

VISIT TO PUSAT PENYELIDIKAN KEBOMBAAN (FIRE RESEARCH CENTRE)



by Ir. Gary Lim Eng Hwa

On 23 October 2019, Ir. Tan Chew organised a visit to Pusat Penyelidikan Kebomgaan (PUSPEK) or Fire Research Centre for 15 participants, including 3 committee members of Building Services Technical Division (BSTD).

Fire Supt. Jasni Ali briefed the visitors on PUSPEK, the first fire research centre in the country. It was opened by the Minister of Housing & Local Government, on 24 October 2014.

There are four research buildings and laboratories on 20 acres of land. Research & Planning Division/PUSPEK is now a division of Fire Rescue Department Malaysia (FRDM).

PUSPEK's vision is to be a centre of excellence on fire research and development and its mission is to implement the research of science, technology and innovation of professional benefits to increase the effectiveness of FRDM and the industry. PUSPEK has formed an Internal Innovation section to encourage all its officers to apply their creativity to matters related to fire prevention and protection. It has developed a few successful innovations, such as an application using detectors to sense LPG gas and to alert the person-in-charge of the building services via a handphone.

PUSPEK has four sections: Operational Research, Rescue Research, Fire Fighting System Research and Fire Behaviour Research.

At the Fire Behaviour Research Centre, fundamental testing of materials like fire doors are done to obtain the performance as required in the related Malaysian standards for example MS1601: Specification For Fire Resistant Doorsets. The Fire Testing Furnace, which is flexible in the setup, can test both horizontal and vertical specimens (see photographs of the internal Fire Testing Furnace).

PUSPEK now handles approvals for building materials and currently, there are 26 categories including the new

Installed fire doors are tested using the Fire Testing Furnace. This set-up is then mounted to the front of the Fire Testing Furnace to stimulate an actual site installation.



Fire Testing Furnace showing the heat probes along the vertical and horizontal planes. On the side is the heat source using gas. The back section is the vision panel while the bottom is the exhaust of the furnace.

external cladding system. Related products, especially those tested at foreign testing laboratories, will be randomly tested here before they are approved.

During a Bomba inspection, site samplings collected will be tested and manufacturers of building materials seeking approval for their products, can refer to Garis Panduan Prosedur Perakuan Bahan Binaan & Alat Pemasangan Keselamatan Kebakaran.

Other testing facilities are Fire Suppression Testing Chamber (Total Flooding Suppression Testing), Room Corner Test/Dual-Cone Calorimeter (Fire Sizing/HRR), Halon Bank and Full Range of Fabric Testing. PUSPEK also collaborates with local universities and testing laboratories such as SIRIM which utilise PUSPEK facilities to carry out their research works jointly with any of the 4 sections in PUSPEK. ■