

American Storefront

Awning Knowledge Guide



Introduction To Awnings And Canopies

Metal Awning

- Standing Seam
- Flat Metal

Metal Canopy

- Pans
- Gutter System
- Louvre
- Sun Shade
- Expanded Metal

Fabric Awning

- Shed Style
- Blade Style
- Retractable
- Shade Sails



The Major Elements Of Awning Designs Are:

Purpose

What is the functional objective of the awning – shading, weather protection, identification, or aesthetics? Is the awning going to include fans, lighting or televisions? Is the covered area going to be revenue producing or simply for aesthetic appeal?

Style, Configuration & Color

Awnings are extended coverings which can be attached to a building or freestanding. They are usually constructed from tubular steel or aluminum frames and covered with fabric. Mostly, awnings are custom manufactured and can be designed to fit most any architecture.

Economy

To supply an efficient, practical and economical awning, a professional must first understand how to correctly design, size and connect all structural members. The number one requirement of any project must be that the foreseeable loads will be transmitted to its supports while incorporating safety factors, without over-engineering the system while achieving the design intent. Remember that a sound structural, economical and practical design does not necessarily result in the lowest cost but will provide the most value for the customer. Awnings offer the flexibility of covering large areas at a fraction of the cost compared to traditional building methods. Restaurants and hotels often use awnings to cover substantial outdoor areas for dining, parties, or receptions. On commercial store front buildings, graphics are often applied displaying information like the companies name, address or branded logo. This allows the awning to act as a sign or billboard as well as providing shade, breaking strong winds, and protecting from rain or snow. The configuration of the surrounding architecture will play a major role in determining the configuration of the awning. When designed properly, awnings are excellent at providing revenue producing areas or signage at a fraction of the cost compared to traditional building methods.

The Major Elements Of Awning Designs Are:

Safety: Egress & Fire

Except in rare cases, this is not a significant issue with modern awnings due to the advancements in flame retardant fabrics and coatings. In most cases, awning materials are noncombustible and certified as flame retardant. However, safety pertaining to egress should be taken into account whenever appropriate, such as for enclosed walkway or patio awnings.

Structural Integrity

Although the fabric covering does not provide in-plane rigidity, it can apply extraordinary forces to individual frame members. These forces do not affect the structural integrity of the frame but can cause undesired wrinkles if not properly accounted for.

Anchoring a properly designed awning to a solid substrate is just as important as the structural integrity of the awning itself. This involves the location, style and strength of connections from the awning or canopy to the building or to its foundations.

Drainage

Provisions must be made to drain water off an awning. Fundamentally, this involves establishing a steep enough pitch, properly spaced bows or rafters, as well as maintaining a taut fabric, so that draining water or melting snow cannot cause the fabric to sag and collect water on the surface.

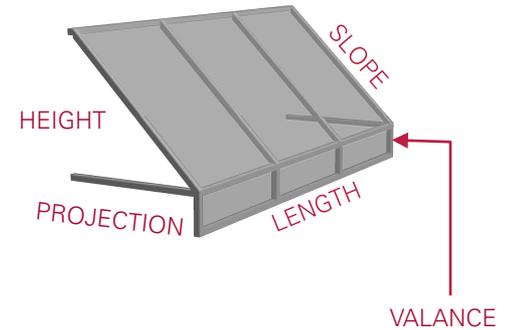
Metal Canopies

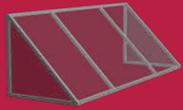




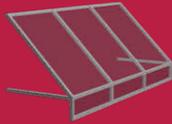
Fabric Awning

- (Typically) 1" x 1" Sq. Aluminum Tubing Frame
- Covered in Acrylic Fabric or Vinyl
- See Fabric Page
- Secured Via Z-Clips
- Various Styles and Shapes
- Painted Graphics and Logos can be Added

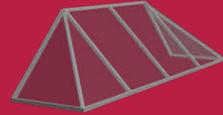




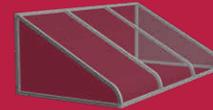
Traditional



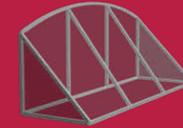
Open Traditional



Hipped Traditional



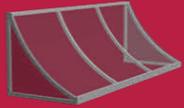
Round Nose Traditional



Rounded Traditional



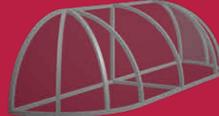
Traditional Roof



Concave



Convex



Elongated Dome



Dome



Waterfall Retractable



Gable Marquee



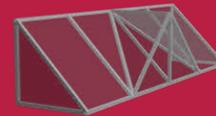
Patio Canopy



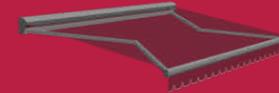
Round Marquee



Hipped Canopy



**Traditional Gable
Combo Marquee**

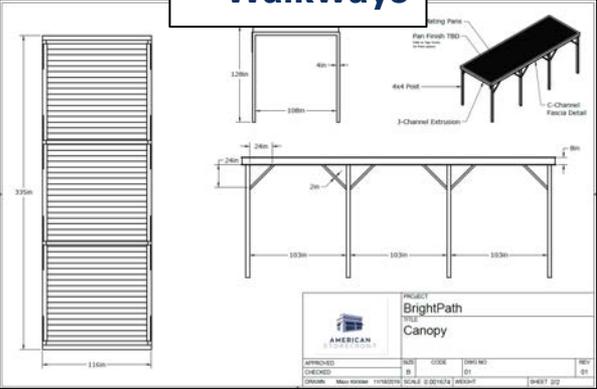


Retractable Awning

Free Standing Structures



Commercial Walkways



Shade Sails



Fabric

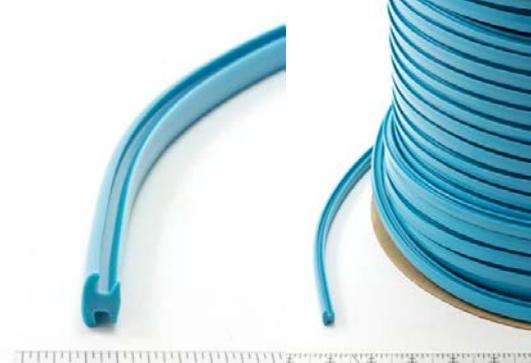
Acrylic fabric is generally considered to be an upscale material. Acrylic fabric offers an aesthetic softness and feel all its own. Higher quality acrylics are very resistant to UV light, mildew and water. The properties of acrylic fabric allow it to be highly breathable, so hot air and moisture will not be trapped. In solution dyeing (Higher Quality), color pigments are added to the acrylic fibers while the fibers are in a semi-liquid state. As a result, the color becomes an integral part of the fiber, and unlike piece-dyed acrylic, won't wash out. Solution-dyed acrylic fabric is translucent (depending on the color), typically weighs 8 to 10 ounces, can experience some shrinkage in cold weather, some stretch in hot weather and is extremely water resistant (not fully waterproof). Standard warranties are ten years.

<https://www.sunbrella.com/en-us>

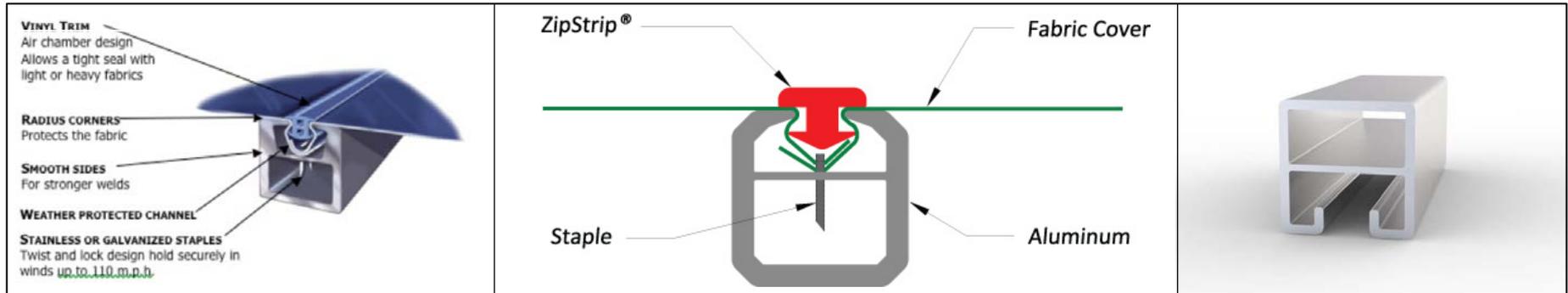
#777 Aluminum Molding
-Triple 7



Zip Strip



Staple Track System



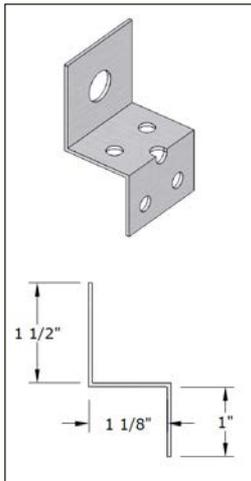
Hardware

Expansion Bolt



Z-Clip

This is used in 90% of our awning installs. The large hole attaches to the building, allowing a 1" offset from the building to receive 1" tubing.



Tek Screw



These are also known as self-tapping-screws. These "pre-drill" the aluminum on the tip of the fastener, before letting the threads bite into the metal.

Terminology

Acrylic - Generic term for manufactured fiber in which the fiber-forming substance is any long-chain synthetic polymer composed of at least 85% by weight of acrylonitrile units. Made in both filament and staple forms.

Awning Cord - Small-diameter cord used for tying down awning covers and for many utility purposes; most commonly a cotton braid with a stretch-resistant fiber core.

Bolt - A bolt of fabric is usually rolled around a flat piece of cardboard or another inner core. It can also be flat folded which means it is actually reefed into a flat bundle. A bolt is usually 50 to 60 yards of fabric in our trade. Canvas Cotton, linen or synthetic in heavy weights with an even firm weave, for sails and many industrial purposes. Awning stripe canvas has printed or woven stripes.

Colorfast - Having color that will not run or fade with washing or wear.

Die Casting - The forming of parts by forcing molten metal into metal molds. Castings made with this process can be made to very exacting tolerances. Zinc and aluminum are most commonly used.

Eave - The overhang at the lower edge of a roof.

EIFS - Exterior insulation and finish system (EIFS) is a general class of non-load bearing building cladding systems that provides exterior walls with an insulated, water-resistant, finished surface in an integrated composite material system

Embossing - To raise in relief from a surface.

Extrusion - An object or material produced by the act or process of shaping by forcing through a die.

Fire Retardant Finish - A finish rendering a cloth which will repel flame, or which will prevent the spreading of flame, or which will not support a flame. Usually tested for length of time it takes for a flaming portion of the cloth to extinguish itself.

Gauge - Thickness or diameter, as of sheet metal or wire.

Graphics - Visual representations used to identify, inform, direct or stimulate the viewer.

Heat Color - Transfer A graphic process that uses heat and a vacuum to adhere color to fabric

Terminology

Hot Dip Galvanized - This refers to a finish that is the result of metal being dipped into a hot solution of zinc to add a protective, “sacrificial” coating to the metal. Awning iron and some malleable fittings have typically been hot dip galvanized.

Mesh - Any fabric, knitted or woven, mesh has an open texture, fine or coarse

Railroading - When the pattern of a fabric runs in the horizontal direction, perpendicular to the selvage.

Roll - Fabric that is wound on a round inner core such as a tube. A roll can contain about 30 to 150 yards. Also known as a “bolt.”

Screen Prints - Similar to stencil work, except that a screen of fine silk, nylon, polyester or metal mesh is employed. Certain areas of the screen are treated to take dye, others to resist dye. A paste color is forced through the screen onto the fabric by a squeegee to form the pattern. Separate screens are used for each color in the pattern. More expensive than roller printing, but for limited yardage and more delicate designs, often more economical.

Self-Drilling Screws - Screws that work as both a drill bit and a fastener, great for fastening thin pieces of metal together. Because of the drill bit end, they do not need a pilot hole.

Self-Tapping Screws - Screws that tap their own thread. When the screw is driven into the pilot hole, its threads will dig into the material to hold it in place. Self-tapping screws can be used on many kind of materials, including wood, brick, and metal.

Staple In - Fabric is stapled into an aluminum slot on a framing member.

Substrate - An underlying layer; a substratum

Vinyl - Any of various compounds containing the vinyl radical, typically highly reactive, easily polymerized, and used as basic materials for plastics.

Warranty - An assurance by the seller of property that the goods or property are as represented or will be as promised.

Water Repellent Finish - A finish, either durable or non-durable, applied to cloth which makes it relatively impervious to the effects of water. Generally, a water repellent finish does not close the pores of a cloth.

Waterproof - The use of the term in relation to treated cotton ducks is prohibited by the “Fair Trade Practices Act” unless “the product shall be impervious to the passage of any water so long as the fabric may endure.” Water Resistant is the proper designation for cloths treated to resist water penetration and leakage.

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Toll Free: 877-257-1869 | Phone: 317-257-1869