

What is fireside condensate?

Fireside condensate in the HVAC industry is developed by meeting the dew point of the exhaust gases of oil, natural gas and propane. It can also be developed in cold chimneys and for a short period of time in non condensing boilers, furnaces, and hot water heaters.

The dew point of these flue gases is approximately 131 degrees F and at that point the appliance will create acidic condensate because it is burning a hydrocarbon. We have found an average pH with cleanly burning equipment to be 3.0 to 3.8 pH (acidic), but we have also seen pH levels as low as 1.9 which is extremely acidic and can be caused by incomplete combustion or too much sulfur in the fuel.

Consideration should be made to installing a pH treatment product when designing a heating or hot water system using condensing products. Nearly all manufactures of hot water heaters, boilers, furnaces, and stack economizers recommend such products in their instruction manuals.

Technicians should also check the pH level of the condensate at least once a year for the proper safe level (5.0–8.5pH). Replacement or refilling should be part of a yearly service check up.

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