



Polymeric Cladding

BUILDING CODE REFERENCE GUIDE

An at-a-glance breakdown of the International, Florida and Canadian building codes, performance indicators and regional installation requirements for vinyl, polypropylene and insulated exterior cladding products





INTRODUCTION

The following resources provide a deeper understanding of polymeric cladding.

You'll find information about I-Code regulations and building codes for Canada and Florida's coastal regions, safety and performance benefits, installation requirements and other technical specifications in this guide. It was researched and written by the Vinyl Siding Institute (VSI), the trade association for siding manufacturers.

The purpose of VSI is to further the development and growth of the vinyl siding and other polymeric cladding industries by:

- Addressing regulatory issues, including material restrictions, monitoring of building codes, and the education of building code developers and regulators.
- Helping develop material, product and performance standards by working through standards-making organizations and code bodies.
- Sponsoring certification programs that improve the quality of vinyl siding and its installation.
- Engaging in product stewardship and outreach activities to enhance the image of the industry and its products.



TABLE OF CONTENTS

1	<u>Introduction</u>
3	<u>North America's Choice</u>
5	<u>What Are I-Codes, NBCC and FBC?</u>
6	<u>International Residential Code</u>
7-8	<u>Understanding the Fire Performance Benefits of Polymeric Cladding</u>
9-10	<u>International Building Code</u>
11	<u>Energy Code & International Wildland-Urban Interface Code</u>
12	<u>National Building Code of Canada</u>
13	<u>Florida Residential Code</u>
14	<u>Florida Building Code</u>
15-16	<u>Understanding Polymeric Cladding Performance in High Wind Regions</u>
17-18	<u>Installing Polymeric Cladding and Soffit in Coastal Areas</u>
19	<u>Ensuring Proper Cladding Installation</u>
20-22	<u>Code Specifications Review: Quick Reference Charts</u>



Polymeric Cladding

NORTH AMERICA'S CHOICE

Properly installed certified polymeric cladding, as required by code, can withstand high winds and resist heat, cold, rain and moisture.

Polymeric cladding meets the stringent requirements of building codes across the United States and Canada. These codes require vinyl siding, insulated vinyl siding and polypropylene siding to be manufactured and certified to their respective ASTM standards. When manufactured to the appropriate material standard and installed correctly, they meet the demands of these regulations, such as providing protection from the elements.

For example, properly installed certified polymeric cladding, as required by the code, can withstand high winds—110 miles per hour or more—and resist heat, cold, rain and moisture.

Although the codes don't address warranties, the durability of vinyl siding has enabled vinyl siding manufacturers to offer warranties that are among the longest and strongest in the cladding industry. The leading material Life Cycle Assessment tool has estimated the lifespan of vinyl siding to be at least 50 years.¹



CERTIFIED

These code-recognized products are certified to meet or exceed industry standards through a program administered by an independent, accredited quality control agency.



ENERGY EFFICIENT

Insulated siding is vinyl siding with rigid foam insulation permanently attached to the panel. It helps increase the exterior wall's R-Value and contributes to a home's energy efficiency as a form of continuous insulation, making it a great option for energy efficiency compliance.



CERTIFICATION PROGRAM

1. National Institute of Standards and Technology, Building for Environmental and Economic Sustainability, November 2020



Defining Polymeric Cladding

LEVEL UP CURB APPEAL

Polymeric cladding offers versatile beauty and unbeatable strength. The architectural polymers create vinyl siding, insulated vinyl siding, polypropylene siding, and other polymeric claddings like Cellular PVC.

POLYMERIC CLADDING CATEGORIES

VINYL SIDING

Cladding made primarily of polyvinyl chloride (PVC)

INSULATED SIDING

General category for cladding that provides continuous insulation with an R-Value of 2.0 or greater

INSULATED VINYL SIDING

Insulated cladding using vinyl siding combined with foam plastic insulation to produce an R-Value of 2.0 or greater

POLYPROPYLENE SIDING

Cladding made primarily from polypropylene

WHAT ARE I-CODES, NBCC AND FBC?

The International Codes, or I-Codes, published by the International Code Council, provide a regulatory framework for the construction of homes and buildings and are adopted by every state in the United States.

I-CODES INCLUDE CONSIDERATIONS FOR RESILIENT CONSTRUCTION AND SAFE USE OF CLADDING AND ITS ROLE IN PROTECTING AGAINST:



WATER

Both bulk and vapor.



WIND

Products are tested and verified to meet the wind requirement for the majority of the country, and certain polymeric cladding has been designed for use in coastal high wind areas.



FIRE

Codes are determined by risk, building size and occupancy type. In some cases, cladding may be required to be a part of an assembly that provides necessary fire protection and performance (i.e., flame spread, hourly rated assemblies and radiant heat release).

The International Code Council develops innovative and coordinated construction and public safety codes through a governmental consensus process. This system of code development has provided the highest level of safety in the world for more than 90 years.

I-CODES IMPACTING POLYMERIC CLADDING

The four I-Codes that affect vinyl siding, polypropylene siding, and insulated vinyl siding and the buildings they provide regulations for are:

INTERNATIONAL RESIDENTIAL CODE (IRC)

One- and two-family dwellings, including townhouses

INTERNATIONAL BUILDING CODE (IBC)

Other than one- and two-family dwellings, including apartments and hotels

INTERNATIONAL ENERGY CONSERVATION CODE (ENERGY CODE)

Energy efficiency

INTERNATIONAL WILDLAND-URBAN INTERFACE CODE (IWUIC)

Communities that are built in designated areas prone to wildfires/forest fires



CERTIFICATION PROGRAM

INTERNATIONAL RESIDENTIAL CODE

IRC Chapter 7 provides general product and installation requirements for cladding.

PRODUCT REQUIREMENTS (IRC R703)

Products must be certified and labeled to show they conform to their established ASTM standard:



VINYL SIDING
ASTM D3679 — R703.11



INSULATED VINYL SIDING
ASTM D7793 — R703.13

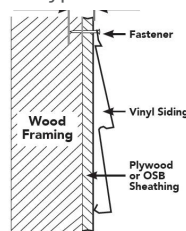
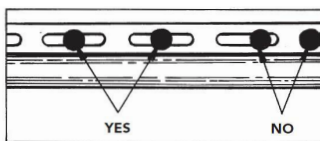


POLYPROPYLENE SIDING
ASTM D7254 — R703.14

INSTALLATION REQUIREMENTS

CLADDING — IRC R703 provides prescriptive and performance installation requirements:

- In general, vinyl and insulated vinyl siding are installed 16" on center using roofing nails, although variations are allowable including other approved fasteners like staples and screws.
- Polypropylene siding panels range in size and are unique. Manufacturer's installation instructions should be reviewed and in many cases it may be less than 16" on center. It must be installed over some type of wood sheathing.



SOFFIT — IRC Section R704 provides specific requirements for the installation of vinyl soffit panels:

- According to Section **R704.1** in high wind areas, the soffit panels must be designed to meet the appropriate design pressure.
- **R704.2.1** requires that each soffit panel be fastened at both the fascia and wall and that there be no unsupported spans greater than 16" without the use of an intermediate nailing strip.
- Where soffit is being used in high-wind areas, it must comply with Section **R704.3**.

CONSIDERATIONS AND CONDITIONS FOR USE IN HIGH-DENSITY DEVELOPMENTS

- In general, vinyl siding, polypropylene siding and insulated vinyl siding are not limited in their application with homes built under the IRC.
- In two instances, performance measures related to high density construction and fire will apply:
 - **IRC R302** General
 - **IRC Table R302.1 (1)** place requirements of a 1-hour tested assembly according to ASTM E119 on exterior walls that are 5' or closer to the property line
- Vinyl siding is a part of many E119-rated assemblies.

Polypropylene Siding

IRC R703.14.2 limits the use of polypropylene siding on walls that are closer than 5' to the property line (separation distance) and on walls 10' or closer to walls of other buildings on another lot unless a certification of flame spread index is provided in accordance with **R703.14.3**. Note, this provision does not apply to walls that are perpendicular to the line used to determine the separation distance (example: front and rear elevations of townhouse construction).

UNDERSTANDING THE FIRE PERFORMANCE BENEFITS OF POLYMERIC CLADDING

Built-In Protection

MEET OR EXCEED THE INDUSTRY STANDARDS FOR SAFETY

According to the U.S. Census Bureau² vinyl siding is the most popular choice for exterior cladding in residential homes in the Midwest and New England.

For years, polymeric products have been a recognized material that meet or exceed building codes and industry standards for safety.

Approved for use in all types of construction, including:

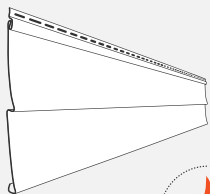
- Non combustibile rated structures up to 40 feet
- One-hour fire-rated assemblies
- Wildfire zones
- Other fire-resistive construction

HARDER TO IGNITE, EASIER TO EXTINGUISH

All organic materials—i.e., anything containing carbon—will ignite. But materials with higher ignition temperatures are naturally safer.



IGNITION POINTS:



POLYVINYL CHLORIDE

PVC WON'T IGNITE
FROM ANOTHER FLAME
UNTIL IT REACHES ABOUT

730°F (387°C)



FRAMING LUMBER

COMMON FRAMING
LUMBER WILL IGNITE
FROM A FLAME AT

500°F (260°C)

2. 2019 American Housing Survey

UNDERSTANDING THE FIRE PERFORMANCE BENEFITS OF POLYMERIC CLADDING

Less than 4% of all residential fires start outside the structure but still do not necessarily originate with the exterior cladding.

RESIDENTIAL FIRES: WHAT TO KNOW

Exterior cladding is involved in only a small fraction of all residential fires. Most residential fires begin inside the home and are contained within the structure of origin.

According to a report from the National Fire Protection Association (NFPA), fewer than 3% of all fires go beyond the source inside residential structures and fewer than 2% of these occurrences are related to the exterior wall surface. Less than 4% of all residential fires start outside the structure and do not necessarily originate with the exterior cladding.

PVC SLOWS FLAMES FROM SPREADING

PVC, the primary ingredient in vinyl siding, doesn't release a lot of energy when it burns and will not readily spread flames on its own.⁴ Vinyl siding also needs unusually high amounts of oxygen to burn and stay burning, so it extinguishes more easily.

Plus, when any organic material burns, it releases smoke that contains many different combustion products—including toxic gases. There is no research to substantiate claims that vinyl materials release unusually toxic combustion products.⁵

3. National Fire Protection Association Fire Analysis and Research Division, Home Structures Fires, November 2020

4. Results of ASTM E162-06 test, Standard Test Method for Surface Flammability of Materials Using a Radiant Heat Energy Source

5. Fire Properties of Polyvinyl Chloride, Vinyl Institute, 2017

NEARLY

96%

of all home fires start on the inside and have nothing to do with the cladding.³



INTERNATIONAL BUILDING CODE

IBC Chapter 14 provides general product and installation requirements for cladding.

PRODUCT REQUIREMENTS (1403)

Products must be certified and labeled to show they conform to their established ASTM standard:

- Insulated vinyl siding is not addressed in the IBC. Building officials may rely on code compliance reports for verification based on the established standard for the product category, ASTM D7793.



VINYL SIDING
ASTM D3679 — 1403.9



INSULATED VINYL SIDING
ASTM D7793 —
Code Compliance Reports



POLYPROPYLENE SIDING
ASTM D7254 — 1403.12

- **Table 1404.3(3)** counts vinyl siding and polypropylene siding as vented claddings and allows the elimination of vapor retarders because of its strong moisture management characteristics.



CERTIFICATION PROGRAM



INSTALLATION REQUIREMENTS

- In general, vinyl siding and insulated vinyl siding are installed 16" on center using roofing nails, although variations can be done including other approved fasteners like staples and screws. Prescriptive requirements for vinyl siding installation include that non-corrosive roofing nails that can penetrate the nailable substrate at least 1 1/4" must be spaced no more than 16" for horizontal siding and 12" for vertical siding and according to the manufactured installation instructions. (**IBC 1404.14**)
- Polypropylene siding panels range in size and are unique. Manufacturer's installation instructions should be reviewed because in many cases it may be less than 16" on center. It must be installed over some type of wood sheathing.
- When installing polypropylene siding in high-density settings (less than 5 feet to property line), the product must have a certified E84 test report.



INTERNATIONAL BUILDING CODE

CONSIDERATIONS AND CONDITIONS FOR USE IN HIGH-DENSITY DEVELOPMENTS AND WITH NONCOMBUSTIBLE CONSTRUCTION

- In general, polymeric cladding is allowed in all types of construction, including noncombustible construction. If the polymeric cladding is used with noncombustible construction, certain test results are demonstrated according to **1405**.
- Specific information on the use of insulated vinyl siding will be listed in the code compliance report.
- **Table 601** and **705.5** place certain fire resistance ratings on walls depending on the occupancy, type, density (distance to lot line) and size of the building based on ASTM E119 tests.
- Polymeric cladding is a part of many E119-rated assemblies. In addition, vinyl siding specifically is allowed to be part of **722**'s calculated fire resistance approach through **Table 722.6.2(3)**.
- **1405** provides the use of polymeric cladding (and other combustible cladding) with noncombustible construction (Types I, II, III, IV).
- If polymeric cladding is used with noncombustible construction (Types I, II, III, IV) it must be tested according to NFPA 268 (**1405.1**) and perform to certain levels depending on the building's fire separation distance. This test method demonstrates the ability of other combustible materials to not ignite under certain radiant heat conditions.



ENERGY CODE & INTERNATIONAL WILDLAND-URBAN INTERFACE CODE

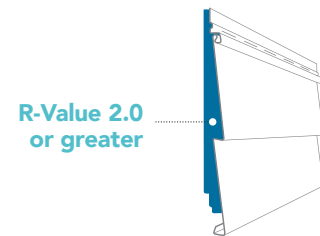
INTERNATIONAL ENERGY CONSERVATION CODE (IECC)

The IECC prescribes insulated sidings as a building material that can be used as a form of continuous insulation outside of the building framing to provide the required total wall R-Value.

Insulated sidings can be used to meet the R-Value/U-factor requirements of the IECC. The tested R-Value for insulated siding is required by the code **N1101.10.1 (R303.1.1)** to be labeled on the package of the insulated cladding.

IRC N1102.1.3 (R402.1.3) of the IECC allows the R-Value of insulated siding to be used as part of the prescriptive R-Value computation approach and may be used to satisfy the R-Value insulation requirements of **IRC N1102.1.3 (R402.1.3)** through the requirements of either **Table R402.1.2** or **R402.1.3**.

Insulated siding can be used to meet the R-Value/U-factor requirements of the IECC.



CERTIFICATION PROGRAM

INTERNATIONAL WILDLAND-URBAN INTERFACE CODE

Polymeric cladding is allowed for use under this code in all conditions with certain performance requirements.

Chapter 5 of the IWUIC breaks down various risk types for developments relative to wildfire and then places certain materials requirements. Three different types of risk categories impact the type of Ignition Resistant (IR) wall construction requirement.

In the most stringent IR wall construction (IR1 and IR2), according to Sections **504** and **505**, polymeric cladding may be used so long as it is a part of a 1-hour E119-rated assembly and exhibits a flame spread index no greater than 25. When an IR3 condition applies, there are no requirements or limitations on a specific wall construction or cladding type.



NATIONAL BUILDING CODE OF CANADA

ESTIMATED PUBLICATION DATE LATE 2021

The National Building Code of Canada (NBCC) 2020 establishes technical provisions for the design and construction of new buildings. It also applies to the alteration, change of use and demolition of existing buildings.

Here are the codes that impact polymeric cladding product performance and installation requirements when working in Canada.

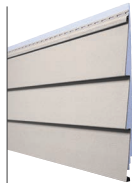
NBCC provides general product and installation requirements for polymeric cladding.

PRODUCT REQUIREMENTS (NBCC 9.27)

- **9.27.12.1[1]** states that vinyl siding shall be manufactured in accordance with ASTM D3679.
- **9.27.12.1[2]** states that insulated vinyl siding shall be manufactured in accordance with ASTM D7793.
- **9.27.12.1[3]** states that vinyl soffit shall be manufactured in accordance with ASTM D4477.
- **9.27.13.1[1]** states that polypropylene siding shall be manufactured in accordance with ASTM D7254.
- **9.27.12.1[4]** requires vinyl siding, insulated vinyl siding and soffit to have flame spread rating when required by the code.
- **9.27.13.1[2]** requires polypropylene siding to have a flame spread rating when required by the code.



VINYL SIDING
ASTM D3679 — 9.27.12.1[1]



INSULATED VINYL SIDING
ASTM D7793 — 9.27.12.1[2]



POLYPROPYLENE SIDING
ASTM D7254 — 9.27.13.1[1]

INSTALLATION REQUIREMENTS

- **9.27.5** states prescriptive requirements for the installation of vinyl siding, insulated vinyl siding and polypropylene siding. Nails shall be a minimum of 38 mm long and spaced no greater than 400 mm, and all fasteners shall be installed in the center of the nail slot.
- **9.27.5.7 [2]** specifies that all fasteners must be installed into a nail-holding base with a minimum depth of 32 mm or into framing.



CERTIFICATION PROGRAM

FLORIDA RESIDENTIAL CODE

Chapter 7 provides general product and installation requirements for cladding.

PRODUCT REQUIREMENTS

Products must be certified and labeled to show they conform to their established ASTM standard:

- **R301.9 (R703.11.1 and R703.13.1)** requires cladding and soffit to meet the wind loads in the code.



VINYL SIDING
ASTM D3679 — R703.11



INSULATED VINYL SIDING
ASTM D7793 — R703.13



POLYPROPYLENE SIDING
ASTM D7254 — R703.14



CERTIFICATION PROGRAM

INSTALLATION REQUIREMENTS

THE FOLLOWING ARE PRESCRIPTIVE AND PERFORMANCE INSTALLATION REQUIREMENTS FOR FLORIDA:

- In general, vinyl and insulated vinyl siding meet the wind loads in accordance with **Table R301.2(2)** and **R301.2(3)** when installed 16" on the center using roofing nails, although variations are allowable, including other approved fasteners like staples and screws, when following manufacturer's instructions. Prescriptive requirements for vinyl siding installation include that noncorrosive roofing nails that can penetrate the nailable substrate at least 1 1/4" must be spaced no more than 16" for horizontal siding and 12" for vertical siding and according to the manufactured installation instructions. **(R703.11.1)**
- Polypropylene siding must be installed over wood sheathing. It cannot be installed over foam sheathing only. Noncorrosive roofing nails or other approved fasteners must penetrate the nailable substrate at least 1 1/4". Check manufacturer's installation instructions for proper spacing, no more than 16" on center, in some cases much less. **(R703.14.1)**
- Soffits must meet the prescriptive installation requirements in section **R704**.

CONSIDERATIONS FOR HIGH-DENSITY SETTINGS

- When installing polypropylene siding in high-density settings (less than 5 feet to property line), the product must have a certified E84 or UL723 flame spread test report. **(R703.14.3)**



FLORIDA BUILDING CODE

Chapter 14 provides general product and installation requirements for cladding

PRODUCT REQUIREMENTS

Products must be certified and labeled to show they conform to their established ASTM standard:

- **1404.9** requires vinyl siding to be certified to D3679.
- **1404.12** requires polypropylene siding to be certified to D7254.
- **T1405.3.4** counts vinyl siding and polypropylene siding as vented claddings and allows the elimination of vapor retarders because of their strong moisture management characteristics.
- Insulated vinyl siding is not addressed in the Florida Building Code (FBC). Building officials may rely on code compliance reports for verification based on the established standard for the product category, ASTM D7793.



VINYL SIDING
ASTM D3679 — 1404.9



INSULATED VINYL SIDING
ASTM D7793 —
Code Compliance Report



POLYPROPYLENE SIDING
ASTM D7254 — 1404.12

INSTALLATION REQUIREMENTS

- In general, vinyl siding and insulated vinyl siding are installed 16" on center using roofing nails, although variations can be done including other approved fasteners like staples and screws. Prescriptive requirements for vinyl siding installation include that noncorrosive roofing nails that can penetrate the nailable substrate at least 1 1/4" (although the code currently states 3/4") must be spaced no more than 16" for horizontal siding and 12" for vertical siding and according to the manufactured installation instructions. (**1405.14.1**)
- Polypropylene siding panels range in size and are unique. Manufacturer's installation instructions should be reviewed because in many cases it may be less than 16" on center. It must be installed over some type of wood sheathing.
- In Florida, **1405.14** limits vinyl siding, unless shown to be able to perform, to 40 foot buildings.

FLORIDA ENERGY CODE

In addition to the code defined on page 9, insulated vinyl siding with a minimum R-2 can be used for energy code compliance as a form of continuous insulation in Florida.



CERTIFICATION PROGRAM

UNDERSTANDING POLYMERIC CLADDING PERFORMANCE IN HIGH WIND REGIONS



Today's product packaging makes it easy to identify the right products for high wind areas.

DEFINING THE DESIGN PRESSURE RATING

The Standard Wind Load Design Pressure Rating measures the wind load resistance of cladding, windows, doors and other wind load-bearing products. The rating indicates each product's ability to withstand pounds per square feet (psf) of pressure from wind load in its designed use.

For example, in Florida, design pressure requirements can vary from 30 psf in the state's center up to 60+ on the coast, depending on the building's height and other factors.

DEFY THE STORM

Polymeric claddings are manufactured to perform under pressure from the elements. Certified products can even withstand winds of at least 110 mph.



CERTIFICATION PROGRAM

UNDERSTANDING POLYMERIC CLADDING PERFORMANCE IN HIGH WIND REGIONS

Wind speed is a standard measurement, but in reality, it's an approximation of product performance based on an average home in an average location under average installation methods.

The specified design pressure rating for cladding is calculated based on many factors beyond wind speed, including building height, building orientation, local geography and more.

When choosing the right polymeric cladding, refer to the Standard Wind Load Design Pressure Rating, a more accurate predictor of a product's performance in varied conditions.

To ensure full-strength performance in extreme conditions, proper installation is vitally important. Find installation tips for coastal regions and more on page 17.

TRANSLATING DESIGN PRESSURE TO WIND SPEED ¹	
Standard Wind Load Design Pressure Rating (psf)	Approximate Wind Speed (mph)
30.0 psf	115 mph ²
>30.0 – 45.6 psf	116 – 149 mph
>45.6+ psf	150+ mph

1. Ultimate design wind speed values above are sourced from standards outlined in the International Residential Code (IRC 2015)
2. Values are nominal design 3-second gust wind speeds in miles per hour (m/s) at 33 ft (10m) above ground for Exposure C category

Design pressure ratings are based on tests using D5206 with a standard installation of 16" on center.



LOCATE THE DESIGN PRESSURE RATING

Verify the design pressure rating or other detailed information about polymeric cladding products listed on the product label.



INSTALLING POLYMERIC CLADDING AND SOFFIT IN COASTAL AREAS

Current codes regulate coastal areas and place stringent performance requirements on cladding installed in these areas. Polymeric claddings are a great choice. Polymeric claddings offer beauty and stand up to more extreme coastal conditions. Use these quick tips for installing polymeric cladding and soffit in these regions.

UNDERSTANDING THE USE OF POLYMERIC CLADDING AND SOFFIT IN HIGH-WIND REGIONS

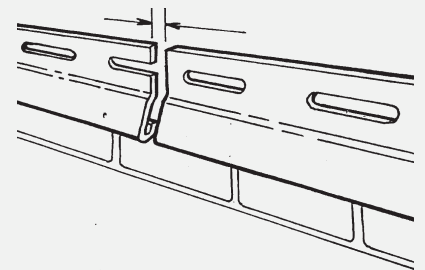
THESE UPDATES WILL HELP YOU STAY COMPLIANT AND ACHIEVE THE HIGHEST PERFORMANCE IN COASTAL REGIONS:

- The design pressure rating reflects the highest wind application for which the cladding is suitable and allows building code officials in high-wind regions to determine the appropriate cladding and soffit to install.
- Vinyl siding, insulated vinyl siding and polypropylene siding products have a wind design pressure rating published as part of the product certification program.
- Vinyl soffit in high wind regions needs to exhibit a proper design pressure rating.
- Vinyl siding and insulated vinyl siding products designed for use in high-wind regions typically have reinforced nail hems (i.e., double or rolled-over nail hems versus single-nail hems).
- Polypropylene siding in high-wind regions typically needs to be installed 8" to 10" on center based on manufacturer's installation instructions.

VINYL SIDING INSTALLATION TIPS

INSTALLING THE STARTER STRIP

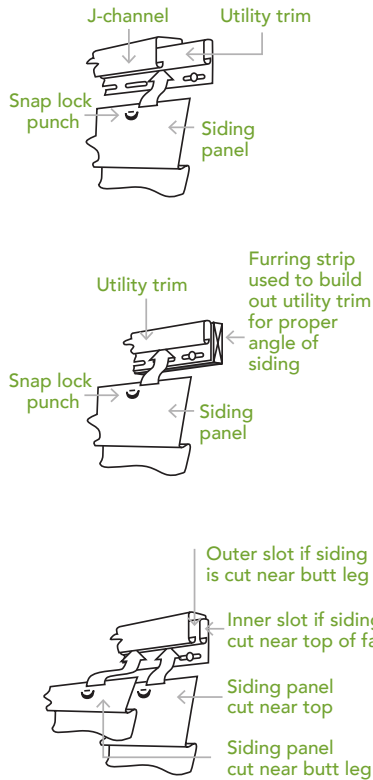
- In normal wall applications, starter strips are required.
- Vinyl siding, insulated vinyl siding and polypropylene siding starter strips are unique and may not be used interchangeably so follow manufacturer specifications for each product category.
- A starter strip not matched to the lock design of the cladding could cause the bottom course to blow off, which can lead to product failure.
- Do not use J-channel or other types of trim in place of a starter strip except when installing vertical siding.



The polymeric cladding industry makes it easy to specify the right products for high wind regions.

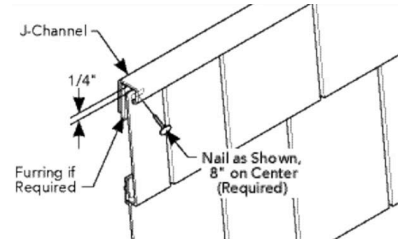
INSTALLING POLYMERIC CLADDING AND SOFFIT IN COASTAL AREAS

FINISHING

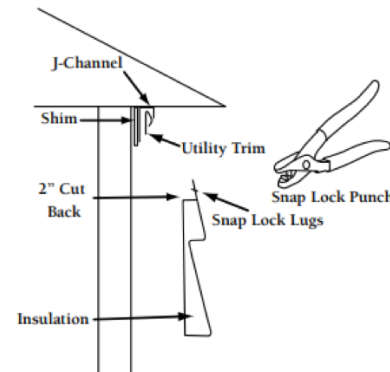


*Snap lock punches should be about 6" on center

POLYPROPYLENE SIDING



INSULATED VINYL SIDING



INSTALLATION TIPS

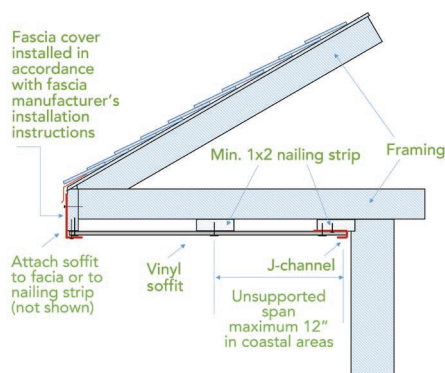
CLADDING UNDER WINDOWS AT THE TOP OF WALL

- Failure to use proper connection can create a weak point for the system.
- Use of utility trim and punch-locked vinyl siding or insulated vinyl siding is critical under windows and at the top of the walls.
- Using a snap lock punch (or other nail hole-creating tools), punch every 6" along the cut edge of vinyl siding and insulated vinyl siding and every 8" along the cut edge of polypropylene siding.
- Any time the top lock has been removed from cladding, utility trim should be used as a receiver to secure the punched-tab cladding panel.
- Furring may be required.

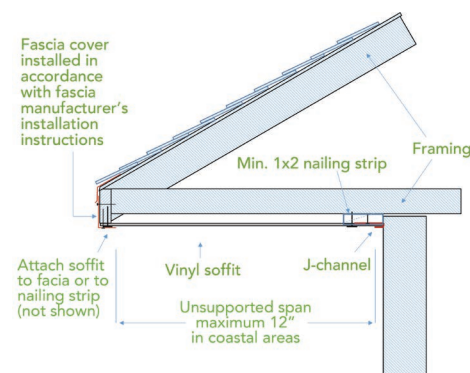
SOFFIT INSTALLATION TIPS

- Vinyl soffit must be fastened at both the fascia and wall.
- In high wind regions, where the unsupported span of soffit panels is greater than 12", intermediate nailing strips shall be provided.
- Once vinyl soffit is installed, fascia covers can be installed into utility trim or behind the existing drip edge.
- Always pre-drill holes into fascia and do not nail tight.

MULTI SPAN SOFFIT INSTALLATION



SINGLE SPAN SOFFIT INSTALLATION



For additional information, please consult relevant building codes, manufacturer instructions and the VSI Vinyl Siding Installation Manual at vinylsiding.org/installation.

ENSURING PROPER CLADDING INSTALLATION



POLYMERIC CLADDING JOBSITE INSPECTION CHECKLIST



CERTIFICATION PROGRAM

Products certified through the VSI program go through tests and checks to ensure compliance.

- Look for the VSI Certification Program mark above to verify that the product is certified to the relevant ASTM standards

- Cladding panels should move freely

- Panels should be fully engaged and locked with each other

- Confirm that corrosion resistant fasteners were used

- Fasteners should be in the center of the nail slot and penetrate at least 1 1/4" inch into a nailable substrate

- Fasteners must have a space of 1/32" (about the thickness of a dime) between the fastener head and cladding panel

- There is no caulk used in the installation process except in very specific instances when using certain types of flashing applications

- Confirm that vinyl soffit is fastened at both fascia and wall ends

- Where the unsupported span of soffit panels is greater than 12" in coastal areas and 16" in non-coastal areas intermediate nailing strips should be provided

MEETING BUILDING INSPECTOR AND OFFICIAL REQUIREMENTS

Rely on certified cladding products to help inspections move quickly. Products certified through the VSI program go through tests and checks to ensure compliance with the ASTM appropriate product standards for:

- Weatherability, wind load and impact resistance
- Expansion and contraction
- Surface distortion
- Length, width and thickness

FIND CERTIFIED PRODUCTS NOW

www.archtest.com/vsi/

COASTAL AREAS

For coastal high wind areas, building inspectors should request design pressure information or consult the manufacturer's code compliance report to ensure the product is verified for use in high wind areas. Design pressure ratings are on product packaging. (Find out more about design pressure ratings on page 15.)

INTERNATIONAL CODE QUICK REFERENCE CHART

	VINYL SIDING	INSULATED VINYL SIDING	POLYPROPYLENE SIDING
INTERNATIONAL RESIDENTIAL CODE	PRODUCT REQUIREMENTS Products must be certified and labeled to show they conform to their established ASTM standard.		
	ASTM D3679	ASTM D7793	ASTM D7254
	INSTALLATION REQUIREMENTS Table R703.3 (1) provides prescriptive and performance installation requirements.		
	In general, vinyl siding is installed 16" on center using roofing nails, although variations of this can be done.	In general, insulated vinyl siding is installed 16" on center using roofing nails, although variations of this can be done.	Polypropylene siding panels range in size and are unique. Manufacturer's installation instructions should be reviewed because in many cases it may be less than 16" on center. It must be installed over some type of wood sheathing.
	VINYL SOFFIT USE	R703.3.1 requires vinyl soffit panels must be designed to meet the appropriate design pressure in high wind areas. R703.3.1.2 requires that each soffit panel be fastened at both the fascia and wall, and that there be no unsupported spans greater than 16" without the use of an intermediate nailing strip. Where soffit is being used in high wind areas, IRC Section R703.3.2 requires soffit to be designed to resist component and cladding loads specified in Table R301.2(2).	
	CONSIDERATIONS AND CONDITIONS FOR USE IN HIGH DENSITY DEVELOPMENTS In general, polymeric cladding is not limited in its application with homes built under the IRC.		
			IRC R703.14.2 limits the use of polypropylene siding in certain high-density applications unless the product has a certified E84 flame spread test report.
INTERNATIONAL BUILDING CODE	PRODUCT REQUIREMENTS Products must be certified and labeled to show they conform to their established ASTM standard.		
	ASTM D3679	Not addressed in IBC, building officials should rely on code compliance reports.	ASTM D7254
	Counts vinyl siding and polypropylene siding as vented claddings and allows the elimination of plastic vapor retarders because of their strong moisture management characteristics.		Counts vinyl siding and polypropylene siding as vented claddings and allows the elimination of plastic vapor retarders because of their strong moisture management characteristics.
			When installing polypropylene siding in high-density settings (less than 5 feet to property line), product must have a certified E84 flame spread test report.
	INSTALLATION REQUIREMENTS 1404 provides prescriptive and performance installation instructions.		
	Prescriptive requirements for vinyl siding installation, non-corrosive roofing nails that can penetrate the nailable substrate at least 1 1/4", must be spaced no more than 16" horizontally, 12" vertically and according to the manufactured installation instructions.	Not addressed in IBC, building officials should rely on code compliance reports.	Requires polypropylene siding to be installed in accordance with the manufacturer's installation instructions.
	In general, vinyl siding is installed 16" on center using roofing nails, although variations of this can be done.		Polypropylene siding panels range in size and are unique. Manufacturer's installation instructions should be reviewed because in many cases it may be less than 16" on center. It must be installed over some type of wood sheathing.
CONSIDERATIONS AND CONDITIONS FOR USE IN HIGH DENSITY DEVELOPMENTS AND WITH NONCOMBUSTIBLE CONSTRUCTION In general, the use of polymeric cladding is allowed in all types of construction, however when used with noncombustible construction test results are required to be demonstrated according with section 1406.			
Allowed on buildings where the ASD wind speed does not exceed 100 mph and the building height is 40 feet or less in Exposure C, or about 30 psf design pressure.	Will be listed in the code compliance report.	Allowed on buildings where the ASD wind speed does not exceed 100 mph and the building height is 40 feet or less in Exposure C, or about 30 psf design pressure.	
INTERNATIONAL ENERGY CONSERVATION CODE		Can be used as continuous insulation outside of the building framing to meet the R-Value/ U-factor requirements.	
INTERNATIONAL WILDLAND-URBAN INTERFACE CODE	Polymeric cladding is allowed for use under this code in all conditions with certain performance requirements.		

FLORIDA BUILDING CODE QUICK REFERENCE CHART

	VINYL SIDING	INSULATED VINYL SIDING	POLYPROPYLENE SIDING
FLORIDA RESIDENTIAL CODE	PRODUCT REQUIREMENTS Products must be certified and labeled to show they conform to their established ASTM standard.		
	ASTM D3679	ASTM D7793	ASTM D7254
	INSTALLATION REQUIREMENTS Table R703.3 (1) provides prescriptive and performance installation requirements.		
	In general, vinyl siding is installed 16" on center using roofing nails, although variations of this can be done.	In general, insulated vinyl siding is installed 16" on center using roofing nails, although variations of this can be done.	When installing polypropylene siding in high density settings (less than 5 feet to property line), product must have a certified E84 flame spread test report.
			Polypropylene siding panels range in size and are unique. Manufacturer's installation instructions should be reviewed because in many cases it may be less than 16" on center. It must be installed over some type of wood sheathing.
	Prescriptive requirements for installation, non-corrosive roofing nail at least 1 1/4" long, (although the code currently only requires 3/4") must be spaced no more than 16", 12" vertically.	Manufacturers installation instructions must be followed for proper installation of insulated vinyl siding.	Manufacturers installation instructions must be followed for proper installation of polypropylene siding.
	VINYL SOFFIT USE	R703.3.1 requires vinyl soffit panels must be designed to meet the appropriate design pressure in high wind areas. R703.3.1.2 requires that each soffit panel be fastened at both the fascia and wall, and that there be no unsupported spans greater than 16 inches without the use of an intermediate nailing strip. Where soffit is being used in high wind areas, IRC Section R703.3.2 requires soffit to be designed to resist component and cladding loads specified in Table R301.2(2). R301.9 requires cladding and soffit to meet the wind loads in the code R704.2. Must install soffit per prescription (see Coastal Specification on page 17).	
	CONSIDERATIONS AND CONDITIONS FOR USE IN HIGH DENSITY DEVELOPMENTS In general, polymeric cladding is not limited in its application with homes built under the IRC.		
			R703.14.2 limits the use of polypropylene siding in certain high density applications unless the product has a certified E84 flame spread test report.
	FLORIDA BUILDING CODE	PRODUCT REQUIREMENTS Products must be certified and labeled to show they conform to their established ASTM standard.	
ASTM D3679		Not addressed in IBC, building officials should rely on code compliance reports.	ASTM D7254
Counts vinyl siding and polypropylene siding as vented claddings and allows the elimination of plastic vapor retarders because of their strong moisture management characteristics.			Counts vinyl siding and polypropylene siding as vented claddings and allows the elimination of plastic vapor retarders because of their strong moisture management characteristics.
Limits vinyl siding, unless shown to be able to perform, to 40 foot high buildings.			When installing polypropylene siding in high density settings (less than 5 feet to property line), product must have a certified E84 flame spread test report.
INSTALLATION REQUIREMENTS IBC 1404 provides prescriptive and performance installation instructions.			
Prescriptive requirements for vinyl siding installation, non-corrosive roofing nails that can penetrate the nailable substrate at least 1 1/4", must be spaced no more than 16" horizontally, 12" vertically and according to the manufacturer installation instructions.		Not addressed in IBC, building officials should rely on code compliance reports.	Requires polypropylene siding to be installed in accordance with the manufacturer's installation instructions.
In general, vinyl siding is installed 16" on center using roofing nails, although variations of this can be done			Polypropylene siding panels range in size and are unique. Manufacturer's installation instructions should be reviewed because in many cases it may be less than 16" on center. It must be installed over some type of wood sheathing.
CONSIDERATIONS AND CONDITIONS FOR USE IN HIGH DENSITY DEVELOPMENTS AND WITH NONCOMBUSTIBLE CONSTRUCTION In general, the use of polymeric cladding is allowed in all types of construction, however when used with noncombustible construction test results are required to be demonstrated according with the IBC section 1406.			
Allowed on buildings where the ASD wind speed does not exceed 100 mph and the building height is 40 feet or less in Exposure C, or about 36 psf design pressure.**		Will be listed in the code compliance report.	Allowed on buildings where the ASD wind speed does not exceed 100 mph and the building height is 40 feet or less in Exposure C, or about 36 psf design pressure.**
FLORIDA ENERGY CODE		Insulated vinyl siding with an minimum R-2 can be used for energy code compliance as a form of continues insulation.	
INTERNATIONAL WILDLAND-URBAN INTERFACE CODE	Polymeric cladding is allowed for use under this code in all conditions with certain performance requirements.		

NATIONAL BUILDING CODE OF CANADA QUICK REFERENCE CHART

	VINYL SIDING	INSULATED VINYL SIDING	POLYPROPYLENE SIDING
NATIONAL BUILDING CODE OF CANADA (NBCC)	PRODUCT REQUIREMENTS		
	Products must be certified and labeled to show they conform to their established ASTM standard.		
	ASTM D3679	ASTM D7793	ASTM D7254
	INSTALLATION REQUIREMENTS		
	NBCC 9.27 provides prescriptive and performance installation requirements.		
	Flame spread rating when required by code.	Flame spread rating when required by code.	Flame spread rating when required by code.
	Fasteners shall be installed in the center of the nail slot.		
	Fasteners must be installed into a nail-holding base 32 mm (into framing).		
	Requires nails to be a minimum of 38 mm long and spaced no more than 400 mm apart.		
	VINYL SOFFIT USE	Vinyl soffit shall be manufactured in accordance with ASTM D4477. Requires vinyl siding, insulated vinyl siding and soffit to have flame spread rating when required by the code.	



QUICK ACCESS TO CODE PLAN REVIEW RESOURCES

Stay compliant by following the building code guidelines. Use resources in this guide, the VSI Installation Manual and other code resources to simplify the inspection process for exterior polymeric cladding products.

You can refer to the following websites for more information:

www.iccsafe.org

<https://nrc.canada.ca/en/certifications-evaluations-standards/codes-canada>

www.floridabuilding.org



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