



Buletin PUSPEK

Muat turun disini



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MEI

KOMPLEKS PUSAT PENYELIDIKAN KEBOMBAAN (PUSPEK)
BAHAGIAN PERANCANGAN DAN PENYELIDIKAN,
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Disediakan oleh
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AUTOMATED TEMPERATURE BODY SCANNING

An Innovation invented by **SKB** Shutters Manufacturing Sdn Bhd
in collaboration with Research and Planning Division
(Fire and Rescue Department of Malaysia)

- i. Instant non-contact body temperature check anywhere, anytime
- ii. Fuss Free and Supervision Need

- Effective Risk Management
- Anti-Theft
- No dedicated personnel required
- Encourage non-contact monitoring of visitors
- Immediate Results on LED Display
- Easy Monitoring with Voice Announcement
- Foot Traffic Counter for Crowd Control

Technical Specifications

- 800mmW x 800mmL x 2100mmH Robust Construction for Any Application
- Automated Non-contact Body Temperature Scanning
- LED Foot Traffic Counter
- Traffic Indicator Light for Step-In & Step-Out
- Voice Reading of Scanning Result
- Voice Warning Alert for Temperature Exceeding Range
- 7" Colour LCD Digital Display
- 150mm LED Ceiling Light
- 12V Low Voltage Safety
- Easy-to-Set Up with Complete Knock Down (CKD) Design
- All-round Powder Coated Finishing in Grey, Orange or White

User Manual

1. Place hand under automated hand sanitiser (if equipped).
2. Step into Thermopass and stand in position in front of thermal scanning LED screen.
3. Face towards LED screen for facial screening to detect body temperature.
4. Hold for two (2) seconds.
5. The LED screen will display body temperature scan results and results will be announce over voice.
6. For normal temperature (37.5 degrees celcius and below) it shall announce "Temperature Normal, Please Pass."
7. For feverish temperature (above 37.5 degree celcius) it shall announce "Temperature is too high, please wait for assistance."
8. Foot Traffic Counter will also be displayed on LED screen total number of normal temperature person.
9. LED Traffic Indicator shall also flash in either in GREEN for normal temperature or RED for feverish person.
10. Walk towards exit slowly

Cleaning and Maintenance

1. Put on a pair of rubber glove and face mask before entering chamber.
2. Spray disinfectant on surface and wipe with a clean cloth.
3. Do not press on the Thermal Scanning LED Screen. Spray disinfectant and gently wipe the unit with clean cloth.
4. Do not use spray water on LED Screen or LED lighting and traffic indicator.



Equipment Checklist

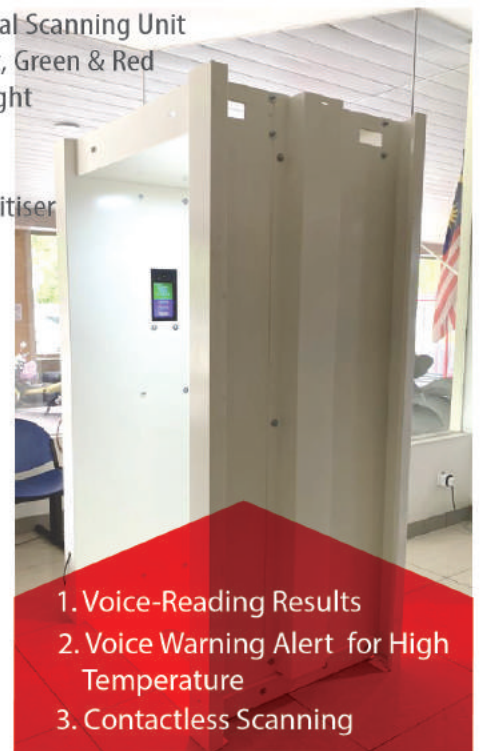
1. One (1) Powder Coated Steel Frame Overhead Structure
2. One (1) Voice Reading Thermal Scanning Unit
3. Two (2) Traffic Indicator Light, Green & Red
4. One (1) Round LED Ceiling Light

Optional Items

1. One (1) Automated Hand Sanitiser

Power Requirement

110V 240V AC



1. Voice-Reading Results
2. Voice Warning Alert for High Temperature
3. Contactless Scanning



Disediakan oleh

PgKB II Jasni bin Ali

Fire Resisting Duct

PART 1

Introduction

Good Practice dictates that fire dampers should not installed in the following systems and therefore Fire Resisting Ductwork is used.

- Smoke extraction systems
- Dual ventilation/smoke extraction system
- Car park extraction systems
- Kitchen extraction systems
- Pressurisation system



Uniform Building By-Law 1984 (UBBL 1984) stated that requirement on Smoke Control shall follow AS 1668:Part 1:1974. But then the standard was superseded by 1998 version and currently with 2015 version. British Standard(BS 476:Part 24) is an alternative to the Australian Standard as local Malaysian Standard (MS) 1600:Part 12:2012 yet to be enforced due to lacking of testing facility (leakage test etc).

Performance Criteria according BS 476 Part 24

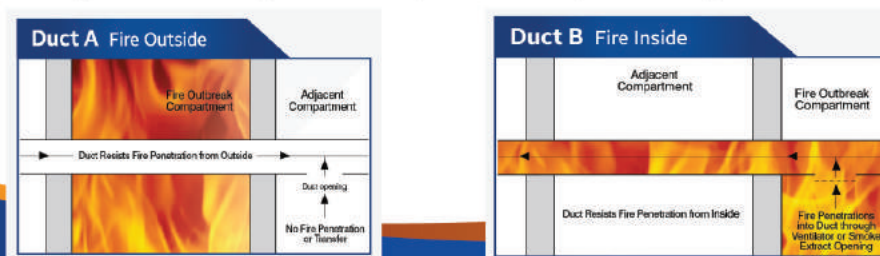
Stability	The ability of a duct and the support system to remain intact and fulfill their intended function for a specified period of time.
Integrity	The ability of a duct to remain free from cracks, holes or opening outside the compartment in which the fire is present for specified period of time.
Insulation	The ability of a duct to maintain its separate function without developing temperature on its external surface, outside the compartment in which the fire is present, which exceed. <ul style="list-style-type: none"> i. 140 celcius as an average above ambient and /or ii. 180 celcius as a maximum above ambient at any one point. <p>For kitchen extract ductwork (Duct A) these limitations also apply to the internal surface of the duct within the compartment in which the fire is present.</p> <p>Ducts which penetrate compartment wall and floors must achieve the same fire resistance as the compartments through which they pass.</p>

The are four (4) most common 'fire rated duct' in local market:

1. Ducting with bare 1.2mm steel sheet (NO integrity & NO insulation). Failed to meet local requirement.
2. Ducting with painted 1.2mm steel sheet and vermiculite/cementitious/intumescent coating (integrity only). Failed to meet local requirement.
3. Ducting installed with 1.2mm steel sheet, covered with insulation material i.e rockwool and boxed-up (integrity & insulation) – meet local requirement.
4. Ducting with fully hardened board/totally boxed-up (integrity & insulation) – meet local requirement.

Fire exposure Duct A (Fire Outside) dan Duct B (Fire Inside)

Smoke extract system must retain at least 75% of its cross sectional area when tested to BS 476 Part 24. This standard describe the method for testing ductwork to establish time periods for stability, integrity and insulation. The testing covers the type of fire exposure Duct A (Fire Outside) dan Duct B (Fire Inside).





Disediakan oleh
PgKB II Andy Alie

Fire Rating Alat Pemadam Api (APA) Bahagian 1

Pengenalan

Fire Rating adalah ujian bagi menentukan jenis pemadam api boleh digunakan pada dan saiz api ujian yang boleh dipadam. Jenis (Kelas) kebakaran dikenalpasti oleh surat A B C D F dan saiz api dikenalpasti oleh nombor. **Semakin besar nombor tersebut, semakin besar api boleh memadamkan** contohnya 13A / 113B.

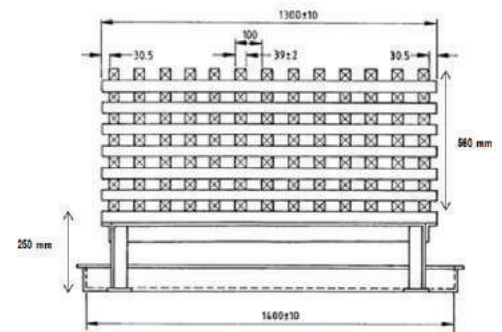
Fire Rating ini menunjukkan alat pemadam api mampu memadamkan kebakaran **Kelas A pada saiz 13A dan kebakaran Kelas B pada saiz 113B**. Pemadam api menunjukkan Kelas dan kawasan kebakaran yang sesuai untuk digunakan apabila digunakan seseorang yang terlatih dalam penggunaannya.



Tatacara pengujian api untuk bahan kelas A

Pelantar logam sokongan setinggi 250mm bagi tujuan susunan kayu seperti gambarajah berikut. Ketinggian susunan kayu adalah 560mm dan lebarnya adalah standard pada 500mm. Manakala panjang ditentukan oleh bilangan susunan kayu mengikut *rating* yang dinilai.

- Bahan api yang digunakan Heptane
- Prosedur air diletakkan dengan kedalaman 30mm ditambah ke dulang bersama dengan bahan api.
- Susunan kayu akan dibakar selama 2 minit dan dulang pembakaran ditarik.
- Pembakaran dibiarkan untuk tempoh 6 minit kemudian padamkan api.
- Kriteria Keputusan Kebakaran perlu dipadamkan dalam tempoh 5 minit (*rating* 5A sehingga 21A) dan 7 minit untuk api lebih besar.
- Tiada kebakaran semula dalam masa 3 minit selepas pemadaman.



Dimensions are in millimetres.

Figure 4. Class A test fire side view showing a 13A fire

Tatacara pengujian api untuk bahan kelas B

Instrumen untuk ujian ini adalah menggunakan tray silinder. Spesifikasi saiz tray adalah seperti dalam jadual dibawah.

- Bahan api yang digunakan Heptane.
- Prosedur tray dipenuhi air 1/3 dan 2/3 Heptane.
- Bahan api dinyalakan dan dibenarkan untuk membakar selama 1 minit.
- Api kemudian dipadamkan.
- Kriteria keputusan keseluruhan api mestilah dipadam dan terdapat sekurang-kurangnya kedalaman 5mm baki bahan api di dalam dulang.

DIAGRAM OF TRAY USED FOR B TEST FIRES

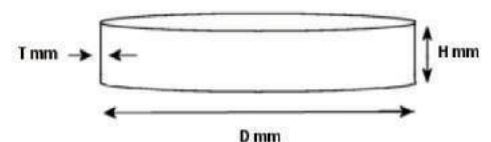


TABLE OF PERMITTED B RATINGS AND TRAY SIZES FOR TEST FIRES							
RATING	VOL OF LIQUID	VOL OF FUEL (APPROX)	VOL OF WATER	AREA OF FIRE (APPROX)	TRAY DIA	TRAY DEPTH	TRAY WALL THICKNESS
	Litres	Litres	Litres	M2	D mm	H mm	T mm
21B	21	14	7	0.66	920+/-10	150	2.0
34B	34	23	11	1.07	1170+/-10	150	2.5
55B	55	37	18	1.73	1480+/-15	150	2.5
70B	70	47	23	2.20	1670+/-15	150	2.5
89B	89	60	29	2.80	1890+/-20	200	2.5
113B	113	76	37	3.55	2130+/-20	200	2.5
144B	144	96	48	4.52	2400+/-25	200	2.5
183B	183	122	61	5.75	2710+/-25	200	2.5
233B	233	156	77	7.32	3000+/-30	200	2.5



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PgKB II Asrul Riezal bin Asbar

ROOM CORNER TEST / DUAL CONE CALORIMETER

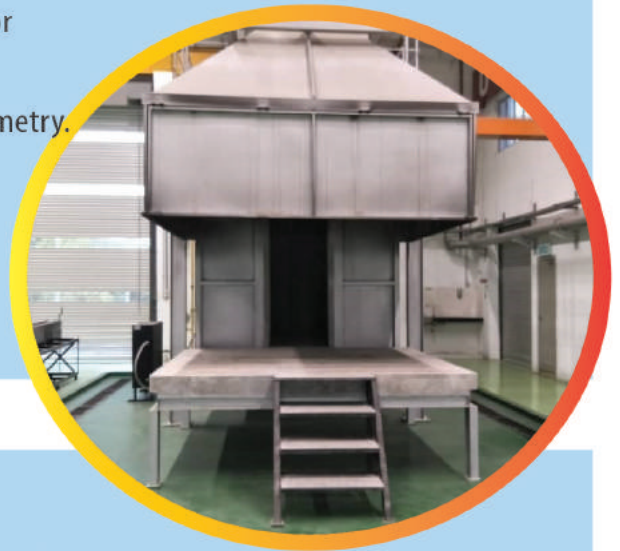
PART 1

Introduction

Dual Cone Calorimeter houses the common gas analysis instrumentation, higher capacity pumps and gas handling filtration required for Large Scale Calorimeters (e.g. ISO 9705, Furniture Calorimeters, Cable Propagation Rigs, SBI Apparatus) in a separate rack from the main Cone Calorimeter housing. The instrumentation can then conveniently be used both for Cone and Large Scale Calorimeters

All modern heat release measurements use oxygen depletion calorimetry. The analysis and instrumentation used for quantitative oxygen, carbon monoxide and carbon dioxide measurements in both large- and small-scale calorimetry have the same specification.

The console contains all the necessary instrumentation to measure heat release rates and other associated parameters



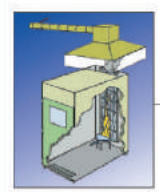
Standard Guide and Practice

- a. **ISO 5660 , ASTM E 1354 & ASTM E 1474**
- b. **ISO5660-1** Reaction to fire tests - Heat release, smoke production and mass loss rate-Part 1: Heat release rate(cone calorimeter method)
- c. **ISO 5660-2** Reaction to fire tests - Heat release, smoke production and mass loss rate. Part 2: Smoke production rate (dynamic measurement).
- d. **ASTM E 1354** Heat and visible smoke release for materials and products using oxygen consumption calorimeter.
- e. **ASTM E 1474** Determination of the heat release rate of upholstered furniture and mattress components or composites using a bench scale oxygen consumption calorimeter.

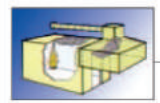
Conclusions

Most leading fire research groups use cone calorimeters as a prime source of data on properties of materials and as a source of input data to models used for predicting the fire behaviour of finished products. International standards have been published describing the equipment and several national standardisation bodies have now published product standards for use of the Cone Calorimeter in assessing performances of finished products such as:

- ✓ Furniture (ASTM E 1474)
- ✓ Wall lining materials (ASTM E 1740)
- ✓ Prison mattresses (ASTM F 1550)
- ✓ Electric Cables (ASTM D 6113)



IEC 60332-3 cable testing rig
Readily converted to enable heat release from cable tray tests to be measured



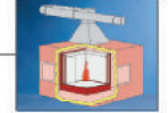
ISO 9705 Room Corner test
Used extensively to measure the heat release from wall lining materials



Furniture calorimeter
Used to measure heat release and mass loss from furniture



Duct insert
Fitted into exhaust ducts of dynamic test methods. This houses gas temperature and mass flow probes and smoke measuring hardware



EN 13823
The SBI test method used extensively in Europe to test