EN___® FOLD

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From the designers and integrators of the worlds most advanced retractable roof mechanization systems, the En-Fold retractable fabric roof provides what architects and their clients have been seeking: a means to convert available outdoor areas into dependable, revenue generating, programmable spaces.



JUVIA RESTAURANT Miami Beach, FL

The En-Fold roof by Uni-Systems is a high performance retractable tensile structure designed specifically for large commercial applications such as outdoor dining areas, outdoor event centers, pool decks and sports facilities, where open skies are desired and weather protection is required. It fills a niche in the market directly between the "off-the-shelf" retractable canopy products with limited spanning and wind load capabilities, and custom designed "one-off" retractable membrane structures that are cost prohibitive to build. En-Fold is the result of our years of experience in the design and integration of innovative kinetic structures, distilled down into a lightweight, high performance, retractable tensile structure that is highly adaptable to the surrounding architecture and affordably priced for discerning clientele.

Uni-Systems' engineers have decades of collective knowledge in the field of kinetic architecture and transformative mechanized structures capable of changing with climate, need, or purpose. This expertise has created the world's first fully

WHAT IS AN EN-FOLD?

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TRUE TENSILE MEMBRANE STRUCTURE

Like a well-trimmed sail, En-Fold's patented drive mechanism applies precise biaxial pretension to the fabric membrane, thus transforming it into a lightweight tensile structure.



BAL HARBOUR SHOPS Bal Harbour, FL

retractable tensile membrane structure that can be purchased as simply as other pieces of mechanical equipment, such as HVAC units, or elevators.

The unique design of the En-Fold system fully resolves all of the fabric pretension forces within the aluminum drive beams and the perpendicular idler beams. This means that the En-Fold does not impose high loads into the surrounding architecture, making it a perfect solution for retrofits in existing structures, requiring little or no reinforcement. And with corrosion resistant aluminum construction and a robust mechanization system, En-Fold is designed to perform reliably for years even in harsh coastal environments such as Miami Beach.

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En-Fold transforms unusable and unprofitable outdoor spaces into revenue generating oasis with sun, wind and rain protection at the push of a button.



BAL HARBOUR SHOPS Bal Harbour, FL

Outdoor dining and entertainment spaces are becoming more popular as the demands of work and everyday life increase. People are working longer, and harder. While this is driving productivity rates up 2% per year, it also has resulted in people taking 2 fewer vacation days per year on average, and in general spending more time indoors and less time enjoying nature and the outdoors. In the rush of daily life in the 21st century, people are increasingly making up for it by grabbing "microvacations," opportunities to break away from the rush for a moment and recharge in the sun and fresh air... ideally while enjoying the serenity of a beautiful view.

As the hospitality industry seeks more ways to utilize outdoor spaces to meet the demand, the architectural community likewise has sought ways to blur the line between indoors and outdoors in order to satisfy their client's needs. In expanding the programmed space to the outdoors, architects have needed to find a way to maintain the open sky when weather permits yet provide reliable protective cover in the case of rain, wind or excessive sun.

WHY EN-FOLD?





WEATHER PROTECTION SUN / RAIN / WIND

Redefining the line between indoors and out; En-Fold maintains the open sky when weather permits or a protective cover in the case of inclement weather.

SIMPLE. REFINED. ELEGANT.

Due to this increase in demand for outdoor dining and entertainment spaces, our clients turned to us for a solution. In the past, people typically found the answer in custom designed lightweight retractable fabric roof systems - which tended to be cost prohibitive to build. So, our clients asked for a solution that would meet their demands, yet also be cost effective. In sum, what they wanted was a lightweight retractable tensile structure that could deploy at the push of a button, and have the same high level of performance as a fixed tensile membrane structure, while also being efficient to design, supply and install in order to fit within available budgets and schedules. Uni-Systems' response to this request is the En-Fold retractable fabric roof; the world's most technologically advanced retractable tensile structure.

H ow en-fold helps your business

Blurring the lines between indoors and out, En-Fold allows for natural ventilation and daylighting, to reduce the load on HVAC and electrical systems.



ANDAZ HOTEL San Diego, CA

En-Fold is also an excellent source of shade and can help to reduce thermal gain in adjoining structures. The expected longevity of the product combined with the enhanced utilization of outdoor spaces means that En-Fold contributes to the sustainability of the hotel, restaurant, or other commercial property. En-Fold is a lightweight structure that reduces the amount of material required to cover an area and is designed so that few, if any mechanical or structural components ever require repair or replacement.

The standard Sefar Tenara fabric membrane has a life expectancy of 25 years and is fully recyclable. By utilizing outdoor spaces for restaurant seating and events, rather than building enclosed, conditioned space facilities managers can lessen their reliance on heating, air conditioning and artificial lighting, all of which are major contributors to the energy consumption of a building.

Taken together, the fact that the En-Fold can

H_{OW} en-fold helps your business

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ANDAZ HOTEL Sun worshipers paradise during the day



SOHO BEACH HOUSE HOTEL Features the industry's most translucent fabric

eliminate rained out events, or rained out patron seating hours, the longevity of the product and less reliance on HVAC and artificial lighting all contribute to a 4 to 5 year return on investment in many applications.

The remote threat of rain may prevent patrons from booking diner reservations, or a large



SOHO BEACH HOUSE HOTEL 40% light transmission, long life, lasting pliability

planned event. Advertising the fact that outdoor restaurant seating, or outdoor events such as a beach front weddings, can be guaranteed despite the weather and without reliance on fixed roof structure, or tent rental further enhances the ROI.

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While there are several retractable canopy solutions available, they can fall short in a number of areas: spanning capabilities, environmental load capacity, and ability to meet the architect's vision.



444 NORTH CAPITOL Washington D.C.

The demands of the hospitality industry often call for wide-open, column free spaces in order to maximize versatility and the En-Fold solution is engineered to meet the challenge with clear spans up to 100', while the vast majority of the retractable canopy products available limit the column free span to about 25', which can create obstacles for the architects and facility managers to work around.

In addition to longer spanning capabilities, the En-Fold also requires less permanent overhead structure. Typical drive beam spacing is at 20' intervals, resulting in about half the number of drive beams or fixed structure as found in other systems.

As a true retractable tensile structure, En-Fold can be configured to meet live load specifications set forth by local building officials for any given wind region with a maximum of 30psf in the deployed position. For applications where wind can exceed 30psf En-Fold can quickly be retracted and stored out of harm's way. The load capacities for each

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RIGOROUS ENGINEERING En-Fold is the industry leader; designed and tested to withstand 30psf wind load.

application are analyzed and published in the permit package to enable local building officials to quickly approve permit requests.

Smaller retractable canopy systems do not typically publish load capacities and have at best, less than half of the load capacity of En-Fold and need to automatically retract in moderately heavy winds. A sudden thunderstorm can trigger the canopy to open during an event, or the noon or evening rush, causing patrons to flee for cover. With En-Fold, managers can be rest assured that the tensile structure covering their outdoor space will withstand even the most severe thunderstorms, without the need to be retracted.

With a myriad of configurations possible with En-Fold, architects can design the product to fit within their vision, whereas with the smaller canopy products available the architect is required to choose an established style to work around.



CONFIGURATIONS En-Fold is highly customizable with many configuration options

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With a modular, pre-engineered design and warehoused components the En-Fold delivery cycle takes as little as sixteen weeks, not including review and permitting processes.



ATTENTION TO DETAIL En-Fold is constructed from the highest quality components

That means a fast project turn-around for the client who wants to start maximizing profits as quickly as possible.

The typical En-Fold delivery method includes application engineering, wet stamped permit drawings, equipment supply, installation supervision, equipment start-up, commissioning, and owner training. Installation durations vary according to the size configuration, with three to four weeks being the average. En-Fold comes with a One Year Warranty and assurance that the product will continue to perform as expected far into the future can be purchased in the form of Uni-Systems' technical support.

For additional En-Fold product information, sales support, a list of authorized En-Fold Sales Representatives, or information on becoming an authorized En-Fold Sales Representative please contact:

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The Setai Hotel Miami Beach, FL

Originally known as the Dempsey-Vanderbilt Hotel, The Setai Hotel lies within the historic Art Deco District of the South end of Miami Beach. Designed by one of Miami's star architects of the Tropical Deco style, Henry Hohouser, The Setai was built in 1938 but underwent historic restoration and renovation in 2004, including the addition of a garden court in the rear. As the courtyard faces east, Florida's legendary sun plays a big role in heating up the space, despite shade from palms and two pergolas. Setai management requested retractable shades to fit over much of the courtyard to maximize guests' enjoyment of the space.

The support for the En-Fold® system is a creative solution that relies on the structure of the existing pergolas: four steel trusses were welded to the top of the shortened pergola columns to span transversely across the space. Vertical steel struts welded to the center of each cross truss hold up the main ridge beam, completing the structural system and thus avoiding need for any additional columns in the courtyard. Unique to this installation is an innovative multi-position stop program that maintains fully tensioned fabric in three different positions, making a total of 10 combinations between the two En-fold® units together.

TECHNICAL DESCRIPTION



Location: Completion Date: Project Scope: Miami Beach, FL November 26, 2016 Design, supply and installation for the En-Fold retractable fabric canopy system and support structure

Client: Engineer of Record: Fabric Fabricator: Installer: The Setai Hotel GLR Engineering Lightweight Manufacturing Florida General Contractor Solutions

En-Fold retractable fabric canopy

- Total Plan Area: 6,917 sq. ft.
- Maximum Wind Load: 22.8 psf
- Number of Units: 2
- Fabric: Sefar Tenara® 4T40
- Unit 1 & 2:
 - Extension: 60'-4" per unit
 - Width: 57'-4"
 - Number of Drive Beams: 6; 3 per unit



THE SETAI HOTEL POND COURTYARD





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Paris Hotel and Casino Las Vegas, NV

Beer Park by Budweiser — located on the main Las Vegas Strip — is the first rooftop bar and grill at the iconic Paris Hotel & Casino (with its half-scale replica of the Eiffel Tower.) Designed by Gensler to recreate the atmosphere of a classic baseball stadium and city park, the popular gathering spot brings people together to enjoy their favorite sports teams on dozens of HD TVs mounted above all of the seating and the central bar. A row of high top tables line the Vegas Strip side of the rooftop plaza and overlooks the famous Fountains of Bellagio across the street. Key to making the space functional and economically viable is the En-Fold® extra wide (87 ft) retractable canopy that offers daytime shade, and when retracted at night, unrestricted views of the stars..

Located in a seismic zone, the project required the En-Fold® be structurally released from the system of support for the heaters/misters, TVs, etc., an exceptionally dense cluster of specialized equipment that needed to hang above seating areas while not encumbering the drive beams of the canopy or the customers' views.

TECHNICAL DESCRIPTION



Location: Completion Date: Project Scope:

Client:

Architect: Interiors: Engineer of Record: General Contractor: Fabric Fabricator: Reseller/Installer: December, 2015 Design, supply, installation Technical support Hexx Kitchen + Bar and

Las Vegas, NV

Budweiser Gensler Gensler GLR Engineering Austin General Contracting Inc. Lightweight Manufacturing Austin General Contracting Inc.

- Plan Area: 3,097 sq ft
- Maximum Wind Load: 20 psf
- Number of Units: 1
- Unit 1: En-Fold retractable fabric canopy
 - Extension: 35'-6"
 - Width: 87'-3"
 - Number of Drive Beams: 5
 - Fabric: Sefar Tenara® 4T40
 - Fabric Pretension: 10 lbs. per inch

















Four Seasons Resort Lanai, HI

An ocean-view restaurant at the Four Seasons Resort on Lana'i Island — one of Hawaii's smaller islands that once housed a major pineapple plantation almost 100 years ago a structural trellis frames the outdoor dining area of One Forty restaurant, the premier dining experience on the island and holds down the southeast corner of the resort lobby, facing the ocean. Five custom En-Fold® retractable fabric canopies are fitted to the building's façade to provide much-needed shade.

Two of the canopies along the south-facing terrace are 29'–11" wide, one is 24'–3" and the fourth is 16'–6" wide; all south facing canopies extend 20'–9" when fully open. The fifth canopy is around the corner to the north and covers a VIP dining area with a canopy that measures 28'–5" wide and extends 17'–6". The canopies slope gently down away from the building and have built-in copper gutters along the leading edges. All five of the En- Fold® retractable canopies integrate nicely into the teak-clad trellis system so that the restaurant is fully operational in all weather conditions.

All five En-Fold® canopies are controlled from a single operator control station and a hand held remote. The control system is also integrated with the Lutron® control system that is used to control lighting and roll down sun shades.

TECHNICAL DESCRIPTION



Location: Completion Date: Project Scope:

Client: Architect: Engineer of Record: General Contractor: Fabric Fabricator: Reseller/Installer: Lanai, HI March, 2016 Design, supply, installation Technical support

Four Seasons Resort Lanai Pacific Asia Design Group GLR Engineering Nordic PCL Lightweight Manufacturing Topical J's

En-Fold retractable fabric canopy

- Total Plan Area: 2,586 sq ft
- Maximum Wind Load: 20psf
- Number of Units: 5
- Fabric: Sefar Tenara® 4T40
- Unit 1 & 2:
 - Extension: 20'-9"
 - Width: 29'-11"
 - Number of Drive Beams: 2 each
- Unit 3:
 - Extension: 20'-9"
 - Width: 24'-3"
 - Number of Drive Beams: 2
- Unit 4:
 - Extension: 20'-9"
 - Width: 16'-6"
 - Number of Drive Beams: 2
- Unit 5
 - Extension: 17'-6"
 - Width: 28'-5"
 - Number of Drive Beams: 2

ONE FORTY RESTAURANT







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Brickell City Centre Miami, FL

Quinto is the first U.S. outpost of the famed Uruguayan beachfront restaurant Parador la Huella. The 9,700 sq-ft eatery seats 359 and is designed with Feng Shui by LA-based Studio Collective. This fifth-floor, open-air dining terrace located in downtown Miami, has five En-Fold® drive beams that control the 88-ft-by-32-ft fabric canopy. The drive beams are anchored to the building's structure at the drive end and are supported at the far end by steel columns that flank the restaurant's defining trellis.

Quinto la Huella is part of the Brickell City Centre complex designed by star Miami architects Arquitectonica, known for high design/high quality projects like the 1980s luxury condominium Atlantis (featured in the TV series "Miami Vice.")

This is a successful joint project between Uni-Systems (responsible for design, supply, and technical support) and Awnings of Hollywood (responsible for engaging the general contractor, supplying/installing the structural steel and installing the En-Fold® system). Quinto's retractable canopy ensures active use of its rooftop terrace in all weather conditions and reinforces Brickell City Centre's natural, sustainable environmental management systems.

TECHNICAL DESCRIPTION



Location: Completion Date: Project Scope:

Client: Architect: Interiors: Restaurant design: Engineer of Record: General Contractor: Fabric Fabricator: Structural Fabricator: Reseller/Installer: Miami, FL April, 2016 Design, supply, installation Technical support

Swire Properties Ltd. Arquitectonica Clodagh Design Studio Collective GLR Engineering RCC Associates Awnings of Hollywood Awnings of Hollywood

- Plan Area: 2,816 sq ft
- Maximum Wind Load: 23.5 psf
- Number of Units: 1
- Unit 1: En-Fold retractable fabric canopy
 - Surface Area: 1998 sq ft
 - Extension: 32'-0"
 - Width: 88'-0"
 - Number of Drive Beams: 5
 - Fabric: Sefar Tenara® 4T40
 - Fabric Pretension: 10 lbs. per inch













THE BEACH CLUB HALLANDALE Hallandale, FL

The Beachwalk, a new luxury condominium development at Hallandale Beach, near Miami, needed a protective cover for a terrace that overlooks the Atlantic Ocean. The client requested a 25-ft-by-70-ft-wide En-Fold combination shade/ rain canopy for a second floor terrace used by the bar/ restaurant at the condo's private beach club.

The client's budget and timeframe were extremely tight with an urgency tied to a ceremonial grand opening that would be webcast live as part of a luxury home show. To fit the budget and the compressed construction time, the number of drive beams was reduced from four to three and the width of fabric canopy cut back to 60 ft. Designed for a wind load of 20psf, the canopy has an automated sensor that retracts in case of severe weather.

The En-Fold retractable canopy blends beautifully with the clean, modern façade of the South Florida architecture and provides a comfortable, and consistently reliable climate protective setting for residents and their guests.

TECHNICAL DESCRIPTION



Location: Completion Date: Project Scope:

Client: Engineer of Record: General Contractor: Fabric Fabricator: Structural Fabricator: Installation Labor: Hallandale, FL June, 2015 Design, Supply and Installation

The Related Group Lane Structrual Engineering HRC Construction Corp. Awnings of Hollywood Awnings of Hollywood Awnings of Hollywood

- Plan Area: 1,500 sq ft
- Maximum Wind Load: 20 psf
- Number of Units: 1
- Unit 1: En-Fold retractable fabric canopy
 - Surface Area: 1998 sq ft
 - Extension: 25'-0"
 - Width: 60'-0"
 - Number of Drive Beams: 3
 - Fabric: Sefar Tenara® 4T40
 - Fabric Pretension: 10 lbs. per inch



THE BEACH CLUB HALLANDALE







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RADISSON BLU EDWARDIAN HOTEL Guildford, Surrey, England

The Edwardian Group — developers of four- and five-star luxury hotels with historic undertones — required a retractable cover to a rooftop terrace of the 185-room Radisson Blu Edwardian Hotel in the heart of Guildford. The developer had engaged its regular architect to design a rain/shade canopy system for the terrace and had taken it up to design development stage when the Edwardian Group design director saw the Bal Harbour Shops En-Fold installation in Florida, prompting a halt of design and a major change in approach.

Guildford, located just 27 mi southwest from London, is the county seat of Surrey where the University of Surrey and the Anglican Guildford Cathedral hold sway. At city's center, the Radisson Blu hotel is located off High Street, a section of town paved with granite cobblestones and rimmed by trendy fashion shops such as Hugo Boss and Armani Exchange. A smooth running, clean-line retractable canopy fitted into the client's conception of an infill hotel framed on one side by the restored façade of the historic White Horse Inn and on the other side by new construction. The En-Fold canopy extends at full length to 37 ft, while leaving just 58-in-wide open spaces on both sides of the fabric canopy. The 42-ft maximum width of the shade unit was made possible by designing for the lowest allowable wind load at 16psf.

The En-Fold automated system provides hotel guests more active use of the rooftop terrace in all-weather conditions, thus increasing the management's ROI on an otherwise underused space.

TECHNICAL DESCRIPTION

Location: Completion Date: Project Scope: Guildford, Surrey, UK May, 2015 Design, Supply and Installation

Client: Architect: Engineer of Record: Fabric Fabricator: Installation Labor: Radisson Blu Edwardian Ettwein Bridges Architects LLP Tony Hogg Design, Ltd. Base Structures Base Structures

- Plan Area: 1,551 sq ft
- Design Wind Load: 16 psf
- Number of Units: 1
- Unit 1: En-Fold retractable fabric canopy
 - Extension: 37'-0"
 - Width: 42'-0"
 - Number of Drive Beams: 2
 - Fabric: Sefar Tenara® 4T40
 - Fabric Pretension: 10 lbs. per inch









LOUIE BOSSI RESTAURANT

Fort Lauderdale, FL

When the Big Time Restaurant Group opened a new Louie Bossi restaurant on Fort Lauderdale's trendy Las Olas Boulevard cultural district, the site was constricted on two sides by retail, making the tight fitting patio in the rear the only option to expand venue generating dining space. To fulfill the restaurant's potential, the client requested an En-Fold retractable canopy to cover the entire exterior patio of the Italian-American style restaurant.

East Las Olas Boulevard is the "heart and soul" of Fort Lauderdale, and according to local media is the area's "premier street for restaurants, art galleries, shopping and people watching." With food and shopping enterprises cheek-by-jowl along just a two-mile stretch of corridor, real estate and space is at a premium. The client needed the rear patio to maximize the revenue-generating tables/ hours/days ratio. The 1,714-sq-ft canopy nearly covers the entire patio. Structurally, the En-Fold drive beams are supported by three "portal frames" that transfer the loads to the ground on columns and transversally to the building at the roofline. By connecting the automated retraction system to the building's fire panel, (which activates the canopy by a signal from the restaurant's fire/smoke detection system) the need for a costly fire sprinkler system beneath the canopy was eliminated.

The restaurant owner is very happy with the product and the installation, especially because the En Fold canopy allows full use of the back area, even during heavy rains.

TECHNICAL DESCRIPTION

Location: Completion Date: Project Scope:

Client: Designer/Architect: Engineer of Record: Project Engineer: General Contractor: Fabric Fabricator: Installation Labor: Fort Lauderdale, FL February, 2015 Design, Supply and Installation

Big Time Restaurant Group Norberto Rosenstein Architect Bromley Cook Engineering Inc. Mayer Structural Design, Inc. RCC Associates Lightweight Manufacturing Awnings of Hollywood

- Plan Area: 1,714 sq ft
- Design Wind Speed: 20 psf
- Number of Units: 1
 - Unit 1: En-Fold retractable fabric canopy
 - Extension: 45'-6"
 - Width: 37'-8"
 - Number of Drive Beams: 2
 - Fabric: Sefar Tenara® 4T40
 - Fabric Pretension: 10 lbs. per inch

















HOTEL CHARLESTON Cartagena, Columbia, South America

This En-Fold retractable canopy covers a courtyard and dining area of a historic hotel in the heart of Cartagena, Columbia, South America. The client requested retractable weather protection for an open-air, five-story high courtyard space that needed to be more fully utilized. Inclement weather prevents full use of the space on a regular basis.

Cartagena is an old city founded in the 1500s by the Spanish. The site of the project lies within historic walls, (designated a UNESCO World Heritage Site), and the walls could not be breached by large construction cranes. All materials had to be unloaded from their shipping container outside the city walls, necessitating the unusual practice of delivering heavy equipment by hand: crews up to 12 men carried and wheeled long beams through the gates of the historic wall to the hotel and through the front lobby to the courtyard.

The prime challenge was the irregular shape of the courtyard: no two walls are parallel or the same length, no wall straight. The courtyard measures roughly 46 feet deep by 74 feet wide, but depth varies from one end to the other. Hence, each of the En-Fold canopy's four drive beams is a different length and a trapezoidal fabric panel was created to fit the oddly shaped space. As no crane access was allowed within the city walls, all hoisting to install the drive beams at the fifth floor parapet level had to be done with custom-built roofer's derricks and hand operated cable hoists.

The successfully completed project has pleased the owner with its performance and appearance, and the courtyard now serves three meals a day without interruption, even during heavy rains.

TECHNICAL DESCRIPTION

Location: Completion Date: Project Scope:

Client: Designer/Architect: Project Engineer: Fabric Fabricator: Installation Labor: Cartagena, Columbia November, 2014 Design, Supply and Installation

Charleston Hotels Group Elemental Mayer Structural Design, Inc. Lightweight Manufacturing Uni-Systems

- Plan Area: 3,287 sq ft
 - Maximum Wind Load: 20 psf
- Number of Units: 1
- Unit 1: En-Fold retractable fabric canopy
 - Surface Area: 3,287 sq ft
 - Extension: 46'
 - Width: 73'-10"
 - Number of Drive Beams: 4
 - Fabric: Sefar Tenara[®] 4T40
 - Fabric Pretension: 10 lbs. per inch













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En-Fold ensures rain won't cause patrons to seek cover

The owners of the prestigious Bal Harbour Shops chose to bring adaptability to the building's inner courtyard, an event space and the connection between the shopping center and the multilevel parking/office structure.

With a simple wireless remote control, the En-Fold is deployed across the courtyard space and is tensioned using a patent-pending belt drive system. Strong architectural fabric panels shield the area below from inclement weather or harsh sunlight. The En-Fold can withstand **30 psf wind load** when fully tensioned, and is installed at an incline to shed rainwater and prevent water from pooling on the fabric panels. With the addition of the En-Fold, the restaurant owners and event planners can take advantage of the inner courtyard, while assuring that guests will enjoy a consistently comfortable environment - all with the push of a button.

TECHNICAL DESCRIPTION



Bal Harbour, FL

October 24, 2013

Bal Harbour Shops

Weldtec & Fab Inc.

Miami Awning

Uni-Systems

N/A

Design, Supply and Installation

Bart Riberich, Uni-Systems

Rob Dengler, Uni-Systems

Lightweight Manufacturing

Location: Completion Date: Project Scope:

Client:

Architect: Engineer of Record: Project Engineer: Project Manager: Fabric Fabricator: Structural Fabricator: Installation labor:

- Plan Area: 4107 sq ft
- Design Wind Speed: 90 mph
- Maximum Wind Load: 30 psf
- Number of Units: 1
 - Unit 1: En-Fold retractable fabric canopy
 - Surface Area: 4160 sq ft
 - Extension: 52'
 - Width: 81'-4'
 - Number of Drive Beams: 5
 - Fabric: Sefar Tenara® 4T40
 - Fabric Pretension: 10 lbs. per inch



BAL HARBOUR SHOPS















Residential Canopy

The designers at Meyer Davis Studio in New York came to Uni-Systems with a unique challenge; they were working on a modern, high-end residence in a rural setting and were in need of a sleek, minimalist canopy for a garden terrace. The lines of the home demanded a flat, planar canopy design that would fit within the narrow band of structure at the top of the very linear pergola. Yet the canopy needed to be functional. It needed to provide shade from the hot afternoon sun and shelter from the rain, while allowing filtered sunlight. The result is the sleekest, modern canopy design available and a very happy client. With the En-Fold system's allaluminum construction and the Sefar Tenara 4T40 fabric that comprises the tensile membrane, the canopy is designed to last 25 years with minimal maintenance. The Class A-rated Tenara fabric resists staining, delaminating, cracking, or mildewing and can be cleaned with mild soap, water, and soft brush.

The fixed version of the En-Fold system is currently undergoing further refinement to make it function as a semi-fixed, manually tensioned, retractable canopy for the hurricane prone coasts. The intent of this new design is to allow for smaller-scale applications of the En-Fold system, where the fully retractable system may be cost prohibitive and where rapid retraction in the event of a forecasted severe weather event is required.

TECHNICAL DESCRIPTION



Location: Completion Date: Project Scope:

Client: Designer/Architect: Engineer of Record: Project Engineer: Project Manager: Fabric Fabricator: Structural Fabricator: Installation Labor: Undisclosed August 12, 2013 Design, Supply and Installation

Carter Group, LLC Meyer Davis Studio, Inc. Phillip White Engineering, LLC Tom Matzek, Uni-Systems Rob Dengler, Uni-Systems Lightweight Manufacturing Downey Metal Products, Inc. Trades Unlimited

- Plan Area: 603 sq ft
- Design Wind Speed: 90 mph
- Maximum Wind Load: 30 psf
- Number of Units: 1
- Unit 1: En-Fold semi-fixed fabric canopy
 - Surface Area: 603 sq ft
 - Extension: 25'-8"
 - Width: 23'-6"
 - Number of Support Beams: 2
 - Fabric: Sefar Tenara® 4T40
 - Fabric Pretension: 20 lbs. per inch

RESIDENTIAL CANOPY







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En-Fold ensures harsh weather won't spoil the view

The owner of 444 North Capitol chose to bring adaptability to the building's rooftop terrace, an event space used by several organizations in busy Washington, D.C., by incorporating an En-Fold retractable awning.

With a simple, wireless remote control, the En-Fold is deployed across the terrace and is tensioned using a patentpending belt drive system. Strong architectural fabric panels shield the area below from inclement weather or harsh sunlight. The En-Fold can withstand 50 mile per hour winds when fully tensioned, and is installed at a slight incline to shed rainwater and prevent water from pooling on the fabric panels. With the addition of the En-Fold, event planners can take advantage of the rooftop's view of iconic D.C. landmarks, while assuring that guests will enjoy a consistently comfortable environment - all with the push of a button.

TECHNICAL DESCRIPTION



Location: Completion Date: Project Scope:

Client: Designer/Architect:

Engineer of Record: Project Engineer: Project Manager: Fabric Fabricator: Structural Fabricator: Installation Labor:

Washington D.C. September 21, 2012 Design, Supply and Installation Technical Support

Buch Construction Kramer & Pandula Architects, PLLC Rathberger / Goss Associates

Tom Matzek, Uni-Systems Rob Dengler, Uni-Systems Lightweight Manufacturing Extreme Steel, Inc. **Buch Construction**

- Plan Area: 2526 sq ft
- Design Wind Speed: 45 mph
- Maximum Wind Load: 15 psf .
- Number of Units: 2
- Unit 1: En-Fold retractable fabric canopy
 - Surface Area: 2096 sq ft
 - Extension: 34'-9"
 - Width: 60'-4"
 - Number of Support Beams: 3
 - Fabric: Serge Ferrari Precontraint[®] 1002 S2
 - Fabric Pretension: 10 lbs. per inch
 - Unit 2: Custom fabric canopy
 - Surface Area: 430 sq ft
 - Extension: 40'
 - Width: 10'
 - Number of Support Beams: 2
 - Fabric: Serge Ferrari Precontraint[®] 1002 S2
 - Fabric Pretension: 10 lbs. per inch









Gaslamp District, San Diego, CA

This Uni-Systems En-Fold is installed at the Andaz Rooftop, a luxurious restaurant and lounge atop a historic San Diego hotel. The system uses spliced idler beams to cover a width of 68', and extends 25' at the push of a button to protect patrons from rain, wind, and excessive sun. In addition to the En-Fold, this system includes automated roll up curtains which can be lowered to further enclose the space, allowing patrons to remain comfortable in driving rain and high winds. A smaller non-retracting En-Fold is installed in the entryway of the rooftop, keeping patrons protected as they travel from the elevator to the lounge area.

The En-Fold is installed with PVC coated fabrics woven from hight tenacity polyester micro-cables, and are 100% recyclable and have a low coefficient of friction, making them resistant to dirt and much easier to clean. The materials are also flame retardant, and insensitive to UV light, minimizing deterioration of their surfaces.

En-Fold's modular design offers affordability that is not available with fully customized designs, allowing for optimized performance and aesthetics, while also meeting the project budget requirements.

TECHNICAL DESCRIPTION



Location: Completion Date: Project Scope:

Client: Architect: Engineer of Record: Project Engineer: Project Manager: Fabric Fabricator: Structural Fabricator: Installation Labor: Vertical Shade Supplier: San Diego, CA June 7th, 2013 Design, Supply and Installation Technical Support

Nautilus General Contractors, Inc. N/A Uni-Systems Andrew Agosto, Uni-Systems Rob Dengler, Uni-Systems Lightweight Manufacturing EW Corporation Nautilus General Contractors, Inc. Stoett Industries

- Plan Area: 2322 sq ft
- Design Wind Speed: 85 mph
- Maximum Wind Load: 30 psf
- Number of Units: 2
- Unit 1: En-Fold retractable fabric canopy
 - Surface Area: 1679 sq ft
 - Extension: 24'-7"
 - Width: 68'-3"
 - Number of Drive Beams: 4
 - Fabric: Serge Ferrari Precontraint® 1002 S2
 - Fabric Pretension: 10 lbs. per inch
 - Unit 2: Fixed En-Fold canopy
 - Surface Area: 643 sq ft
 - Extension: 14'-4"
 - Width: 45'
 - Number of Support Beams: 4
 - Fabric: Serge Ferrari Precontraint® 1002 S2
 - Fabric Pretension: 10 lbs. per inch

ANDAZ HOTEL

















En-Fold preserves Juvia's penthouse view while protecting guests from the elements

Juvia, a high-end restaurant located high above busy Lincoln Road on Miami Beach, is home to Uni-Systems' first installed En-Fold retractable fabric awning. Spanning 54' of Juvia's outdoor terrace, the awning assures that restaurant patrons will enjoy consistent comfort and a distinct view of Miami Beach - even in the case of inclement weather. Featuring SEFAR's Tenara architectural fabric, En-Fold deploys to transform Juvia's outdoor terrace into an intimate space at the push of a button. The awning can withstand 50 mile per hour winds when fully tensioned, and features a slight incline to shed rain away from the terrace and prevent any rainwater from pooling on the fabric panels. When the awning is open, the fabric panels are retracted fully out of view from the patrons below.

En-Fold provides Juvia with the flexibility of an outdoor space with the ability to protect against the elements when the need arises. Juvia's guests can enjoy the food and the view without Miami's weather being a concern.

TECHNICAL DESCRIPTION



Miami Beach, FL

1111 Rooftop, LLC

Architects, P.A.

Uni-Systems

Solutions

Weldtec & Fab Inc.

Design, Supply and Installation

Charles H. Benson & Associates,

Alejandro Barrios Carrero /

Justin Waldron, Uni-Systems

Rob Dengler, Uni-Systems

Soper's Engineered Fabric

Florida Roofing Solutions, Inc.

April 12, 2012

Location: Completion Date: Project Scope:

Client: Designer/Architect:

Engineer of Record: Project Engineer: Project Manager: Fabric Fabricator:

Structural Fabricator: Installation Labor:

- Plan Area: 1998 sq ft
- Design Wind Speed: 50 mph
 - Maximum Wind Load: 20 psf
- Number of Units: 1

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- Unit 1: En-Fold retractable fabric canopy
 - Surface Area: 1998 sq ft
 - Extension: 53'-6"
 - Width: 37'
 - Number of Drive Beams: 3
 - Fabric: Sefar Tenara® 4T40
 - Fabric Pretension: 10 lbs. per inch

KINETIC ARCHITECTURE

JUVIA RESTAURANT









Historic beachside Florida hotel site utilizing modern convenience

The Soho Beach House Hotel, offering 44 rooms, 6 suites, a pool, and a view of the beach on the site of the historic Sovereign hotel, was outfitted with some special protection for its guests.

Cecconi's Garden, a restaurant on the 1st floor, features a retractable fabric awning to complement the canopy of trees. A similar fabric roof was also installed on the 2nd floor to cover the Club Bar. Diners at the restaurant and bar can enjoy the ocean views and tropical Florida weather while surrounded by a lush garden and protected by the awning above.

To protect the hotel's investment for its guests, the awnings are designed to operate quickly and to automatically retract in cases of severe weather.

Designing an awning while maintaining the historic charm of the hotel was no problem for the design team and for Uni-Systems. The protective fabric spares guests from troublesome showers, while adding a little character to an already iconic building.

TECHNICAL DESCRIPTION



Location: Completion Date: Project Scope:

Client: Designer/Architect: Engineer of Record: Project Engineer: Project Manager: Fabric Fabricator: Structural Fabricator: Miami Beach, FL March 31, 2011 Design, Supply and Installation

Claro, Inc. Alan T. Shulman Architect, P.A. Uni-Systems Bart Riberich, Uni-Systems John Lanari, Uni-Systems Lightweight Manufacturing Uni-Systems, Weldtec & Fab, Inc., and Bostic Steel Florida Roofing Solutions, Inc

Installation Labor:

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- Plan Area: 3597 sq ft
- Design Wind Speed: 35 mph
 - Maximum Wind Load: 7.5 psf
- Number of Units: 2
- Unit 1: Custom retractable fabric canopy
 - Surface Area: 2508 sq ft
 - Extension: 35'
 - Width: 71'-8"
 - Number of Drive Beams: 5
 - Fabric: Sefar Tenara® 4T40
- Unit 2: Custom retractable fabric canopy
 - Surface Area: 1089 sq ft
 - Extension: 33'
 - Width: 33'
 - Number of Drive Beams: 3
 - Fabric: Sefar Tenara® 4T40









For additional product information or sales support please contact your Authorized En-Fold Sales Representative or Uni-Systems In-House Sales Department.

DESIGN ASSISTANCE & INSIDE SALES INQUIRIES:

For all design assistance, sales inquiries, a list of Authorized En-Fold Sales Representatives and information on becoming an authorized En-Fold Sales Representative:

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