



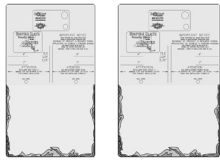
Empire NIAGARA SLATE™

Polymeric Slate Tile Roof System

DESCRIPTION

Empire Niagara Slate™ is a polymer based Class A and C roof tile designed to provide the look of natural stone slate. Empire Niagara Slate is manufactured with a state of the art formulation using virgin and recycled polyolefin polymers.

Empire Niagara Slate tiles are 22" (559 mm) in length, and come in both 12" (305 mm) and 14" (356 mm) widths. The tiles are a robust 5/8" (16 mm) thick at the butt and are available in fourteen (14) standard colors (see designs below). Custom colors are available upon request.



12" (305 mm) 14" (356 mm)

ADVANTAGES

Empire Niagara Slate provides the look of natural slate with these added advantages:

- High impact resistance that provides protection from hail, falling branches, foot traffic, ice and snow damage.
- Empire Niagara Slate can be installed up to eight times faster than natural stone slate.
- The color in Empire Niagara Slate has been added during formulation providing for color throughout the product. As with all roofing products, natural weathering will occur.
- EcoStar provides warranties for Empire Niagara Slate for up to 50 years.

INSTALLATION

Temperature – If tiles have been stored in temperatures below 45°F (7°C), they must be restored to a temperature above 45°F (7°C) before installation. Ambient temperature should be at least 34°F (1°C) and rising.

Substrate – Empire Niagara Slate should only be installed on a minimum of 1/2" (13 mm) plywood, minimum 7/16" (11 mm) OSB or minimum 3/4" (19 mm) tongue and groove wood decking. Empire Niagara Slate should not be applied over existing roof materials. Existing roof materials must be removed down to the deck, prior to installation.

Slope – Empire Niagara Slate is not recommended for slopes less than 3/12 (14°). On roofs less than 6/12 (27°), Empire Niagara Slate must be installed with a maximum exposure of 9" (229 mm). On roofs 6/12 (27°) or greater, Empire Niagara Slate may be installed with either a 9" (229 mm) or 10" (254 mm) exposure.

Underlayment – Prior to installation, **Glacier Guard™** underlayment should be applied to all rakes, valleys, ridges, hips, eaves and any protrusions. **Aqua Guard™** is then applied over the remaining deck surface. For Class A fire rated assembly, **GAF VersaShield®** should be used instead of **Aqua Guard™** and should cover the entire roof deck, including the areas covered by **Glacier Guard™**.

Fasteners – Fasteners must be ring shank stainless steel.

EcoStar Fasteners are available in either hand drive style or pneumatic coil.

Color Variation – All Empire Niagara Slate tiles come with shade variation. This shade variation may occur differently from pallet to pallet. Application of the product should not begin until all material has been delivered to the project site. Because of this shade variation the applicator must take precautions to ensure that the various shades of the product are properly blended. Tiles must be taken from different pallets and bundles to ensure consistency in application. **NOTE: EcoStar will not be responsible for the improper blending and application of the product. Contact EcoStar Customer Service for available factory-blended options.**

Natural weathering will produce further shade variations, even in tiles appearing to be identical in color when new.

Ventilation – Roof venting should be installed at the same time as the ridge tiles. EcoStar's **EcoVent™** ridge venting is recommended for quality attic ventilation and an improved aesthetic appearance of the EcoStar roof system.

Please refer to the Niagara Slate Installation Guide for specifics of installation.

PRODUCT SPECIFICATIONS

	12" Tiles	14" Tiles
PRODUCT CHARACTERISTIC		
Length	22" (559 mm)	
Width	12" (305 mm)	14" (356 mm)
Weight	2.4 lbs. (1.09 kg)	2.9 lbs. (1.32 kg)
Thickness	5/8" (16 mm) nominal	
PACKAGING INFORMATION		
Tiles per bundle	10	
Weight per bundle	24 lbs. (10.89 kg)	29 lbs. (13.15 kg)
Tiles per pallet	600	
Weight per pallet	1,440 lbs. (653 kg)	1,740 lbs. (789 kg)
Linear feet per bundle	10 ft. (3.05 m)	11.67 ft. (3.56 m)
FORMULATION		
Materials	Thermoplastic Olefin	
PHYSICAL PROPERTIES (Typical)		
Operating Range	-25°F to 200°F (-32°C to 93°C)	
Tensile (D-412)	1,500 psi (10,342 kpa)	
Water Absorption (D-570)	0% by wt.	
APPLICABLE STANDARDS		
UL Listed 790 Fire Resistance	Class A and C	
UL 2218 Impact	Class 4	
Miami-Dade	Listed	

WARRANTIES*

EcoStar warrants this product to be free of defects in workmanship and materials at the time of shipment from EcoStar's factory. EcoStar will at its option either supply new product or refund the purchase price of any product found to be defective hereunder.

EcoStar's limited warranties are the only warranties extended by EcoStar with respect to its materials. There are no other warranties, including the implied warranties of merchantability and fitness for a particular purpose. EcoStar specifically disclaims liability for any incidental, consequential, or other damages, including but not limited to, loss of profits or damages to a structure or its contents, arising under any theory of law whatsoever.*

The dollar value of EcoStar's liability and buyer's remedy under this limited warranty shall not exceed the purchase price of the EcoStar material in question.

*See www.ecostarllc.com for available warranties.



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PRODUCT TECHNICAL DATA