



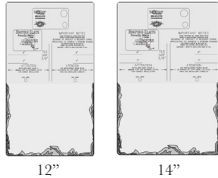
Empire NIAGARA SLATE™

Polymeric Slate Tile Roof System

DESCRIPTION

Empire Niagara Slate™ is a polymer based Class A 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 is 12" & 14" wide, 22" long and 5/8" thick and is available in fourteen (14) standard colors and the designs shown below.



INSTALLATION

It is recommended that EcoStar Empire Niagara Slate tiles be installed by trained professional roofing applicators to ensure a quality installation.

The following are simplified steps for installing Empire Niagara Slate. **Please refer to the Empire Niagara Slate Installation Guide for specifics of installation.**

1. An approved decking is covered with EcoStar's **Glacier Guard™** where specified and **GAF VersaShield®** underlayment over the entire roof deck including those areas already covered by the **Glacier Guard**.
2. Beginning at roof eave a row of Empire Niagara Slate tile is installed as a starter row.
3. Place another row of tiles directly over the starter row with a 1/2 tile offset, covering the tile gap with a full tile.
4. Using the measurement lines begin installing tiles per specified pattern.

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*.

LIMITATIONS

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.

Temperature – If tiles have been stored in temperatures below 45° F, it is required that the tiles be brought back to an ambient material temperature above 45° F before installation.

Substrate – Empire Niagara Slate should only be installed on a minimum of 1/2" plywood, minimum 7/16" OSB or minimum 3/4" 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. On roofs less than 6/12 and greater than 3/12, Empire Niagara Slate **must** be installed with a maximum exposure of 9". On roofs 6/12 or greater, Empire Niagara Slate tiles may be installed with either a 9" or 10" exposure.

Underlayment – Prior to installation, **Glacier Guard™** underlayment should be applied to all rakes, valleys, ridges, hips, eaves and any protrusions.

GAF VersaShield® should then be used to cover the entire roof deck, including the areas already covered by **Glacier Guard™**.

Fasteners – Fasteners must be ring shank stainless steel. **EcoStar Fasteners** are available in either hand drive style or pneumatic coil.

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.

PRODUCT SPECIFICATIONS

FORMULATION			
Materials	Thermoplastic Olefin		
PRODUCT CHARACTERISTIC	Units	12" Results	14" Results
Length	in.	22	22
Width	in.	12	14
Weight	lbs.	2.3 (nominal)	2.6 (nominal)
Thickness	in.	5/8 (nominal)	5/8 (nominal)
PHYSICAL PROPERTIES			
Operating Range	°F	-25° to 200°	-25° to 200°
Tensile (D-412)	psi	1500	1500
PACKAGING INFORMATION			
Tiles per bundle		10	10
Weight per bundle	lbs.	23	26
Tiles per pallet		600	600
Weight per pallet	lbs.	1380	1560
Linear feet per bundle	ft.	10	11.67
APPLICABLE STANDARDS			
Listed UL 790 Fire Resistance		Class A	Class A
Listed UL 2218 Impact		Class 4	Class 4

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