

A Review of Metal Panel Warranties – SSRWTW2 1 LU/HSW Hour



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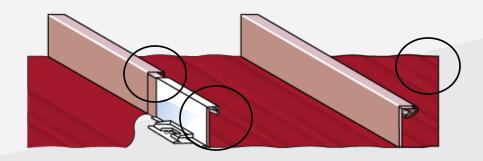
#### Learning Objectives

- Develop an understanding of metal panel Galvalume and paint warranties and the variances within the industry
- Understand the differences in industry weathertightness warranties.
- Recognize roles of accountability in order to endorse weathertightness warranties
- Discern the best weathertightness warranty for a specific project



# Three Types of Warranties

- Galvalume® Substrate
- Paint
- Weathertightness





GALVALUME® WARRANTIES

#### What is Galvalume®?

- Composition By Weight
  - 55% aluminum
  - 43.4% zinc
  - 1.6% silicon
- Specified per ASTM A 792
- Typical coating weights
  - AZ 50 for painted panels
  - AZ 55 for bare panels
- Appearance
  - Uniform spangle of unpainted Galvalume<sup>®</sup> cannot be guaranteed. When uniform appearance is critical, use prepainted Galvalume <sup>®</sup>.

#### Galvalume<sup>®</sup>

❖ Galvalume<sup>®</sup> is generally superior to galvanized in most applications, with the exception of animal confinement.





#### Galvalume Plus®

- Galvalume Plus® offers the following advantages:
  - Can be roll formed dry
  - Resists fingerprints and smudging
  - Resists storage stain and transit abrasion
  - Provides a bright appearance
- Minimum 20-year warranty



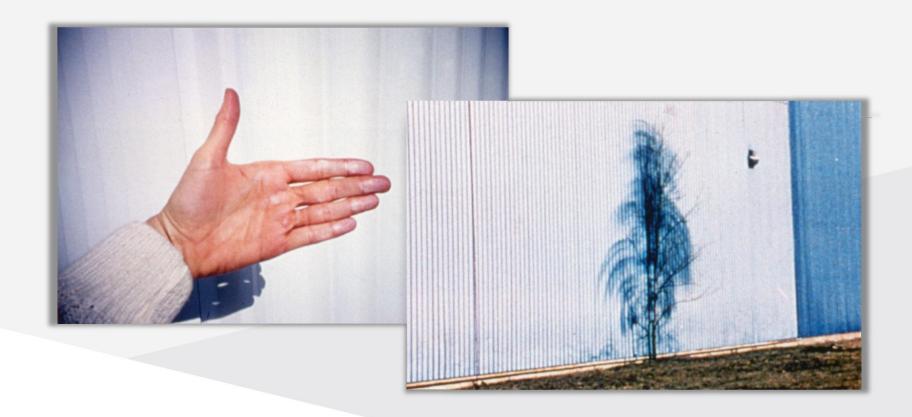
# PAINT WARRANTIES

#### **Paint Warranties**

- The two most common types of paints used in metal roof and wall applications are:
  - Silicone Modified Polyester (SMP)
  - Fluoropolymers (PVDF)

# Fundamentals of a Paint Warranty-Chalk

\* Failure in the Resin System causes chalking



# Fundamentals of a Paint Warranty-Fade

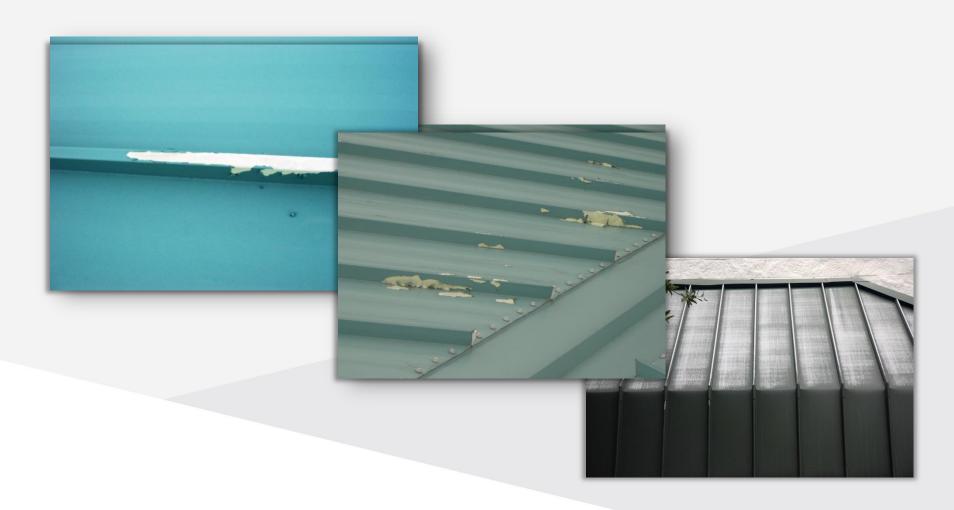


Failure in the Pigment System causes fading



### Fundamentals of a Paint Warranty – Film Integrity

Film Integrity failure is rare



# Paint Warranty Summary

How long should the term of a paint warranty be?





# PAINT AND GALVALUME® WARRANTY PROVISIONS

# Paint and Galvalume® Warranties Require

- Normal atmospheric conditions
- Proper handling and storage of the product after shipment
- ❖ Free drainage with a minimum ¼:12 roof pitch
- An approved seamer for panels that require field seaming

Long-life fasteners







# Paint and Galvalume® Warranties Exclude

#### Damage Caused By:

- Long-term contact with
  - Damp insulation
  - Vegetation/Soil
- Salt water
- Condensation or harmful fumes
- Improper cutting of metal panels
- Dissimilar materials







#### **Corrosion From Dissimilar Materials**



Treated Wood



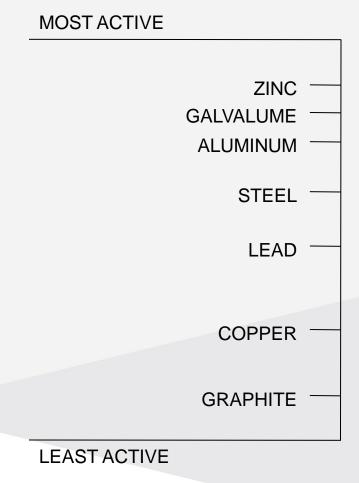
Condensate from rooftop A/C Units



Less noble metals(Copper, lead, graphite, etc)



### Galvanic Table





# WEATHERTIGHTNESS WARRANTIES

# Weathertightness Warranties

- There are two basic types of weathertightness warranties:
  - Standard
  - Day One



#### Roofing Philosophy



A Weathertightness Warranty should be viewed as an insurance policy, NOT as a remedy for poor work.

#### History

- Early 70's metal roofing used in architectural applications
- Architects began requiring weathertightness warranties
- Simple roof designs





#### History

- Roofs become more complicated
- More roof systems become available
- Installer knowledge lags
- Leaks become more prevalent
- A more comprehensive warranty is required



#### History

- Day One warranties created
- Installer training courses developed
- Inspections required



# WEATHERTIGHTNESS WARRANTY COMPARISON

Standard vs Day One

#### Manufacturer Standard Weathertightness Warranty

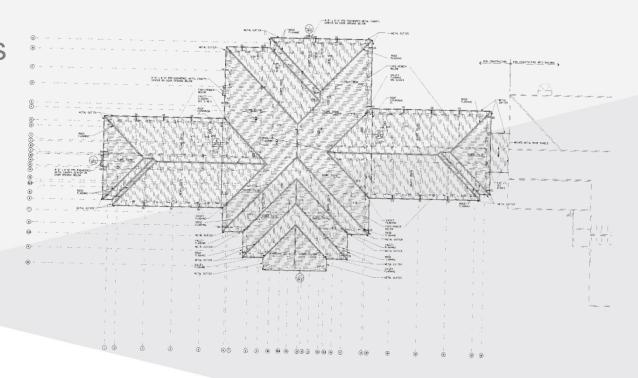


#### Included:

Project details are reviewed

#### Not Included:

Roof inspections



# Standard Weathertightness Warranty Stipulations



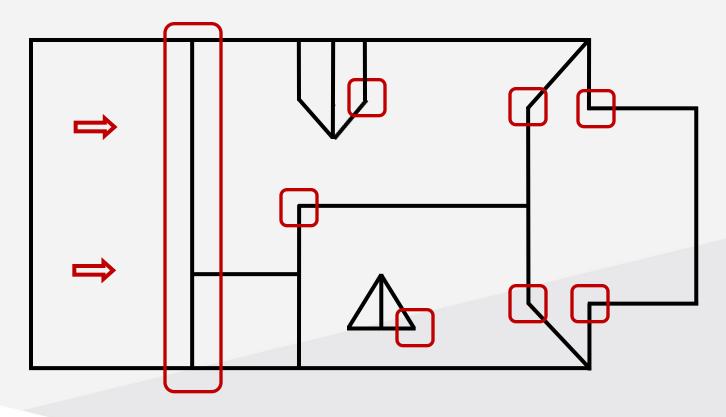
#### The Roofing Contractor is responsible for:

- 24 consecutive-month period
- Proper installation

#### The Roofing Manufacturer is responsible for:

Review of shop drawings

# Standard Warranty Plan Review



☐ Indicates conditions that may be excluded from the warranty.

# Standard Warranty Plan Review





#### **Standard Warranty Provisions**

- Most warranties include trim
- Most warranties exclude curb and pipe penetrations
- May or may not require a certified installer



# Questions Regarding Standard Warranties

What happens if the roofing contractor goes out of business before the 24-month service period has expired?

- Usually a lot of finger pointing, including the design professional, the owner and the contractor. The parties then look to the manufacturer for relief.
- The manufacturer has no legal obligation to repair the roof until the 24-consecutive months of leak-free service has expired. At this point, litigation is a possibility.

# Questions Regarding Standard Warranties

What happens if the roof system leaks during the term of the warranty, but after it has performed for 24 consecutive months without leaks?

- If after an inspection by the manufacturer it is determined the roof was properly installed, then the manufacturer may be responsible to repair the roof.
- If the inspection determines that the roofing contractor did not follow the approved shop drawings, the manufacturer has no obligation to the building owner.

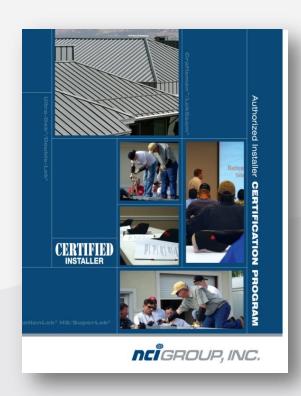
### Questions Regarding Standard Warranties



- If it's a simple single slope or double slope building
- If you have a trusting relationship with the contractor

#### Day One Warranty

- The Roofing Contractor must have an employee complete the Certified Installer Course
- The Certified Installer must be present on the job site during the roof installation



### Day One Warranty

- Manufacturer reviews geometry of roof
- Manufacturer ensures shop drawings are compatible with roof geometry
- Depending on the size and complexity the manufacturer may inspect the roof up to three times







# Day One Warranty

- Inspector performs thorough inspections
- Inspection reports filed with the roofing contractor
- Deficiencies not corrected will be brought to the design professional's attention

# Day One Warranty

- Final inspection performed on completed roof
- Manufacturer is responsible to the building owner for leaks from the date of substantial completion
- Roof system may not be modified after installation without the manufacturer's approval

## Day One Warranty

- Owner's responsibilities:
  - Notify manufacturer of leak
  - Roof maintenance

WALKING ON ANY BOOK IS DANGEROUS. SAFETY MUST ALWAYS BE TOP PRIORITY WHEN PERFORMING



ROOF OWNER'S MAINTENANCE MANUAL WUSE ALL FALL PROTECTION AND PERSONAL SAFETY
SULATORY AGENCIES. FAILURE TO FOLLOW THESE
OR DEATH, YOU MAY ALSO BE SUBJECT TO SUBSTANTIAL

. They will not support a person's weight

ide years of protection with very little maintenance. However, no nance free. To keep your roof performing as it should, a

## MAINTENANCE

adjacent roof area.

iding high winds, hail or abnormally heavy rains or ice and ie: Debris from nearby trees, loose flashing or other roof compo-ning, and loose fasteners. After a hail storm, check roof for punchiting, and loose fasteners. After a hair storm, check roof for p isabnormally heavy rains, check roof and gutters for ponding as and any special trim conditions to insure that water is not and plumbing pipes for damage from moving ice. Check for risped-out fasteners by removing existing fastener; apply ong-life fastener into hole.

any reason. Inspect the roof for damage caused by workers the paint or Galvalume coating, excessive foot traffic and punc-thind by the workers is removed from the roof immediately. Avoid ne roof. In cases where this is not possible, the roof must led. Items such as drill shavings, wire, metal scrap and other spieces of metal, such as those left by a nibbler, can stick in a

me coating. Roof panels in areas where there is a possibility of uid be protected. In the event that the panels do have a e cleaned and the panels insed. Should any solvent or listely and thoroughly rinse the affected area. Panels should be

## PROTECT YOUR ROOF INVESTMENT

Always consult the roof manufacturer before initiating repair work. The manufacturer can give you helpful information as to how to make the repair and can give you a list of "Certified Installers" in your area that you can contact about performing the repair work.

## Foot Traffic

Keep foot traffic to a minimum. Heavy foot traffic can cause ponding on low pitched roofs. This is particularly true just upsloop from the eave and at endages. Always walk in the file of the paner lears a supporting roof structural. Do not walk on time or in gutters. On bare Garbalhume roofs, excessels or traffic may cause block burnish marks. If regular foot traffic is planned for a roof, provisions should be made for a properly designed and installed roof walkway system.

In order to limit access to the roof, roof hatches or access ladders should be locked at all times. A sign should be posted at the point of access, stating that only authorized personnel are allowed onto the roof. In addition, a log book should be kept of all visits to the roof and the reason for such visits.

- In order for your roof to perform as intended, water must properly drain from the roof. Following are things to avoid: . Do not allow anything to be installed on your roof that will cause water to pone
  - . Keep roof free of debris and keep debris out of gutter to allow water to quickly drain from roof.
  - Do not use wood blocking to hold equipment off of panel seams. This blocks the flow of water and holds moisture. Also, if the wood is treated, it may contain salts or copper sulfate which will deteriorate the roof, and
  - void warranty coverage.
- Do not allow rooftop AC units or evaporative coolers to drain onto the roof. The condensate from AC units
  contains dissolved copper ions with will cause galvanic corrotion. The water from evaporative coolers contains
  high sait concentrations which will cause severe corrosion. Use PVC pipe to carry the condensates to the gutter.
- · Anything that traps or holds moisture on a roof, will cause premature corrosion.

## Ice and Snow Removal

Excessive ice and snow should be removed from roof immediately to prevent damage to roof and possible collapse. Do not use metal tools to remove the ice or snow as this can damage the paint and/or Galvalume coatings. Also, be careful around plumbing pipes and flashings.

Be extremely careful if your roof has Light Transmitting Panels. THESE PANELS WILL NOT SUPPORT A PERSON'S WEIGHT AND WILL BE DIFFICULT OR IMPOSSIBLE TO SEE IF THEY ARE COVERED WITH ICE AND SNOW. Additions to Roof

All additions to the roof, including but not limited to, roof curbs, pipe penetrations and HVAC units must be approved in writing by MBCI before work commences. All work must be performed by a MBCI "Certified Installer".

Dissimilar Metals

## Never allow your roof to come in contact with, or water runoff from, any dissimilar metal including but not limited to copper, lead or graphite. Failure to achieve to this requirement will clause your roof to mipidly deteriorate due to palwing common and with one and awarrantee. Common adversaries frounds lead that for plumbing verses, copper glather graph and and to called copper graphing roof and or called copper graphing roof and or root your new root, and condensate from rooting AC or land densing on those of the common and root or rooting AC or land densing on those of the common and the common

Paint and Coating Information

Remove smudge marks from bare Galvalume. Formula 409 has proven to be somewhat effective. Lightly rub with a clean cloth and rinse with water. Do not rub more than required to remove smudge. No product will remove all smudge

Remove rust stains. Soft Scrub has proven to be somewhat effective. Lightly rub with a soft cloth and rinse with water. Do not rub more than required to remove stain. No product will completely remove rust stains.

To touch-up scratches in paint (not to bare metal), clean area to be painted with mineral spirits. Rinse thoroughly and dry. Using a small artist's brush, lightly apply the absolute minimum amount of touch-up paint required to fill the scratch.



# ADVANTAGES OF A DAY ONE WARRANTY

## Teamwork

- All parties work toward the common goal of a roof with no leaks by providing:
  - Good roof geometry
  - Quality roof system
  - Useful details
  - A certified installer (manufacturer educated)
  - Installer accountability

# The Designer's Responsibilities

- Determine and specify proper roof system for the roof geometry
- Avoid designs that prevent proper drainage
- Work with roofing manufacturer to obtain the best possible design
- Write good specs and police for accuracy
- Hold installer accountable through inspection reports and pay schedule

# The Manufacturer's Responsibilities

- Provide quality products that have been fully tested
- Work with designer to ensure that his/her objectives are met
- Suggest solutions where problems are identified or anticipated
- Provide proper training to the roofing contractor in the installation of the roof system

# The Roofing Contractor's Responsibilities



- Become certified in manufacturer's product being installed
- Install roof exactly as shown on manufacturer approved shop drawings
- Fully comply with project specifications
- Immediately bring discrepancies to architect's and manufacturer's attention

# Summary

# With a *Day One* warranty, the Manufacturer:

- Collaborates with both the Designer and the Roofing Contractor to make their jobs easier
- Provides product knowledge accumulated through years of testing, research and roofing application
- Supplies technical support
- Provides accountability through roof inspections



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## MBCI THANKS YOU FOR YOUR ATTENDANCE

# **QUESTIONS?**

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