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Why Wood Dry Rots & How Roof Leaks can Ruin Your Home



Outside of a fire, a flood and another natural disaster, a water leak from either your roof top or a plumbing fixture or pipe can prove to be for most homeowners one of the most catastrophic problems that could happen to their house.

Wood is surprisingly is a very durable material that has withstood the test of time. Wooden artifacts or furniture, thousands of years old, have been found in burial tombs around the world. Yet, we have all witnessed, the rapid decay and collapse of abandoned wooden structures.

What is Dry Rot?



Any kind of water penetration into a house allows the rapid growth of wood dry rot, molds and mildews. It is the rapid onset of molds and the later development wood rot or dry rot, which makes recovering houses that have stood in flood waters so problematic. It's not so much the mud, garbage or silt that ultimately destroys the building as it is excessive moisture.

Dry Rot (which is actually several different species of wood-eating fungus) breaks down the inner fibers of the wood which causes it to become weak and brittle. There are several factors that must be present for dry rot to develop:

1. Food Source (the wood framing and organic building materials of your home)
2. Moderate Environment (i.e. a well heated and cooled, energy-efficient house)
3. Wood-Eating Fungus (dry rot spores are naturally present in the air and rainwater)
4. Excess Moisture (from a roof leak or plumbing problem or flooding)

If you remove or eliminate any of the above elements, the dry rot and molds (which have similar growth requirements) will stop budding. As you can see some factors are easier to control than others.

For example, this is why some lumber is “pressure-treated” with fungus killing preservatives which will prevent or slow down most fungal growth. All treatments weaken with age and must be constantly reapplied (think about resealing an outside deck.) And even treated lumber can’t last forever if continually exposed to the elements.

But the **root cause of all dry rot and mold is excess moisture**. Leaky roofs, let in water which leads to excess moisture which in turn leads to dry rot problems and chronic mold issues. It's just a simple matter of biology and time.

Dry Rot Weakens Your Home over Time!

Water penetration from a roof leak, if allowed to continue unchecked will eventually increase the moisture and humidity levels in your home. Water not only seeps into wood but also into insulation and other building materials as well.

Let's be upfront there, that with all the weatherized and energy-efficient materials inside most homes today; excess moisture becomes trapped and can take an extremely long time to evaporate. This leads to dry rot.

Dry rot is such a big deal because the wood-eating fungus digests or absorbs the parts of the fibers that make wood timbers and beams both rigid and strong. The wood damaged by rot is usually somewhat dry and crumbly in appearance, hence the nickname “dry rot”, although the fungus spores only thrive in a damp or moist environment.

This in turn causes the areas of your home affected by dry rot to suffer structural problems such as weakening of load-bearing beams, rafters, ceiling and floor joists, girders and other critical building components.

Dry rot is more pervasive than you might think since; it is often confused with insect damage from carpenter ants, woodworms or termites. The lack of evidence of live insects is a sign of true dry rot but the only way to be truly certain is to have a roofing professional inspect the suspected area for other signs of water seepage.

Wood Dry Rot Never Stops

It only takes a 20% moisture level (i.e. wood that is damp to the touch) for dry rot to begin “fruiting” and to start sending out fine, microscopic strands of grey fungus into surrounding fibers. And once established in an ideal setting, dry rot can grow as fast as 9 -10 feet in a year and pass through cracks inside brick! Think about it...while kudzu vines can grow 60 feet a year, even they can't penetrate masonry.

So an uninterrupted source of water, no matter how tiny, can quickly accelerate the spread of this wood-eating fungus effectively destroying your home's structure. Wood dry rot basically never stops growing unless the excess moisture is removed or eliminated.

Even then, once water is reintroduced the growth cycle can restart. This means that even if your roof leak dries up; if not properly sealed or repaired, the dry rot and molds are just waiting for the next rainy day to get going all over again.

Molds and Your Health

Molds are everywhere. Molds and mildews are a type of fungus and like dry rot thrives anywhere there is moisture and food (your home). Eventually a spot of dry rot will become so severe that the rotted wood fibers develop molds and mildews.

Have you ever seen mushrooms or other fungi growing from the rotted stump of an old tree? Mold like those mushrooms loves the rotten wood left behind by dry rot. So as the dry rot spreads, so goes the molds.

In 2004, the US Center for Disease Control (CDC) confirmed that indoor molds (caused by excessive moisture) can cause mild upper respiratory tract problems like chronic nasal congestions, throat irritations, coughing, wheezing, asthma-like symptoms and eye irritations.

And some people, especially ones who are sensitive, may experience a variety of moderate to severe health issues if exposed to a damp and moldy environment for even a short period of time. For people with undetected mold allergies, they can experience severe reactions such compromised immune systems, critical lung function problems and lung infections as well as skin irritations when exposed for longer periods of time.

And the IOM (US Institute of Medicine) also “found limited or suggestive evidence linking exposure to damp (i.e. moldy) indoor environments in general to shortness of breath, to respiratory illness in otherwise healthy children and to potential development of asthma in susceptible individuals.”

How to Fight Back - Stop Dry Rot & Mold in Their Tracks

And the more the dry rot and molds fruit and grow, the more wood damage problems you will continue have.

What you can do to stop dry rot and mold...

(If you have the right equipment, you may be able to perform some these steps yourself or we recommend that you can have a trained professional do it for you.)

Step One: Do a complete roof evaluation. Inspect your roof top for the main problems areas around flashings, chimneys, plumbing vent pipes, etc.

Step Two: Inspect the interior spaces of your home for water damage. Check out attic areas and ceiling joints, and other support structures for evidence of water penetration, dry rot damage or mold buildup.

Step Three: Fix, repair or replace any missing roofing materials promptly. Replace all cracked rubber boots around plumbing vents. But be prepared to replace your entire roof if the damage is extensive or is more cost-effective.

Step Four: Weatherize your roof and attic spaces. Replace any damaged or inadequate insulation with materials that are water-resistant or is more energy-efficient. The only way to control the growth and spread of both dry rot and molds is to keep humidity and moisture levels down between 40%-60%.

Step Five: Replace or repair broken or damage roof gutter lines and downspouts.

Step Six: Now that you have fixed that leaky roof, have had any broken or missing flashing replaced, repaired all the shingles or tiles; you have effectively stopped the source of the excess moisture and also stopped the spread of dry rot and mold.

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