



ecomMETALS

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Some History

Asphalt shingle roofs last about 15 years on average. This is usually the time a disgruntled homeowner is saying they purchased a 30- or 40-year shingle and it's failed. They add, "It must have been a bad batch of shingles." Sure it was.

Asphalt roofs were introduced at the turn of the century (about 1901) as an alternative to more expensive slate and wood roofs. It was a much cheaper roof that the average homeowner could afford.

The installation was also much easier. It did not require the skill necessary to install a slate or cedar shake roof. One would have to agree that the asphalt shingle companies were successful in their marketing efforts; but that is changing.

Homeowners increasingly opt for longer-lasting Metal Roofing Systems over traditional asphalt shingles:

- Metal roofing for the residential market has doubled in the last four years with a market share approaching 16% nationally in 2018. That's up from about 2-3% in 1999.
- Metal roofs are the fastest growing segment for residential replacement roofs in the country.
- More and more builders and architects are specifying standing seam metal roofs and shingle metal roofs in new home construction.



before



after



before



after



before



after



Alexxa



Alexxa



Alexxa



2329

Alexxa



Alexxa



Alexxa



Alexxa

Metal Tile Panels

ecoMetals Roofing System



Residential metal roofing is one of the fastest growing segments of home improvement – more than quadrupling its market share over the past decade. The benefits offered by today's metal roofs allow home builders and homeowners to upgrade their homes with products of lasting value. While other roofs quickly diminish in value as they age, metal roofs provide the long list of benefits.

Why ecoMetals Roofing Systems are great for builders?

- **Inexpensive, high quality material** – the most affordable metal panels
- **Lower framing cost** – due to metal roof low weight, houses can be designed with lighter structural material
- **Short production time** – 3-5 days lead time
- **Ease of Installation** – panels pre-cut to slope length
- **Low installation cost** – no battens, quick installation over plywood
- **No storage cost** – roofs delivered directly to job sites
- **Eco-friendly and energy efficient roof** – 91% of new homeowners look for an energy- efficient home

Recent reports show that hailstorm costs are increasing in the United States, especially in CO, TX, and the Midwest.

To protect homes from damage and the increasing threat of hailstorms, experts say that choosing more resilient materials is essential. In studies conducted by the Insurance Institute for Business & Home Safety (IBHS), while all roof types can sustain some cosmetic damage depending on hailstorm severity, metal roofing performed best and was much less likely to puncture as compared to asphalt and tiles, withstanding even golf ball-sized hail stones without compromising performance.

Why Homeowners choose ecoMetals Roofing Systems?

- **Lifetime warranty** - No maintenance required
- **Insurance savings** - Lower homeowner's insurance rates
- **Beauty and function** – Available in 16 colors roofs look better
- **Long term investment** - Lowest cost per annum coverage
- **Environmentally friendly** - 100% recyclable materials
- **Hail resistant** - Class 4 impact resistance
- **Wind resistant** - Class H wind resistance
- **Fire resistant** - Class A fire resistance
- **Light weight** - Eliminating structures sagging
- **100% American product** - Proudly made in the USA

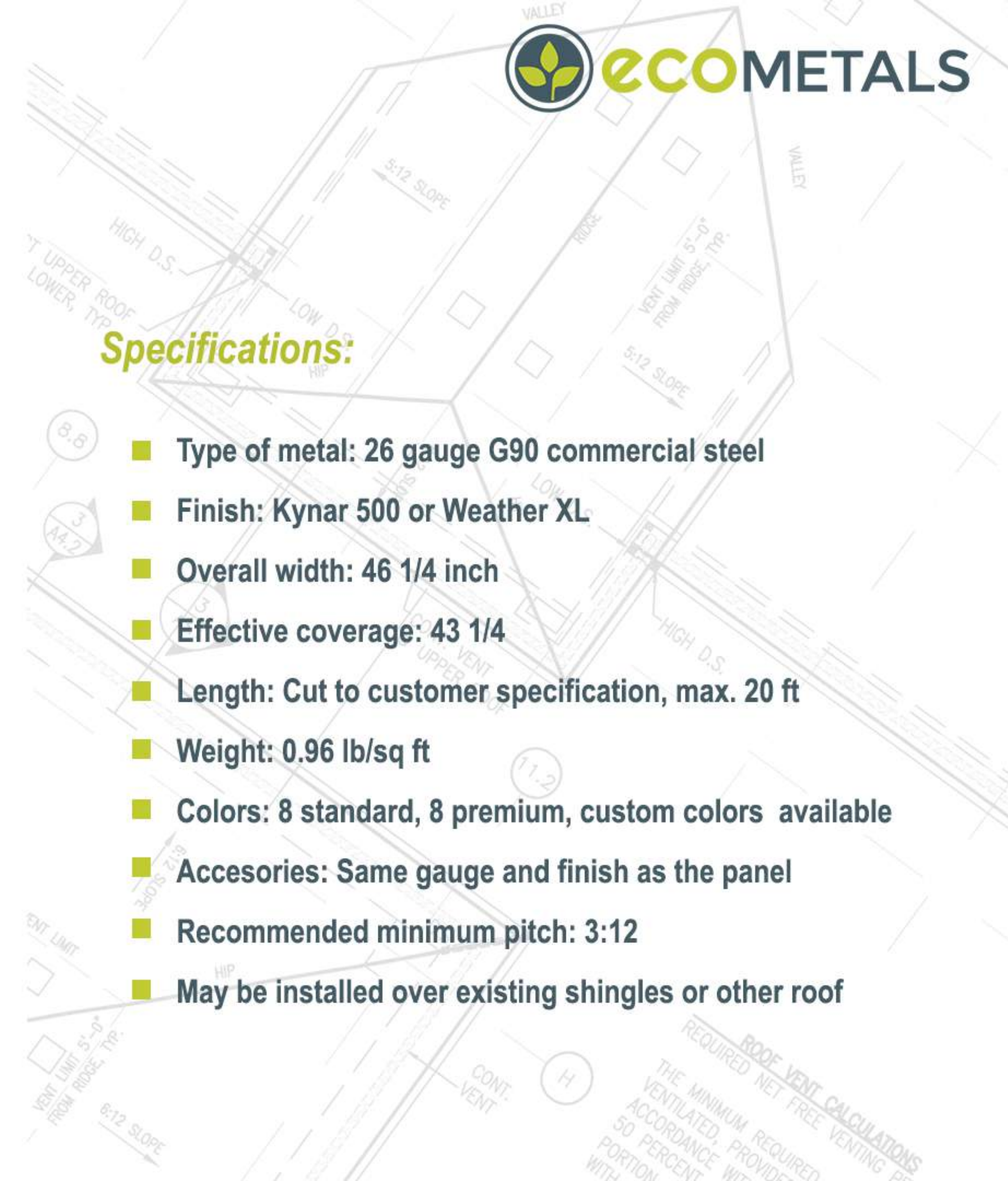
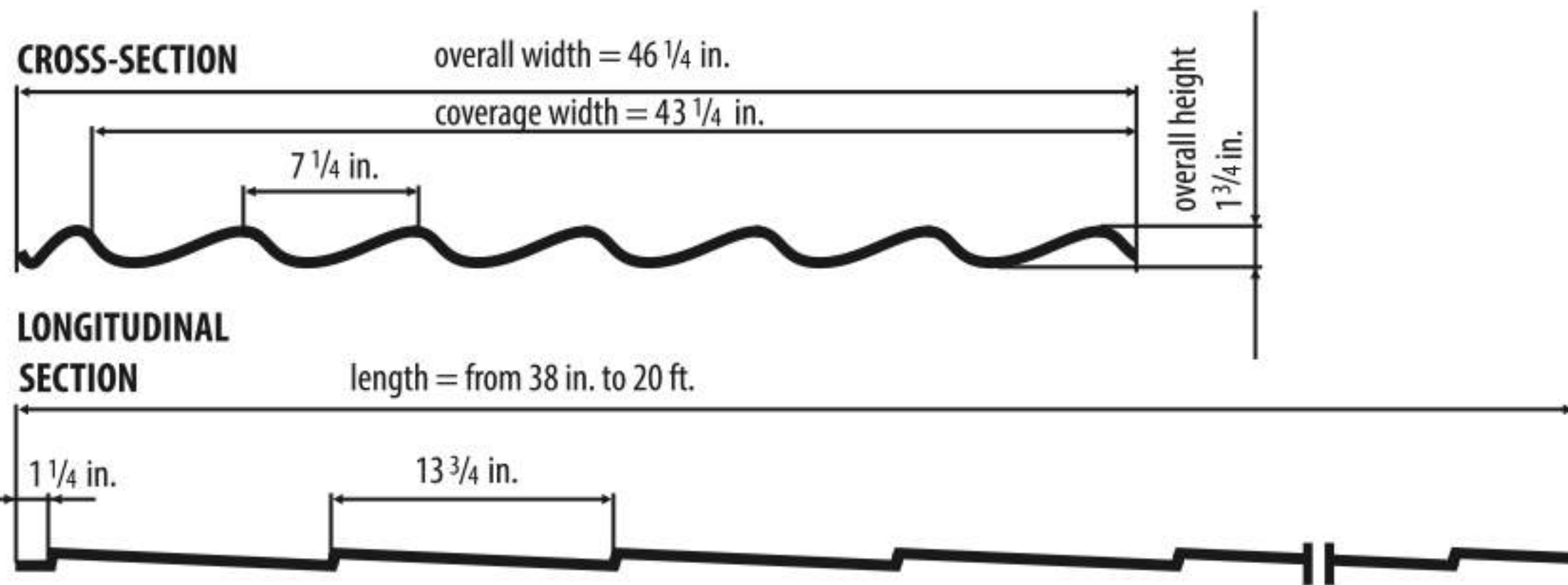


ALEXXA PANELS

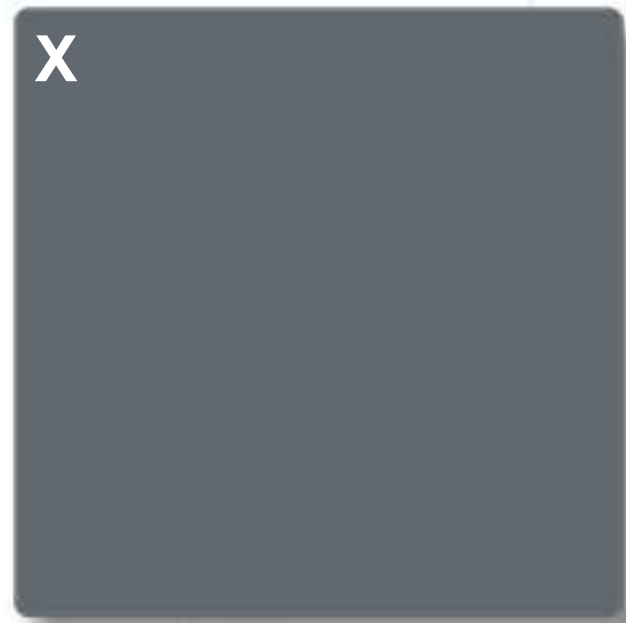


Specifications:

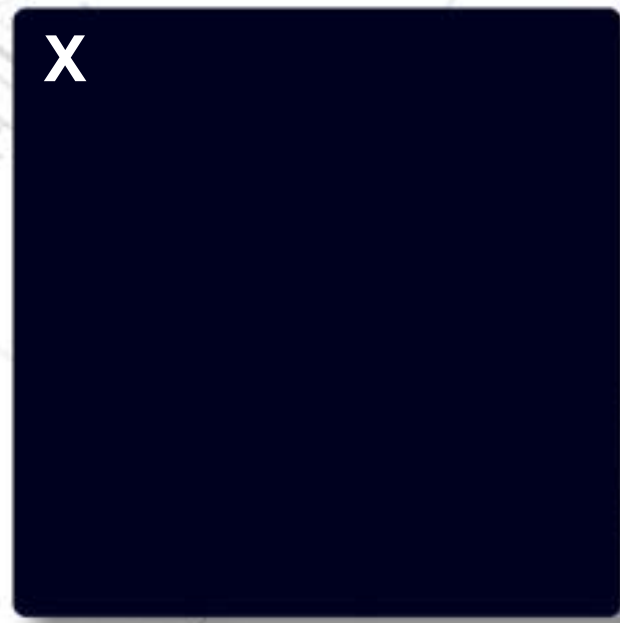
- Type of metal: 26 gauge G90 commercial steel
- Finish: Kynar 500 or Weather XL
- Overall width: 46 1/4 inch
- Effective coverage: 43 1/4
- Length: Cut to customer specification, max. 20 ft
- Weight: 0.96 lb/sq ft
- Colors: 8 standard, 8 premium, custom colors available
- Accesories: Same gauge and finish as the panel
- Recommended minimum pitch: 3:12
- May be installed over existing shingles or other roof



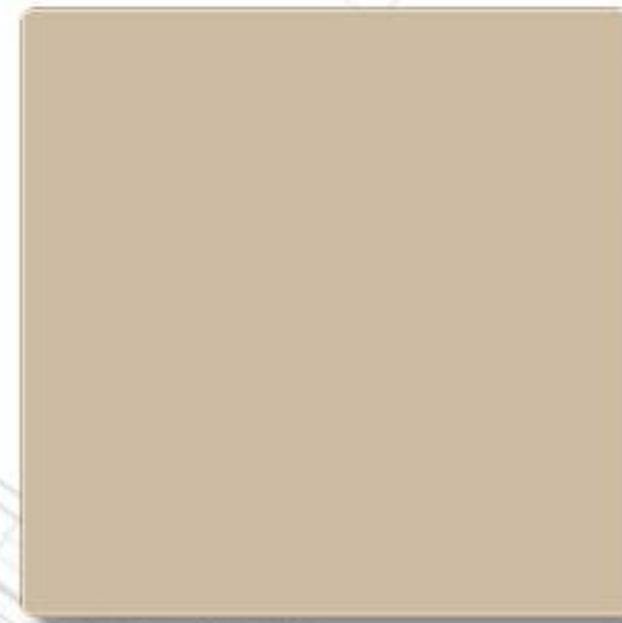
Color Card



Graphite MATTE



Black MATTE



Sierra Tan GLOSS



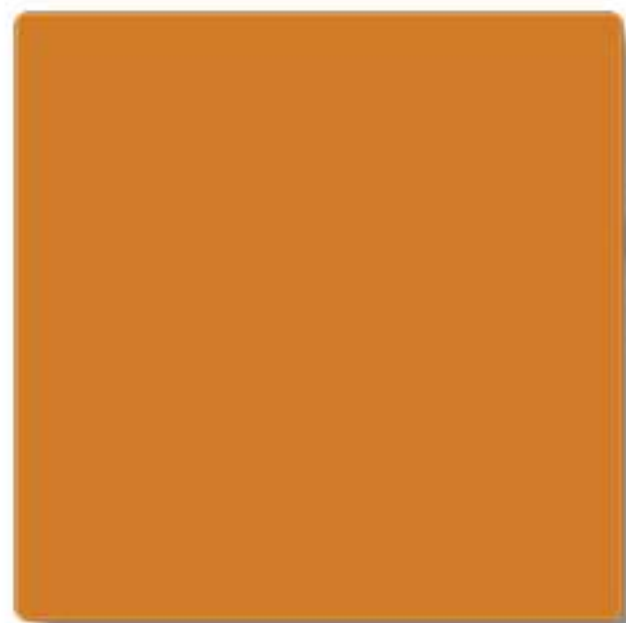
Forest Green MATTE



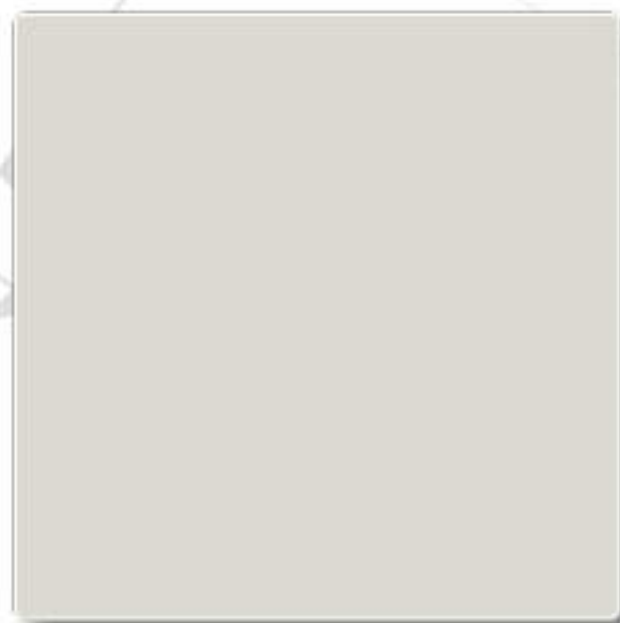
Royal Blue GLOSS



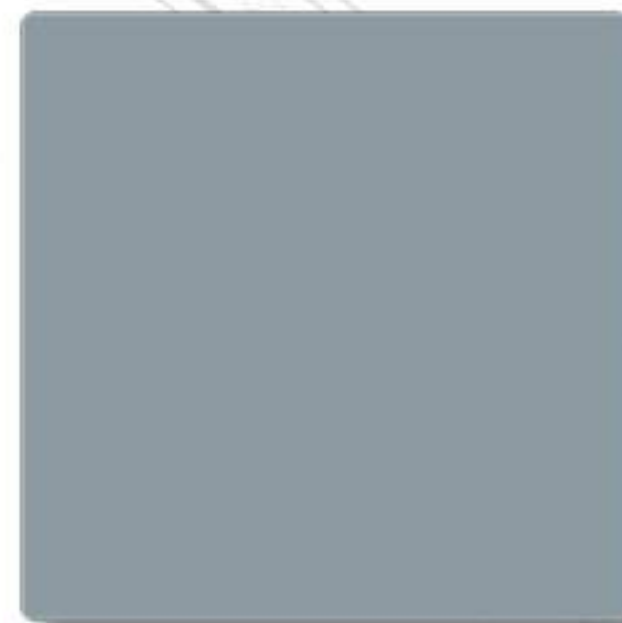
Chocolate Brown GLOSS



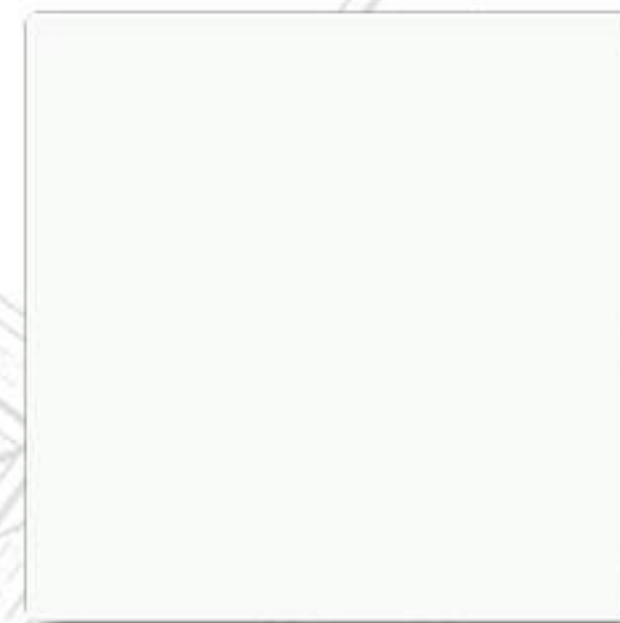
Coppertone GLOSS



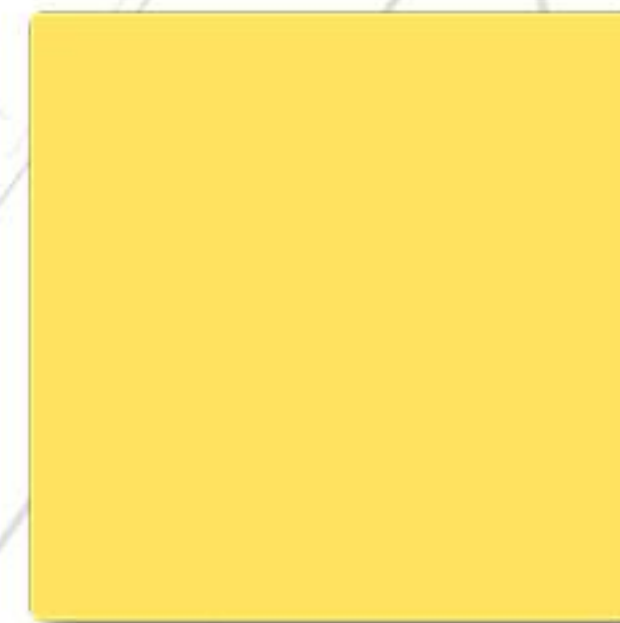
Metallic Silver GLOSS



Ash Gray MATTE



Bone White GLOSS



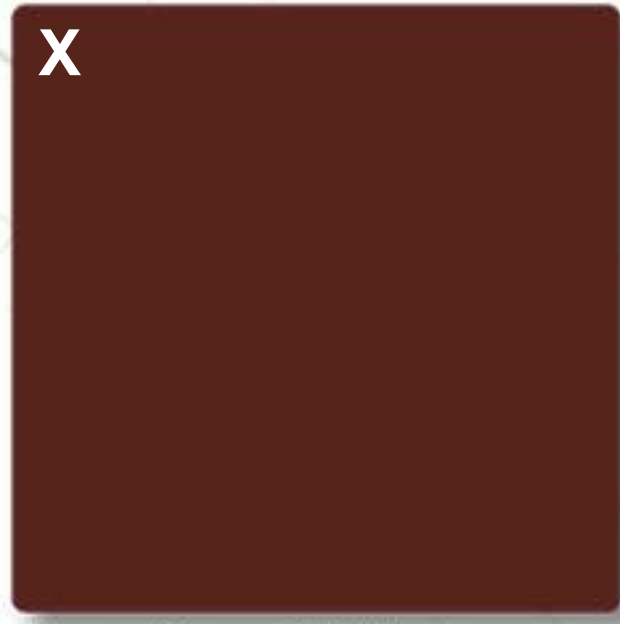
Lemon Yellow GLOSS



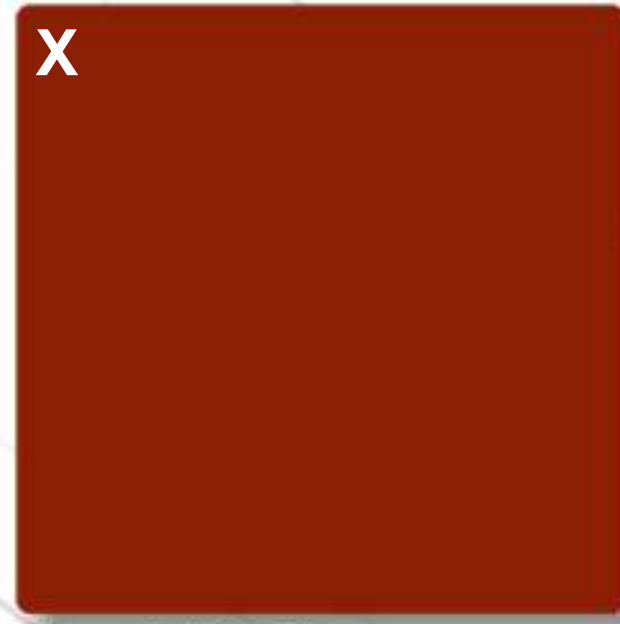
Regal Red GLOSS



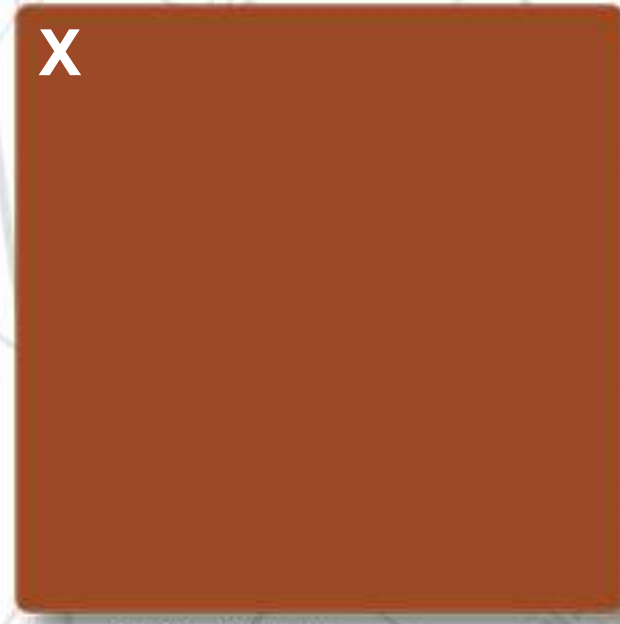
Dark Bronze GLOSS



Mansard Brown MATTE



Cherry Red GLOSS



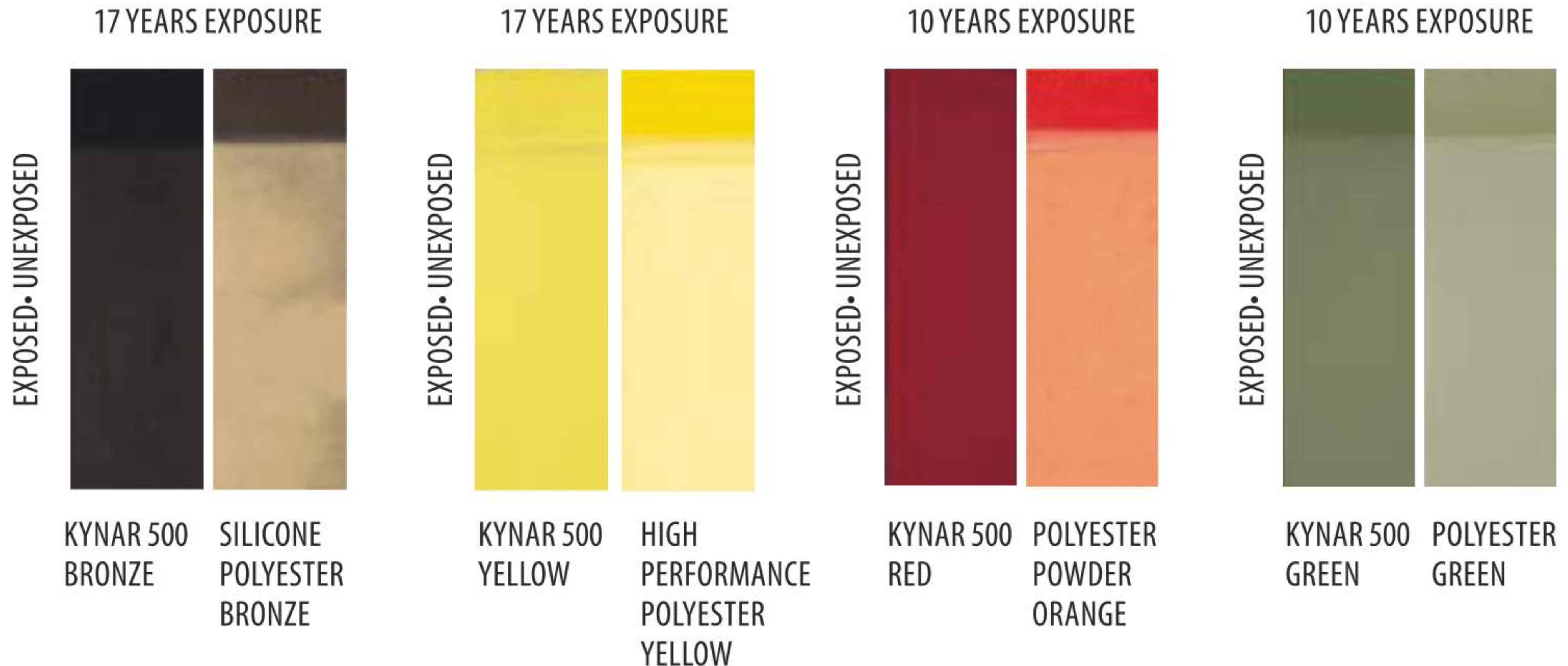
Terra Cotta MATTE

X - stocked colors

Custom colors are available for quantities +40,000 sq ft.

Kynar 500 vs other coatings

Most coatings break down under the effect of sun, rain and pollutants. Kynar 500 resists the chemical breakdown that occurs as coatings age.



WHY ECOMETALS ROOFING SYSTEM?



SHORT PRODUCTION TIME

3 days lead time



100% AMERICAN PRODUCT

Proudly made in the USA



LIFETIME WARRANTY

No maintenance required



INSURANCE SAVINGS

Lower homeowner's insurance rates



LIGHT WEIGHT

Eliminating structures sagging



BEAUTY AND FUNCTION

Metal roofs look better and last longer



LONG TERM INVESTMENT

Lowest cost per annum coverage



100% RECYCLABLE MATERIALS

Environmentally friendly



FIRE RESISTANT

Class A fire resistance



WIND RESISTANT

Class H wind resistance (up to 150 mph)



MOISTURE RESISTANT

Treated metal and finishes resist oxidation



HAIL RESISTANT

Class 4 impact resistance



Environmental benefits

- Made from 95% recycled content
- Minimal carbon footprint, unlike traditional shingles
- Special Kynar 500® HI-R coating reflects radiant heat
- Cuts energy costs by up to 40%
- Reduces attic temperatures by up to 34%
- Integral “dead” airspace blocks heat transfer by conduction
- Lower cooling load can extend air conditioner life
- Integrates with most photovoltaic solar collection systems
- Eliminates the need for landfill disposal of old roofing
- 100% recyclable if it is ever replaced
- Very low “Embodied Energy”
- Virtually zero out-gassing



ECOMETALS ROOFING SYSTEM VS OTHER ROOFING MATERIALS

	<i>ecoMetals Roofing System</i>	<i>Concrete Tile</i>	<i>Fiber Cement Tile</i>	<i>Composition Shingle</i>	<i>Wood Shake</i>
Weight	Excellent - 0.96 lbs/sq. ft., Average roof: 2,800 lbs.	Poor - 9 – 15 lbs/sq. ft., Average roof: 36,000 lbs.	Fair - 6 lbs/sq. ft., Average roof: 18,000 lbs.	Good - 3 – 4 lbs/sq. ft., Average roof: 12,000 lbs.	Good - 3 – 5 lbs/sq. ft., Average roof: 12,000 lbs.
Fire	Excellent	Excellent	Excellent	Poor	Fair
Ice / Snow	Excellent	Poor	Poor	Good	Fair
Hail	Excellent	Good	Fair	Fair	Poor
Wind	Excellent - 150 mph	Fair	Fair	Fair	Poor
Weathering	Excellent - Lifetime Warranty	Good	Fair	Fair	Poor
Earthquake	Excellent - Lightweight & Strength	Poor	Fair	Good	Good
Environment	Excellent - 100% Recyclable	Fair	Fair	Fair	Fair
Re-sale	Excellent	Excellent	Excellent	Fair	Fair



IT WILL INCREASE THE LIKELIHOOD OF A LIGHTNING STRIKE.

Metal conducts electricity, but electricity is not drawn to it.



METAL ROOFS ARE NOISY IN THE RAIN

Not so. They may even be quieter than other roofs types.



YOU CANNOT WALK ON A METAL ROOF

You can, but you have to know how to do it without causing damage. Call ecoMetals, Co. for more information.



METAL ROOFS ARE SUSCEPTIBLE TO DAMAGE BY HAIL

While extremely large hailstones can dent a metal roof, normal hailstorms will not. With ecoMetals Roofing System roofs, denting is barely visible.



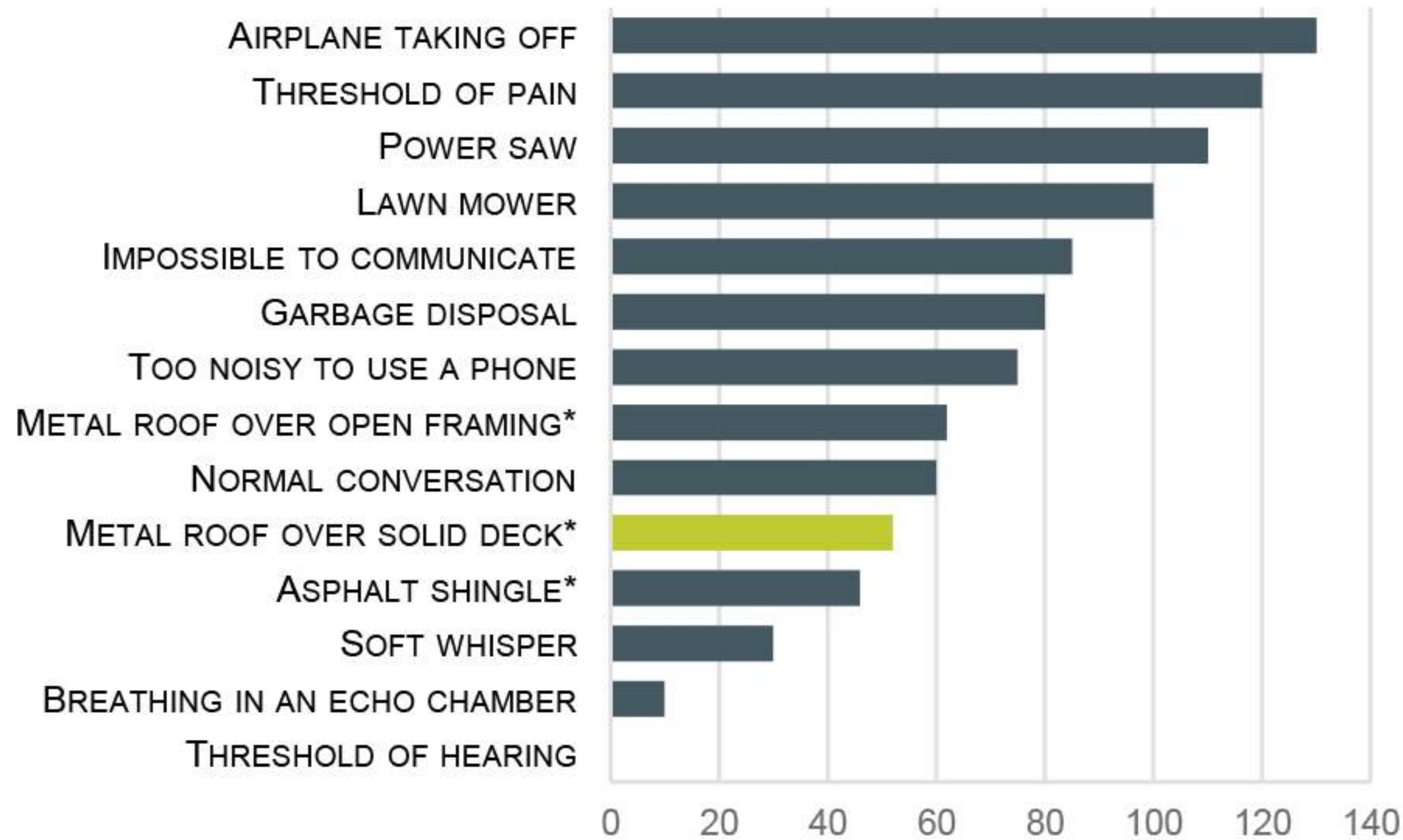
A METAL ROOF WILL MAKE YOUR HOUSE COLDER IN WINTER.

Actually, a metal roof has no effect on the temperature of the typical vented attic in winter. It's the insulation under (or on top of) the floor of your attic that keeps you warm.

FACT

MYTH

How loud are typical sounds



Isn't a metal roof noisy? It is one of the most frequently asked questions about metal roofing. The theory that a metal roof is "noisy" stems from the memory of a barn, or a patio awning, where there is nothing between an individual and the roof, except air.

RESEARCH SHOWS THAT METAL ROOFING IS NO MORE OR LESS NOISY THAN ANY OTHER TYPE OF ROOFING MATERIAL.

- The human ear does not distinguish variations in sound until the sound pressure level has been increased by 8 dB.
- The sound differential between shingle and metal was only 6 dB.
- A metal roof installed over open framing will register a louder sound than panels that are installed over a solid roof deck.

Thermal expansion

Thermal expansion and contraction is a great concern with metal roofing systems. Question is if this thermal movement can pull out screws, elongate holes in ecoMetals panels, and cause our panels to shift or bend.

Well, thermal expansion is the tendency of matter to change in volume in response to a change in temperature. When a substance is heated, its particles begin moving more and thus usually maintain a greater average separation. Materials which contract with increasing temperature are rare; this effect is limited in size, and only occurs within limited temperature ranges.

Assuming the **distance between fasteners** on the ecoMetals panels is ~15", the steel will expand ~**.569 micro-inches** (.000000569 inch) every 15" (from 32 degrees to 212 degrees Fahrenheit)

Assuming the width of the ecoMetals panel is ~43", the **width** of the steel will expand ~ **1.634 micro-inches** (.000001634 inch) in 43" (from 32 degrees to 212 degrees Fahrenheit)

Assuming the maximum length of the ecoMetals panel is 20 feet, the **length** of the panel will expand ~ **9.120 micro-inches** (.00000912 inch) in 480" (from 32 degrees to 212 degrees Fahrenheit)

***THERMAL EXPANSION FOR
ECOMETALS METAL ROOFING
PANELS IS INSIGNIFICANT.***

Moreover, because of its profile, our panels use the "accordion effect" which occurs when fluctuations in the motion of a particles causes disruptions in the flow of elements following it. This effect generally decreases the expansion and contraction of the system in which it occurs.

Accordion effect can leave the fasteners securely in place while still allowing the metal to move a bit.

Metal Roofing and Lightning

THE PROBABILITIES OF A STRIKE TO A METAL ROOFED STRUCTURE ARE NO MORE OR LESS THAN ANY OTHER KIND OF STRUCTURE.

The threats of a strike are affected by the construction materials used for both framing and roof coverings. If these materials are (electrically) conductive, the threat of fire and explosion are both reduced. They will not contribute a fuel source to any fire resulting from a lightning strike.

Because metal roofing is both an electrical conductor and a noncombustible material, the risks associated with its use and behavior during a lightning event makes it the most desirable construction material available.

THE PROBABILITY OF A STRIKE HAS TO DO WITH HEIGHT AND SIZE OF THE STRUCTURE, RATHER THAN ITS CONSTRUCTION MATERIALS.

The probability of a lightning strike is determined by a number of factors:

- The topography in the area of the subject facility. Probability of a strike is higher if the project is located on a mountain top or hill, as opposed to a field.
- Size and height of the subject structure. A tall building or one covering more ground area is more likely to be struck than a short or small building. A tall, slender structure (such as a steeple or lighthouse) is also a more likely candidate for a strike.
- Relative location of the subject structure with respect to nearby larger and taller structure in proximity to a small, short - building will tend to further reduce the likelihood of a strike to the small building.
- Frequency and severity of thunderstorm activity in the geographic area of the project.

Residential Energy Savings

Presented by a homeowner from a moderate climate in Indiana after his new energy-efficient cool metal roof was installed in early 2011. While savings will always vary somewhat based upon the individual home and homeowner, potential savings can be expected to be even greater in warmer climates.

MAY

Average temperature was the same in 2010 and 2011.

Energy use was 328 kw less in 2011 for a savings to the homeowner of **\$47.00**

JUNE

Average temperature was 1 degree cooler in 2011 than 2010.

Energy use was 404 kw less in 2011 for a savings to the homeowner of **\$58.00**

JULY

Average temperature was 1 degree cooler in 2011 than 2010.

Energy use was 305 kw less in 2011 for a savings to the homeowner of **\$44.00**

AUGUST

Average temperature was 2 degrees cooler in 2011 than 2010.

Energy use was 356 kw less in 2011 for a savings to the homeowner of **\$51.00**

SEPTEMBER

Average temperature was 3 degrees cooler in 2011 than 2010.

Energy use was 642 kw less in 2011 for a savings to the homeowner of **\$80.00**

OCTOBER

Average temperature was 2 degrees cooler in 2011 than 2010.

Energy use was 363 kw less in 2011 for a savings to the homeowner of **\$52.00**

During this six-month period, the homeowner's total energy savings was \$332 and his energy consumption was over 28.5% less after the cool metal roof was installed.

Solar Metal Roofs

If you are considering having a solar electric system added to your roof, why install it on a roof that won't last as long as the solar when you could choose a solution with much greater durability? Think ecoMetals!

- It's easy to mount solar panels on a ecoMetals roofing panels
- **Our roofs are durable and wil outlive solar panels**
- ecoMetals roofs can host thin-film panels and standard PV panels
- Solar panels will increase the cooling benefits of a metal roof
- ecoMetal roofs and solar panels generate an eco-friendly home

*Shingle replacements
or major repairs will
potentially require
deconstruction and
re-installation of solar
panel system*



Hanger bolt w/L-foot





before



after



ecoMETALS

Thank you for your interest in ecoMetals Roofing Systems

Please visit www.ecometals.net for more details