



Ambara®
Installation Guide



GRADING

Nova's Ambara® siding is A & Better Clear. These are equivalent to the highest grades of Western Red Cedar.

PATTERN SELECTION

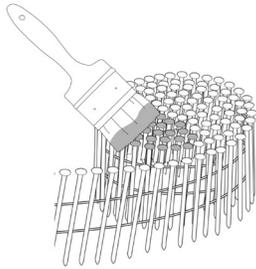
Ambara® is available in a wide range of patterns including T&G, Shiplap, Beveled, Nickel Gap, and Rainscreen. Ambara® can be milled to custom patterns for any siding project.

STORAGE & HANDLING

Stack Ambara® siding at least 3" above the ground using 2x4 or 2x6 boards spaced no more than 4' on center. Boards should be stacked flatly in an area where there will be adequate air flow. During storage, ensure boards are not exposed to moisture or direct sunlight.

FINISH SIDING PRIOR TO INSTALLATION:

Nova recommends applying a finish to all sides of Ambara® siding boards prior to installation. Finishing Ambara® siding boards will help protect the wood from UV degradation. Regular maintenance coats of finish are recommended if you do not want the wood to gray/silver over time. Nova recommends oil/water-based stains and paints for Ambara® siding. For the best results, ensure that the manufacturer's application instructions are followed. Questions regarding application instructions should be directed to the finish manufacturer.



Tip: Prestaining your nail heads will save time and effort when it comes to the touchup process.

FIELD CUTS

A clear wood end-wax/sealer or a high quality alkyd oil primer should be applied as soon as possible to any cuts made in the field or during installation. This will help prevent the ends from splitting, checking and wicking moisture over time.

MOISTURE BARRIER

Ambara® siding should be installed over a weather-resistant barrier regardless of the sheathing used. A weather-resistant barrier is a vapor-permeable sheathing house wrap that blocks condensed water but allows water vapor to pass through the house wrap. We recommend Benjamin Obdyke's HydroGap® which also acts as a drainage plane behind the siding boards.

CAULKING

Employ exterior grade high-performance acrylic-latex, silicone, acrylic, or urethane caulking/sealants to close gaps surrounding windows, doors, corners and other exterior connections prone to moisture ingress. Do not caulk where flashing and trim conjoin.

Caulking is not a permanent solution. Ensure that caulking and sealant is inspected and maintained regularly. Failure to maintain the caulked area could lead to serious moisture-related issues.

FASTENING AMBARA® SIDING

Stainless steel fasteners, regardless of type (screw, nail, staple), are required for exterior and interior applications. 304 grade stainless steel is adequate for most uses other than marine/coastal environments which require the use of 316 stainless steel to prevent corrosion from salt air. For best practices employ "splitless" ring shank or spiral siding nails with textured head to reduce visibility. Fasteners should be installed through sheathing, into studs or blocking at typical 16" on center and maximum of 24" on center. Fasteners must penetrate 1-1/4" (32mm) minimum into solid wood. Fastener heads should sit flush with the surface in order to avoid splitting of the wood. PSI shall be determined in the field as this will vary based on factors such as stud/blocking species, stud/blocking/moisture content, number of guns used etc.

Fasteners can be installed through the tongue to eliminate exposed heads. To ensure nailing accuracy, run chalk lines to mark framing/stud locations. Larger nails can distort the wood and cause splitting. At corners, near edges and near ends, nail holes may need to be pre-drilled to avoid splitting. We do not recommend mitered corners; use standard corner boards in 1x4 or 5/4x4 material. Refer to Table 1. for recommended fasteners.

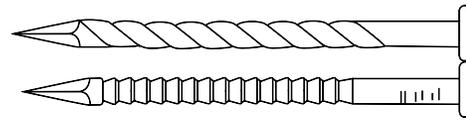


TABLE 1, FASTENER SIZE VS. SIDING GEOMETRY

Siding Geometry	Nominal	Spiral/Ring Shank
Bevel	1/2	2 (6d)
	5/8	2 (6d)
	3/4	2-1/4 (7d)
	7/8 to 15/16	3 (10d)
Boards, T&G and Lap	5/4	3 (10d)
	5/8	2 (6d)
	3/4	2 (6d)
	7/8	2-1/4 (7d)

ADHESIVES

For field applications employ commercially available adhesives such as PU (Polyurethane) or STP (Silane-Terminated Polymer). Do not use PVA (Polyvinyl acetate) adhesives such as Titebond® as they have been found to demonstrate poor bond performance on Ambara®.

BOARD SPACING

Ambara® is an incredibly stable product with less than 1% movement in thickness and width, but it is best to install siding with a small gap between boards to allow for any potential swelling that may occur. Use 1/16" edge-to-edge spacing for 1x4 siding, and 1/8" for 1x6 and wider. Ambara® will not shrink or swell significantly in length. No gapping is necessary between board ends.

VERTICAL APPLICATIONS

When installing Ambara® siding vertically, horizontal furring strips must be installed at a maximum of 24" on center. Use 1x2" furring strips for plywood/OSB sheathing, use 2x2" furring strips for masonry walls.

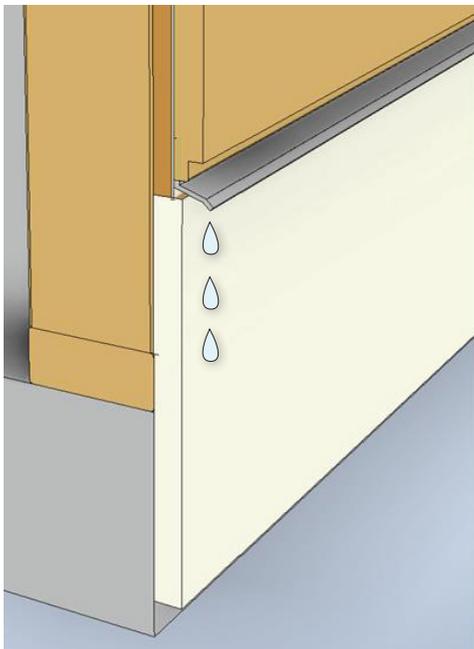
INSECT PREVENTION

Despite popular belief, thermally modified wood is susceptible to insect attacks including termites and carpenter bees. Therefore, it is highly advisable to implement control measures when building a home or other structure employing Ambara®. For best practices in regions prone to termite and other forms of insect attack Nova recommends the following:

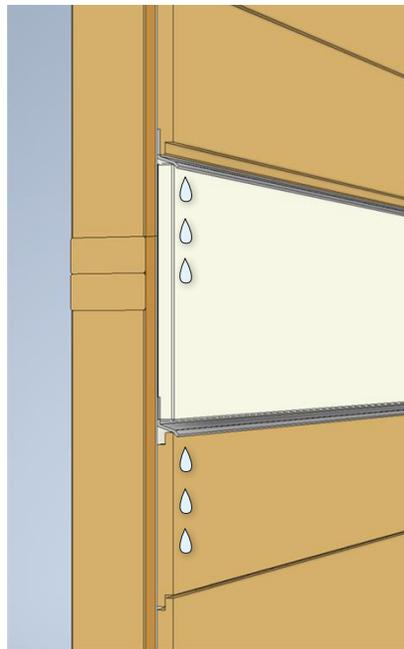
- Install siding at least six inches above the soil to reduce entry points.
- Slope soil away from the foundation to create proper drainage.
- Do not bury cellulose materials (e.g. termite food sources like wood) at the building site.
- Pretreat all sides with a properly diluted borate-based product such as Bora-Care™ and seal with a water-resistant finish.
- It is important to allow Bora-Care-treated wood to **completely dry** (at least 48 hours) before applying a finish.
- Ensure that Ambara is fully dry by coating a small section of treated wood with the finish to be used and check for compatibility prior to complete application. Apply the finish within 6 weeks of treatment.
- Consult a professional exterminator and follow all local and national building codes.

FLASHING

The purpose of flashing window and door headers is to intercept water before it gets behind the siding, directing liquid water to the outside of the wall. Flashing will also redirect water flowing down the face of the wall so that it does not get behind the siding. Before installing siding, make sure that flashing is installed to prevent moisture from entering wall and roof spaces. Flashing is an important line of defense in controlling moisture in wall assemblies. Flashing intercepts and directs the flow of water away from the building to designed drainage paths. Install horizontal flashing extending from the top of all wall penetrations (i.e. all windows and doors) and at any material directional change (i.e. band boards, water tables or the introduction of any alternative material). Flashing should tilt downward 30 degrees to allow water to drain away from the wall. Siding or trim should be ¼ inch above the flashing ledge. Do not caulk where the flashing and trim or other materials meet. Note that caulking in lieu of flashing is never acceptable.



GROUND LEVEL WATER TABLE



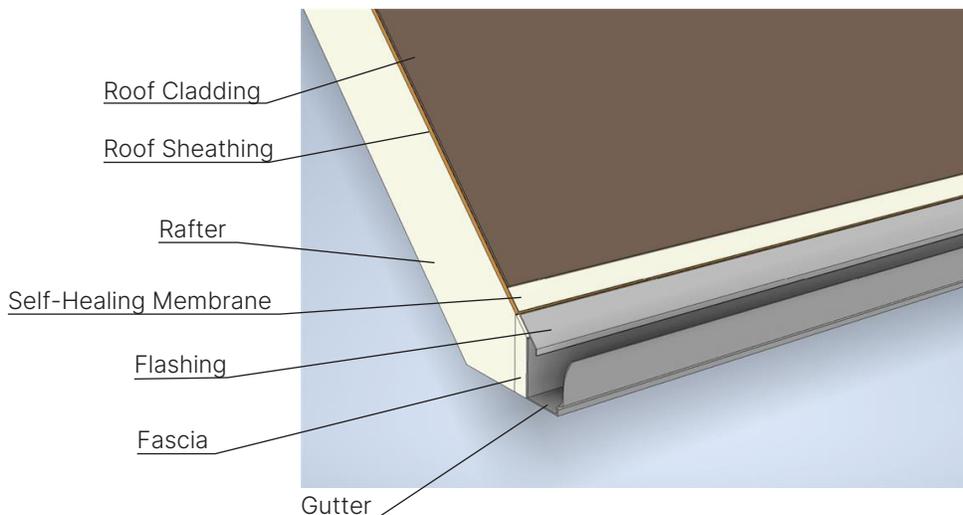
SECOND STORY BANDBOARD

FASCIA AT ROOF EDGE

Fascia flashing provides protection for soffit and the fascia board behind the gutter. Employ gutters to catch and divert liquid water down and away from the exterior wall.

ROOF AND GROUND CLEARANCE

Siding and trim boards that run down to a roof (gables, dormers, second floors, etc.) or deck shall have a minimum of a 2" gap to mitigate moisture wicking. Trim, such as water tables or skirt boards must be a minimum of 6 inches above the grade.



INSTALLING BEVEL SIDING

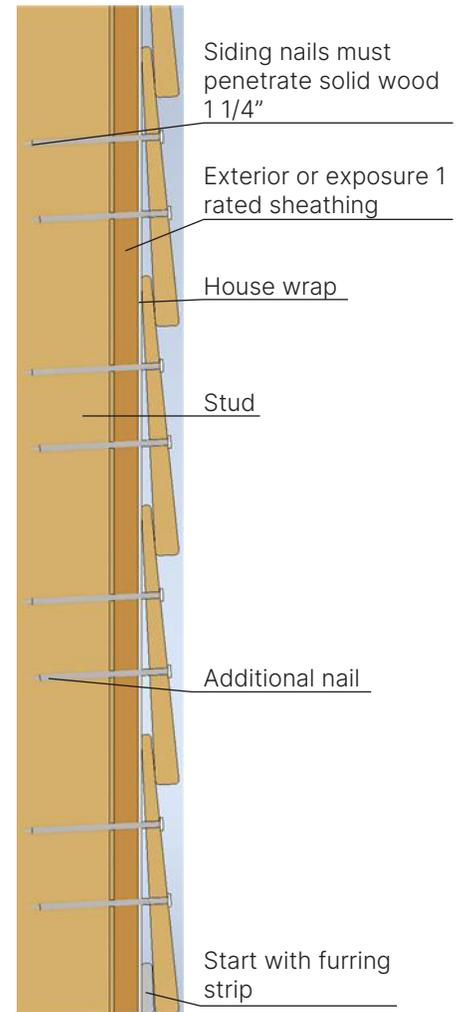
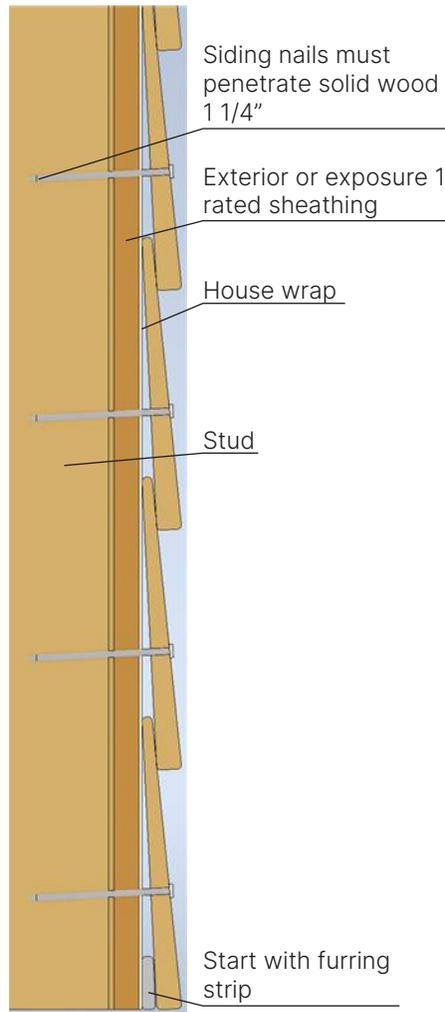
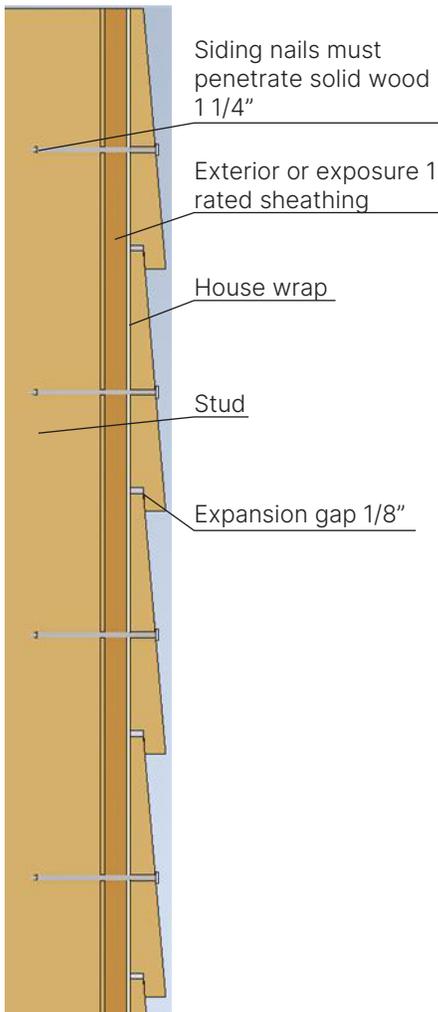
Spacing for beveled siding should be laid out beforehand. For 1×4, 1×6 and 1×8 use a minimum 1" overlap during installation. Reducing the recommended overlap on beveled siding could result in damage from wind-driven water.

Start with the bottom course of siding using a furring strip to support the lower edge of the beveled board. Using the overlap recommendation from above, install the following courses of siding with the appropriate overlap. Rabbeted patterns are self-spacing, but make sure to leave a 1/16" or 1/8" expansion gap depending on the width of the siding boards.

Bevel siding should be nailed to studs with a minimum of 1-1/4" penetration into solid wood using one nail spaced at a maximum of 24" on center. Place the nail just above the overlap. 6" and narrower siding that is exposed to hot, dry and wind-prone environments shall be fastened with an additional nail. Ensure nails penetrate a minimum of 1-1/4" into a solid wood stud. Do not nail where the two pieces overlap each other. The key principle is to allow the siding to move naturally in width over time. Refer to Table 2. for recommended overlap.

TABLE 2, RECOMMENDED OVERLAP

Nominal Width (in.)	Overlap(in.)
4	1
6	1
8	1 to 1-1/8
10	1 to 1-1/2
12	1 to 2

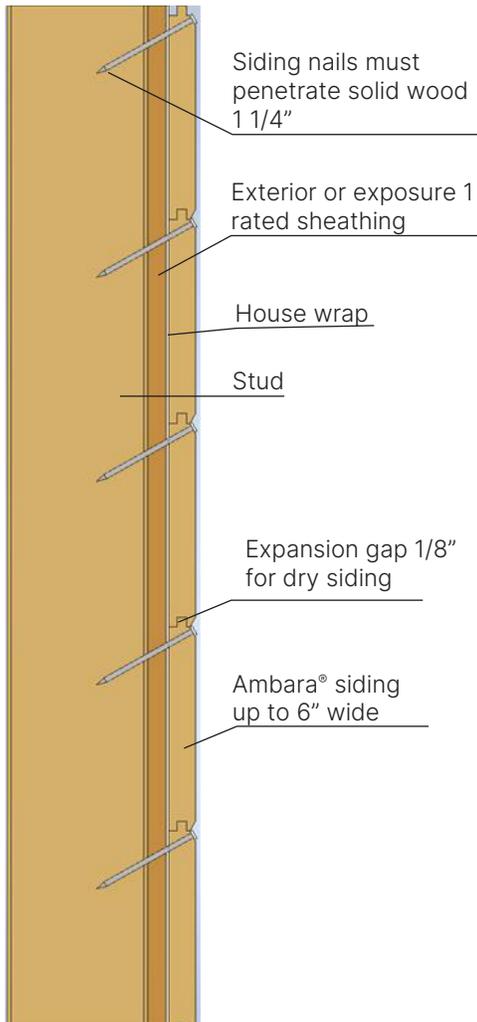


6" or narrower siding in hot, dry, wind-prone environments (eg. coastal regions)

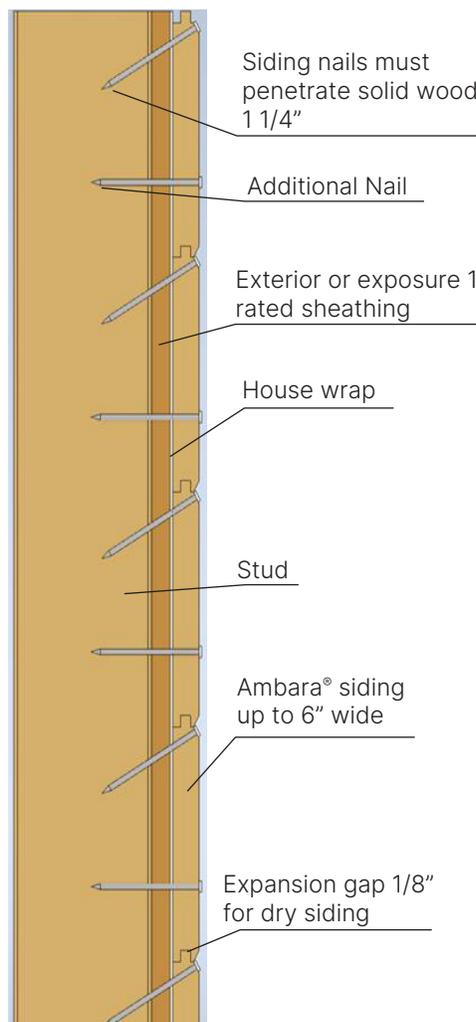
INSTALLING TONGUE AND GROOVE SIDING

Tongue and Groove Ambara® siding can be installed horizontally or vertically. When installing horizontally, start at the bottom of the wall and work your way upward with the grooved edge facing downwards. Siding up to 6" wide can be blind nailed with one nail per stud toe-nailed through the bottom of the tongue. 6" and narrower siding that is exposed to hot, dry and wind-prone environments shall be fastened with an additional nail. Ensure nails penetrate a minimum of 1-1/4" into a solid wood stud.

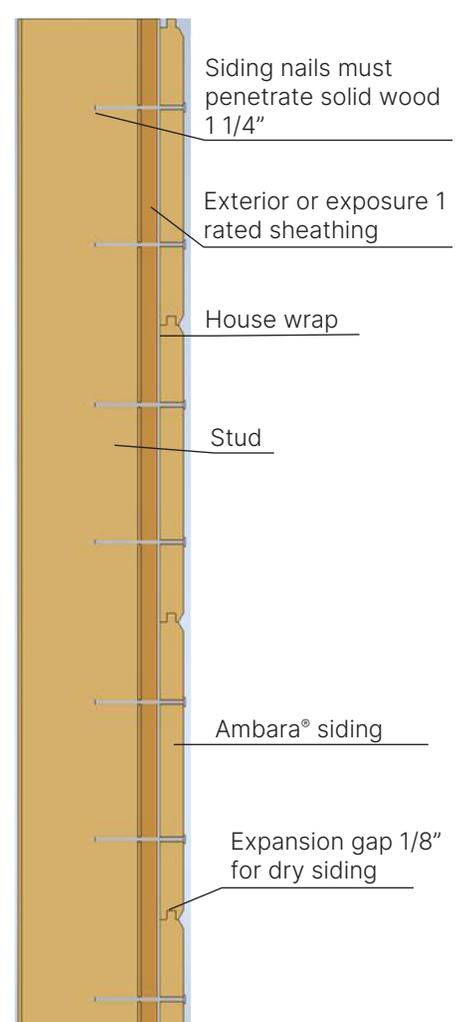
In vertical applications, start at one corner with the grooved edge facing the adjacent wall. Use a level or plumb line to ensure the first board is installed perfectly straight. The grooved edge of the first board may have to be trimmed to ensure a flush fit. Vertical siding must be nailed to horizontal blocking installed between studs or into furring strips.



6" and narrower siding in normal climatic conditions



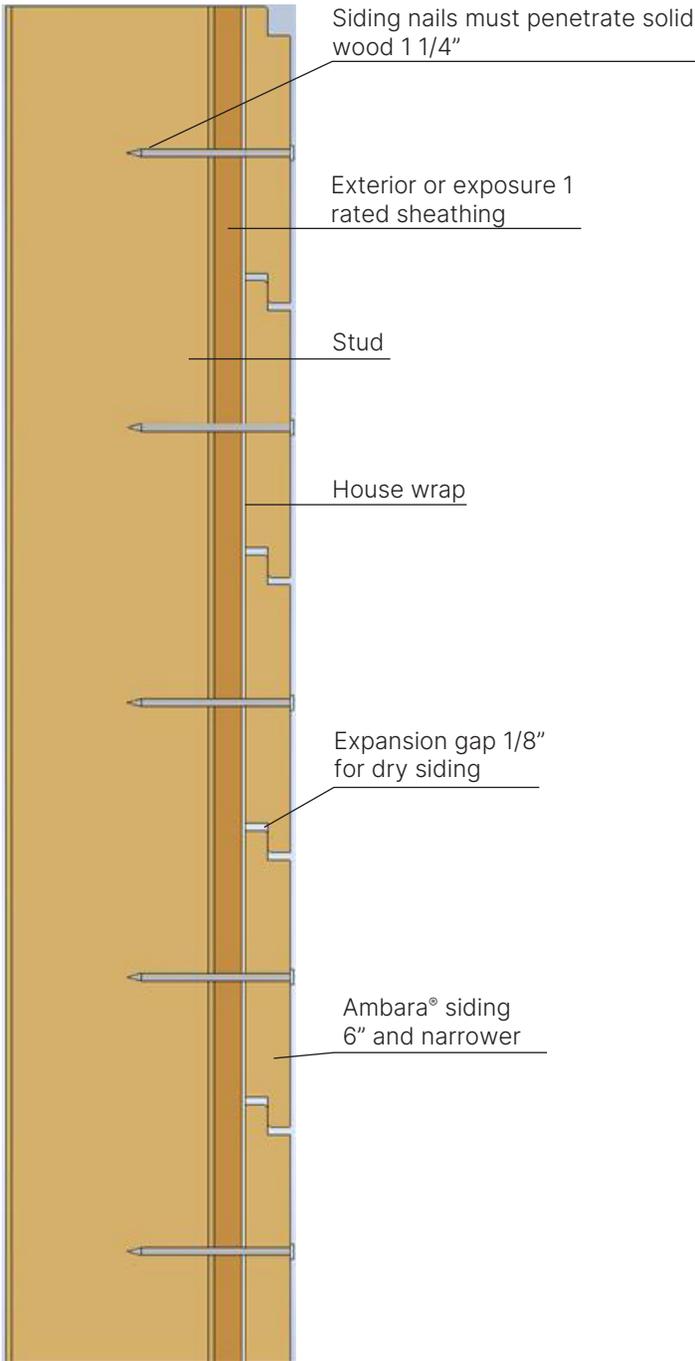
6" or narrower siding in hot, dry, wind-prone environments (eg. coastal regions)



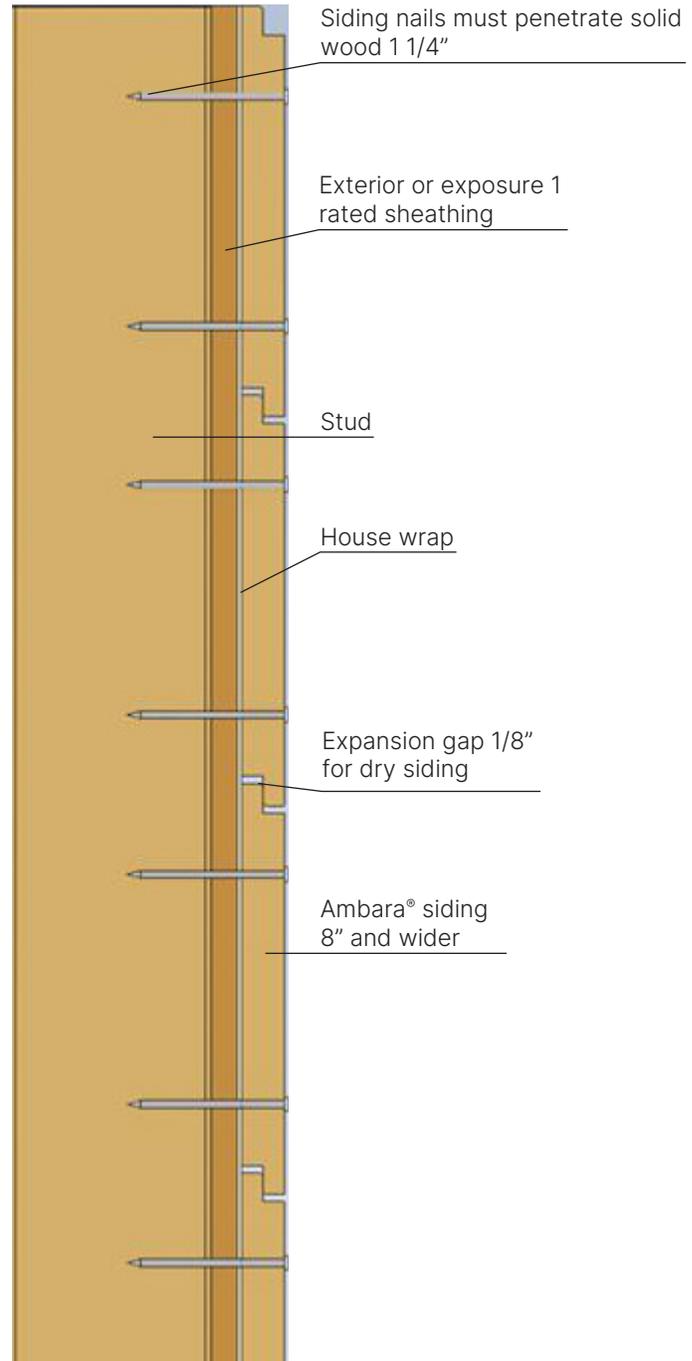
Ambara siding 8" or wider

INSTALLING LAP SIDING

Lap siding can also be installed horizontally or vertically. For horizontal applications, start with the bottom course of siding and work your way up with the channels pointing upwards. When installing lap siding, make sure to leave at least a 1/16" expansion gap between 1×4 boards and at least 1/8" expansion gap for boards wider than 6". When installing lap siding, always nail through the face. For 1×4 and 1×6 siding, use one nail per stud placed at least 1" above the bottom of the boards. For 1×8 siding, use 2 nails for each stud spaced 2-1/2" to 3" apart from one another, align vertically. For vertical applications of lap siding, the boards must be installed into horizontal blocking between studs or furring strips.



6" and narrower lap siding

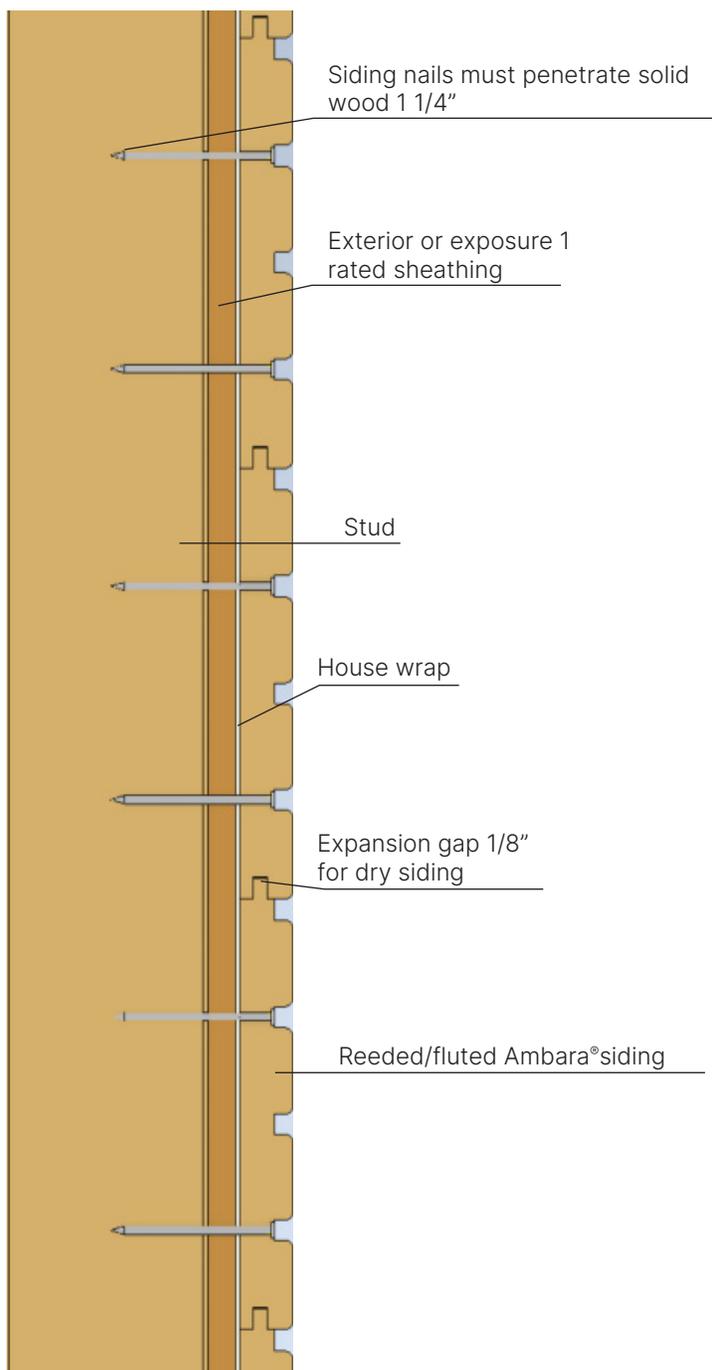


8" and wider lap siding

INSTALLING REEDED/FLUTED SIDING

Reeded and fluted T&G Ambara® siding can be installed horizontally or vertically. When installing horizontally, start at the bottom of the wall and work your way upward with the grooved edge facing downwards. Siding up to 6" wide can be blind nailed with one nail per stud toe-nailed through the bottom of the tongue. 6" and narrower siding that is exposed to hot, dry and wind-prone environments shall be fastened with an additional nail. Ensure nails penetrate a minimum of 1-1/4" into a solid wood stud.

In vertical applications, start at one corner with the grooved edge facing the adjacent wall. Use a level or plumb line to ensure the first board is installed perfectly straight. The grooved edge of the first board may have to be trimmed to ensure a flush fit. Vertical siding must be nailed to horizontal blocking installed between studs or into furring strips.



INSTALLING RAINSCREEN SIDING

Rainscreen systems offer many benefits over conventional wood siding systems. Improvements in thermal efficiency or insulation, and moisture control, as well as longer durability are the key benefits of using a Rainscreen siding solution. Rainscreen systems typically have a 3/4" air gap between the structure and the siding itself, typically created by using a clip system such as Nova's QuickClip® or by running furring strips perpendicular to the siding boards.

Please see Nova's in-depth rainscreen siding installation document covering proper installation using Nova's QuickClip® rainscreen clips:

https://www.novausawood.com/PDFs/Nova_ExoClad_QuickClip_Rainscreen_Siding_System_Installation.pdf

FIELD JOINTS

When butt jointing siding, cut ends at 45-degree angles to form an overlapping joint. This is particularly important in vertical installations. Ensure the cuts bevel down and away from the structure to help keep moisture from getting behind the siding. Ensure that all joints meet on studs, blocking or furring strips and that fasteners penetrate at least 1" into solid wood studs or furring strips.

OUTSIDE AND INSIDE CORNERS

We do not recommend mitered corners for Ambara® nor for any other species of hardwood or softwood. Although mitered corners look very clean and professional when first installed, they rarely hold up well over the years. When assembled with nails, mitered corners will still gradually work the fasteners loose over time.

We recommend standard 1×4 or 5/4×4 corner boards, which are the most popular, easiest, and most reliable way to construct corners. Corner boards can be installed directly onto the sheathing with the siding cut to fit tightly against the corner board. When installing directly to the sheathing, use caulking inside the gap between the siding and corner board. Corner boards can also be installed on top of the siding itself. The corner boards and the ends of the siding should be nailed to the corner studs, which anchor the wood for a maintenance-free joint.

DISCLAIMER

Follow all local and national building codes whenever installing Nova Ambara™ siding.

AMBARA® SIDING INSTALLATION TIPS

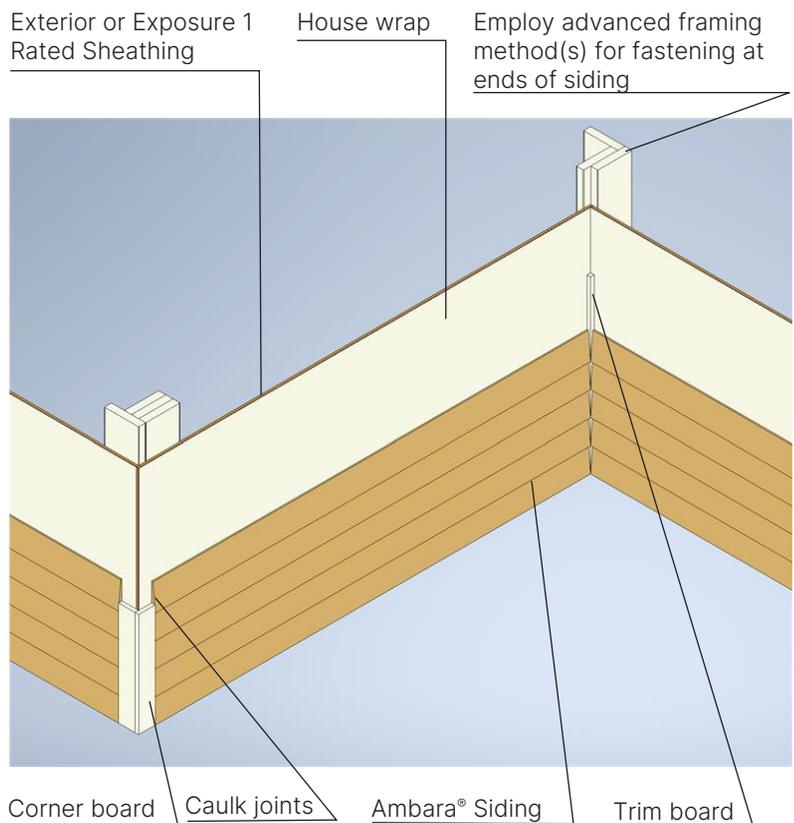
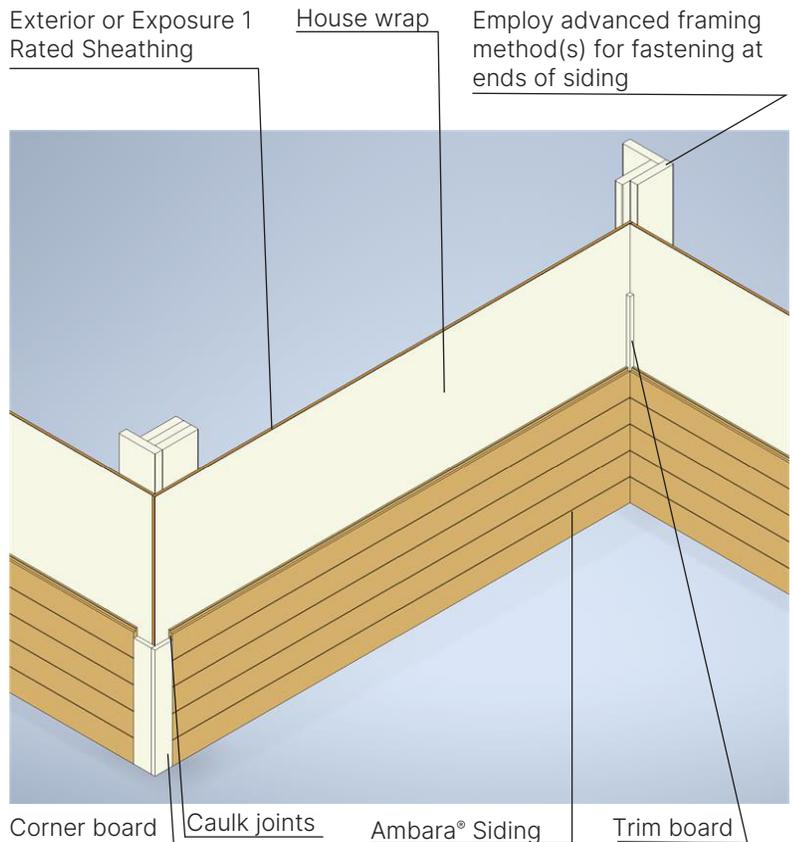
Ambara® siding should be installed by recognized and licensed professionals.

DO:

- Follow local and national building codes.
- Follow Ambara® siding guidelines.
- Cover siding boards with an opaque membrane prior to installation.
- Finish prior to installation for UV resistance.
- Employ 304 or 316 grade stainless steel fasteners.
- Fasten into solid wood.
- Fasten nail/screw heads flush to the siding surface.
- Inspect caulking.
- Seal field cuts.

DO NOT:

- Allow Ambara® to weather before applying finish.
- Utilize Ambara® for load-bearing purposes.
- Fasten through two layers of siding.
- Fasten solely to sheathing.
- Install, finish or paint over wet siding.
- Use caulking where flashing and trim conjoin.
- Use caulking as a replacement for flashing.
- Cover segments of siding with tarps, signs etc. as this result in uneven fading.



For Most Recent Version

