



CANYON LUMBER - PRODUCT - ENGINEERED SIDING/PANELLING **INSTALLATION GUIDE**

Product is suitable for both interior and exterior installations.

EXTERIOR ENVELOPE - MOISTURE MANAGEMENT

Local and National Building Codes should be followed to design and build a structure that controls and manages moisture infiltration. The exterior envelope components **MUST:**

- be installed to shed water and prevent pooling of water;
- be designed to minimize water ingress by sealing and flashing (sealant is not a substitute for flashing); and
- utilize a rainscreen wall assembly (an airspace between the water resistive barrier and the back of the siding and trim) in certain 'Exposure Zones' (Refer to: pgs. 3-4, Figure 1). A rainscreen assembly allows water that has penetrated the first layer of protection (the trim and siding) to effectively drain out and away from the structure.

THE EXTERIOR WALL ASSEMBLY OF A BUILDING IS A SERIES OF COMPONENTS THAT, TOGETHER, CREATE A SYSTEM. BEST PERFORMANCE OF THE EXTERIOR WALL ASSEMBLY SYSTEM DEPENDS ON EACH COMPONENT BEING INSTALLED CORRECTLY WITH THE CONSIDERATION OF LOCAL ENVIRONMENTAL CONDITIONS, BUILDING CODES AND PRODUCT AND MATERIAL LIMITATIONS. PERFORMANCE OF THIS SYSTEM IS THE RESPONSIBILITY OF THE ARCHITECT AND INSTALLER AND NOT THE MANUFACTURER OF THE BUILDING MATERIALS. CANYON LUMBER ASSUMES NO RESPONSIBILITY FOR WATER PENETRATION INTO OR BEYOND THE EXTERIOR WALL ASSEMBLY.

Canyon Lumber has manufactured Product (the "Product") to the highest standards to ensure long term durability and a high aesthetic value throughout the Product's service life. Please adhere to this Installation Guide to obtain the maximum performance from your Canyon Lumber - Product - Engineered Western Red Cedar Siding/Panelling and to maintain the Canyon Lumber 10 Year Limited Warranty on the Product.

DO NOT!

- DO NOT use this Product for structural support purposes
- DO NOT install Product closer than 6" to grade or 2" from decks, patios, concrete and/or roofs
- DO NOT allow Product to be in contact with the ground
- DO NOT allow sprinklers to regularly wet the Product
- DO NOT install Product in a manner that allows water to pool against or behind it
- DO NOT substitute caulking or sealant for flashing
- DO NOT install or apply finish to Product with a moisture content greater than 15%
- DO NOT assume your installer knows how to properly install this Product

DO!

- Print and distribute this Installation Guide to your installation crew at project commencement
- Adhere strictly to the Installation Guide
- Follow all applicable local, National and International Building Code requirements
- Strive for a "best practice" installation
- Coat all end grain or surfaces exposed by jobsite field cuts with an exterior stain or primer
- Follow coating/paint manufacturers written instructions when applying finish
- Install diverter flashings (kick-outs) on roofs to prevent water loading of walls

Before You Begin



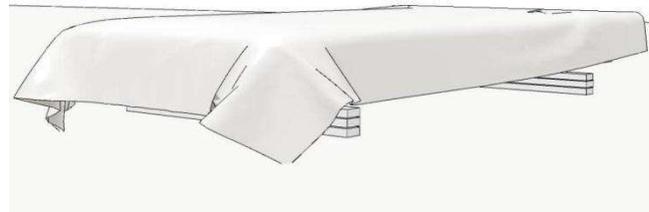
Confirm you have purchased the appropriate product for your application and inspect the material for any defects. If any material is found to be unsatisfactory, DO NOT INSTALL IT, instead, call Canyon Lumber at 250-763-3400 to obtain replacement Product.

****NOTICE - INSTALLATION OF THE PRODUCT CONSTITUTES ACCEPTANCE OF THE CONDITION OF THE PRODUCT****

Canyon Lumber's goal is to surpass expectations for Product quality and customer service. Contact us at 250-763-3400, www.Canyonlumber.com or email: info@Canyonlumber.com with any questions or concerns.

Storage and Handling

- Handle the Product carefully to avoid damage.
- Always protect the Product from the weather, direct sunlight, water saturation and dirt by storing the uninstalled Product in an enclosed building or under a waterproof cover.
- If a waterproof cover is used, do not seal the bundle to allow air circulation and acclimatization to the jobsite.
- Store the Product flat (do not allow the center of the stack to sag) and at least 4" off the ground on stringers to prevent moisture absorption.



Moisture Content and Acclimatization

Product is manufactured from natural Western Red Cedar that, like every wood product, will shrink and expand in width due to changes in moisture content. **It is imperative to allow the Product to acclimatize to the jobsite prior to installation:**

- **Exterior installation:** the uninstalled material must be protected from liquid water and have adequate air circulation to the stack until the Product has reached the equilibrium moisture content (EMC) for the region.
- **Interior installation:** store the uninstalled material **for at least 5 days** in the environment in which it will be installed. Prevent exposure of the stored Product to high humidity levels that come with some stages of construction such as painting or drywall mudding.

DO NOT INSTALL THE PRODUCT WITH GREATER THAN 15% MOISTURE CONTENT

USE A MOISTURE METER AND INTERPRET THE READINGS WITH RESPECT TO THE TIME OF YEAR AND CLIMATIC CONDITIONS TO ACHIEVE AN OPTIMAL INSTALLATION

An Example: You are installing Product on an exterior wall during a particularly hot and dry summer in California. Your moisture meter has an average reading of 8% moisture content, so you must leave a 1/16" gap between successive courses to allow the Product to expand due to the higher relative humidity (RH) and corresponding higher moisture content in the winter months.

Finishes for Siding



Canyon Lumber recommends the application of an exterior rated finish to all sides of the Product prior to installation as a best practice. Always follow the coating manufacturer's application instructions.

****ALWAYS ENSURE THAT END GRAIN IS COATED PRIOR TO INSTALLATION, INCLUDING JOBSITE CUTS****

The aesthetics and service life of any coating or finish is directly dependent on the quality of the coating being applied and the quality of the preparation and application. A professional factory finish application will generally provide the best results. As with any planed wood product, lightly sanding the material prior to finish application is important to maximize coating adhesion. Always ensure the surface to be painted is free of dust, dirt or mildew.

BACK-PRIMING (COATING THE BACK SIDE) WITH AN EXTERIOR STAIN OR PRIMER, PRIOR TO INSTALLATION, REDUCES CUPPING AND WARPING OF SIDING AND EXTENDS THE SERVICE LIFE OF THE EXTERIOR TOP COAT

The Western Red Cedar Lumber Association has provided an excellent resource on finishing, available at <http://www.realcedar.com/siding/finishing/>

Exterior Wall Assembly Construction

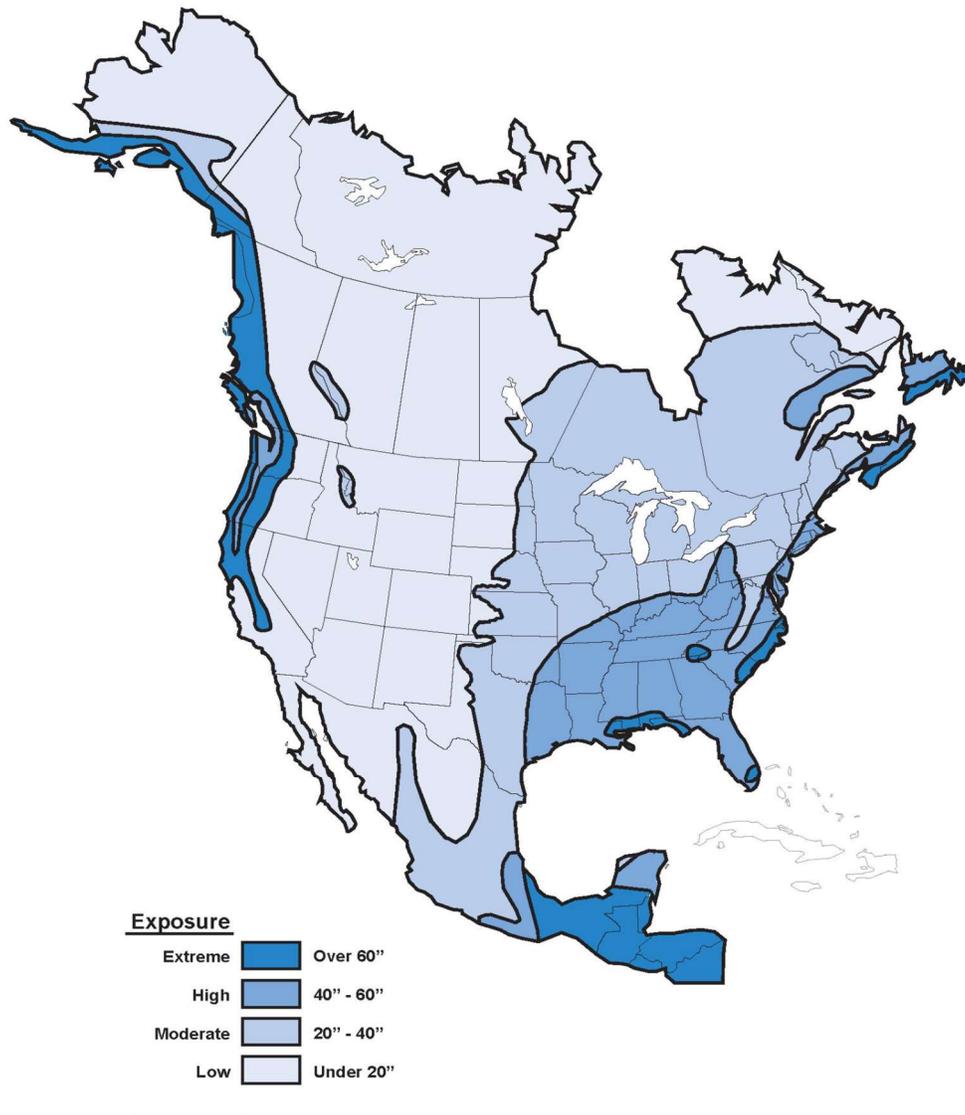
When installing this Product, adhere to the following International Building Code requirements for exterior wall assembly construction:

(Note: this is not an exhaustive list but is provided as a guide and there ARE some exceptions.)

- a water-resistive barrier is required behind the exterior veneer;
- a means of draining water that has entered the assembly, to the exterior, is required;
- continuous flashing must be installed above all projecting wood trim;
- doors and windows must be installed in accordance with the manufacturer's installation instructions.

Rainscreen Construction:

To prevent water from collecting within the exterior wall assembly, to promote drying of siding and trim products and to maximize the performance of exterior wall assembly materials and coatings, Canyon Lumber **requires** rainscreen wall construction in certain 'Exposure Zones' (Refer to: Figure 1 below) when installing Product.



* Based on information from the U.S. Department of Agriculture and Environment Canada

Figure 1: Rain Exposure Zones – Based on annual precipitation from the U.S. Department of Agriculture and Environment Canada (Lstiburek, J.W.; Environmental Loads, Eight Canadian Building Science Technology Conference, CSCE, February 2000).

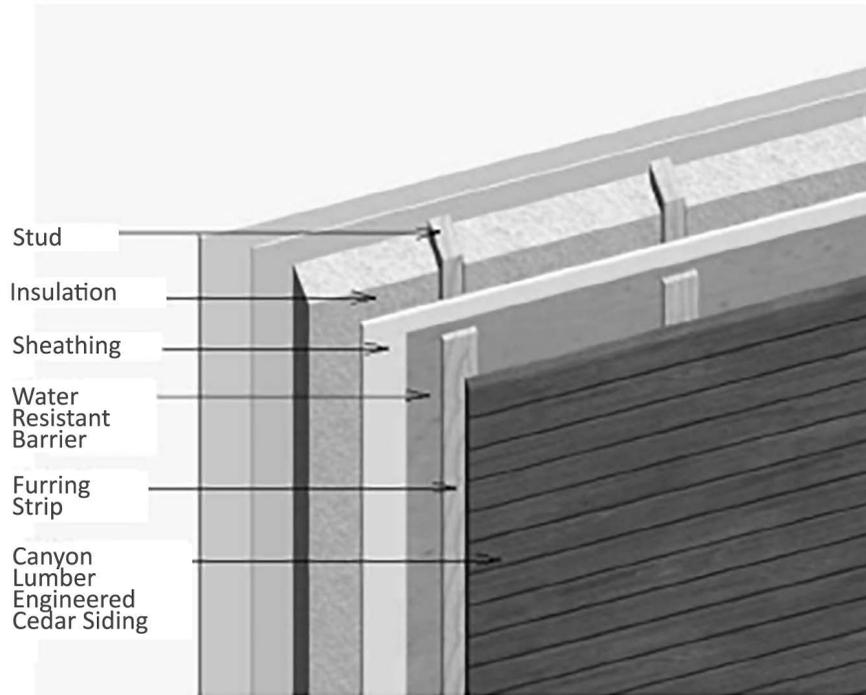
Rainscreen wall assembly:

- **is required** in all Exposure Zones that receive 20" (twenty inches) or greater in annual expected precipitation; and
- **is highly recommended** in low precipitation Exposure Zones.

To achieve a rainscreen wall assembly, follow these general principles:

- install vertical furring strips over the water resistive barrier (WRB), directly over the studs;
- fasten the siding over the vertical furring strips; and
- ensure that all 3rd party materials are installed in accordance with the manufacturer's instructions and building code requirements.

Note: there are 3-dimensional "drainage mat" type products available in the marketplace that also provide a means for water to drain behind exterior cladding.



Vertical Siding - Installation Note:

If horizontal furring strips are used for a vertical siding installation, 2" drainage slots are required every 18" on the back of the furring strips. Ensure that the horizontal furring strips provide an adequate 1 ¼" nailing base in combination with the sheathing. A 3-dimensional drainage mat product is preferred for vertical siding orientation.

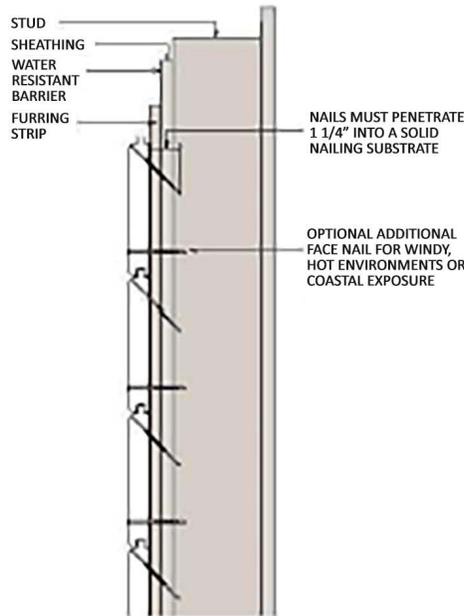
Rigid Foam Sheathing - Installation Note:

Rigid foam sheathing does not have adequate nail holding capacity. Adjustments to the design and construction of the exterior wall assembly are needed to achieve a suitable nailing base. Furring strips are imperative to create an airspace between the back of the siding and the rigid foam sheathing. Siding installed directly on top of rigid foam sheathing can result in moisture accumulation between the two materials and may result in damage.

Fasteners and Fastening Requirements

- **Use stainless steel, ring or spiral shank nails** to prevent rust stains on the Product or fastener failure. These fasteners have a blunt point to prevent splitting and provide excellent holding power. **Use No. 304** stainless for general installations and **No. 316** stainless for coastal installations.
- **Drive nails flush with the surface of the material.** When using a pneumatic nail gun, use a flush nailing device to prevent overdriven nails.
- **Overdriven nails must be filled with exterior wood putty.** When a transparent or semi-transparent finish is going to be used, flush nailing is important as wood putty may not match the natural cedar grain.
- **Siding/panelling can be face nailed or blind nailed** (on an angle through the tongue). When blind nailing in windy environments, hot environments or coastal exposures, an additional nail is recommended (through the face, 1" from the bottom of the board in adherence with all other fastener and fastening requirements).

- **Nails are to be spaced a maximum of 24" on center.**



FASTENERS MUST PROVIDE 1 ¼" PENETRATION INTO A SOLID, NAILABLE SUBSTRATE (INTO STUDS OR A COMBINATION OF FURRING STRIPS, SHEATHING AND/OR STUDS)

ALWAYS ENSURE THAT THE TONGUE IS ORIENTED UPWARDS TO PREVENT MOISTURE ACCUMULATION

****FINISHING NAILS, BRAD NAILS AND STAPLES ARE NOT APPROVED FOR EXTERIOR INSTALLATION****

Field Joints

For aesthetics, field joints should be located throughout each elevation without a recognizable pattern. If a pattern is used, ensure that field joints on adjacent siding courses are spaced at least 2 stud bays apart.

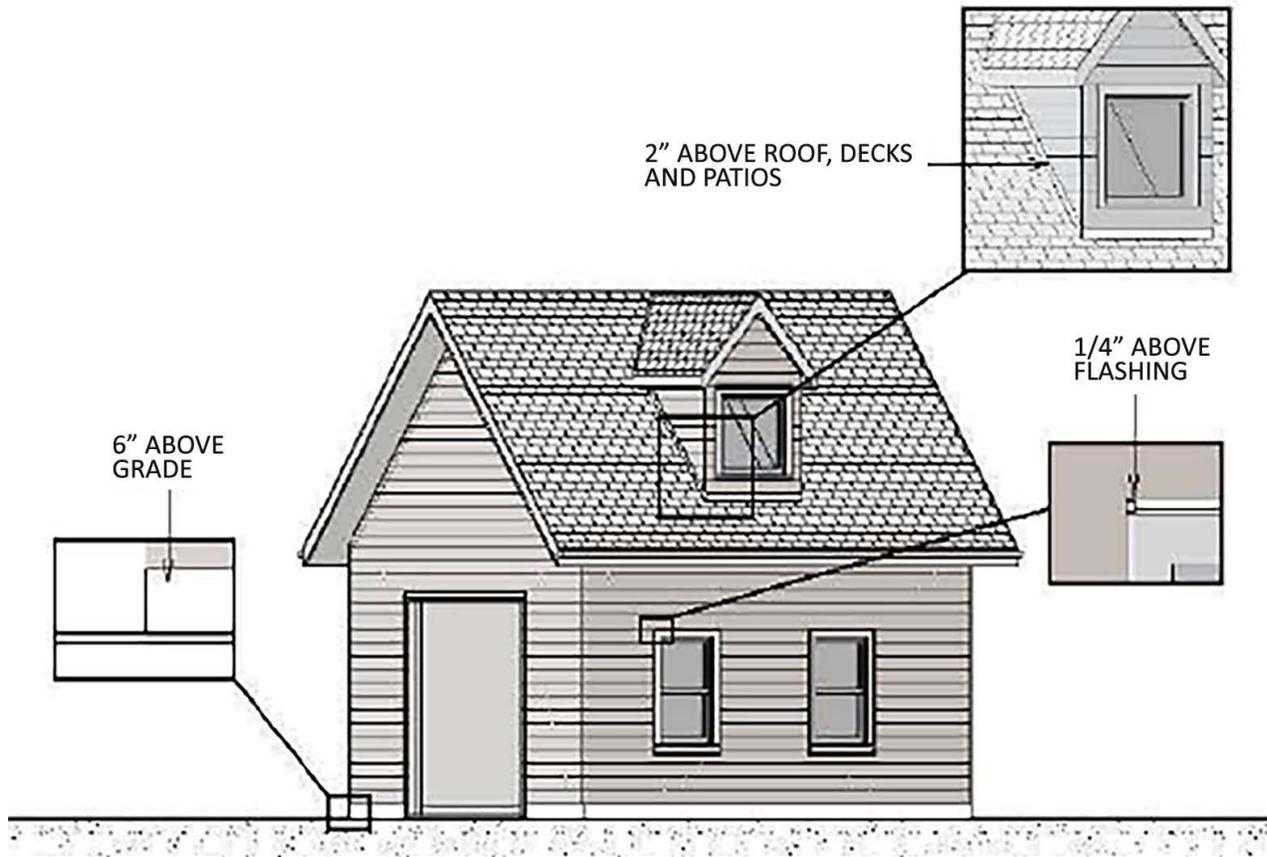
- It is acceptable to cut ends at 45 degree angles to form an overlapping joint. Always ensure that all joints meet over studs, blocking or furring strips and that fastener penetration requirements are adhered to.
- For vertical installations, ensure that the joint is oriented to direct water to the exterior of the wall.
- When blind nailing, an additional face nail on each side of the joint is recommended to prevent the joint from opening.
- Drill pilot holes near the ends of siding/panelling to prevent splitting.

JOINTS MUST OCCUR OVER SOLID FRAMING OR LOCATIONS THAT PROVIDE THE REQUIRED 1 ¼" NAIL PENETRATION INTO FURRING STRIPS, SHEATHING AND/OR STUDS

Clearance Requirements

- Always maintain a ¼" gap between the bottom of the siding and the top of flashing to act as a capillary break. This location should never be caulked.
- The Product should be installed a minimum of 6" from grade.
- The Product should be installed a minimum of 2" above decks, patios, concrete and roof surfaces.

The clearance requirements will help prevent prolonged exposure to pooled water or large volumes of water.



Flashing

Flashing acts as a critical component of the wall assembly. It prevents water from entering past the first line of defense and also allows infiltrated water to drain.

- Install horizontal metal flashing above all wall penetrations (or as per window and door manufacturer's instructions) and projecting wood trim, prior to siding/panelling installation.
- Ensure flashing is installed with a positive pitch to prevent water from pooling on its surface and to shed water away from the wall.

**THE PRODUCT MUST BE INSTALLED A MINIMUM ¼" ABOVE ALL FLASHING
AND
APPLYING CAULKING OR SEALANT IS NOT A REPLACEMENT FOR FLASHING**

Caulking

- Use an exterior grade high-performance acrylic-latex, acrylic-silicone, acrylic, polyurethane or polysulfide caulk/sealant to seal gaps around windows, doors and where siding meets vertical trim.
- Caulking and sealants are not a permanent solution and require regular maintenance to prevent failed caulking from allowing water ingress into the wall assembly.
- Never seal areas that will prevent moisture from exiting the exterior envelope such as under windows and around metal flashing.

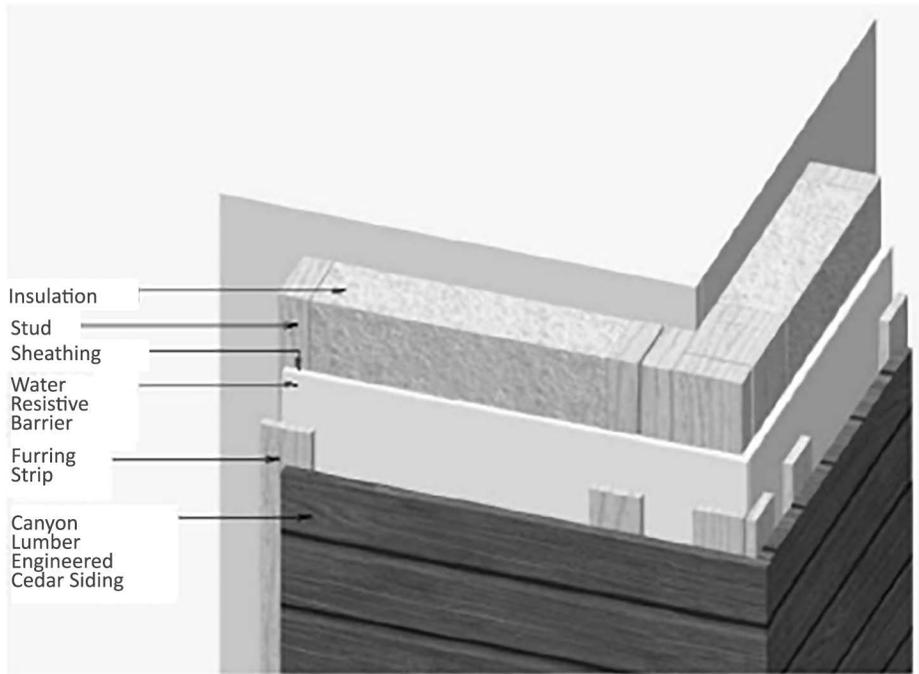
SILICONE CAULKS ARE NOT RECOMMENDED FOR USE WITH WESTERN RED CEDAR

Corners

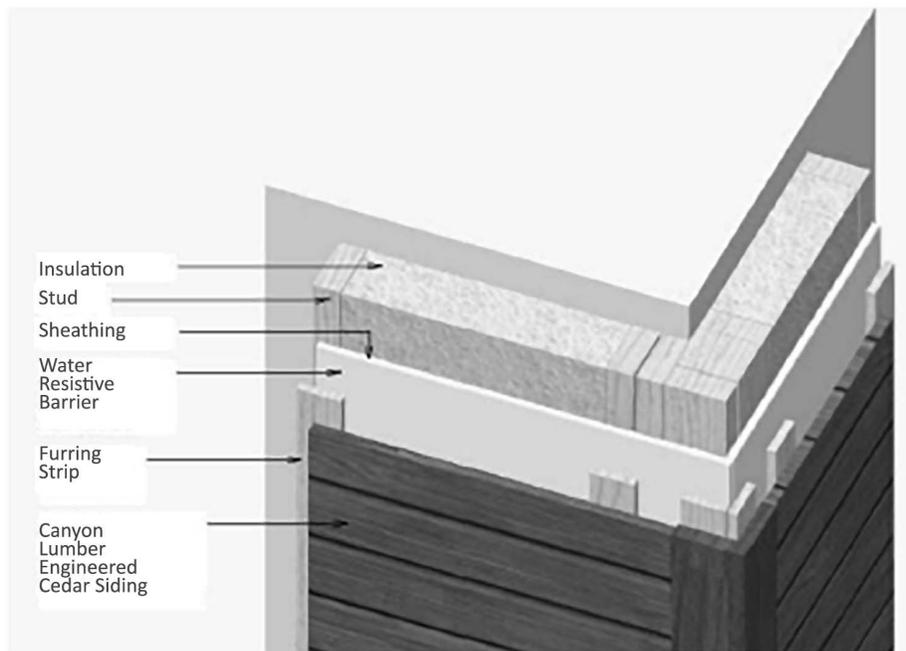
There are 3 installation methods for outside corners. Adhere closely to the following instructions per method:

- 1) **Mitered Corners:** Ensure that the joint is tight to prevent moisture from entering into the end grain of the Product (remember to re-coat/seal all end grain prior to installation). To prevent splitting, re-

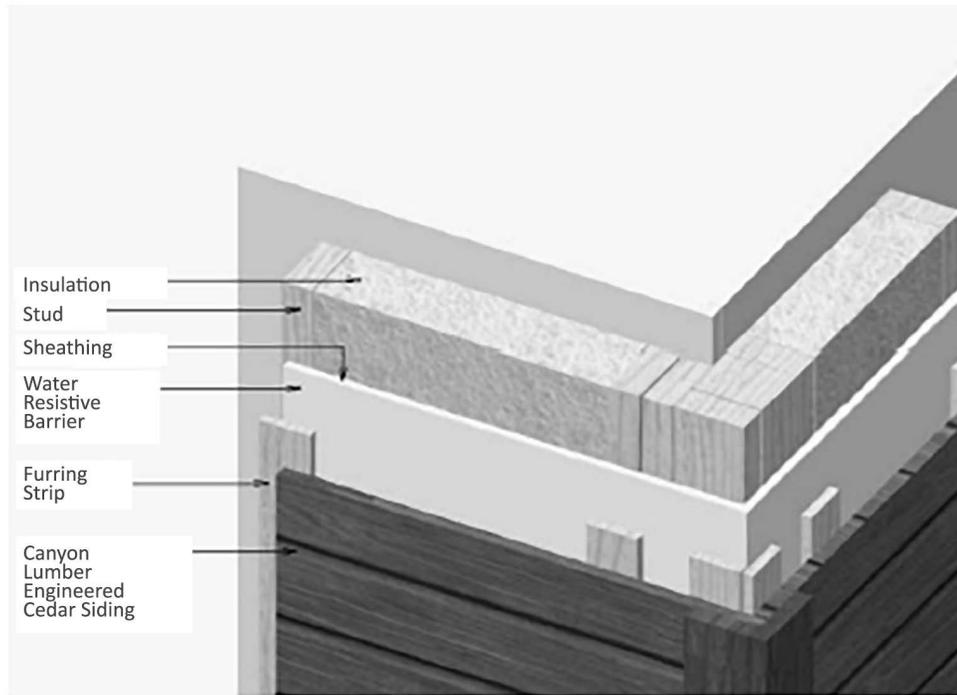
drill holes (near the corners) for the fasteners. Note: use an appropriate adhesive on any mitered corners.



- 2) **Siding/Panelling installed next to corner boards:** Leave a 1/8" gap between the Product and corner boards to allow for a properly applied bead of caulking or sealant between the two materials. Follow caulking or sealant manufacturer's instructions.

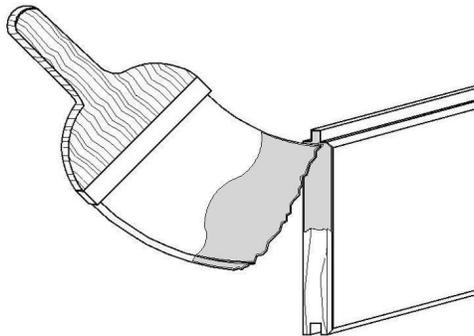


- 3) **Corner boards installed over siding/panelling:** Do not apply caulk or sealant at the joint between the corner boards and the Product, with this installation method.



End Grain Sealing

The end grain of lumber absorbs water over 100 times faster than any other wood surface. For this reason, it is imperative that the end grain of your siding be sealed with an exterior stain or primer. If not sealed with an adequate coating, the end grain will absorb moisture and cause staining to the surface of your siding/panelling as tannins and extractives leach from the natural Western Red Cedar.



****ALL END GRAIN AND JOB-SITE CUTS MUST BE COATED TO PREVENT WATER ABSORPTION!****

Maintenance

A number of components on your home's exterior require regular inspection and maintenance to optimize the performance of your Canyon Lumber - Product - Engineered Siding and Panelling:

- inspect the caulk and sealant and re-apply as necessary to prevent water ingress;
- keep gutters and roof areas free of debris;
- ensure downspouts are flowing freely;
- keep the surface of your Product free of mold, mildew, algae and other biological growth;
- garden beds are to be kept 6" below the Product;
- prevent trees, plants and shrubs from growing up against the Product;



- ensure that sprinklers do not spray water onto the Product;
- inspect and maintain the coating/finish on the Product.

PROACTIVE HOME MAINTENANCE IS LESS EXPENSIVE THAN REACTIVE HOME MAINTENANCE!