



WIP®: Water and Ice Protection Roofing Underlayments Field Guide

About Carlisle Residential

As a division of Carlisle Construction Materials Incorporated, Carlisle Residential manufactures premium construction products for steep-slope and low-slope residential and commercial applications.



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Water and Ice Protection

Water and Ice Protection (WIP) is a self-adhering roofing underlayment used on critical roof areas such as eaves, rakes, ridges, valleys, dormers and skylights to protect roofing structures and interior spaces from water penetration caused by wind-driven rain and ice dams. WIP may also be used as covering for the entire roof to prevent moisture or water entry.

WIP is manufactured and backed by Carlisle, a leader in the roofing industry for more than 45 years.

We Have a WIP for That



Product	Composition	Ideal Use	Exposure
WIP 100	Black, granular, flexible, fiberglass-reinforced membrane	Shingle underlayment on critical roof areas or as entire roof covering; economical, standard protection	30 days
WIP 250	Fiberglass-reinforced, rubberized asphalt laminated to a white base film with blue, anti-skid texture	Multi-purpose underlayment for asphalt shingles, synthetic tiles and metal; ideal for hotter climate conditions; up to 250°F	90 days
WIP 300HT	High-tensile strength, rubberized asphalt laminated to black or white polyolefin film; anti-skid coating	High-temperature applications on critical roof areas and as a metal underlayment (including copper, zinc or CorTen®*); up to 250°F	White – 120 days Black – 60 days
WIP 400	Black, engineered polyolefin composite film, factory-applied anti-skid coating, laminated to rubberized asphalt	High-performance underlayment, superior protection against damage caused by wind-driven rain and ice dams	60 days
WIP 401LT	Black, engineered polyolefin composite film, factory-applied anti-skid coating, laminated to highly adhesive rubberized asphalt	Low-temperature applications, to 25°F	60 days
WIP 403HR	Blue, skid-resistant polyethylene film laminated to butyl-modified adhesive	Premium, heat-resistant membrane, ideal in hot climates and higher elevation areas. Can be used under all metal roofs (including copper, zinc or CorTen®*) on critical areas or full coverage; up to 250°F	180 days

*Refer to manufacturer instructions for installation guidelines.

Why Choose WIP?

Skid Resistant

Available in granular or non-skid film surfaces to meet any need.

Split-Release Film

All WIP products feature a split-release liner for quick-and-easy installation.

Moisture and Air Barrier

Membrane protects the roof structure from water seepage caused by ice dams and wind-driven rains.

Meets Standards and Codes

All WIP Products meet UL and ASTM D1970 standards. (Refer to technical sheets for FL and ICC-ES approvals.)

Self Sealing

Membranes seal around roofing nails, staples and screws.

Watertight

WIP 300 and 400 series feature an exposed rubberized asphalt bead along the membrane edge to help ensure water tightness of the lap seams.

Self Adhering

Membranes bond directly to most roof substrates without the need for additional adhesives. Primer (contact adhesive) required when temperatures are below 40°F and for concrete, masonry, exterior gypsum board, polyiso insulation, rigid EPS and XPS insulation.



Siliconized Release Film

The film prevents the material from sticking in the roll and peels away for easy installation.

Permanent Protection and Low Lifecycle Cost

Will not crack, dry out or rot and provides long-term waterproofing performance.

Aesthetically Pleasing

WIP is a concealed waterproofing system that will not detract from the architectural aesthetics of the primary roofing system.

Backed by Carlisle, a leader in roofing innovation for half a century.

All WIP products are backed by Carlisle's industry-leading limited warranty.

Installation Instructions

General Information

WIP roofing underlayments are applied when the roof deck is dry and the substrate temperature is 40°F (4.4°C) or higher. At temperatures below 40°F, nailing or priming should be used to temporarily hold the membrane in place while adhesion develops.

WIP roofing underlayment is designed to be covered with the primary roofing system and should not be exposed to sunlight for more than the recommended number of days (refer to pages 3-4 for exposure times).

Moisture: Substrate must be free of any moisture as it may inhibit adhesion.

New Construction: Prepare the roof deck by removing all loose objects, dirt, dust or debris.

Re-roofing: Remove all old materials from the roof deck in the area to be covered with WIP roofing underlayment. Replace water-damaged sheathing and sweep roof deck thoroughly.

Priming: Not required for attachment to clean, dry wood or metal surfaces. All concrete surfaces, exterior gypsum board, and paper-faced polyisocyanurate insulation, EPS and XPS insulation should be primed using the appropriate primer or adhesive. Adhesives such as CCW-702, CCW-702LV, CCW-702WB or CAV-GRIP™ are appropriate and required on all substrates when temperatures are below 40°F.

Valleys, Hips & Ridges

Cut WIP roofing underlayment into manageable lengths. Align over the center of the valley, hip or ridge. Remove release film. Press the middle of the membrane first before working toward the edges. For open valleys, cover WIP roofing underlayment with metal valley flashings.

Eaves & Rakes

Cut WIP roofing underlayment into 10-15' pieces. Remove 2-3' of release film and align the edge of the membrane, sticky side down, so it overhangs the drip edge by 3/8" (10 mm). Continue to remove release film and press as you move across the roof. Use a hand roller and/or hand pressure to press into place. For split-release film, peel half the liner off the cut length and position membrane in place. Apply firm, even pressure from the center to the outer edge. Remove the remaining half of the film and apply pressure to secure the membrane. Overlap end laps a minimum of 6". WIP roofing underlayment should reach a point 2' past the inside of the interior wall line. Local codes may require additional courses. If additional courses are required, the top lap must be at least 3.5".

Drip Edges: At the rake edge, apply WIP roofing underlayment first and place drip edge on top. At the eave, apply drip edge first and place WIP roofing underlayment on top of the drip edge so that it overhangs drip edge 3/8" (10 mm).

For standard installation details, follow the WIP detail drawings found on pages 11-23 of this guide. For non-standard installation instructions, contact your local Carlisle Residential representative.

Metal Roof Underlayment

Under water-shedding metal roof systems or low-slope metal roofs with a minimum 1/2:12 slope, start at the low point and apply WIP roofing underlayment over the full surface of the roof deck. Review the metal roofing manufacturer's instructions for limitations and precautions. Beginning at the eaves, apply product from the low point to the high point of the roof, running the roll horizontally.

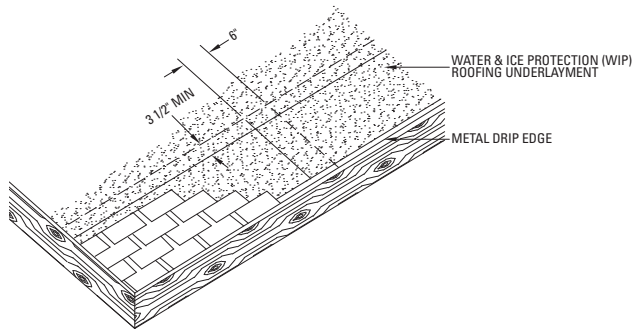
Important Considerations



- WIP underlayments should be installed when air, roof deck and membrane temperatures are at or above 40°F (4.4°C), except WIP 401LT, which is designed for low temperature to 25°F (-3.89°C).
- Primer (contact adhesive) is required for use over concrete surfaces, exterior gypsum board, paper-faced polyiso insulation, EPS and XPS insulation and on all substrates when temperatures are below 40°F (4.4°C). CCW-702, CCW-702LV, CCW-702WB and CAV-GRIP are appropriate and recommended primers (contact adhesives).
- Do not expose WIP underlayments to sunlight for longer than the recommended exposure times listed on page 4 of this guide and on the technical data sheets.
- WIP underlayments should not be folded over the roof edge unless protected by a gutter or other flashing materials.
- The primary roof system must be ventilated to prevent excessive moisture build-up in the interior structure.
- Use caution during the installation of the membrane as it may become slippery when wet or covered with frost.
- WIP underlayments are not to be used in contact with flexible PVC material.
- Ensure you are using the proper WIP underlayment for the roofing material by referencing the usage chart on pages 3-4 of this guide or referring to the technical data sheet for each WIP product. For metal roof installations, be sure to follow the metal manufacturer's recommended installation guidelines for underlayments.
- WIP roofing underlayment rolls should be stored under cover and in areas where the temperature is between 40° and 100°F (4.4° and 38°C). Do not stack more than two high.

Installation Details

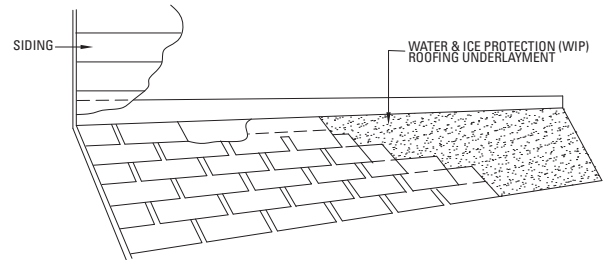
Rakes and Eaves



NOTE:

- 1) EXTEND MEMBRANE TO EXCEED ANTICIPATED ICE DAM HEIGHT
- 2) CAREFULLY POSITION MEMBRANE AT ROOF PERIMETER WHEN INSTALLING METAL DRIP EDGE
- 3) INSTALL WIP IN SHINGLE FASHION EDGE SPLICE IS 3 1/2" MIN. END SPLICE IS 6" MIN.

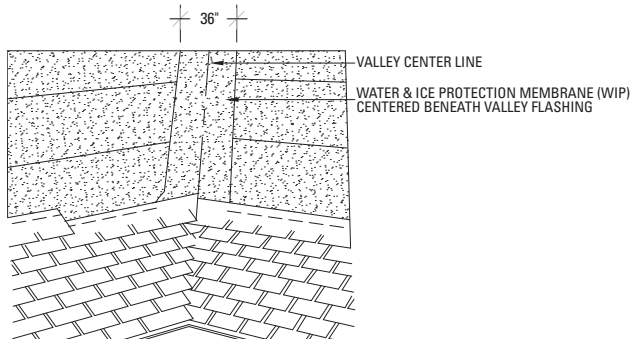
Roof to Wall Transitions



NOTE:

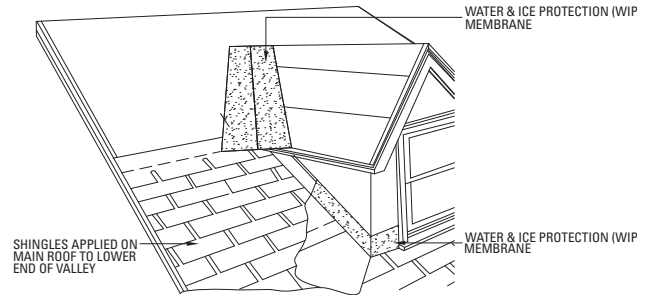
- 1) EXTEND MEMBRANE TO EXCEED ANTICIPATED ICE DAM HEIGHT
- 2) INSTALL WIP IN TRANSITION AREA FIRST, THEN COVER WITH METAL FLASHING AND SHINGLES
- 3) WIP IS NOT INTENDED FOR EXPOSED FLASHING APPLICATIONS
- 4) INSTALL ROOFING SHINGLES PER MANUFACTURERS INSTRUCTIONS

Valleys



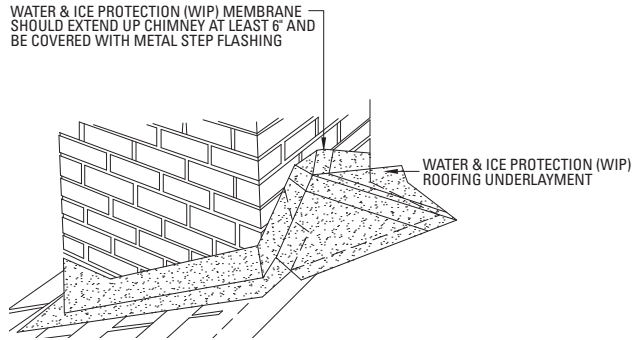
- NOTE:
- 1) CENTER MEMBRANE OVER VALLEYS AND RIDGES STARTING AT THE LOW POINT FOR LAPS TO SHED WATER
 - 2) AVOID FASTENERS IN VALLEY

Dormers



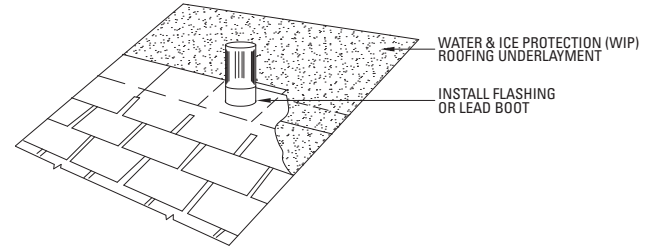
- NOTE:
- 1) EXTEND MEMBRANE TO EXCEED ANTICIPATED ICE DAM HEIGHT
 - 2) COVER MEMBRANE WITH METAL STEP FLASHING OR SHINGLES

Chimney Flashings



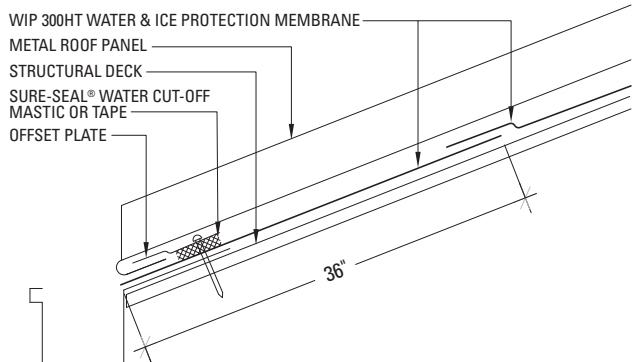
- NOTE:
- 1) COVER CRICKET WITH WIP MEMBRANE AND EXTEND ON TO ROOF DECK A MIN. OF 12"

Pipe Penetrations

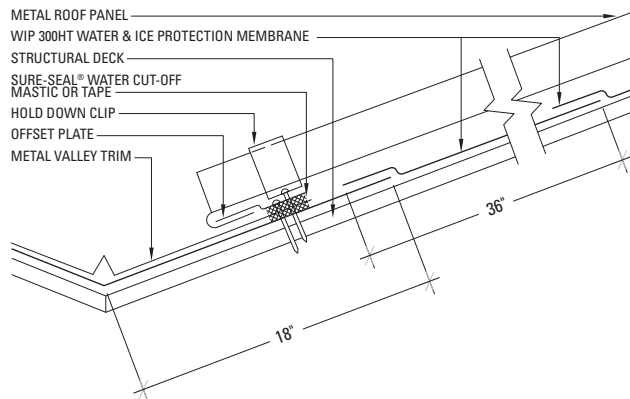


- NOTE:
- 1) CUT THE WIP MEMBRANE TO FIT SECURELY AROUND PENETRATION
 - 2) INSTALL FLASHING OR LEAD BOOT OVER WIP DURING LAYING OF SHINGLES

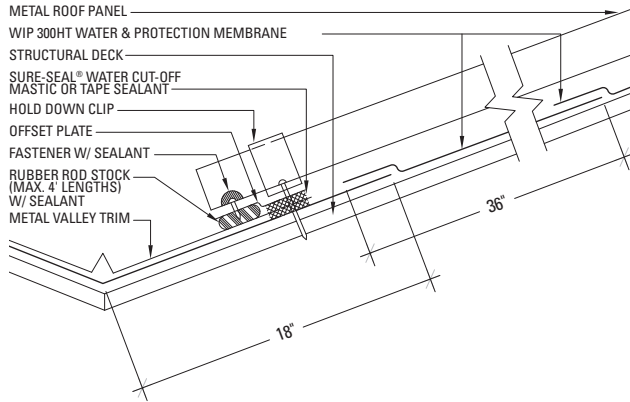
Metal Eaves



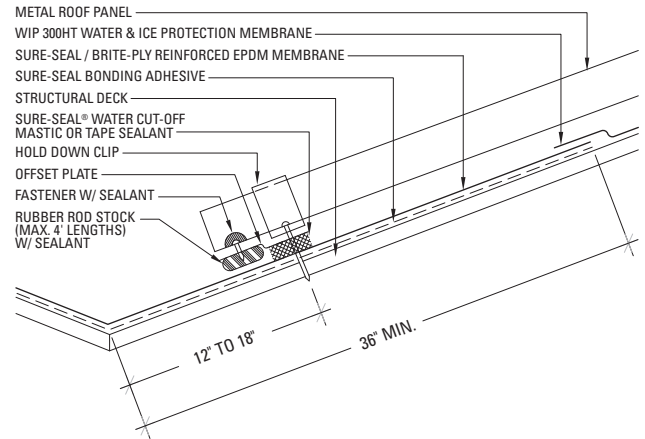
Floating Valleys



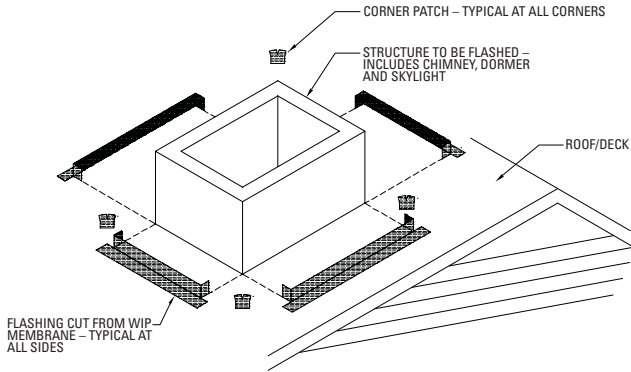
Covered Fixed Valleys



Exposed Fixed Valleys



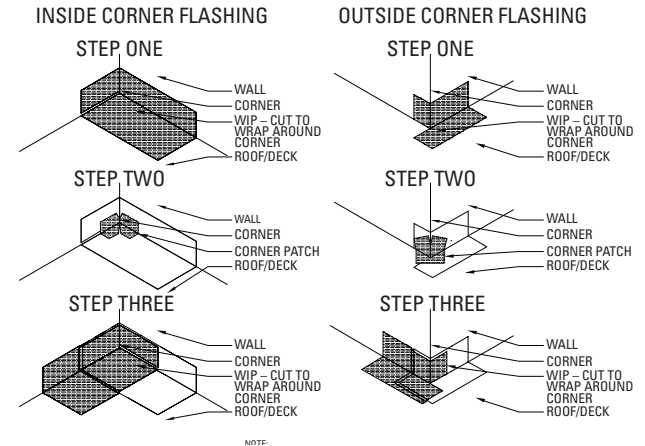
Inside/Outside Corners



NOTE:

- 1) THE SUBSTRATE HAS TO BE CLEAN AND DRY.
- 2) RELEASE PAPER IS REMOVED AT TIME OF INSTALLATION.
- 3) ALL MASONRY OR CONCRETE HAS TO BE PRIMED
- 4) WORK FROM BOTTOM OF SLOPE UP THE ROOF TO FORM WATER SHEDDING LAPS
- 5) MODIFY RELIEF CUTS IN PATCH AS REQUIRED
- 6) COVER ALL EXPOSED FLASHING WITH METAL FLASHING, SIDING OR SHINGLES/ROOF COVERING

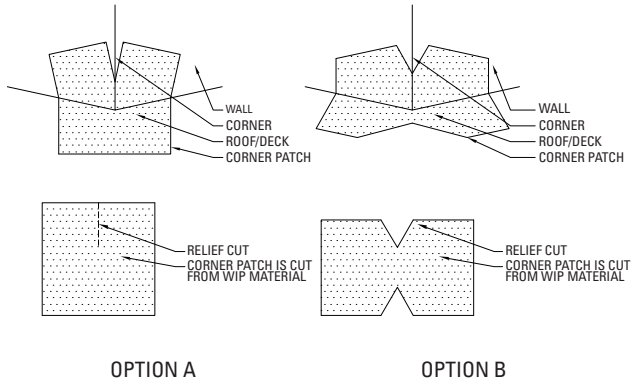
Inside/Outside Corners



NOTE:

- 1) THE SUBSTRATE HAS TO BE CLEAN AND DRY.
- 2) RELEASE PAPER IS REMOVED AT TIME OF INSTALLATION.
- 3) WORK FROM BOTTOM OF SLOPE UP THE ROOF TO FORM WATER SHEDDING LAPS
- 4) MODIFY RELIEF CUTS IN PATCH AS REQUIRED

Corner Patches



NOTE:

- 1) THE SUBSTRATE HAS TO BE CLEAN AND DRY.
- 2) RELEASE PAPER IS REMOVED AT TIME OF INSTALLATION.
- 3) TYPICAL PATCH SIZE IS 6" X 6"
- 4) SEVERE WEATHER CLIMATE TYPICAL PATCH SIZE IS 12" X 12"

Technical Support

In an effort to provide prompt and efficient technical support for our WIP products, please use the following contact information. Submitting requests via email is recommended.

Technical Service Email:

technicalservices@ccw.carlisle.com

Technical Service Line:

888-229-2199

Letter and Detail Request

Timeframe:

Warranties – 1 to 2 weeks

Letters – 24 to 72 hours

Details – 1 to 2 weeks depending on quantity

Required information for request:

- Completed forms
- Project name and address along with applicator name, contact name and address and support info: details, specs, data sheets
- Architectural/engineer detail or hand sketch along with digital pictures of condition

Documentation

Technical data sheets, MSDS, manufacturer's letters, testing reports and all supporting literature for WIP products is available online at www.carlisle residential.com.