

ONDURA® PREMIUM SERIES

Corrugated Asphalt Roofing Sheets

INSTALLATION INSTRUCTIONS



ONDURA® makes installation fast and easy for all types of projects

- Will not rust or corrode
- Installs over solid decking or purlins
- Can be installed over shingles
- Wind resistant to 120 MPH
with improved wind performance installation
- Quieter than metal roofing
- Does not radiate heat or cold
- Lightweight
- No trim and install—no sharp edges
- No special tools required
- Lifetime Limited Warranty

DRAFT



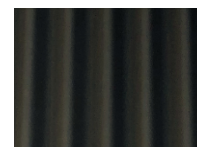
Choice of colors:



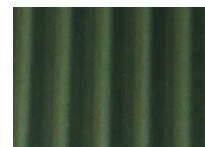
BROWN



RED



BLACK



GREEN







Technical Specifications			
Corrugations	9	10	12
Length (in.)	79		
Width (in.)	34 ¼	39	46
Corrugation Height	1 ½ inches		
Material Thickness	½ inch		
Weight	13 lbs.	14 lbs.	17 lbs.

Half sheets where available are one half the length and weight

Thank you for choosing ONDURA® PREMIUM SERIES for your roofing project
 ONDURA® should be carefully installed. Mistakes during the installation can cause problems later and impact warranty. Please take the time to closely follow these installation guidelines.

COMPONENTS AND ESTIMATING GUIDE FOR ONDURA®

ITEM	ESTIMATING GUIDELINES (inches)		
	9 Corrugations	10 Corrugations	12 Corrugations
 <p>Ondura® Premium Series Panel Available in half panels in select stores and locations. Half panels can work with full panels. For every two half panels used along rake and/or eaves, one full panel is needed for rake length versus full panel estimating.</p>	General Guidelines: $\frac{\text{Total Sq. Ft.}}{100} \times 5.50$ $\frac{\text{Total Sq. Ft.}}{100} \times 5.00$ $\frac{\text{Total Sq. Ft.}}{100} \times 4.25$ <i>Add 10% for safe estimating</i>		
	Simple Project: $\frac{\text{Eave Length} + \text{Rake Length} + 1.5}{34.25 + 74.75}$ $\frac{\text{Eave Length} + \text{Rake Length} + 1.5}{34.25 + 74.75}$ $\frac{\text{Eave Length} + \text{Rake Length} + 1.5}{34.25 + 74.75}$ <i>Panels per facet. Partial panels from one facet may be used on other facets when applicable</i>		
 <p>Ondura® Premium Series Ridge Cap</p>	For All Projects: $\text{Number of Ridges} = \frac{\text{Ridge Length} + 8}{32.50}$		
 <p>Onduline® Fixation</p>	$\text{Fixations} = (\text{Panels} \times 20) + 9$	$\text{Fixations} = (\text{Panels} \times 22) + 10$	$\text{Fixations} = (\text{Panels} \times 26) + 12$
 <p>Ondura® Premium Series Closure Strip</p>			

TOOLS AND MATERIALS

You will need the following tools and materials:

- Drill with 1/4" hex bit
Claw hammer if using Ondura nails
- Utility Knife
- Saw (Hand Saw or Circular Saw)
- Measuring Tape or Yardstick
- Chalk line
- Protective Eyewear and Gloves
- Pencil or Marker

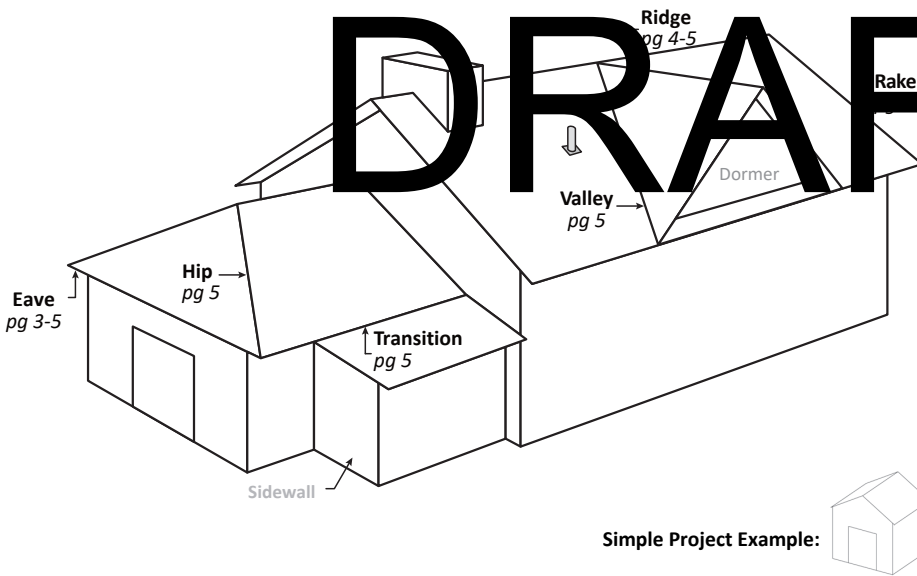
CAUTION

Installation of roofing materials can be dangerous. The relative amount of danger typically increases as the steepness of the roof pitch and the height from the ground. Inclement weather conditions and numerous other factors can also contribute to the relative danger. We strongly recommend that anyone installing ONDURA® or working on a roof in any manner take all possible precautions to ensure their personal safety at all times.

Be sure ladders and other such devices are safely positioned and properly secured. OSHA recommends the use of a safety harness when applying roofing. Protective eyewear is recommended when using power tools and throughout the ONDURA® installation.

ONDURA® may be slippery when wet, dusty, frosty, or oily. Please avoid working or walking on the roof if any of these conditions exist.

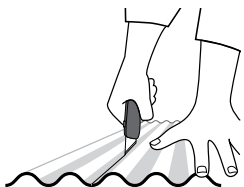
Windy conditions can make the worksite dangerous. We recommend you do not attempt to install ONDURA® during storms, high winds, or other dangerous conditions.



PROJECT PLANNING & REQUIREMENTS

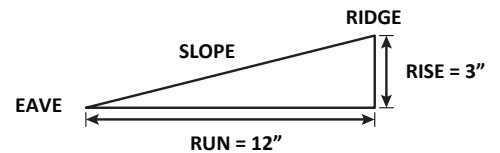
Always review and comply with local building regulations and safety guidelines.

ONDURA® can be installed over most existing roofing, on plywood/OSB, or on purlins depending on slope and snowload. Standard purlin installation is on 24 inch purlins. Lower slopes and higher snowloads should be installed on decking or 12 inch purlins. Adjust fixations accordingly.



ONDURA® may be cut with a utility knife when parallel to the corrugation. Use a hand or circular saw with the colored side down when cutting across the corrugation. For best results, mark with pencil and use lubricating oil as cutting.

MINIMUM SLOPE = 3 : 12



STORAGE:

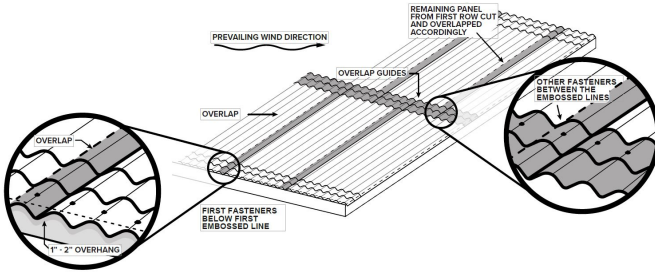
ONDURA® panels must be covered to protect from damage from stagnant rainwater between the sheets. Do not allow stacked sheet to get wet while stored.

INSTALLATION STAGE

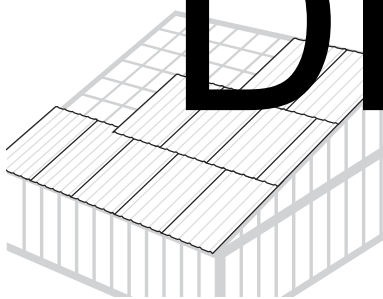
If possible, we recommend placing the first row of ONDURA® sheets on the roof to confirm coverage overlaps before installation of the sheets.

Placement of ONDURA® Sheets

If more than one row of ONDURA® sheets is needed, then the sheets must be installed along the eave first. Then additional rows are installed above the previous row.



For aesthetic reasons, we recommend staggering the position of the corrugation overlap for each row by starting the second row with a sheet that has fewer corrugations. As a general guide, using an ONDURA® sheet cut in half (parallel to corrugation) is typically a good way to begin the second row. Then repeat the pattern with full-width and half-width sheets for each row of the ridge.



Each row should be installed with the first sheet at the opposite end of the roof from the prevailing winds. With this orientation, the seam of the overlap will face away from the prevailing winds. This will reduce the possibility of wind-driven rain getting under the corrugation overlap. If wind-driven rain could come from both directions, then we recommend sealing along the overlap with an elastomeric caulk.

Sheet Alignment

Place first ONDURA® sheet on roof. Align the ONDURA® sheet to the rake edge. Align the eave edge of the ONDURA® sheet to overhang the eave by 1 to 2 inches.

Closure Strip Position

Place closure strips under the ONDURA® sheet with the curved side up to fill the corrugations. The closure strips must be placed where the fixations will be located so that the fixations will securely hold the closure strips in place.

Tip: To help hold closure strip in place, adhere strip to the deck or panel with spray adhesive prior to applying fixation.

Fixation Positioning

Genuine ONDURINE® Fixations are recommended for use on all ONDURA® products. ONDURINE® Fixations are specially designed to seal around the fixation point and are color matched to your roofing panel.

See estimating guide on the previous page for more information about the number of fixations needed for your project.

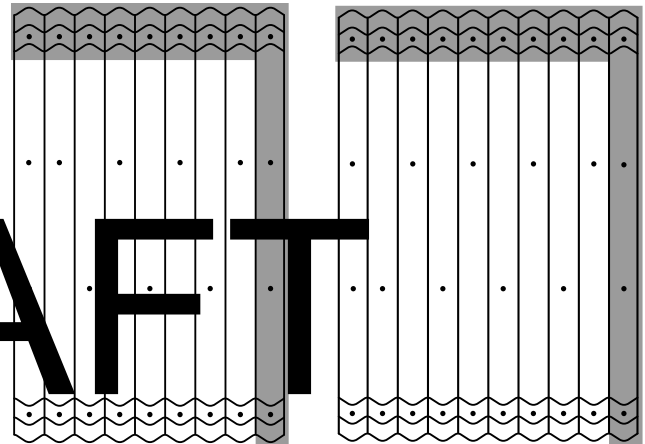
For your concluding row and when overlapping panels, place a fixation in every corrugation.

For overlapping corrugations, place a fixation in the overlapping corrugation for each of the rows of fixations, as shown in the diagrams below.

See example diagrams below. Grey indicates overlap.

Panels with Odd Number of Corrugations

Panels with Even Number of Corrugations



For Odd Number of Corrugations:

1. Place fixation in every corrugation of starting row.
2. In next row of fixations, begin with the first corrugation and alternate corrugations.
3. In next row of fixations, begin with the first corrugation and then place fixations in the corrugations the previous row skipped. Conclude with the last corrugation.
4. Place a fixation in every corrugation of the last row.

For Even Number of Corrugations:

1. Place fixation in every corrugation of starting row.
2. In next row of fixations, begin with the first AND second corrugation. Then alternate corrugations.
3. In next row of fixations, begin with the first corrugation and then place fixations in the corrugations the previous row skipped. Conclude with the last corrugation.
4. Place a fixation in every corrugation of the last row.

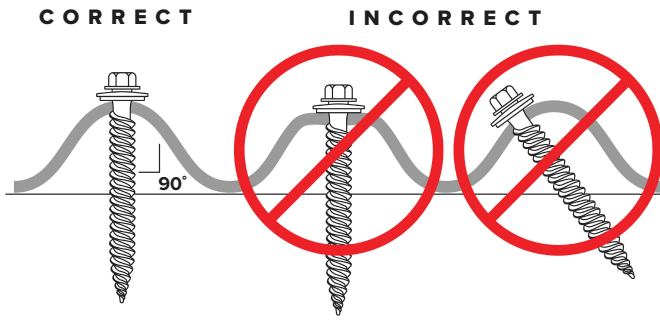
For Half Panels:

- Place fixation in every corrugation of starting row.
- For middle row, follow the instructions for bullet #2 in the sections above for the corresponding panel type.
- Place a fixation in every corrugation of the last row.

Always comply with spacing requirements as described in "Project Planning & Requirements". If additional fixations are necessary, repeat bullets #2 and #3 until reaching the last row.

ONDULINE® Fixation Instructions

Drive ONDULINE® screws only through the crown of the corrugation and always perpendicular to the roof's surface. Be careful not to overdrive the screw. The rubber washer on the screw should snugly contact the panel without dimpling the sheet. When appropriately installed, slight hand pressure on an affixed corrugation should not separate the sheet from contacting the washer.



Install screws on the first sheet along the eave and rake edges.

TIP: For each row of screws, install the first two screws at opposite sides of the sheet to secure it in the proper place. Then use the embossments as a screw guide.

Install screws at remaining positions that are not going to be overlapped by other sheets. See screw guide in Fastener Positioning section on previous page.

Place next piece of ONDURA® on top of:

- The sheets must overlap by at least one corrugation along the direction of the eave.
- The sheets should overlap by aligning the embossment guide following the direction of the rake edge.

Install screws on the next sheet in the same manner as the first sheet.

For the last sheet in a row, install screws in the same pattern as previous sheets and in the final corrugation along the rake edge.

PRO TIP: MAINTENANCE & UPKEEP

Easy Maintenance

ONDURA® panels are easy to maintain. Remove dirt and loose debris from your roof. Using a broom to sweep is one of multiple adequate methods for removing debris.

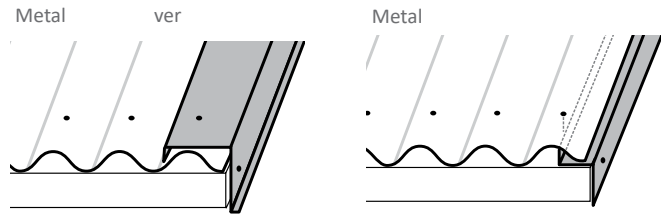
CAUTION:

- DO NOT stand directly on the corrugations
- DO NOT steam or pressure clean your ONDURA® panels

For additional assistance, contact our Customer Service team:
(540) 898-7000

Rake Trim

Finish your rake edge with metal flashing, either over or under the last corrugation edge of the ONDURA® sheet. When using metal flashing under the last corrugation, be careful to avoid fastening through your flashing.



Alternatively, you could use a one corrugation strip from an ONDURA® sheet under the last corrugation edge, or secure the last corrugation directly to a raised rake edge.

Corrugation over raised fascia board edge



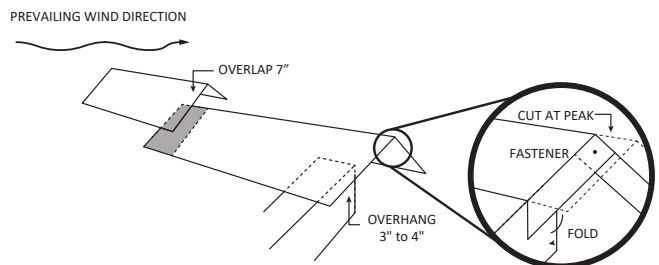
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Ridge Cap

Note: Install all sheets on both sides of the roof before installing the ridge cap.

Measure the ridge to determine the required coverage. Ridge caps are 39.5 inches long. If more than one ridge cap is needed, they must be installed with a 7 inch overlap. The overlap must be over a corrugation so that the overlap is fastened with a screw through the corrugation. For resistance to wind uplift, the exposed end of the ridge cap must be no more than 3 inches from the closest screw position on a corrugation.

Place the first ridge cap at the end of the ridge away from the prevailing wind, allowing for a 3 to 4 inch overhang over the ridge end.



Insert ridge closure strip above ONDURA® panel and below the ridge cap after all ONDURA® panels have been placed. The closure strip must be placed where the fixations will be located to secure the closure strip. The center of the closure strip should be 1 inch above the lowest end of the ridge cap.

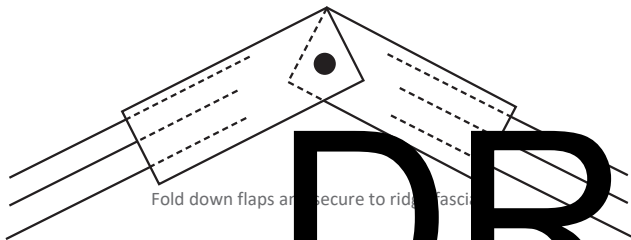
Install fixations through the ridge cap and closure through every crown (top of corrugation) of the underlying ONDURA®. The fixations should be 1 inch above the lower edge of the ridge cap.

If more than one ridge cap is needed align and overlap the ridge cap by 7 inches as shown on the previous page. Ensure at least a 3- to 4-inch overhang on the end of each side of the structure.

If you have excess material at the overhang, where necessary cut the overhang portion of the ridge cap along the crown with a utility knife so that the overhang is between 3 and 4 inches.

Fold down the resulting flaps to act as a weather-guard. Secure flaps to the ridge fascia with ONDURA® fixations.

TIP: The overhang flaps should fold easily in warmer temperatures. For temperatures below 55°F, warm the ridge cap before folding the edge.



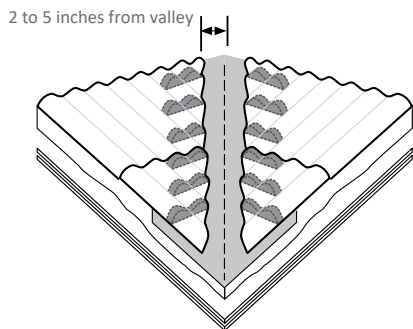
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Congratulations! You have completed the installation of your DURALINE roof.

ADVANCED INSTRUCTIONS

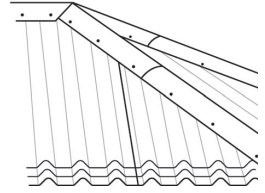
Valley Flashings

For valleys, install a minimum 18-inch wide metal valley flashing. Cut sheets at an angle to fit the valley; then turn over, and on the undersides along the valley edge, caulk two corrugations of the ONDURA® solid closure strip, and place into the corrugation. Then put a ½-inch bead of caulking on the flat side of the solid closure strips and along the corrugation of the sheet between the solid closure strips. Turn sheets right side up, carefully lay in place so caulked closures seat on flashing, and fastener in place at least 12 inches up from the center of valley without puncturing the metal flashing.



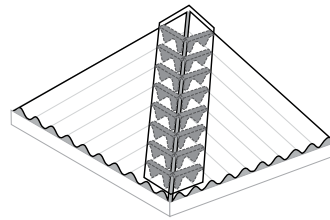
Handling Hips

For hips, sheets from either side must meet to support hip cover. To cover the hip, use an ONDURA® Ridge Cap.



Framing should be in place beneath and near enough to the upper ends of the screws securing the hip cover.

Snap chalk lines on each side of the hip to mark the area of the hip cover. See diagrams.

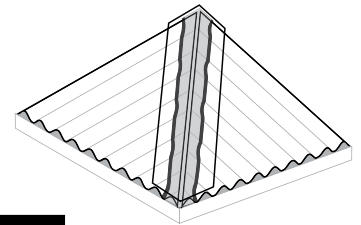


Closure Strips (left):

Cut one hip section or two corrugations from the ONDURA® closure strip. Attach to the top side of the ONDURA® sheet with rubberized elastomeric flashing cement/caulk. Install with 7-inch end laps.

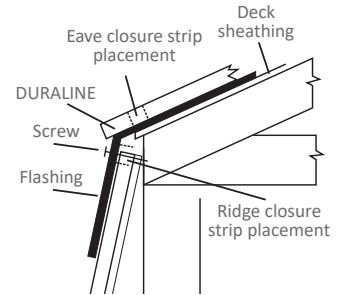
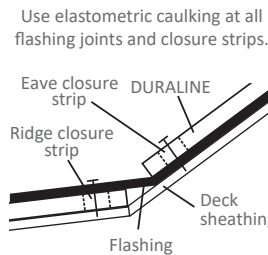
Ondulair Slim (right):

Seal top with Ondulair Slim flashing. Then install the hip cover with 7-inch end laps over the flashing.



Slope Changes

Flashing width should increase as slope differences increase or when the water buildup on the lower slope can be substantial.



Wall Flashing

See the examples below for when ONDURA® panels meet a wall.

