

VADST-006

Service Tip

10/12/15

***Subject:* HVAC Equipment Exposed to Flooding**

Flooding can occur in anywhere and as we've seen in Columbia, SC the past 10 days or so, no one is immune to the impact of mother nature. The flooding last week prompted calls from consumers as well as contractors asking what to do about HVAC systems that have been exposed to flooding. York, Allied and RUUD all have policies that require flood damaged equipment to be replaced. In fact if you google the topic of flood damaged HVAC equipment you'll find recommendations from ACCA, ASHRAE and AHRI all recommending equipment be replaced under those conditions.

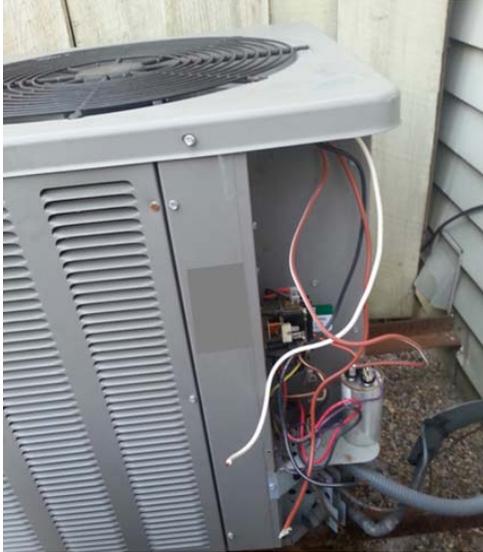
OEMs do not recommend repairs due to concerns for the safety of both the consumer and the technician. However while everyone agrees that is the best approach for equipment that has been completely submersed what do you do if the equipment has only been partially submersed? The decision to clean, repair or replace can only be made by the technician on the jobsite.

But the equipment is not the only concern when flooding occurs as we also need to address the duct system. These instructions are intended to provide direction as to what to do, and just as importantly, what not to do with equipment that may have been flooded.

- **Safety** – Never approach any equipment that you suspect has been immersed in water without first insuring the power has been turned off at the main panel. Always wear Personal Protection equipment (PPE) such as rubber boots and gloves to first remove a panel and validate the power has been de-energized using a trusted meter. **DO NOT** assume that since the breaker is off, power is off. Always check to be sure.



- **Observe** – If the equipment is no longer under water look around to determine how deep the water may have been. If the electrical components were not immersed the unit may only need cleaning. If the components have been immersed, replace them as even though they look dry internal damage may not be evident and chances are they will fail soon after when rust sets in.



- **Refrigeration System** – Check the system to insure it has pressure. If lines broke in the flood there are no options but to replace the system as standing water inside a coil would be impossible to remove completely and water mixed with compressor oil is not a recoverable condition without investing too much time and material, if at all. If intact look over the coils for any damage, repairing or straightening fins to insure proper airflow. If coils are dirty clean them with water and a non-acid based coil cleaning solution such as DIVERSITECH Triple-D. And of course don't forget that salt water is incredibly corrosive so if you are in a coastal environment replacing equipment that's been flooded is particularly important.



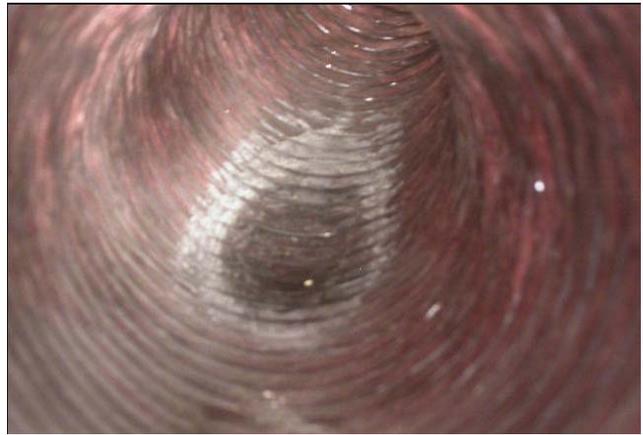
- **Gas Furnace** – If the home has a crawlspace and gas line it very likely has mechanical equipment such as a gas furnace or air handler down there. If a gas furnace becomes submerged there is no option but to replace. The electrical components will have been compromised as would the heat exchanger, gas valves, orifices, manifold and safety devices such as pressure switches and/or flame rods. The potential for harm to the occupants due to fire or explosions due to sludge, dirt or corrosion is simply too great to consider any other options. Always inspect and leak check the gas lines from the meter to the unit to insure integrity of the gas train.



- **Air Handler** – While the risk for explosion is not present with an air handler care must still be taken due to possible damage to electrical components as well as coils and insulation within the unit.



- **Duct System** – While some companies specialize in this field, ductwork that's been flooded is very difficult to clean to the point of being safe without spending a large amount on both labor and materials. Insulation that's been wet and compressed loses a great deal of its resistance (R) value. Both flexible and metal duct that has been in a flood may have residual moisture, even after many days, where mold and mildew can find the necessary components to grow and thrive. In most cases it's healthier and more cost effective to replace it.



- **Diffusers and Grills** – Remove diffusers and grills to inspect the ducts beneath them. Rust, leftover mud and other debris can be another area where mold and mildew can begin to populate the duct system. Always inspect these areas to insure the health of the occupants.



And NEVER forget that when working on any system, flooded or not, safety must always be your #1 concern. Wear personal protection equipment, use tools that are in good working order and trusted meters at all times. A proximity meter to validate power is off prior to touching a unit to use a standard meter is also a very good idea. Never, ever take your safety for gannet

And finally, if flooding necessitates replacing equipment, thought should be given to moving the equipment or raising it to reduce the chances this will happen again. If you have questions, please don't hesitate to contact me.

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