Power Ventilation is a new concept in the installation of Underdeck Ceilings.

The Underdeck industry has largely ignored the need for ventilation. Our experience has been that when we access the space between an under deck ceiling and the deck above we find the area is still damp even days after a heavy rain, even though the underdeck is properly installed and there is no standing water.

If still, humid conditions prevail in the space above an underdeck the situation is ideal for the development of mold and potential rot. The use of hardwood deck surfaces above an underdeck require special attention to ventilation to ensure that the boards do not swell from being waterlogged. Finally our experience with power ventilation has shown to reduce the need for maintenance cleanouts. We will expand on each of these points below.

Mold Inhibition

The problems associated with mold and mildew began our interest in the use of power ventilation. A concrete floor under an elevated deck will often show mold growth because of extended periods of dampness. And yes, drying the floor by installing an underdeck ceiling will eliminate the growth of mold, but it then provides a new damp enviornment inside the underdeck for mold to grow. Mold needs humid, still air to thrive. To combat mold growth we developed a systen that uses a power ventilator to extract still, humid air from the inside of an underdeck.

Combating Rot

The pine, fir and spruce commonly used in residential construction are subject to rot when exposed to prolonged moisture. To prevent this, these woods are pressure treated with a biocide that inhibits the growth of mold and wood eating insects. In 2004, arsenic was eliminated as the biocide because of enviornmental concerns. Copper was substituted, but at significantly greater expense. To keep costs down, two levels of treatment were developed. Wood expected to stay wet for extended periods was treated more intensely and classified as "Ground Contact" with the highest resistance to rot.

Wood that was expected to be wetted and dried quickly was treated less intently and deemed suitable for above ground conditions.

Protecting Hardwoods

The use of hardwoods on the topside of decks has lately complicated the ventilation situation. When a deck board is wetted top and bottom, as they will be in an under deck installation due to rainfall on top and excessive humidity inside the underdeck, proper ventilation is vital. Hardwoods are carefully dried and milled before installation. If the boards absorb water they will expand. If the installation does not allow for expansion, then buckling of the floor is a real possibility. Interior hardwood installation provides an extreme, but not uncommon example of this. You may have seen buckled hardwood in the aftermath of flooding from a failed appliance such as a leaking dishwasher of water heater.

Manufacturers of hardwood deck boards often recommend the use of hidden fasteners for deck installations. Recognizing that space between between deck boards exposed to the weather is a necessity these fasteners often allow as little as 1/8 inch between the boards. This spacing does not anticipate the installation of an underdeck ceiling and the reduced air flow. When power ventilation is not used under a hardwood deck, our strong recommendation is that at least 3/8 inch spacing be used to accomodate the swelling of the deck boards.

Reduced Maintenance

Magnolia Outdoor Living was the first to accomodate the need for periodic maintenance of an Underdeck Ceiling. We were the first to design an aluminum underdeck ceiling where any individual panel could be completely removed for maintenance without disturbing adjacent panels.

We recommend to all of our customers that periodic inspection be done and accumulation of debris be removed. We have noticed that in our second season of using power ventilation that we are not needing to clean out nearly as often. Possibly, over time, we will find many installations won't need to be cleaned out at all.

Return to Magnolia's Installation Page

[Return to FAQ Blog]