

# Standards of Practice for the Assessment of Fungal Growths in Residential Structures



**INSPECTOR**  
— N A T I O N —

Inspector Nation Board of Standards & Certification

## Inspector Nation Certified Mold Inspector Standards of Practice

### Scope

I. The purpose of this standard (SOP) is to provide standardized procedures to be used for fungal inspections for mold in Residential Structures. This SOP is limited to residential structures that are in fact being used for residential purposes.

I.1. The following standards have been developed with the intent of providing a standardized method of inspection and sampling to locate areas of fungal growth typical of mold. This standard does not include indications of when samples are required or data interpretation.

I.2. Inspector Nation does not endorse or recommend the use of any specific product. Where applicable, these standards have provided information and procedures based on information gathered from standard collection methods provided by various manufacturer(s) of each sample collection device. Manufacturer protocols and procedures should be followed when they differ from this standard or at the discretion of the inspector. Sampling methods should follow IESO: Indoor Environmental Standard Organization Volume 1: Mold Sampling: Assessment of Mold Contamination.

I.3. There are two levels of inspections described in the Inspector Nation Mold Inspection Standards of Practice:

**(1.0) Complete Mold Inspection:** A mold inspection that is performed in conjunction with a complete Home Inspection per Inspector Nation's Standard of Practice for Home Inspection and or the Standard of Practice per the home inspector's state licensure. All inspection terms used in this standard of practice are as defined per the home inspection standard of practice per the inspection contract.

**(2.0) Limited Mold Inspection:** A mold inspection that is performed without a complete home inspection. This inspection does not include reporting on system or component function. Inspect means to make a visual observation. All inspection terms used in this standard of practice are as defined by this standard of practice and the Inspector Nation Home Inspection Standard of practice per the inspection contract.

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**II.** A mold inspection is valid for the date of the inspection and cannot predict future mold growth. The conditions conducive to mold growth in a building can vary greatly over time and change within 24 hours. The results of a mold inspection (examination and sampling) can only be relied upon for the point in time at which the inspection was conducted.

**III.** A mold inspection is not a comprehensive indoor air quality inspection, and the mold inspector is not an industrial hygienist. Abnormal, harmful, and all inspection terms that are considered industry specific should be understood as defined by the Inspection Nation Home Inspection Standard of Practice.

**IV.** The mold inspector does not have knowledge related to health concerns or risk. The mold inspection does not include assessments related to conditions related to toxicity, advisability of exposure, or suitability for habitability.

**V.** A mold inspection is not intended to eliminate the uncertainty or the risk of the presence of mold or the adverse effects mold may cause to a building or its occupants.

### **1.0 Complete Home Inspection and Mold Inspection**

**1.1** The inspector shall perform a home inspection per the Inspection Nation Home Inspection Standard of Practice and during the course of the home inspection systems and components will be examined for visible presence of fungal growths or discolorations typical of mold. Photographic documentation of fungal growths, discolorations, and conditions conducive of fungal growth will be provided where visible and accessible.

**1.2** After a visual fungal inspection, testing will be performed only at the client's request as per EPA recommendations testing is not required when mold is visible.

- a) The inspection is non-invasive visual examination of the readily accessible, visible, and installed systems and components per the Inspection Nation Home Inspection Standard of Practice.
- b) The inspector shall report all and any limitations that may be of concern.
- c) The inspector shall request or recommend invasive inspection where conditions warrant.
- d) The inspection will include moisture, temperature, and humidity measurements where warranted and conditions allow measurements.

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- e) The inspection will include mold samples taken according to IESO Standards Volume 1 and or equipment manufacturer's instructions; when warranted, requested, and approved by the client.
- f) The inspector shall report on signs of abnormal and or harmful water penetration on building components.
- g) The inspector shall report on indications or abnormal or harmful condensation on building components.
- h) The inspector shall report on conditions that indicate a high probability of conducive environments such as musty odors, apparent mold growth without determining specific mold types.
- i) The inspector shall report on conditions conducive to fungal growth.
- j) The inspector shall deliver the results of a laboratory analysis of all mold samplings taken at the residence; however, will not determine if the results create conditions that could affect health or habitability.
- k) The client must understand that the inspector is a generalist and not a medical professional. The information provided confirms that absence or presence of visible mold in the inspection areas, but not the absence or presence of visible or hidden mold in the home.

### **2.0 Limited Mold Inspection**

The limited mold inspection does not include a visual examination of the entire residence. The limited mold inspection is limited to a specific area, system or component of the residence identified and described by the client. As this is a limited inspection of a specific area, moisture intrusion issues, water damage, musty odors, apparent mold growth, or conditions conducive to mold growth in other areas of the residence may not be discovered.

**2.1** The inspector shall describe all systems and components that were visually inspected to clearly define the scope of the inspection. The areas defined by the limited scope will be examined for visible presence of fungal growth or discolorations typical of mold. Photographic documentation of fungal growths, discolorations, and conditions conducive of fungal growth will be provided where visible and accessible.

**2.2** After a visual fungal inspection of the area of concern, testing will be performed only at the client's request, as per EPA recommendations testing is not required when mold is visible.

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- a) The inspector shall perform a limited non-invasive visual examination of the readily accessible, visible, and installed systems and components located only in the room or limited area as defined by the client.
- b) The limited inspection of the defined area, system, and or components, is a non-invasive visual inspection per the Inspector Nation Home Inspection Standard of Practice.
- c) The inspector shall report all and any limitations that may be of concern.
- d) The inspector shall request or recommend invasive inspection where conditions warrant.
- e) The inspection will include moisture, temperature, and humidity measurements.
- f) The inspection will include mold samples taken according to IESO Standards Volume 1 and or equipment manufacturer's instructions; when warranted and approved by the client.
- g) The inspector shall report on signs of abnormal and or harmful water penetration on building components.
- h) The inspector shall report on indications or abnormal or harmful condensation on building components.
- i) The inspector shall report on conditions that indicate a high probability of conducive environments such as musty odors, apparent mold growth without determining specific mold types.
- j) The inspector shall report on conditions conducive to fungal growth.
- k) The inspector will not report on system operation and defects that would typically be reported during a home inspection that are not within the scope of the mold inspection.

### **3.0 Standards of Practice for Limited Inspection**

#### **3.1 Roof**

**3.1.1** The inspector shall inspect from ground level with zoom camera and at the eaves with a ladder:

- A. The roof covering.
- B. The roof drainage system, including gutters and downspouts.
- C. The vents, flashings, skylights, chimneys, and any other roof penetrations.

**3.1.2** The inspector is not required to:

- A. Walk on any roof surface.
- B. Predict the service life expectancy.
- C. Perform a water test.

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### **3.2 Exterior and Grounds**

**3.2.1** The inspector shall inspect from the ground level:

- A. The cladding, flashing and trim.
- B. Exterior doors, windows, decks, stoops, steps, stairs, porches, railings, eaves, soffits, and fascia.
- C. The exterior grading surrounding the residence perimeter.
- D. Items that penetrate the exterior siding or covering materials.

**3.2.2** The inspector is not required to:

- A. Inspect underground drainage systems.
- B. Inspect defects not related to fungal growths typical of mold or moisture intrusion.

### **3.3. Basement, Foundation, Crawlspce, and Structure**

**3.3.1** The inspector shall inspect:

- A. The foundation, basement, or crawlspace for indications of direct water penetration and condensation.

**3.3.2** The inspector is not required to:

- A. Operate sump pumps with inaccessible floats.
- B. Inspect for structural defects not related to fungal growth or moisture intrusion.

### **3.4 Heating, Cooling and Ventilation**

**3.4.1** For the complete or limited inspection, the inspector shall inspect all visible components of the heating and cooling system:

- A. The air handler, including coils when not taped or sealed, circulating fan, and air filter.
- B. The condensate drainage system including pumps where present.
- C. Supply and return duct work exterior surfaces.
- D. Representative number of supply and return air registers.
- E. The central humidifier and or air cleaner when represent
- F. Through the wall air conditioning units

**3.4.2.** For the complete or limited inspection, the inspector is not required to:

- A. Inspect the interior air handler coil if not readily accessible.
- B. Test the performance or efficiency of the HVAC system.
- D. Inspector or test the interior surfaces of the return or supply duct work.

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### **3.5 Plumbing**

**3.5.1** The inspector shall inspect:

- A. The readily visible main water line.
- B. The readily visible water supply lines.
- C. The readily visible drain, waste, and vent pipes.
- D. Hot water source.
- E. Fixtures such as toilets, faucets, showers, and tubs.

**3.5.2** The inspector is not required to:

- A. Test the showers and tubs by filling them with water
- B. Test whirlpool tubs, saunas, steam rooms, or hot tubs.
- C. Inspect for plumbing defects that are not related to mold growth or moisture intrusion.

### **3.6 Attic, Ventilation & Insulation**

**3.6.1** The inspector shall inspect:

- A. Insulation adjacent to conditioned surfaces
- B. Ventilation of attic spaces.
- C. Roof structural components for the presence of visual fungal growths.

**3.6.2** The inspector is not required to:

- A. To move or disturb insulation unless visible evidence suggest a problem
- B. Determine the absence or presence of vapor retarders.
- C. Determine the relative insulating value of insulation or the effectiveness of insulation and or ventilation systems.

### **3.7 Interior**

**3.7.1** The inspector shall inspect:

- A. The walls, ceilings, floors, doors, and windows.
- B. The ventilation in the kitchen, bathrooms, and laundry.

**3.7.2** The inspector is not required to:

- A. Inspect for interior defects that are not related to fungal growth, conditions conducive of condensation, or water penetration.

### **3.8 Moisture, Humidity, and Temperature**

#### **3.8.1** The inspector shall measure:

- A. and collect data from any inspected room or area of the building that presents evidence moisture intrusion, water damage, visible fungal growth, or conditions conducive to mold growth.
- B. Humidity of the inspected room or area of the residence.
- C. Temperature of the inspected room or area of the residence.
- D. Inspect for the absence or presence of a direct heating and cooling source.

### **4.0 Mold Sampling Procedures**

Identifying the source of the mold spores is the goal of the inspector.

#### **4.1 Sampling**

The decision to take samples should be based on the request of the client and when scientific confirmation is needed for visual discoveries. Samples refer to swab, tape, or air samples. Swab or tape samples should be used when visible fungal growths defined by the inspector as mold are desired to have a laboratory confirmation. Air samples should be taken when the HVAC system is of concern, when inspection conditions warrant sampling, when the client identifies an area of concern, but the inspector cannot identify a visible source. Samples of the indoor air and the outside air should be taken for comparison. In a dry and clean home there should not be any mold type identified on the inside sample report that is not listed on the outside sample report. The concentration of mold inside a home should not be higher than the concentration of mold outside. The inspector must consider recent weather patterns and conditions. The weather history for the test region should be consulted when comparing the inside and outside sample reports. Rain within 24 hours can reduce outside readings and render the typical 1 to 1 comparison as inaccurate.

The outdoor sample will provide test results that will act as the control, this data will be taken as the zero or base point to determine the significance of the interior concerns. The indoor and the outside samples should be collected as close as possible in time and under similar conditions. Air samples should be collected at the same air flow rate, for the same duration of time, near the same height above the floor in all rooms that are sampled indoors and using the same type of collection device.



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The air being sampled can vary greatly in relation to the life cycle of the mold, atmospheric pressures, environmental conditions, seasonal temperatures, and HVAC system types. The seasonal cycle of the HVAC system and or other ventilation equipment should be consistent when retest or second sample groups are taken.

Air sampling should always be recommended if mold growth is suspected by the client or homeowner but cannot be identified by a visual examination. The purpose of such air sampling is to help determine the location and/or extent of mold contamination. The inspector should be able to review the air sample report and determine from the listed mold types the general nature of the mold to help locate the mold spore source.

### **4.2 Air Flow Rate**

The air pump should be adjusted to collect air at a flow rate that is recommended by the manufacturer of the collection device. The flow rate could be 28, 15, 10 or even 5 liters per minute. The result of an air pump sample is recorded in spores per meter cubed (spores/m<sup>3</sup>).

If the air flow rate is too fast, the spores will bounce off the collector plate or slide and will not stick. If the airflow rate is too slow, the spores float around the collector plate or slide and will not stick.

### **4.3 Rotameter**

Rotameters are air flow meters that provide field accuracy in an easy-to-read instrument. The principle of operation is simple: air flow passes through a vertical, tapered tube and pushes a small ball or float having a diameter slightly less than the smaller tube end. As the little ball rises, the clearance between the ball and the tube wall increases. The ball becomes stationary when the diameter of the tube is large enough to allow the total airflow past the ball. The flow rate is determined by reading the number on the tube at the middle position of the stabilized ball.

#### **4.4 Surface Sampling**

Surface sampling can provide information regarding whether the visible apparent mold is in fact actual fungal growth or not, measure the relative degree of the mold contamination, and can serve to confirm that the sampled mold growth may be producing mold spores in the air.

##### **4.4.1 Area of Concern – Take at Least One Sample**

If there is an area of concern (a room or area with moisture intrusion, water damage, musty odors, apparent mold growth, or conditions conducive to mold growth), the inspector shall perform at least one (1) surface sample in EACH area of concern. Additional surface samples may be performed at the discretion of the inspector.

##### **4.4.2 No Areas of Concern – Not Required**

If there are no areas of concern (no moisture intrusion, no water damage, no musty odors, no apparent mold growth, and no conditions conducive to mold growth), the inspector is not required to perform a surface sampling. Surface samples may be performed in other areas of the home at the discretion of the inspector.

##### **4.4.3 Swab - Wet**

A swab comes inside a plastic tube container. The cellulose swab is moistened with a liquid preservative stored in an ampoule at one end of the tube container. Any bacteria collected with the swab is transferred via the swab into a tube. The tube is sent directly to a laboratory for analysis. A swab provides immediate determination of the presence of fungal spores as well as what types of fungi are present.

##### **4.4.3.1 Areas of Concern**

Inspector shall take at least one (1) swab sample when a visual examination of the home yields moisture intrusion, water damage, apparent mold growth, musty odors, or conditions conducive to mold growth. Additional sampling may be performed at the discretion of the inspector.

##### **4.4.3.2 Sampling**

In general, an inspector will typically hold the tube container so that the ampoule with the liquid preservative is at the top. The plastic tube should be pinched so the liquid will flow down onto the swab. To remove the

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moistened swab, you pull on the cap. Rub and roll the wet swab over a one-inch square area of the apparent mold growth. The swab should collect visible apparent mold. Insert the swab back into the tube. Secure the cap.

### **4.4.3.3 Each Sample**

A unique sample number should be recorded for each swab sample. Write the number on the tube itself. The Chain-of-Custody document should have the sample number, location, date, and time of the sampling.

### **4.4.3.4 Each Room**

Take the sample in each room or area where there is visible apparent mold.

### **4.4.3.5 Each Color**

If there is apparent mold growth with different colors in the room or area, take a sample of each different colored mold. The different colors may indicate different mold types.

### **4.4.3.6 Each Substrate**

If mold is visible on different substrates or building materials such as wood, drywall, or wallpaper, then a sample from each different material is recommended.

## **4.4.4 Tape**

A tape system provides a quick way to sample visible mold. A tape-lift system is the most common surface sampling technique. It can be used instead of a swab sample. Many samples can be collected in a short period of time. Samples that show hyphae fragments and reproductive structures can provide proof of mold growth.

One of the most popular tape sampling products is the slide and tape combination system. There are many advantages of using tape lift systems such as the Bio-Tape™ instead of using regular tape. This type of system is easier to handle, the tape slides are individually numbered, it requires less laboratory preparation time, and the slides are flexible and will not break.

The sampling result is not quantitative. The presence of fungi can be confirmed, genera can be identified, and possibly a semi-quantitative estimation of the amount of each genus can be determined.

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### **4.4.4.1 Sampling**

The procedure to using a tape lift system such as Bio-Tape™ is as follows:

- Remove the slide from the mailer;
- Record the sample number and all other identification information prior to taking the sample;
- Peel off the protective liner from the slide to expose the adhesive;
- Place the slide with sticky side down on the contaminated area being sampled;
- Press down gently and make contact. Excessive pressure is not necessary;
- Lift the slide from the surface and place back into the slide mailer.

Do not replace the protective liner;

- Record all information on the Chain-of-Custody document, including property address, date, time, and sample number;
- Mail the sample to the laboratory.

### **4.4.4.2 Professional Protective Equipment (PPE)**

Because there is direct contact with and disturbance of the contaminated area, PPE is recommended, including gloves and a respirator rated as N-95 or higher.

### **4.4.4.3 Each Sample**

A unique sample number should be recorded for each tape sample. The Chain-of-Custody document should have the sample number, location, date, and time of the tape sampling.

### **4.4.4.4 Each Room**

Take the tape sample in each room or area where there is visible apparent mold.

### **4.4.4.5 Each Color**

If there is apparent mold growth with different colors in the room or area, take a tape sample of each different colored mold. The different colors may indicate different mold types.

### **4.4.4.6 Each Substrate**

If mold is visible on different substrates or building materials such as wood, drywall, or wallpaper, then a tape sample from each different material is recommended.

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### **4.4.5 Carpet**

Carpets tends to contain a history of any mold that has been growing in the home. The carpeting sampling is performed to reveal previous mold problems. A carpeting sampling can also reveal undetected mold growth that may have been covered over or cleaned up. Choose an area that located out of the main traffic path, or that is not heavily walked upon, an area with little traffic. Do not sample under furniture.

A household vacuum and a carpet-sampling cartridge are used to vacuum a small area of the carpet. The cartridge should be inserted as deep into the pile of the carpet as possible. If a carpet has not been cleaned thoroughly prior to a sampling, a carpet can easily hold evidence of a mold problem in the house. Even after cleaning, there can be mold spores discovered deep in the carpet.

#### **4.4.5.1 Set Up**

Insert the nylon filter into the collector nozzle. It should snap in place. Attach the device to the vacuum hose securely. An adapter may be needed. If the attachment is loose, use duct tape to make a tight connection.

#### **4.4.5.2 Sampling**

Choose a 6-foot by 3-foot sampling area in front of the sofa or large chair where occupants spend a lot of time. Vacuum this area thoroughly. Next select a 6-foot by 3-foot area in a bedroom alongside a bed. Remove filter. Place into the bag that came with the unit. Mail it to the laboratory.

### **4.5 Outdoor Air Sampling**

#### **4.5.1 Two Outdoor Samples**

The inspector shall perform two (2) outdoor samples of the highest quality general air to be used as control samples (or background samples). These samples to be used for comparison with the indoor sample(s).

#### **4.5.2 Upon Arrival**

The outdoor sampling should begin soon after arriving at the property, assuming that the weather is clean and calm. It is better for an inspector to perform the outdoor sampling while the weather is favorable than to wait. The outdoor conditions may change drastically during the examination and sampling of the building interior.

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### **4.5.3 Weather**

Air sampling should not be conducted during unusually severe storms or periods of unusually high winds. Severe weather will affect the sampling and analysis results in several ways. First, a high wind will increase the variability of airborne mold spore concentration because of wind-induced differences in air pressure between the building interior and exterior. Second, rapid changes in barometric pressure increase the chance of a large difference in the interior and exterior air pressures, consequently changing the rate of airborne mold spores being drawn into the building. Weather predictions available on local news stations can provide sufficient information to determine if these conditions are likely.

#### **4.5.3.1 Clean and Calm**

On a Chain-of-Custody form, the weather conditions shall be recorded. The weather conditions should be clean and calm. High winds may affect the quality of the sampling, including the comparison between indoor and outdoor sampling.

#### **4.5.3.2 No Rain**

Air pump sampling should not take place outdoors if it is raining. If possible, you should wait for at least two (2) hours after the rain has stopped before taking an air pump sample. Alterations or adjustments to the normal procedure or locations of taking air pump samples, particularly for the control sample, must be recorded in a Chain-of-Custody.

#### **4.5.3.3 Above Freezing**

Air pump sampling should not take place when the outdoor air temperature is below 32° Fahrenheit. All air sampling should take place when the air temperature is above freezing.

#### **4.5.3.4 No snow covering**

If the ground is completely covered with snow, outdoor air pump sampling should not be performed. A partial covering or a light dusting of snow is acceptable.

#### **4.5.3.5 Ten Minutes**

On a clean windless day, air pump sampling should run for 10 minutes, or minimum time recommended by the manufacturer. When the outdoor air is something other than clean and windless, then the time of the sampling

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should be reduced to 5 minutes or less. A breeze, the mowing of grass, nearby construction, and dusty air all affect the sampling conditions.

### **4.5.4 Location**

1. If possible, one outdoor sample should be located on the windward side of the building (the side facing the point from which the wind blows), and the other should be located on the leeward side of the building (the side sheltered from the wind).
2. The sampling device located on the windward side of the building should be positioned to face the wind directly. The sampling device should point towards the wind, in the direction of the point from which the wind is blowing. The sampling device should be three to six feet (3-6 ft.) from the ground surface (breathable space).
3. Typically, the device is about 10 feet away from the front entry door. The idea is to have both outdoor samples located in areas where the devices will collect a representative sampling of the air that may enter the building through the entry door or nearby open windows (the openings on the sides of the building).

#### **4.5.4.1 Ten Feet**

1. If there is a main ventilation component of the building that draws into the building fresh air from outside, sampling should be performed ten feet (10 ft.) feet from that intake.
2. The sampling should be performed at least ten feet (10 ft.) from the most frequently used entrance to the home.
3. The air sampling devices should be kept at least ten feet (10 ft.) away from all openings, air intakes, registers, exhaust vents, vent pipes, ventilation fans, etc.

#### **4.5.4.2 Overhead Clearance**

1. Sampling should not be performed under an overhang, soffit, or eave; carport; porch roof, or any other roof or overhead structure.

## **4.6 Indoor Air Sampling**

### **4.6.1 Closed-Building Conditions**

1. Indoor air sampling should be made under closed-building conditions. Closed-building conditions are necessary to stabilize the air that may contain mold spores or mVOCs, and to increase the reproducibility of the air sampling and measurement.
2. Windows on all levels and external doors should be kept closed (except during normal entry and exit) during the sampling period. Normal entry and exit include a brief opening and closing of a door, but—to the extent possible—external doors should not be left open for more than a few minutes.
3. In addition, external-internal air exchange systems (other than a furnace) such as high-volume, whole house and window fans should not be operating. However, attic fans intended to control the attic and not the whole building temperature, or humidity should continue to operate. Combustion or make-up air supplies must not be closed.
4. Normal operation of permanently installed energy recovery ventilators (also known as heat recovery ventilators or air-to-air heat exchangers) may also continue during closed-building conditions. In houses where permanent radon mitigation systems have been installed, these systems should be functioning during the air-sampling period.
5. Closed-building conditions will generally exist as normal living conditions in northern areas of the country when the average daily temperature is low enough so that windows are kept closed. Depending on the geographical area, this can be the period from late fall to early spring.

### **4.6.2 Heating, Ventilation, and Air Conditioning**

#### **4.6.2.1 Take One Air Sample**

1. At least one (1) air sampling shall be taken at an air supply register of the HVAC system. It is preferred to sample prior and during the operation of the HVAC system. If only one sampling can be performed, then the sampling should be taken 15 minutes after the HVAC system is turned on.
2. Ideally, there would be at least three sampling devices similarly situated throughout the building, but financial or time constraints may limit the number of samples that can be taken.



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### **4.6.2.2 Location**

1. The air sample should be taken three to five feet (3-5 ft.) from an air supply register, with the sampling device oriented so that air from the supply register directly enters the sampling device.

### **4.6.2.3 Agitation**

1. A gentle or vigorous mechanical agitation of the ductwork (a bump or shake) is appropriate.

## **4.6.3 Indoor Air**

### **4.6.3.1 Take One Air Sample**

1. The inspector shall perform at least one (1) indoor sample. Additional samples may be performed at the discretion of the inspector.

### **4.6.3.2 Areas of Concern**

1. At least one (1) air sample shall be taken near the center of EACH room or area of the building in which there are areas of concern (moisture intrusion, water damage, musty odors, visible apparent mold growth, and conditions conducive to mold growth).

### **4.6.3.3 No Areas of Concern**

1. At least one (1) indoor air sample shall be taken in the most lived-in common room, such as the family, living, or entertainment room (The location shall be determined at the discretion of the inspector).

### **4.6.3.4 Location**

1. An indoor air sampling should only take place in a livable space in the building. Sampling in areas such as closets, under-floor crawlspaces, unfinished attics, storage, or utility rooms, or inside the HVAC system is prohibited.

2. The indoor air sample should be taken in the middle or center area of the area or room.

3. The air collection device should be at head height (about three to six feet above the floor surface).

### **4.6.3.5 Ten Minutes**

1. Inside the home, the air pump sampling should run for 10 minutes, or the minimum time specified by the manufacturer. If there is a lot of indoor

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activity, then the air pump sampling should be reduced to 5 minutes. If there is an active source of dust, such as construction or cleaning, then the air sampling time should be reduced to 1 minute. Be sure to follow the recommendations of the manufacturer of the sampling device or collector; there are some devices that are designed to take a sample in 5 minutes (i.e., Z5 cassette).

### **4.6.4 Sampling**

- 1.** The sampling equipment must be protected, clean, and properly maintained at all times. The sampling device shall be clean, free from dirt or debris prior to starting a sample. If re-usable collection devices are used, then they shall be handled and cleaned prior to use in accordance with the manufacturer's recommendation. The collector may be re-usable and have sticky slides already prepared, or the collector may be a one-time-use self-contained device.
- 2.** Slides, cassettes, and one-time-use devices should be stored in cool, dry environments. The slides must be protected from direct sunlight. Sampling devices (slides, swabs, cassettes, tapes) older than one year should not be used.
- 3.** Set the air collector at a normal breathing height, which is about 3 to 6 feet above the ground level or floor surface. A tripod is typically used to set the collector height.
- 4.** Calibrate the flow of the pump. Do not attach the sampling device, cassette, or collector on the tubing. Measure the flow rate of the pump with a rotameter that has been calibrated to a standard. Make sure that the flow rate is set to the manufacturer's recommendation. For example, an Air-O-Cell cassette flow rate is 15 liters of air per minute. The pump should be calibrated regularly (once a day). A record of calibrations should be kept in a work ledger or logbook.
- 5.** After calibration, securely attach the tubing of the pump to the sampling device or collector. Turn on the pump. Start sampling. Record start time.
- 6.** After turning on the air pump, check the airflow rate. The flow rate should not vary. A flow change greater than five percent (5%) requires a new air sample to be taken. All air samples must have the same volume. A digital time controller on the equipment is highly recommended.
- 7.** Examine the collector. There should not be an overload on the slide. There should be a fine trace, hardly visible to the human eye, of dust and spores on the slide. A slide that has an easily visible trace on it may be unreadable. If that is the case, the environmental conditions may need improvement, or a new sampling location may be needed. If a slide is heavy, a new sample should be taken.

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- 8.** Remember, all air samples must have the same volume. Refer to manufacturer's recommendations about sampling time and volume for each type of sampling device.
- 9.** Record the time that the pump stopped. Mark the sampling device with a unique sampling number. Record that information on Chain-of-Custody.
- 10.** Place slides in a protective carrying case. Or close the collector if a cassette is used. A new sample must be taken, if a slide is accidentally touched, smeared, or contaminated, because it will be unreadable.
- 11.** Calculate the volume by multiplying the liters of air pumped by the number of minutes. An example of the calculation is 20 liters of air pump multiplied by 10 minutes equals 20 liters per minute equals 200 liters (20L x 10 minutes = 200 L).

### **5.0 Limitations & Exclusions**

#### **5.1 Limitations:**

- I.** These Standards of Practice apply only to residential buildings with four or fewer dwelling units.
- II.** The mold inspection is not a warranty, guarantee, or insurance policy.
- III.** The mold inspection is not technically exhaustive.
- IV.** The mold inspection will not identify concealed or latent conditions or defects.
- V.** The mold inspection will not identify mold growth not readily visible at the time of the inspection.
- VI.** The scope of a mold inspection does not include future conditions or events
- VII.** The scope of a mold inspection does not include hidden mold growth or future mold growth.

#### **5.2 Exclusions:**

##### **I. The inspector is not required to report:**

- A.** The condition of any system or component that is not readily accessible
- B.** The condition of any system or component that is not in the Inspector Nation Standards of Practice for a limited inspection or the Inspector Nation Standard of Practice and the NCHILB Standard of Practice for a complete home and mold inspection.
- C.** The service life expectancy of any system or component.
- D.** The size, capacity, BTU, performance, or efficiency of any component or system.
- E.** Compliance with codes, regulations, or installation guidelines.
- F.** The presence of evidence of rodents, animals, insects, wood destroying insects and pests.

## **Inspector Nation Certified Mold Inspector Standards of Practice**

### **II. The inspector is not required to:**

- A.** Determine the presence of hidden mold by physical examination or sampling.
- B.** Report replacement or repair cost estimates.
- C.** Lift carpeting or padding.
- D.** Inspect any other environmental issue.
- E.** Determine the cause or reason of any condition.
- F.** Perform a geotechnical, structural, geological evaluation.
- G.** Move any personal items or other inspection obstructions, such as, but not limited to: insulation, throw rugs, furniture, floor or wall coverings, ceiling tiles, window coverings, equipment, plants, ice, debris, snow, water, dirt, foliage, or appliances.
- H.** Dismantle, open, or uncover any system or component.
- I.** Enter or access any area, crawlspace, or attic space, which, in the opinion of the inspector, may be unsafe or may risk personal safety.
- J.** Do anything that may be unsafe or dangerous to the inspector or others or damage property according to the opinion of the inspector.
- K.** Determine the insurability of a property or suitability of the property for occupancy.

### **III. The inspector, when conducting a home inspection is not required to operate:**

- A.** Any system that is shut down.
- B.** Any system that does not function properly.
- C.** Any system that does not turn on with the use of normal operating controls.
- D.** Any shut off water or fuel valves or manual stop valves.
- E.** Any electrical disconnect or over-current protection devices.
- F.** Any irrigation or sprinkler systems.

## Inspector Nation Certified Mold Inspector Standards of Practice

### 6.0 Definitions

**6.1 Accessible:** Can be approached or entered by the inspector safely, without difficulty, fear, or danger.

**6.2 Apparent Mold:** visible growth with characteristics of mold, which cannot be confirmed by the inspector without the benefit of sampling. The term “mold growth” is interchanged in this standard with “fungal growth” and “microbial growth.”

**6.3 Area of Concern:** A room or area with moisture intrusion, water damage, musty odors, visible apparent mold growth, and conditions conducive to mold growth. A room or area identified by the client to be of concern.

**6.4 Complete:** Comprehensive in scope or purpose of the SOP.

**6.5 Component(s):** A permanently installed or attached fixture, element, or part of a system, but individual parts such as nails or boards.

**6.6 Condition(s):** The visible and conspicuous state of being of an object.

**6.7 Dismantle:** To open, take apart or remove any component, device or piece that would not typically be opened, taken apart or removed by an ordinary occupant.

**6.8 Due Diligence:** The degree of care and caution required by the circumstances of a person.

**6.9 Dwelling Unit:** A complete place to live including a kitchen and bathroom.

**6.10 Household Appliances:** Kitchen and laundry appliances, room air conditioners, and similar appliances.

**6.11 Invasive:** To probe, dismantle or take apart a system or component.

**6.12 Interior:** The area(s) of a building where people have access and are included in the condition space of the building. Rooms defined in the IRC and Residential Building code as habitable spaces.

**6.13 Limited:** Not comprehensive in scope or purpose.

**6.14 Fungal Growth:** Microscopic organism such as mold.

**6.15 Normal Operating Controls:** Devices such as thermostats that would be operated by ordinary occupants, which require no specialized skill or knowledge.

**6.16 Occupants:** Tenants, persons, or entities each of which uses a portion of the building.

**6.17 Readily Accessible:** An item or component is readily accessible if, in the judgment of the inspector, it is capable of being safely observed without movement of obstacles, detachment or disengagement of connecting or securing devices, or other unsafe or difficult procedures to gain access.

**6.18 Report:** A written communication (possibly including digital images) of conditions seen during the inspection.

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**6.19 Representative Number:** At least one in a particular room or area.

**6.20 Sampling:** The collection of air, surface, or carpet samples for analysis.

**6.21 Shut Down:** Turned off, unplugged, inactive, not in service, not operational, etc.

**6.22 Inspect(ed):** To visually look at readily accessible systems and components safely, using normal operating controls and accessing readily accessible panels and areas in accordance with these Standards of Practice and the Inspector Nation Standard of Practice for Home Inspection.

**6.23 Inspector:** One who performs an inspection for compensation.

**6.24 System(s):** An assembly of various components to function as a whole.

**6.25 Technically Exhaustive:** A comprehensive and detailed examination beyond the scope of a mold inspection which would involve or include, but would not be limited to: dismantling, specialized knowledge or training, special equipment, measurements, calculations, testing, research, analysis or other means.

**6.26 Unsafe:** A condition in a readily accessible, installed system or component, which is judged to be a significant risk of personal injury during normal, day-to-day use. The risk may be due to damage, deterioration, improper installation, or a change in accepted residential construction standards. Harmful and Abnormal refers to conditions that damage the building and or the systems and components, not health related issues.