SINGAPORE CIVIL DEFENCE FORCE
FIRE SAFETY AND SHELTER DEPARTMENT
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Please quote our ref. no. in all future correspondences

CD/FSSD/12/01/03/04

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15 Apr 2008

Registrar, Board of Architects (BOA)
Registrar, Professional Engineers Board (PEB)
President, Singapore Institute of Architects (SIA)
President, Institution of Engineers, Singapore (IES)
President, Association of Consulting Engineers, Singapore (ACES)

Dear Sirs

**CERTIFICATION OF REGULATED FIRE SAFETY PRODUCTS/MATERIALS**

Currently, TUV SUD PSB is the sole certification body accepted by SCDF for the certification of regulated fire safety products/materials under the Product Listing Scheme. Since the privatisation of PSB in April 2006, SCDF has been working with the Singapore Accreditation Council (SAC), the national agency for accreditation of conformity assessment bodies which operates under the aegis of the SPRING Singapore, for the purpose of opening up the Product Certification to other qualified certification bodies.

2. With effect from 15 Apr 2008, any certification body in Singapore accredited by SAC or by any SAC Multilateral Recognition Arrangement (MLA)[1] partners for product certification, shall be eligible for certifying regulated fire safety products/materials. All qualified certification bodies shall adhere to the attached guidelines.

3. The list of regulated fire safety products/materials with the required test standards is attached. It is also available at SCDF website at http//:www.scdf.gov.sg.

4. Please convey the contents of this circular to members of your Institution/Association/Board. The circular is also available in CORENET-e-Info: http://www.corenet.gov.sg/einfo.

[1] SAC MLA partners refer to Pacific Accreditation Cooperation (PAC) and International Accreditation Forum (IAF) MLA members



ISO 9001 : 2000 Cert.No : 2146
A PROUD MEMBER OF THE HOME TEAM
SINGAPORE QUALITY AWARD 2005 Winner

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5. For any inquiry or clarification, please contact Maj. Choh Choon Jin at tel. no. 68481454 or email address Choh_Choon_Jin@scdf.gov.sg.

Yours faithfully,
(Transmitted thru' e-mail)

Poon Keng Soon
Secretary, FSSD Standing Committee
for Commissioner
Singapore Civil Defence Force

cc

All members of FSSD Standing Committee
President, REDAS
President, IFE
President, SISV
CEO,BCA
CEO,URA
CEO, HDB
CEO,PSA
CEO,JTC
CE,LTA
CE, TUV SUD PSB-(Attn: Ms Tan Chiew Wan / Mr Lau Keong Ong)
GM, SPRING Singapore-(Attn: Mr Teo Nam Kuan)




FIRE SAFETY AND SHELTER DEPARTMENT
SINGAPORE CIVIL DEFENCE FORCE

# FIRE SAFETY GUIDELINES

## FSG 1:2008

## CERTIFICATION OF REGULATED FIRE SAFETY PRODUCTS / MATERIALS

**Effective Date : 15 Apr 2008**

***Released by :***

**Fire Safety Consultation Branch**
**Fire Safety & Shelter Department**

# CERTIFICATION OF REGULATED FIRE SAFETY PRODUCTS / MATERIALS

## 1. SCOPE

This Fire Safety Guidelines cover the accreditation requirements for certification bodies which want to practise in Singapore, the list of regulated fire safety products/materials and the standards which these products/materials are required to comply with.

## 2. ACCREDITATION REQUIREMENTS

2.1 All certification bodies which intend to practise in Singapore to certify regulated fire safety products/materials shall be accredited by Singapore Accreditation Council (SAC) or any accreditation body which has mutual recognition arrangement with SAC. The accreditation shall be in accordance with ISO/IEC Guide 65 (General requirements for bodies operating Product Certification Systems) and IAF Guidance to ISO/IEC Guide 65.

2.2 All overseas certification bodies shall have their local offices and representatives in Singapore to follow up on queries/complaints and monitor the products/materials certified by them.

2.3 Any certification body which wants to participate in the product listing scheme shall inform SCDF officially of its intention. The following document(s) shall be submitted to SCDF for record:

a) Certificate of accreditation and schedule issued by SAC; or,

b) Certificate of accreditation and relevant attachments issued by SAC Multilateral Recognition Arrangement (MLA) partners[1] for product certification

Notwithstanding the above, SCDF may request for additional information or impose other requirements from the certification body during application.

[1] SAC MLA partners refer to Pacific Accreditation Cooperation (PAC) and International Accreditation Forum (IAF) MLA members

## 3. CERTIFICATION REQUIREMENTS

Certification of regulated fire safety products/materials shall be based on the following certification systems:

### a. ISO Type 2 Certification System

ISO Type 2 certification system consists of type test and market surveillance. Market surveillance is conducted and samples of the product from the market are assessed for ongoing conformity.

See Annex A for the regulated fire safety products/materials to be certified under the Type 2 Certification System and their test standards.

### b. ISO Type 5 Certification System

ISO Type 5 certification system consists of testing and assessment of the quality system involved. Surveillance of the quality system is conducted and samples of the product may be taken from either the market or the point of production, or both, and are assessed for ongoing conformity.

. See Annex B for the regulated fire safety products/materials to be certified under the Type 5 Certification System and their test standards.

### c. ISO Type 7 Certification System

ISO Type 7 certification system consists of type testing of a sample of a production and subsequent batch inspection.

See Annex B for the regulated fire safety products/materials to be certified under the Type 7 Certification System and their test standards.

## 4. ASSESSMENT OF MODIFICATION TO CERTIFIED FIRE SAFETY PRODUCTS/MATERIALS

The fire safety products/materials shall be installed in the manner as the tested prototype described in the test report. Any modifications or deviations to the tested specimens shall be supported with another report prepared by a testing laboratory recognised by SCDF that is accredited by SAC or accredited by SAC Mutual Recognition Arrangement (MRA) partners[2] for testing.

[2] SAC MRA partners refer to Asia Pacific Laboratory Accreditation Cooperation (APLAC), International Laboratory Accreditation Cooperation (ILAC) and European co-operation for Accreditation (EA) MRA signatories

**ANNEX A**

## LIST OF FIRE SAFETY PRODUCTS/MATERIALS TO BE CERTIFIED UNDER ISO Type 2 Certification System

| | |
|---|---|
| 1. Raised Floor Panel (1)(2) | 1. BS 476 Pt 4 or 11 (applicable to the core material of composite construction) |
| 2. Material for Wall/Ceiling Construction(1) | 1. BS 476 Pt 4/11/7 or Pt 6 & 7 |
| 3. Thermal Insulation Material eg ducting, rockwool (1) | 1. BS 476 Part 7 or Pt 6 & 7 |
| 4. Finishes (for wall/ ceiling)/ Radiant Barrier (1) | 1. BS 476 Pt 7 or Pt 6 & 7 or Part 11 |
| 5. Roof Covering Material (1) | 1. BS 476 Pt7 or Pt 6 & 7 or Pt 4 or Pt 11 |
| 6. Cladding to External Wall eg. composite panel (3) | 1. BS 476 Pt 6 & 7 (applicable to the core material of composite construction) or<br>2. UBC 26-9 (for core containing plastics) |
| 7. UPVC Window Frame Material(4) | 1. ASTM D635 |

Note :

1. Materials containing plastics would not be allowed.
2. Combustible core is permitted only in sprinkler protected buildings.
3. External wall shall have fire-resistance test rating not less than 1-hr.
4. Installation of UPVC window frame shall conform to the FSSD's Guidelines.

Annex B

## LIST OF FIRE SAFETY PRODUCTS/MATERIALS TO BE CERTIFIED UNDER ISO Type 5 & 7 Certification Systems

| Product | Acceptable Standards |
|---|---|
| 1. Fire Alarm Panel | 1. BS EN 54 Pt 2 & 4 and<br>2. CP10 |
| 2. Fire-rated Collar | 1. BS 476 Pt 20, AS 1530 Pt 4, ASTM E119, ISO 834 or NFPA 251 |
| 3. Fire Pump | 1. AS 2941, UL, FM, BRE |
| 4. Fire-rated Partition(10) | |
| 4.1 Compartment wall (1) | 1. BS 476 Pt 4/11 or Pt 6 & 7 and<br>2. BS 476 Pt 22, AS 1530 Pt 4, ASTM E119, ISO 834 or NFPA 251 |
| 4.2 Protected shaft enclosing lift (2) | 1. BS 476 Pt 4/11 and<br>2. BS 476 Pt 20, AS 1530 Pt 4, ASTM E119, ISO 834 or NFPA 251 and<br>3.BS 5588 Pt 5 App A & BS 5234 Pt 2 and<br>4.BS 1230 Pt 1 (gypsum plaster board) or ISO 1896 (calcium silicate or cement board) |
| 4.3 Protected shaft enclosing staircase or services | 1. BS 476 Pt 4/11 and<br>2. BS 476 Pt 22, AS 1530 Pt 4, ASTM E119, ISO 834 or NFPA 251 and<br>3. BS 5588 Pt 5 App A & BS 5234 Pt 2<br>4. BS 1230 Pt 1 (gypsum plaster board) or ISO 1896 (calcium silicate or cement board) and<br>5. Cyclic loading and dynamic test as specified under clause 3.3 of Building Code of Australia C 1.8 |
| 5. Fire-rated Floor (1) (2) | 1. BS 476 Pt 4/11 or Pt 6 & 7 and<br>2. BS 476 Pt 21, AS 1530 Pt 4 or ISO 834 |
| 6. Fire-rated Ceiling(10) | |
| 6.1 Compartmentation (1) | 1. BS 476 Pt 4/11 or Pt 6 & 7 and<br>2. BS 476 Pt 22, AS 1530 Pt 4, ASTM E119, ISO 834 or NFPA 251 |
| 6.2 Protection to steel beams that support RC floor (1) (2) | 1. BS 476 Pt 4/11 or Pt 6 & 7 and<br>2. BS 476 Pt 23, AS 1530 Pt 4 or ISO 834 |
| 6.3 Protection to timber/ steel flooring (1) (2) | 1. BS 476 Pt 4/11 or Pt 6 & 7 and<br>2. BS 476 Pt 21, AS 1530 Pt 4 or ISO 834 |
| 7. Fire-rated board/ spraying material(10) | |
| 7.1 Protection to steel structure (3) (2) (1) | 1. BS 476 Pt 4/11 or Pt 6 & 7 and<br>2. BS 476 Pt 21, AS 1530 Pt 4 or ISO 834<br>3. BS 1230 Pt 1 (gypsum plaster board) or ISO 1896 (calcium silicate or cement |

| | |
|---|---|
| | board) |
| 7.2 Protection to fire fighting system ie sprinkler, rising mains, hydrant etc (1) (4) | 1. BS 476 Pt 4/11 or Pt 6 & 7 and<br>2. FSB/PSB/001 issued on 8.11.2000 (Insulation criteria – shall not exceed $75^0$C) |
| 7.3 Protection to building services ie cables, sanitary pipes, chilled water pipes etc (1) | 1. BS 476 Pt 4/11 or Pt 6 & 7 and<br>2. BS 476 Pt 20/24, AS 1530 Pt 4, ASTM E119, ISO 834 or NFPA 251 |
| 8. Smoke Curtain System (5) (10) | 1. BS 476 Pt 6 & 7 and<br>2. BS 7346 Pt 3 |
| 9. Fire-rated Ventilation, Smoke-extraction and/or Kitchen Exhaust Ducting System (1) (6) (10) | 1. BS 476 Pt 4/11 or Pt 6 & 7 and<br>2. BS 476 Pt 24, AS 1530 Pt 4, ASTM E119, ISO 834 or NFPA 251 |
| 10. Fire Extinguishing System for Kitchen Hood | 1. UL 300 |
| 11. Fire Stopping Material | 1. BS 476 Pt 20, AS 1530 Pt 4, ASTM E119, ISO 834 or NFPA 251 |
| 12. Fire-rated Glass Block/ Partition/Panel (7) | 1. BS 476 Pt 22, AS 1530 Pt 4, ASTM E119, ISO 834 or NFPA 251 and<br>2. BS 6206 or AS2208 |
| 13. Exit sign (powered electrically) | 1. SS 263 Pt 2 and<br>2. SS 508 Pt 1 & 2 and<br>3. CP 19 |
| 14. Emergency lighting (self-contained) | 1. SS 263 Pt 2 and<br>2. CP 19 |
| 15. Battery System (for exit signs and emergency lighting) | 1. CP 19 |
| 16. Self-luminous Sign (powered by radioactive material) | 1. BS 5499 Pt 2 and<br>2. SS 508 Pt 1 & 2 and<br>3. CP 19 |
| 17. Fire Hosereel | 1. EN 671 Pt 1 and<br>2. CP 29 |
| 18. Fire Fighting Hose | 1. BS 6391 |
| 19. Auditorium Seats (8) | 1. BS 5852, section 5 (ignition source 0,1 & 5) |
| 20. Fire Damper | 1. SS 333 (includes fire-resistance test, air leakage test, spring force test and closing reliability test) |
| 21. Fire-rated Door (11) | 1. SS 332 |
| 21.1 Bin/Linen Chute Door | 1. SS 332, BS 476 Pt22 |
| 22. Fire-rated Lift-landing/ Dump Waiter Door/ Hatch Door | 1. BS 476 Pt 22, AS 1530 Pt 4, ASTM E119, ISO 834 or NFPA 251 or<br>2. EN 81-58(for lift-landing door) |
| 23. Fire-rated Shutter/Fire Curtain | 1. SS 489 |
| 24. Fire-rated Hopper | 1. BS 476 Pt 22, AS 1530 Pt 4, ASTM E119, ISO 834 or NFPA 251 |
| 25. Portable Fire Extinguisher | 1. SS 232 Pt 1 to 6 |

| | |
|---|---|
| 26. Fire-rated Cables | 1. SS 299 |
| 27. Intumescent Coating System (for protection to steel structure) (9) | 1. BS 8202 Pt 2(includes fire-resistance test and weathering tests)<br>2. AS 1530 Pt 4 or ISO 834 (for fire-resistance test) |
| 28. Landing Valve | 1. BS 5041 Pt 1 |
| 29. Breeching Inlet | 1. BS 5041 Pt3 |
| 30. Door Closer | 1. SS 332 : Clause 5 |
| 31. Household Shelter Door | 1. FSSD's requirements |
| 32. Storey Shelter Door | 1. FSSD's requirements |

Note :

1. Class "0" surface spread of flame rating is permitted in sprinkler protected building.
2. ASTM E119 and NFPA 251 are not acceptable for load-bearing elements.
3. To comply with requirements stipulated under clause 3.3.7 of Fire Code 2002.
4. The insulation criterion shall be min. 30 minutes.
5. Class "0" surface spread of flame.
6. Insulation criteria of ducting system shall have both internal and external rating.
7. Permitted for use in sprinkler protected buildings only.
8. Applies to upholstered seats and plastic seats, either in fixed position or retractable type.
9. Weathering tests shall include the following:
   - Heating test
   - Washing test
   - Sulphur dioxide test
   - Humidity test
   - Natural weathering test(for external use)
   - The requirements as stipulated under Clause 3.15.1 of the Fire Code
10. Materials used are listed for BS 476: Pt 4/11/6/7 under PLS Class 2.
11. Door closers used in fire-rated door are separately listed under PLS Class 1A