Measurement Technology Northwest designs and manufactures sophisticated testing and measurement instrumentation systems for a variety of commercial, research, and government clients worldwide.

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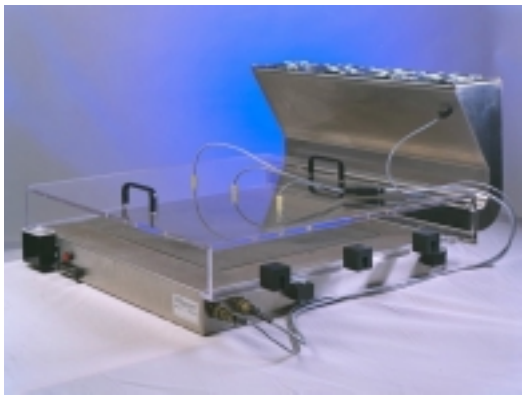
Project Profile – Total Fire Group

When your mission is to make the best fire-fighting protective gear on earth, you need to pay attention to some serious details – fabric heat protection, moisture transmission, flexibility, durability, and weight are just some of the safety variables that must be thoroughly tested before a fire-fighting garment is certified for use by any of our nation's firefighters.

"A firefighter has got to stay alert and focused in order to safely fight a fire," said Dave Edwards, Head Laboratory Tech for the Total Fire Group's Quality Department. "Getting overheated – either from external heat penetrating the fabric or from internal body heat and moisture that cannot escape it – is one of the biggest challenges that firefighters face."

Success in the no-compromise world of fire protective garments hinges on the precision testing and certification of hundreds upon hundreds of composite fabrics, each consisting of an outer shell, a thermal barrier, and a permeable moisture barrier. Until recently Total Fire Group used an independent outside lab to conduct these fabric tests, but the cost and slow turnaround times often left them scrambling to keep up with the latest fabric innovations. To lower costs, improve responsiveness, and gain a competitive edge, they turned to **Measurement Technology NW**.

Dave Edwards is quick to confirm. "We visited Measurement Technology NW to see firsthand the capabilities of their Sweating Guarded Hotplate System, and found it was just what we were looking for. With this one instrument we can test for insulation values, moisture transmission values, and have ready-to-certify results in a day or two – when it used to take a month or two using an outside lab! We estimate our sweating hotplate paid for itself in about six months, and the testing time we save has given us a real leg up in the race to bring new fabric technologies to the marketplace."



Measurement Technology NW's Sweating Guarded Hotplate (often referred to as the "skin model") produces accurate, repeatable measurements of the thermal resistance and vapor permeability of textiles in accordance with ISO 11092 and ASTM F1868, measuring both Rct (thermal) and Ret (vapor) characteristics. Thermal products from Measurement Technology NW also include exclusive ThermDAC automated control software. ThermDAC is a user-friendly, Windows-based application providing full thermal control, fault detection, and data logging capabilities.

“I think the darned thing is one elegant piece of equipment,” added Dave. “The range of tests we can conduct with it is absolutely amazing. It’s so precise, so repeatable, and so easy to use I can’t imagine trying to do my job without it. Any company whose products address human comfort should consider using a tool like this in their testing process.”

Measurement Technology NW manufactures a wide range of precision instruments for measuring and evaluating the thermal comfort of textiles, garments, and environments such as aircraft, truck, and automobile interiors. Our systems support all major ASTM, ISO, and ENV textile testing standards. To learn more, contact us at 206-634-1308, or send an email inquiry to thermal@mtnw-usa.com.

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