

# Combustion Safety and Carbon Monoxide Testing Training

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The course begins with a thorough review of the principles of combustion, including what factors lead to complete, safe, and efficient burning of fuels. The importance of primary and secondary combustion air, gas pressure, various categories of combustion appliances and how they vent, stack temperature, combustion zone pressure differentials, and additional considerations essential to safe combustion will be discussed in detail.

This leads naturally to a survey of problems that can result in incomplete, potentially hazardous, and inefficient combustion.

This 3-hour seminar will provide an understanding of combustion analysis testing locations and proper interpretation of the test results to insure safe, efficient, and reliable heating system operation. Natural gas, propane, and oil-fired systems will be surveyed.

Emphasis is placed on combustion safety, and especially on the hazards of excessive carbon monoxide that may be introduced into the living space under conditions that the attendees of the seminar will learn to recognize and correct. The known effects of carbon monoxide on people will be discussed, and the attendees will come to understand that additional hazards such as long-term exposure to low-level CO may have additional consequences that are not yet adequately understood. The message will be driven home that combustion gases have no place in the living areas of people's homes.

A practical demonstration of three different carbon monoxide detectors is included. This involves sealing the three units in plastic bags with a 100% carbon monoxide atmosphere and waiting to see how long it takes them to go off. This dramatic hands-on experiment enables the attendees to understand with great clarity the significance of CO standards such as UL-2034, and it may well convince them that minimum standards are not enough when life and death issues are involved.

The scientific sampling of combustion gases using electronic combustion analyzers, and the interpretation of the information provided by these sophisticated instruments, are the subjects of the rest of the presentation.

The objective of the presenter is to refine the training of technicians and building-performance oriented attendees, and to integrate their understanding of the importance of combustion safety and efficiency testing with a heightened awareness of health and safety issues that become increasingly important as buildings are made tighter and more efficient in the face of ever-increasing energy costs. Attendees will also come away with a new understanding of how combustion analysis and combustion safety testing can contribute to growing their businesses.