

## TAP Field Guide for Service Professionals

Is the attic part of your normal inspection?

Do customers request assistance with attic clean-up?

**The Problem with Damaged Insulation Due to Animals** : According to the CDC humans can become infected with diseases from rodents when they are exposed to fresh urine, droppings, saliva or nesting materials. When the droppings are moved around, spores can become airborne and can enter the human body through inhalation, eyes and ears. Airflow could also potentially create this same effect.

- Disturbed or damaged insulation costs you money in energy bills and invites moisture damage.
- Uneven insulation and leaky ductwork make your HVAC work harder and robs you of comfort – and money.
- Exposed wiring is a fire hazard. According to the U. S. Fire Administration<sup>14</sup>, electrical problems in a home account for approximately 68,000 fires a year.
- Animal presence in the attic means urine and feces – and even animal carcasses – giving off odors. Homeowner’s may be living with a litter box above their heads!
- The animals and their residue attract insects, mold, bacteria, and other microorganisms which feed and breed on organic wastes.
- If you have had animals in your attic, you could be harboring a significant health hazard for residents and visitors.
- USDA: “Since free-roaming wildlife does not receive veterinary care, all species can carry diseases and parasites.”
- Among these hazards, the USDA cites fleas, ticks, lice, mites, tuberculosis, histoplasmosis, encephalitis – children and pets are particularly at risk.

### **DIAGNOSING THE PROBLEM**

Several factors can contribute to the need for removal of attic insulation

- Insects



- No Insulation / Low Spots
- Damaged Insulation



- Energy Holes, Open Areas, or Cavities
- Odor
- Potential Problems or Other Damage
- Animal Intrusions
- Tapered Insulation, Feces

Examine attic insulation for animal and/or insect presence and damage.



Feces & Disturbed Insulation

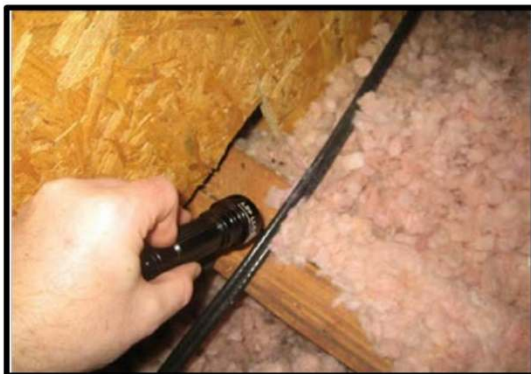


Compacted Feces & Odors



Feces & Mold/Mildew

Rats and mice urinate and defecate wherever they are. Just because you can't see urine ..... doesn't mean it's not there!



← Wire from previous photo

## **INSURANCE TIPS**

Homeowner's insurance may cover the cost of insulation removal and replacement when damage is by bats, raccoons, and pigeons. (Rodent exclusion in most policies precludes coverage for damage by squirrels, rats, and mice.) Advise the homeowner to review their policy or call their agent to determine the details.

It should be pointed out that raccoons, bats, and pigeons are not "rodents" (commonly classified as "vermin" by insurance companies). They are carnivores, insectivores, and birds which do not normally fall into insurance company exclusion categories.

Do not make the sale dependent upon the approval of the insurance company. It is an option the homeowner may want to pursue. The insurance companies would potentially cover costs regarding damage of the existing insulation not contamination.

Be sure to emphasize the key word "DAMAGE" when talking with the insurance company.

## **Animals in the Attic**

Raccoons: Mammals; nocturnal (active at night); omnivores (eats plants and animals); prefers confined spaces for nesting; litters consist of 2-6 young.

Opossum: Marsupials; omnivores; tree swingers; reproduce rapidly; average 6-11 young; young carried in pouch until mature.

Squirrels: Rodents; mostly diurnal (rise early and active in the day); average 1-4 young; breed two times a year.

Rats and Mice: Rodents; can be active day or night (when activity in the home is minimal); can average 30-180 fecal droppings per day.

Bats: Winged mammals; Nocturnal (active at night); Insectivores (eats insects); consumes thousands of insects nightly; mate in fall and winter but fertilization and ovulation delayed until spring; average 1-2 young.

Pigeons: Non-migratory birds; on average lays 1-2 eggs; may produce 2-5 broods per year; droppings are acidic and attract insects.

## **Parasites**

**Fleas:** External parasites; feed on the blood of mammals and birds; phenomenal jumpers; lays up to 20 eggs at a time.

**Roundworms:** Internal intestinal parasites; infectious to animals and humans.

**Mites:** External parasites; microscopic in size; feed on mammals, humans, and insects; some burrow under the skin, some live in or near hair follicles, some attach to the bodies of their host.

**Ticks:** External parasites; feed on the blood of reptiles, mammals, and birds; transmit widest variety of disease-causing pathogens.

**Bat Bugs:** Relative of the bed bug; microscopic identification is only way to distinguish the difference; external parasite; feeds on the blood of bats, but will bite humans.

**Incidental Insects:** Insects that feed on fur or feathers from rodent and bird nests; insects that feed on droppings; can infest the home and damage belongings.

Check out [cdc.gov](http://cdc.gov) for more information on all the potential problems one can have in their attic from animal infestations.

## **Animal Related Diseases**

**Histoplasmosis:** Bat and bird droppings contaminate soil and other materials causing *Histoplasma capsulatum* fungus to grow; disturbing the contaminated soil/materials releases infected spores into the air; infection is caused by breathing the spores; primarily affects the lungs; not transmitted from person to person.

**Salmonella:** Bacteria living in the intestines of animals and birds, released in feces; transmitted to humans through consumption of contaminated foods; thorough cleansing is recommended after cleaning-up any animal feces.

**Cryptococcus:** Fungus; caused by same reasons as histoplasmosis; primarily affects central nervous system; those with weaker or less developed immune systems are most susceptible.

**Raccoon Roundworm:** Not severe in raccoons except possibly the young; transmitted through ingestion of eggs; extremely hazardous or fatal to humans.

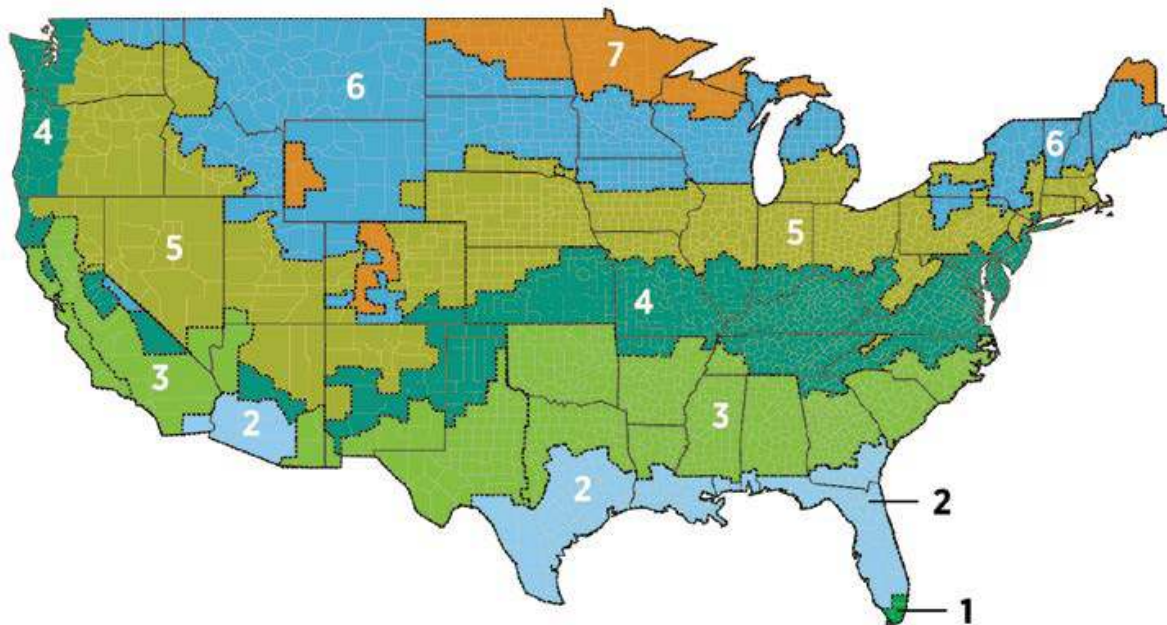
**Hantavirus:** Potentially deadly disease; transmitted by infected rodents and contact with their urine and droppings.

**Rabies:** Can be fatal if left untreated; virus transmitted when introduced to an open wound, bite, or mucous membrane (eyes, mouth); most often infected animals include raccoons, skunks, foxes and bats.

**Above we have discussed many reasons for TAP insulation from animal invasions. Next we will cover TAP insulation needs for homes with low insulation.**

In many homes you will see the ceiling joists visible. This is not good. Insulation (especially fiberglass installed when the home was constructed) should be covering the ceiling joists. When the insulation is low its time to recommend the homeowner have one of our inspectors come by to assess the need for more insulation. Below is a chart of recommended value for insulation in an attic by the Department of Energy.

**Recommended Insulation R-Values from the Department of Energy**



	ADD INSULATION TO ATTIC		
Zone	Uninsulated Attic	Existing 3-4 Inches of Insulation	Floor
1	R30 to R49	R25 to R30	R13
2	R30 to R60	R25 to R38	R13 to R19
3	R30 to R60	R25 to R38	R19 to R25
4	R38 to R60	R38	R25 to R30
5	R49 to R60	R38 to R49	R25 to R30

If you see this kind of attic its time for more insulation!



The kind of insulation we use (TAP) is a *cellulose* insulation. The most common insulation in most homes is *loose fill fiberglass* insulation.



Here is a rundown of the different types you will find in an attic:

Loose fill fiberglass



Batted fiberglass



Rockwool (very old found in old homes)



Foam



Insulation/Foam Board



Cellulose





## **APPROACHING THE HOMEOWNER**

“I also took a look at your insulation while I was in the attic and found...” ←Start with existing or potential pest problems– attic infestations, the attic as an overlooked access point for pest harborage and foraging, etc.

Show the homeowner a picture or two of the worst areas of the attic. Take a T•A•P attic ruler into the attic and snap a photo of the evidence.

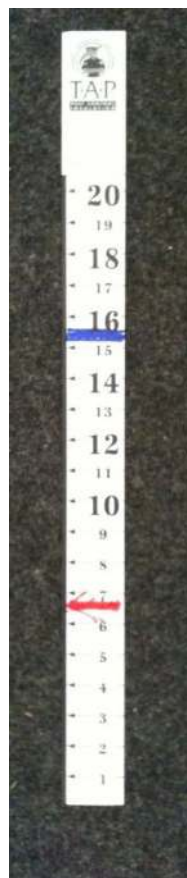
- If the ceiling joists are visible, then the R-value of the insulation could be as low as R19 or even less - the house definitely needs T•A•P!
- Explain the Dept. of Energy’s recommended maximum attic R-value for the area.
- R-value is the resistance to heat transfer. Explain further if necessary.
- The maximum recommended R-value is \_\_\_\_\_. Your insulation (type) is \_\_\_\_\_ inches at only \_\_\_\_\_ R-value.

## TIP

Use the TAP attic ruler to deliver the message! Good communication becomes great communication with visual aids and your TAP proposal will benefit greatly from using any tools available to send the message. This includes the TAP attic R-value ruler. During inspection, take an attic ruler with you into the attic, insert it in the insulation and place a mark on it that corresponds with the depth of the existing insulation. This might often be only 6"! Then on the same ruler, mark the recommended thickness of the insulation to achieve an R49, maybe as much as 15-16" of additional insulation. Present this to the homeowner during your proposal and explain what it means in terms of lost insulating power.

Recommend adding TAP to an R49

Highlighted at ~16" here



Existing insulation – an R14, with the marker at ~ 7"

## **BENEFITS**

- T•A•P™ is a pesticide EPA-registered T•A•P is a dual purpose pesticide with the added benefit of insulation and is treated with boric acid. Borates are found in common household products such as Silly Putty, saline eyewash solution, detergents, and the food we eat. Although deadly to selfgrooming insects, T•A•P is acceptable for use around you, your children, and your pets. Pests often use the attic for breeding and nesting, forming colonies and foraging at night for food and water sources. More than just annoying, they can severely damage a house. Although deadly on contact to many self-grooming insects, T•A•P is not hazardous to humans and pets. Insects cannot build up a tolerance to T•A•P, and it never needs retreating. It is listed to control ants, cockroaches, silverfish, termites, and other pests as shown on its EPA label.
- T•A•P™ has earned the ENERGY STAR label T•A•P Pest Control Insulation is an ENERGY STAR labeled, product, making it a perfect fit for your IPM business practices. T•A•P Pest Control Insulation provides an environmentally sensitive approach to pest (& termite) control, combining a high recycled material content (87%) with low toxicity borates. It's composed of all natural boric acid and recycled paper, thus while conserving energy, it also conserves landfill space.
- Saves Energy & Money R-value is a laboratory measurement of how well a material resists heat transfer by conduction, and T•A•P is highly effective at resisting this type of heat transfer. But it is also a superior barrier to convection and radiant heat transfer. Plus, with an Rvalue greater than fiberglass, T•A•P helps keep a building cool in summer and warm in winter for less money. And since there aren't the leaks and drafts associated with ordinary insulation, mechanical systems don't work as hard or as often, reducing energy consumption and further saving money. T•A•P insulated areas in the home maintain more uniform temperatures between floors and ceilings, and upstairs/downstairs.
- Fire Resistant T•A•P actually makes homes safer in case of fire. Ordinary fiberglass insulation provides very little flame resistance, allowing smoke and oxygen to pass through it. T•A•P, with its impregnated fire-retardant characteristics, forms a charred surface barrier, which limits the spread of fire.
- A Perfect Fit in the Attic T•A•P forms a perfect fit in an attic when applied according to specifications, seeking nooks and crannies, filling the entire cavity. With T•A•P the R-Value stays in the insulation! And that means the added value stays in the home and becomes a permanent benefit for the next owners.
- Absorbs Sound-T•A•P reduces outside noises and helps create a peaceful haven by layering a very effective acoustical shield overhead. TAP insulated interior walls reduce annoying noises (such as toilets flushing and appliances running) inside a house. Independent testing proves the acoustical superiority of TAP over traditional fiberglass.

## **Communicating the benefits that T•A•P offers**

1. A smart way to achieve multiple benefits in one product – pest protection and energy savings over the life of a structure by reducing HVAC usage!
2. Provides protection from the insect superhighway into the home
3. Higher R-value than standard insulation products such as fiberglass or mineral wool. 17
4. Increased value for your home
5. Better flame resistance than either fiberglass or Styrofoam, and may allow more time to escape a burning structure
6. Helps keep your home quiet and more comfortable
7. Helps existing fiberglass work to its potential
8. A rare, money-saving way to be environmentally responsible!
9. High recycled content (87%) Since T•A•P is both a pesticide and insulation, it's important to be informed about features and issues associated with traditional insulation products. The lists below touch on key points that indicate the inferiority of other insulation types when compared to T•A•P. When discussing T•A•P's unique features with a potential customer it may be worthwhile to point out a couple