



WFCi's Hood Calorimeter.

### Hood Calorimeter

WFCi's hood calorimeter provides for a variety of testing capabilities, recording massive amounts of important data such as heat release, heat of combustion, and smoke release. It is utilized in many tests, including ICAL, Room Fire Testing (such as UBC 26-3 and NFPA 286), Furniture and Mattress Testing, and various research and development

testing of material properties. The calorimeter hood is consistent in design and operation with ASTM E 603, *Standard Guide for Room Fire Experiments*.



A Room Test at WFCi.

### Intermediate Scale Calorimeter

The Intermediate Scale Calorimeter (ICAL) has the capability of generating far more fundamental fire performance data than past tests have been able to. It exposes the sample to flux ranges typical to fires and

Western Fire Center, Inc. | [www.westernfire.com](http://www.westernfire.com)  
[info@westernfire.com](mailto:info@westernfire.com) | 1.877.423.1401

characterizes its performance, creating data necessary for fire models, such as FDS and CFAST, and can test substantially larger samples than its primary competition, the CONE calorimeter.



An ICAL Test at WFCi.

Data collected in an ICAL test includes: heat release, smoke release, char rate, gas release, ignitability, heat of combustion, mass loss rate,

gasification, specific heat (Cp), thermal conductivity (k), diffusivity, surface temperature, emissivity, and ignition temperature.

### Ignition Properties

WFCi uses a Setchkin vertical tube furnace for Ignition Properties and Non-Combustibility Testing, notably ASTM E 136 and D 1929. These standards cover the determination, under specified laboratory conditions, of non-combustibility characteristics of building materials and the flash ignition temperature and spontaneous ignition temperature of plastics.



An ASTM D 1929 at WFCi.

Western Fire Center, Inc. | [www.westernfire.com](http://www.westernfire.com)  
[info@westernfire.com](mailto:info@westernfire.com) | 1.877.423.1401

# Western Fire Center, Inc.



WFCi's Office and Laboratory at 2204 Parrott Way in Kelso, Washington.

Western Fire Center, Inc. (WFCi) started in June of 1994 and is the only large-scale fire test facility in the Western United States. Our knowledgeable staff has 30 years of experience in the fire testing and certification business.



TL-180

We are accredited under the International Accreditation Service (IAS) Acceptance Criteria for Laboratory Accreditation (TL #180). This accreditation gives our clients confidence that we follow the highest standards in testing and quality procedures.

WFCi continues to grow and expand its list of testing capabilities and its roster of satisfied clients.

Western Fire Center, Inc. | [www.westernfire.com](http://www.westernfire.com)  
[info@westernfire.com](mailto:info@westernfire.com) | 1.877.423.1401

## Full-Scale Furnace Testing



**A Full-Scale Vertical Window Test at WFCi.**

WFCi has the equipment and expertise necessary to assist you with testing and certification of your products. For testing of building

materials, wall assemblies, fire doors and window/frame assemblies, WFCi has full-scale horizontal and vertical furnaces that will test according to a long list of standards. All of our furnaces are designed with unique burners that create historical lazy yellow luminous diffusion flames under highly controllable pressure conditions. Both furnaces are fueled by Natural Gas and can be run under positive or negative pressure conditions per the standard being used. We are also able to load samples and conduct hose stream tests per test standard requirements.

Our most recent addition to the lab is the full-scale Horizontal Furnace, giving us the ability to do full-scale certification testing on floor and ceiling materials.



**WFCi's New Full Scale Horizontal Furnace.**

Western Fire Center, Inc. | [www.westernfire.com](http://www.westernfire.com)  
[info@westernfire.com](mailto:info@westernfire.com) | 1.877.423.1401

## Research-Scale Furnace Testing

For added convenience to our customers, WFCi offers Research-Scale testing of building materials, wall assemblies, fire doors and window / frame assemblies in accordance with various standards. The principle deviation from the standards is sample size, allowing for smaller, less expensive tests for research



**A Research-Scale Vertical Window Test at WFCi.**

purposes to determine a product's viability before investing the time and expense of running a full scale test.

## Roofing Materials Testing

WFCi staff has years of experience doing roof testing, in accordance with standards such as ASTM E 108, UL 790 and UBC 15-2, using our custom-built roof testing apparatus. Our test equipment includes specially designed fans to create proper and uniform adjustment of airflow over the sample. WFCi also has an on-site rain room for accelerated weathering tests (ASTM D 2898 and UBC AC 107). Our room exposes samples to periods of moisture and heat, including intense UV exposure.



**An ASTM E 108 Roof Test Run at WFCi.**

Western Fire Center, Inc. | [www.westernfire.com](http://www.westernfire.com)  
[info@westernfire.com](mailto:info@westernfire.com) | 1.877.423.1401

## Convenient Location

WFCi is conveniently located at 2204 Parrott Way in Kelso, Washington, 40 minutes north of the Portland/Vancouver area and 2.5 hours south of Seattle. We are easily accessible by car (minutes away from I-5), train (a train station in Kelso is also only minutes away), and small aircraft (Kelso airport is directly across the street from us). Our surrounding area also features the Port of Longview, one of the largest ports in the northwest, directly on the Columbia River.

## WFCi is Accredited to Test to the Following Standards:

ASTM E 108, ASTM E 119, ASTM E 136, ASTM E 152, ASTM E 814, ASTM E 1537, ASTM E 1590, ASTM E 1623, ASTM E 2010, ASTM E 2074, ASTM D 1929, ASTM D 2898, CA TB 116, CA TB 117, CA TB 121, CA TB 129, CA TB 133, DASMA 107, ISO 834, ISO 9705, NFPA 251, NFPA 252, NFPA 256, NFPA 257, NFPA 265, NFPA 266, NFPA 267, NFPA 268, NFPA 286, UBC AC-107, UBC 7-1, UBC 7-2, UBC 7-4, UBC 7-5, UBC 8-2, UBC 15-2, UBC 26-2, UBC 26-3, UL 9, UL 10B, UL 10C, UL 72, UL 263 UL 555, UL 790, UL 1056, UL 1479, UL 1715, UL 1895, and UL 1975.

## Contact WFCi with Your Questions!

We would be pleased to work with you. If you have any questions about the facilities and services available at WFCi, please do not hesitate to call us at our toll-free number, 1-877-423-1401, or email us at [info@westernfire.com](mailto:info@westernfire.com). Further details about our company and services can be found on the web at [www.westernfire.com](http://www.westernfire.com).

Western Fire Center, Inc. | [www.westernfire.com](http://www.westernfire.com)  
[info@westernfire.com](mailto:info@westernfire.com) | 1.877.423.1401