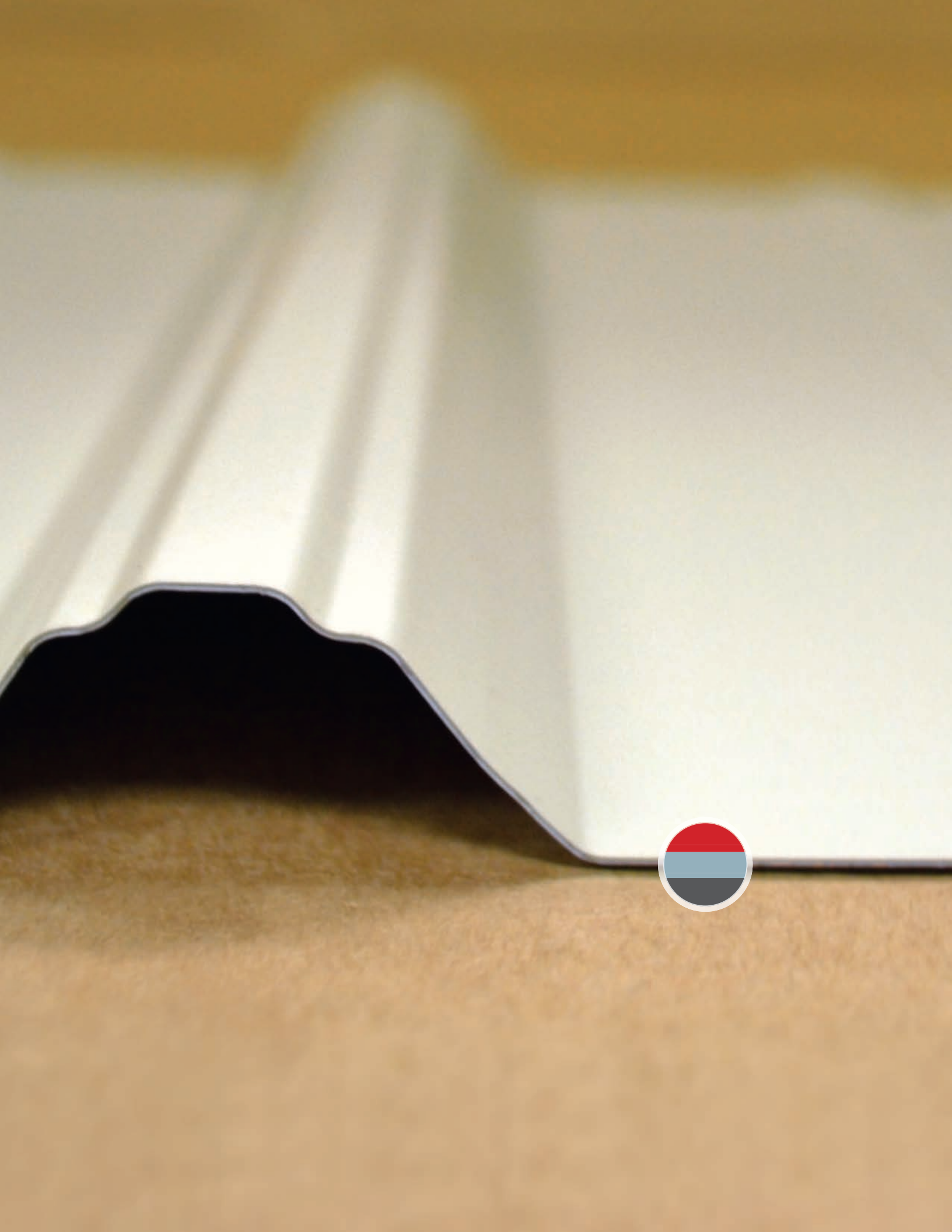
LAYERS OF PROTECTION
Choose quality metal for your next project.
CENTRAL STATES MANUFACTURING, INC.
METAL BUILDING COMPONENTS



# Learn about the ***layers of protection*** that make up a quality metal panel.

Manufacturers offer panels that look the same, but can vary widely in quality and performance. To help you make an educated decision, you should understand these specific layers: the paint layer, the anti-rust layer, and the steel core.

Use the information in this brochure to make an informed decision about your next metal purchase. Ask your current metal supplier to explain the layers of protection that are included in their quote.

**MAIN LAYERS OF A METAL PANEL**

**PAINT LAYER**
*Fade protection - see pages 3-4*

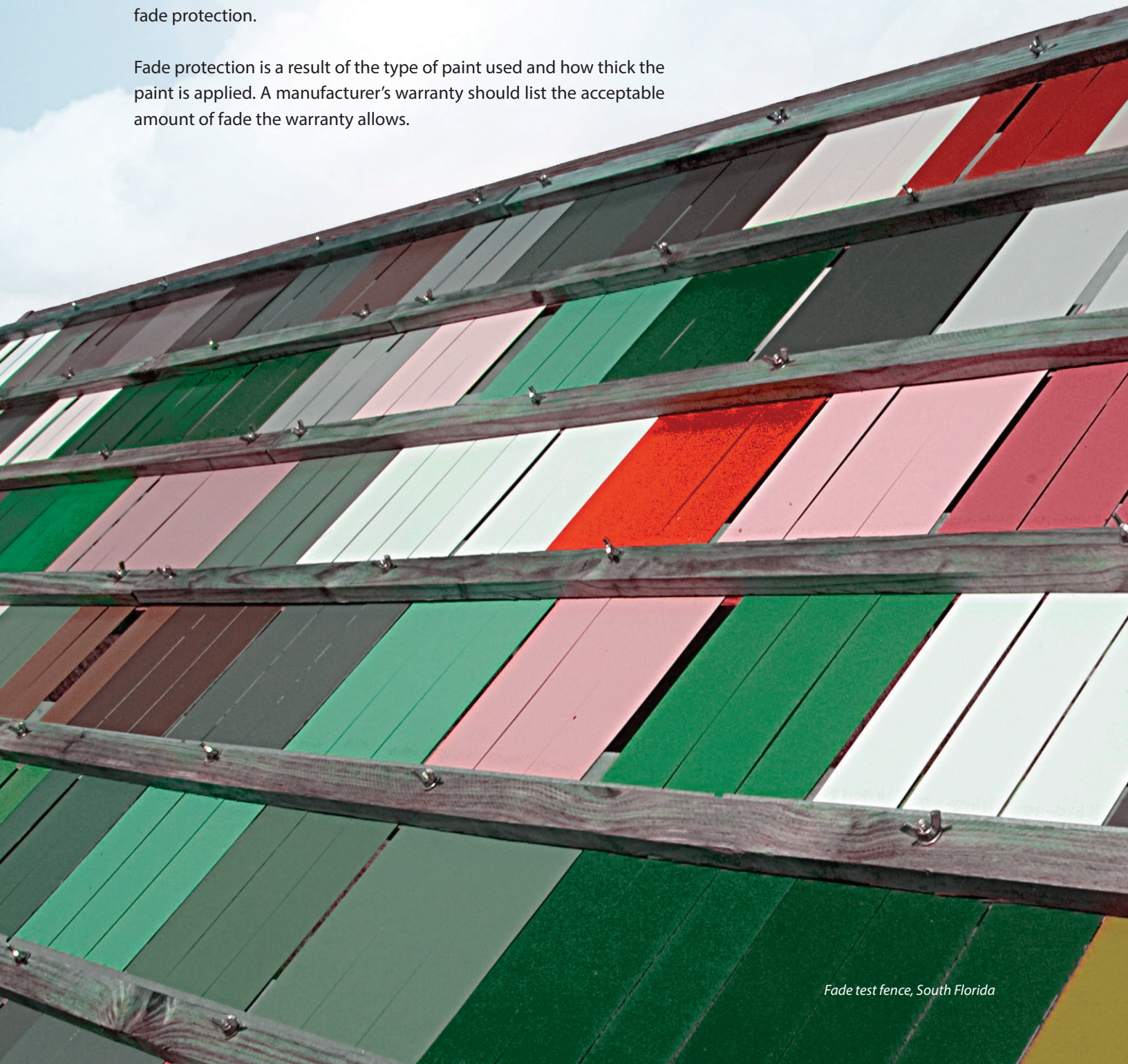
**ANTI-RUST LAYER**
*Rust blocking - see pages 5-6*

**STEEL CORE**
*Dent resistance - see pages 7-8*

# Focus on ***fade protection***, not only on warranty.

A warranty can give you peace of mind when investing in a new metal roof. Don't assume that warranty is an indicator of performance. No one wants a metal roof that is faded, no matter how long the roof lasts. More than the term of the warranty, you should be concerned with fade protection.

Fade protection is a result of the type of paint used and how thick the paint is applied. A manufacturer's warranty should list the acceptable amount of fade the warranty allows.



*Fade test fence, South Florida*

# Fade protection is a balance of ***paint type*** and ***thickness***.

## Paint Type

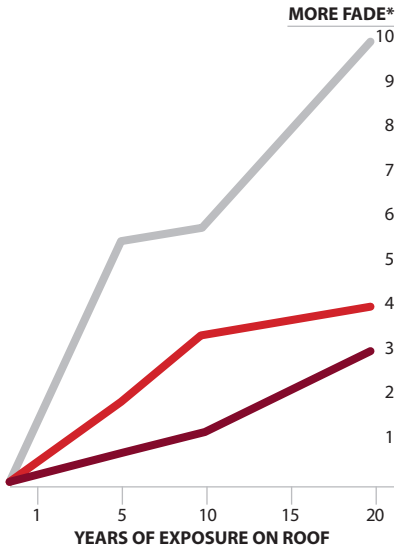
### The paint system affects fade performance.

There are three major types of paint used in the metal roofing market: Polyester, SMP, and Fluropon®. Use the chart to see how the three paint types fade differently over time.

**Polyester** ***Least amount of protection.***
This traditional paint type uses a basic polyester-based pigment.

**SMP** ***Exceptional fade resistance.***
This paint type is the most popular. By adding silicon to the pigment, it provides better fade protection.

**Fluropon** ***Ultimate fade protection.***
This paint type will look great for decades. It uses an advanced resin to help the pigment from fading.



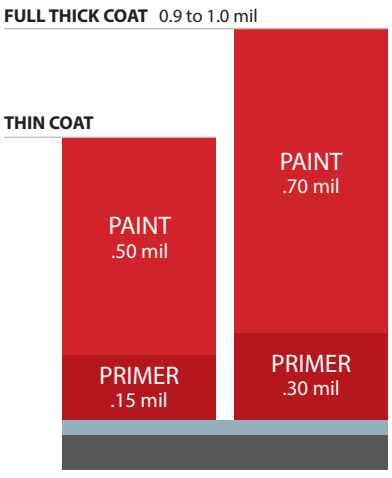

**Fade is measured in Hunter Delta E units.*

## Paint Thickness

### Some metal panels have a thin coat of paint, but offer the same warranty.

A thicker coat of paint fades less but costs more since it contains more paint. The marketplace offers metal panels with 40-year warranties at a wide range of costs. Ask the manufacturer for their paint thickness on the panels you are considering buying.

You may find that the metal you were quoted features a thinner, cheaper coat of paint. A full, thick coat of paint should be between .9 and 1.0 mil thick, including primer.




Both panels feature a 40-year warranty

# Focus on ***substrate coating***, and thickness.

Manufacturers use one of two different rust-blocking coatings on metal panels, galvanized or Galvalume®. Your metal panels will have one of these two coatings applied between the steel core and the paint layer. If the paint is scratched, the rust-blocking coating is designed to prevent rust from reaching the steel core.

Manufacturers may include a separate substrate warranty depending on the rust-blocking coating you choose. Ask the supplier if your quote includes a separate warranty for the substrate coating.

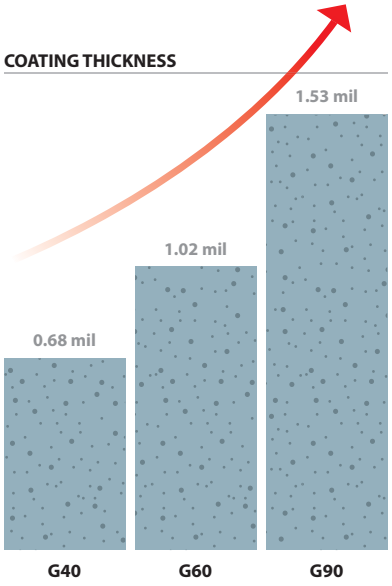
# Choose the best ***rust blocking*** substrate coating for your specific project.

## Galvanized coating

### Galvanized panels show little edge-rust for the first 10 years.

Galvanized coatings are the traditional rust prevention method used in the metal industry. This coating uses rust-inhibiting zinc which protects the steel core from corrosion at the panel's edges and at any surface cracks or scratches. The thicker the layer of zinc, the longer you have before it corrodes away and exposes the steel substrate. Common thickness coatings range from G40 to G90. The higher the number, the thicker the layer of zinc that will protect your metal if your paint layer becomes scratched.

***When choosing galvanized, go with the thickest coating for best protection against rust.***

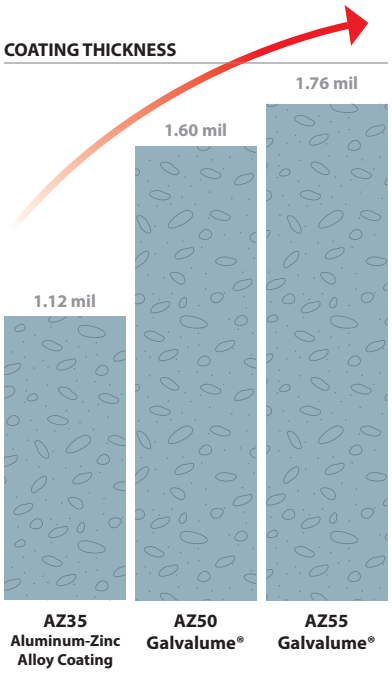



## Galvalume coating

### Galvalume® panels offer more long-term protection over galvanized.

Galvalume is a rust-blocking coating that mixes aluminum with the zinc to give better long-term protection. Since aluminum is highly resistant to corrosion, it will stop any rust that may occur in the zinc, and the steel will remain intact. After a small amount of edge-rust, Galvalume offers up to four times the protection of comparable options. Galvalume AZ50 is used on painted products and AZ55 is used on products that are unpainted.

***Choose Galvalume for the best long-term rust protection.***



# Focus on ***dent resistance*** instead of gauge.

29 gauge metal roofing comes in a wide range of thickness and hardness levels. That's not a typo. You really can buy a thinner 29 gauge metal roof or a thicker 29 gauge metal roof. There's not a huge difference in price for the better product, but you'll definitely see a big difference in performance against hail and other dents.

By understanding dent protection, you can dramatically improve your roof without much impact to your wallet. Simply asking for a specific gauge is not enough.

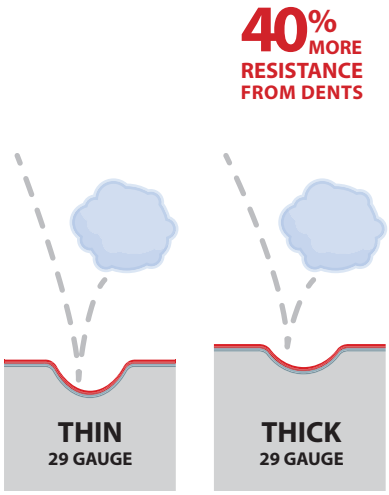
# Dent resistance is a balance of ***steel thickness*** and ***hardness***.

## Steel thickness

### There can be a 40% difference in dent resistance between thin and thick 29 gauges.

In the metal industry, gauge is a range of thicknesses that manufacturers have to stay within. With profitability causing pressure on costs, many manufacturers are offering the thinnest metal that is allowed within the gauge. So, it is important that you understand the thickness of your metal so you can make an informed decision.

There can be a 40% difference in dent protection between the low and high end of 29 gauge. This difference in dent protection is an important consideration when investing in a metal roof.

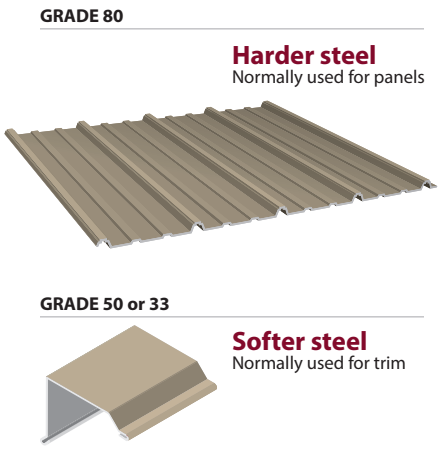



## Steel hardness

### Metal roofing is produced from different hardness grades.

Grade 80 is a hard steel used to produce metal panels of 26 or 29 gauges. This combination of thickness and hardness is great for metal panels that require dent resistance. Making trim from Grade 80, however, will cause tiny cracks in the metal, exposing it to rain and eventually rust. Since trim has lots of sharp bends, it is better to use a softer steel such as Grade 50 or 33.

Many manufacturers can only afford to carry one grade of steel. This results in either making panels out of soft steel that will dent, or trim out of hard steel that will crack. Make sure and ask your supplier about the hardness of their metal.



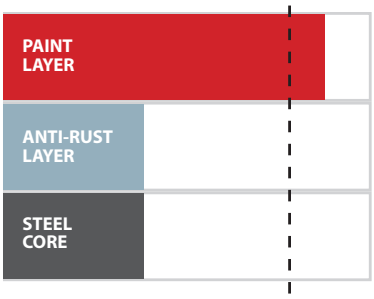
# We offer ***three distinct models*** of Panel-Loc Plus.

Panel Loc Plus is available in three models, designed to fit your budget and protection needs. The layers within each model have varying thicknesses which provide flexibility to homeowners.

See the diagrams below to understand the differences between the three models and make an educated choice.

## STANDARD

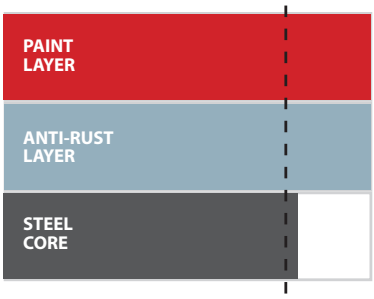
***The economical choice.***




Does not meet minimum CentralGuard specs.

## PRIME

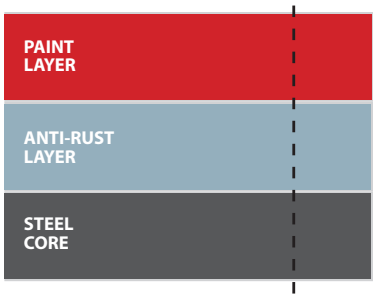
***Perfect balance of protection.***




CENTRALGUARD®

## ULTRA

***Ultimate dent resistance.***




CENTRALGUARD®

# Choose ***CentralGuard***.

## CentralGuard is the right combination of protection and it includes a lifetime warranty.

Still not sure which level of protection you need? Central States has taken the guesswork out of selecting a panel quality with our CentralGuard system. It's our specific combination of everything that goes into making the highest-quality metal panels.

CENTRALGUARD®

The diagrams above show how all three layers have to meet our strict minimum standards–shown by the dotted line–to be considered CentralGuard. Available on our Prime and Ultra panels, the CentralGuard name is a guarantee that you have the best protection and a lifetime paint warranty.

| | STANDARD | PRIME (OUR BEST SELLER!) | ULTRA |
|---|---|---|---|
| **FEATURES CENTRALGUARD** | – | ✓ | ✓ |
| **PAINT LAYER** - FADE PROTECTION | | | |
| Paint Warranty | 40-YEAR | LIFETIME | LIFETIME |
| Paint Layer Thickness | THICK .90 mil | THICKER 1.0 mil | THICKER 1.0 mil |
| Fade Warranty | 30-YEAR | 30-YEAR | 30-YEAR |
| Fade Protection | ✓ | ✓✓ | ✓✓ |
| Paint Type | SMP | SMP | SMP |
| Available Paint Colors | 14+ | 20+ | 15+ |
| **ANTI-RUST LAYER** - RUST BLOCKING | | | |
| Advanced Rust Blocking | – | ✓ | ✓ |
| Perforation Warranty | – | 20-YEAR | 20-YEAR |
| Coating Type | VARIES | GALVALUME* | GALVALUME |
| Coating Thickness | 1.12 mil | 1.60 mil | 1.60 mil |
| **STEEL CORE** - DENT RESISTANCE | | | |
| Advanced Dent Resistance | – | ✓ | ✓✓ |
| Steel Thickness | THIN | THICK | THICKEST |
| Steel Gauge | 29 ga. | 29 ga. | 26 ga. |
| Steel Hardness | GRADE 80 | GRADE 80 | GRADE 80 |

*Available in Prime G90 galvanized without perforation warranty, in select locations.

## Upgrading to CentralGuard is an affordable option.

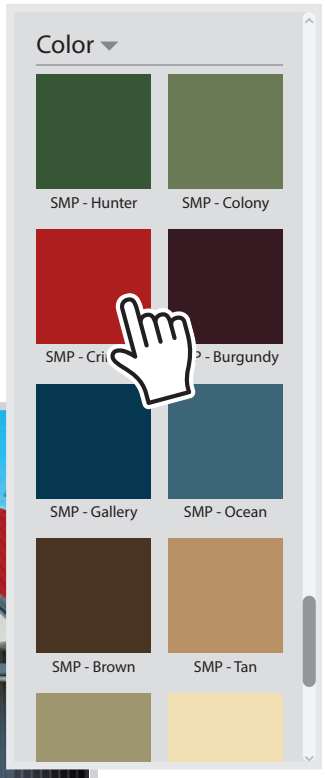
You may be surprised to learn you can afford a roof with CentralGuard protection. Upgrading from standard to Prime may cost as little as $200 on an average 2,000 sqft home. Ask for CentralGuard to get the best protection and a lifetime paint warranty.

# Visualize it on your project.

After deciding the model you need, it's time to pick the color. It may be hard to imagine what a red roof would look like on your RV storage building. Don't worry, we've made that easy with our color visualizer. It's a quick and easy way to test out different color combinations.

Upload a photo of your project or try out some of our sample projects. We offer step-by-step instructions and a video tutorial.

Find the color visualizer at
centralstatesmfg.com

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METAL BUILDING COMPONENTS

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