

# **Architectural Shapes & Designs**

# Expanded Polystyrene (EPS) Architectural Shapes & Designs

From columns to arches, cornices to window surrounds, high performance EPS shapes have unlimited design possibilities and are used in Stucco and Exterior Insulation and Finish Systems (EIFS). EPS fabrication technology solves many construction and design challenges, in addition to adding beauty to both residential and commercial buildings.

EPS foam simplifies the design and estimating process by utilizing innovative computerized technology to accurately design and fabricate EPS for your project. Standard and custom EPS shapes are produced with precision and consistency to shorten lead times.

All of the EPS Architectural Shapes are manufactured with high performance EPS. Material can be manufactured in a variety of densities to meet the needs of your project. EPS meets tough exterior wall specifications and has been used in the construction industry for over 30 years. EPS is the preferred substrate for all Stucco and Exterior Insulation and Finish Systems (EIFS) because it combines unlimited design potential with material strength and durability.

## Design Ideas

The next few pages will provide a few ideas for architectural and construction projects. Due to the unlimited design possibilities of EPS it is virtually impossible to represent every shape in this material.

## EPS Compatibility

EPS is approved by numerous acrylic, modified and cement based Stucco and EIFS products.

## Strong & Lightweight Design

EPS can be specified in densities from 1 to 3 pounds per cubic foot. Very little weight is placed on a building, frequently eliminating the need for additional structural reinforcements.

## Attachment and Finishing

EPS can be adhesively or mechanically attached to a variety of substrates and provides excellent surface bonding for base coats.

## Types of Shapes

- Arches
- Balustrades
- Bands
- Brackets
- Caps & Bases
- Columns
- Corbels
- Crown Moldings
- Custom 3D Shapes
- Fireplaces
- Keystones
- Mailboxes
- Medallions
- Monument Signs
- Pediments & Flowers
- Quatrefoils
- Quoins
- Rosettes
- Shutters & Louvers
- Sills & Bands
- Spheres
- Trims
- Wall Caps
- Window Sills & Surrounds

## Benefits of EPS Shapes

- Unlimited Design Potential
- Durable & Lightweight
- Vapor Permeable
- Easily Modified
- Excellent Surface Bonding
- High R-Value
- Environmentally Friendly
- More economical
- Minimal tooling costs
- Lightweight and easy to use
- Versatile design capabilities
- Consistent quality
- Superior durability
- Does not warp or rot
- Class A fire rating

## Design & Estimating

EPS Architectural Shapes can be easily estimated and designed. Simple information such as overall height and width, in addition to any other pertinent interior dimensions will be needed for an estimate. All other interior dimensions will be scaled proportionately.

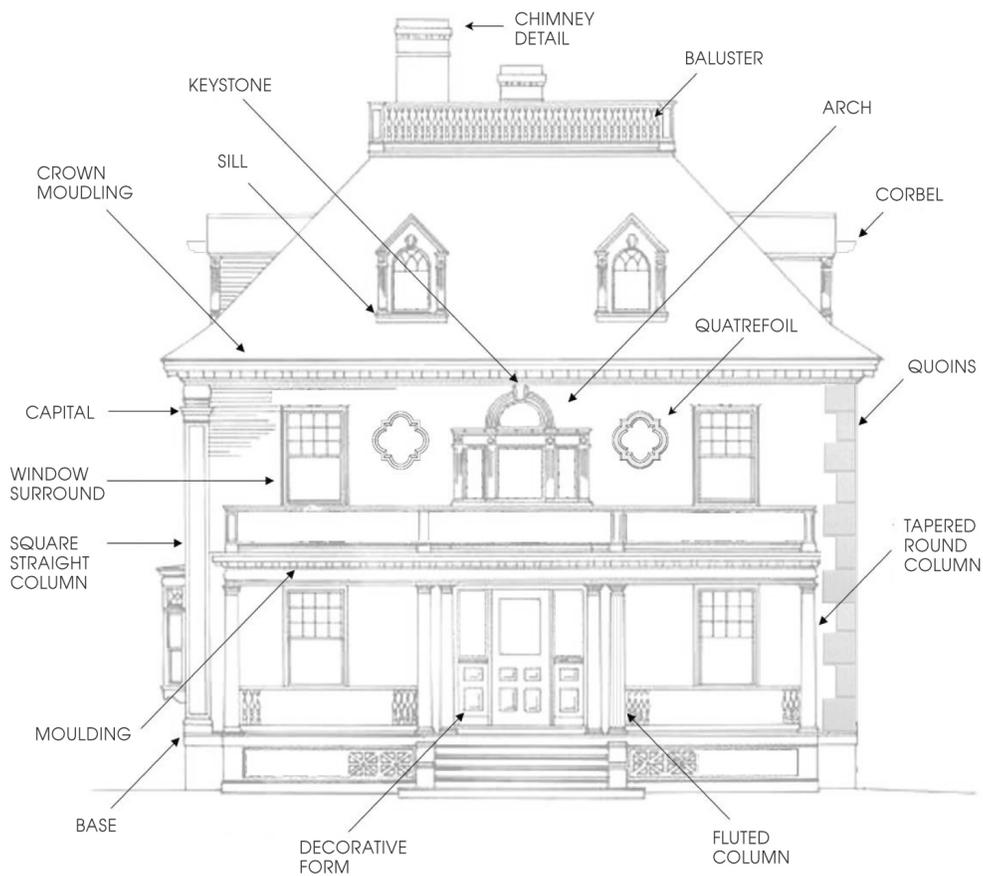
### Environmental Responsibility

EPS contains no CFC's, HCFC's, HFC's or formaldehyde. It is chemically inert and safe to WTE systems and landfills. EPS is easily recycled.

### Building Codes & Industry Standards

Please refer to ICC-ES ESR- 1006 and ASTM Designation C578 for more information about building codes and industry standards.

### Typical Architectural EPS Application



### Arches

EPS arches spans a space and does not supporting weight (e.g. a doorway in a stone wall).

Examples:

Window Arch



Inside Canopy Arch



Outside Canopy Arch



## Balustrades

Balustrades and other balcony enhancements are the perfect accent to dress up a balcony or to create a visual division within a room, porch, back porch or outdoor patio area. They are also great accents for a pool area where you need to create a division between a pool deck and other areas.

### Benefits:

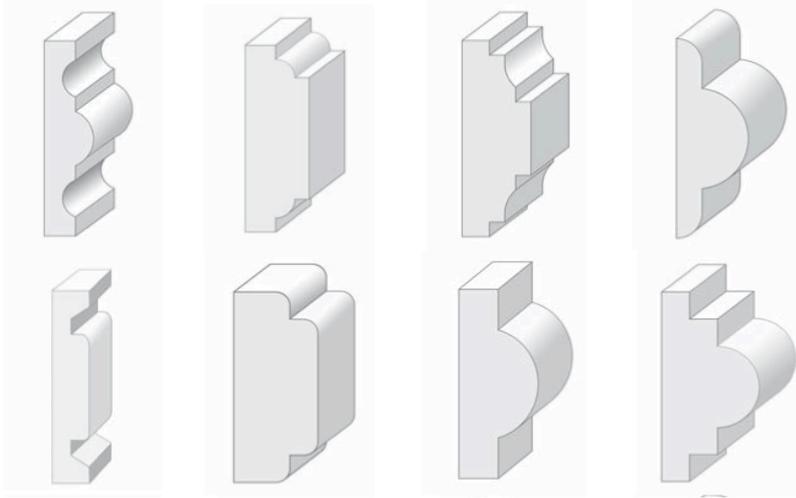
- Balustrades can be used to encase a front or back porch to complement the architectural style of your home.
- Create a blissful haven where you can sit and enjoy the afternoon sun with a row of balustrades on your balcony.

## Bands

Belly Bands can be used to divide the first and second floors of a two-story building or as

window surround trims. Many people find that bands provide a pleasant decorative accent to an otherwise dull or flat surface. Bands can also be used for interior applications.

Examples:



### Brackets

EPS Foam brackets are most common in commercial applications where they are installed for decorative purposes and in large quantities under overhangs. They can drastically improve the look and appeal of the building as well as the overall experience for the shoppers.

Examples:



### Caps & Bases

Decorative caps and bases enhance and taper a column or half-column to create seamless

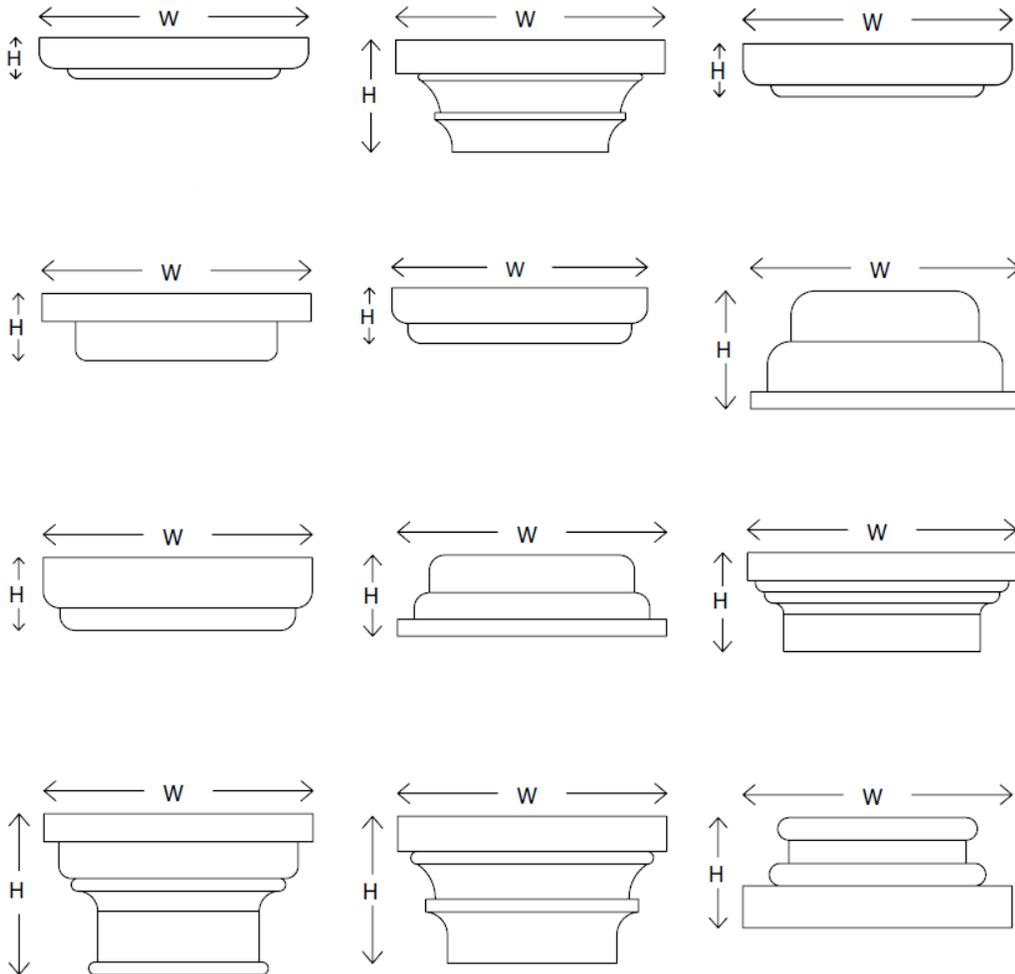
flow with the floor and ceiling. With a number of basic designs you can create a variety of customized versions based on your residential or commercial project specifications.

Every cap and base is designed to fit and blend with any column, either existing or one of your own, to create the balanced look that you are looking for.

**Benefits:**

- Caps can set the architectural style for your living or workspace with either classic or contemporary elements.
- Bases create a tapered look that blends with the floor, creating contrast and complementing the caps with matching style.
- Caps can be used in both interior and exterior structures as support or as a decorative accent to frame an enclosure.
- Bases create a transition point between the column and the floor.

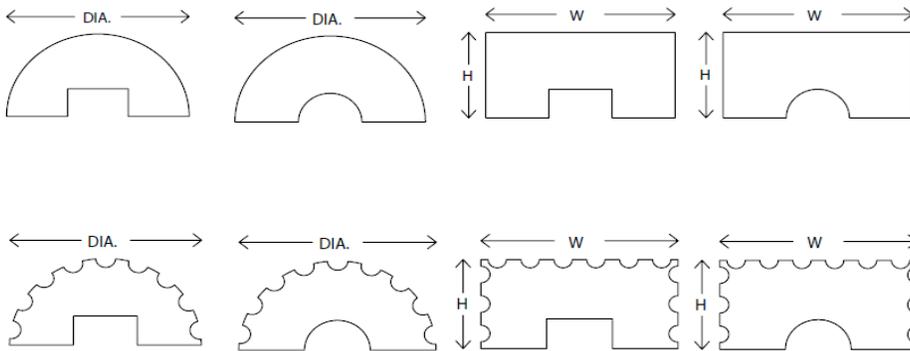
**Examples:**



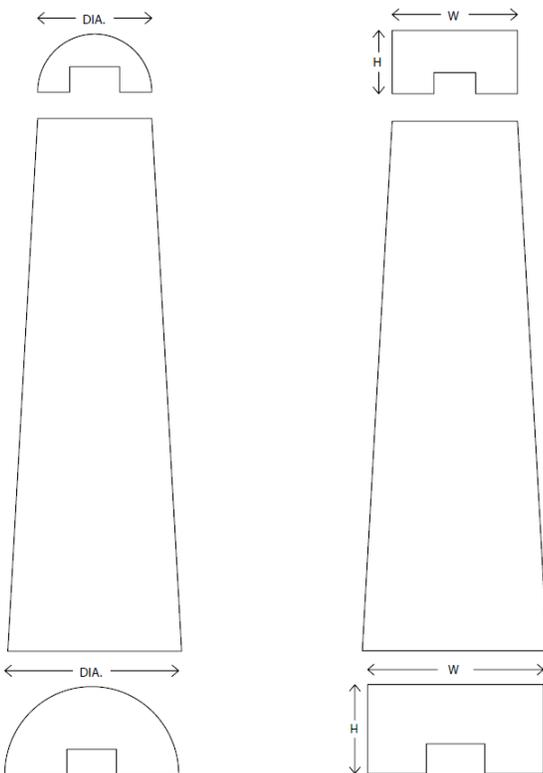
**Columns**

EPS columns can be straight or tapered, smooth or fluted. Bases and capitals are available in an unlimited variety of sizes and configurations. The columns can be for aesthetics only can be delivered in two halves to be installed around a structural column.

Columns complement the entrance or front porch of any home by framing the doorway. Add a classic Roman or Greek style set of columns to your home or commercial building's facade and create a focal point—or simply go for a more modern look with some of our own design creations



### Tapered Columns



### Corbels

Corbels are a type of bracket used to decorate the roof overhangs. Cornices & Corbels are both wonderfully decorative shapes that accentuate and enhance mouldings.

Examples:



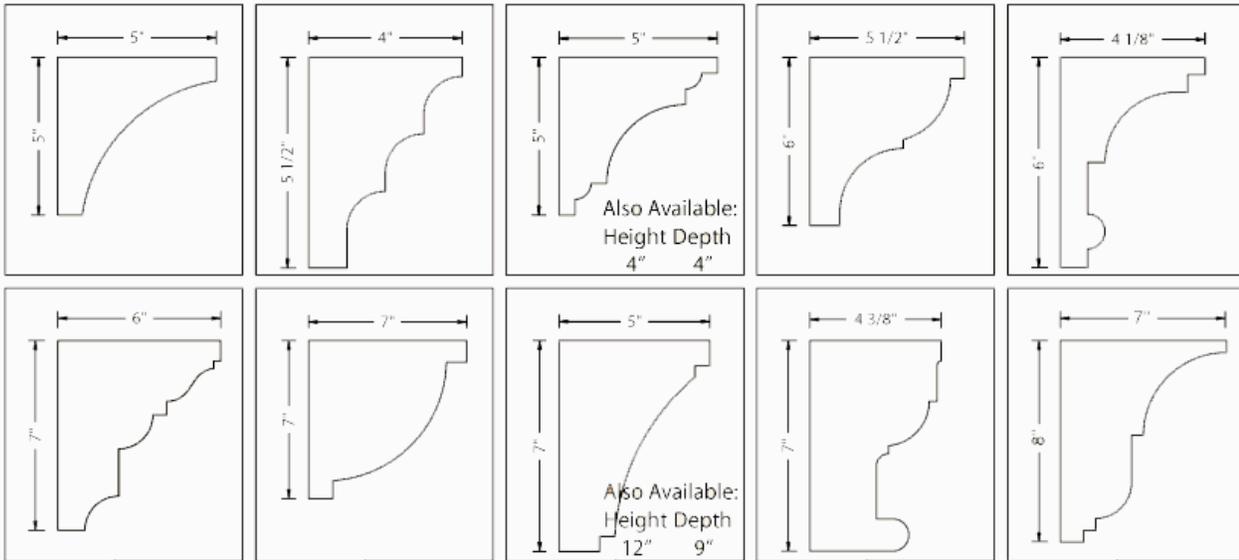
## Cornice Molding

Cornice molding is generally any horizontal decorative molding which crowns any building or

furniture element: the cornice over a door or window, for instance, or the cornice around the edge of a pedestal. A simple cornice may be formed just with a crown molding.

The function of the projecting cornice is to throw rainwater free of the building's walls. In residential building practice, this function is handled by projecting gable ends, roof eaves, and gutters. The elimination of the cornice has been important enough in modernist architecture, that elaborate internal drainage systems are provided.

Examples:



### Crown Mouldings

Crown molding encapsulates a large family of moldings which are designed to gracefully flare out to a finished top edge; generally used for capping walls, pilasters, cabinets; used

extensively in the creation of interior and exterior cornice assemblies and door and window hoods.

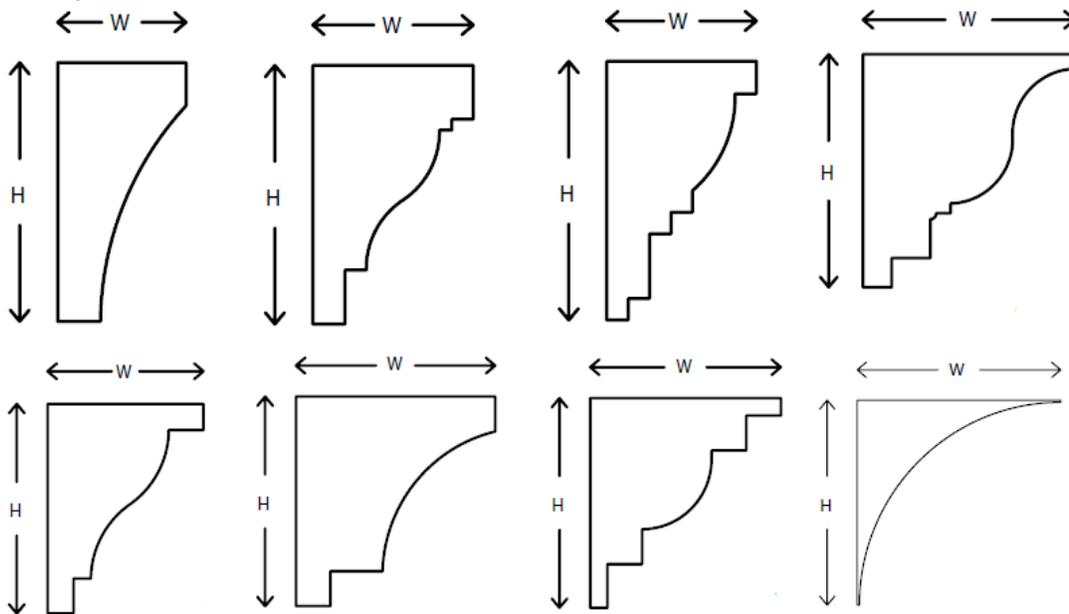
Crown moldings are one of the most popular types of architectural enhancements for modern construction and remodeling projects and it is applied where the wall meets the ceiling for a beautiful tapered look. Crown molding, or moulding, is a classic architectural element that has been reinvented in the form lighter, foam-based pieces that are much easier to install and can last forever.

There are many different types of crown molding available and all can be painted or textured to meet your project's needs, whether it is a residential or commercial project.

**Benefits:**

- Crown molding creates the illusion of fusing the ceiling with the walls.
- Easily blend walls and ceilings for a tapered interior design look and feel.
- Cornices or other forms of ceiling trim help cover imperfections in walls or ceilings

**Examples:**



**Custom Shapes**

EPS technology is perfect for cutting additional architectural shapes to exacting speci

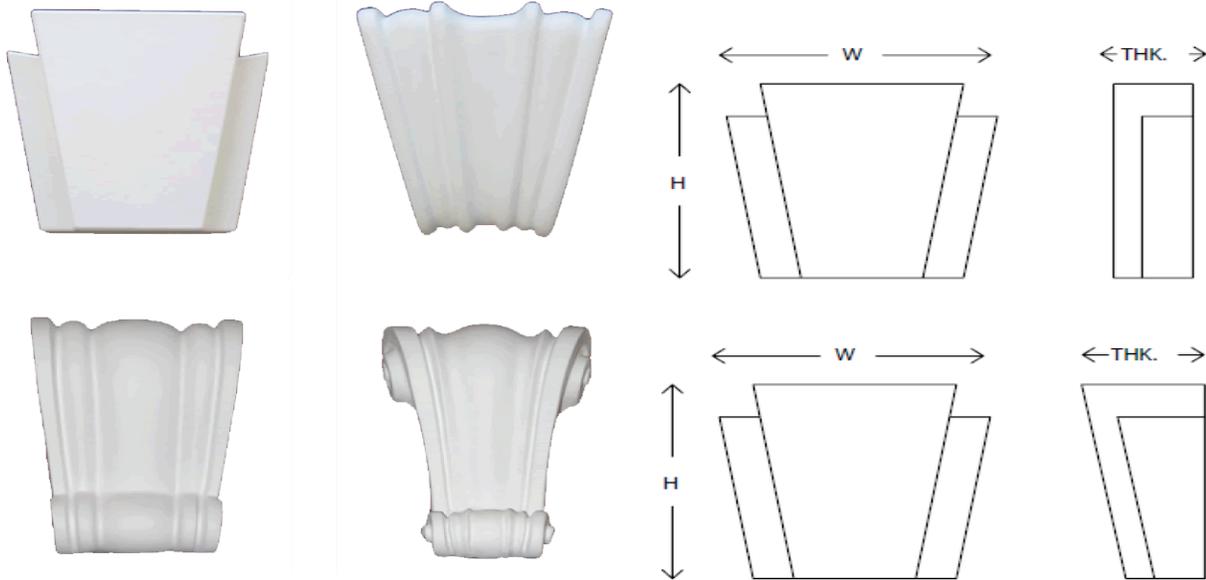
cations. Arches, mitered shapes, concrete molds, 3-D shapes or other custom needs. If you can think it up, then EPS can be made into that special shape you've been looking for.

### Fireplaces:

Fireplaces are a popular focal point for any home. While most spec homes and resale properties tend to have quaint and run-down fireplaces, we can enhance and remodel them with a foam accent or complete solution that will create the look you really want.

### Keystones

Keystones are architectural elements that crown the apex of an arch or a vault, while brackets are used as weight-bearing structural support with decorative styles and elements.

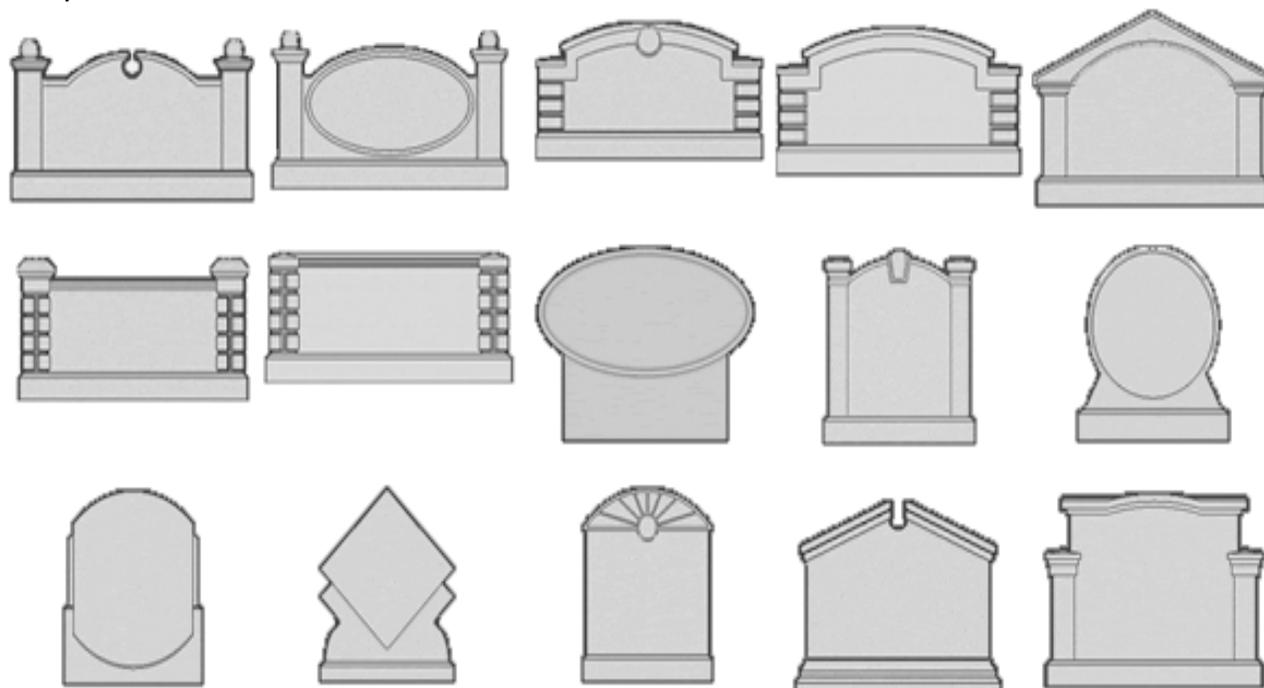


### Medallions

Medallions create a focal point on a building or home, particularly in areas where "blank" space is created with the absence of windows or ventilation screens. Each medallion is crafted in a variety of styles and sizes according to your specifications.

### Monument Signs

Examples:



### Pediments and Flowers

A pediment is a classical architectural element consisting of the triangular section found above the horizontal structure (entablature), typically supported by columns. The gable end of

the pediment is surrounded by the cornice moulding. It also consisted of many bright colours suitable to the nature of the building being adorned.

Pediment Examples:



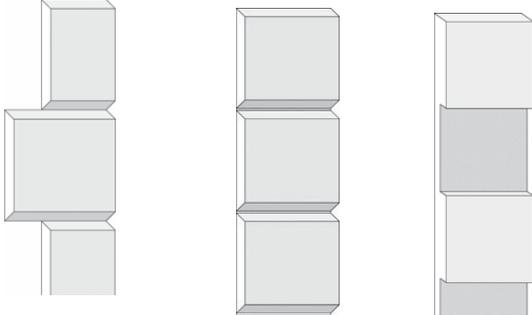
Flower Examples:



Quoins

Quoins offer your corner assembly a look of regal strength and dignified presence. Whether applied to brick, stone or stucco, quoins make a statement. Many shutter styles are available to accent your project. Quatrefoils are used to draw attention to an area or provide a decorative attraction on an otherwise featureless surface.

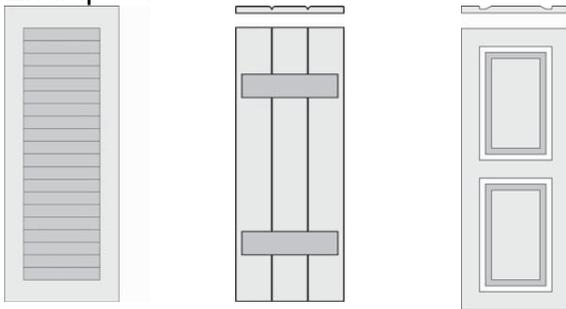
Examples:



## Shutters & Louvers

EPS window shutters are solid window covering used to block light and winds.

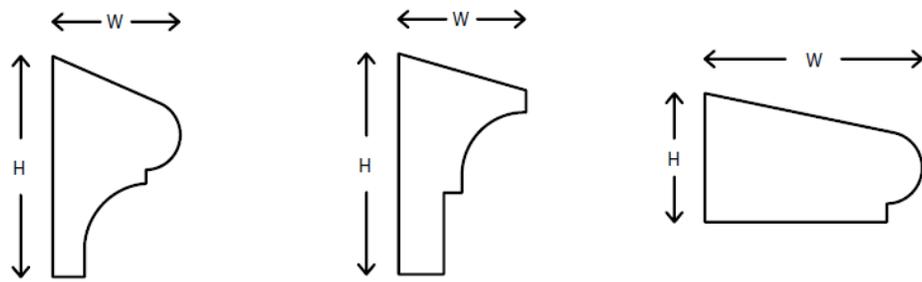
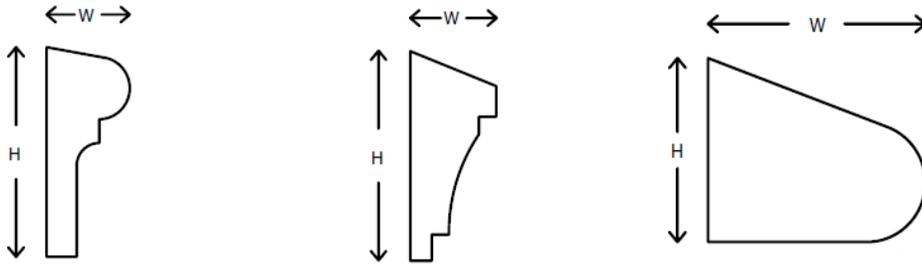
Examples:



## Sills

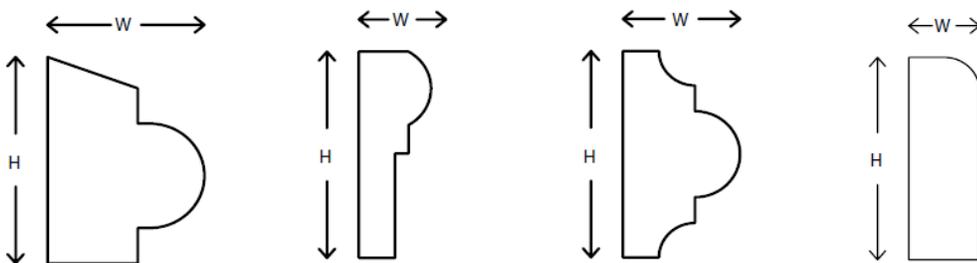
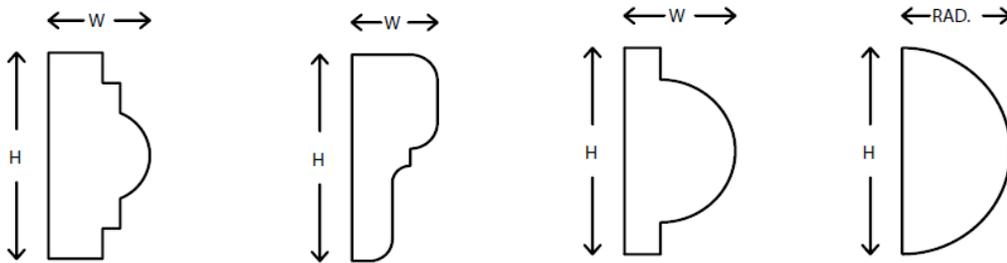
Sills can create a beautiful effect to match other architectural enhancements and trim effects on a home or office building. Window shutters are also a common effect to give a new or remodeled home a classic architectural look.

Examples:



Bands

Examples:



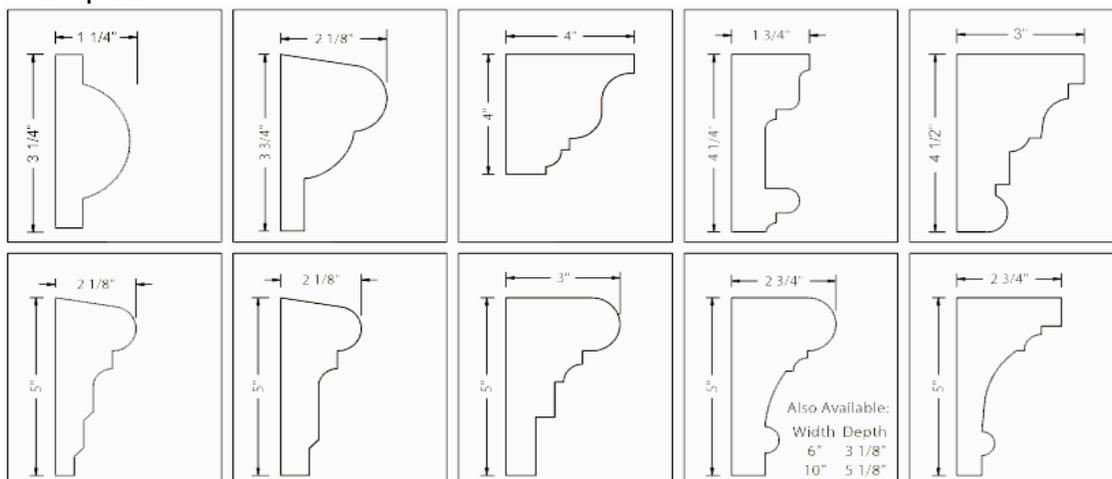
Trims

You can create a new look for the interior or exterior of your home or a commercial building with trim accents that create a finishing touch. Our foam trim undergoes a production process that makes it resistant to adverse weather and time.

A garage door can be framed with a simple trim and a keystone to give it a focal point, while windows and other openings can be beautified with trim.

Trims can be used as either sills or surrounds but when used as a sill it is usually made larger than the surround.

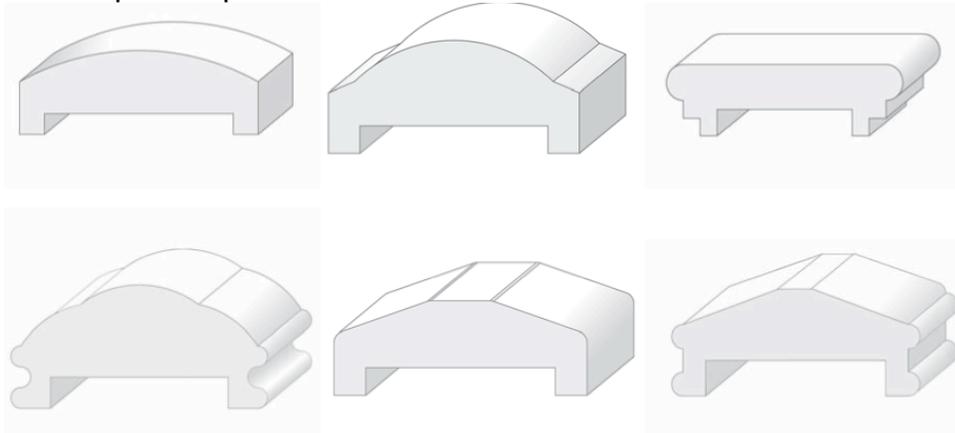
### Examples:



### Wall Caps & Parapets

Parapets and wall caps serve both decorative and functional purpose. They can both be used to protect the top of a wall or façade from rain and dust, as well as lend your building a certain style and elegance. EPS can be cut to fit any size wall.

### Wall Cap Examples:



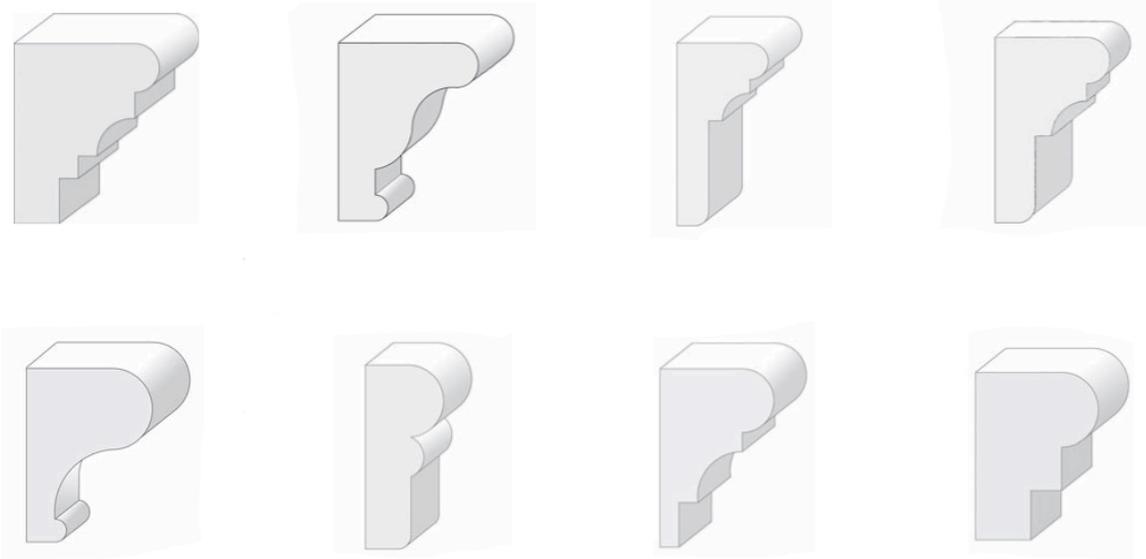
Parapet Examples:



Window Sills & Surrounds

Window sills are used to add a shelf-like detail to the bottom portion of the window. Trims can be used as either sills or surrounds but when used as a sill it is usually made larger than the surround

Examples:



## Installation Methods

1. Field Applied: The EPS shapes or pre-coated shapes are applied to the substrate system on job.
2. Panelized: Shapes are shop applied to prefabricated panels.
3. Acceptable Substrates: for the EPS shapes or pre-coated shapes are:
  - EFIS system base coat.
  - Unglazed brick, concrete, masonry, cement plaster and stucco.
  - Exterior grade gypsum sheathing meeting ASTM c 79 requirements for water resistance core Type X core at the time application of the EPS shape.
  - Silicone treated gypsum sheathing surfaced with inorganic fiberglass mats meeting ASTM c 1177
  - Exterior fiber reinforced cement board and calcium silicate boards.
  - APA Exterior and exposure 1 rated Plywood, grade C-D or better, nominal 13mm (1/2"), minimum 4 poly.
  - APA Exposure 1 rated Oriented Strand Board (OSB), nominal 13mm (1/2") installed over solid substrate.
4. Expansion Joints:
  - Design and location of expansion joints in the EPS Shapes and EPS pre-coated shapes is the responsibility of the project designer and shall be noted on the projected drawings. As a minimum, expansion joints shall be placed at the following locations:
    1. Where expansion joints occur in the substrate system.
    2. Where building expansion joints occur.
    3. Where prefabricated panels abut one another.
    4. At floor lines in wood frame construction.
    5. Where the EIFS system abuts dissimilar materials.
    6. Where the substrate changes.
    7. In continuous elevations at intervals not exceeding 23m (75ft.)
    8. Where significant structural movement occurs such as changes in roofline, building shapes or structural system.
5. Terminations:
  - The EPS Shapes or Pre-coated EPS Shapes shall be held back from adjoining materials a minimum of 19 mm (3/4") for sealant application.
  - Sealants:
    1. Shall be manufactured by other and approved by EIFS manufacturer
6. Samples of EPS and pre-coated EPS are available upon request.

## INSTALLATION OF STUCCO MOULDINGS

### 1. Prepare the surface.

- Both the wall surface and ambient temperature shall be a minimum of 40 degrees Fahrenheit (5 degrees Celsius) or higher.
- The surface of the substrate and the surface of the mouldings shall be clean, dry, and free of grease, paint, oil or any foreign material.
- The surface of the substrate shall be level, plane and true, being 1/8" (3mm) within 4ft (1.2m).
- Contractor shall report unsatisfactory substrate conditions to general contractor for correction by substrate installer before application of products.

### 2. Dry fit and/or cut on site the moulding as per the architectural drawings and existing structure.

3. Apply adhesive to the back of the moulding. You can use any construction adhesive (such as PL Premium) for this purpose. You should use an approved glue to join the mouldings. You can also use an approved glue as adhesive to attach the mouldings to the substrate. Apply an approved glue in a vertical pattern, using 3/8" (9.5mm) notched trowel. If skinning occurs on the adhesive, scrape off and replace it with fresh adhesive before installing the moulding.

4. Press the moulding into place. You may need to use temporary mechanical fasteners to secure moulding while the adhesive cures.

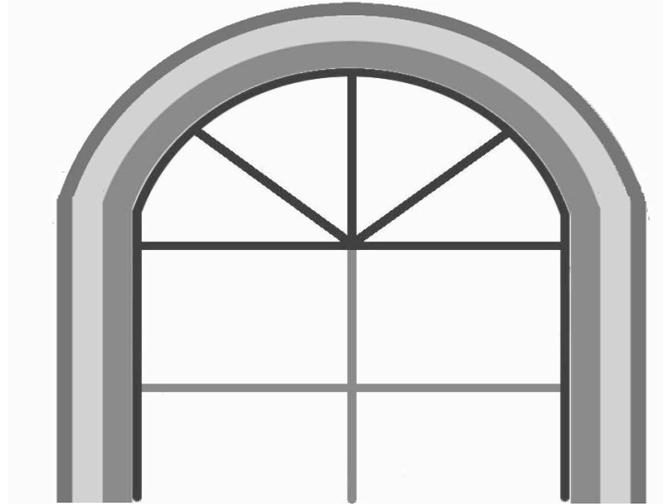
5. Remove excess adhesive (if any) along the moulding before curing.

6. Apply caulking at the joint between the moulding and the substrate, and between the joined mouldings.

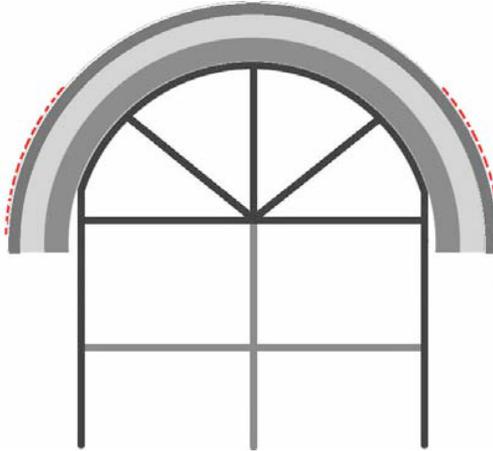
7. Allow the material to cure.

8. When joining two pieces, at the junction, leave a gap of not exceeding 1/4 (6mm). Cover all joints with caulking.

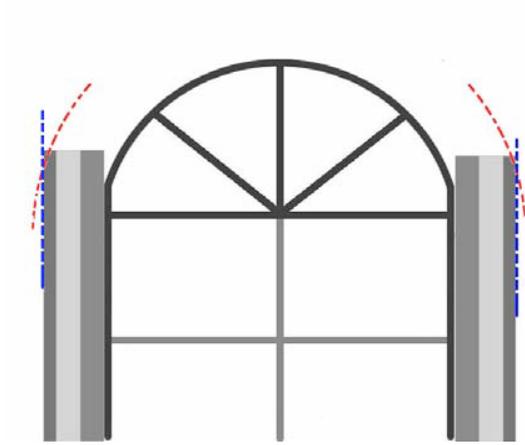
## Installation of Arch With Side Trims



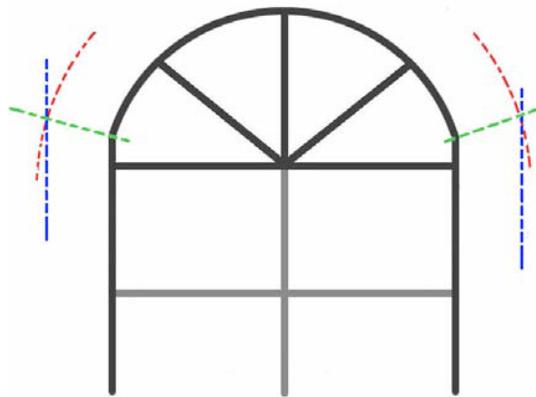
1. Place the arch at the top of the window and mark the contour of the arch (red dotted lines)



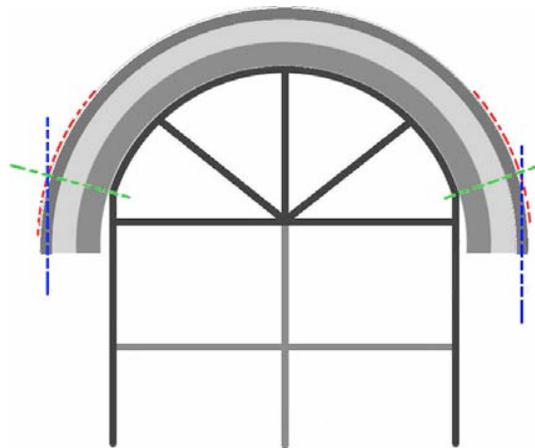
2. Place the side trims at the sides of the window and mark the contour of the trims (blue dotted lines)



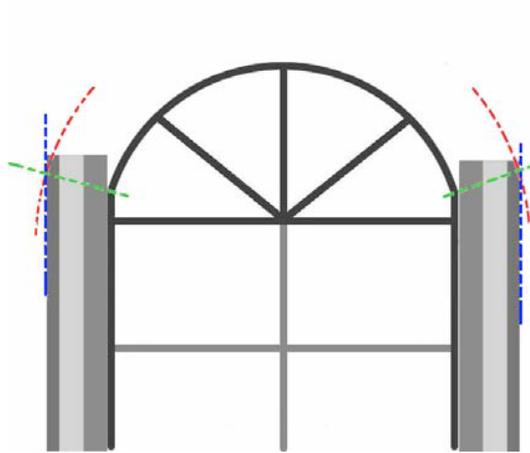
3. Mark the join line (green dotted lines)



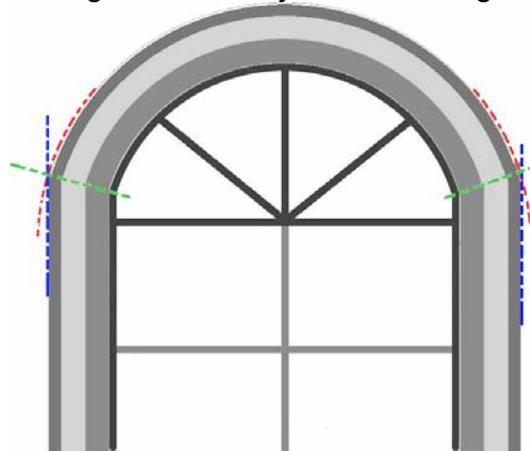
4. Place the arch back on the top of the window and mark the join lines on the arch.



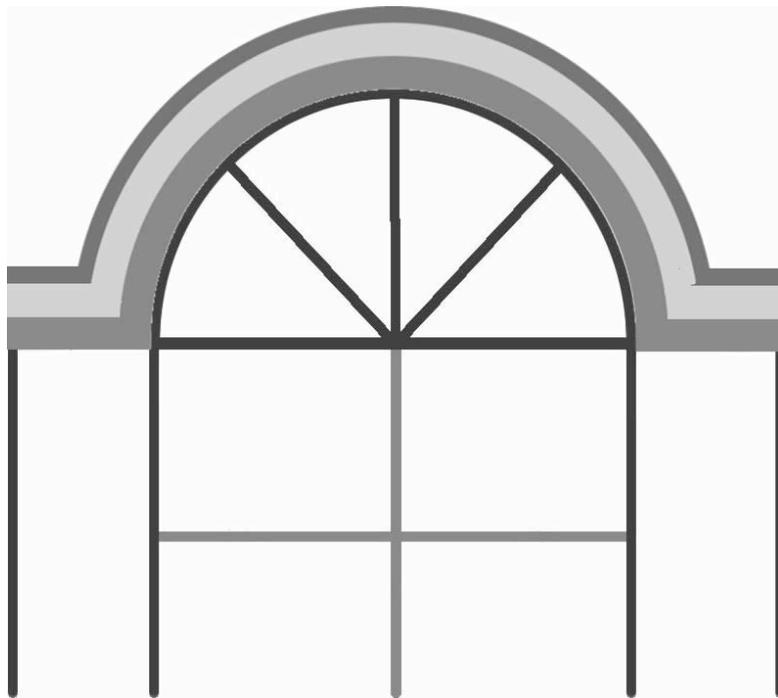
5. Place the trims back on the sides of the window and mark the join lines on the trims.



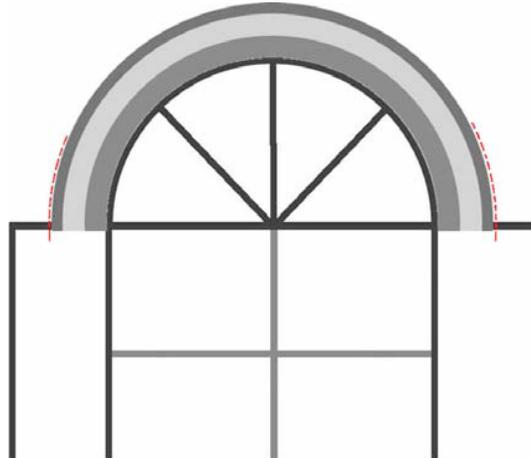
6. Cut the arch and the trims along the marked join lines and glue them to the wall



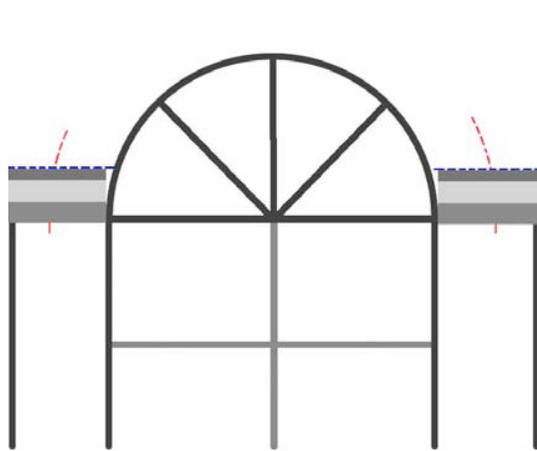
Installation of Arch With Side Wings



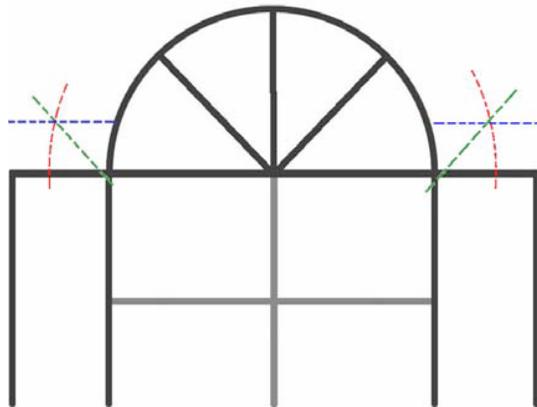
1. Place the arch at the top of the window and mark the contour of the arch (red dotted lines)



2. Place the side trims at the sides of the window and mark the contour of the trims (blue dotted lines)

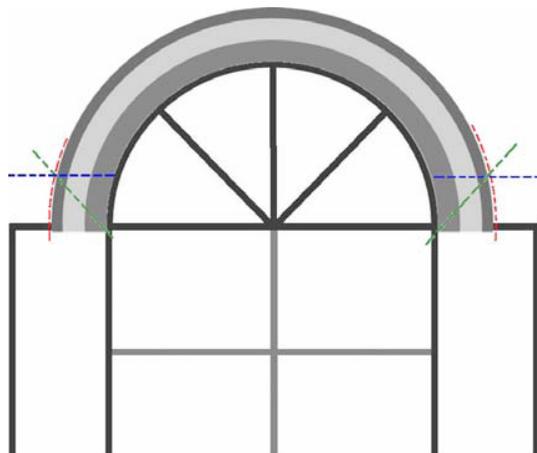


3. Mark the join line (green dotted lines)

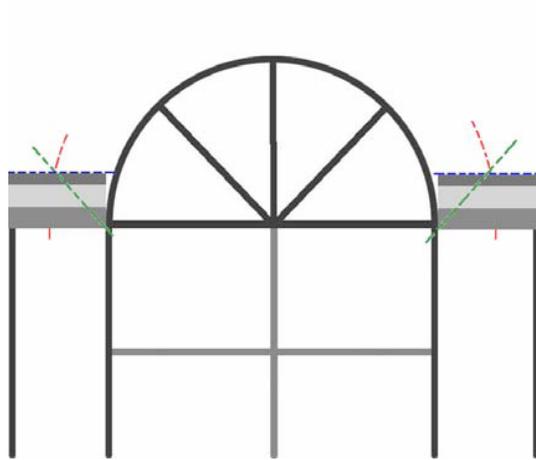


4.

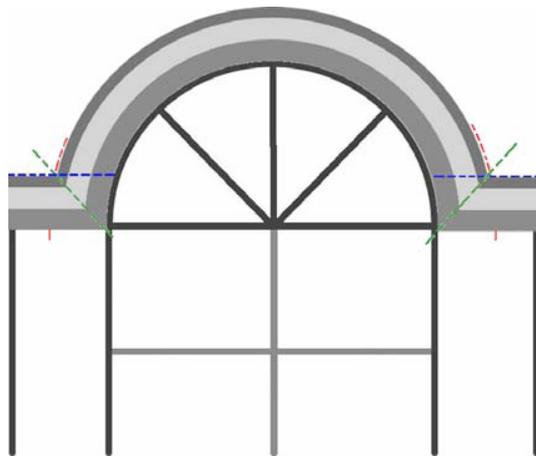
4. Place the arch back on the top of the window and mark the join lines on the arch.



5. Place the trims back on the sides of the window and mark the join lines on the trims.

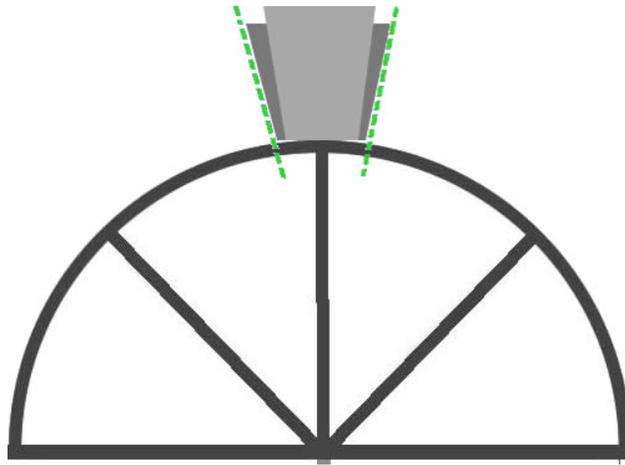


6. Cut the arch and the trims along the marked join lines and glue them to the wall

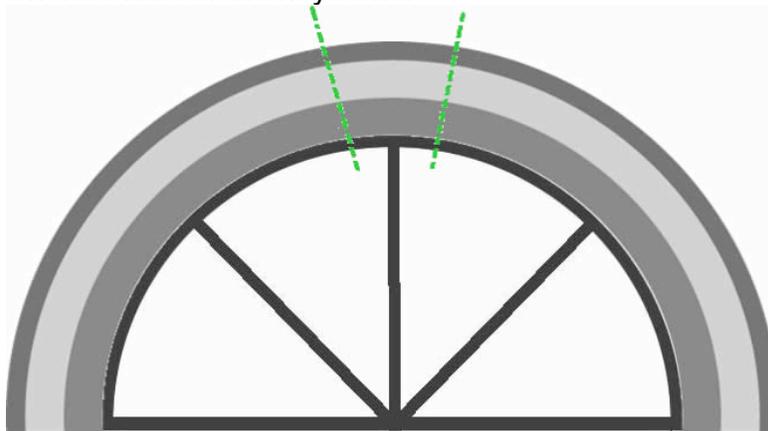


### Installation of Keystones On an Arched Window

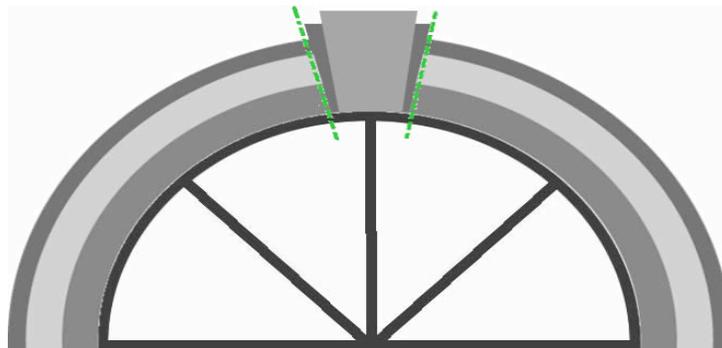
1. Place the keystone at the top of the arch and mark the contour of the keystone (green dotted lines)



2. Place the arch on the window, mark the cut lines, cut the arch into 2 halves. Take into account the angles on the sides of the keystone.

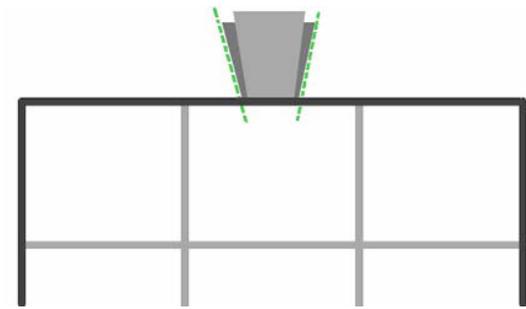


3. Glue the keystone, and the two half arches in place. Use an approved EPS glue in the joins.

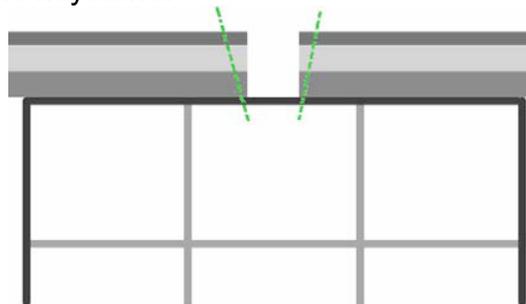


### Installation of Keystones On a Rectangular Window

1. Place the keystone at the top of the window and mark the contour of the keystone (green dotted lines)



2. Place the half headers on the window, mark the cut lines, cut the trims. Take into account the angles on the sides of the keystone.



3. Glue the keystone, and the two half trims in place. Use an approved EPS glue in the joints.