



Sun Controls

Fixed & Operating
Sunshades

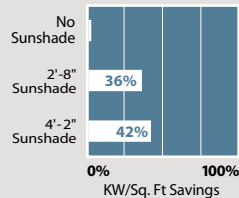
*The industry's
largest selection of
fixed and operating
sunshades.*

C/S Sun Controls

The right products and expertise to help you achieve maximum energy reductions.



C/S Sun Controls enhance occupant comfort, increase worker productivity and improve educational performance.



An AMCA study suggests C/S Sun Controls help achieve substantial reductions in total energy usage and reductions in peak energy demand.



In the Energy and Atmosphere section of USGBC LEED® Credits 2009 Edition, Version 3, LEED® calls on architects to improve building performance beyond the baseline in ASHRAE/IESNA Standard 90.1-2007.

Energy and the environment Commercial buildings consume 39% of the energy and 74% of the electricity generated from oil, gas, nuclear and coal-fired plants, which adversely impacts the environment.

The architectural solution That's why the USGBC's LEED® program encourages architects to design buildings that save energy, let natural light in, keep heat gain out and still allow for maximum occupant comfort and visibility.

C/S Sun Controls reduce energy costs C/S Fixed Sun Controls reduce heat gain and glare, while providing owners with major reductions on their building's skin load air conditioning requirement and lighting energy usage.

Better buildings, better performance Several studies also show that buildings employing sun controls and daylight management systems increase worker productivity, lower absenteeism and improve educational performance. C/S can help with all of your Sun Control requirements; call (800) 631-7379.



C/S Sunshades have achieved Cradle to Cradle Silver Certification.

LEED® Credits in the Energy and Atmosphere Section (up to 35 points -NC & Schools)			
12% improvement (in building performance beyond the ASHRAE baseline) 1 point			
24% improvement (in building performance beyond the ASHRAE baseline) 7 points			
36% improvement (in building performance beyond the ASHRAE baseline) 13 points			
48% improvement (in building performance beyond the ASHRAE baseline) 19 points			
Indoor Environmental Quality IEQ Credit 8.1 Daylight & Views:		Daylight 75% of Spaces	
Indoor Environmental Quality IEQ Credit 8.2 Daylight & Views:		Daylight* 90% of Spaces	

*Achieve a minimum Daylight Factor of 2% (excluding all direct sunlight penetration) in 75% of all space occupied for critical visual tasks.



We are committed to the Architecture 2030 Initiative.



This initiative asks architects designing all new buildings to have them become carbon neutral by 2030. "Those adopting the 2030 Challenge are encouraged to achieve the reductions through proper design including: building shape, building orientation, natural heating & cooling and the use of daylighting and proper shading."

C/S offers many ways to control the sun.

Cantilevered & Suspended Sunshades



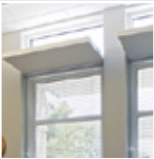
Effective sun control with a variety of blade, outrigger and fascia styles. Pages 6-23

Vertical Fixed Sunshades



The most effective exterior sunshade for east and west elevations. Select from dozens of blade styles. Pages 6-23

Lightshelves



Reduce energy costs by bringing daylight deeper into the building's interior. Call 1-800-631-7379

Skylight Shutters



Allow diffused light into buildings while reducing solar heat gain. Call 1-800-631-7379

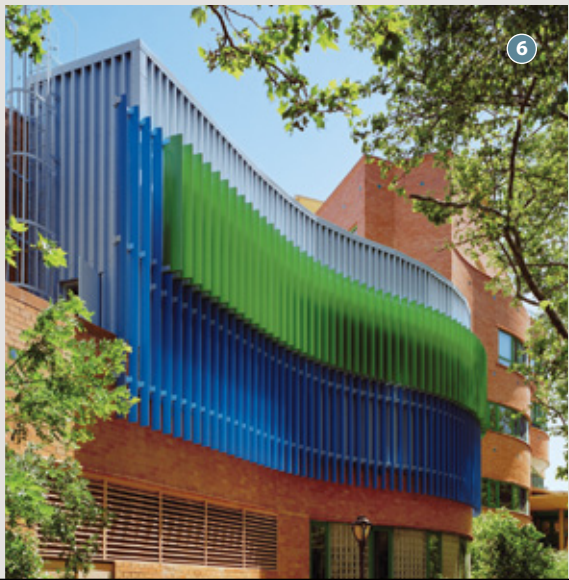
New C/S Solarmotion® Operating Sun Controls

C/S offers a complete line of operating sunshades and architectural blinds that maximize the control of light and solar heat gain to reduce energy costs. For details and a free catalog, call 1-800-631-7379.



C/S Sun Control Projects

*Get the energy reduction
you need and the
look you want with
C/S Fixed Sunshades.*



- 1 Community Regional Medical Center, Vertical Sunshades, Architect: RTKL Associates, Inc.
- 2 FAU College of Engineering, Vertical Perform Sunshades, Architect: Leo A. Daly
- 3 Center for Urban Waters, Horizontal Sunshades and Solarmotion Blinds, Architect: Perkins + Will
- 4 Jenks Math and Science, Horizontal and Cantilevered Sunshades, Architect: GH2 Architects and TMP Architecture
- 5 Santa Monica Public Safety, Horizontal, Cantilevered and Vertical Sunshades, Architect: Cannon Design
- 6 Asphalt Green, Vertical Sunshades, Architect: Gensler Architects
- 7 Smith Ave. Garage, Cantilevered and Horizontal Sunshades, Architect: Collaborative DesignGroup
- 8 Houston Community College, Horizontal and Cantilevered Sunshades, Architect: HOK

C/S Custom Sunshades

*The striking and effective way
to reduce energy costs.*

Cantilevered/Suspended Sunshades
Highly customizable, architects can select from a wide variety of blades, outriggers and fascias. The projections can be up to 5' deep to suit the project's shading requirements, and these sunshades can be used in conjunction with C/S Lightshelves.

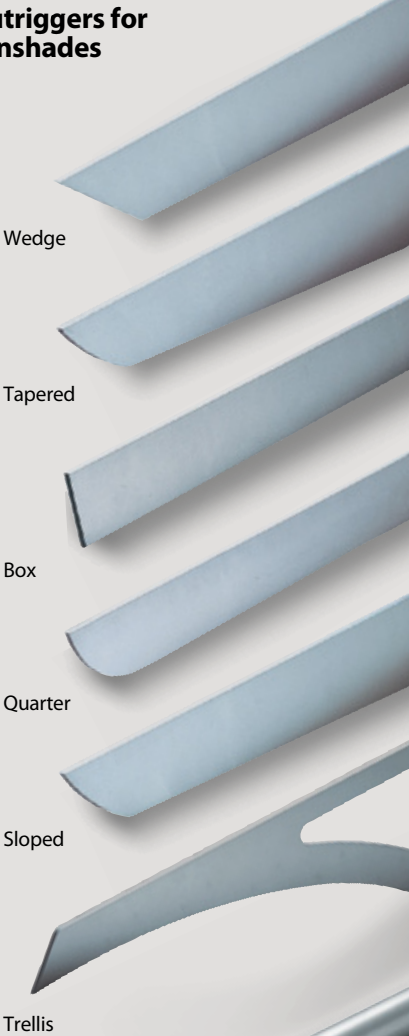
Vertical/Horizontal Sunshades
These sunshades are perfect for applications where greater control over direct sunlight is required. A horizontal sunshades' performance is determined by its blade spacing and the total drop top to bottom. Vertical sunshades can be adjusted for total shade or limited sun penetration in the morning and afternoon.

C/S Sunshades can be mounted on all curtain wall buildings with projections up to 5'.

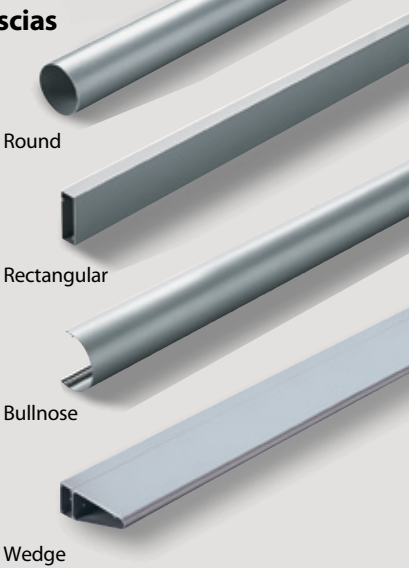


One Aventura Office Center
Aventura, FL
Architect: Albaisa/Doval Architects

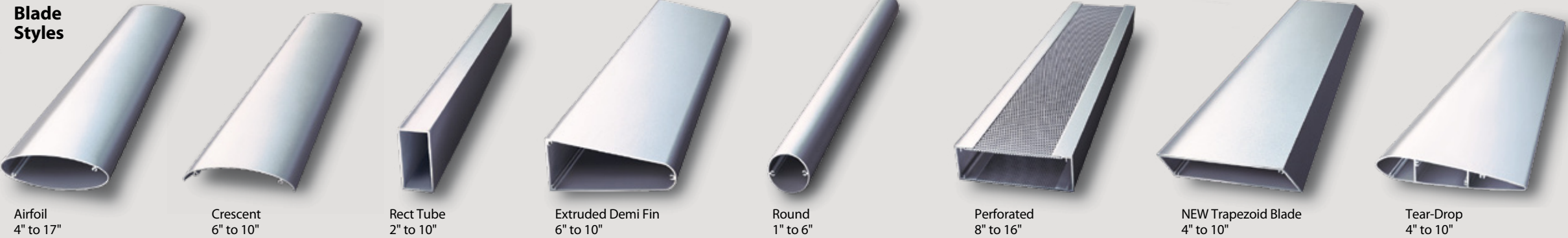
Outriggers for sunshades



Fascias



Blade Styles



Visit — www.c-sgroup.com/sun-controls — for comprehensive information about this product.

C/S Shadowline Sunshades

Nielsen Media Building
University of South Florida
Architect: Alfonso Architects Inc.

*C/S Shadowline[®] Sunshades
create a dramatic visual statement.*

The Shadowline System
This system combines several standard C/S Grille/Sun Control components to create a custom appearance.

Designed for Effective Sun Shading
With projections up to six feet, Shadowline Sunshades are perfect for use on curtain walls and standard construction. Select from a variety of infill patterns, fascia and outrigger styles.



Visit — www.c-sgroup.com/sun-controls — for comprehensive information about this product.

How it works

The Shadowline Sunshade is comprised of perimeter tube frames mechanically fastened to a single outrigger through the use of 2" x 4" rectangular tubes. The Grille infill panels create an airy effect. These sunshades can project off buildings 2' to 6'.

- 1 Choose Outrigger Style on Page 7
- 2 Choose Infill Panel or Custom
- 3 Choose Fascia on Page 7
- 4 Choose Finish

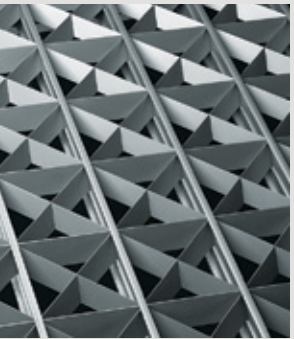
Infill Panel Choices



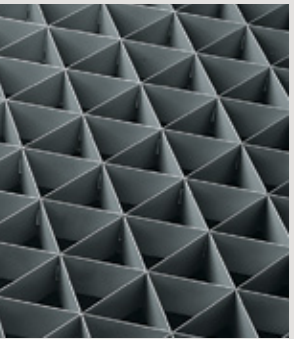
Modular



Lattice



Myriad XXX



Marquis



1"-4" Round or Rectangular Tubes



4" Airfoil

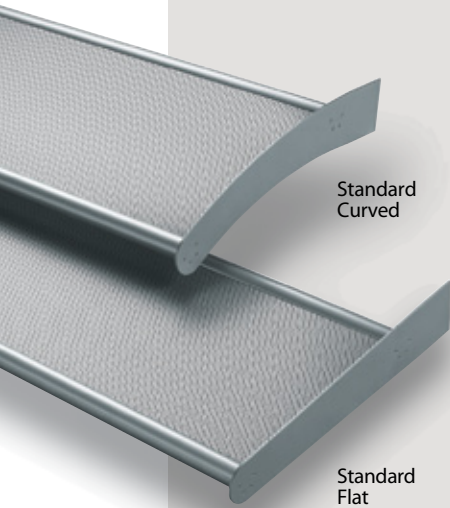
C/S Perform Sunshades

Tampa Bay History Center
Architect: Verner Johnson and Associates

*Beautiful dappled light is the result.
C/S Perform panels are the palette.*

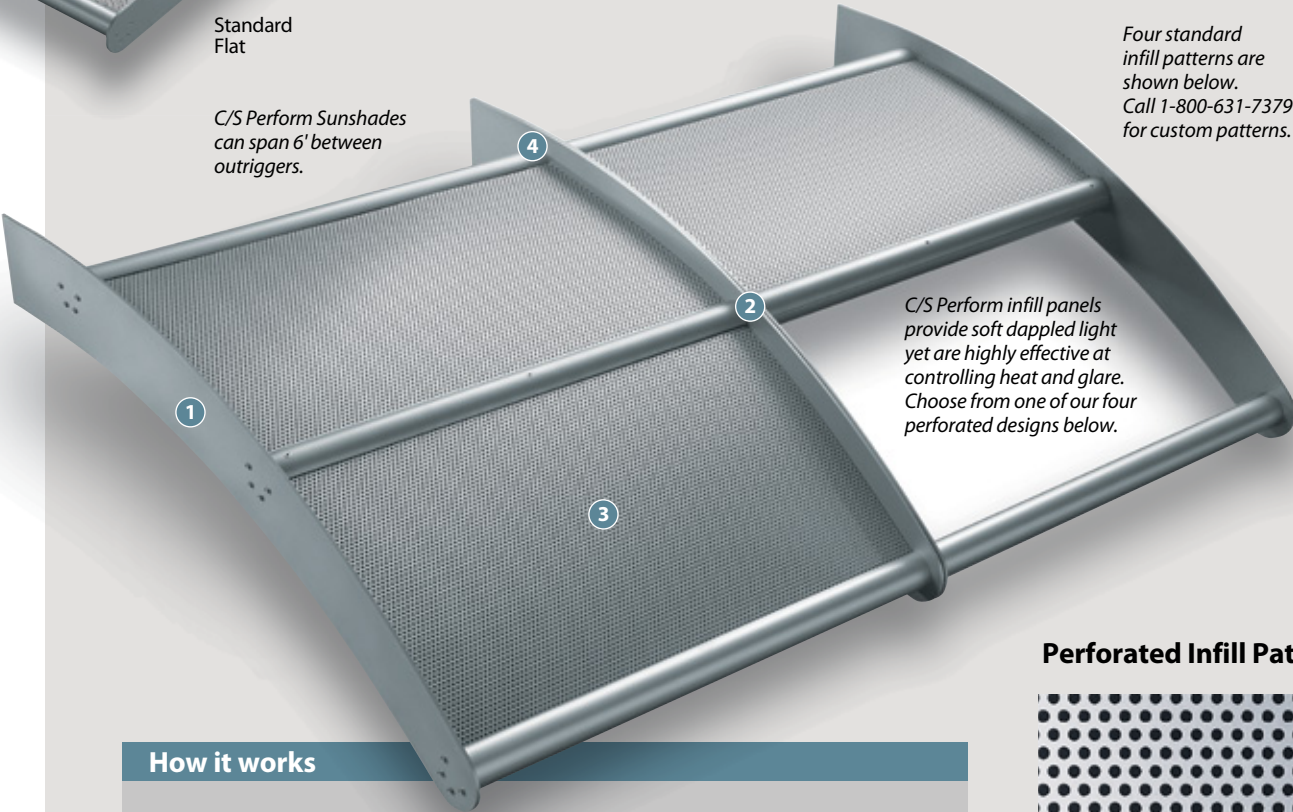
C/S Perforated Canopy Sunshade
This sunshade system provides buildings with effective sun control, yet offers stunning visual effects by admitting soft dappled light.

Two Styles, Dozens of Options
C/S Perform curved and flat canopies employ a slender custom designed tube support that mechanically captures our perforated sheet without the use of unsightly welding. The Perform system can be designed to meet any wind or snow load.



Standard Flat

C/S Perform Sunshades can span 6' between outriggers.



Four standard infill patterns are shown below. Call 1-800-631-7379 for custom patterns.

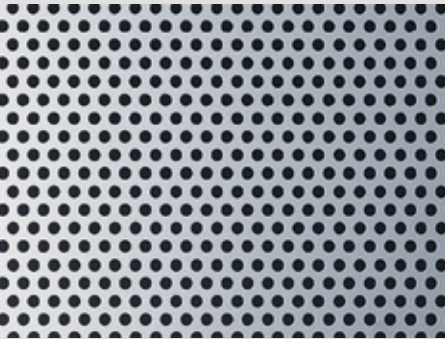
C/S Perform infill panels provide soft dappled light yet are highly effective at controlling heat and glare. Choose from one of our four perforated designs below.

How it works

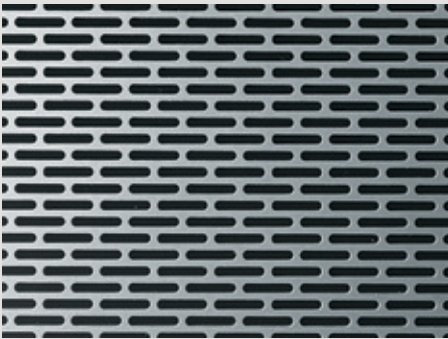
Perform standard curved and flat perforated canopies can project up to 2' 6" without intermediate supports. With supports these sunshades can project 4' or deeper.

- 1 Choose Curved or Flat Canopy
- 2 Select Projection Depth
- 3 Choose Infill Panel Style
- 4 Choose Finish

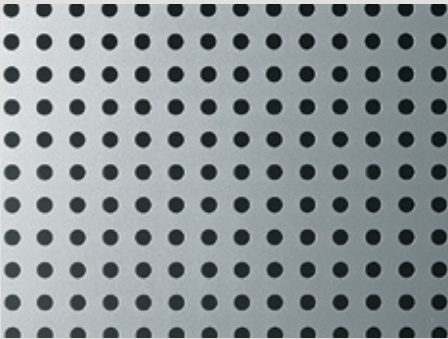
Perforated Infill Patterns



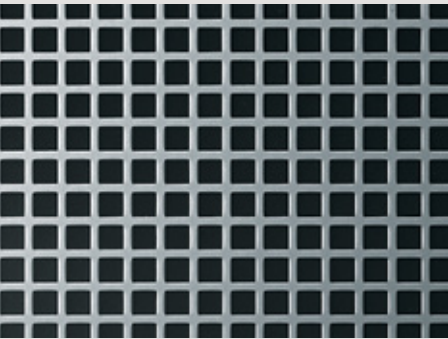
Round Holes on 60° Staggered Centers



Round Slots on Staggered Centers



Round Holes on Straight Centers



Square Holes on Straight Centers

Visit — www.c-sgroup.com/sun-controls — for comprehensive information about this product.



C/S Genesis Solar Sunshades

Visit — www.c-sgroup.com/sun-controls — for comprehensive information about this product.

C/S Genesis Solar Sunshades generate electricity while reducing solar heat gain.

Power up to 18.6 Watts per sq. ft.

C/S Genesis Solar Sunshades generate electricity from the sun’s rays and ambient light reflected off surrounding surfaces. Both the front and the back of C/S’ Double Panel design helps to produce electricity (up to 30% higher power generation [kWh] per square foot) than single-panel options. C/S Genesis Panels range in wattage from 180W to 200W and are 3'-0" wide by 4'-6" deep (projection).

Panel Construction

C/S Genesis Panels HiT bifacial solar cells are hybrids of single crystalline silicon surrounded by ultra-thin amorphous silicone layers. Each solar collector panel has a surrounding fascia that houses the panel’s wiring, which is directed into to the building’s interior.

How the system works

C/S Genesis Solar Sunshades are designed to be housed within a fascia that hides all wiring. Placed above or in front of a window, each panel is attached to the building facade by support brackets.

- 1

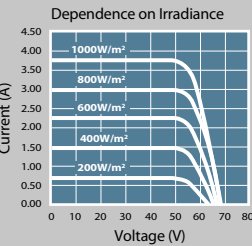
Select the Panel by Power Rating
- 2

Select Panel Orientation
- 3

Select the Fascia
- 4

Select the Fascia’s Finish

Performance/Specifications—Power Rating



Rated Power	200 Watts	Cell Efficiency	19.7%
Max. Power Voltage	56.2 V	Power per Sq. Ft.	15.3W
Max. Power Current	3.56A	Module Area	13.06 Sq. Ft
Max. System Voltage	600V	Module Weight	50.7 lbs

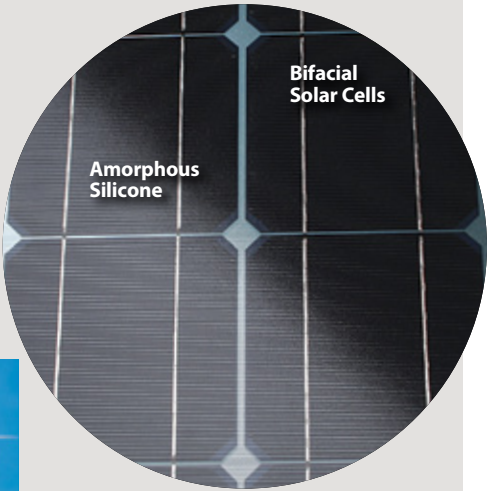
C/S Genesis Solar Sunshades are generally suspended above the head of the window. We offer a variety of attachment options for all window systems and loading conditions.

For a finished appearance and to house all electrical wiring, C/S offers a selection of fascias to coordinate with your building’s architecture.

Fascias

- Round
- Rectangular
- Bullnose
- Wedge

The underside of the Genesis panel collects ambient light to produce energy. A variety of finish options can be employed without affecting the panel’s performance.



Cells are comprised of single crystalline silicon surrounded by amorphous silicone layers.

C/S has created solutions that contribute to LEED® Certification for all types of buildings.

Government Building with Horizontal Sunshades

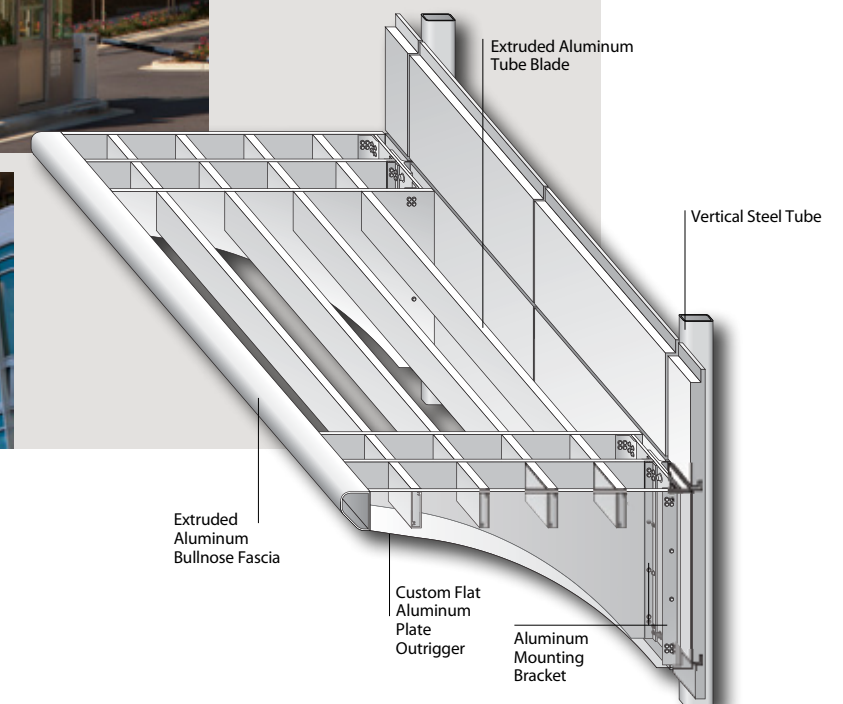
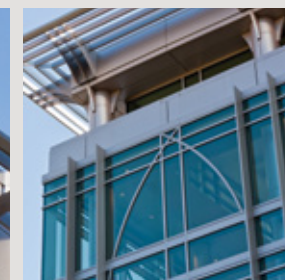
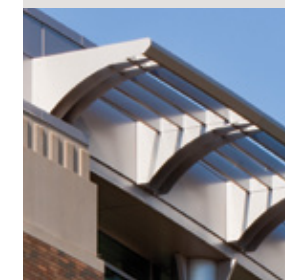


Project:
Marquette University
Milwaukee, WI

Architect:
Opus AE Group
in collaboration with
Shepley Bulfinch

Sun Control Type:
Cantilevered and
Vertical Sunshades

Project Description:
C/S Cantilevered Tubular Sunshades were specified on the east, west and north elevations of the LEED® Silver Certified Law School. The radiused Cantilevered Sunshades integrate with the metal panel system, while maintaining a flush appearance. The blades had to achieve spans in excess of 11' with projections off of the building structure 6'.



Municipal Building with Cantilevered Sunshades

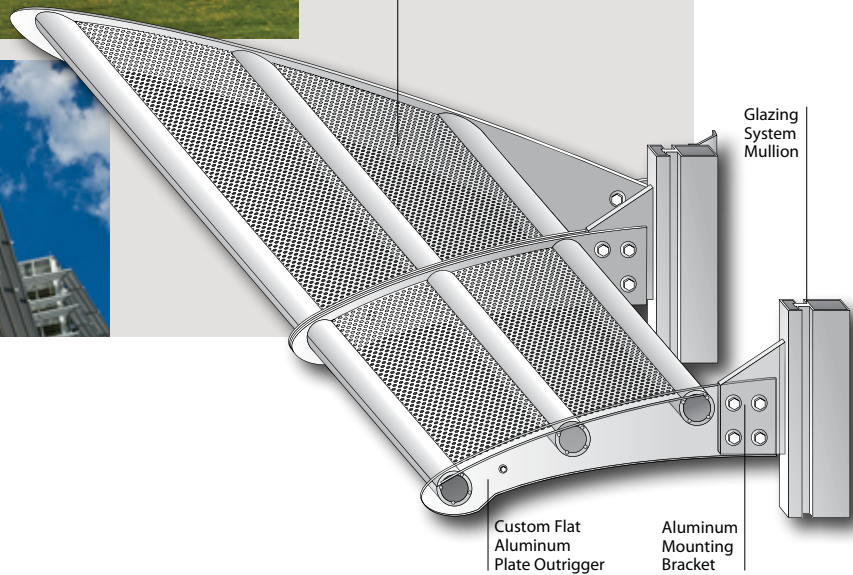
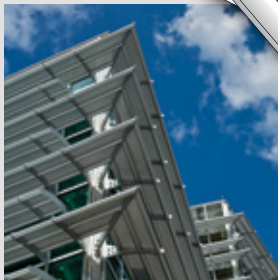


Project:
Tampa Bay History Center
Tampa, FL

Architect:
Verner Johnson and Associates

Sun Control Type:
Cantilevered Sunshades

Project Description:
C/S Perform Sunshades are the dominant aesthetic feature on their building's facade. 30" deep Perform Sunshades reduce heat and glare yet let soft dappled light to enter the east, west and southern exposure. Attached to the curtain wall, the sunshade shape and projection allow for unobstructed views to the outside.



Commercial Building with Horizontal Sunshades

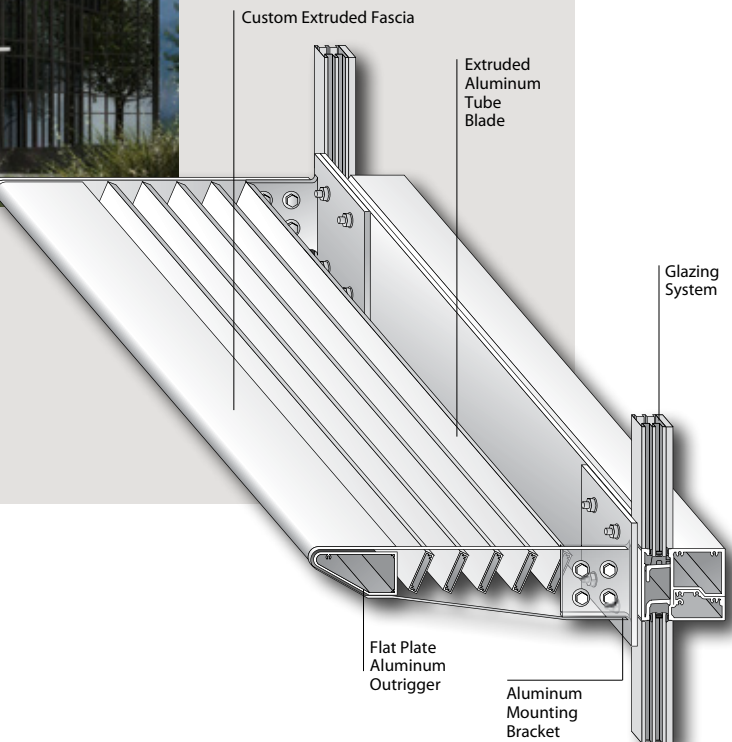


Project:
Moffett Towers
Sunnyvale, CA

Architect:
DES Architects & Engineers

Sun Control Type:
Horizontal Sunshades

Project Description:
DES Architects specified custom C/S rectangular tube blades with a modified wedge fascia for all floors on the east, west and south elevations of this LEED® Certified office tower. The horizontal sunshades are mounted directly to the vertical mullions of the curtain wall, and the corded blades create the illusion of being curved.



University Building with Horizontal Sunshades

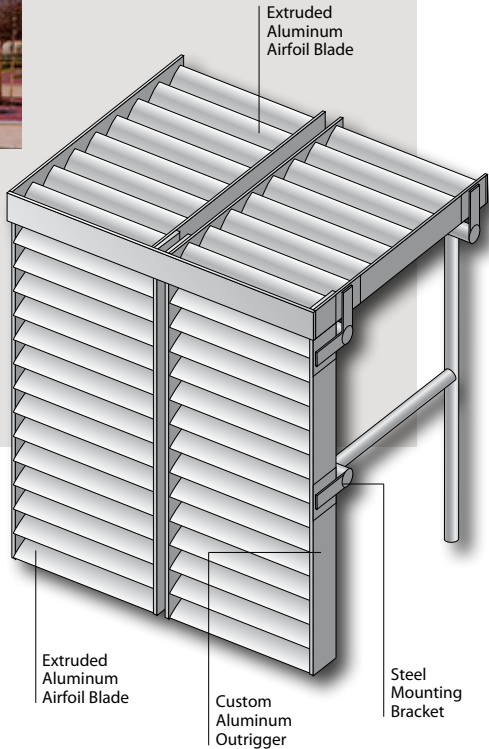
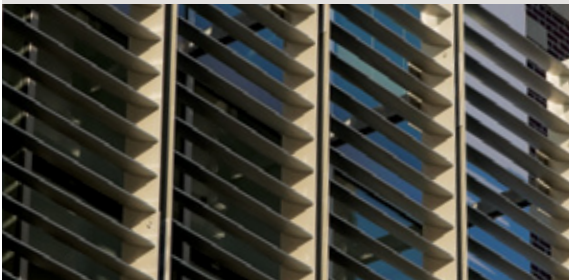


Project:
Houston Community College
Houston, TX

Architect:
HOK

Sun Control Type:
Horizontal Sunshades

Project Description:
C/S Fixed Horizontal Sunshades make a dramatic statement and significantly reduce the interior heat and glare at HCC in Houston, TX. HOK specified a custom horizontal “ladder type” airfoil sunshade to control the morning and afternoon sun that affects both the front and atrium portions of the building. The exposed mullions attached to the masonry walls are exaggerated to add drama to the sunshade design.



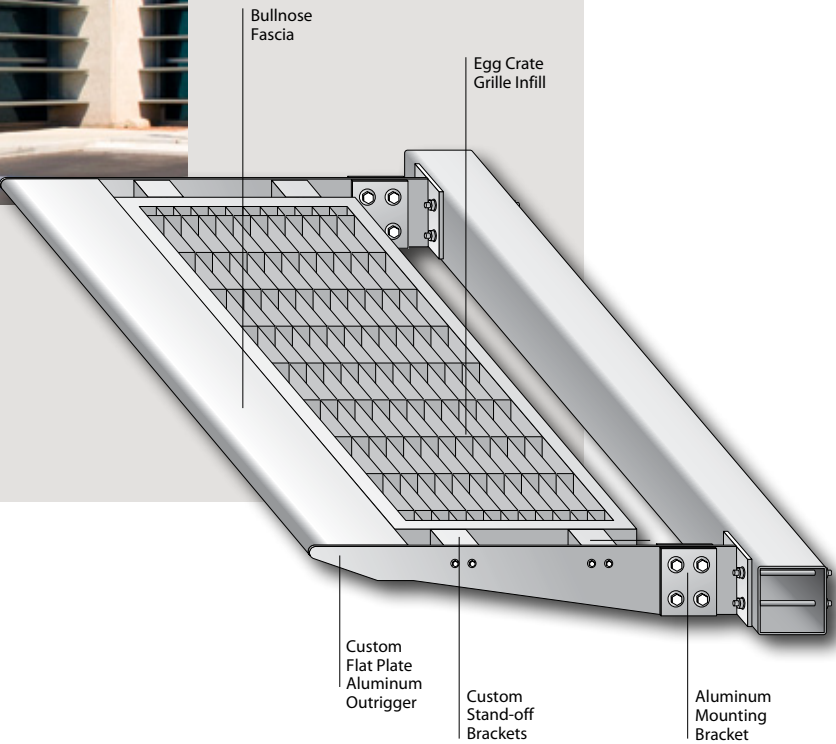
Industrial Building with Cantilevered Sunshades



Project:
Industrial Building with
Cantilevered Sunshades

Sun Control Type:
Cantilevered and Vertical
Sunshades

Project Description:
At the entrance to their facility, the architect specified a vertical sunshade with multiple layers of extruded blades. The blades are mounted to the structure using a custom “Y” bracket on the face of the building. Cantilevered Shadowline Sunshades mounted at the head of the first floor windows provide shade to the southwestern elevation.



Commercial Building with Vertical Sunshades

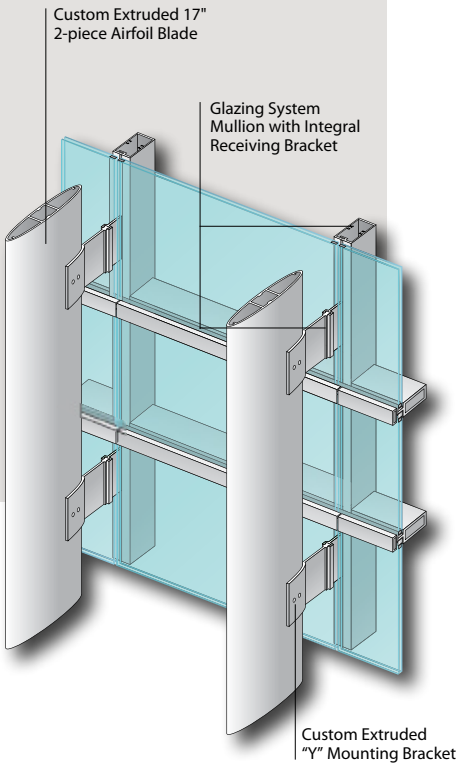
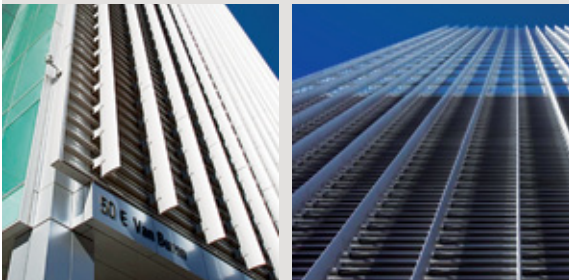


Project:
One Central Park
Phoenix, AZ

Architect:
SmithGroup

Sun Control Type:
Vertical Sunshades

Project Description:
On their 25-story curtain wall building, the architect employed 2 different shading systems for the eastern and southern elevations. 17" vertically oriented extruded airfoils run the entire height of the structure with each blade spanning a floor with four points of attachment. On the southern elevations, the same 17" airfoils run horizontally to provide shade during mid-day high sun angles.



University Building with Horizontal Sunshades

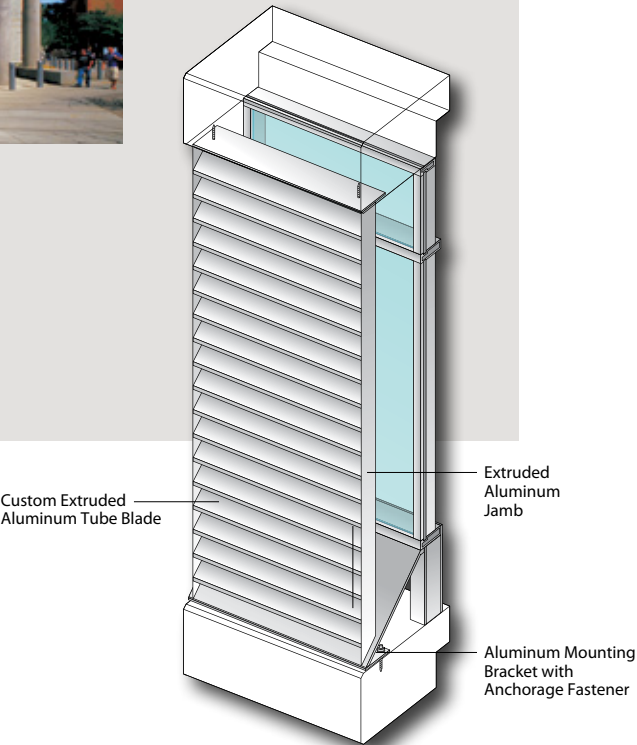
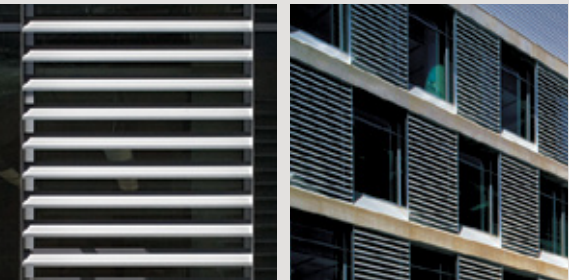


Project:
Arizona State University
Tempe, AZ

Architect:
Perkins + Will

Sun Control Type:
Horizontal Sunshades

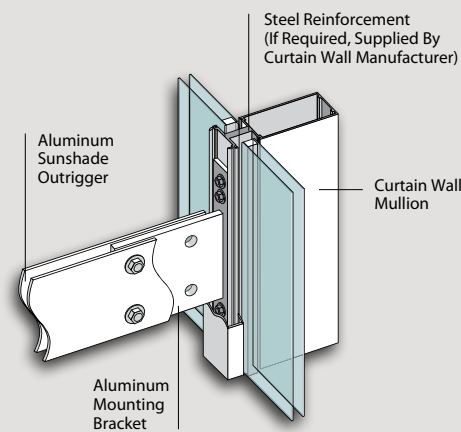
Project Description:
Due to the orientation of the building, Perkins + Will specified two distinctively different sunshades for each elevation. To control the sun at lower angles in the morning and afternoon, fixed horizontal line sunshades with trapezoidal blades are used on the east and southern elevations. On the southern elevation where the sun angle is higher, a cantilevered sunshade with 6" airfoils is used.



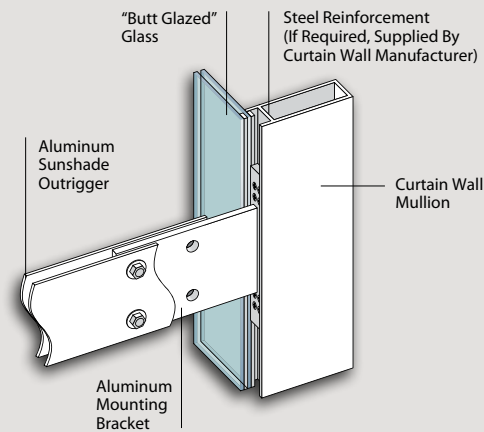
C/S Sun Controls Mounting Options

C/S Sunshades are mounted on all types of structures throughout the world. C/S engineers will work with you to provide the proper attachment for any masonry structure or curtain wall system. Below are typical attachment details; for specific designs call 800-631-7379.

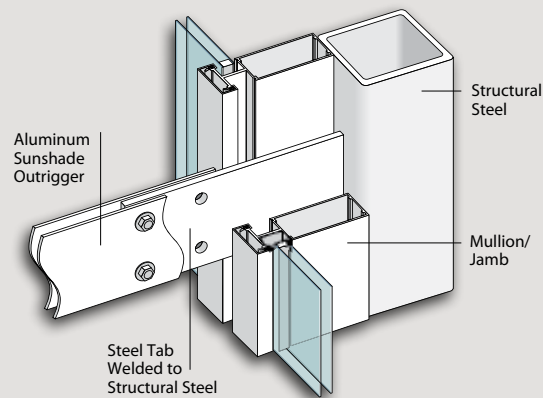
Curtain Wall Construction



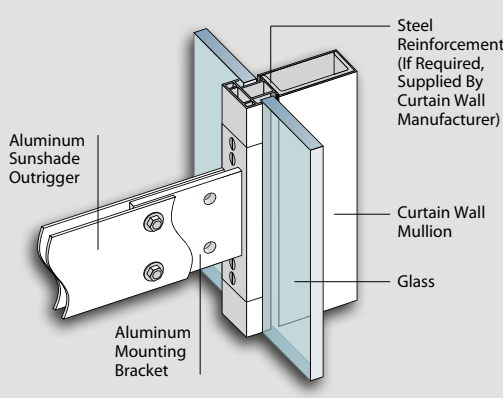
On Curtain Wall



On Curtain Wall

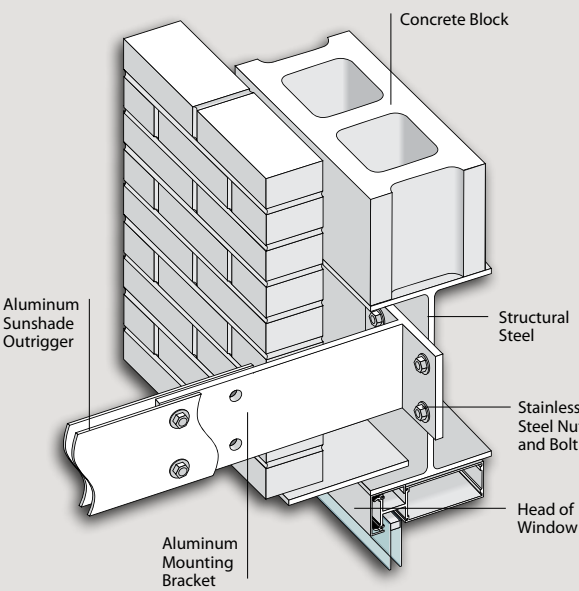


On Curtain Wall

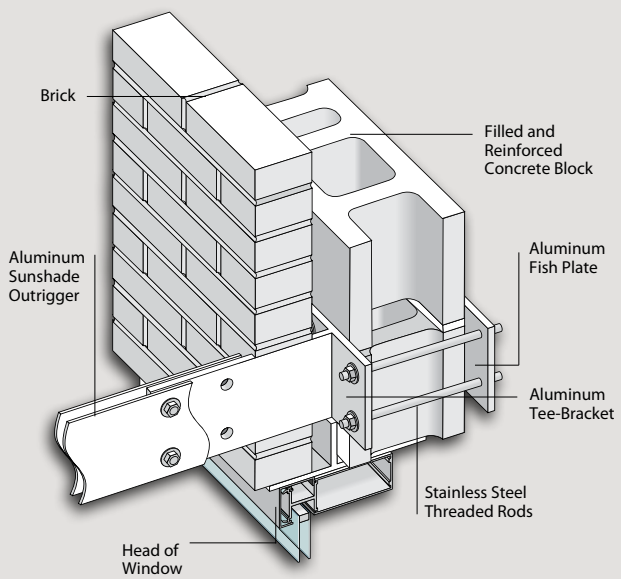


On Curtain Wall

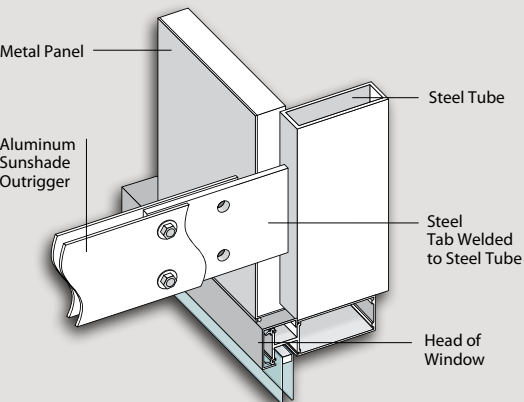
Masonry & Metal Building Construction



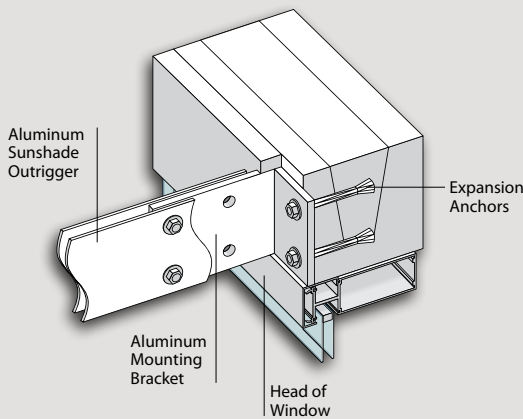
Bolted to Steel Behind Brick



On Block, Behind Brick



Steel Tab Welded to Steel Tube Behind Metal Panel



Bolted to Concrete Lintel



Construction Specialties™

49 Meeker Avenue, Cranford, New Jersey 07016 U.S.A., 908-272-5200

895 Lakefront Promenade, Mississauga, Ontario L5E 2C2 Canada, 905-274-3611

► www.c-sgroup.com



The C/S Family of Products

For more than 60 years, Construction Specialties has been a leader in architectural specialty products, including: Acrovyn® Wall and Door Protection, Pedisystems® Entrance Flooring, Expansion Joint Covers, Cubicle Track and Curtains, Smoke and Explosion Venting Systems, Architectural Grilles, Architectural Louvers and Sun Controls.

We have operations throughout the world and can provide C/S Products virtually anywhere. For a complete list of our international locations, visit www.c-sgroup.com.



For the nearest C/S representative, or literature and samples, call toll free 800-631-7379 in U.S.A. and 888-895-8955 in Canada, or visit www.c-sgroup.com

©Copyright 2011 Construction Specialties, Inc.

Construction Specialties, Inc. reserves the right to make design changes or to withdraw any design without notice. Printed in U.S.A. Series 12

