



PANELTEK

PANELTEK – ENGINEERED SIDING/PANELLING INSTRUCTIONS

This product can be used for interior and exterior installations. Much of this guide refers to exterior installation, however, many of the construction principles can be applied to interior applications.

Your Exterior Envelope

Every structure should be designed and constructed in a manner that controls and manages moisture accumulation. Please refer to local and National building codes.

Design and install your exterior siding and trim in a manner that:

- Sheds water and prevents pooling
- Minimizes water ingress by sealing and flashing (sealant is not a substitute for flashing)
- Allows water that has penetrated the first layer of protection (the trim and siding) to effectively drain out and away from the assembly by utilizing a rainscreen wall assembly (an airspace between the water resistive barrier and the back of the siding and trim)

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. PANELTEK ASSUMES NO RESPONSIBILITY FOR WATER PENETRATION INTO OR BEYOND THE EXTERIOR WALL ASSEMBLY.

Paneltek has manufactured this product to the highest standards to ensure long term durability and a high aesthetic value throughout the product's service life. The following instructions will help achieve the best performance from the product and secure the maximum return from your decision to trust Paneltek Engineered Western Red Cedar Siding/Panelling on your projects.

DO NOT!

- Do not assume that your installers know how to install this product
- Do not use for structural support purposes
- Do not install closer than 6" to grade or 2" from decks, patios, concrete and/or roofs
- Do not allow sprinklers to regularly wet siding
- Do not install in a manner that allows water to pool against or behind siding
- Do not substitute caulking or sealant for flashing
- Do not install or apply finish to panelling with moisture content greater than 15%

DO!

- Read and adhere to the Paneltek Engineered Siding/Panelling Installation Guide
- Adhere to local, National and International building codes
- Strive for a "best practice" installation
- Coat all end grain 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
- Print and distribute these installation instructions to your installation crews



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Before You Begin

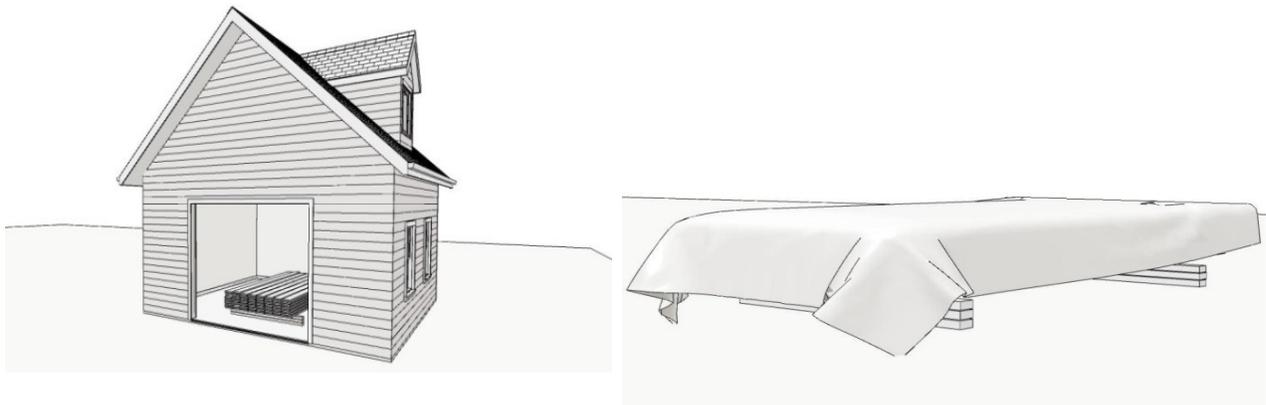
Ensure that you have received the correct product for your application and inspect the material for any defects. If any product is found to be unsatisfactory, DO NOT INSTALL IT and call Paneltek at 604-980-1941 to arrange replacement material. Installation of the product constitutes acceptance of the condition of the product.

Paneltek's goal is to surpass expectations for product quality and will address any concerns or questions you may have.

Storage and Handling

Handle the product carefully to avoid damage, especially to the tongue and groove.

Always protect the product from the weather – 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 on dunnage at least 4" away from the ground in a manner that does not allow the center of the stack to sag.



Moisture Content and Acclimatization

Although the effects of moisture content fluctuations will be less than with a solid product, Paneltek Engineered Siding/Panelling is manufactured from natural Western Red Cedar that, like every wood product, will shrink or expand across the grain due to changes in moisture content. It is imperative to allow the product to acclimatize to the jobsite prior to installation. For an exterior installation, this means protecting the material from liquid water and providing adequate air circulation to the stack until it has reached the equilibrium moisture content for the region. For an interior installation this means storing the material in the environment in which it will be installed for at least 5 days and preventing exposure to high humidity levels that come with some stages of construction such as painting or drywall mudding.

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

USE A MOISTURE METER AND UNDERSTAND/INTERPRET THE READINGS WITH RESPECT TO THE TIME OF YEAR AND CURRENT CLIMATIC CONDITIONS TO ACHIEVE THE BEST POSSIBLE INSTALLATION



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An Example: If you are installing the product on an exterior wall during a particularly hot and dry summer in Oregon and your moisture meter reads that the average of 5 pieces of Paneltek Siding/Panelling is at 8% moisture content, leave a 1/16" gap between successive courses to allow the product to expand due to the higher relative humidity and corresponding higher moisture content in the winter months.

Finishes for Siding

Paneltek 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.

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.

Although the engineered nature of this product reduces the likelihood of cupping and twisting, back-priming of the siding (coating the back side with an exterior rated stain or primer) can reduce this further. Back-priming will also extend the service life of your 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

With respect to the installation of this product, the International Residential Building Code requires that exterior wall assembly construction adhere to the following:

(Note: this is not an exhaustive list but is used to provide 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
- Windows and doors must be installed in accordance with the manufacturer's installation instructions

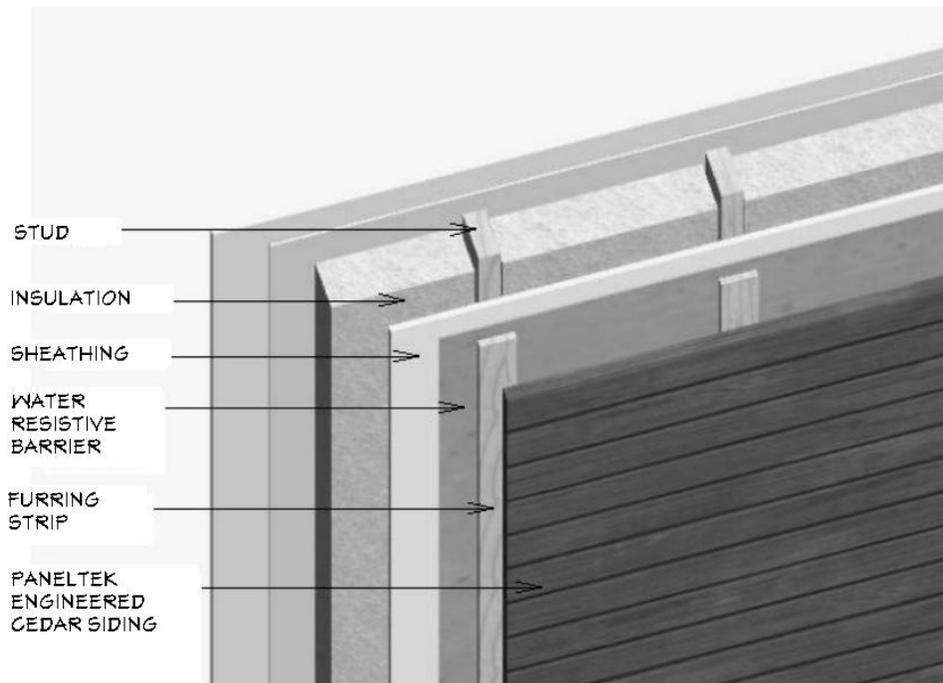
To prevent water from collecting within the exterior wall assembly and to promote drying of siding and trim products (which will maximize the performance of exterior wall assembly materials and coatings), Paneltek HIGHLY recommends rainscreen wall construction.

The best way to achieve a rainscreen wall assembly is to install vertical furring strips over the water resistive barrier (WRB), directly over the studs. The siding is then fastened over these vertical furring strips. There are 3 dimensional "drainage mat" type products available in the market that also provide a means for water to drain behind exterior cladding.

Ensure that all 3rd party materials are installed in accordance with the manufacturer's instructions and building code requirements.



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NOTE THAT RAINSCREEN WALL CONSTRUCTION IS REQUIRED BY CODE IN SOME JURISDICTIONS

Note on vertical siding:

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.

Note on rigid foam sheathing:

Rigid foam sheathing does not have adequate nail holding capacity so adjustments to the design and construction of the exterior wall assembly are required 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

Stainless steel fasteners are recommended, especially when being finished with a transparent or semi-transparent finish. At a minimum, fasteners must be hot-dipped galvanized or aluminum. Other types of fasteners including electrogalvanized, can rust and deteriorate, which will cause stains to the product or fastener failure.

Stainless steel, ring or spiral shank siding nails are recommended. 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.

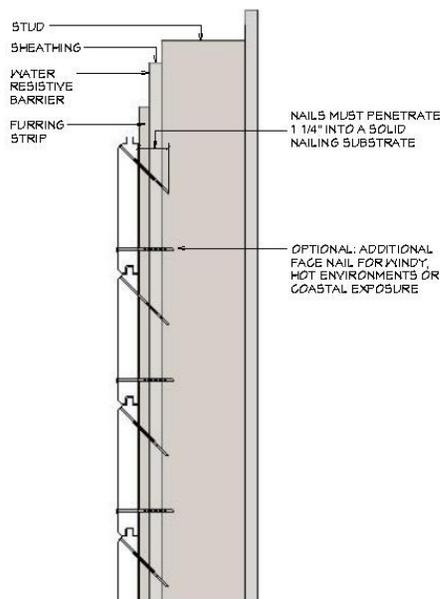
Drive nails flush with the surface of the material. Use a flush nailing device on pneumatic nail guns to prevent overdriven nails. Overdriven nails must be filled with exterior wood putty. When a



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transparent or semi-transparent finish is going to be used, flush nailing is important as wood putty may not match the natural cedar grain.

The siding/panelling can be face nailed or blind nailed (on an angle through the tongue) with nails spaced a maximum of 24" on center. When blind nailing in windy environments, hot environments or on 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).



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

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.

Cut ends at 45 degree angles to form an overlapping joint and 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



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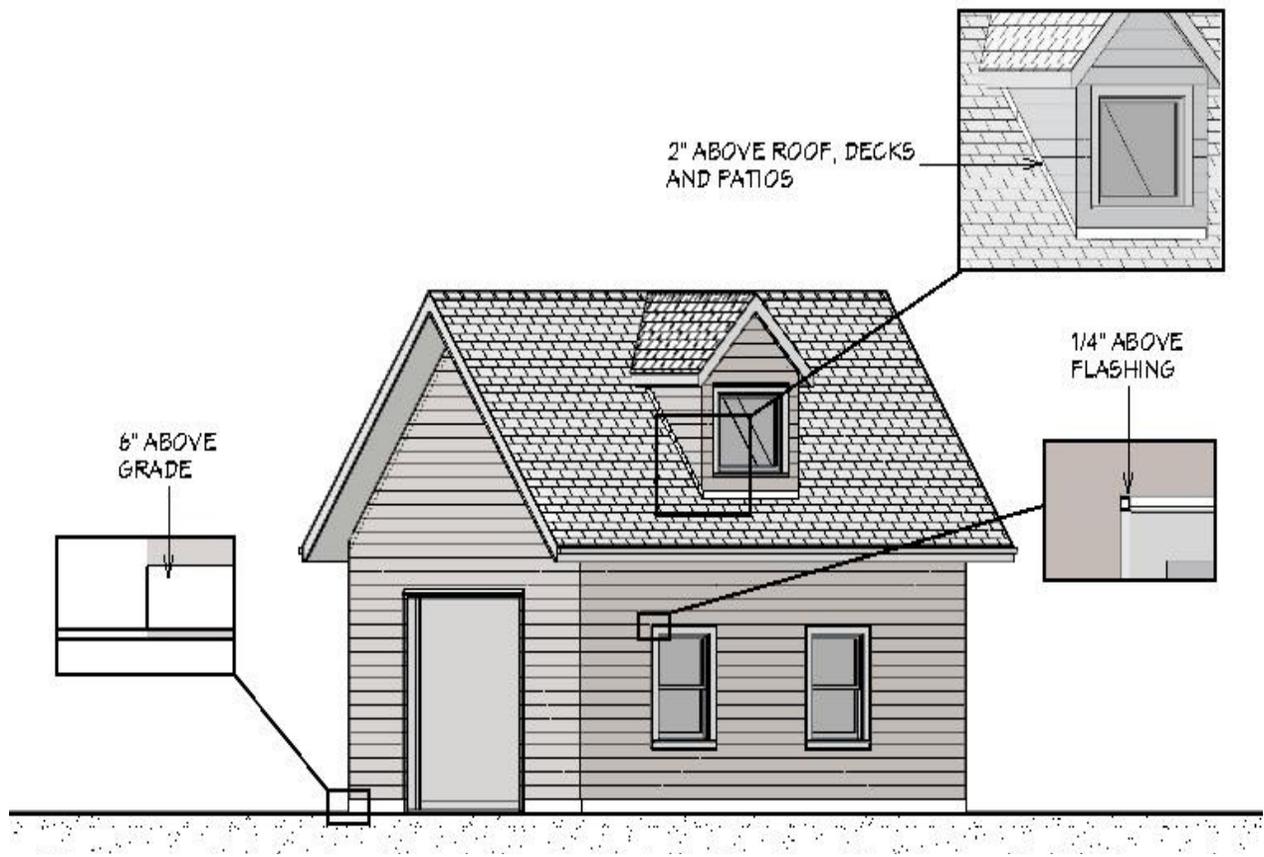
Clearance Requirements

Always maintain a $\frac{1}{4}$ " gap between the bottom of the siding and the top of flashing to act as a capillary break. This location should never be caulked.

Siding should be installed a minimum of 6" from grade.

Siding should be installed a minimum of 2" above decks, patios, concrete and roof surfaces.

All of the above required clearances are necessary to prevent prolonged exposure to pooled water and/or to prevent the product's exposure to locations where large volumes of water occur.



Flashing

Horizontal metal flashing must be installed prior to siding installation above all wall penetrations (or as per window and door manufacturer's instructions) and above all projecting wood trim. 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. Flashing should have a positive pitch to prevent water from pooling on its' surface and to shed water away from the wall.

**SIDING MUST BE INSTALLED A MINIMUM $\frac{1}{4}$ " ABOVE ALL FLASHING
AND
APPLYING CAULKING OR SEALANT IS NOT A REPLACEMENT FOR FLASHING**



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Caulking

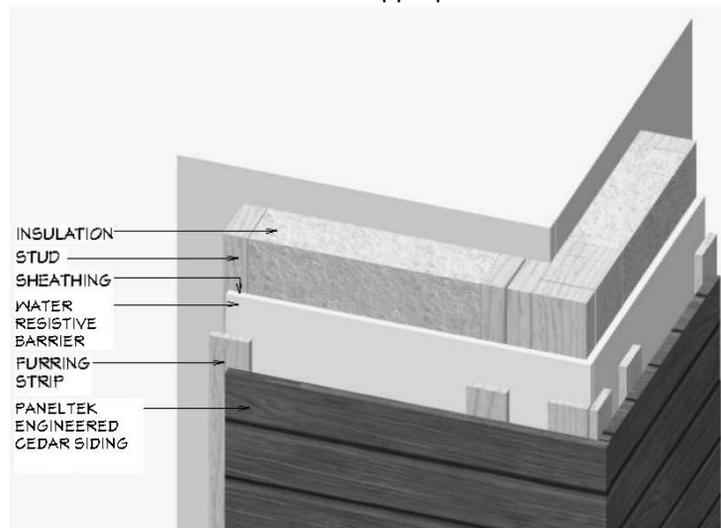
Use an exterior grade high-performance acrylic-latex, acrylic-silicone, acrylic, polyurethane or polysulfide caulk or sealant to seal gaps around windows and doors and in areas where siding meets vertical trim. Caulking and sealants are not a permanent solution and require regular maintenance to prevent failed caulking from permitting 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

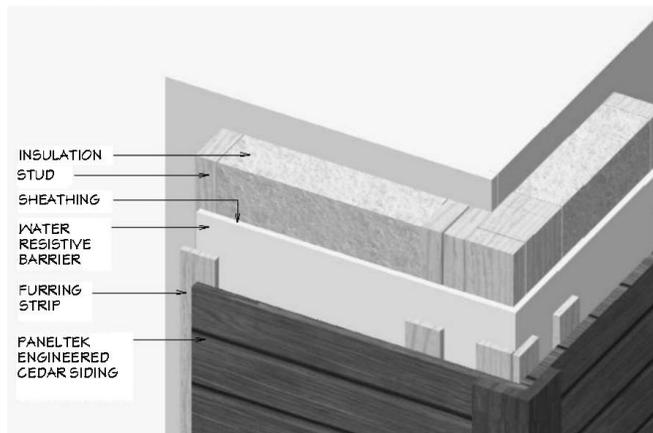
Corners

There are 3 possible methods to install siding on outside corners. Please adhere to the following instructions for each method:

- 1) **Mitered Corners**: Ensure that the joint is tight to prevent moisture from entering the joint and into the end grain of the siding (remember to seal all end grain). Pre-drill for fasteners near corners to prevent splitting. Mitered corners must utilize an appropriate adhesive.



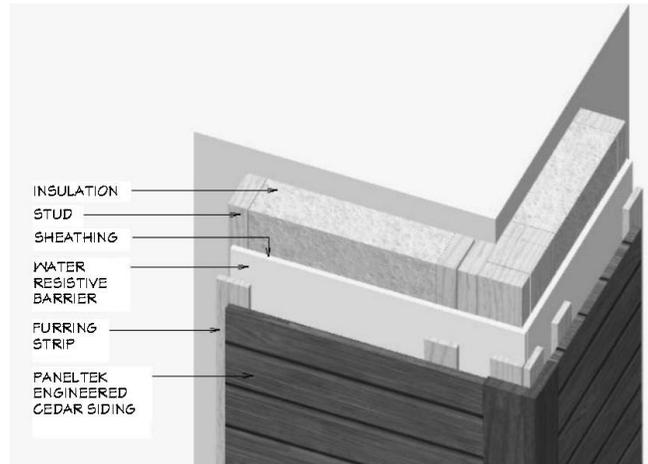
- 2) **Siding installed next to corner boards**: Leave a 1/8" gap between siding and corner boards to allow for a properly applied bead of caulking or sealant between the two materials. Follow caulking or sealant manufacturer's instructions.





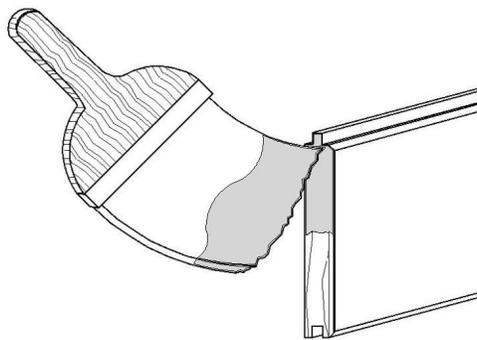
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- 3) **Corner boards installed over siding:** Do not apply caulk or sealant at the joint between the corner boards and the siding with this installation method.



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 as tannins and extractives leach from the natural Western Red Cedar.



ALL END GRAIN MUST BE COATED TO PREVENT WATER ABSORPTION!

Maintenance

There are a number of elements on the exterior of your home that must be inspected regularly to maximize the performance and visual appeal of your siding:

- inspect the caulking and sealing and re-apply as necessary to prevent water ingress
- keep roof surfaces and gutters free of debris
- ensure downspouts are flowing freely
- keep the surface of your siding free of mold, mildew, algae and other biological growth
- make sure that garden beds are kept 6" below siding
- do not let trees and shrubs grow up against siding
- ensure that sprinklers are not spraying water onto siding
- inspect and maintain any coating on the siding

PROACTIVE HOME MAINTENANCE IS LESS EXPENSIVE THAN REACTIVE HOME MAINTENANCE!