

10.1 - GENERAL INFORMATION

- 10.1.1 The quality, design, fabrication and erection of aluminum and allied products used in buildings or structures shall conform to current engineering practice, applicable requirements of the FLORIDA BUILDING CODE 2004 EDITION and / or other applicable codes or ordinances.
- 10.1.2 SPECIFICATION FOR ALUMINUM STRUCTURES and the ALUMINUM FORMED SHEET BUILDING SHEATHING DESIGN GUILD, published by the Aluminum Association, Inc. in Washington, D. C., are used as reference materials for these Standards.
- 10.1.3 The Principal materials to which these standards apply shall be aluminum alloys registered with the Aluminum Association, Inc. Washington, D.C.
- 10.1.4 The use of aluminum alloys, other than those registered, shall provide performance criteria not less than those required by the Aluminum Association, Inc., Washington, D.C.
- 10.1.5 The specified minimum thickness of extruded aluminum and aluminum coil shall be the nominal thickness and is subject to the tolerances published in the Aluminum Standards and Data, published by the Aluminum Association, Inc. Washington, D.C.

10.2 - ORGANIZATIONS

- 10.2.1 Words and terms in these sections are defined for the purpose of this Standard only. Words and terms not defined herein shall be construed to be as generally used. Where definitions are not given, refer to the Florida Standard Building Code or other applicable codes and standards.

- A.A., Inc. -** The Aluminum Association, Inc.
900 19th Street, Northwest
Washington, D.C. 20006
- A.A.M.A. -** American Architectural Manufacturers Association
2700 River Road
Des Plaines, Illinois 60018
- A.S.C.E. - 7** American Society of Civil Engineers
Minimum Design loads for Building & other Structures.
345 East 47th St.
New York, New York 10017-2398
- A.S.T.M. -** American Society for Testing and Materials
1916 Race Street
Philadelphia, Pennsylvania 19103
- V. S. I. -** Vinyl Siding Institute, The Society of the Plastics Ind. , Inc.
355 Lexington Avenue
New York, New York 10017

10.2.2 – COMMONLY USED ABBREVIATIONS FOUND IN THIS MANUAL

Cont. - Continuous

E.P.S. - Expanded Polystyrene Foam

Ext. - Extrusion

GA. - Gauge

N.E.C. - The NATIONAL ELECTRIC CODE, published by the National Fire Protection Association.

O.B. - Open Back Extrusion

O.C. - On Center

O.H. - Over Hang

O.S.B. - Oriented Strand Board

P.L.F. - Pounds Per Linear Foot

P.S.F. - Pounds Per Square Foot

P.S.I. - Pounds Per Square Inch

P.T. - Pressure Treated

P.T.P. - Pressure Treated Pine

P.V.C. - Poly Vinyl Chloride

S.M.B. - Self mating Beam

S.M.S. - Sheet Metal Screw

Typ. - Typical

10.2.3 - GLOSSARY

140-1 & 140-2 MPH WIND ZONES – The Florida Building Code defines High Wind Velocity Zones as being limited to Broward & Dade County (See FBC Definitions Section). Because of other Code definitions there are two 140 MPH wind zones, one in which the roof live load is 10 PSF and the other the high wind velocity wind zone where the roof live load is 30 PSF. Thus, I have labeled the two 140 MPH zones 140-1 & 140-2.

ACRYLIC – A transparent thermoplastic polymeric resin based window material used in windows w/ removable panels as defined in Section 2002.3.3 Florida Building Code 2001 Edition.

A.C.Q. – An alkaline copper quaternary wood treatment process.

ALUMINUM - A light non-ferrous [and non-magnetic] corrosive resistant metal easily worked or extruded used in various ways as a building component. While it is an element (number 13 on the periodic table) it is always used as an alloy (in chemical combination with other metals). Its unpainted finish is silvery-white.

ALLOY - One or more elements added to a metal, and produced to have certain desirable characteristics such as strength or machinability.

APPROVED - Approved by the Building Official or other authority having jurisdiction.

AWNING - A canvas or metal protective cover typically hung over a window or door for protection against the sun or rain.

BEAM - A primary structural member supporting a roof or floor.

BEARING - Same as Load Bearing referring to a structural member or component which furnishes structural support.

BONDING - see Grounding

BREAK FORMED - An angle or channel formed by a metal bending break.

BUILDING OFFICIAL - The officer or other designated governmental authority, or their duly authorized representative charged with the administration and enforcement of construction codes and ordinances.

CABLE - A non-corrosive metal wire rope utilized as a [tension only] diagonal brace.

CARPORT / CANOPY - A covered shelter, generally open sided.

CARRIER BEAM - A primary structural beam supporting additional primary or secondary beams

CASTING - A molded piece, of a specific shape, used as a decorative section.

C.C.A. – Chromated copper arsenate wood treatment process.

CHAIR RAIL OR KICKPLATE RAIL - A secondary horizontal aluminum component, used in screened walls, serving the purpose of load transfer of screen mesh from chair-backs. Also used as a protective rail in pool enclosure walls.

CLEAT - A strip of formed or extruded aluminum, or allied material, used to join aluminum roof panels. This term may also refer to an extruded aluminum section placed between two roof panels to join and add support to the panels.

COLUMN - A primary vertical supporting member. Also referred to as post or upright.

COMPOSITE - A member or product made of two or more individual component products, which generally results in different structural characteristics

CONCENTRICALLY - Where the centroid of the applied load is coincident with the center axis of a member or the center of the post.

DEAD LOAD - The total weight of all materials to be supported by a structural member.

DESIGN LOAD - The maximum given load that a structure or structural members are designed to support.

DEFLECTION - The relative deviation (bending) of a member, component, section or structure as a result of an applied load or its own deadweight.

DOWNSPOUT - A pipe, usually made of sheet metal, for carrying rain water from roof gutters.

EAVE - The point of transition from or juncture of the wall and the roof.

ECCENTRICALLY - Where the centroid of the applied load is not coincident with the center axis of a member.

EDGE BEAM - A horizontal structural bearing beam or member carrying a solid roof, located at the exterior loaded edge of the roof structure.

EDGE DISTANCE – (1) The minimum distance from the center of the fastener to the edge of the aluminum, concrete, or wood being fastened or fastened to. (2) The minimum center to center distance between fasteners. Minimum edge distance for aluminum is $2-1/2d$, concrete is $5d$, and wood is $4d$ where 'd' is the diameter of the fastener.

ENCLOSED BUILDING, SOLID ROOF, AND WALL - A structure that encloses a space with openings distributed throughout the building envelope such that the structure does not qualify as a partially enclosed building or an open building(see Florida Building Code, 2001 Ed.: and ASCE 7).

EXTRUDE - Shaping material, such as aluminum, plastic, etc., by forcing the material through an opening in a mechanical die.

FASCIA - A flat facing material, generally attached to the edge of roof rafters around a building. Also, formed metal trim generally installed on the formed outside edge of metal roof panel assemblies.

FLANGE - Surface or face of a shape or section which is perpendicular to the web, and perpendicular to the opposing loads and forces, (deflections, wind loads), generally the top and bottom of a beam or the outside and inside of a column.

FLEXIBLE FINISHES - Those finishes applied to the interior or exterior of a structure which will not be damaged by deflections.

FREE STANDING - Refers to an independent structure which does not rely on another structure for any part of its support.

GRADE - The average elevation of the ground, paved or unpaved, adjoining a structure or building.

GIRT – Secondary horizontal brace member in an aluminum frame system (See chair rail).

GROUNDING OR BONDING - The joining of metallic parts to form an electrically conductive path to the ground.

GUSSET - A plate used to connect structural members at a joint to increase strength or rigidity.

HABITABLE ROOM - A room or space in a structure for living, sleeping, eating or cooking. Bathrooms, toilet compartments, closets, halls, storage or utility space, and similar areas are not considered habitable space.

HEADER / RECEIVER (FOR PANS/ROOF PANELS) – A break form, extruded channel, or pair of angles.

HEADER / BEAM (FOR WALLS) - See Edge Beam.

HOST STRUCTURE - A structure to which an addition is attached.

INSULATION - A material that retards the transfer of heat, cold, or sound.

INTERIOR OR INTERMEDIATE BEAM - A horizontal structural bearing beam or member, carrying an interior portion of a structure (i.e. not an Edge Beam).

KICKPLATE, KICKPANEL, OR SPLASH PLATE - A metal plate or strip of other material affixed to the lower portion of a door or a screened wall.

KNEE BRACE - A diagonal component, typically near a beam to column (or beam to wall) connection, providing additional stiffness and strength.

KNEE WALL - A wall constructed of any material, typically, less than standard wall height.

LAG SCREW OR BOLT - A threaded fastener, designed for installation with a wrench rather than a screw driver.

LAMINATED PANELS - (composite panel, sandwich panel) Laminated foam core panel; a foam core panel with various surface claddings which have been united by a tenacious adhesive bond.

LIVE LOAD - The transient load produced by the intended use and as defined by the governing code, which does not include wind, snow, and/or dead loads.

LOAD BEARING - A wall, post or column supporting any applied load in addition to its own weight.

LOAD WIDTH - The width perpendicular to a beam or upright that is used to calculate the beam/upright load or to select a beam for the required span.

LOOKOUT / LEVER ARM - A framing member under a host structure overhang, cantilevered from the host structure wall to beyond the fascia in order to support the attaching structure.

MATING SECTIONS - A term used to describe two aluminum sections designed to form a structural member when joined together.

MEAN WALL THICKNESS - The average of two wall thickness measurements taken opposite of each other at approximately the center line of the section and perpendicular to the longitudinal axis of the cross section.

MOBILE HOME ROOF OVER - A new exterior metal covering system installed with or without the use of thermal insulation on or above an existing mobile home roof system.

MONO SLOPED ROOF - Mono sloped roofs are roofs with a single slope such as a shed roof or a flat gable with a maximum 1" in 12" slope on either side.

OPEN BUILDING, SOLID ROOF - A structure consisting only of roof surfaces supported by columns and beams, having all walls at least 80% open.

NON-BEARING - A member, component, or group of components which are structurally independent (i.e. surrounding structural elements do not bear or depend upon them).

OVERHANG (O.H.) - The horizontal projection beyond the vertical face of the wall below it.

PAN, PANEL, OR ROOF PANEL - A formed section of metal sheet which is intended for the specific purpose of joining with other similar panels to form a protective covering. The formed shape of the panel is used to create a structural member with a specific span capability.

PARTIALLY ENCLOSED BUILDING - A special type of structure as defined in the Florida Building Code 2001 Edition and ASCE - 7.

PERMIT - An official document or certificate issued by the Building Official authorizing performance of a specified construction activity.

PITCH / SLOPE - The angle of a roof expressed as the ratio of rise over run or by angular measure (degrees).

POOL ENCLOSURE OR POOL CAGE - A type of screened enclosure in aluminum construction consisting of a structural network of aluminum members with screen mesh applied to both the walls and the roof, most typically over a swimming pool.

POST - A vertical member in a structure (a.k.a. upright or column).

PRIMARY MEMBER - Refers to framing members providing structural support to other members and/or surfaces of a structure.

PROFESSIONAL ENGINEER (P.E.) - registered and licensed engineer.

PROTECTOR PANEL - A formed aluminum or vinyl lightweight cover used to protect insulation material installed into formed roof panels.

PURLINS - Secondary horizontal members used primarily to transfer loads to and maintain spacing between primary structural members (e.g. roof beams, trusses, posts, columns).

RECEIVER - See Header / Receiver

RIGID STRUCTURE - A structure of sufficient strength and stiffness to resist the damaging effects of deflections.

RISER WALL - A short vertical wall, fastened to and rising from a host structure fascia or another portion of the structure.

ROLL FORMING - Forming sheet metal by passing it between matched power-driven rollers whose contours determine the shape of the metal.

ROOFOVER - a secondary roof covering system typically installed onto mobile home with or without additional thermal insulation.

SCREEN - A durable woven fabric, composed of regularly and specifically spaced strands of material, such as wire, nylon or fiberglass, used for a barrier for insects and wildlife.

SCUPPER - An opening in a wall, parapet, or gutter, designed to channel rainwater.

SECONDARY [MEMBER OR COMPONENT] - A structural component not providing primary support, such as a purlin, chair rail or kick plate rail.

SHEAR OR IN - SHEAR - A term used to indicate a fastening method in which the fasteners are installed perpendicular to the anticipated opposing forces.

SIDING - The finished covering or cladding of the outside wall of a structure.

SELF-MATING BEAM (S.M.B.) - Two identically extruded metal sections designed to be mated together and secured with fasteners to form a single structural member.

SHEET METAL SCREW (S.M.S.) - Sheet metal screw. A fastener generally used in the construction of metal framed and/or covered structures.

SNAP EXTRUSION - Two extruded metal sections designed to be mated together without mechanical fasteners.

SOFFIT - The underside of the overhang of a roof and/or the material used to cover that area.

SPAN - The distance between centers of and/or the distance from the host structure and the opposing upright supports, when referring to a structural member.

SPLICE - A joint where two pieces of material are connected by overlapping, welding, or mechanical coupling.

SPLINE - A flexible vinyl or hard plastic strip which fits tightly into a groove in an aluminum frame section for the purpose of attaching screen mesh or other materials between such sections.

STRUCTURAL GUTTER - ("Super Gutter" or "Extruded Gutter") An extruded aluminum gutter of sufficient thickness and strength to provide a structural end support for beams or roof panels.

STRUCTURAL MEMBERS - Members or sections which provide support to an assembly and/or resist applied loads.

TOLERANCE - A specified variation from a given or required dimension.

TRIBUTARY AREA - The perpendicular and parallel distances forming the area contributing load to a given member or component.

VAPOR BARRIER - A material whose primary purpose is to retard the transfer of moisture through a concrete slab or walls of a structure.

VINYL PANEL WINDOW - A window with movable aluminum frames contained within a rigid main frame. Tinted or clear translucent non-crystalline thermoplastic material is attached to the movable frames which move either in horizontal or vertical directions.

WIND LOAD - Forces imposed on a building or structure by the movement of an air mass at a specified gust velocity.