

MEMORANDUM



TO: General Managers

Copy to: Operations Managers
Operations Officers
Fire Stations
VFBV

FROM: Chief Executive Officer

SUBJECT: Reply: Manikin Test Results – Structural PPC

DATE: 15 October 2008 **File No:**

The purpose of this advice is to provide you with information on the manikin tests conducted some time ago on both PBI Gold and Nomex outer shell material for structural PPC. The manikin test method has been designed to provide information on the flammability and heat transfer properties of clothing systems when subjected to flame envelopment that might only reasonably be expected to occur under “emergency” conditions. Manikin testing does not purport to provide information in terms of the “survivability” of a given event.

CFA, together with MFB, engaged BTTG Fire Technology Services to conduct additional ensemble testing on ensemble types evaluated during the Wollongong, Fiskville and on-station trials.

Dressed manikins were subjected to full flame envelopment at a mean heat flux of 84 kW/m² for 8 seconds and data collected from a total of 135 sensors for a total of 120 seconds. This testing process enables both agencies and manufacturers to evaluate actual ensemble performance under extreme conditions.

Analysis of the burn injury prediction reports, associated commentary and personal opinion indicates the following;

- There was no ignition of either outer shell fabric (PBI or Nomex) of the coat or trouser apart from 2-3 seconds of general surface afterflame immediately following the burners being switched off.
- There was no “break open” of the outer shell fabric of either garment during the test, however the Nomex material broke open after the test was completed when the garment cooled.
- There was no indication of any ensemble design faults being present.
- PBI Gold returned a lower predicted combination of 2nd and 3rd degree burn injury body percentage than Nomex 3D.

- Nomex 3D, however, returned a lower predicted pain response rating body percentage than PBI Gold.
- The tests confirmed that both ensemble designs comply with the performance requirements of Australian Standard 4967:2006 and are capable of receiving independent product certification.

If you require any further information regarding these results, please contact the PPC Coordinator Neil Bumpstead on (03) 9262 8770.