S590 Standard for Assessing HVAC Systems Following a Water, Fire, or Mold Damaged Event

Second Limited Public Review (June 2023)

(Draft shows Proposed Changes to Current Standard)

Note to Reviewers: *These changes are indicated in the text by underlining (for additions) and strikethrough (for deletions). Only these changes to the current standard are open for review and comment at this time. Additional material is provided for context only and is not open for comment except as it relates to the proposed changes.*

Important Definitions

Ultimately, it is the responsibility of the ~~remediator~~ assessor to verify on a case-by-case basis that application of this Standard is appropriate.

1.4 ~~HVAC Observations~~ Building Usage

1.5.1 Event Related Damage

The HVAC assessment ~~should focus~~ focuses on the impact a water, fire, or mold damage event had on the interior surface of HVAC components.

1.5.4 Potential Secondary Damage

The HVAC assessor's ~~recommended~~ RWP considerations ~~will~~ should be based on the time of the initial assessment.

2.1 The HVAC Assessor

The assessor shall follow all applicable governmental regulations.

~~2.3 Regulatory Requirements~~

~~The restorer shall either be or use a licensed HVAC and duct cleaning contractor as required by applicable governmental regulations.~~

3.1 Restoration Considerations

A complete assessment ~~requires~~ may require some degree of disassembly of the HVAC components.

5.1 Sampling Location

The number of ~~assessment~~ sampling locations should be determined by the HVAC assessor based upon the extent, severity, type of air conveyance system, and type of event. ~~Two primary~~ Testing locations should start with the most affected area of the HVAC system to the least affected areas to establish if further sampling locations are required to create a RWP for the remediation contractor.

If event related contamination is found in the initial sampling locations, additional sampling locations may be needed to fully assess the extent of the contamination.

5.2.3 Damp Wiping Method Test (non-porous surfaces)

When the final cleanliness of a duct surface is not acceptable after damp wiping then replacement of that component ~~should be~~ is recommended.

5.2.4 Insulation Erosion Test

When the erosion tests indicate visual abrading, fraying or eroding surfaces, the duct liner adhesion test should be performed as part of the assessment.

5.2.5 Duct Liner Adhesion Test

When the erosion tests indicate visually frayed ~~abraded~~ or eroded airside surfaces, and a fiberglass repair coating is being considered, a duct liner adhesion test should be performed to report the adhered condition of the duct liner to the metal surface.

Other common conditions that should be reported causing duct liners and duct board to delaminate, abrade, fray, or erode include but are not limited to:

- the proximity to the air handler;
- high velocity airflow;
- increased weight from adsorbed moisture;
- close proximity to UV lights;
- high temperatures from a combustion furnace (higher temperatures dry out resins and binders in the fiberglass over time);
- added weight from existing coatings;
- unfinished butt joints (unfinished joints collect particulate and can emit fiberglass fibers into the airstream);
- age of the duct liner (older duct liners surfaces can become highly brittle and not capable of supporting coating repair products);
- size of the duct and the air velocity at the location of the liner; and
- deferred maintenance or neglect.

6.1 Baseline Sample (Sample1) Evaluation

Baseline samples should be evaluated as follows:

- when no event related odor is detected and no event related residue is observed, the component should not be recommended for restoration~~ed~~;

10.1 Water Loss: Additional Minimum HVAC Observations

During the assessment, ~~Category 1~~ when water is identified in the ductwork it ~~for less than 48 hours~~ should be immediately reported to the ~~remediation contractor~~ client to address the issue ~~for extraction when possible~~ according to the latest edition of the *ANSI/IICRC S500 Standard for Professional Water Damage Restoration*. ~~Time and temperature can affect or retard the amplification of contaminants, thereby affecting its Category rating. Once the excess water is removed, the system components should be thoroughly dried. In situations where Categories 2 or 3 water has directly entered HVAC systems, especially where internal insulation or fiberglass duct board is present, t~~ The HVAC assessor should determine the practicality of decontaminating the HVAC ductwork and mechanical components. When fiberglass becomes matted or compressed due to wet conditions, the HVAC assessor should recommend replacement.

10.2.1 Mold: Limitations of Visual Observations

It is not possible for the HVAC assessor to identify a Condition 3, Condition 2, or Condition 1 level during the HVAC system assessment.

10.2.2 Mold: Assessment

The HVAC system should be inspected for ~~condition 2 or 3~~ mold contamination, and if contamination is ~~identified~~ suspected, ~~and validated~~, the condition and location of the components should be ~~scoped~~ identified and documented. ~~to be returned to Condition 1 or replaced as part of the overall mold remediation strategy.~~

When using this document in conjunction with the latest edition of *ANSI/IICRC S520 Standard for Professional Mold Remediation*, the following exception applies - in those areas requiring a licensed mold assessor, ~~it is understood that~~ the appropriate licensing should be ~~is~~ in place to perform the HVAC impact assessment.

10.2.4 Mold: HVAC Operation Prior To Remediation

The ~~remediator~~ HVAC assessor should attempt to establish if the HVAC system was in operation during the time Condition 3 was present in the structure.

10.2.7 Mold: Specific Photo Documentation

Preliminary observations performed by the HVAC ~~remediator~~ assessor provide a baseline for the restorer to develop HVAC restoration and replacement ~~protocols~~ recommendations.