



AEP SPAN
MAGAZINE

ARCHITECTURAL METAL
ROOFING AND SIDING

August 2021
Volume 1 Issue 1

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ON THE COVER: Spruce Elementary, siding panel is Flex Series® in Metallic Champagne and Burnt Rust.

WELCOME TO OUR INAUGURAL ISSUE

Saying last year has been challenging would be “obvious” and an understatement. Personal and professional sacrifices and hardships were abounding. But through the challenges and headwinds, design professionals continued to deliver projects which transform the communities in which we live. Projects which created a sense of purpose.

Like our customers, we realized business as usual was not going to happen. We were able to make strides in providing education and inspiration to the building and architectural community-albeit not in person. Our new online design centers, AIA approved courses, visualizer tools as well as technical and architectural teams, were just some of the areas we invested in to ensure uninterrupted customer support. Our ability to pivot to “virtual” support was critical.

Supporting our customers during troubling times is important. We continued to have an obligation to support the neighborhoods in which we live and work. AEP Span has a 50-year devotion to supporting our communities. Whether donating materials for projects, or supplies for local events, our support did not waiver. Dozens of volunteers from across the company contributed their time to local and national projects and programs to help those during these troubling times; when it was needed the most.

Behind the products, supporting our customers and communities, are the people. They are the 100+ teammates who make up a diverse and talented group of people whose ideas, values, and contributions not only help our customers, but support our beliefs as well. We continued to support and expand workforce inclusion and recognition throughout the organization as a steadfast responsibility to our people.

We hope you enjoy our inaugural **AEP Span Magazine** which we use to celebrate our commitment to the design community, our neighborhoods, and our people.

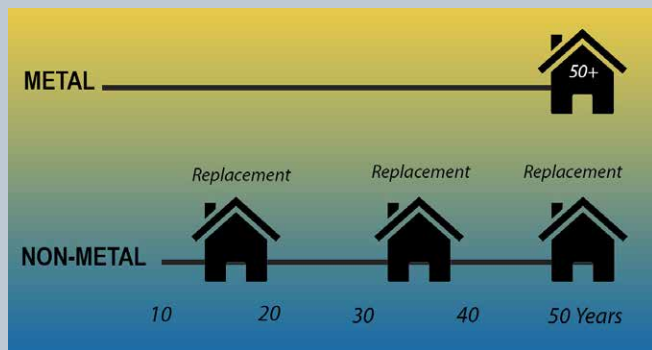


Why Metal Costs More and Why You Should Consider It

Need to replace your roof but you aren't sure what kind to get?

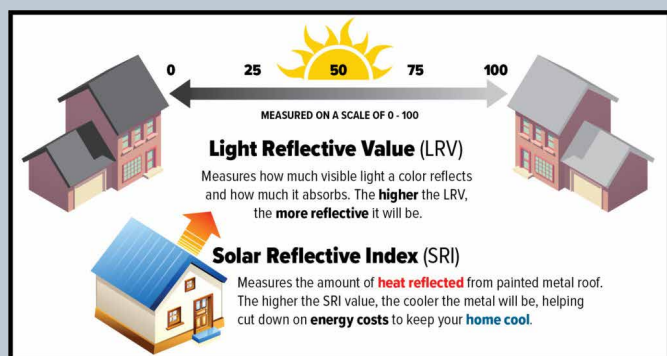
Asphalt shingles are the most common roofing material available, but have you considered metal?

The price tag on roofing types can vary as can the benefits and longevity. Metal may be the costliest upfront of these options; however, there are several compelling reasons why metal is the best choice overall!



Longevity

While an asphalt shingle roof may be the least expensive at first glance (on average a 1,600-square-foot simple gable, low-pitch roof costs about \$9,000), a metal one (typically ranging from \$10,375 to \$14,075) will end up saving you in the long run. Metal roofs last a lifetime (50 years plus) so you save on the installation and removal of several roofs for the cost of one. Asphalt shingles need to be replaced approximately every 25 years, so spending more initially on metal just makes sense from an investment standpoint.



Energy Savings

Metal saves you money on energy bills by keeping homes cooler during sweltering months. You could save up to 25% on your cooling costs with metal versus asphalt shingles. Why such a drastic amount? The use of 'cool colors' help our metal roofing reflect infrared light to minimize heat buildup. This helps you save on cooling costs during hot months.



Low-Maintenance

Metal roofs are practically maintenance-free! With less upkeep, you will save a lot of time and hassle. To properly maintain a metal roof, you only need to remove leaves, branches, and debris. This can be done with a window washing brush on a long pole to minimize damage. Other best practices to have are keeping the gutters clear and trimming nearby trees to prevent rubbing on the house.

Durability

Metal is an extremely durable material! A metal roof can stand up to the harshest environmental elements on top of lasting two to three times longer than asphalt shingles. If you live in an area with extreme weather conditions, having a more durable exterior could be a huge cost and energy saver. Steel roofs are also fire-resistant as metal is non-combustible. Some insurance companies even offer lowered rates after installing a metal roof. Discount or not, metal roofing is the safest option to protect what's important.

Appearance

Painted metal offers you a contemporary appearance in a variety of aesthetic options. Having many color choices allows you to make bold expressions and helps you get the look you want. No matter the style you are going for, there are metal options available to bring your inspiration to life.

[➔ FIND OUT MORE](#)

Vintage Made Modern



This collaboratively developed school instills pride among teachers and students with its commanding yet memorable design. The design focuses on dynamic circulation, which creates student gathering spaces and provides students with a variety of pathways, both physically and academically.

The façade features our HR-36® exposed fastener metal siding panel in our premium, Vintage® finish. HR-36 can be used horizontally, or vertically as shown on this project. The classic aged appearance of Vintage's muted metallic hue integrates attractively with the rich brick elements. The Vintage finish further helps this design endure the test of time with its standard anti-graffiti finish.

Accredited Value – The Importance of Accredited Third-Party Testing and Product Evaluation

Whether it's building components, N95 masks, or canned beans, most products we use in our daily lives require third-party testing and evaluation to ensure the products we purchase and use meet industry performance and safety standards. When it comes to metal roofing, this is as true as ever. No one wants a metal roof to fail when mother nature strikes. Not only can this result in property damage due to storm water intrusion, wind damage, etc., the loss of a metal roof can also be a risk to human life.



When evaluating metal roof suppliers, understand what steps companies must take to ensure their product meets not just industry performance standards (AISI, ASTM, etc.), but also building code compliance (IBC, IRC). Do the metal roofing suppliers have their product performance independently evaluated by accredited agencies? Who has certified their products as code compliant?

It is critical to ensure any published product performance is accurate. No misrepresentation, no errors. This is where accredited third-party testing and product evaluation is crucial. AEP Span's metal roofing and siding panels are not only evaluated by independent, accredited testing labs, our products have also been rigorously reviewed for product performance and evaluated for code compliance by IAPMO-UES, one of the two foremost code compliance agencies today. AEP Span's metal panels are the most extensively evaluated and proven panels on the market.

[SEE OUR BUILDING CODE APPROVAL REPORTS](#)

What's Behind The Paint

We all know what “paint” is, it’s something you slather on the walls to change up the look right?

Well, when it comes to metal coils, there’s layers...



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Paint is made up of three types of layers: **Primers, Backers, and Topcoats**. The paint is also made up of components such as: **Resin, Pigments, Solvents, and Additives**.

Resins can be found in any form, liquid to solid, and can be natural or synthetic. Resin is often referred to as the “vehicle” or “binder” of the paint, and it determines the primary physical and chemical properties of a coating.

Pigments are what color the paint and can be Organic, Inorganic and Ceramic. They provide a protective barrier for the coating as well as resistance to sunlight (UV), Hide/Coverage, Gloss, Abrasion Resistance, Viscosity and Flow, Corrosion Resistance, Special Appearance, Water Resistance and Reflectivity.

Pigments are broken down further into 5 categories: White Pigment (Titanium Dioxide), Inert Pigment (Talc, Silica, Mica), Reactive (Zinc, Chrome), Metallic (Aluminum) and Pearlescent (Mica). Some look different depending on the light. These are called “metameric” and a good example is our ZACTique® II metal color.

Solvents are liquids capable of dissolving or dispersing substances, their primary function is to dissolve the resin providing a consistency (viscosity) suitable for application.

Additives help fine-tune the paint performance. Types of additives include Wetting agents, De-foamers, Flow additives, UV absorbers and Acid Catalysts.

These items combine and cure in 15-30 seconds, at only 1.4 mils thick to form the paint you see on metal coils.



ROOF TO WALL TRANSITIONS

A standing seam roof-to-wall transition is a seamless transition, favored by many for its clean lines and continuity. This looks like a simple installation, but there are many elements in play. Thermal cycling, moisture limitations, and installation-related issues are areas to look at.



Thermally locked panels fixed at ridge and the roof to wall transition.



A burst kneecap caused by repeated freeze/thaw within the kneecap

Thermal Cycling

A metal panel must be able to expand and contract with changing temperatures, otherwise it may cause premature fastener backout, oil-canning or system failure. The eave or edge where the panel folds from roof to wall becomes a point of fixation. This will not allow the panel to expand and contract along its typical axis and it is unable to be cut or altered, so the panel must be allowed to expand up-slope and a floating ridge detail is needed.

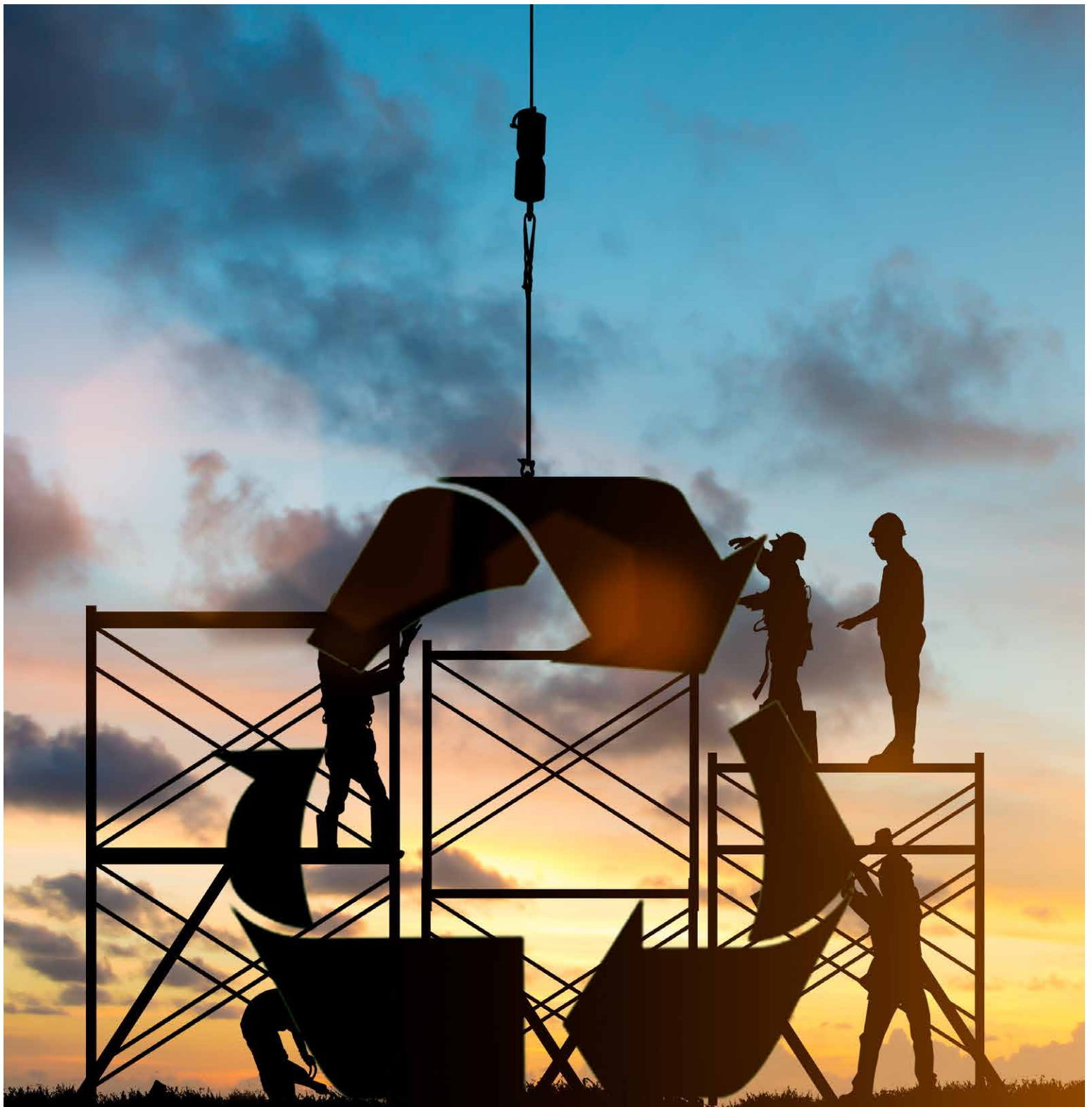
Moisture Considerations

A seamless metal panel is inherently waterproof, but the kneecap relies on pop-rivets and sealant. Kneecaps are not as effective in snowy environments as moisture in the kneecap can freeze and thaw, over time causing the joint to rupture. Shear loads can strip the kneecaps off as well.

Installation Considerations

A major issue is how to support the un-installed portion of the panel as it is run off the roof prior to the ribs being cut and folding down the wall. On short panel runs this is not an issue but on anything over one story, the installer may want to utilize a scissor lift to support the panel end prior to cutting the ribs.

[FIND OUT MORE](#)

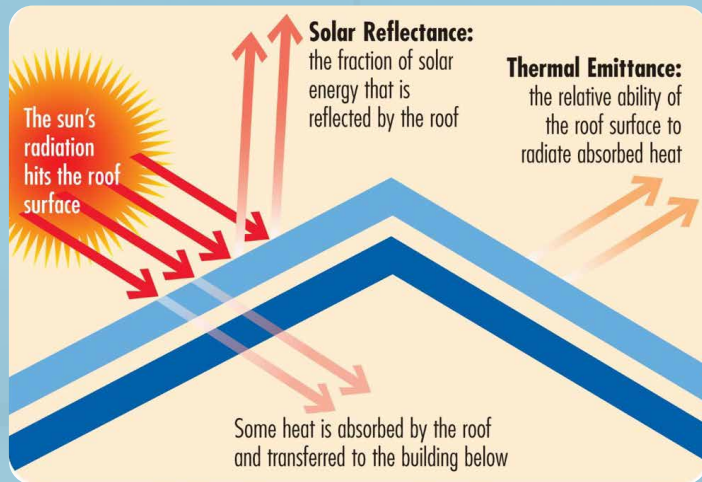


Sustainability and LEED v4.1

Metal roofing and siding panels are a naturally green option! Lasting 50+ years, 100% recyclable at life end, made-to-order (minimizing jobsite waste) AND they contribute to LEED v4.1.

Metal roof and wall panels are made up of layers of materials, with three ingredients that deliver the green attributes. The Base Steel is what contributes to the long life and is 100% recyclable at the end of its life. The Aluminum-Zinc Coating, known as Galvalume® or ZINCALUME®, offers outstanding corrosion protection and the Cool Topcoat/Color delivers the “cool” roof and siding attribute.

Metal panels can contribute points in: Energy and Atmosphere, Materials and Resources, Indoor Environmental Quality and Sustainable Sites.



Energy and Atmosphere

Cool metal roofs contribute points by meeting the minimum SRI values that contribute to energy conservation. The percentage savings from a cool roof varies based on several factors, like climate zone, building geometry, and HVAC system type.

Materials and Resources

New construction projects can contribute one point for a metal panel manufacturer with an Environmental Product Declaration. Earn additional points through Pathway 2 and 4 if there is a reduction in 3 of the 6 impact categories.

Indoor Environmental Quality

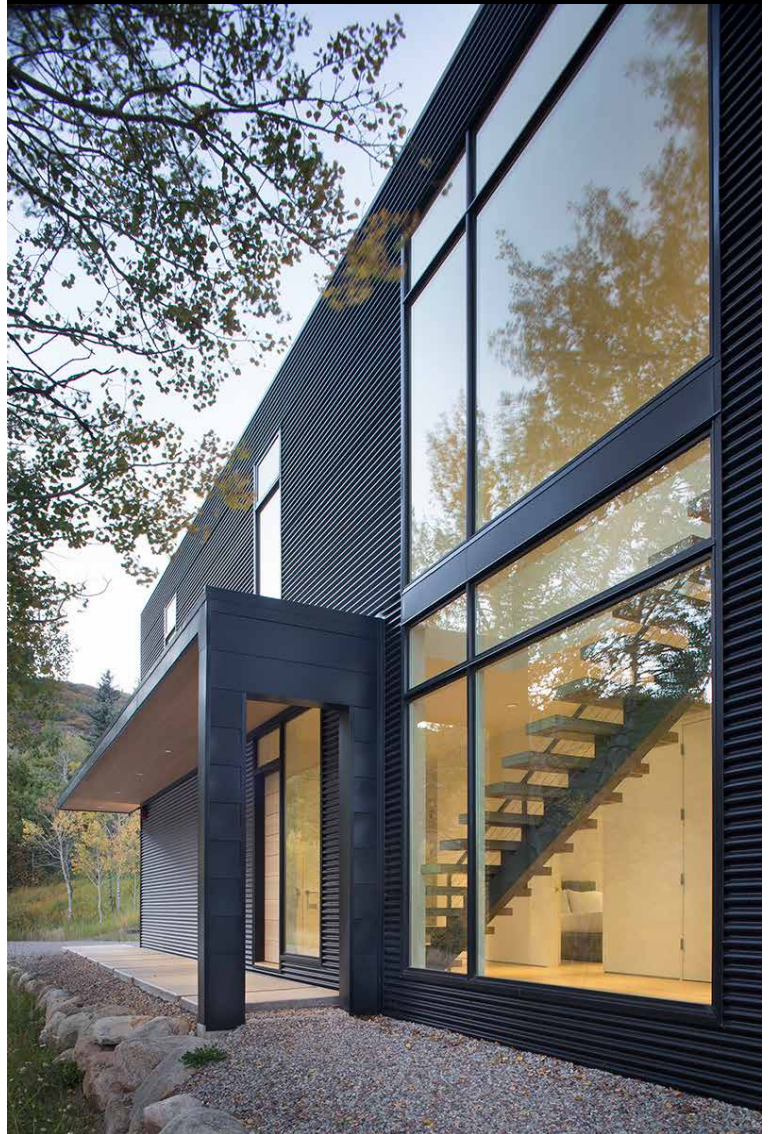
Metal panels in an interior wall application contribute zero VOCs to the VOC budget calculations, and sealant is not required, qualifying to earn 1-3 points.

Sustainable Sites

Points can be earned with metal panels by reflecting more sunlight and absorbing less heat, keeping interior spaces cooler. They reduce what is called “Urban Heat Island Effect” (or UHIE) in built-up areas that are hotter than nearby rural areas. Roofing materials within a specific range of aged SRI values can contribute points to this category as well.

➔ [FIND OUT MORE](#)

BLACK MAGIC



Nestled in the picturesque mountainside close to Aspen, Colorado, sits this stunning, modern single-family home. Appropriately called ‘Black Magic’, the home features an open floor plan and large windows of varying sizes to maximize the breathtaking views of this unique location.

Seeking to make a bold statement from its heavily wooded lot and earthy surroundings, the home features the extensive use of AEP Span’s metal cladding in Matte Black. Nu-Wave Corrugated® metal siding panels add texture and visual appeal to the large squared surfaces, while also providing strength and resistance against the harsh Colorado winters. The use of Matte Black Flush Panels were used for accent pieces, adding additional visual distinction to the structure.

Metal Roofing and Siding Learning Center

Now more than ever, virtual resources are essential. Over the last year, we have grown our [Learning Center](#) so we could continue to provide uninterrupted resources and support. Our Learning Center has become a central hub of information offering continuing professional development in an engaging, interactive format. The courses available are to educate you on current topics related to designing and understanding metal, as well as providing you with AIA certified continuing education credits.

Throughout the year, we partner with leading industry professionals such as [Metal Architecture](#) and [Architectural Record](#) to bring you free and accredited hour-long webinars focusing on subject matter relevant to the design community. The webinars break down important technical topics, review design considerations, and provide specification tips when selecting metal roofing or siding.

We understand not everything goes according to plan; life happens and things pop-up. For these reasons, we have partnered with [AEC Daily](#) to bring our accredited courses to an on-demand format so you can move at your own pace and receive AIA CE credits on your schedule. If having a compressed schedule is typical or you're just looking to learn design tips one step at a time, then we have you covered with our AIA-approved Nano Courses. Our series of 15-minute short courses concisely summarize a range of topics related to metal roofing and siding.

For a more one-on-one experience, our team of experts are available to host Virtual Lunch & Learn sessions. You'll have the opportunity to interact virtually with experienced industry specialists on either a topic of your choosing, or one of our AIA-approved courses. Everything you need to get started and begin earning your learning credits can be found within our Learning Center.

[➞ FIND OUT MORE](#)

AMAZING REROOF!



This expansive home, built in 1993 and situated in the rolling hills of Kalama Washington, originally featured a teal green metal roof that needed a replacement. In 2021, the homeowner selected our Design Span® *hp* standing seam metal roofing system as their replacement. Design Span *hp* was chosen for its clean lines, pronounced rib shadow, and ability to blend seamlessly with other building materials. The color chosen to uplift the style of their home was Urban Slate, part of our Eternal Collection® color palette.

The Urban Slate color, combined with the standing seam Design Span *hp* panel completely modernizes the look and feel of this home without clashing with its environment or existing materials and features. The original teal finish was selected at the time to provide a complementary hue to its surrounding environment and add to a contemporary theme. The replacement of this roof not only provided the opportunity to address the aesthetic issues of the previous roofing system, but to update the style of the home for the 21st century.



Today's modern metal paint systems such as the one used on our Design Span *hp* metal roofing panels feature urethane primers, rather than epoxy, which does not exhibit the same weakness towards UV degradation. Despite the availability of modern, durable primers, Urban Slate is a primerless color. The advantage of this type of painted metal is the translucent finish. It provides a deeper color that changes dynamically with daylight interaction. Furthermore, its unique composition enables the metal spangle underneath to be slightly apparent. The Urban Slate color (and all Eternal Collection colors) also feature the added strength of ZINCALUME®, a corrosion protection barrier applied to the steel before it is painted. ZINCALUME provides superior corrosion protection and carries a robust protection warranty.

[➔ FIND OUT MORE](#)

FLEX SERIES®

It's easy to mix and match Flex Series panels and colors to create a unique design.



→ **LEARN MORE**

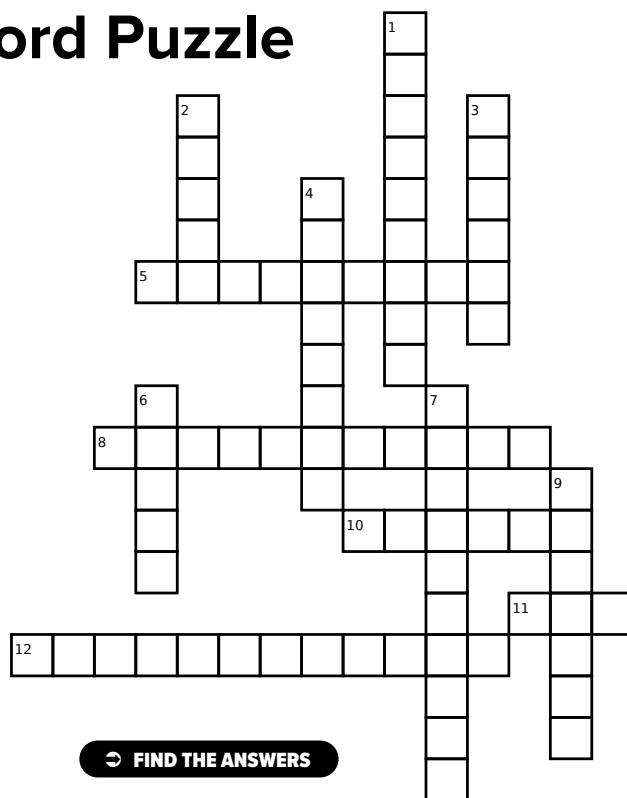
Metal Roofing & Siding Crossword Puzzle

Down:

1. The process of creating a raised texture to the surface of the metal.
2. Refers to the substance applied to a surface of metal to achieve a desired color and to protect the underneath.
3. This occurs to metal roofing and siding products when UV rays attack the pigments in the paint and cause their color to change.
4. As resin breaks down due to UV exposure, resin particles take on a white appearance.
6. Refers to the thickness of metal.
7. Visual waviness or distortions in the flat surfaces of metal roofing or siding products.
9. Refers to a coating that prepares the substrate for painting by providing 'bite' for adhesion and directly supports topcoat color and flexibility.

Across:

5. Refers to the small ridges formed in flat areas of metal surfaces used to reduce the visual impact of oil-canning in metal roofing and siding products.
8. The process of coating a thin layer of zinc to steel to improve corrosion resistance.
10. Provides the underside of painted metal with a base color. Typically white or neutral color.
11. Paint system for metal roofing and siding that offers a greater resistance to chalk and fade compared to traditional polyester systems. This paint system type is also the most commonly used system for residential applications.
12. A strong, skid-resistant membrane providing superior protection from water penetration.



→ **FIND THE ANSWERS**



DESIGN WITH THE LATEST METAL COLORS



Steelscape is proud to introduce **Eternal Collection®** a range of four distinctive colors exclusive to Steelscape. Shown above in Perception Collection® metal siding by AEP Span. The Eternal Collection offers unparalleled color and depth backed by the reassurance of a 20-year limited warranty.

For more information on the Eternal Collection and other inspirational metal finishes, visit Steelscape.com and download our Design and Color Solutions Product Guide today!



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