

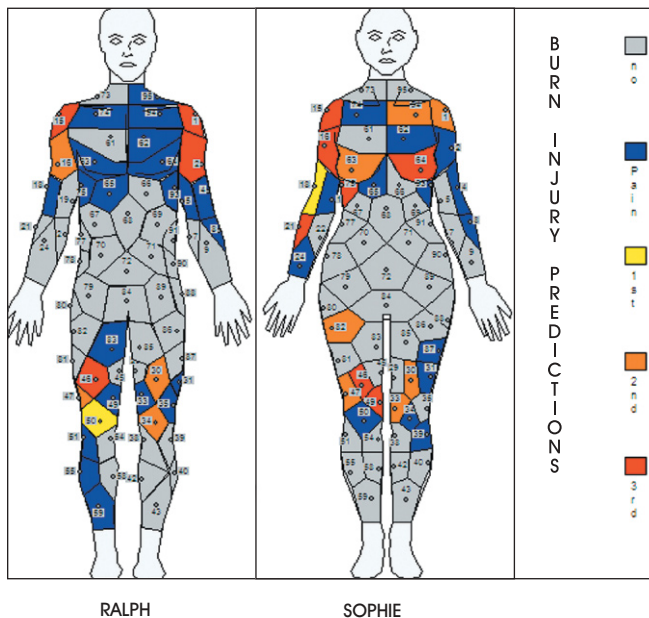
MANIKIN TESTING

MANIKIN TESTING of Heat and Flame Protective Clothing and Related PPE

BTG Fire Technology Services (FTS) has been evaluating heat and flame protective clothing using heat-sensing manikins since 1992. Three generations of the RALPH male form manikin (Research Aim Longer Protection against Heat) plus a first generation female form manikin SOPHIE (System Objective Protection against Heat In Emergencies) have been developed by BTG to date. In addition a specialised dynamic, portable version of RALPH has been developed by BTG for the UK Health & Safety Executive (HSE).

The technology introduced into our upgraded and now gender-based integrated PPE assessment facility using a male (RALPH) or female (SOPHIE) manikin enables each manikin to be dressed not only in protective clothing but also with all of the PPE (except footwear) worn by, for example, firefighters or industrial workers who may be exposed to similar hazards.

A print-out of results from RALPH and SOPHIE



The dressed manikins are subjected to full (gas) flame envelopment for a chosen length of time. The outcome is a burn injury prediction print-out, a record of the location and duration of any visible ignition and an optional video.

This type of manikin fire testing is an optional requirement of EN 469 and of EN ISO 11612 (revision of EN 531) and is also referenced in BS 7971-10 (protective clothing for police use).

Note: The results shown here are intended to illustrate tests on clothing. The heat sensors fitted to the head and hands were therefore not utilised.

Helping to protect firefighters for over 20 years

Specialists in testing fire protective clothing

Represented on British (BS) European (CEN) and International (ISO) technical committees for fire protective clothing

Manikin test programmes to customer requirements - for research - to meet specifications - to compare tender submissions