



THE WORLD'S MOST ADVANCED THERMAL TESTING EQUIPMENT

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PROTECTIVE TEST SYSTEM CONDUCTIVE AND COMPRESSIVE HEAT RESISTANCE (CCHR)

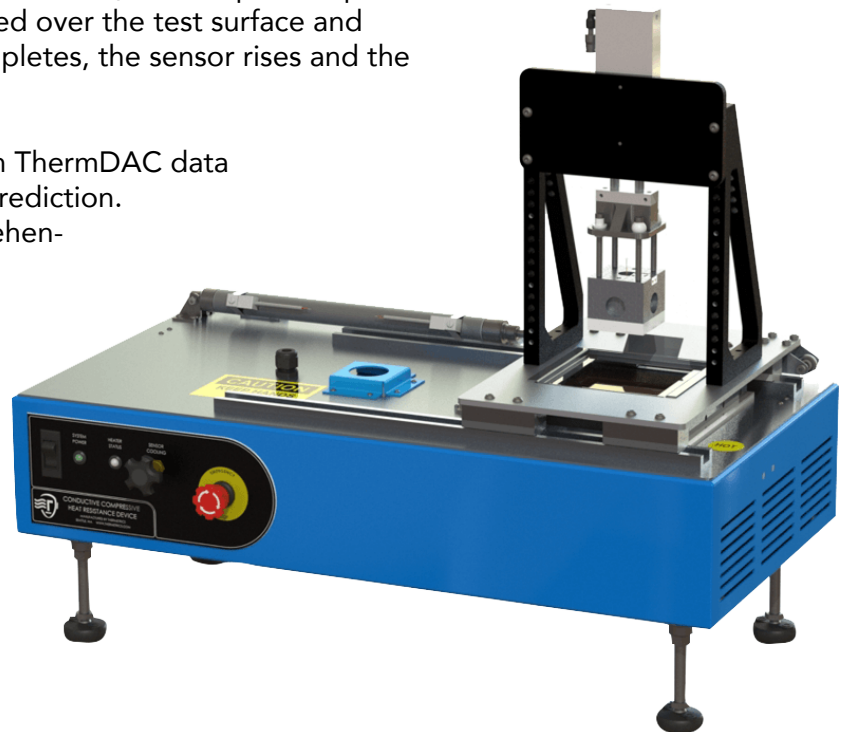
The Conductive and Compressive Heat Resistance (CCHR) device evaluates the potential for skin burns resulting from a fabric's conductive properties under compression. It is used to test textiles and materials used in protective clothing systems worn by firefighters and other first responders.

The CCHR device was developed to isolate and reproduce the conductive thermal load on a representative garment sample and quantify the resulting heat transfer when the sample is compressed against a sensor.

Measuring the amount of energy transferred by a protective fabric via thermal conduction to the wearer requires specific exposure conditions and complex analysis—parameters that the CCHR device was developed to isolate, reproduce, and quantify as per NFPA 1971 and ASTM F1060.

The system includes removable calorimeter sensor assembly, and a pneumatically-actuated transfer tray. Upon initiation of a test, the sample is exposed to the heat source, then automatically placed over the test surface and compression is applied. When the test completes, the sensor rises and the sample is removed from the test surface.

System includes a PC laptop computer with ThermDAC data acquisition and control system, with burn prediction. Just add your own fume hood for a comprehensive testing solution.



Test Methods Supported

- ASTM F1060
- NFPA 1971





CCHR Specifications

- Highly durable 8 in. x 8 in. stainless steel hot plate
- Electronics grade copper conduction test surface plate (removable for easy cleaning)
- Automatic empirical performance curve (EPC) calculation, plus "Time to Pain" and "Time to Second Degree Burn" results
- Sample sizes: variable sample holders can accommodate sample sizes up to 6 in. x 6 in. (15 cm x 15 cm) square and up to 2 in. (5 cm) thick
- Hot plate temperatures range: ambient to 371°C, with an accuracy of +/- 1.5°C. (Higher temperature capabilities are available)
- Pneumatic compression range: 0.5 - 8.0 PSI
- Device Dimensions: LxWxH – 23.4 in. x 16.9 in. x 26.6 in. (59.5 cm x 43 cm x 67.5 cm)
- Space Requirements: LxWxH – 26.4 in. x 19.8 in. x 27.4 in. (67 cm x 50.5 cm x 70 cm)
- Power Requirements: 208 to 265 VAC, 50/60Hz, single phase. Max nominal current 5 Amps
- Compressed Air: clean/dry air at 70 to 120 PSI

Base Products Include:

- CCHR Test Device
- Standard one-year warranty
- Signal conditioning electronics and USB interface
- Copper slug calorimeter sensor
- Power and control cabling
- Two sample holders
- Laptop computer with ThermDAC control and Burn Model software

CCHR Highlights & Benefits

- Automatic test operation utilizes an electronically-controlled sample carriage for measurement accuracy and operator safety
- Computer-controlled pneumatic cylinder to apply repeatable compression force to the sample
- The pressure applied to the sample is monitored in real time through the use of a precision load cell
- Compact size allows the unit to be easily moved into and out of a fume hood
- Precisely weighted copper calorimeter sensor is optimized for human skin response and integrated with the compression system
- Integrated air-cooled sensor stand quickly prepares calorimeter sensor for next test



CONDUCTIVE AND COMPRESSIVE HEAT RESISTANCE (CCHR)



ThermDAC control software with Burn Prediction

ThermDAC is a Windows-based application providing full device control, fault detection, data logging and analysis capabilities:

- Burn results are shown as a real-time numerical and graphical display
- Operators can define non-standard test conditions and custom tolerance criteria
- View multiple device and ambient variables on a single graph screen
- Apply real-time statistical functions to test data over any user-selected time range

461 - Protective Test System - Conductive and Compressive Heat Resistance (CCHR)	Item #	Description	Product Name
Standard Base Product	19-46101	Conductive & Compressive Heat Resistance (CCHR)	461-XXX
Standard Options	11-01052	Additional Sample Holder 3.5	—
	11-01053	Additional Sample Holder 4.0"	—
	11-01054	Additional Sample Holder, 4.5"	—
	20-00672	Additional Copper Slug Calorimeter Sensor	512-XXX



Don't see what you need above? Contact Thermetrics to customize your perfect system.

Keep your CCHR in tip-top shape. Discuss service plan options and point-of-sale discounts with us at sales@thermetrics.com.

