Coiled wire fabric is used creatively on building interiors and exteriors in combination with natural and electrical lighting to produce distinctive results.

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Lighting Effects with Coiled Wire Fabric

Stunning results can be achieved by combining natural or electric lighting with coiled wire fabric

Sponsored by Cascade Architectural | *By Peter J. Arsenault, FAIA, NCARB, LEED AP*

Le Corbusier is attributed with the quote, "Architecture is light." Indeed, most architects spend a lot of their design time working natural and artificial lighting into buildings in ways that are both functional and beautiful. Of course, it is really the interplay of that light onto materials and surfaces and the way it is spread throughout a three-dimensional space that produces a total experience. Factor in time of day and different lighting conditions, and the total process is a very dynamic one rather than just a static event.

Among the materials that are part of an architect's palette for incorporating light into buildings, coiled wire fabric is becoming a more widely used medium. With variable light transmission or reflection qualities, it provides a very customizable but cost-effective and durable option for achieving a wide range of design outcomes. This course delves into the specifics of this versatile material and looks at the variety of ways that it enhances architecture through the use of light. Starting with an overview of the material, we then look at the ways it can be a means of control and enhancement of both natural daylight and electrical lighting. Further, we explore its use as a surface where still or moving imagery can be projected.

CONTINUING EDUCATION

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Learning Objectives

After reading this article, you should be able to:

1. Identify and recognize the specific nature of coiled wire fabric with its abilities to impact lighting, ventilation, and well-designed healthy spaces.
2. Assess the use of coiled wire fabric to control or enhance the use of sunlight to create improved indoor environments for the welfare of their occupants.
3. Explain the options available for using electrical lighting, including low-voltage or energy-efficient LED lighting, for interior and exterior installations.
4. Determine ways to use coiled wire fabric as a means to receive projected imagery, both fixed and moving, for artistic or performance purposes.

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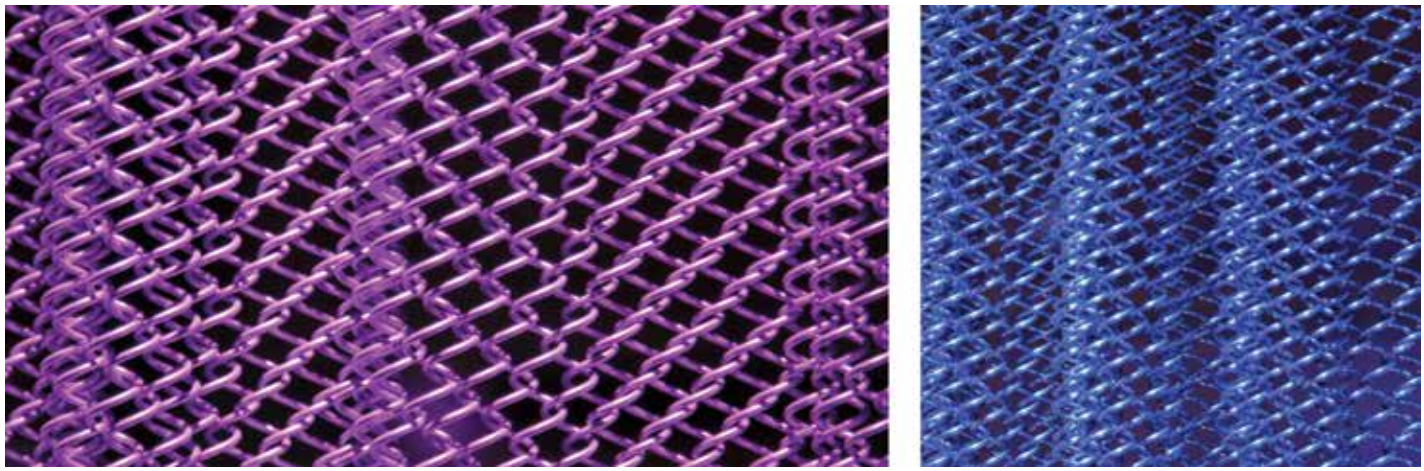

Coiled wire fabric can have different features and attributes that change the way it looks and performs.

Ultimately, it is the combination of design prowess, materials, and lighting that create beautiful, functional architecture as seen in examples cited.

COILED WIRE FABRIC OVERVIEW

From a design standpoint, coiled wire fabric is truly an intriguing material. As a semi-transparent material, the interplay between the woven metal and light combines architecture and art in ways that are noticeable and can stimulate the senses of the observers. It does so by being fundamentally different from traditional metal mesh materials. The essential difference is that coiled wire fabric is designed as an architectural product for use as a finish material, not just a utilitarian one. As a durable, thin material, coiled wire fabric is lighter in weight than traditional wire mesh and offers more design flexibility. For interiors, architects and designers use coiled wire fabric for window curtains, ceiling treatments, wall coverings, security gates, and even as complete sculpting partitions, all adding elegance and purpose to the spaces where it is used. On building exteriors, coiled wire fabric can provide sun shading, fall protection, and visual facade treatments. In each of these cases, it can allow for ventilation or the controlled passage of air and light.

Coiled wire fabric is manufactured by interlocking metal wire coils via a simple corkscrew method: weaving the spirals together to create a flexible metal fabric panel. Beginning with a choice of the metal material, manufacturers combine skilled craftsmen with inventive machinery to form the wire into a spiral of a specified weave size. Typically the length of the fabric is fabricated to match the height of the opening at the project site. The edges are usually hand crimped, and the finished fabric is ready to be secured using a choice of attachment systems.

To better understand this innovative material and how it works with light, a closer look at the attributes of coiled wire fabric systems follows.

- **Material makeup:** Coiled wire fabric systems begin with a base metal wire in varieties of steel, aluminum, brass, copper, or stainless steel. The choice of the wire material and its gauge ultimately impact the weight, functionality, and aesthetics of the final fabric. By selecting the fundamental makeup of the fabric (i.e., the base metal, weave thickness, wire gauges, weave pattern, finishes), the properties of strength, rigidity, and light transmittance can all be determined to meet the design or performance characteristics that are being sought. It is worth noting that the fabric is available in virtually unlimited widths and up to 40 feet in length, so large installations can be achieved with a single panel in many cases. For projects needing more than a 40-foot span of fabric, multiple coils can be spliced together at the jobsite in a routine fashion and still create a continuous or seamless appearance.
- **Attachment systems:** The means of attaching the wire fabric to the building can be done in a variety of ways with a wide range of appearances. The material can be left to hang (i.e., flowing freely, secured at both the top and bottom, and even be pulled taut to create a semi-rigid condition. Because of its fabric nature, curved and undulating shapes are easily achieved, providing facades and interiors with more character and vitality than rectilinear shapes alone. Products are available in

Photos: © CCD, Inc.

Attachment systems for coiled wire fabric are typically based on frames or tracks that can be designed to suit different shapes, sizes, and installations.

Photos (from left): © Bruce Damonte Photography; © CCD, Inc.

The multiple characteristics of coiled wire fabric make it ideally suited for a wide variety of building types and design options.

either fixed or movable configurations along track attachment systems that are engineered to fit the precise aesthetic and performance requirements of a project. Many attachments are offered in aluminum, steel, or stainless steel and available with optional ceiling, wall, or suspended mounting systems. Engineered attachment systems can be manufactured flat or undulating to varying degrees, then finished with the coating or color of choice.

- **Design uses:** Coiled wire fabric is used as a highly decorative design element that adds dramatic and elegant screening to exterior and interior applications. It is highly customizable and available in virtually unlimited finishes. Coiled wire fabric is available in either a natural, uncoated state or with resilient powder-coating finishes for a sharp, long-lasting, durable aesthetic. This means that the color choices are broad, allowing it to be a successful part of virtually any design scheme. Further, the finishes can be specified with low-VOC content to protect against that exposure when used on interiors. In fact, some coiled wire fabric products carry Declare labels with the International Living Future Institute.
- **Light characteristics:** The nature of coiled wire fabric is such that it will allow light to pass through, which is often desirable for many applications. The controllable nature of the fabric is such that it can be used for high levels of light transmission or reduced levels for solar shading, which can contribute to energy savings. It can also be used for lighting effects (i.e., illuminated with wash lighting) or light diffusion to further enhance the interior ambient lighting of a space. How much light comes through and how visually transparent a certain product appears will be based directly on the makeup of a particular coiled wire fabric. Those with thicker wires and tighter weaves will obviously allow less light than those with thinner wires and more open weaves. Architects and designers can play with the material's level of transparency by altering these factors to suit their needs to create a material that is simultaneously open and closed at the desired levels. As such, it is sometimes used over windows, as a diffuser for natural daylight, or as room separators where light is intended to be shared. "Fullness" is another factor that designers can alter that will vary the level of light able to pass through the coiled wire fabric. By using more material than what is required to cover a given area, a billowing drapery effect may be achieved, causing the mesh to overlap, which can be used to control the light.
- **Air movement:** The same characteristics that allow light to transmit through coiled wire fabric also allow a controllable amount of air to move through it. This is useful for places that require ventilation but want separation, such as well-ventilated building facades or interior space separations that do not want to interfere with HVAC systems.
- **Strength and durability:** From a general building material standpoint, coiled wire fabric can be used as a component across a full facade in coordination with other building enclosure systems to protect otherwise vulnerable components. In appropriate strengths, it can provide partitioning for safety, fall protection, blast mitigation, and security. As a material added to a building, coiled wire fabric is a long-lasting and durable product requiring minimal if any maintenance.
- **Retrofit applications:** Coiled wire fabric is lightweight, making it easy to work into a retrofit or renovation project. This is particularly useful in the case of needing to reinforce and protect facades or other building areas from threats of severe weather or other concerns. The gauge of the wire and the spacing of it will determine the overall strength, which can then be selected to suit a particular retrofit condition.
- **Green building design:** Coiled wire fabric is able to contribute to green and sustainable building designs in several ways. First, it is typically made up of metals that have a recycled content as high as 90 percent from a scrap base. It can be subsequently recycled at the end of its service life. This all plays well into a favorable life-cycle assessment of the materials used that make up a coiled wire fabric system. Secondly, the products can support a positive indoor environmental quality. The open nature of the fabric supports designs that incorporate natural daylight or ventilation in interior spaces. The prefinished or natural finish of the metals used means that no additional paints, coatings, adhesives, or harmful sealants are needed. Hence, the materials are low emitting or VOC free. Some products are Living Building Challenge Red List Free, 100 percent recyclable, and use no toxic chemicals in the manufacturing process. Hence, they create a low carbon footprint by using domestically sourced materials that are durable and easy to maintain.

Once installed, energy performance of buildings has been documented through independent testing. Results show energy consumption savings of up to 3.3 percent for interior applications over glazing and 12.3 percent for exterior applications. This means that it is effective not only for new buildings but also for retrofitting buildings that lack high-performance glazing. Both internal and external applications significantly increase occupant comfort by mitigating sunlight, reducing glare, and controlling interior temperatures. The lightweight, durable nature of the fabric means that it will neither impact the building structure adversely nor require much in the way of maintenance or replacement over the life of the building.

When selecting a coiled wire fabric system for a project, it is important to recognize that there are a lot of different choices in the details of how it can be specified. Manufacturers will readily work with architects and designers to review the specific project requirements and suggest standard options or even engineer a custom solution. Some even offer specific services to support the use of their products, including structural engineering, mechanical engineering, extrusion design, modeling, drafting, shop drawings, schedules, specifications, fabrication, and on-site installation consultation.

Photo: © CCD, Inc.

Scrim panels placed over a facade help to reduce excess solar gains and glare while adding a ventilated, custom visual design aspect to a building.

NATURAL DAYLIGHT CONTROL

Providing natural daylight in buildings has always been an architectural design consideration. Problems can arise if that light is uncontrolled, however, since undesirable characteristics such as glare or overheating can occur. Therefore, there is a need to provide a means to control the daylight and solar gains so that the heat and light provided by sunshine remain desirable aspects of a building design.

Coiled wire fabric is an ideal choice for solar and daylight control since it can be selected and specified to provide a wide range of differing levels of light penetration or reflectance. As noted earlier, the makeup of the fabric can be adjusted as needed based on the wire gauge, weave, fullness, and color to produce different effects. A light-colored, densely woven fabric with thicker gauge coiled wire can be expected to reflect direct sunlight back away from the building and keep it cooler. A dark-colored fabric will absorb sunlight and radiate back some heat, while a more open weave will allow more light penetration through it. By selecting the appropriate characteristics, the desired traits can be achieved. More significantly, different characteristics can be selected to suit different conditions on the north, south, east, and west sides of a building related to sunlight exposure and concerns. In so doing, the appearance of the fabric can look similar or different as desired.

There are several common ways that coiled wire fabric is used to control daylight and solar gains.

Exterior Design

It is generally understood that the most effective means of shading windows and other fenestration is to stop or reflect the sunlight on the outside of the building. Therefore, coiled wire fabric has been used in several ways on building exteriors to limit solar gains, reflect light deeper into interior spaces, or shade the surface of glazing.

- **Scrim panels:** The wire fabric can be installed in metal frames that are mounted directly to the building facade. The resulting panels then cover over the glazing or openings and provide shading or penetration as desired. From the inside of the building, the view can be maintained much the same way ceramic frit on glass is used to allow a view but reflect sunlight.
- **Horizontal panels:** Instead of covering the windows or openings, panels can be installed so they extend out horizontally above the fenestration. This can create shading such that ambient light enters below the horizontal projection but direct light is prevented. Energy codes recognize this approach as a projection factor (PF) that can be used to demonstrate code compliance for fenestration and daylighting. The top of the horizontal panel could also be placed below the top of the glazing with a reflective surface that allows daylight to be reflected up to the ceiling of the interior space and thus penetrate deeper into the building.
- **Vertical panels:** Sometimes there is a preference for panels that stand up vertically in front of a building facade, either to create a variation on the brise soleil effect, provide solar shading particularly for east/west orientations, or add another design element to a building. Coiled wire fabric can be used in panels to achieve any or all of these approaches. When the panels are attached to the building, they can appear as vertical louvers or accents. When a separate frame is used, it can help enclose an outdoor space or otherwise add to the three dimensionality of the building.

- **Exterior protection:** In addition to sunlight, building components like glass, glazing, and even opaque assemblies can be subjected to other forces from nature or man-made events that require some form of protection. Of course, architects and designers do not typically want a purely industrial or harsh appearance to be the dominant feature of that protection. Rather, the goal is to find a solution that respects the overall design of a building while still providing the ability to be protected and resilient. This is true if severe weather is the concern, such as hurricanes, tornados, or flooding. It can also be required where blast protection is part of the building design criteria, as is the case in many government buildings and other public facilities. Recognizing these concerns as a design issue is the first step in determining an appropriate response.

Protective, coiled wire fabric has been used as an appropriate design solution to create building facades that are appealing and consistent with an overall intent. When that fabric is selected, engineered, and installed to serve as a protective barrier, then it becomes a first line of defense against natural disasters or man-made hazards. Hence, coiled wire fabric can help buildings remain resilient in the face of increasing changes and challenges.

With an understanding of how coiled wire fabric can be used effectively on building exteriors, let's next turn our attention to interiors.

Interior Design

There are certainly many cases where controlling solar gain and glare is not possible or practical on building exteriors. Hence, interior treatments such as blinds, shades, or drapery become the focus of solving those issues. One of the benefits of such interior solutions is their inherent controllability to suit differing lighting conditions over the course of a day, week, month, or year. Commonly, interior solutions are also less expensive than exterior solutions since they are not subjected to the same harsh conditions.

With all of the above in mind, coiled wire fabric has been very successfully used as a durable, attractive, and economical interior treatment over windows and other glazing. In some cases, it may be the only treatment used, or else it can be coordinated with other window treatments. Either way, there are multiple opportunities to create interior designs that blend the best of light filtering fabric with color, form, and texture. Similarly, in cases where skylights or clerestories are part of the building, coiled wire fabric can be suspended below it in artful or simply functional ways to reduce glare, channel the daylight, or provide a curvilinear contrast to an otherwise rectilinear design.

Interior applications are where the fullness of the coiled wire fabric can play a big role. When more material is used than simply what is required to cover a given area (as in an exterior panel), a billowing, drapery effect may be achieved. This is consistent with other styles of interior window treatments and can create a rather luxurious look. The weave, color, and texture of the selected coiled wire fabric can belie the fact that it is not cloth fabric and therefore offer a warm and comfortable appearance.

The coiled wire fabric can be installed as a full fixed or operable drapery system depending on the type of attachment or track system being used. Curved, segmented, and straight systems are all possible, so designing a fabric system to match a glazed opening or other feature can be very straightforward. This is true if small, single window units are the focus or if large, continuous glazed areas are part of the design. This is due to the ability of the coiled wire fabric to be provided in long, continuous sizes or to be seamlessly joined in the field such that no window opening size is too large or too small for consideration.

Another significant attribute of using coiled wire fabric for interior applications is its ability to allow for the predictable passage of air as well as light. Many exterior windows have HVAC components installed above, below, or adjacent to them that move air or radiant heat into the space. The coiled wire fabric typically is not bothered by the heat or cooling temperatures that emanate from these components, and the open nature of the weave allows air and temperature to pass through the wire fabric. Hence, the light-controlling aspects of the wire drapery will not necessarily interfere with the proper operation of the HVAC system the way that fabric drapery sometimes can.

Photos: © CCD, Inc.

Panels that are fabricated to be installed separate from a facade in a vertical manner provide an opportunity for solar screening during the day and special lighting effects at night.

Beyond the appearance and functional aspects of coiled wire fabric used on interiors are the other performance capabilities that it provides. Fundamentally, it is a very durable choice since the metal coils are not hampered by many of the usage and wear concerns of other materials, such as fabric, plastics, wood, etc. In fact, it may even protect the surfaces and glass that it covers. The overall appeal and durability often means that the material is not limited to covering windows on interiors but can be used elsewhere as a means to separate spaces, create a visual focus, or enhance lighting designs. In these cases, the coiled wire fabric can be hung to line hallways, enclose or define smaller interior spaces, enhance ceilings, or simply create a visual focal point to a space. It can even be used help with sound absorption and attenuation if the wire fabric is designed with those attributes.

Photo: © William Horne Photo

Coiled wire fabric can be used on interiors as a durable, appealing, window treatment to control glare but still allow for daylight, views, and HVAC operation at the windows.

ELECTRIC LIGHTING DESIGN

All of the traits that make coiled wire fabric ideally suited for use with natural light also apply to the use of electric lighting. Since all buildings are currently designed to use electric lighting for exterior and interior locations, coiled wire fabric can be considered for use in virtually any building type. Some of the potential ways for this to be accomplished are discussed as follows.

Exterior Facade Lighting

It is common to provide exterior lights that shine onto building facades to provide some ambient light to the surrounding area, highlight the building in the dark, or create an artistic affect. Coiled wire fabric has been combined with different lighting systems to achieve all of these results in ways that are enticing, durable, and delightful.

A facade that incorporates coiled wire fabric as panels or a covering will express the characteristics of that fabric during daylight hours. However, at night, the same coiled wire fabric can be illuminated to create a totally different appearance. The use of LED lights in particular allow for different colors, patterns, and senses of texture. When these LED lights are connected to a simple electronic control system, different lighting colors can cycle through preprogrammed or random patterns to create a truly visually dynamic facade. The end result is a facade that is unique with very different characteristics during the day compared to nighttime. In some cases, this can lead to truly artistic creations that become focal points or features of a building or complex.

Photos: ©CCD, Inc.

Exterior facades can be created with coiled wire fabric that offers an appealing design by day and a dynamic lighting option at night.

Interior Surface Lighting

Building interiors use electrical lighting at all times of the day for a variety of purposes. Indeed, lighting design is a field unto itself that blends providing the proper quantity of light with the best quality of lighting to create functional, appealing spaces. In recent decades, this design specialty has focused on energy efficiency too so that the best light outputs are achieved for the least required amount of energy used. In commercial buildings in particular, this often means that high-performance fluorescent or LED lighting is used coupled with appropriate lighting controls. As more options have become available in terms of choosing light color and intensity, the art of creating interior lighting schemes has become more expansive and innovative. Consistent with this trend, coiled wire fabric has become an integral part of creative, well-designed lighting schemes for interior spaces.

When coiled wire fabric is installed below or adjacent to an artificial light source, it helps illuminate rooms with color and light. The interior lighting effect is thus determined by both the lighting source and the finish chosen for the fabric. Bright white lighting sources can be amplified by using reflective fabric or muted by using colored wire fabric more consistent with a particular design scheme. Hence the light can be diffused throughout a space while simultaneously reducing the intensity of the light. Essentially, interior lighting is usually considered from two vantage points: ceiling or wall mountings.

- **Ceilings:** When using coiled wire fabric as part of a ceiling solution, the appearance of the ceiling no longer needs to be only flat, and the layout of the lighting no longer needs to be only linear. Instead, coiled wire fabric installed on the ceiling can be undulating and formed, while carefully located LED or other lighting is an attractive alternative to rows of ordinary tube lighting fixtures.

Photos: ©CCD, Inc.

All manner of electrical lighting can be combined with coiled wire fabric for interior conditions that are appealing, dynamic, and artistic.

- **Wall treatments:** Using coiled wire fabric for space separation purposes means that the same three-dimensional surface options (not just flat) are possible as a wall treatment. Curved, flat, free-form, or undulating dividers made of coiled wire fabric provide an excellent backdrop for lighting to be shone upon. This light can come from above at the ceiling level, from below at the floor level, or anywhere in between using lightweight, low-voltage LED lights. The net effect is a custom surface with the interplay between the wire fabric and the lighting providing the medium to create dramatic or sublime interior spaces.

Taking this approach a step further, it is worth noting that when different colored lights with moving heads meet on a coiled wire fabric surface, motion and color mixing take over. This effect is simply unattainable with solid, opaque materials, thus creating a unique and varied opportunity. Add in layers of coiled wire fabric installed in a series, and the design possibilities become multiplied. By installing light sources from several angles, one color passes through the first panel and interacts with the next, creating new tones along the way. This can be very popular for interior spaces, such as corridors, entrances, and other areas that can benefit from being transformed from otherwise mundane spaces to vibrant and dynamic ones.

COILED WIRE AS A CANVAS

By now, it is clear that light and coiled wire fabric can be used together in a variety of ways to enhance and illuminate the exterior and interior of buildings using many different design strategies. However, there is still one more opportunity to use light and coiled wire fabric together that is both functional and attractive in many public settings. Simply put, the coiled wire fabric can be used as a screen or a "canvas" upon which lighted images can be made to shine on it. The density of the weave of the coiled wire fabric as well as its color will influence the final effect, but in many ways, the end result is a surface where imagery, signage, wayfinding, or artwork can be projected onto it.

Where might this be appropriate to consider? There are a variety of building types where this technique has been used. Sports venues need to communicate with large numbers of people and find projected signage to be an effective method. Music and theater facilities have a similar need for artistic wayfinding and communication. They have a further need to provide backdrops or lit scenes behind or around performers. Combining projected light and coiled wire fabric provides an economical, lightweight, and technologically straightforward means to meet these needs. Many other buildings can benefit from such projected light imagery, whether on exterior facades or interior surfaces, for the same artistic or informational reasons. Sometimes it is particularly useful to enhance an otherwise boring surface and transform it into an expressive one that completely changes the atmosphere of the place where it is located. That can include walkways, parking garage facades, long corridors, or other similar surfaces.

In any of these cases, the key is to use appropriate light projectors to shine the selected imagery onto the receiving surface. These can be high-acuity projectors that allow for sharp, distinct imagery or simpler ones that provide more ethereal shapes and colors. In all cases, the projection does not need to be limited to static images. Rather, moving images and colors can be projected to suit the needs of the installation.

Light can be projected onto coiled wire fabric to create colorful patterns, signage, or even support musical and theatrical performances as shown here.

The coiled wire fabric itself also needs to be balanced with the type of imagery being presented. Fabrics with an open weave

are best suited for abstract or amorphous projections or to achieve those more ethereal effects. A tight weave is best for a crisper resolution and sharper images if the intent is for greater clarity. Relatedly, the coiled wire fabric can be either flowing or taut to provide more artistic effects or more concise imagery. Not to be overlooked in this case is the color of the metal fabric used. While the projector may provide intense enough color to remain identifiable, the underlying color of the metal will certainly affect the perceived colors. White metal can commonly maintain the crispest and brightest colors, gold metallic color will offer a muted or sepia tone appearance, and darker colors can create effects of floating imagery or mystery. All in all, the fabric and the projected imagery needs to be considered together with trial runs, experimentation, and different iterations looked at.

CONCLUSION

Light and architecture go hand in hand. Coiled wire fabric has been shown to be an effective tool to create a variety of lighting treatments in building design. This is true if the intent is to control natural light coming in from fenestration or glazing by using methods appropriate to exterior or interior installations. It is also very effective at enhancing or directing electric lighting inside of all types of buildings in ceiling or wall applications. In some cases, it can be used as a screen or canvas to project lighted imagery upon for informational or artistic effects. The key to a successful installation is to understand the choices and options available related to wire type, material, colors, weave, fullness, and related characteristics. Collaboration with a manufacturer of these products and attachment systems will assure a coordinated, successful result for well-designed projects.

Continues at ce.architecturalrecord.com

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Photos: © Jeremy Green

ARTISTIC FACADE CASE STUDY

Project: Los Angeles Opens Its Heart of Compassion
Location: The Vermont, Koreatown, Los Angeles
Artist: Cliff Garten
Real Estate Developer: J.H. Snyder Co.
General Contractor: Plas-Tal
Engineer: CKC Structural Engineers
Subcontractor: Metal Arts Foundry; Cascade Coil

The Project: The Vermont is one of the largest residential projects to be built in Los Angeles since the beginning of the last real estate downturn, according to local developer J.H. Snyder Co. The project has 464 apartments in two towers: one 29 stories tall and the other 23 stories. The two towers stand atop a seven-story complex containing stores, restaurants, and parking. This luxury property exudes a level of opulence with an expansive lobby, a fully equipped gym, and a 100-foot-long rooftop swimming pool in a garden setting that includes a dog run. A characteristic, artistic feature of The Vermont is its $1.6-million chandelier installed in the front of the building in the shape of a lotus blossom. In concert with 24-hour doormen, these features give this residential complex the air of a high-end hotel. "We really wanted to get a Four Seasons feel to it," says Jerome H. Snyder, senior partner of J.H. Snyder Co., whose firm spent more than $200 million building The Vermont.

The Artist: Cliff Garten is an internationally recognized sculptor and founder of Cliff Garten Studio in Venice, California. According to his website: "By connecting people to places and infrastructure through sculptural material, social history, and ecology, Garten's work locates the latent potential in every public place and situation to become more than the specific functions it appears to perform. Sculpture defines our interaction and movement by creating energy between things, generating interest in public activity, reframing our private lives, and creating a sense of place within public and private realms." Cliff Garten received a Master of Fine Arts in Sculpture from the Rhode Island School of Design and a Master of Landscape Architecture with Distinction from the Harvard Graduate School of Design.

The Artistic Work: The Heart of Compassion artwork is located in the heart of Koreatown in Los Angeles. The suspended sculpture is comprised of several distinct components. First, a 75-foot-long x 45-foot-tall diaphanous, undulating screen of coiled wire fabric covers floors 2 through 6 of the parking structure situated between the two towers of The Vermont. In front of the wire fabric, a 20-foot-tall, three-dimensional sculpture is suspended, consisting of 100 petal-like abstractions of a lotus flower made of laser-cut aluminum. The abstraction of the lotus blossom, which is a recurrent theme in Korean art, connects the building to the unique history of the Koreatown neighborhood and provides a meaningful symbol through the use of contemporary materials and light. The motif of the lotus is carried through the plaza in etched glass panels that line the public staircase leading from the plaza to the second-floor balcony overlooking Wilshire Boulevard.

To create the complete, dynamic effect, the entire sculpture uses LED lighting to bathe the lotus flower portion in an intense white light while the screen and corresponding linear elements are engaged in a light show of rich, changing colors. The color of the electric lighting captured by the curving screen deepens depending on the amount of available natural daylight. The overall effect is of an ever-changing facade that combines cultural symbolism, metallic materials, LED lighting, electronic controls, and artistic talent to create a dramatic and colorful centerpiece for the building complex.

View a time-lapse video of the sculpture's installation and illumination here.

The Results: The two residential towers of the Vermont are cleverly and beautifully joined by the illuminated sculpture titled "Los Angeles Opens Its Heart of Compassion." Not only does it help create a sense of place for the facility, but it also turns an otherwise mundane parking garage facade into a vibrant, unique feature that sets this residential project apart from others in the area. The use of coiled wire fabric made the work possible both as an artistic medium and as a durable, functional material that will hold up over time.