

## *Protective Clothing Testing*

**Wira Instrumentation Ltd manufactures a wide range of instruments for the testing of traditional and nonwoven fabrics used in PPE materials and protective clothing, including the following popular units;**



### **Radiant Heat Test Apparatus - PCT:001**

Protective clothing against Radiant Heat may be used in a wide range of applications. It may be required to protect workers against a low intensity heat for a long period of time, alternatively the intensity may be rated as medium or high, but the time period will be adjusted accordingly.

The Wira Radiant Heat Test Apparatus may be used to test the material in two ways. In the first test the specimen is subjected to a level of thermal radiation. In order to represent the most severe conditions for the material, very little heat is conducted away from the sample. Changes in appearances are recorded. In the second method, a calorimeter is placed behind the sample, and so conducts heat away from the back of the material. The temperature rise is recorded against time and the heat transfers are determined. The radiation source consists of silicon carbide heating rods. The test frame is constructed from a non-combustible board, and is easily adjusted to set the required heat flux density. A water-cooled protective screen protects the heat source until the test begins. **Standards: BS EN ISO 6942**



### **Flame Test Apparatus – PCT:002**

Protective clothing is expected to provide protection against heat and fire. The Wira flame heat test apparatus determines the heat transmission on exposure to flame. The specimen is subjected to a flame from a gas burner. The heat passing through the specimen is measured by means of a calorimeter that is in contact with the back of the material. The time is recorded for the temperature to rise to 24 degrees Celsius. The specimen support frame is mounted on a support stand so that the specimen is supported at the required distance above the gas burner.

**Standards: BS EN 367**

## ***Protective Clothing Testing***

### **WIRA Molten Metal Test Apparatus – PCT:003**

In the metal industries, protective clothing is expected to protect against heat and molten metal. The Wira molten test apparatus subjects the sample to a controlled application of molten metal. An embossed PVC film is placed behind the test specimen. The small quantity of molten metal is poured into the specimen that is supported at an angle. The PVC film is then inspected for damage. The test is repeated using greater or smaller amounts of molten metal until minimum damage to the film is observed.

**Standards: BS EN ISO 9185**



### **Small Drops Molten Metal Test Apparatus – PCT:004**

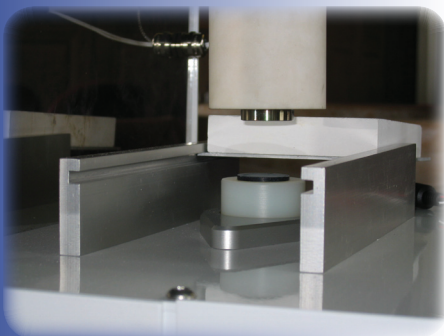
Clothing designed for protecting wearers against small splashes of molten metal is often submitted to high thermal loads and so an important function is the resistance to heat transfer through the protective material. Drops of molten metal are formed by melting the end of a steel rod by means of an oxyacetylene torch. A rod is lowered at a controlled speed to create a steady stream of drops. The drops fall vertically into a funnel which guides the metal drops onto the test specimen. Behind the specimen a temperature sensor monitors the temperature. The number of drops are counted as the temperature is monitored and the temperature rises by 40 °C.

**Standards: EN 348**

### **Contact Heat Testing Apparatus – PCT:005**

Protective clothing such as hand protectors are designed to protect against high contact temperatures. The heating cylinder is heated up to the desired contact temperature. The temperature, normally in the range 100 °C to 500 °C, is set by means of a temperature controller. Circular specimens are cut from the product and placed on the Calorimeter. The calorimeter is then raised until contact is made the heater and the temperature is recorded over time. The time for a temperature rise of 10°C is recorded.

**Standards: EN 702**



**For more information on the above instruments and many more, visit [www.wira.com](http://www.wira.com)**