

THE INSPECTORS' JOURNAL

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Welcome to our monthly newsletter.

You are receiving this newsletter on a complementary basis to get a taste of what is to come. Members will continue to receive it on a monthly basis. Join IPG and you will too!



CIP #38 - Pervious Concrete

WHAT is Pervious Concrete?

Pervious concrete is a special type of concrete with a high porosity used for concrete flatwork applications that allows water from precipitation and other sources to pass through it, thereby reducing the runoff from a site and recharging ground water levels. The high porosity is attained by a highly interconnected void content. Typically pervious concrete has little to no fine aggregate and has just enough cementitious paste to coat the coarse aggregate particles while preserving the interconnectivity of the voids. Pervious concrete is traditionally used in parking areas, areas with light traffic, pedestrian walkways, and greenhouses. It is an important application for sustainable construction.

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The proper utilization of pervious concrete is a recognized Best Management Practice by the U.S. Environmental Protection Agency (EPA) for providing first-flush pollution control and storm water management. As regulations further limit storm water runoff, it is becoming more expensive for property owners to develop real estate, due to the size and expense of the concrete reduces the runoff from for separate storm water retention capacity storm sewers. This allows a naturally filters storm water and streams, ponds and rivers. Pervious retention basin and allows the large area, thus facilitating supplies locally. All of these



Pervious concrete permits storm water to percolate

necessary drainage systems. Pervious paved areas, which reduces the need ponds and allows the use of smaller property owners to develop a larger lower cost. Pervious concrete also can reduce pollutant loads entering into concrete functions like a storm water storm water to infiltrate the soil over a recharge of precious groundwater benefits lead to more effective land use.

Pervious concrete can also reduce the impact of development on trees. A pervious concrete pavement allows the transfer of both water and air to root systems allowing trees to flourish even in highly developed areas.

HOW to Install Pervious Concrete Pavement?

An experienced installer is vital to the success of pervious concrete pavements. As with any concrete pavement, proper subgrade preparation is important. The subgrade should be properly compacted to provide a uniform and stable surface. When pervious pavement is placed directly on sandy or gravelly soils it is recommended to compact the subgrade to 92 to 96% of the maximum density (ASTM D 1557). With silty or clayey soils, the level of compaction will depend on the specifics of the pavement design and a layer of open graded stone may have to be placed over the soil. Engineering fabrics are often used to separate fine grained soils from the stone layer. Care must be taken not to over-compact soil with swelling potential. Moisten the sub-grade prior to concrete placement, and wheel ruts from the construction traffic should be raked and re-compacted. Moistening the sub-grade prevents pervious concrete from setting and drying too quickly.

Typically pervious concrete has a water to cementitious materials (w/cm) ratio of 0.35 to 0.45 with a void content of 15 to 25%. The mixture is composed of cementitious materials, coarse aggregate and water with little to no fine aggregates. Addition of a small amount of fine aggregate will generally reduce the void content and increase the strength, which may be desirable in certain situations. This material is sensitive to changes in water content, so field adjustment of the fresh mixture is usually necessary. The correct quantity of water in the concrete is critical. Too much water will cause segregation, and too little water will lead to balling in the mixer and very slow mixer unloading. Too low a water content can also hinder adequate curing of the concrete and lead to a premature raveling surface failure. A properly proportioned mixture gives the mixture a wet-metallic appearance or sheen.

A pervious concrete pavement may be placed with either fixed forms or slip-form paver. The most common approach to placing pervious concrete is in forms on grade that have a riser strip on the top of each form such that the strike off device is actually $\frac{3}{8}$ - $\frac{1}{2}$ in. (9 to 12 mm) above final pavement elevation. Strike off may be by vibratory or manual screeds, though vibratory screens are preferable. After striking off the concrete, the riser strips are removed and the concrete compacted by a manually operated roller that bridges the forms. Rolling consolidates the fresh concrete to provide strong bond between the paste and aggregate, and creates a smoother riding surface. Excessive pressure when rolling should be avoided as it may cause the voids to collapse. Rolling should be performed immediately after strike off.

Jointing pervious concrete pavement follows the same rules as for concrete slabs on grade, with a few exceptions. With significantly less water in the fresh concrete, shrinkage of the hardened material is reduced significantly, thus, joint spacings may be wider. The rules of jointing geometry, however, remain the same (See CIP 6). Joints in pervious concrete are tooled with a rolling jointing tool. This allows joints to be cut in a short time, and allows curing to continue uninterrupted. Proper curing is essential to the structural integrity of a pervious concrete pavement. Curing ensures sufficient hydration of the cement paste to provide the necessary strength in the pavement section to prevent raveling. Curing should begin within 20 minutes of concrete placement and continue through 7 days. Plastic sheeting is typically used to cure pervious concrete pavements

HOW to Test and Inspect Pervious Concrete Pavement?

Pervious concrete can be designed to attain a compressive strength ranging from 400 psi to 4000 psi (2.8 to 28 MPa) though strengths of 600 psi to 1500 psi (2.8 to 10 MPa) are more common. Pervious concrete, however, is not specified or accepted based on strength. More important to the success of a pervious pavement is the void content. Acceptance is typically based on the density (unit weight) of the in-place pavement. An acceptable tolerance is plus or minus 5 lb/cu.ft. (80 kg/m³) of the design density. This should be verified through field testing. The fresh density (unit weight) of pervious concrete is measured using the jigging method described in ASTM C 29. Slump and air content tests are not applicable to pervious concrete. If the pervious concrete pavement is an element of the storm water management plan, the designer should ensure that it is functioning properly through visual observation of its drainage characteristics prior to opening of the facility. Questions have been raised about the freeze thaw durability of pervious concrete. Even though most of the experience with pervious concrete has been in warmer climates recently there have been several pervious concrete projects in colder climates. Pervious concrete in freeze thaw environment must not become fully saturated. Saturation of installed pervious concrete pavement can be prevented by placing the pervious concrete on a thick layer of 8 to 24 inches (200 to 600 mm) of open graded stone base. Limited laboratory testing has shown that entrained air may improve the freeze thaw durability even when the pervious concrete is in a fully saturated condition. However, the entrained air content cannot be verified by any standard ASTM test procedure.

EPA recommends that pervious concrete pavement be cleaned regularly to prevent clogging. Cleaning can be accomplished through vacuum sweeping or high pressure washing. Even though pervious concrete and the underlying soil provide excellent filtration capabilities, all the contaminants may not be removed. In critical situations to preserve the quality of ground water, storm water testing is recommended.

References

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Massachusetts News

Source: *Boston Herald*

Stimulus No Cure-All, Governor Says

Gov. Deval Patrick (D) recently warned business leaders not to get too excited about the state's multibillion-dollar stimulus windfall from the federal government. Speaking to the Greater Boston Chamber of Commerce, Patrick said that the infusion of billions of dollars simply won't be enough to avoid difficult state budget cuts and noted that much of the federal money is earmarked for very specific purposes, such as the infrastructure, education, and health care. As a result, he said, the state doesn't have flexibility to shift funds around to plug the \$6.5 billion budget gap that it faces over the next two years.

Connecticut Legislative News

This is a copy of the proposed legislation raising the license and permit fees for CT home inspectors. If passed it will take effect this July 1st, just in time for renewals.

Sec. 130. Section 20-492a of the general statutes is repealed and the following is substituted in lieu thereof (*Effective July 1, 2009*):

(a) The department shall issue to each applicant who achieves a passing score on the examination administered by the department pursuant to section 20-491a and who meets the requirements for licensure set forth in subsection (a) of section 20-492b and in regulations adopted by the commissioner pursuant to section 20-491 a home inspector license indicating that the holder is entitled to engage in home inspection, and the holder of such license shall carry it upon such holder's person while engaging in such work. The licensee shall show such license to any client on request. No license shall be transferred to or used by any person other than the person to whom the license was issued.

(b) Prior to performing a home inspection, each licensee shall inform the client, in writing, that the licensee's work is subject to regulation by the department and that inquiries and complaints concerning the licensee's work may be directed to the department.

(c) All licenses issued under the provisions of this section shall expire biennially and may be renewed upon application and payment to the department of a renewal fee in the amount of **two hundred fifty dollars**.

(d) The department shall maintain a register containing the names of all persons to whom such licenses are issued which shall be open to public inspection.

Sec. 131. Section 20-493a of the general statutes is repealed and the following is substituted in lieu thereof (*Effective July 1, 2009*):

(a) The department shall issue to each applicant who meets the eligibility requirements set forth in section 20-493b and the regulations adopted by the commissioner pursuant to section 20-491 a home inspector intern permit indicating that the holder is entitled to engage in home inspection under the supervision of a licensed home inspector, and the holder of such permit shall carry it upon such holder's person while engaging in such work. Such permit shall state that it must be shown to any properly interested person on request. No permit shall be transferred to or used by any person other than the person to whom the permit was issued.

(b) All permits issued under the provisions of this section shall expire biennially and may be renewed upon application and payment to the department of an application fee in the amount of [one] **two hundred dollars**.

(c) The department shall keep a register containing the names of all persons to whom such permits are issued which shall be open to public inspection.

The Governor's Proposal:

Governor Rell has proposed elimination all Boards & Commissions. Her proposal does include the CT Home Inspection Licensing Board. However as of April 1st, the legislature has not included this elimination in their proposed budget cuts. Stay tuned!

Cleaning Shingles - Algae / Mildew / Oxygen Bleach

By Tim Carter

Nationally Syndicated Newspaper Columnist "Ask the Builder"

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Summary: Stains on shingles from algae and mildew are quite common. Moss and lichen are also a nuisance. A garden hose and oxygen bleach are solutions.

A Good Garden Hose

I have found that a garden hose with above average pressure will do a swell job of removing moss and lichens. The trick is to aim the hose stream down the roof and keep the nozzle about 3 feet away from the shingles. Scrubbing asphalt shingles with a scrub brush is fine if you do it somewhat gently. Some granules may come off but not the ones that are deeply embedded in the hot asphalt. You must get this heavy moss and lichen build-up off the roof before you start to deep clean it with oxygen bleach.

Sources of Oxygen Bleach

Quite by accident, I discovered a non-toxic product that will not hurt you, the roof or plants below should you want to deep clean your shingles and get them looking like new. It is Oxygen bleach. This is a powder that is mixed with water and does a great job of removing black roof algae stains. The trick is to work in the cool part of the day. The sun heats up shingles quickly and you must keep the roof surface wet with the oxygen bleach solution for up to 45 minutes to achieve superb results. If you try to do this in direct sunlight, the solution will evaporate too fast.

I happen to sell oxygen bleach. I call it Stain Solver. You can also find oxygen bleach on cable TV and in some super stores like Wal-Mart. But my Stain Solver is better than ALL of my competition. Why? Because my Stain Solver contains more oxygen bleach than any other brand. Also, the more you buy from me the cheaper it gets. You absolutely do not get a discount when you buy more at the national chain stores or when you order from the TV infomercials.

Oxygen bleach is often sold in two pound sizes and multiples of two pounds (4 lbs, 6 lbs, etc., up to 50 lbs!) Because my product has the highest concentration of oxygen bleach, you need less of it per gallon of water to deep clean. Two pounds of my Stain Solver will make four gallons of solution. We find that four gallons of solution will typically clean 250 to 300 square feet of roof area. Badly stained roofs may need multiple applications.

NEWS from CPSC

U.S. Consumer Product Safety Commission

Office of Information and Public Affairs

Washington, DC 20207

FOR IMMEDIATE RELEASE

January 15, 2009

Release #09-099

Manufacturers' Recall Hotline: (800) 758-3688

CPSC Recall Hotline: (800) 638-2772

CPSC Media Contact: (301) 504-7908

CPSC, Manufacturers Announce Changes to 1998 Recall Program to Replace Dangerous Home Heating Vent Pipes

Remedy Changes for Registrations after May 1, 2009

WASHINGTON, D.C. - The U.S. Consumer Product Safety Commission (CPSC) and various home heating furnace, boiler, and high-temperature plastic vent (HTPV) manufacturers are urging home owners who have not yet responded to the previously-announced 1998 recall, to do so immediately. After May 1, 2009, the remedy consumers receive under the existing program, which has been operating continuously for almost 11 years, will change.

The recall, first announced in February 1998, included about 250,000 Plexvent and Ultravent HTPV pipe systems attached to gas or propane furnaces and boilers in homes. The HTPV pipes can crack or separate at the joints and leak deadly carbon monoxide (CO) gas. The following table includes the different remedies available to consumers with qualifying heating systems vented with two leading brands of HTPV pipe – Plexvent and Ultravent.

	Plexvent owners	Ultravent owners
Valid claims initiated on or before May 1, 2009, with remediation completed and required documentation submitted by October 1, 2009	Will receive a new, professionally-installed venting system free of charge or a rebate up to \$400 towards purchase of a new, high-efficiency appliance from the same manufacturer that does not require HTPV	Will receive a new, professionally-installed venting system for about \$250 or a rebate of \$250 towards purchase of a new, high-efficiency appliance from the same manufacturer that does not require HTPV
Valid claims initiated after May 1, 2009	A rebate up to \$400 toward either an HTPV replacement system, or a new, high-efficiency appliance from the same manufacturer that does not require HTPV	A rebate up to \$250 toward either an HTPV replacement system, or a new, high-efficiency appliance from the same manufacturer that does not require HTPV

Consumers who register after May 1, 2009 and who choose to repair their systems will be responsible for up-front payment of parts, labor and permits, and will be responsible for arranging to have the work performed.

Consumers should determine whether they have a recalled HTPV pipe system by checking the vent pipes attached to their natural gas or propane furnace or boiler. Vent pipes subject to this recall can be identified as follows:

- the vent pipes are plastic;
- the vent pipes are colored gray or black;
- "Plexvent," "Plexvent II" or "Ultravent" is stamped on the vent pipe or printed on stickers placed on pieces used to connect the vent pipes; and
- the vent pipes are located on furnaces (and the pipes go through the sidewalls of structures) or on boilers.

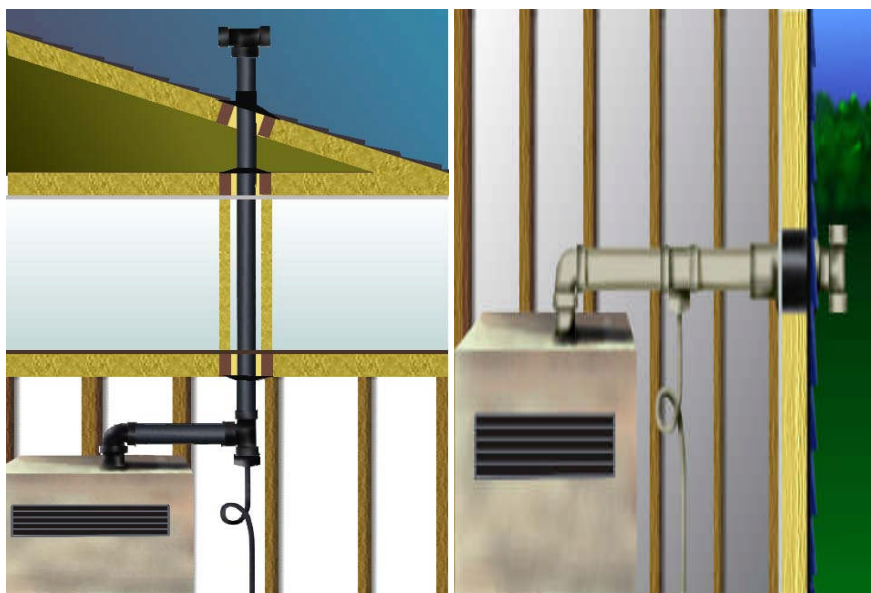
Other plastic vent pipes, such as white PVC, are not included in the recall.

After checking the vent pipes, consumers should call (800) 758-3688 between 8 a.m. and 7 p.m. ET Monday through Friday to sign up for HTPV pipe system replacement. The following manufacturers are participating in this program:

Armstrong Air Conditioning Inc.
Bard Manufacturing Co.
Burnham Corp.
Dunkirk Radiator Corp.
Evcon Industries Inc.
Heat Controller Inc.
International Comfort Prod.
Corp.(USA)
Lennox Industries Inc.
Nordyne Inc.
Peerless Heater Co.
Pennco Inc.

Plexco Inc.
Raypak Inc.
Rheem Manufacturing
Co.
Slant/Fin Corp.
The Trane Co.
Trianco-Heatmaker Inc.
Utica Boilers Inc.
Vaillant Corp.
Weil-McLain
Westcast Inc.
York International
Corp.

CPSC reminds all consumers to have fuel-burning appliances professionally inspected each year to check for cracks or separations in the vents that could allow CO to leak into the home. In addition, CPSC recommends that every home should have at least one CO alarm.



The 10 lies desperate home sellers tell

Read these tips from Barbara Corcoran before you sign on the dotted line

By Barbara Corcoran

TODAYShow.com contributor

updated 12:27 p.m. ET, Thurs., Feb. 7, 2008

Sellers can be ... let's say, "flexible," with the truth. A creative omission here, a slight exaggeration there, and before they know it, they've told more porkers than Pinocchio. The more desperate they are to sell, the more likely they are to gloss over the cracks.

Even more problematic than the seller, though, is the buyer! Once a buyer falls in love with a property, they actively collude in the whole fairy-tale process, swallowing whatever the seller says without thinking to question it.

"Subway trains don't pass underneath?" asks the buyer, as the veritable earthquake passing below them jiggles them all around.

"Oh, no," says the seller. "That's just something I ate."

"Phew, I was worried for a moment there."

Here is a list of common untruths you should look out for:

"My neighbors are wonderful!"

Really? Why not check it out for yourself? Knock on the wonderful neighbor's door. Tell them you are thinking of buying the house next door and ask them what they think of the neighborhood. If you get the door slammed in your face, you can assume by "wonderful" the seller meant, "It will be wonderful to get away from those creeps."

You could also check out RottenNeighbor.com. If you find them on there, you know you're heading for trouble.

"The roof leaked once, but we fixed it."

You "fixed" it, eh? What exactly does that mean? Did you have the roof replaced? Patch the leaky area? Or did you just stick a bucket under it? The seller may not even think they are lying here, but if the repairs have been done in some half-baked way, you need to know. Get a professional home inspection.

"I've only seen one termite on the deck."

Termites, bats, rats and carpenter ants are not conducive to a happy home. And they're not included in a typical home inspection. If there's any hint that there might be problems with pests, you should get

an insect inspection. These creatures are not wandering hobos dropping in on a house for a look around then moving on their merry way. They come in groups.

“There’s no radon — ever.”

Nearly one out of every 15 homes in the U.S. is estimated to have elevated radon levels. Bearing this in mind, it is sensible to request a radon test whatever the seller tells you. If you know the area is subject to radon gas, you should definitely do it. To find out about radon gas levels in your area, contact your local Environmental Protection Agency office.

“I didn’t know I should have told you about the foreclosure.”

Get title insurance. Judgments, tax and mechanical liens are covered by title insurance.

“The planes from the airport don’t fly over this house.”

You can find this out for sure by contacting the FAA. Alternatively, you can stick around for a while. If one flies over, watch as the seller’s face turns beet red.

“Of course we had a permit to build the new addition.”

One-family house owners can do all the work themselves, even the plumbing and electrical wiring. But 90 percent of homeowners don’t bother to get the needed permits. If you are worried that something might be amiss, check with the building department.

“There’s *never* been any flooding.”

Most older homes do have some flooding in the basement when there is excessive rain, so it is quite possible a seller could lie to you about this. One thing you can do to find out if the area is susceptible to flooding is to check the water tables at the town hall.

“Our schools are great!”

“Greatness” is in the eye of the beholder. (Or something like that.) For an objective view, get a free school report from HomeFair.com or GreatSchools.net.

“They can’t build on that lot across the street.”

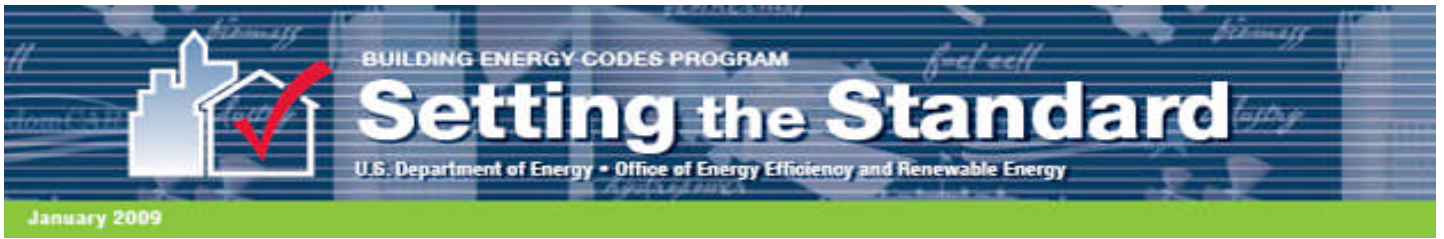
Why can’t they? If the lot is too small, they might get a variance. Talk to the planning board to find out. My mother bought a house in Florida and now all of a sudden someone’s building high school across the street!

Here's a concise list of important things you should do:

- **Get a professional home inspection.**
Qualified home inspectors routinely uncover problems with houses that you can't see. The most common problems involve plumbing, cooling and heating systems, leaky roofs, kitchen appliances and cracked foundations.
- **Spring for extra inspections.**
These include insects, radon, leaky underground tanks and bad well-water.
- **Get title insurance.**
If you're financing, you can't close without it. It protects you from forgery, fraud, encumbrances, judgments and permit violations. You pay for insurance once only when you buy and the policy is good forever.
- **Visit the property during rush hour and on Friday or Saturday night.**
It's the only way to see what the next-door kids are like, how traffic is on the weekends, and how noisy it really gets around the neighbor's pool.
- **Get a signed disclosure form from the seller or the broker representing the seller.**
If they don't disclose the defect, they're subject to suit.
- **Do a final walk-through inspection.**
Revisiting the property before closing ensures that it's in the condition you required in your offer and that any stipulated repairs have been completed. Make the final walk-through no sooner than five days before you intend to close, and make sure the right to do so is included in your offer to purchase.

I know this all sounds very tedious and not at all what you want to spend your time doing, but these few simple steps can save you countless hours of misery down the road. Picture yourself 10 years from now, lying on a damp bed with termites dancing a jig on your chest. The skyscraper across the street casts a dark shadow over your room, so dark you can see yourself glowing green from all the radon gas you've inhaled. Your nasty neighbor sits grinning at the foot of your bed, peppering you with pellets from his BB gun.

Heh! It *could* happen.



- Raising the Standard
- Ask an Expert
- Training Events
- Software Updates

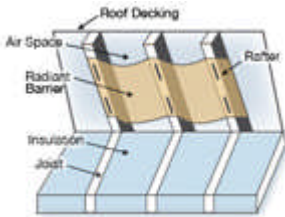
Challenging the Status Code

The U.S. Department of Energy (DOE) and fellow efficiency advocates hit a home run for energy efficient homes at the 2008 International Code Council® (ICC) Final Action Hearings. More energy efficiency improvements were considered—and approved—at the Hearings than ever before in International Energy Conservation Code® (IECC) history.



The results of the Final Action Hearings help DOE make powerful strides toward its goal of reducing the energy consumption of household features regulated by the 2012 IECC by 30% compared to the 2006 IECC. This third article of the *Setting the Standard* series about DOE's progress toward its residential 30% goal highlights the results of the Hearings.

Cool Down with "Reflective Insulation" Materials



The Building Energy Codes Program (BECP) Technical Support team recently received several questions about the R-values of "reflective insulation" materials and how to use them in residential home construction. This article clears up some of the confusion about this product and how it should be used.



Owens Corning

Question: Should I replace wet insulation?

When fiberglass insulation becomes wet with water, such as most rain and/or supply water, it will temporarily lose a substantial measure of its thermal resistance (R-value). In this case the spaces between the fibers that were previously occupied by air are now occupied by water. Since water is a much better conductor of heat than air, the water presence would cause the insulation to have reduced thermal performance. However, this is only a temporary situation. As soon as the water evaporates and the insulation becomes dry again, it will regain its original performance level.

In addition, since fiberglass insulation does not absorb water, the insulation fibers will not be structurally altered or permanently affected in any other way. The material will essentially be as good as new after it becomes dry, provided it has not lost thickness.

Also, Owens Corning FIBERGLAS Insulation meets ASTM C1338, "Standard Test Method for Determining Fungi Resistance of Insulation Materials and Facings."

Now, if the product has been saturated with dirty or contaminated water, Owens Corning recommends that it be replaced. Here is the reasoning: when the water evaporates, deposits of foreign materials that remain may decrease the R-value, and may also give mold and or mildew nourishment and a place to propagate. This growth, and/or odor (Yuck!), may then also be transferred to other building materials.

Owens Corning Pink Panther Energy Blog



The association was established as a multiple state inspector membership organization to:

Increase Internet exposure for potential clients to find our members' business contacts and links

- Find various information from our link pages that will educate you on remedies, laws, regulations and information on complex issues
- Find state statutes and regulations, see what's happening in other states
- Provide members with free continuing education online with state approval credits for license/registration renewals 44 courses are already available for license renewal credits
- Find new products, building green info, energy efficient technologies,
- Publish a monthly newsletter with relevant and pertinent information on local, state and national inspection issues
- Provide members with a private discussion forum
- Advance the inspection profession to the level it deserves
- Offer the ability for you to accept credit cards at your business which eliminates bounced checks & long delays for checks to clear

We encourage our members to stay informed. Contact us with any questions or concerns.

Join online today!

Our membership dues for a licensed inspector is only \$155 per year. Interns/trainees is only \$140

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