearly all of its mass exposed to the room air with the insulation on the exterior of that mass.
2. Integral Insulation Position----a wall having mass exposed to both room and outside air with substantially equal amounts of mass on the inside and outside of the insulation layer.
3. Interior Insulation Position----a wall not meeting either of the above definitions, particularly a wall having most of its mass external to an insulation layer.

THERMOSTAT. An automatic control device used to maintain temperature at a fixed or adjustable set point.

THERMOSTATIC CONTROL. An automatic control device or system used to maintain

temperature at a fixed or adjustable set point.

THROUGH-THE-WALL AIR CONDITIONER and HEAT PUMP – means a central air conditioner or heat pump that is designed to be installed totally or partially within a fixed-size opening in an exterior wall, and:

- a. is manufactured prior to January 23, 2010;
- b. is not weatherized;
- c. is clearly and permanently marked for installation-Only through an exterior wall;
- d. has a rated cooling capacity no greater than 30,000 BTU/h;
- e. exchanges all of its outdoor air across a single surface of the equipment cabinet, and
- f. has a combined outdoor air exchange area of less than 800 square inches (split systems) or less than 1,210 square inches (single packaged systems) as measured on the surface described in 5) above.

TINTED. As applied to fenestration: bronze, green, blue, or gray coloring that is integral with the glazing material. Tinting does not include surface applied films such as reflective coatings, applied either in the field or during the manufacturing process.

TOWNHOUSE. A single-family dwelling unit constructed in a series or group of attached units with property lines separating such units. For the purpose of this Code, townhouses shall be considered multifamily dwellings.

TRANSFER GRILLE. A louvered or perforated covering for an opening in an air passage through a wall or door allowing transport of return air from a separated conditioned space of a building to the space containing the air distribution system's primary return.

TRANSFORMER. A piece of electrical equipment used to convert electric power from one voltage to another voltage.

(a) dry-type transformer: a transformer in which the core and coils are in a gaseous or dry compound.

(b) liquid-immersed transformer: a transformer in which the core and coils are immersed in an insulating liquid.

U-FACTOR (THERMAL TRANSMITTANCE). Heat transmission in unit time through unit area of a material or construction and the boundary air films, induced by unit temperature difference between the environments on each side. Units of U are Btu/h·ft²·°F.

UNCONDITIONED SPACE. See "SPACE".

UNDER ATTIC. Location of ceiling area in residential occupancies where the roof assembly and ceiling assembly are separated by a continuous ventilated unconditioned space spanning the ceiling area. Scissors truss structures are considered under attic where a ventilated air space is provided.

UNENCLOSED SPACE. A space that is not an enclosed space.

UNIT ENERGY COSTS. Costs for units of energy or power purchased at the building site. These costs may include energy costs as well as costs for power demand as determined by the adopting authority.

UNITARY COOLING EQUIPMENT. One or more factory-made assemblies that normally include an evaporator or cooling coil and a compressor and condenser combination. Units that perform a heating function are also included.

UNITARY HEAT PUMP. One or more factory-made assemblies that normally include an indoor conditioning coil, compressor(s), and an outdoor refrigerant-to-air coil or refrigerant-to-water heat exchanger. These units provide both heating and cooling functions.

VARIABLE AIR VOLUME (VAV) SYSTEM. HVAC system that controls the dry-bulb temperature within a space by varying the volumetric flow of heated or cooled supply air to the space.

VENT DAMPER. A device intended for installation in the venting system of an individual, automatically operated, fossil fuel-fired appliance in the outlet or downstream of the appliance draft control device, which is designed to automatically open the venting system when the appliance is in operation and to automatically close off the venting system when the appliance is in a standby or shutdown condition.

VENTILATION. The process of supplying or removing air by natural or mechanical means to or from any space. Such air is not required to have been conditioned.

VENTILATION AIR. That portion of supply air which comes from outdoors, plus any cleaned recirculated air to maintain the desired quality of air within a designated space. See "OUTDOOR AIR".

VERTICAL FENESTRATION. See "FENESTRATION".

VISIBLE TRANSMITTANCE (VT). Transmittance of glazing material over the visible portion of solar spectrum.

VOLTAGE DROP. A decrease in voltage caused by losses in the lines connecting the power source to the load.

WALL. That portion of the building envelope, including opaque area and fenestration, that is vertical or tilted at an angle of 60° from horizontal or greater. This includes above and below-grade walls, between floor spandrels, peripheral edges of floors, and foundation walls. For the purposes of determining building envelope requirements, the classifications are defined as follows:

- (a) above-grade wall: a wall that is not a below-grade wall.
- (b) below-grade wall: that portion of a wall in the building envelope that is entirely below the finish grade and in contact with the ground.
- (c) mass wall: a wall with a heat capacity exceeding (1) 7 Btu/ft²·°F or (2) 5 Btu/ft²·°F provided that the wall has a material unit weight not greater than 120 lb/ft³.
- (d) metal building wall: a wall whose structure consists of metal spanning members supported by steel structural members (i.e., does not include spandrel glass or metal panels in curtain wall systems).
- (e) steel-framed wall: a wall with a cavity (insulated or otherwise) whose exterior surfaces are separated by steel framing members (i.e., typical steel stud walls and curtain wall systems).
- (f) wood-framed and other walls: all other wall types, including wood stud walls.

WALL AREA, GROSS. The area of the wall measured on the exterior face from the top of the floor to the bottom of the roof.

WARM-UP. Increase in space temperature to occupied set point after a period of shutdown or setback.

WATER HEATER. Vessel in which water is heated and is withdrawn for use external to the system.

WATT. The electrical unit of power or rate of doing work. One watt = 0.00134 h.p.

WHOLE HOUSE FAN. A mechanical ventilation system usually installed in the ceiling of a residence which is used to exhaust air from the interior of a building to an attic space with sufficient venting area to transfer the air to the outside.

WING WALLS – an architectural projection which is designed to create positive pressure over one window and negative over another that redirects natural winds in through windows or doors.

WORST CASE – a unit of a residential structure with the same general layout and percent glass which generates the highest As-Built points in a Method A, Subchapter 6 calculation procedure. The worst case unit will have the largest amount of glass facing east and west (primary orientation) and south (secondary orientation).

ZONE, HVAC – a space or group of spaces within a building with heating and cooling requirements that are sufficiently similar so that desired conditions (e.g. temperature) can be maintained throughout using a single sensor (e.g. thermostat or temperature sensor).