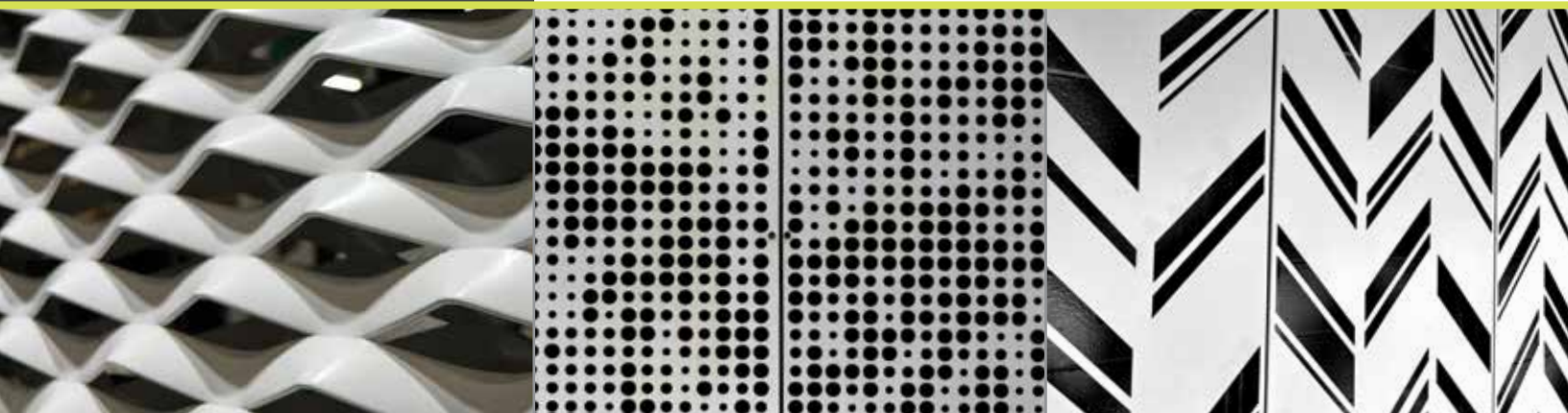




EXPANDED MESH
PERFORATED METAL
LASER-CUT METAL

ARCHITECTURAL METALS, ATTACHMENT
SYSTEMS, + METAL FABRICATION



ARCHITECTURAL EXPANDED MESH



STANDARD EXPANDED MESH



LASER CUT METAL



CUSTOM PERFORATION



ALL-ACROSS PERFORATION



PLANK GRATING



PROJECT
APPLICATIONS
DIV. 5, 7, 9, 10, 32



PARKING GARAGE SCREENS



FACADES & SUNSHADES



CEILING & INTERIOR WALLS



LANDSCAPE DESIGN



EQUIPMENT SCREENS



RETAIL DESIGN



RAILING INFILL PANELS



VERTICAL GARDENS



ACOUSTIC PANELS



RESIDENTIAL



SIGNAGE

SANTANA ROW GARAGE

Stantec / San Jose, CA / APEX03 Expanded Mesh





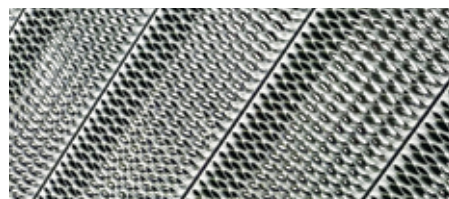
OTTAWA ART GALLERY

KPMB / Ottawa, ON / APEX03 Expanded Mesh



THE POLYGON GALLERY

Patkau Architects / North Vancouver, BC / Diamond Grip Plank Grating



Install In Progress





CONFIDENTIAL PROJECT

Portland, OR / Laser Cut Metal



SYMMETRY PARTNERS OFFICE

Amenta Emma Architects / Glastonbury, CT / APEX01 Expanded Mesh



BEFORE



Structure prior to facade remodel



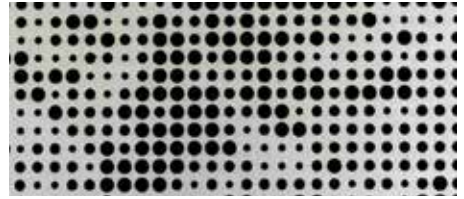
PIER 35

SHoP Architects / New York, NY / APEX03 Expanded Mesh



MEDTRONICS OFFICE

Snow Kreilich Architects / Santa Ana, CA / Custom Perforation





COOKSVILLE GO STATION

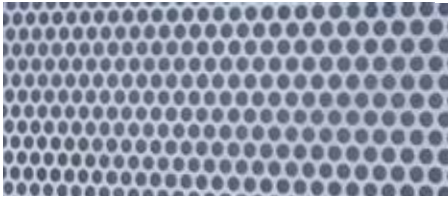
NORR / Mississauga, ON / APEX02 Expanded Mesh



XCEL ENCLOSURE

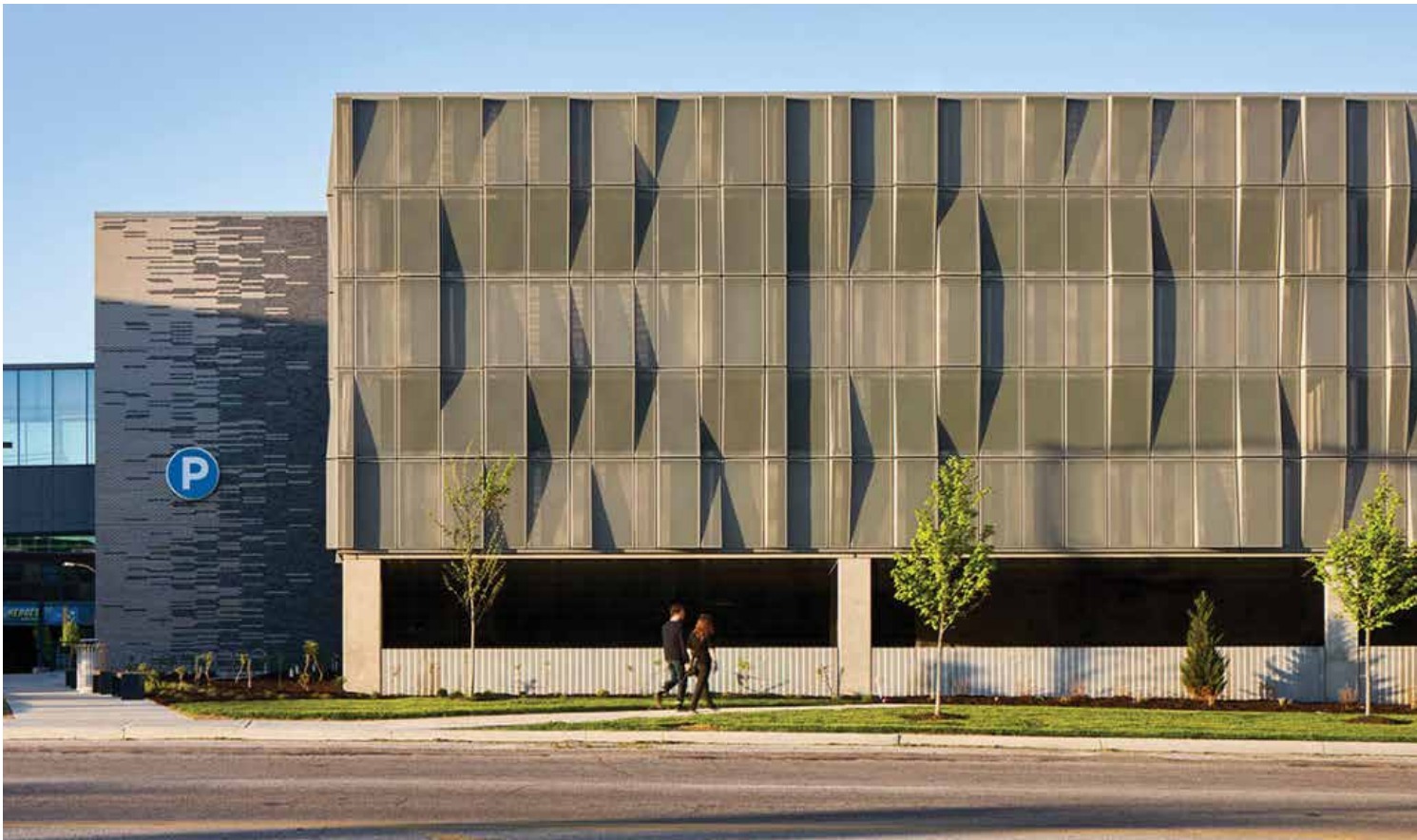
Alliance Architects / Minneapolis, MN / Bellesa Expanded Mesh





TRUMAN MEDICAL CENTER

Cannon Design / Kansas City, MO / All-Across Perforation



56 LEONARD

Herzog & de Meuron / New York, NY / APEX03 Expanded Mesh





PUMA RETAIL STORE

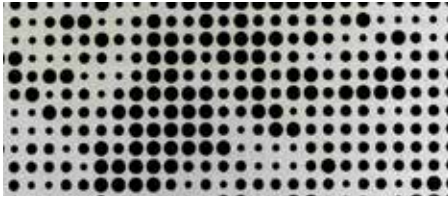
Colkitt Architecture / Various Locations / APEX04 Expanded Mesh



AIR BNB OFFICES

WRNS / San Francisco, CA / 3/4" 9F Flattened Expanded Mesh





TORONTO PUBLIC LIBRARY

KPMB / Toronto, ON / Custom Perforation



VERIZON PARKING GARAGE

Beck Group / Irving, TX / APEX01





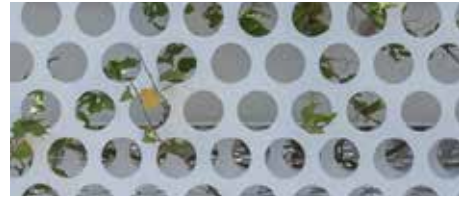
CAIN LAMARRE OFFICE

STGM / Sherbrooke, QC / Gracia Expanded Mesh



WILSHIRE COURTYARD

Michael Maltzan Architecture / Los Angeles, CA / Perforated Metal





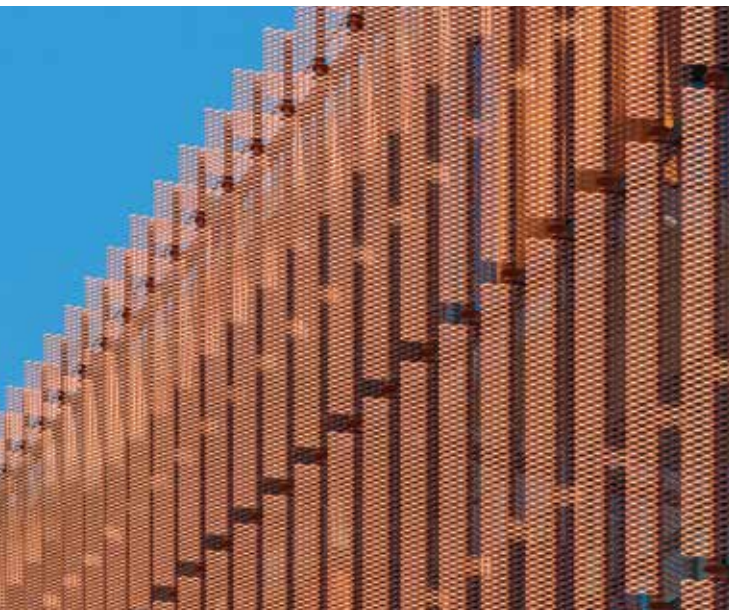
NIKE CAMPUS GARAGE

Atelier / Beaverton, OR / Custom Perforated



CITY OF HOPE

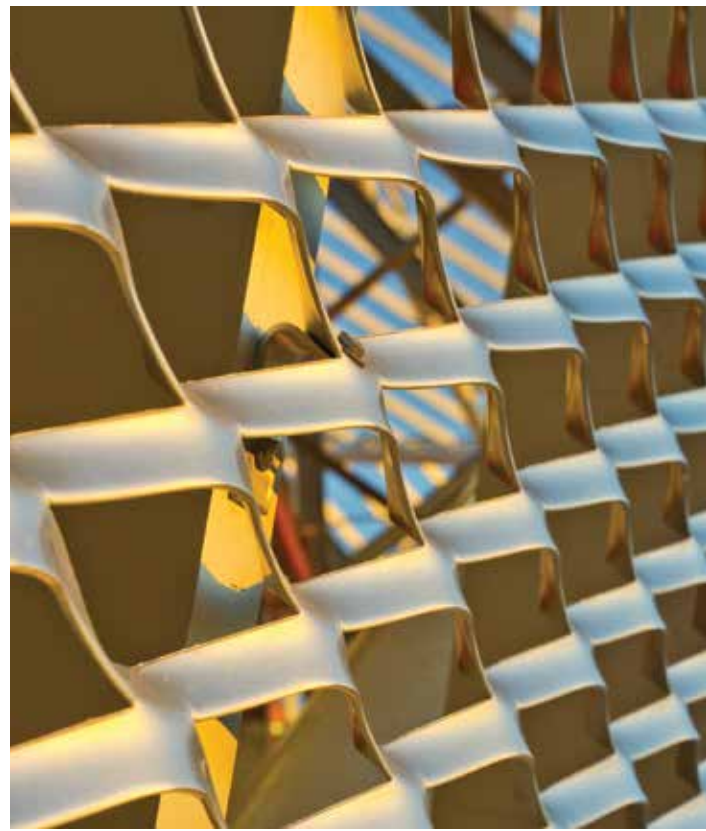
Gensler / Irwindale, CA / APEX03



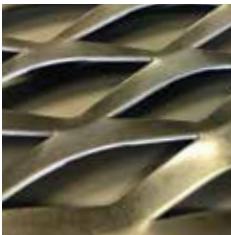


DYNAMO STADIUM

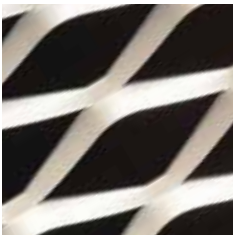
Populous / Houston, TX / APEX01



MATERIALS



Mild Steel



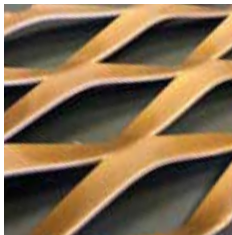
Aluminum



Brass



Weathering Steel



Copper

A large majority of AMICO's projects are completed using aluminum because it is light weight, corrosion resistant, and has a wide range of finish options. However, expanded mesh and perforated metal can be manufactured using zinc, brass, copper, steel, bronze and many other materials.

FINISH OPTIONS

Fluoropolymer Paint



Powder Coating



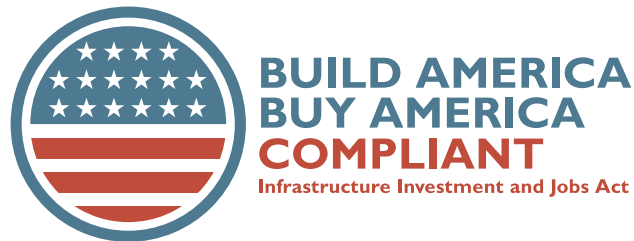
Natural Finishes



PROS		
<ul style="list-style-type: none"> Broad color pallet Mica and metallic options Easy color matching 	<ul style="list-style-type: none"> Durable, thick covering No VOC Hides imperfections in metal 	<ul style="list-style-type: none"> No added finish No fading or damage problems Rich natural finishes
CONS		
<ul style="list-style-type: none"> Thin application Longer warranty will require 3-4 coat products and thus cost more 	<ul style="list-style-type: none"> Bright colors tend to be less color stable Limited color pallet 	<ul style="list-style-type: none"> Higher initial material cost Less control of aesthetic details Changes over time

BUILD AMERICA BUY AMERICA (BABA) AND MADE IN CANADA

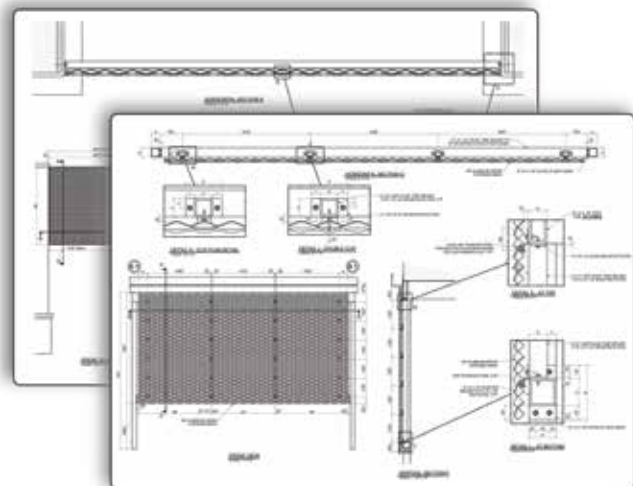
AMICO's extensive manufacturing presence in the US and Canada allows us to produce BABA-compliant products and, for Canadian projects, utilize Made in Canada materials from our facilities in Ontario and Quebec. As you work with AMCIO, mention your sourcing requirements so we can plan our supply chain accordingly and provide you with the necessary certification letters.



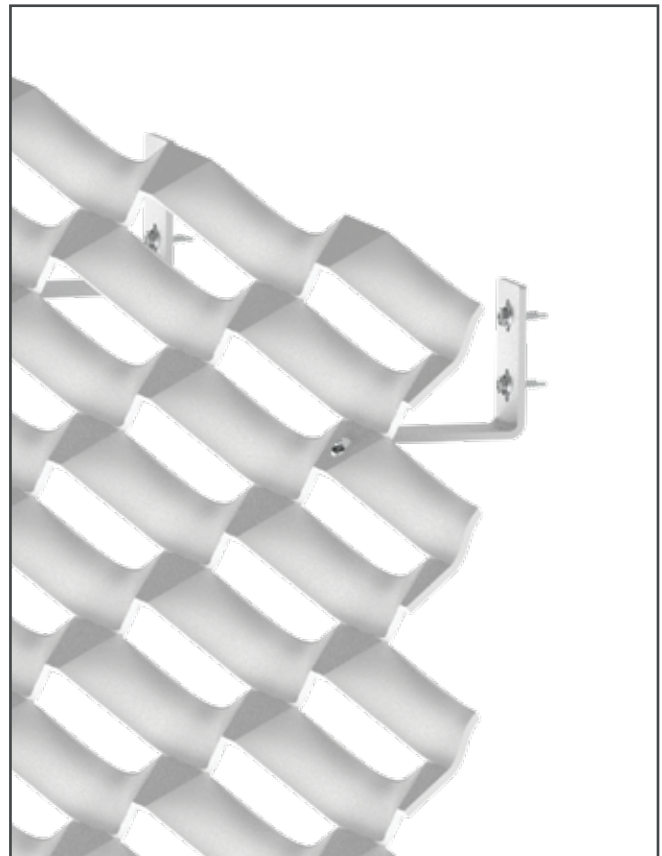
DETAILING, FABRICATION, AND CONSULTING

AMICO is a full-service manufacturer: In addition to the material production, we engineer, detail, fabricate, and finish the product along with an attachment system so your product is ready to install on the job site.

During your design process, at any time, feel free to book a call with us to discuss what you are working on (even if all you have is a napkin sketch), and we can chat about design considerations and best practices for an efficient project.



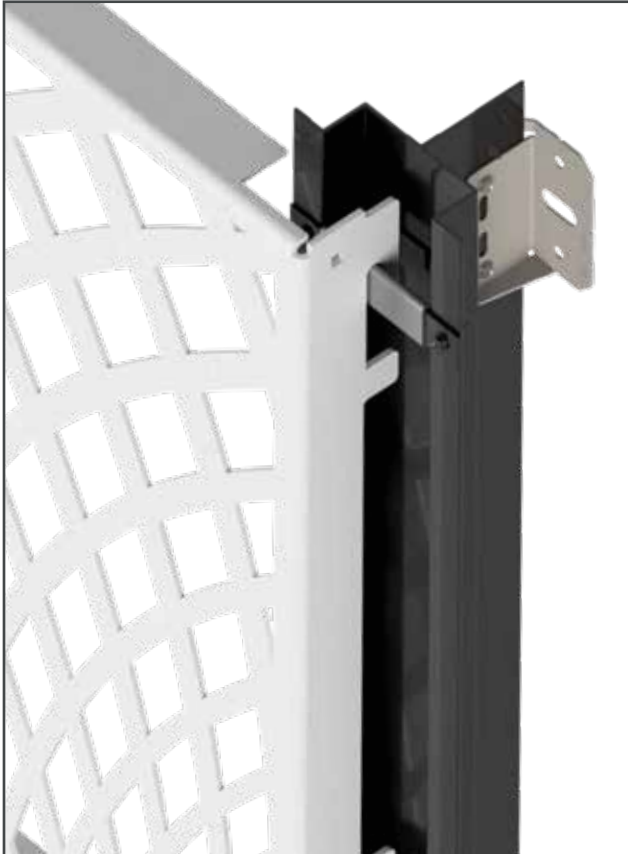
EXTERIOR ATTACHMENT SYSTEMS



Continuum

Compatible Materials:
Interior or exterior expanded mesh panels

This attachment approach is for installations of the expanded mesh where the attachment brackets must be as discrete as possible and have a nearly seamless appearance from panel to panel.



Quick-Cleat

Compatible Materials:
Exterior framed expanded mesh, cassette-style perforated, & laser-cut panel

This attachment approach allows for a vertical rail system with quick hanging process.

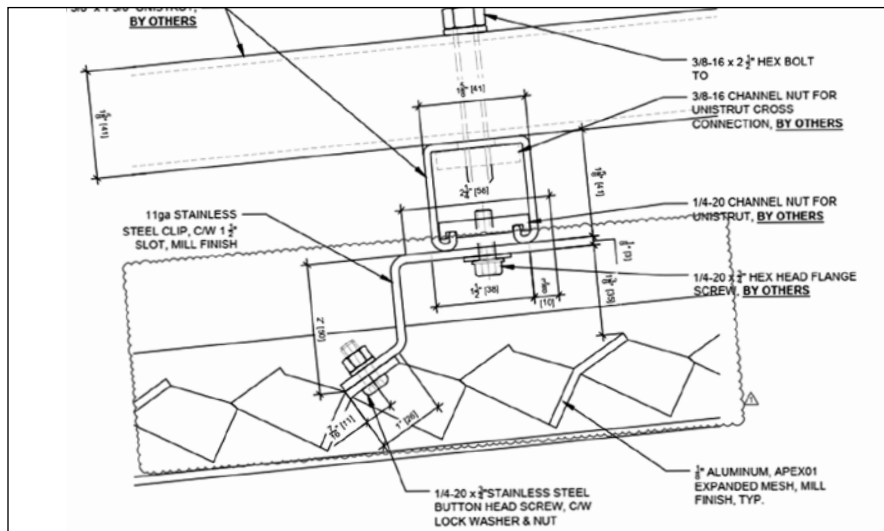


Rapid Rail

Compatible Materials:
Exterior flat perforated & and laser cut panels

This attachment solution is excellent for providing a flat and level vertical and/or horizontal attachment surface to a façade with minimum wall penetrations.

CEILING ATTACHMENT SYSTEMS

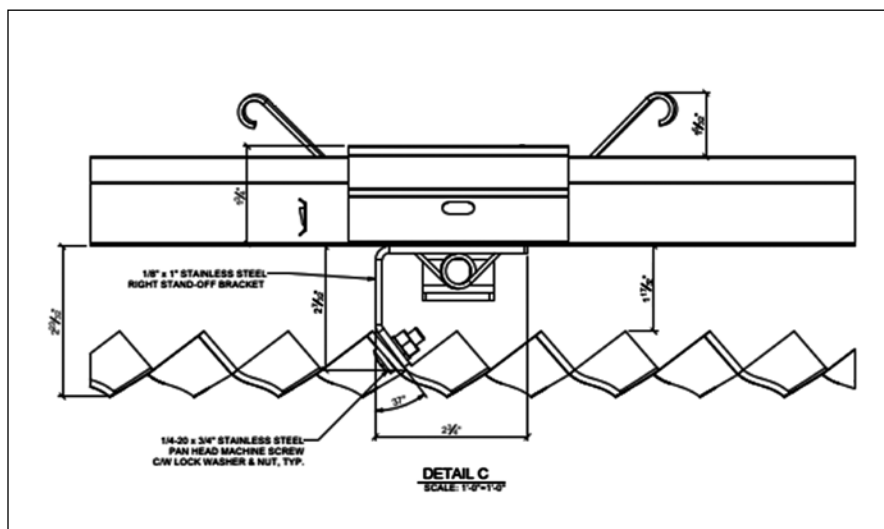


Suspended Fixed Mount

Compatible Materials:

Expanded Mesh, Perforated Metal, and Laser Cut Panels

This installation solution pairs the familiarity of industry-standard strut fittings with AMICO's custom laser-cut attachment clips.

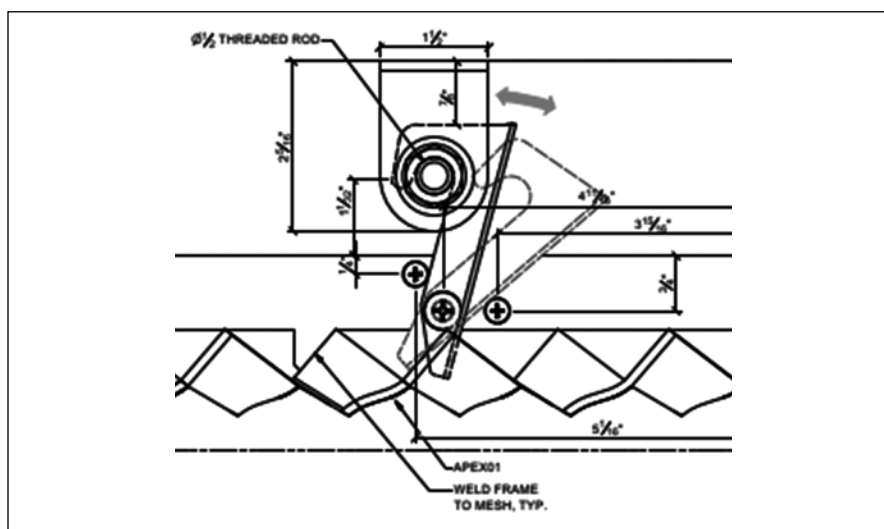


Torsion Spring In Grid

Compatible Materials:

Expanded Mesh, Perforated Metal, and Laser Cut Panels

Spring clips attached to AMICO materials allow convenient single-panel access and quick installation to standard ceiling grids.



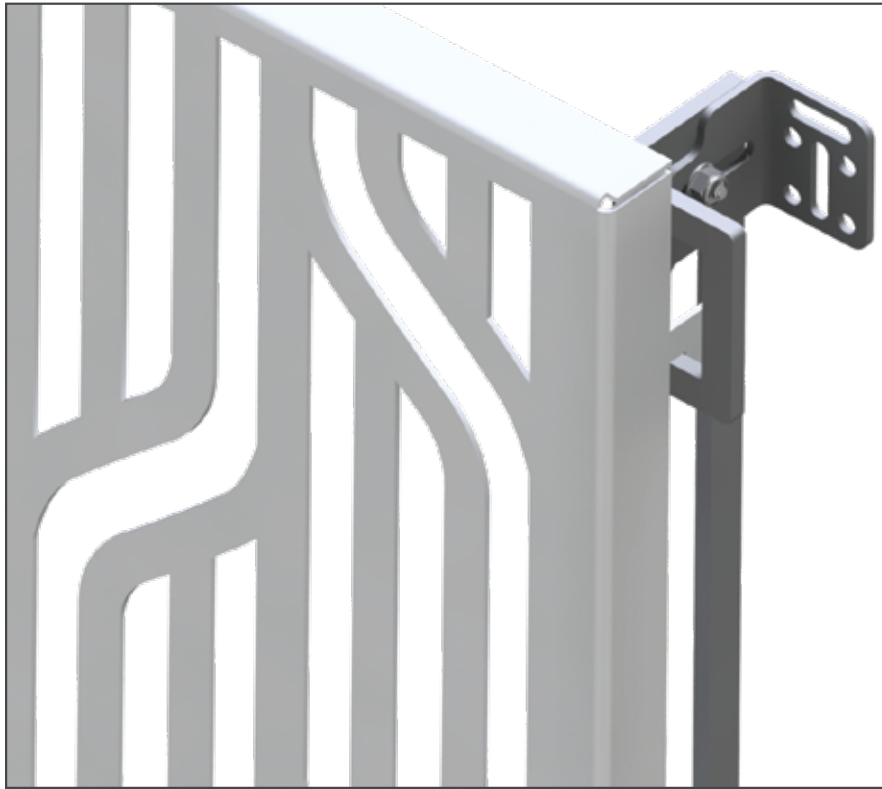
Hook Ceiling

Compatible Materials:

Expanded Mesh

This attachment method provides access behind panels while adhering to Black Iron requirements.

INTERIOR WALL SYSTEMS

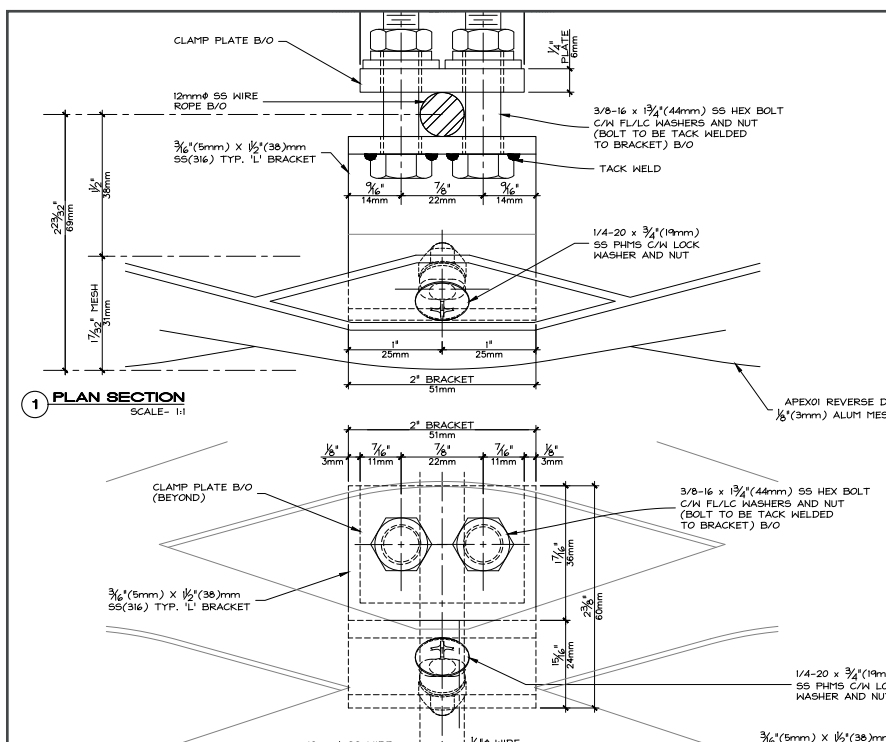


Panel-Flow

Compatible Materials:
Interior framed expanded mesh and cassette-style perforated & laser-cut panel

This attachment approach is a quick and simple means of interior installation that produces a plumb install even on uneven walls and allows for LED back lit illumination.

DELEGATED DESIGN



Custom Attachment Solutions

The fastest way to get your architectural metals project moving is to book a consultation and delegate the attachment design process to AMICO. This allows you to be efficient and value engineer the project early on. AMICO will work with you to develop a custom attachment method for your project.

EXPANDED MESH SUNSHADES AND THEIR CARBON AND ENERGY SAVING BENEFITS

A long-standing practice of architects is to utilize expanded mesh or perforated metal as a sunshade element to reduce glare, improve the quality of experience inside a building, and of course, to reduce heat gain.

How effective are these sunshade elements at reducing heat gain?

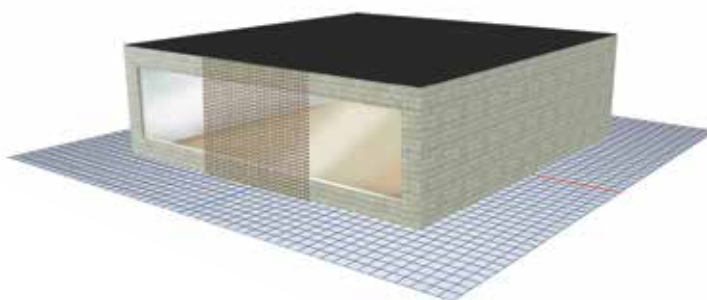
To answer this, AMICO retained RWDI an international climate engineering and environmental consulting firm specialized in understanding how the built and natural environments interact to perform an independent study using digital simulations to quantify heat gain change for a sunshade mounted parallel to a glass façade. The results shows AMICO's expanded mesh was effective at creating notable heat gain reduction leading to energy and carbon reduction.

The simulation was run using ClimateStudio software using the industry standard Radiance rendering program and involved the calculation of a Bidirectional Scattering Distribution Function (BSDF) which allows the transmission and reflection characteristics of arbitrarily complex geometries to be defined mathematically. The simulation was then arranged to measure heat gains at each point in the room on an hourly basis over the entire course of a typical Los Angeles meteorological year.

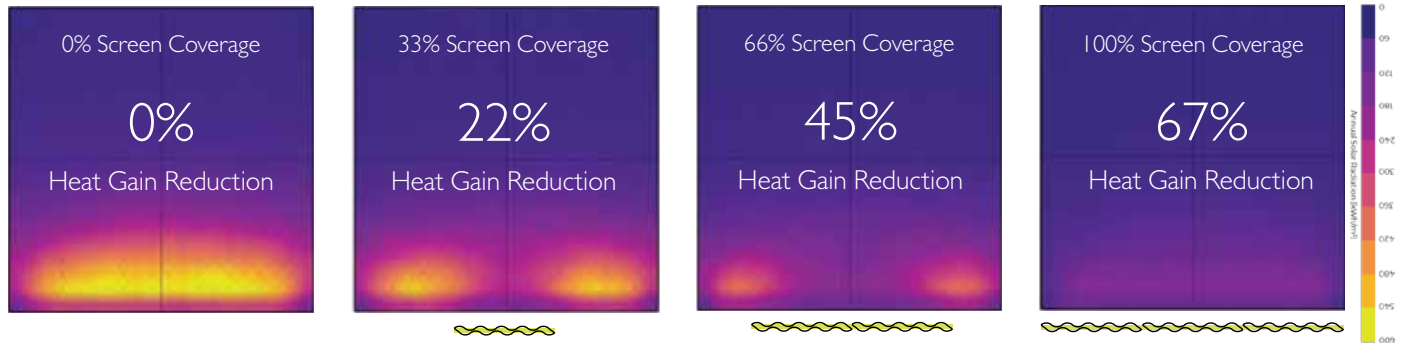


RIGHT-TOP: Example of APEX03 installation with 66% coverage across 9,000 sq ft of curtain wall

RIGHT-BOTTOM: Visualization of simulated digital structure with south-facing window and APEX01 Expanded mesh panels covering 1/3 of the window



Study Results



The floor plan heat maps above show heat-gain changes with different mesh coverage. The study predicted meaningful heat gain reduction using expanded mesh as a sunshade when placed within 5' of the window.

Application of Results

Using these results, an installation like the one pictured at left with 9,000 square feet of south-facing glass facade and 66% covered with APEX03 expanded mesh would yield the following benefits in a Southern California environment:



23.82 kWh

of HVAC electricity demand eliminated per sq. ft. of mesh coverage per year.



2.3M lbs

of coal eliminated due to the electricity saved over the 20-year life of the facade.



1.5M lbs

of CO₂ eliminated due to the elimination of coal needed to produce the electricity.



\$767,255

saved in electrical costs to the owner over 20 years assuming constant California average rate.

Other Sunshade Benefits

Access to Windows

For plans where municipalities or project specs are capping energy usage and driving design decisions, expanded mesh sunshades can be a solution for deploying more windows in your design while minimizing heat gain that would otherwise drive down the window count.

Lighting Design

Expanded mesh sunscreens can open the design possibilities of including large expansive south-facing windows that deliver consistent, ample natural light into the facility, further driving down electrical lighting loads while still balancing and controlling heat gain and energy consumption.

Occupant Satisfaction

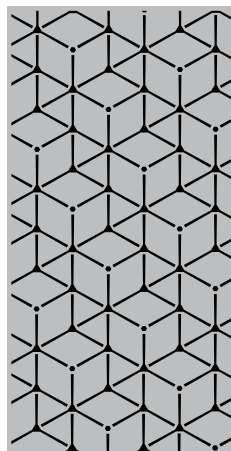
Maximizing equitable access to daylight for all users of a facility is essential. Expanded mesh can be a daylight control tool that still allows natural light deep into a space. Studies suggest that daylight directly impacts the well-being, productivity, and overall sense of satisfaction of users.



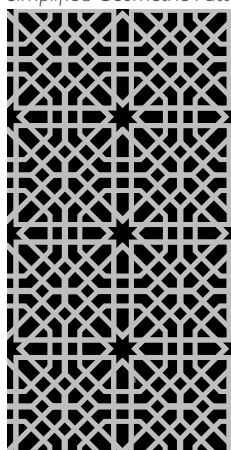
Scan the QR code to read the unabridged study.

LASER CUT PANELS

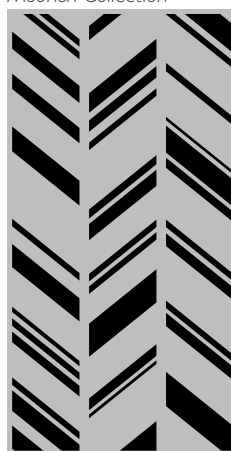
The laser-cutting process provides a broad range of design and aesthetic possibilities; each cut can be customized. You can begin your project by creating your own design, using a pre-existing pattern from AMICO's library, or collaborating with AMICO to develop a pattern that meets your requirements.



Simplified Geometric Pattern



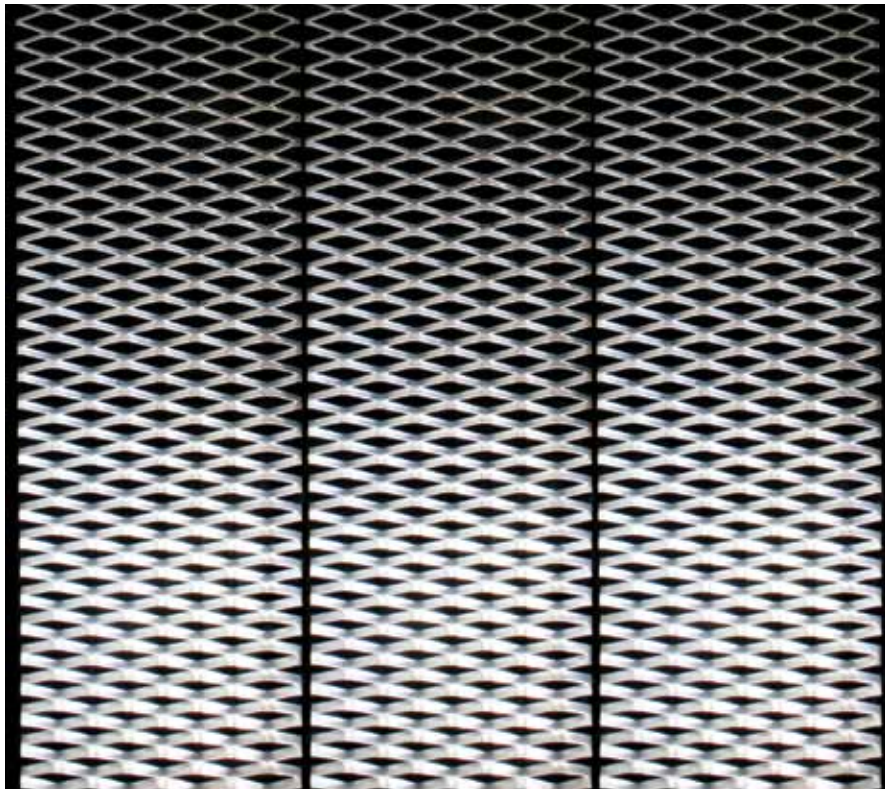
Moorish Collection



Shuffled Collection

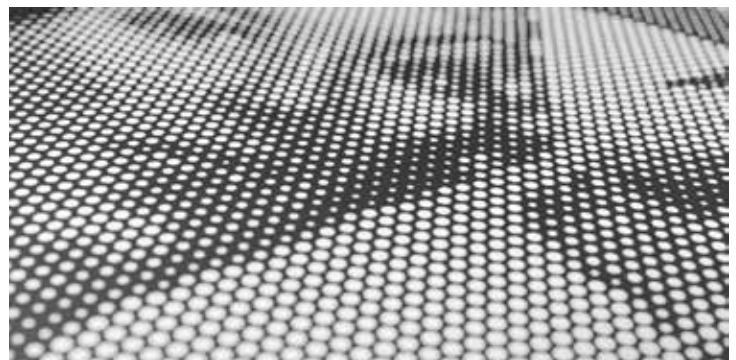
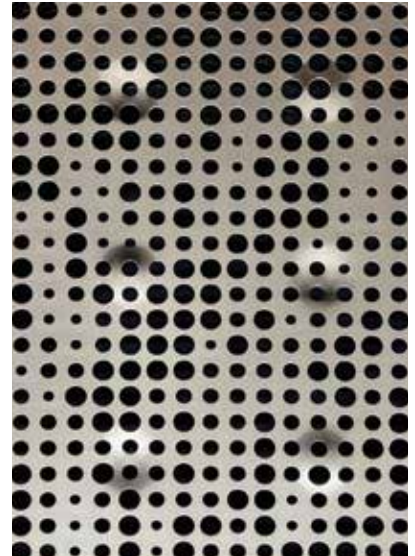
GRADIENT EXPANDED MESH

Create a custom expanded mesh by varying the strand width of your architectural expanded metal. This is achieved in production by pushing more or less material through the press between strokes and can result in a one of a kind surface.



PICTURE PERFECT™ - CUSTOM PERFORATION

AMICO's proprietary Picture PERFect™ process allows you to turn your images and custom textures into unique perforated hole patterns with a range of hole sizes and customized placement options. This brings the opportunity to deliver cost effective design features that will be absolutely unique to your project.



ALL-ACROSS PERFORATION

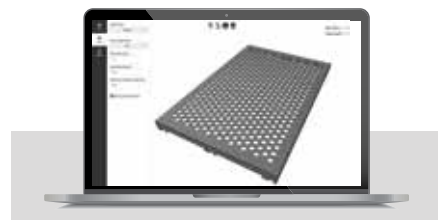
All-across perforation patterns produce one hole type and repeat it across an entire panel. This is an efficient way to produce perforated surfaces. Customize the panel by defining hole size, spacing, shape, and edge border size to create the perfect panel transparency level.



Variables to designing an all across perforation pattern:

- Hole shape (circle, slot, square, hexagon, rectangle)
- Hole size
- Hole spacing
- Hole alignment (45 degree stagger; 60 degree stagger; or straight)
- Boarder width
- Flat panel or folded panel
- Folded panel depth

Design and visualize your all-across perforated panel with our new on-line configuration tool.



<https://tinyurl.com/2j4k8wxy>

STANDARD EXPANDED MESH

Standard expanded mesh styles are typically meshes with thin strands. These types of meshes are great for ceilings, railing infills and have even been used on facades. These meshes come in flattened variations or raised where the knuckle of the mesh is turned out slightly.



Standard Mesh Ceiling



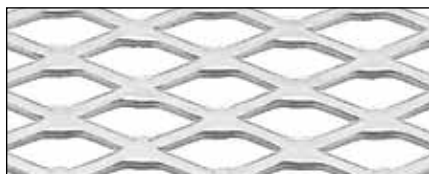
3/4" #9 Flattened Expanded Mesh



Standard Mesh Façade



1/2" #16 Raised Expanded Mesh



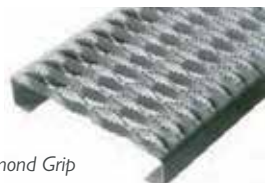
1/2" #16 Flattened Expanded Mesh



Standard Mesh Railing Infill

PLANK GRATING

Plank grating is a punched metal surface that is formed on its long sides, creating a board-like form that has been used on some very innovative projects. These planks can be direct mounted or offset from a facade. In the case of the iconic Polygon Gallery, the plank grating was mounted in front of a stainless steel underlay that gave the facade a shimmering effect.



Diamond Grip



Safety-Grip



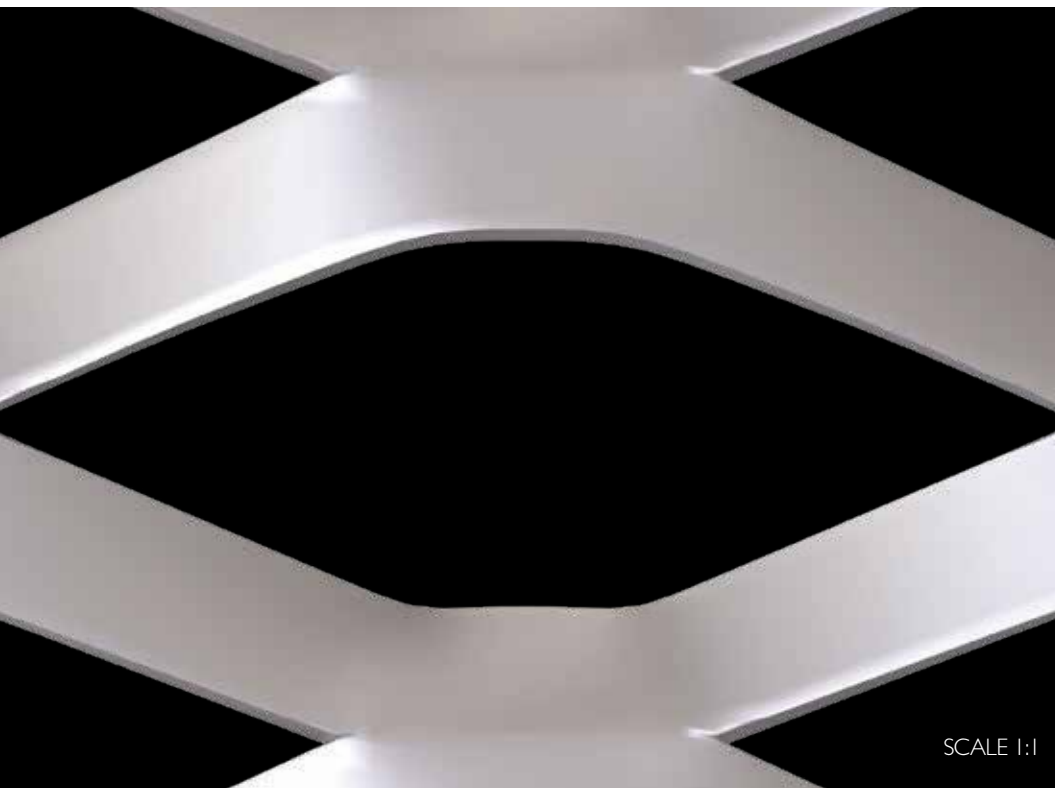
Polygon Gallery



Institut de Tourisme et d'Hôtellerie



ARCHITECTURAL EXPANDED MESH STYLES



APEX01

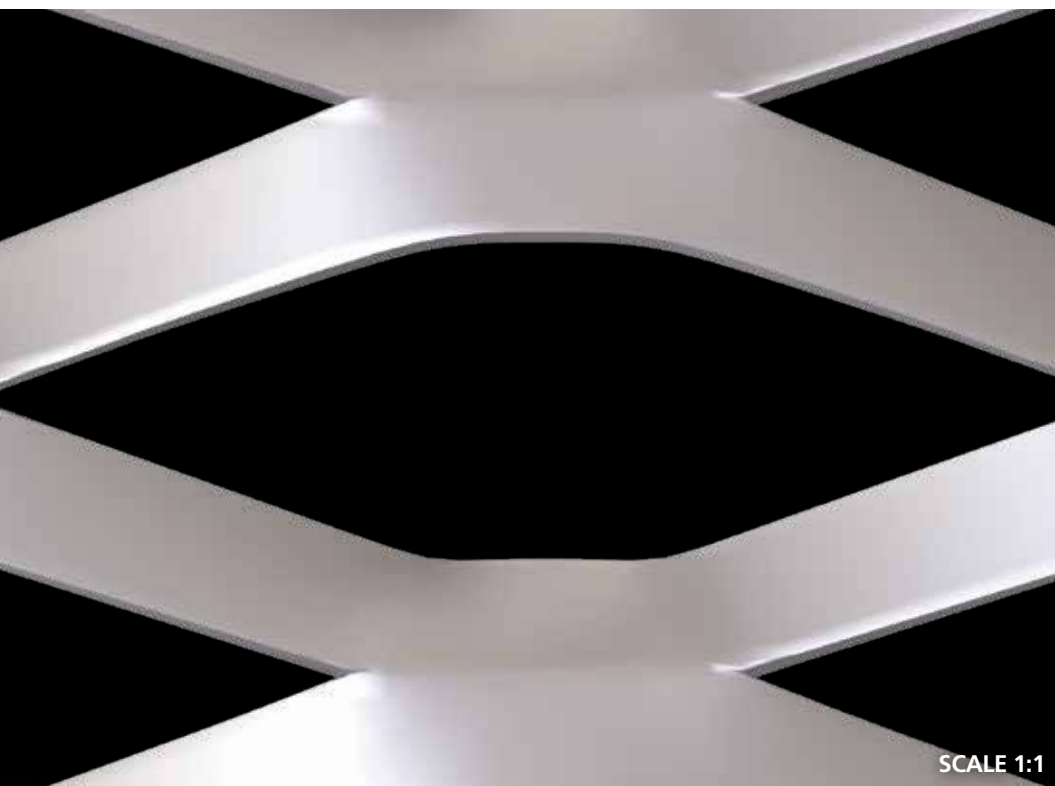
Short Way Diamond
3.5"

Long Way Diamond
8.0"

Visual % Open Area
46%

Mechanical % Open Area
73%

Max Landscape Panel Size
59.5" SWD x 120" LWD



APEX02

Short Way Diamond
3.05"

Long Way Diamond
8.0"

Visual % Open Area
40%

Mechanical % Open Area
72%

Max Portrait Panel Size
143.38" SWD x 48" LWD



APEX03

Short Way Diamond
2.5"

Long Way Diamond
6.0"

Visual % Open Area
26%

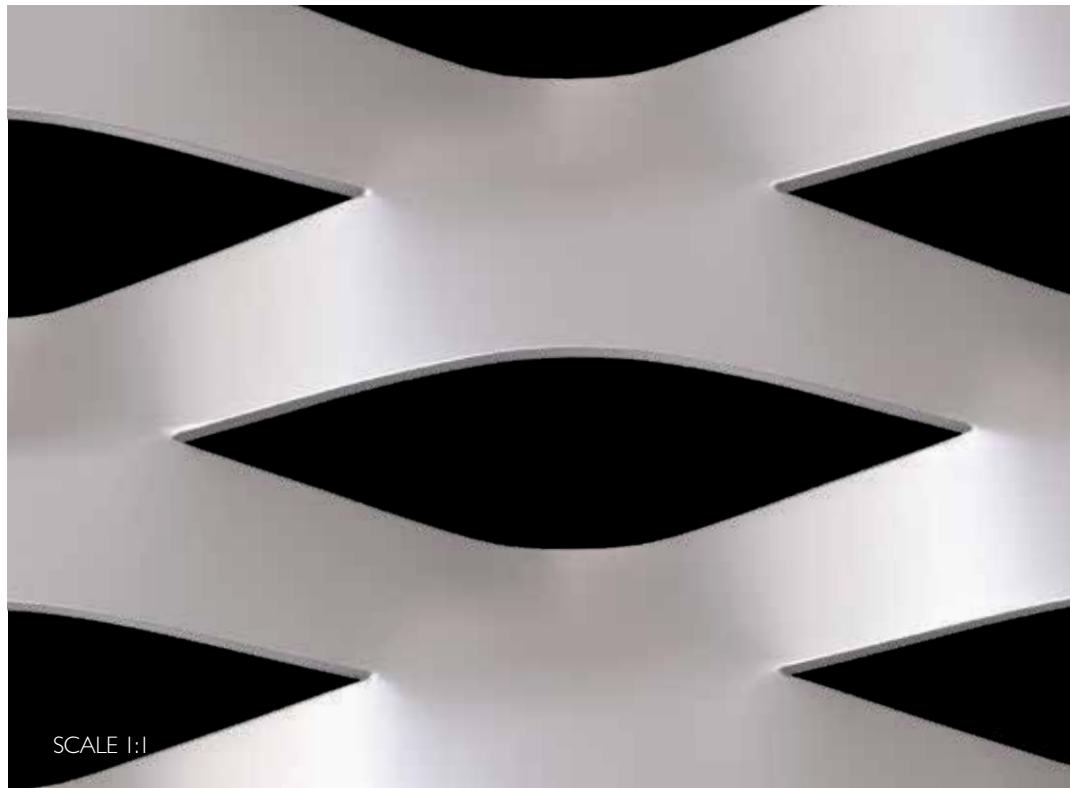
Mechanical % Open Area
62%



Max Landscape Panel Size
60" SWD x 132" LWD



Max Portrait Panel Size
145" SWD x 48" LWD



APEX04

Short Way Diamond
1.5"

Long Way Diamond
4"

Visual % Open Area
18%

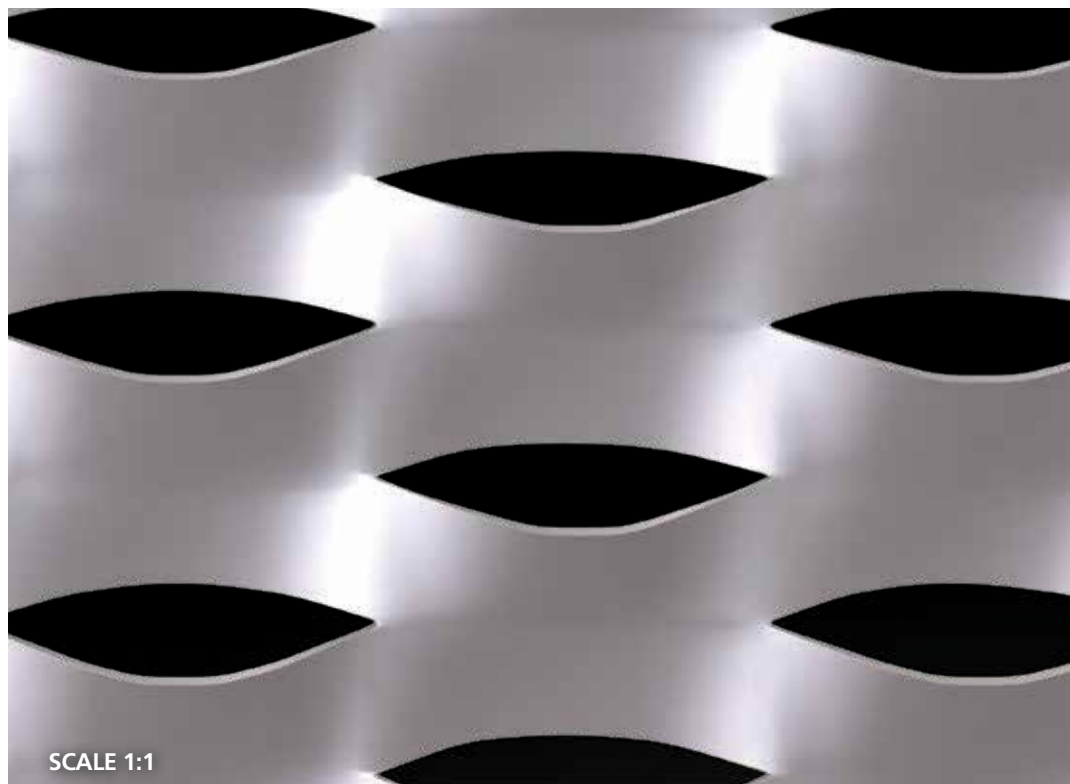
Mechanical % Open Area
37%



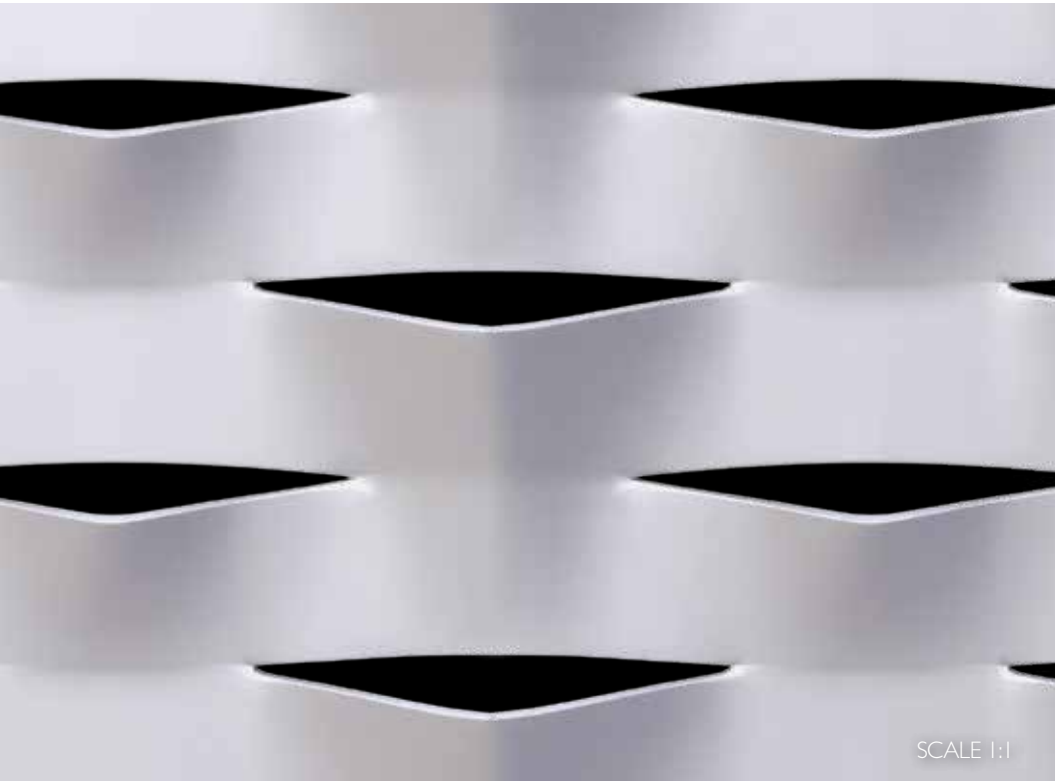
Max Landscape Panel Size
60" SWD x 120" LWD



Max Portrait Panel Size
120" SWD x 60" LWD



ARCHITECTURAL EXPANDED MESH STYLES



APEX05

Short Way Diamond
2.01

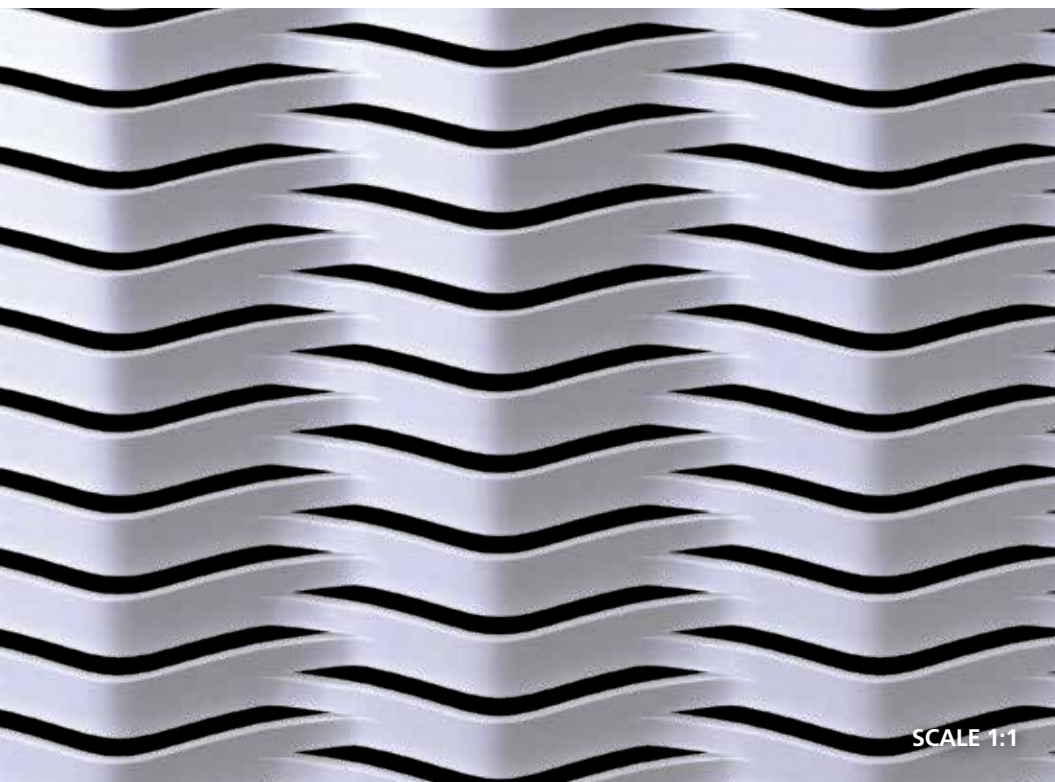
Long Way Diamond
4.0"

Visual % Open Area
10%

Mechanical % Open Area
22%

Max Landscape Panel Size
58.29" SWD x 120" LWD

Max Portrait Panel Size
138.69" SWD x 48" LWD



Da Moda

Short Way Diamond
0.38"

Long Way Diamond
4.0"

Visual % Open Area
25%

Mechanical % Open Area
31%

Max Portrait Panel Size
120" SWD x 48" LWD



Bellesa

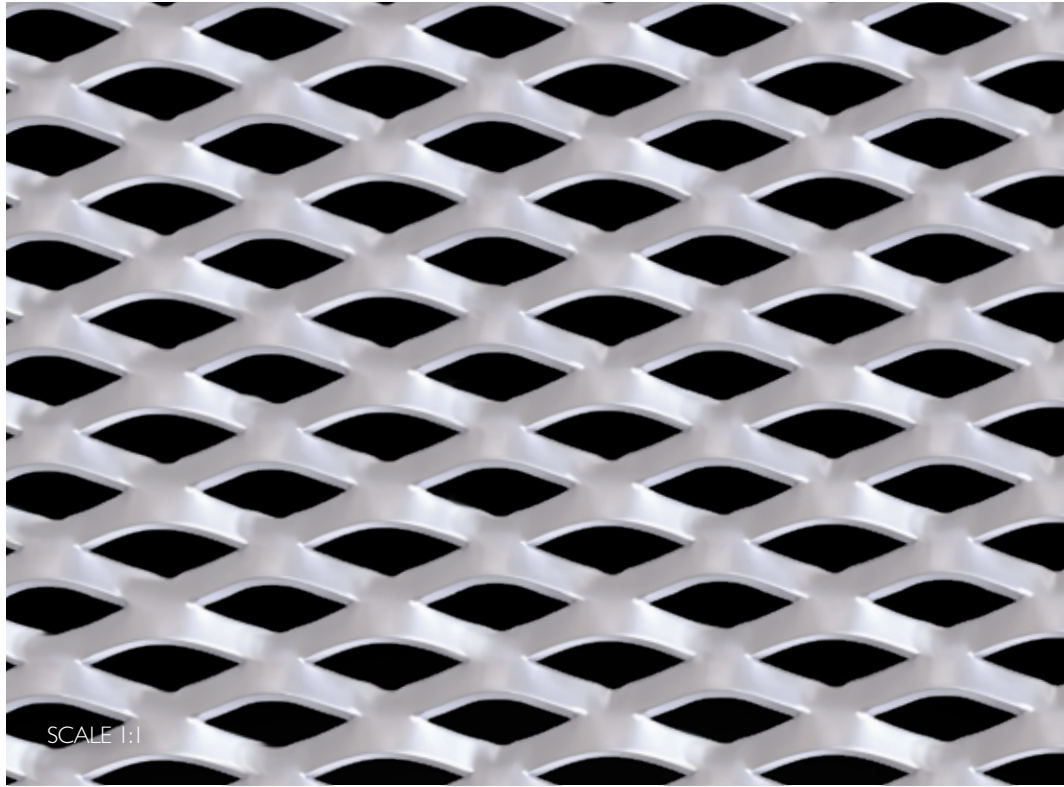
Short Way Diamond
0.63"

Long Way Diamond
1.2"

Visual % Open Area
36%

Mechanical % Open Area
59%

Max Portrait Panel Size
120" SWD x 48" LWD



Luxos

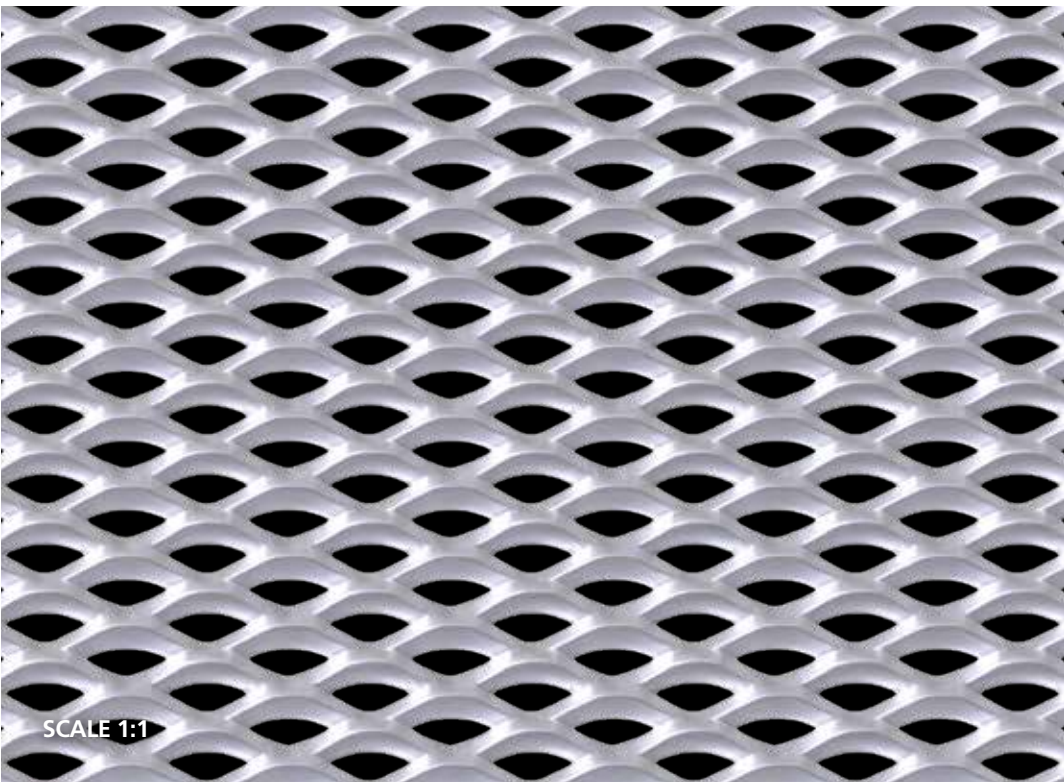
Short Way Diamond
0.4"

Long Way Diamond
0.64"

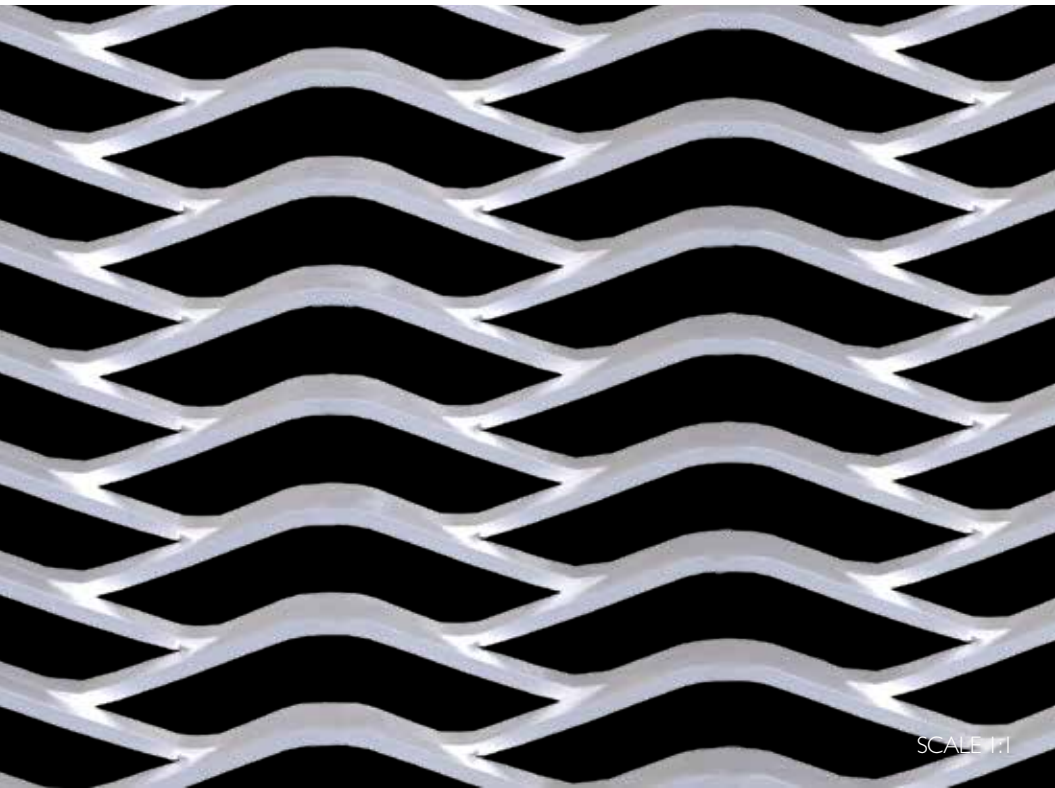
Visual % Open Area
23%

Mechanical % Open Area
31%

Max Portrait Panel Size
120" SWD x 48" LWD



ARCHITECTURAL EXPANDED MESH STYLES



Gracia

Short Way Diamond
0.59"

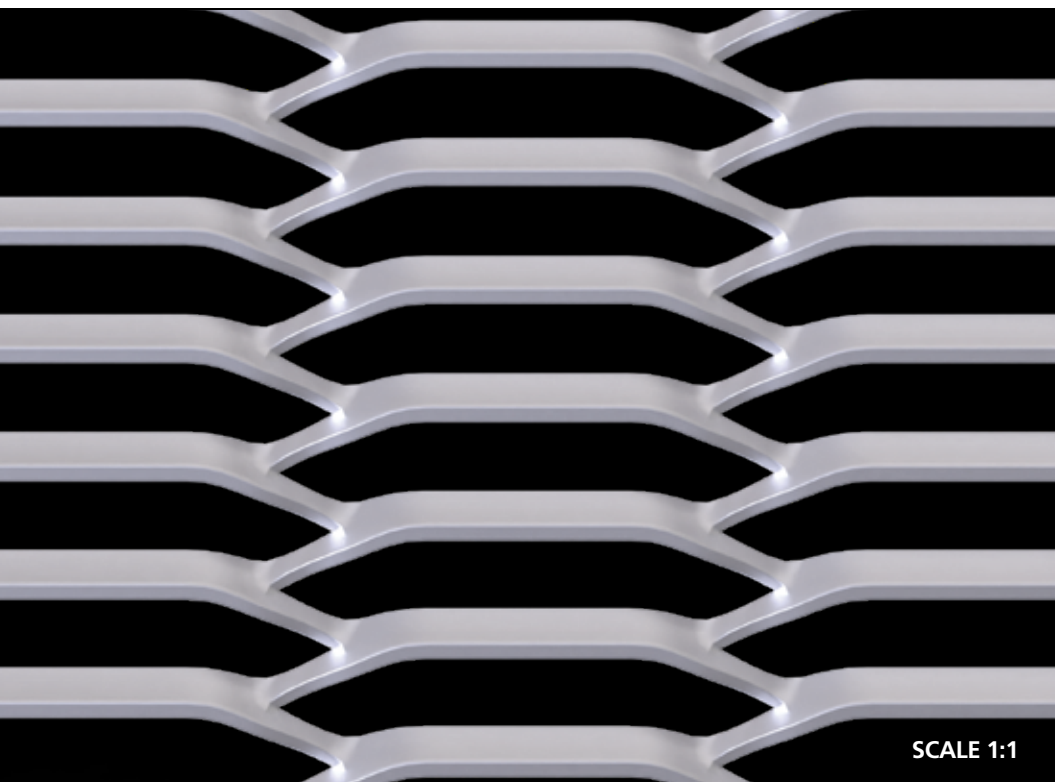
Long Way Diamond
4"

Visual % Open Area
52%

Mechanical % Open Area
73%

Max Landscape Panel Size
59.63" SWD x 120" LWD

Max Portrait Panel Size
120" SWD x 48" LWD



Cativar

Short Way Diamond
0.51"

Long Way Diamond
5.33"

Visual % Open Area
55%

Mechanical % Open Area
74%

Max Portrait Panel Size
120" SWD x 48" LWD



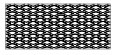
Hinter

Short Way Diamond
2.18"

Long Way Diamond
4"

Visual % Open Area
8%

Mechanical % Open Area
9%



Max Landscape Panel Size
58.725" SWD x 120" LWD



Max Portrait Panel Size
139.52" SWD x 48" LWD



SCALE 1:1

Siro

Short Way Diamond
1.38"

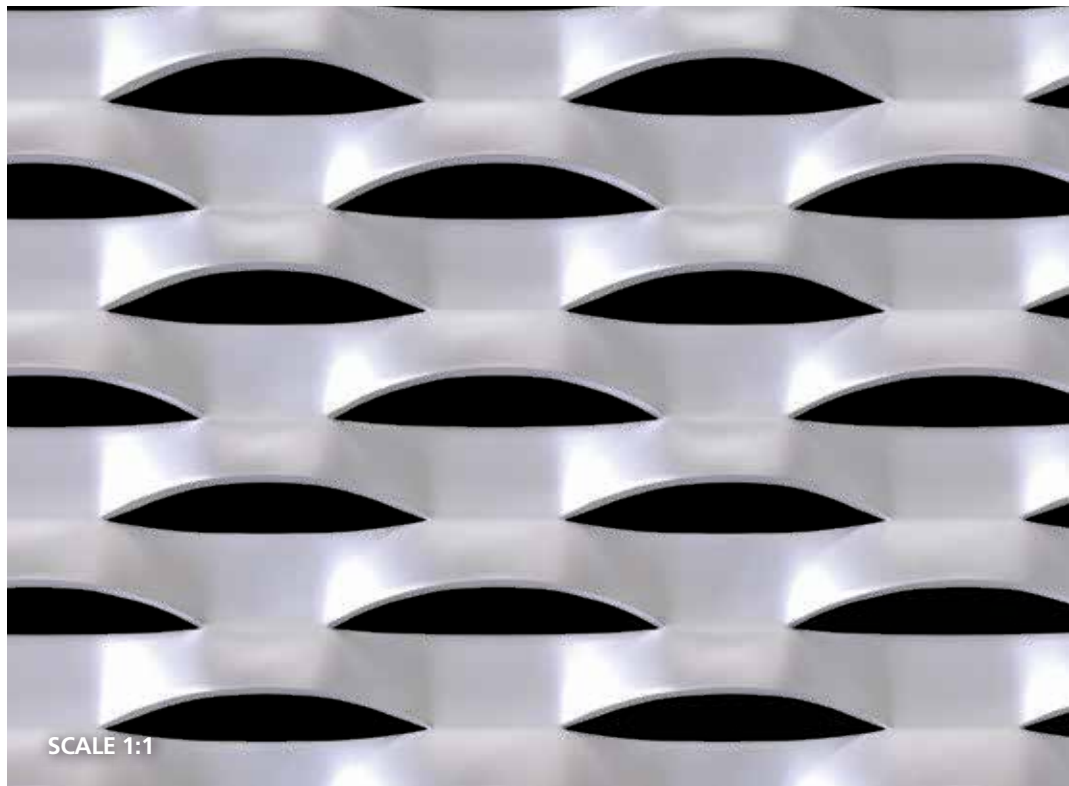
Long Way Diamond
3"

Visual % Open Area
25%

Mechanical % Open Area
45%



Max Portrait Panel Size
96.63" SWD x 48" LWD



SCALE 1:1

ARCHITECTURAL EXPANDED MESH STYLES



SCALE 1:1

Modig

Short Way Diamond
2.13"

Long Way Diamond
8"

Visual % Open Area
6%

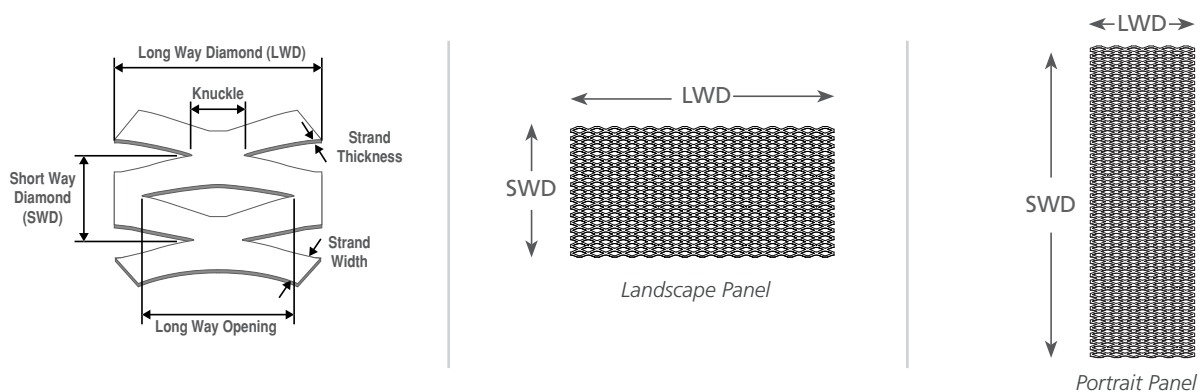
Mechanical % Open Area
28%

Max Portrait Panel Size
138.45" SWD x 48" LWD



ARCHITECTURAL EXPANDED MESH SPECS

Mesh Name	Available Aluminum Alloy	Max Portrait, SWD x LWD	Max Landscape, SWD x LWD	Visual Open %	Mech. Open Area %	Weight, lbs/sf	(SWD) Short Way Diamond, Inches	(LWD) Long Way Diamond, Inches	Standard Strand Thickness, Inches
APEX01	5005		59.5" x 120"	46%	73%	0.98 lbs/sf	3.50"	8.00"	0.125"
APEX02	5005	143.38" x 48"		40%	72%	1.09 lbs/sf	3.05"	8.00"	0.125"
APEX03	3003, 5005	145" x 48"	60" x 132"	26%	62%	1.34 lbs/sf	2.50"	6.00"	0.125"
APEX04	3003, 5005	120" x 60"	60" x 120"	18%	37%	1.48 lbs/sf	1.50"	4.00"	0.125"
APEX05	5005	138.69" x 48"	58.29" x 120"	10%	22%	1.59 lbs/sf	2.01"	4.00"	0.125"
Bellesa	3003, 5005	120" x 48"		36%	59%	0.74 lbs/sf	0.63"	1.20"	0.081"
Luxos	3003, 5005	120" x 48"		23%	31%	0.9 lbs/sf	0.40"	0.64"	0.081"
Gracia	3003, 5005	120" x 48"	59.63" x 120"	52%	73%	0.85 lbs/sf	0.59"	4.00"	0.125"
De Moda	3003, 5005	120" x 48"		25%	31%	1.34 lbs/sf	0.38"	4.00"	0.125"
Cativar	3003, 5005	120" x 48"		55%	74%	0.81 lbs/sf	0.52"	5.33"	0.125"
Hintar	5005	139.52" x 48"	58.73" x 120"	8%	9%	1.58 lbs/sf	2.18"	4.00"	0.125"
Siro	3003, 5005	96.63" x 48"		25%	45%	1.69 lbs/sf	1.38"	3.00"	0.125"
Modig	5005	138.45" x 48"		6%	28%	1.6 lbs/sf	2.13"	8.00"	0.125"





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