**SERPENTINA**® Waves™

*Now in kits!*

Waves

artesana
engenharia

**Armstrong**®

# Ride the easiest Waves on earth

Now you can "Hang 10" without a surfboard. Enhance your space with the visual power of a wave with our pre-engineered Serpentina® Waves™. Now available in ready-to-install kits.

Waves is a curved, extruded aluminum monolithic ceiling "wave" that features flexible large-size panels. The large-size panels cover any grid components for a seamless look. Choose the Wave size that works best for your project.

Choose from one of 60 kitted Wave options using just a single item number. Everything needed for installation is in the kit – pre-cut and ready to go. Wave sizes available in kits range from 4' x 4' up to 12' x 12'. Your Wave in a Kit can be a Hill, Valley or combination, with either a 30 or 45-degree arc.

If none of our kit-sized Waves work for your project, you can create other Wave sizes, lengths and arcs using standard Serpentina.

Cover photo and right:
12' x 8' combination Hill/Valley Wave Kit features
12' x 2' R042 Perforated Panels in Slate.
The Avenue at Armstrong World Industries, Lancaster, PA

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# Choose your Wave

Waves are available in Hills, Valleys and Hill/Valley combinations.

Follow these simple steps to select your Serpentina Wave design:

**Step 1**: Define the space available for your design. Always leave 12″ clearance from any adjacent wall.

**Step 2**: Select your Wave size/configuration.

• See pages 5-7 for sizes available in kits*

• See page 8 for other sizes available

**Step 3**: Select your infill panel/perforation.

**Step 4**: Select your color.

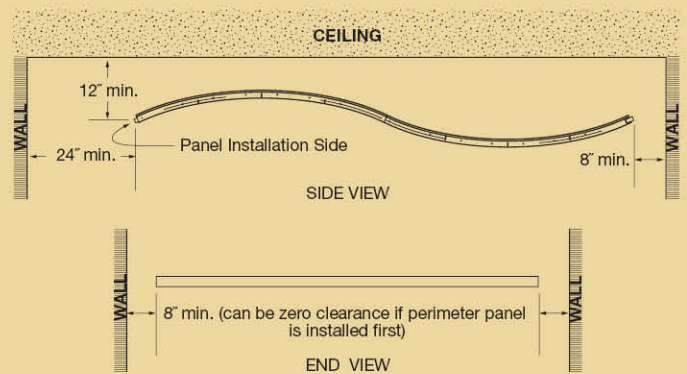*Kits available only with a 30 or 45 degree angle

# Step 1: Define your space

12' x 6' combination Hill/Valley Wave with 2' x 12' R042 Perforated Panels in Silver Satin. REG Architects, West Palm Beach, FL

**To define the size**, consider the dimensions of the space you're addressing:

- A minimum horizontal distance of 24″ is required on the straight perimeter end where the panels will be installed.
- A 12″ minimum vertical distance to the ceiling is required above the straight perimeter trim where the panels will be installed.
- A minimum distance of 8″ is needed on the remaining three sides of the Serpentina Waves cloud. This is to allow installation of our perimeter hold-down clips. The clearance on the sides can be eliminated by installing the perimeter panels before the adjacent field panels.

**CEILING**

12″ min.

WALL

24″ min. — Panel Installation Side

8″ min.

**SIDE VIEW**

WALL

8″ min. (can be zero clearance if perimeter panel is installed first)

WALL

**END VIEW**

# Step 2: Select your Wave size

Check the "Kit Options" charts on pages 5 – 7 to see which size and configuration best suits your design intent. Remember, if there's not a configuration on the chart that suits, you can still create a Wave using standard Serpentina components, shown on page 8.
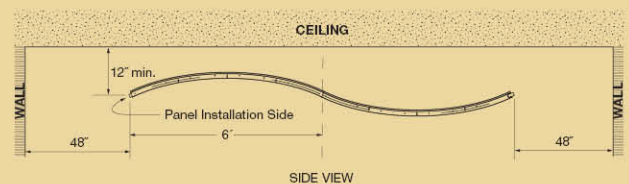
**Example:**

**Your Space** is 80′ x 120′. You want the two rows to come across the 120′ length as though mimicking multiple waves coming ashore. Your working area, once you deduct 24″ from one wall and 8″ from the opposite, is 1408″ or 117′4″. In the example below you'll be working right to left.
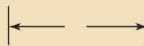
**Option**: Choose eighteen 12′ x 8′ Hill/Valley combos
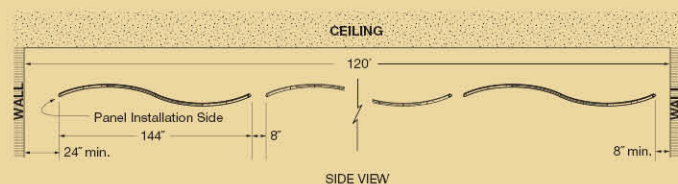
**Your Space** is 20′ x 30′. You want to create a Wave in the center of the space like a floating cloud.

**Option**: Select a 12′ x 12′ Wave kit

**CEILING**

120′

WALL

Panel Installation Side

144″        8″

24″ min.                                     8″ min.

WALL

**SIDE VIEW**

**CEILING**

12″ min.

WALL

Panel Installation Side

48″         6′                48″

WALL

**SIDE VIEW**

| Direction of Arc/ Size/Type | Hill (SH) | Valley (SV) | Hill/Valley Combo (SW) | Arc Degree | Description | Item Number |
|---|---|---|---|---|---|---|
| **4′ x 4′** | • | | | 30 | Hill with 30° arc | SH300404XXXXYY |
| | • | | | 45 | Hill with 45° arc | SH450404XXXXYY |
| | | • | | 30 | Valley with 30° arc | SV300404XXXXYY |
| | | • | | 45 | Valley with 45° arc | SV450404XXXXYY |
| **6′ x 4′** | • | | | 30 | Hill with 30° arc | SH300604XXXXYY |
| | • | | | 45 | Hill with 45° arc | SH450604XXXXYY |
| | | • | | 30 | Valley with 30° arc | SV300604XXXXYY |
| | | • | | 45 | Valley with 45° arc | SV450604XXXXYY |
| **8′ x 4′** | • | | | 30 | Hill with 30° arc | SH300804XXXXYY |
| | • | | | 45 | Hill with 45° arc | SH450804XXXXYY |
| | | • | | 30 | Valley with 30° arc | SV300804XXXXYY |
| | | • | | 45 | Valley with 45° arc | SV450804XXXXYY |
| | | | • | 30 | Hill/Valley with 30° arc | SW300804XXXXYY |
| | | | • | 45 | Hill/Valley with 45° arc | SW450804XXXXYY |
| **10′ x 4′** | • | | | 30 | Hill with 30° arc | SH301004XXXXYY |
| | • | | | 45 | Hill with 45° arc | SH451004XXXXYY |
| | | • | | 30 | Valley with 30° arc | SV301004XXXXYY |
| | | • | | 45 | Valley with 45° arc | SV451004XXXXYY |
| **12′ x 4′** | • | | | 30 | Hill with 30° arc | SH301204XXXXYY |
| | • | | | 45 | Hill with 45° arc | SH451204XXXXYY |
| | | • | | 30 | Valley with 30° arc | SV301204XXXXYY |
| | | • | | 45 | Valley with 45° arc | SV451204XXXXYY |
| | | | • | 30 | Hill/Valley with 30° arc | SW301204XXXXYY |
| | | | • | 45 | Hill/Valley with 45° arc | SW451204XXXXYY |
| **4′ x 6′** | • | | | 30 | Hill with 30° arc | SH300406XXXXYY |
| | • | | | 45 | Hill with 45° arc | SH450406XXXXYY |
| | | • | | 30 | Valley with 30° arc | SV300406XXXXYY |
| | | • | | 45 | Valley with 45° arc | SV450406XXXXYY |
| **6′ x 6′** | • | | | 30 | Hill with 30° arc | SH300606XXXXYY |
| | • | | | 45 | Hill with 45° arc | SH450606XXXXYY |
| | | • | | 30 | Valley with 30° arc | SV300606XXXXYY |
| | | • | | 45 | Valley with 45° arc | SV450606XXXXYY |
| **8′ x 6′** | • | | | 30 | Hill with 30° arc | SH300806XXXXYY |
| | • | | | 45 | Hill with 45° arc | SH450806XXXXYY |
| | | • | | 30 | Valley with 30° arc | SV300806XXXXYY |
| | | • | | 45 | Valley with 45° arc | SV450806XXXXYY |
| | | | • | 30 | Hill/Valley with 30° arc | SW300608XXXXYY |
| | | | • | 45 | Hill/Valley with 45° arc | SW450806XXXXYY |
| **10′ x 6′** | • | | | 30 | Hill with 30° arc | SH301006XXXXYY |
| | • | | | 45 | Hill with 45° arc | SH451006XXXXYY |
| | | • | | 30 | Valley with 30° arc | SV301006XXXXYY |
| | | • | | 45 | Valley with 45° arc | SV451006XXXXYY |

XXXX = Perforation Pattern, see page 9 to select your pattern
YY = Color, see page 10 to select your color
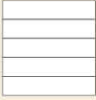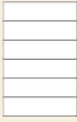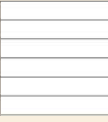
| Direction of Arc/ Size/Type | Hill (SH) | Valley (SV) | Hill/Valley Combo (SW) | Arc Degree | Description | Item Number |
|---|---|---|---|---|---|---|
| | • | | | 30 | Hill with 30° arc | SH301206XXXXYY |
| | • | | | 45 | Hill with 45° arc | SH451206XXXXYY |
| | | • | | 30 | Valley with 30° arc | SV301206XXXXYY |
| | | • | | 45 | Valley with 45° arc | SV451206XXXXYY |
| | | | • | 30 | Hill/Valley with 30° arc | SW301206XXXXYY |
| 12' x 6' | | | • | 45 | Hill/Valley with 45° arc | SW451206XXXXYY |
| | • | | | 30 | Hill with 30° arc | SH300408XXXXYY |
| | • | | | 45 | Hill with 45° arc | SH450408XXXXYY |
| | | • | | 30 | Valley with 30° arc | SV300408XXXXYY |
| 4' x 8' | | • | | 45 | Valley with 45° arc | SV450408XXXXYY |
| | • | | | 30 | Hill with 30° arc | SH300608XXXXYY |
| | • | | | 45 | Hill with 45° arc | SH450608XXXXYY |
| | | • | | 30 | Valley with 30° arc | SV300608XXXXYY |
| 6' x 8' | | • | | 45 | Valley with 45° arc | SV450608XXXXYY |
| | • | | | 30 | Hill with 30° arc | SH300808XXXXYY |
| | • | | | 45 | Hill with 45° arc | SH450808XXXXYY |
| | | • | | 30 | Valley with 30° arc | SV300808XXXXYY |
| | | • | | 45 | Valley with 45° arc | SV450808XXXXYY |
| | | | • | 30 | Hill/Valley with 30° arc | SW300808XXXXYY |
| 8' x 8' | | | • | 45 | Hill/Valley with 45° arc | SW450808XXXXYY |
| | • | | | 30 | Hill with 30° arc | SH301008XXXXYY |
| | • | | | 45 | Hill with 45° arc | SH451008XXXXYY |
| | | • | | 30 | Valley with 30° arc | SV301008XXXXYY |
| 10' x 8' | | • | | 45 | Valley with 45° arc | SV451008XXXXYY |
| | • | | | 30 | Hill with 30° arc | SH301208XXXXYY |
| | • | | | 45 | Hill with 45° arc | SH451208XXXXYY |
| | | • | | 30 | Valley with 30° arc | SV301208XXXXYY |
| | | • | | 45 | Valley with 45° arc | SV451208XXXXYY |
| | | | • | 30 | Hill/Valley with 30° arc | SW301208XXXXYY |
| 12' x 8' | | | • | 45 | Hill/Valley with 45° arc | SW451208XXXXYY |
| | • | | | 30 | Hill with 30° arc | SH300410XXXXYY |
| | • | | | 45 | Hill with 45° arc | SH450410XXXXYY |
| | | • | | 30 | Valley with 30° arc | SV300410XXXXYY |
| 4' x 10' | | • | | 45 | Valley with 45° arc | SV450410XXXXYY |
| | • | | | 30 | Hill with 30° arc | SH300610XXXXYY |
| | • | | | 45 | Hill with 45° arc | SH450610XXXXYY |
| | | • | | 30 | Valley with 30° arc | SV300610XXXXYY |
| 6' x 10' | | • | | 45 | Valley with 45° arc | SV450610XXXXYY |
| | • | | | 30 | Hill with 30° arc | SH300810XXXXYY |
| | • | | | 45 | Hill with 45° arc | SH450810XXXXYY |
| | | • | | 30 | Valley with 30° arc | SV300810XXXXYY |
| | | • | | 45 | Valley with 45° arc | SV450810XXXXYY |
| | | | • | 30 | Hill/Valley with 30° arc | SW300810XXXXYY |
| 8' x 10' | | | • | 45 | Hill/Valley with 45° arc | SW450810XXXXYY |

XXXX = Perforation Pattern, see page 9 to select your pattern
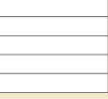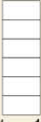
YY = Color, see page 10 to select your color

| Direction of Arc/ Size/Type | Hill (SH) | Valley (SV) | Hill/Valley Combo (SW) | Arc Degree | Description | Item Number |
|---|---|---|---|---|---|---|
| 10′ X 10′ | • | | | 30 | Hill with 30° arc | SH301010XXXXYY |
| | • | | | 45 | Hill with 45° arc | SH451010XXXXYY |
| | | • | | 30 | Valley with 30° arc | SV301010XXXXYY |
| | | • | | 45 | Valley with 45° arc | SV451010XXXXYY |
| 12′ x 10′ | • | | | 30 | Hill with 30° arc | SH301210XXXXYY |
| | • | | | 45 | Hill with 45° arc | SH451210XXXXYY |
| | | • | | 30 | Valley with 30° arc | SV301212XXXXYY |
| | | • | | 45 | Valley with 45° arc | SV451212XXXXYY |
| | | | • | 30 | Hill/Valley with 30° arc | SW301212XXXXYY |
| | | | • | 45 | Hill/Valley with 45° arc | SW451212XXXXYY |
| 4′ x 12′ | • | | | 30 | Hill with 30° arc | SH300412XXXXYY |
| | • | | | 45 | Hill with 45° arc | SH450412XXXXYY |
| | | • | | 30 | Valley with 30° arc | SV300412XXXXYY |
| | | • | | 45 | Valley with 45° arc | SV450412XXXXYY |
| 6′ x 12′ | • | | | 30 | Hill with 30° arc | SH300612XXXXYY |
| | • | | | 45 | Hill with 45° arc | SH450612XXXXYY |
| | | • | | 30 | Valley with 30° arc | SV300612XXXXYY |
| | | • | | 45 | Valley with 45° arc | SV450612XXXXYY |
| 8′ x 12′ | • | | | 30 | Hill with 30° arc | SH300812XXXXYY |
| | • | | | 45 | Hill with 45° arc | SH450812XXXXYY |
| | | • | | 30 | Valley with 30° arc | SV300812XXXXYY |
| | | • | | 45 | Valley with 45° arc | SV450812XXXXYY |
| | | | • | 30 | Hill/Valley with 30° arc | SW300812XXXXYY |
| | | | • | 45 | Hill/Valley with 45° arc | SW450812XXXXYY |
| 10′ x 12′ | • | | | 30 | Hill with 30° arc | SH301012XXXXYY |
| | • | | | 45 | Hill with 45° arc | SH451012XXXXYY |
| | | • | | 30 | Valley with 30° arc | SV301012XXXXYY |
| | | • | | 45 | Valley with 45° arc | SV451012XXXXYY |
| 12′ x 12′ | • | | | 30 | Hill with 30° arc | SH301212XXXXYY |
| | • | | | 45 | Hill with 45° arc | SH451212XXXXYY |
| | | • | | 30 | Valley with 30° arc | SV301212XXXXYY |
| | | • | | 45 | Valley with 45° arc | SV451212XXXXYY |
| | | | • | 30 | Hill/Valley with 30° arc | SW301212XXXXYY |
| | | | • | 45 | Hill/Valley with 45° arc | SW451212XXXXYY |

XXXX = Perforation Pattern, see page 9 to select your pattern
YY = Color, see page 10 to select your color

## Additional Wave size/configuration options*

*The following chart is for non-kit options only.



Dimension B Radius · Dimension A Chord Length · Dimension C Chord Height
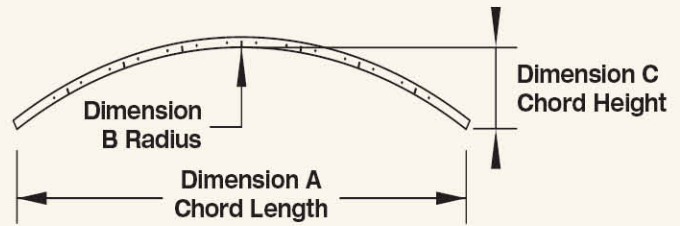
| Available as Hill or Valley | Arc | Dim. A Chord Length | Dim. B Radius | Dim. C Height | Part # | | Arc | Dim. A Chord Length | Dim. B Radius | Dim. C Height | Part # |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | 7.5° | 9' 11-15/16" | 76' 4-3/4" | 2-3/4" | 10075 H/V | | 22.5° | 5' 11-9/16" | 15' 3-3/8" | 3-9/16" | 6225 H/V |
| | 15° | 9' 11-13/16" | 38' 2-3/8 | 3-15/16" | 1015 H/V | | 30° | 5' 10-5/8" | 11' 5-1/2" | 4-9/16" | 630 H/V |
| | 22.5° | 9' 11-1/4" | 25' 5-9/16" | 5-7/8" | 10225 H/V | | 37.5° | 5' 10-3/4" | 9' 2" | 5-13/16" | 6375 H/V |
| | 30° | 9' 10-5/8" | 19' 1-3/16" | 7-3/16 | 1030 H/V | | 45° | 5' 10-1/8" | 7' 7-11/16" | 7-1/16" | 645 H/V |
| | 37.5° | 9' 9-7/8" | 15' 3-5/16" | 9-3/4" | 10375 H/V | | 52.5° | 5' 9-1/2" | 6' 6-9/16" | 8-1/8" | 6525 H/V |
| | 45° | 9' 7-11/16" | 12' 8-13/16" | 11-3/8" | 1045 H/V | | 60° | 5' 8-13/16" | 5' 8-3/4" | 9-5/16" | 660 H/V |
| | 52.5° | 9' 7-7/8" | 10' 10-15/16" | 1' 1-1/2" | 10525 H/V | | 75° | 5' 7" | 4' 7" | 11-3/8" | 675 H/V |
| | 60° | 9' 6-9/16" | 9' 6-9/16" | 1' 3-5/8" | 1060 H/V | | 90° | 5' 4-1/2" | 3' 9-13/16" | 1' 1-1/16" | 690 H/V |
| | 75° | 9' 3-5/8" | 7' 7-11/16" | 1' 7-7/16" | 1075 H/V | | 7.5° | 3' 11-15/16" | 30' 6-5/8" | 13/16" | 4075 H/V |
| | 90° | 9' 0" | 6' 4-3/8" | 1' 10-11/16" | 1090 H/V | | 15° | 3' 11-7/8" | 15' 3-3/8" | 1-9/16" | 415 H/V |
| | 7.5° | 7' 11-15/16" | 61' 1-3/8" | 1-9/16" | 8075 H/V | | 22.5° | 3' 11-11/16" | 10' 2-1/4" | 2-5/16" | 4225 H/V |
| | 15° | 7' 11-3/4" | 30' 6-11/16" | 3-1/8" | 815 H/V | | 30° | 3' 11-3/8" | 7' 7-11/16" | 3-1/8" | 430 H/V |
| | 22.5° | 7' 11-3/8" | 20' 2-7/8" | 4-3/4" | 8225 H/V | | 37.5° | 3' 11-1/8" | 6' 1-3/8" | 3-7/8" | 4375 H/V |
| | 30° | 7' 10-7/8" | 15' 3-3/8" | 6-1/4" | 830 H/V | | 45° | 3' 10-3/4" | 5' 1-1/8" | 4-5/8" | 445 H/V |
| | 37.5° | 7' 10-5/16" | 12' 2-11/16" | 7-3/4" | 8375 H/V | | 52.5° | 3' 10-5/16" | 4' 4-3/8" | 5-3/8" | 4525 H/V |
| | 45° | 7' 9-3/8" | 10' 2-1/4" | 9-7/16" | 845 H/V | | 60° | 3' 9-7/8" | 3' 9-13/16" | 6-1/16" | 460 H/V |
| | 52.5° | 7' 8-11/16" | 8' 8-3/4" | 10-13/16" | 8525 H/V | | 75° | 3' 8-1/2" | 3' 5/8" | 7-1/2" | 475 H/V |
| | 60° | 7' 7-15/16" | 7' 7-11/16" | 1' 7/16" | 860 H/V | | 90° | 3' 7-1/4" | 2' 6-9/16" | 8-13/16" | 490 H/V |
| | 75° | 7' 7-11/16" | 7' 7-5/8" | 12-1/4" | 875 H/V | | | | | | |
| | 90° | 7' 2-7/16" | 5' 1-1/8" | 1' 6-1/8" | 890 H/V | | | | | | |
| | 7.5° | 5' 11-15/16" | 45' 5-1/16" | 1-3/16" | 6075 H/V | | | | | | |
| | 15° | 5' 11-13/16" | 22' 11" | 2-3/8" | 615 H/V | | | | | | |

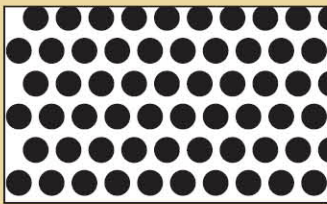# Step 3: Select your infill panel perforation
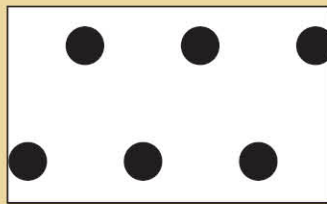
## Metal infill panels
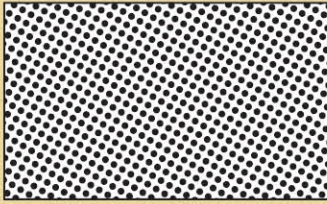
Perforated Panel (R042)
Perforations:
3/64″ Dia. @ 1/8″ O.C.
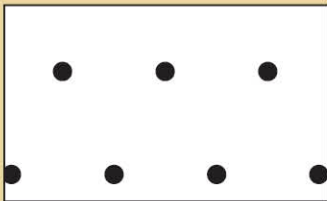Open area: 11%
Nominal 3/4″ border
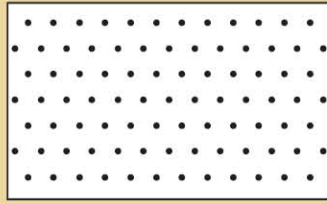
Perforated Panel (R062)
Perforations:
1/16″ Dia. @ 1/4″ O.C.
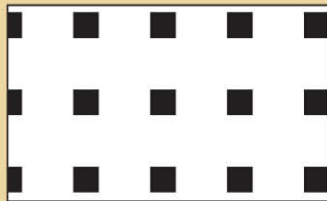Open area: 6%
Nominal 3/4″ border

*Perforated Panel (R250)
Perforations:
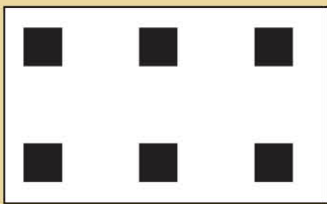1/4″ Dia. @ 0.32″ O.C.
Open area: 58%
Nominal 3/4″ border

Perforated Panel (R375)
Perforations:
3/8″ Dia. @ 1-1/8″ O.C.
Open area: 9%
Nominal 3/4″ border

Perforated Panel (R188)
Perforations:
3/16″ Dia. @ 1″ O.C.
Open area: 4%
Nominal 3/4″ border

Perforated Panel (S250)
Perforations:
1/4″ x 1/4″ @ 3/4″ O.C.
Open area: 11%
Nominal 3/4″ border

Perforated Panel (S375)
Perforations:
3/8″ x 3/8″ @ 1-1/8″ O.C.
Open area: 11%
Nominal 3/4″ border

*Perforated Panel (S500)
Perforations:
1/2″ x 1/2″ @ 5/8″ O.C.
Open area: 64%
Nominal 3/4″ border

Unperforated Panel (UPA)

*  Laminated acoustical fleece is not
   available on Perforated Panel R250
   and S500 due to open cell percentage.

12′ x 2′ R042 Perforated Panels in Slate

Serpentina® offers 13 color choices, so you can pick the best color for your space. If you don't see a color that's right for you, don't worry. Custom colors are available.
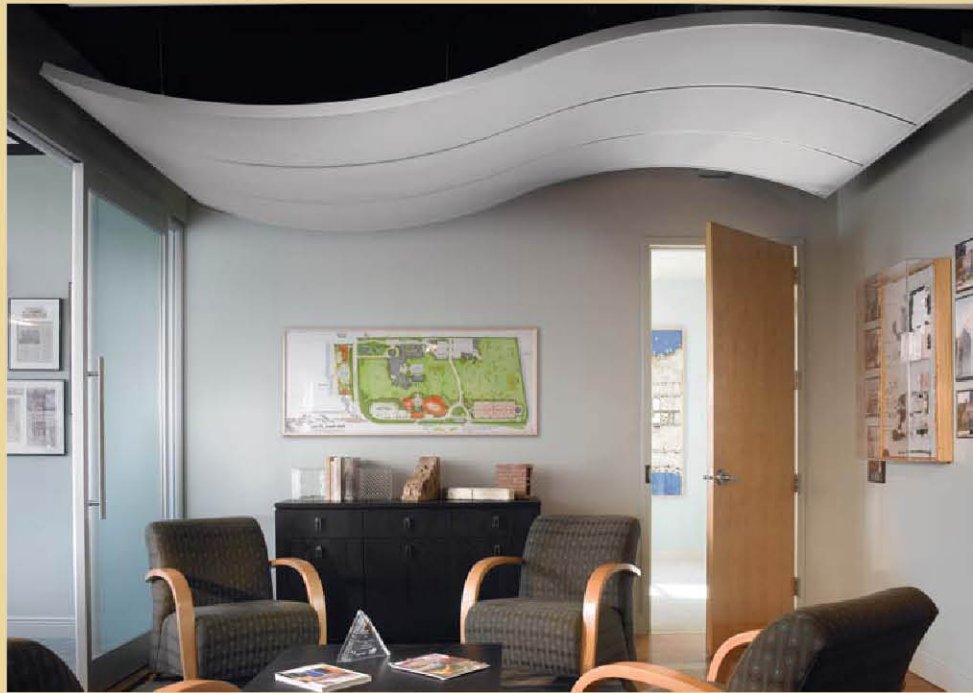


12' x 6' combination Hill/Valley Wave with 2' x 12' R042 Perforated Panels in Silver Satin

## Color selection

Due to printing limitations, shade may vary from actual product.
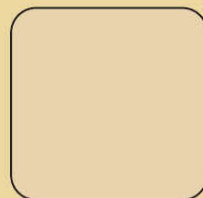
### Metal Infills

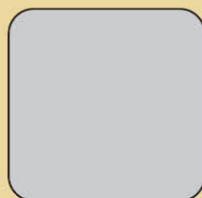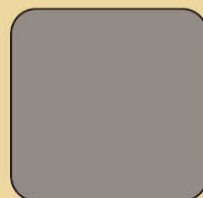| White (WH) | Cream (CR) | Haze (HA) | Camel (CM) | Platinum (PL) |
|---|---|---|---|---|

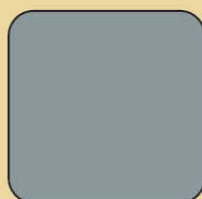| Tech Black (BL) | Silver Grey (SG) | Silver Satin (SA) | Gun Metal Grey (MY) | Champagne Gold (CG) |
|---|---|---|---|---|

| Wolf (WK) | Vanilla (VA) | Slate (ST) | |
|---|---|---|---|
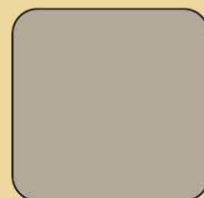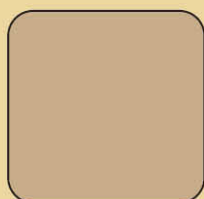
Note: RAL and Custom colors are available.

# Serpentina® Family Overview

### Serpentina Classic

This amazing 3-dimensional curved cloud offers maximum design flexibility. The pre-engineered system allows you to create hills and valleys. Metal infill panels come in 2' x 2', 2' x 4' and 2' x 6', perforated and unperforated.

### Serpentina Semi-Concealed

Make a more dramatic statement with Serpentina Semi-Concealed. These 2' x 4' and 2' x 6' curved clouds offer sculptural design flexibility all with the clean, sophisticated look of semi-concealed infill panels.

### Serpentina Vault

Durable 2' x 6' factory-finished aluminum panels come in several finishes, unperforated and perforated, with acoustical fleece backing available for enhanced acoustics. Create arcs of 15, 30 and 45 degrees.

For additional information visit the web at armstrong.com/serpentina or see our Serpentina family brochure CS-3960.

Serpentina Classic
12' x 2' Unperforated Panels in Custom Color (Red)
CDW, Vernon Hills, IL

## **CEILING** SYSTEMS

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• Name of your Armstrong Representative

• **Tech**Line℠ – Technical information, detail drawings, CAD design assistance, installation information, other technical services – 8 a.m. to 5:30 p.m. EST, Monday through Friday FAX 1-800-572-8324 or email: techline@armstrong.com

**armstrong.com/waves**

• Information on Serpentina® Curved Clouds

• Submittal pages

• Specification writing tool

• InVision™ design tool

• Latest product and program news

• Real time selection and specification information

• Contacts – reps, where to buy, who will install

• Literature and samples information