

Diamond Shingle Data Sheet

NOA-Tested Interlocking Metal
Roofing & Cladding System



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Overview

The Spengler Industries Interlocking Diamond Shingle System is a precision-engineered metal roofing and wall cladding solution designed to deliver superior weather protection, architectural flexibility, and long-term durability. Engineered to perform in the most demanding environments, the system is built around a fully interlocking 90° diamond profile that creates a continuous protective surface with no exposed fasteners, eliminating common points of failure found in traditional roofing and facade systems.

Every system is custom-designed and fabricated to order, ensuring each component is tailored to the specific requirements of the project. This approach allows for a precise fit, streamlined installation, and a refined architectural finish that integrates seamlessly across complex roof and wall conditions.

Each shingle is secured using a continuous fastening clip system that provides secure attachment without penetrating the panel surface. This zero-penetration design enhances weather tightness while accommodating natural thermal movement, allowing for expansion and contraction and promoting inherent ventilation to preserve long-term system performance. Complementing the field shingles, a complete line of matching interlocking trims is custom-fabricated for each project, ensuring consistent performance and a clean, cohesive aesthetic at all transitions and edges.

The tested configuration has been rigorously evaluated and approved under Miami-Dade County's High-Velocity Hurricane Zone protocols and issued a Florida Notice of Acceptance (NOA) for high-wind and severe-weather conditions. The approved configuration features a Size 13, 90° Diamond Shingle fabricated from 24-gauge painted Galvalume, available in both Koolnar marine-grade PVDF coatings and standard PVDF Kynar finishes. This combination provides exceptional corrosion resistance and color retention, making it ideal for coastal and high-exposure environments.

To support modern building demands, Spengler Industries offers custom-fabricated solar mounting brackets engineered specifically for the diamond shingle system. These brackets integrate within the interlocking assembly, allowing for solar installations without compromising the weather tightness of the roof or wall system.

The result is a high-performance, visually distinctive system that combines advanced engineering, proven reliability, and refined architectural expression, custom-crafted for every project.



System Specifications

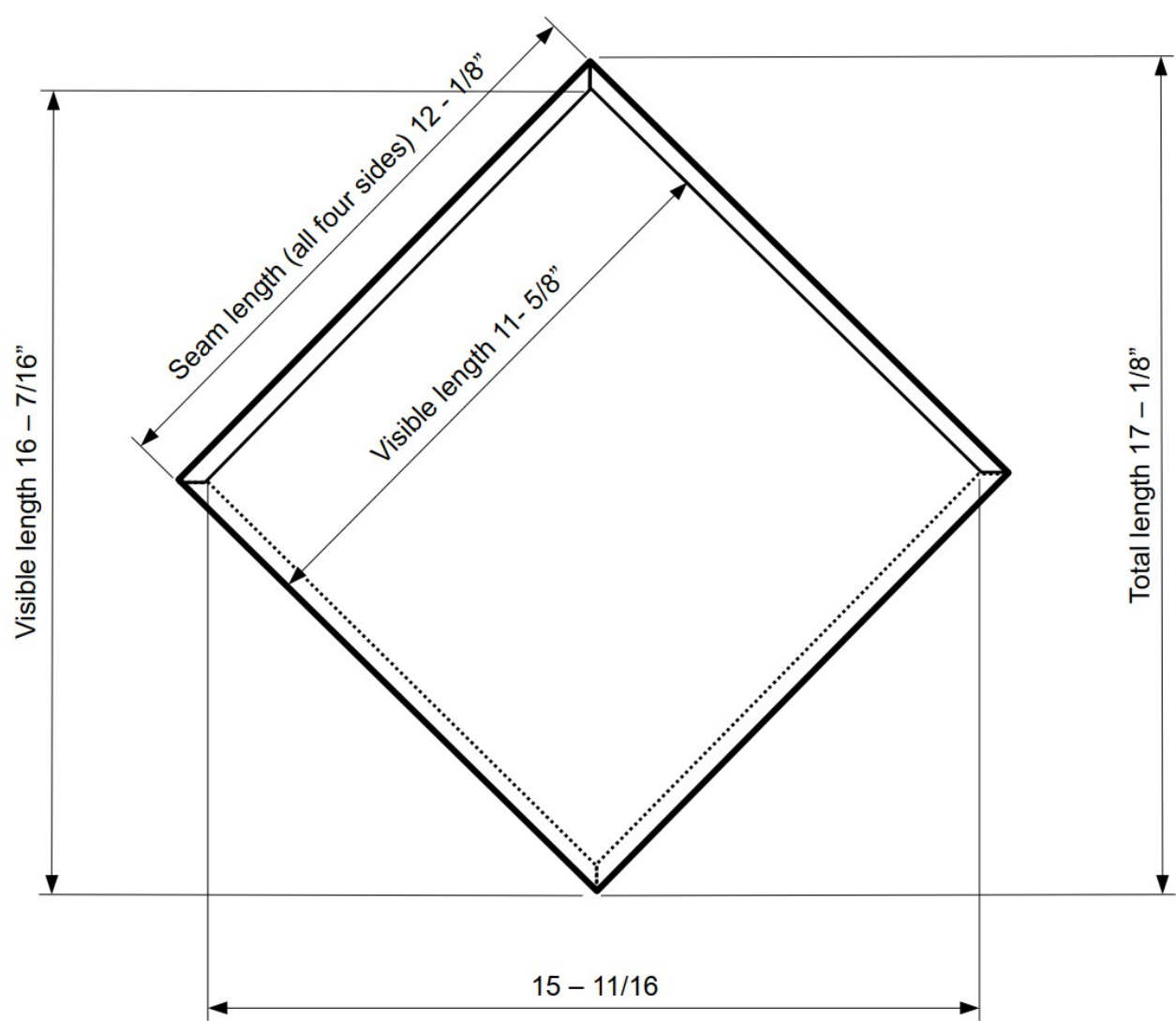
The Spengler Industries Interlocking Diamond Shingle System is a concealed-fastener metal roofing and wall cladding system utilizing a 90° interlocking diamond profile. Panels are mechanically secured using a continuous clip system, providing a zero-penetration surface designed for high-performance applications in both roof and façade assemblies.

System Specification

Property	Specification
Panel Type	Interlocking Diamond Shingle (90° profile)
Size	Size 13
Material	24 Gauge Galvalume
Coating Options	PVDF (Kynar®) / Marine Grade PVDF (Koolnar®)
Attachment Method	Concealed continuous clip system
Fastener Exposure	None (zero-penetration system)
Fabrication	Custom fabricated per project
Applications	Roof and Wall Cladding Systems
Trim System	Fully integrated, interlocking trim components

Dimensional Properties

Property	Value
Overall Panel Height	17 1/8"
Overall Panel Width	15 11/16"
Visible Exposure (Height)	16 7/16"
Visible Exposure (Diagonal)	11 5/8"
Seam Length	12 7/8"
Profile Geometry	90° Diamond Configuration



Additional Details

Performance Characteristics

Property	Specification
Wind Uplift Resistance	Tested to 217 psf
Failure Threshold	>232 psf
Failure Mode	Substrate failure (plywood rupture), not panel disengagement
Weather Tightness	Interlocking, concealed fastener system
Thermal Movement	Accommodated through clip system

Substrate & Installation Requirements

Requirement	Specification
Substrate	Solid plywood deck required
Attachment Base	Wood deck (tested assembly)
Underlayment	Per project specification
Installation Method	Sequential interlocking with clip attachment

System Components

- Interlocking diamond shingles (NOA-approved configuration)
- Continuous fastening clips
- Starter components
- Ridge, hip, and valley trims
- Perimeter and transition flashings
- Custom roof jacks, chimney flashing, and skylight flashing
- Gutter system and accessories
- Custom-fabricated accessories
- Integrated solar mounting brackets (optional)

Material Coating

The Spengler Industries Interlocking Diamond Shingle System is fabricated from high-quality 24-gauge Galvalume steel and finished with advanced PVDF coating systems engineered for long-term durability, color retention, and corrosion resistance. Coating options are selected based on environmental exposure conditions, including standard and coastal applications.

Base Material

Property	Specification
Base Material	Galvalume Steel
Coating Type	Aluminum Zinc Alloy Coated Steel
Substrate Standard	G90 Hot Dipped Coating
Forming Quality	Tension leveled, architectural grade
Thickness	24 gauge
Weight per sq ft	1 lbs per sq ft

Material Coating

Standard PVDF Coating System (Non-Coastal Applications)

Kynar 500® / Hylar 5000® (Ultra-Clad System)

Property	Specification
Coating Type	PVDF Fluoropolymer
Application	Non-coastal environments
Durability	Abrasion resistant
Finish System	Multi-layer protective coating
Finish Warranty	40 Year Limited Warranty



Material Coating

Marine-Grade PVDF Coating System (Coastal / High-Exposure Applications)

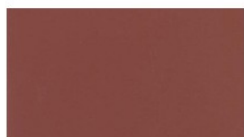
Koolnar™ 3XL PVDF (Continental Coatings)

Property	Specification
Coating Type	PVDF Fluoropolymer, 3-coat premium PVDF system
Application	Marine / coastal / saline environments
Durability	Enhanced corrosion resistance
Finish System	Multi-layer protective coating
Finish Warranty	20 Year Limited Warranty

Aged Bronze



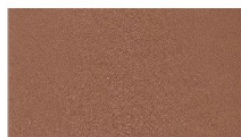
Brick Red



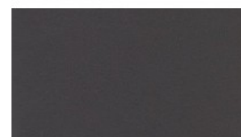
Colonial Red



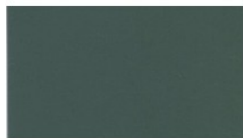
Copper Penny



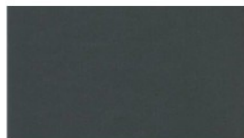
Dark Bronze



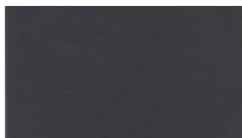
Evergreen



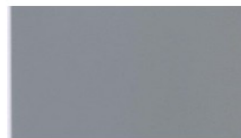
Forest Green



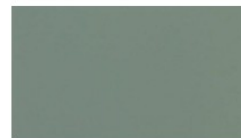
Matte Black



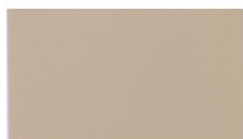
Old Town Gray



Patina Green



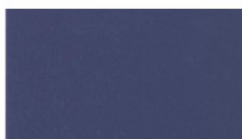
Rawhide



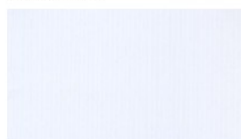
Redwood



Regal Blue



Regal White



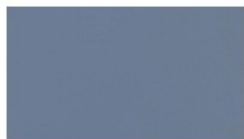
Sandstone



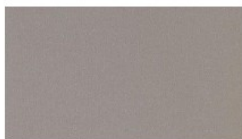
Pewter



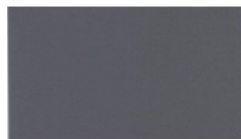
Slate Blue



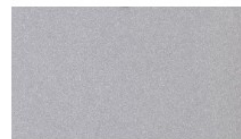
Champagne



Slate Gray



Silver



Snowdrift White



Surrey Beige

