

There's No Such Thing As DRY Rot

1. FOOD

Structural wood in a house provides an ideal food source, although this food source can be poisoned by treating it with a preservative;

2. TEMPERATURE

A moderate climate typical of that found in most of the United States provides a suitable temperature;

3. OXYGEN

Unless a house is under water, the necessary oxygen can be obtained from the air surrounding the house;

4. MOISTURE

Moisture comes from a variety of natural and man-made sources found in and around a house. **Moisture is the one factor that can be controlled.**

Fungi need four things before they can decay the wood in a house. These four requirements must be present before the Decay Square is complete.

Moisture that causes decay in houses comes from many different sources.

- Rainwater
- Plumbing leaks
- Moisture vapor
- Condensation
- Roof runoff
- Groundwater

DRY WOOD DOES NOT DECAY.

Modern, low-profile, tightly built houses are perfect targets for decay. They retain moisture inside, preventing it from escaping to the outside.

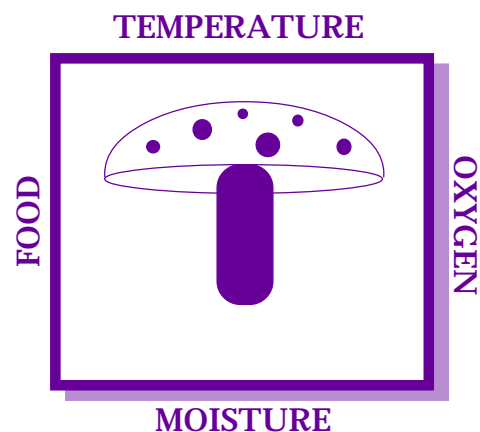
Kiln-dried lumber, if stored properly before use, will not decay. However, kiln-dried lumber that has been stored outdoors in the rain will quickly decay, often before it can be used in construction.

Bathroom floors will not decay unless a plumbing leak is present. If bathrooms are not adequately ventilated, window frames and ceilings can mold or decay because of condensation on the cold surfaces.

Eaves will not decay if gutters drain correctly, are in good condition and remain free from debris.

Floor joists and subfloor will not decay if moisture vapor from the soil is prevented from accumulating in an enclosed crawl space and condensing on the wood in the substructure.

Wood in direct contact with the soil is also in direct contact with many decay-causing fungi. Soil is a good source of moisture and will encourage these fungi to grow into the wood. **Dry wood does not decay.**



LOCATIONS IN A HOUSE WHERE MOISTURE CAN BECOME A PROBLEM

Attics Without adequate ventilation, moisture vapor from inside a house will move through ceilings and condense on attic rafters and roof sheathing, providing adequate moisture for growth of molds and mildew. Condensed moisture could also wet insulation, reducing its energy-conserving R-value.

Rainwater Runoff

Wide roof overhangs and gutters provide protection for the siding from direct rainfall and rainsplash.

Gutters and downspouts are used to direct runoff water away from the foundation of a house.

Flashing along roof edges, as well as above and underneath windows and doors, prevents eaves, sills, sill plates, and other structural wood from decaying.

Bathrooms, Kitchens, & Laundry Rooms

Water vapor from cooking, showers, and laundry may condense behind walls and floors, causing joists, sills, or wall studs to decay. This water vapor will not accumulate and become a problem, however, if these areas are properly ventilated.

Plumbing leaks generally cause serious damage in a relatively short time. If, however, the leaking water does not contact wood directly but soaks the ground underneath a house, over time this water evaporating from the soil and condensing on subflooring and floor joists may cause decay.

Soil Moisture Around the Foundation

Moisture from the soil can seep through basement walls and floors, slab foundations, or crawl space walls if they are not protected by a properly installed vapor barrier or if the site is not properly graded.

In a crawl space, soil moisture may vaporize and condense on floor joists, sills and subflooring, raising the moisture content of the wood and making it subject to decay.

Selecting a dry, well-drained site is important. A house built over a spring or in a flood plain is likely to develop moisture-related damage.

Wood-to-Soil Contact

Untreated wood-to-soil contact is an open invitation to decay and damage from insects. Any untreated structural wood in a house should be a minimum of 8" from the soil surface. Untreated wood siding should be a minimum of 6" above the soil surface.

Earth-filled porches can be the source of a decay and damage hazard. Proper use of flashing can prevent moisture or decay-causing fungi and insects from moving through building materials to structural wood.

Grading for patios and garage floors may bring the soil level much closer to the untreated structural wood than the allowed 8" minimum. Landscape mulches, too, may reduce the minimum 6" clearance between the soil and any untreated wood siding.

USES OF PRESSURE-TREATED WOOD

Three major types of preservatives:	General uses:
<ul style="list-style-type: none"> Chromated-copper-arsenate (CCA) 	<ul style="list-style-type: none"> All uses around the home, plant boxes, greenhouses, outdoor feed troughs;
<ul style="list-style-type: none"> Creosote 	<ul style="list-style-type: none"> Posts, pilings, ties, in fresh or salt water*;
<ul style="list-style-type: none"> Pentachlorophenol 	<ul style="list-style-type: none"> Posts, poles, pilings, ties, in fresh water.

*(Where marine borer is a severe hazard, a dual treatment of CCA followed by creosote is recommended.)

Wood treated with pentachlorophenol or creosote can no longer be used in home construction.

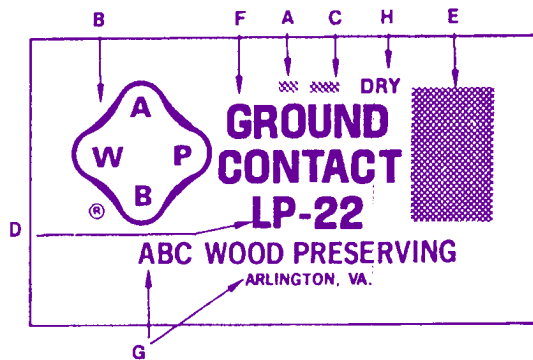
**Select the preservative RETENTION LEVEL which fits
your treated lumber need.**

Retentions (lbs./cu. ft.)	Uses/Exposure
0.25	Above Ground
0.40	Ground Contact
0.60	Wood Foundation (FDN)
2.50	Salt Water (Marine)

Lumber rated for **Above Ground Use** should **NEVER** come in contact with the soil. Check for the **retention level** or the **proper exposure condition** label found on every piece of lumber you buy.

**Specify an AWPB QUALITY MARK whenever
you use pressure-treated wood.**

THE AWPB QUALITY MARK



- A Year of treatment
- B American Wood Preservers Bureau trademark or trademark of the AWPB certified agency
- C The preservative used for treatment
- D The applicable AWPB quality standard
- E Trademark of the AWPB certified agency
- F Proper exposure conditions
- G Treating company and plant location
- H Dry or KDAT (Kiln Dry After Treatment) if applicable

OBSERVATION IS THE KEY DETERMINING WHETHER OR NOT MOISTURE IS A PROBLEM

THINGS TO LOOK FOR:

- Dripping water
- Stained wood
- Fungal growth

Be especially careful to inspect

- in all corners of a crawl space,
- underneath all exterior doors,
- where chimneys contact roof edges and subfloors,
- behind porches or patios,
- around any plumbing fixtures.

During the visual inspection, a wood moisture meter can be used to determine the moisture content of the wood in all of these areas. If high wood moisture contents are detected early, future problems can be prevented. The fungi that cause molds and mildews can grow at a wood moisture content of 20 percent or above. If mold or mildew is present on a wood surface, moisture is somehow getting to the wood, indicating the presence of a problem area with potential to decay.

Wood with a moisture meter reading of **20%** or greater is considered to be **AT RISK**.

This bulletin is a companion document to the videotape entitled "There's No Such Thing as Dry Rot", the fifth videotape in a five-part series on moisture-related problems in housing, "Managing Moisture—the Housing Menace". In this bulletin we re-emphasize and clarify specific points mentioned in the videotape. The objective of the series of videotapes is to raise housing industry and homeowner awareness of the many problems associated with excessive moisture accumulating in houses.

A list of other bulletins, videotapes and slide sets about moisture-related problems in residential housing can be obtained from your local Clemson University Cooperative Extension Service County Agent.

As a minimum when building, follow building code requirements for your area. Additional precautions may be necessary, depending on your particular situation.

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