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**Fire Resistant –
Bedding Materials**

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1. Introduction

PU Foam Filled Mattresses and Upholstered Furniture

Since 2000, PU foam filled mattresses and PU foam filled upholstered furniture to be used in licensed premises (e.g. hotel, restaurant, school, cinema, club house....) shall meet either one of the following standards. For details, please see FSD Circular Letter No. 1/2000 issued by Fire Services Department - Fire Protect Command

http://www.hkfsd.gov.hk/eng/source/circular/e01_2000.pdf

Based on the above requirement, HKCC has developed a Bedding items certification program. according to BS 7177:2008 and BS7175:1989 (see Appendix 2)

This Scheme has referenced ISO/IEC 17067 “Conformity assessment – Fundamentals of Product Certification and ISO/IEC 17065 “General requirements for bodies operating product certification systems”.

2. Scope

HKSM scheme accepts application from and is accessible to all applicants including manufacturers, importers, distributors and retailers, so long as the application falls within the scope of the scheme ,**except furniture**, which includes, but is not limited to, the following:

- Mattress
- Pillow
- Bedcovers

Examples of PU Foam Filled Mattresses

Source: Hong Kong Fire Services Department.

http://www.hkfsd.gov.hk/eng/faq_safety.html#12 :

3. Certification Mode

The scheme adopts a “product-oriented” certification program. Applied products will be sent to be product type test to relevant testing standards. After complying with test requirements, HKCC will perform production site audit. The aim of factory audit is to ensure factory has a quality system able to manufacture the certified product steadily and production system complies with requirements.

Hong Kong Safety Mark will be granted to approve product and HKSM license issued to relevant Subscriber after satisfactory results from type test and factory assessment are obtained.

Approved products and factories shall also be monitored by continual surveillance program, which it generally includes routine inspection visit at factory and type test program. The mode of certification is shown below:

Certification Mode (ISO/IEC 17067-System No. 5)

Product Type Test + Initial Factory Evaluation + Continual Surveillance

4. Certification – Pre-license Stage

4.1. Application to Hong Kong Certification Centre

The Subscriber submits completed HKSM application form (F/001) together with following information to Hong Kong Certification Centre:

- A copy of Business Registration Certificate ;
- Photos/catalogues/pamphlets of the product(s) ;
- Product specification;
- Bill of Materials;
- Raw materials list;
- Assembly or Engineering drawing (if necessary);
- User/Instruction manual.

4.2. Product Type Test

4.2.1. Classification of Certification Product

- (a) **Individual model:** Applicants shall arrange to send applied samples to HKCC. Type test will be conducted for submitted individual samples.
- (b) **Models in series:** If Subscriber has more than one model for application, and such models have similar structures, functions or components, the representative samples from all applying models shall be selected for type test. The other models will be selected for conducting the additional test or verification in respect of the differences.

4.2.2. Sample preparation

Subscribers should submit samples to HKCC. The quantity of samples shall be according to requirement of Appendix 2. All submitted samples must be completed and good functional.

4.2.3. Applicable Testing Standards

The testing standards of flammability and formaldehyde for certification are specified in Appendix 2. Type tests will be conducted according to the applicable standards and versions to ascertain that the products seeking Hong Kong Safety Mark are in compliance with the rules and regulations of the scheme. HKCC will also consider to accept, entirely at its own discretion, test reports which are issued prior to the application for Hong Kong Safety Mark as fully or partly satisfying the type test requirements.

4.3. Initial Factory Evaluation

4.3.1. Factory Inspection – Quality Assurance Ability Audit

Factory Audit is to ensure Subscriber of certified product has an ability to produce such product and to ensure production conditions are complying with the relevant international requirements including enough facilities, equipment and technologies. The regulations of HKSM scheme shall also be introduced to Manufacturer, which basically include:

- Factory situation complies with information stated in Factory Questionnaire, which is reported to HKCC upon application being made;

- Hong Kong Safety Mark is granted only to products certified by HKCC;
- The terms of Hong Kong Safety regulations are met when the Hong Kong Safety Mark is applied for;
- Current Hong Kong Safety Marked production complies with appropriate requirements;
- The required Factory Tests are conducted according to relevant certification report. Test Records are also maintained;
- The factory test equipment is properly maintained and calibrated;
- The records of customer complaints handling, follow-up action and usage of Safety Mark are maintained.

The requirements of factory inspection shall be referred to in the Appendix 3

4.3.2. Product Consistency Check

If any certified product is available in production line or warehouse, auditor shall select sample for the component checking against the description of Certification report. Any difference between inspected sample(s) and description of HKCC certification report should be recorded in Factory Inspection Report.

Also, the certified product should be checked for the workmanship on safety basis, including building the mattress layer, flanges on mattress and etc.

Auditor shall require Subscriber's manufacturing facilities to conduct factory tests for the selected sample. **The specification of tests to certified product should refer to Certification Report's requirements.**

The following marking must be indicated on the HKSM certified product, except the description on the relevant Certification Report:

- (i) Subscriber identification (Subscriber's name, trademark and / or HKCC license number, adjacent to Hong Kong Safety Mark), Hong Kong Safety Mark logo and hazard label from Testing Standard.
- (ii) Model designation or equivalent.
- (iii) Serial number or date code traceable to month and year of manufacture.
- (iv) Instruction manual – all markings or label containing warning or caution words or phrases given in respect of the safe keeping, use consumption or disposal of the goods will have

to appear in both English and Chinese.

4.4. Overall Review

Overall assessment review will be performed by HKCC after completion of product type test and factory audit. During the review, the following reports/records will be taken into consideration:

- Information stated in the Application Form
- Type test result
- Result of factory inspection
- Other submitted information/reports/ records for corrective actions found in certification process.

4.5. Issue of Hong Kong Safety Mark License

Hong Kong Safety Mark License could be granted to Subscribers when satisfactory result of overall review assessment is obtained. Subscribers are permitted to label HKSM onto certified products.

The license includes the following information:

- License number
- Date of issue
- Information about Subscriber
- Certificate product information, i.e. product category, model number, product description
- Applicable standard (s)
- Expiry date of certification

4.6. Continual Surveillance

4.6.1. Routine Inspection Visit

Routine Factory Inspection is conducted on Subscriber's manufacturing facilities once per year by HKCC or appointed audit party. The requirements of factory inspection shall refer to Appendix 3 and **section 4.3.2 Product Consistency Check**.

4.6.2. Type Test Assessment

Type Test Assessment is conducted on all categories products as an on-going means to ascertain that the Hong Kong Safety Marked products are in compliance with the rules and regulations of the scheme. When the testing is complete, HKCC will review the result of the test and follow –up relevant findings as applicable.

5. Product Modification

The Subscriber should inform HKCC of any intended modification on any Certified Product. Whenever Subscriber requests to modify a Certified Product, Subscriber should submit a “Modification Request”, which is obtainable from HKCC.

HKCC will evaluate the submitted information, where applicable from the Subscriber and to make sure that the following information is clearly stated in the form and / or other records submitted:

- Relevant License Number;
- Proposed type / model of product to be modified;
- Reason(s) for modification;
- Proposed effective date of modification;
- Modification details, which include, but are not limited to, the following, if applicable:
 - Parts list;
 - Mechanical drawings;
 - Assembly drawings;
 - User manual / Instructions

During the course of application review, HKCC will determine whether sample testing on the modified product is required. If the modification is related to critical item(s) as listed in the Certification Report of the concerned product, the modified product should undergo the sample testing process.

6. Product Scope Extension

Subscriber should apply to HKCC for amendment about certification. HKCC will check whether the submitted application can be processed by reviewing various relevant aspects. If the application cannot be further processed after the review, the Subscriber will be informed.

If the application can be processed, HKCC will inform the Subscriber in writing. In addition, the Subscriber will be advised of the detailed certification and surveillance plan for the product and the fees schedule for different stages.

“Endorsement” will be prepared and issued by the HKCC to the Subscriber for the additional types or models of the products.

Whenever the amendment involves an additional factory to produce the same or different types or models of products, it comes to the conclusion that a full assessment procedure should be followed. That is, assessment starting from sample testing, and then submitting factory questionnaire, and finally, factory inspection.

Another new Hong Kong Safety Mark License will be issued upon complete fulfillment of the assessment requirements for certification. A new License Number will be assigned accordingly.

Details of the certification and surveillance plan for the amendment and the fees schedule for the assessment incurred should be clearly stated in the Certification Proposal after a conclusion has been made. The Subscriber will be informed of the detailed plan in a Certification Proposal.

7. Certification Suspension/ Cancellation

The situations in which suspension may be initiated shall include, but not be limited to, the following:

- (a) Voluntary suspension is self-initiated by the Subscriber and is non-disciplinary in nature. The Subscriber may, by written notice, voluntarily suspend its certification for any or all of the products for which it holds certification.
- (b) Delay of payment : When any payment becomes overdue by 2 months, HKCC may send a letter to the Subscriber warning of the possibility of suspension of certification.
- (c) Delay of Routine Inspection Visit (RIV) : When the scheduled RIV has been overdue by 3 months, the HKCC will send a letter to the Subscriber warning of the possibility of suspension of certification.

(d) Other Matters

- The surveillance shows non-compliance with the Requirements of a serious nature but immediate withdrawal is not necessary;
- Serious customer complaints;
- Breach of the Hong Kong Safety Mark Regulations or any other contravention of the rules of the Scheme or the procedures of HKCC;
- Misuse of the Mark or the License, e.g. misleading prints or advertisement not solved by suitable retraction or appropriate remedial measures by the Subscriber;
- Reported incidence from the public.

The Suspension can only last for a maximum of 2 years, or the period specified in the Suspended Notification Letter.

The Subscriber can initiate resumption of certification by a written request to HKCC within the allowable suspension period specified in the Suspension Notification Letter. After the receipt of the Subscriber's request, HKCC will evaluate whether the Subscriber has fulfilled the resumption conditions as indicated in the Suspension Notification Letter.

The circumstances in which cancellation of certification will be initiated include, but are not limited to, the following:

- (a) If the surveillance visit shows that the non-compliance is of a serious nature;
- (b) If there is any serious contravention to the Hong Kong Safety Mark Regulations;
- (c) If inadequate corrective measures are taken by the Subscriber in the case of suspension;

If a Subscriber desires to cancel the Certification, the Subscriber should notify HKCC in writing stating the proposed date for terminating the Hong Kong Safety Mark Regulations.

Resumption of Certification will go through the normal application and assessment procedures. A new License number will be issued on successful completion of certification.

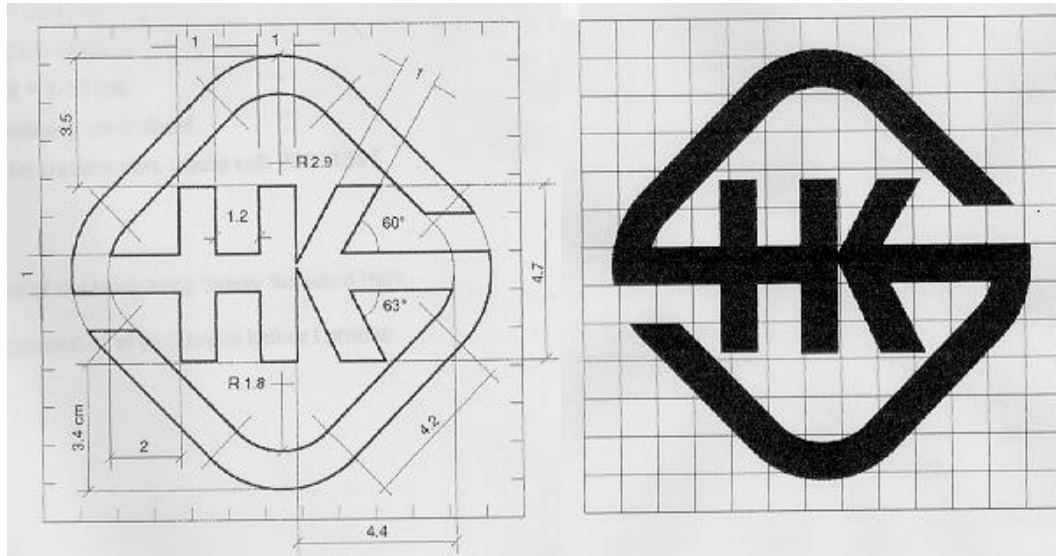
8. Regulations for Certification Mark

The use of Hong Kong Safety Mark License and Hong Kong Safety Mark is subject to certain conditions as outlined below:

The Hong Kong Safety Mark and the License are the properties of the Hong Kong Certification Centre. HKCC has full control over the use and display of License and the Mark. Subscriber authorized to use the Mark and License shall ensure that they are used in

accordance with the regulations and requirements laid down in this document, the Hong Kong Safety Mark Regulations and the "Your Guide to Certification".

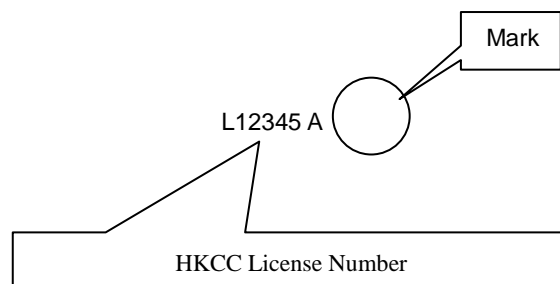
When certification of the product has been authorized there shall be a marking to indicate compliance with the Hong Kong Certification Centre's requirements in the form outlined below. Under no circumstances should a product bearing the Hong Kong Safety Mark be released to the market prior to authorize certification.



The Hong Kong Safety Mark may appear in any size provided it is not less than 5mm in height. The Mark can be enlarged or reduced with its aspect ratio remaining unchanged. Where limitations of space prevent the use of the Mark in the minimum size (i.e. 5mm in height), requests to use a Mark of smaller dimensions will be considered by HKCC on the basis of legibility.

The Hong Kong Safety Mark on any Certified Product will be identified with the holder of the License.

The Hong Kong Safety Mark shall be marked together with HKCC License Number*. It should be placed adjacent to the model's identity as far as possible.



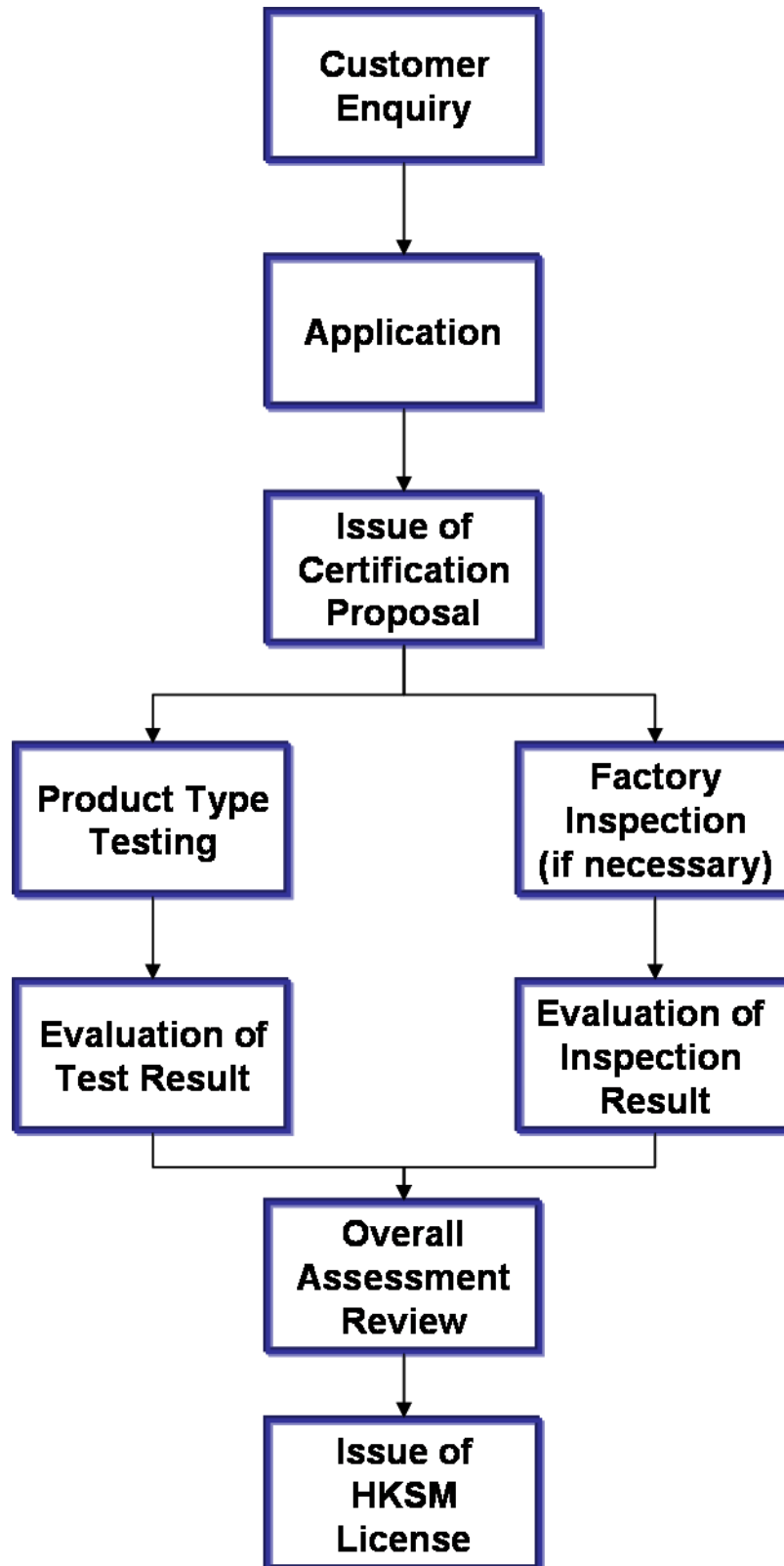
- * The HKCC License Number shall be adjacent to the Hong Kong Safety Mark. This number is recorded in the “Directory of HKCC Certified Products”.

Where the Hong Kong Safety Mark is permitted to appear on a product by a separate marking medium, HKCC License Number shall be included in the design of the separate marking medium.

The Hong Kong Safety Mark should be applied in such a way that is easily visible, clear, legible, and reliable and prevents it from deterioration. The Hong Kong Safety Mark may only be applied at factory locations or other sites, as specified and approved by HKCC.

- End of Certification Scheme -

Appendix 1 – Pre-License Overview Work Flow



Appendix 2 – Testing Standards and Required Sample

| Product | Testing Standard | Required Samples |
|-------------|------------------|--------------------|
| ■ Mattress | BS7177:2008 | 2 pieces per model |
| ■ Pillow | BS 7175:1989; | 2 pieces per model |
| ■ Bedcovers | BS 7175:1989 | 2 pieces per model |
| ■ Beddings | BS 7175:1989 | 2 pieces per model |

Appendix 3– Factory Inspection Requirements

This guideline provides the basic acceptable standard. Where considered necessary by HKCC, additional requirements/ tests shall be specified.

1. Purchased Material

Manufacturers must ensure that all purchased materials and services conform to specified requirements.

2. Incoming Goods Inspection System

The manufacturer must have adequate facilities for checking, receiving and storing incoming goods. Incoming goods that have a safety implication on the finished product shall be verified as complying with the appropriate specification.

If manufacturer relies on Certificates of Conformity to underwrite the quality of incoming goods, such Certificates must clearly identify the products to which they refer, the quantity of items covered the relevant specification with which the goods comply.

3. In-process quality control

Inspector shall determine whether checking methods in production used by the manufacturer effectively control the quality of product and ensure conformity with that of the sample that was originally approved. Production must be inspected at appropriate stages of manufacture to ensure that all piece-parts, components, sub-assemblies and wiring runs are in accordance with the sample against which products are certified.

The manufacturer shall fully document, and maintain up to date, the complete schedule of tests and inspections to be carried out on each product. The records of all inspections and quality checks shall be monitored and the results, including any trends, shall be regularly reported to production control.

4. Factory Routine Test

Inspector shall witness relevant factory tests to be carried out on production items, by the manufacturer, in order to establish that the certified products continue to meet the level of conformity.

These tests are intended to reveal a variation during manufacture, which could impair safety and are to be carried out on each appliance. Safety tests should cover both electrical and physical/mechanical safety aspects. Manufacturer may perform the tests at an appropriate stage during production, and normally carried out on the complete products. All records related to factory tests shall be maintained, including the type and results of the tests, non-conforming products handling.

5. Test Equipment

The equipment used for electrical and mechanical safety testing on the production line or by the quality control or quality audit departments, must be routinely checked and calibrated for correct operation.

- (a) An operational or functional check must be undertaken on a daily basis or at a frequency that will allow previous production to be re-tested, if incorrect functioning of the test equipment is detected. Typically, this check can be satisfied by applying the test equipment to a predetermined fault condition that constitutes a marginal failure. Operators must be instructed on what action to take if a check test proves unsatisfactory and must record these daily checks, together with any corrective action taken.

- (b) Measuring instruments and test equipment used for determining the safety of the products being manufactured shall be calibrated on a regular basis. All calibrations undertaken on such equipment must be traceable to national or other recognized standards. Records of calibrations undertaken for each instrument must be kept.

6. Records

The manufacturer must maintain appropriate records, for a minimum period of between two inspection visits, to substantiate conformance with specified requirements in a legible and identifiable. Such records should include the following:

- Inspection records of safety critical components;
- In-process quality control;
- Certificates of Conformity;
- Testing standards for certified product;
- Operator training;
- Routine tests, including results of functioning checks on test equipment;
- Calibration information.

7. Handling and storage

Inspector shall check the condition of storage of components, semi-assemblies and finished products. All of these must be handled and stored to avoid damage and in such a way as to ensure continued compliance with applicable standards.

8. Customer complaints

Manufacturer should record all customer complaints related to HKSM certified product. The description and cause of complaint, the corrective action taken by subscriber and the result of handling should be recorded. Inspector also should record any serious nature in the Factory Inspection Report.

9. Consumption of Hong Kong Safety Mark Label

Subscriber should be advised to keep a production record during Initial Factory Evaluation (IFE) inspection. Inspector should check the production record and quantity in every visit and record details on inspection report. It should include the following:

- (i) How many quantities have been produced since the last visit?
- (ii) How many quantities have been produced since the last visit to December 31?

FSD Circular letter No. 1/2000

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20 January 2000

FSD Circular Letter No. 1/2000

Flammability Standards for Polyurethane (PU) Foam Filled Mattresses and Upholstered Furniture in Licensed Premises and Public Areas

This Circular Letter announces the flammability standards for Polyurethane (PU) Foam Filled mattresses and upholstered furniture, both fixed and movable, to be adopted in licensed premises and public areas.

Following the Government's decision to introduce administrative measures to regulate the fire safety of PU foam filled mattresses and upholstered furniture, FSD in conjunction with other Departments and Bureaux has conducted an extensive research on international flammability standards for mattresses and upholstered furniture suitable for use in public areas. As a result, the following flammability standards have been identified and will be adopted for local use:

For Mattresses

British Standard: Specification for resistance to ignition of mattresses, divans and bed bases (for the use in medium hazard premises/building) **BS 7177 : 1996 or its international equivalent** (Extract of the standard attached at Appendix I)

Source: Hong Kong Fire Services Department.

http://www.hkfsd.gov.hk/eng/source/circular/e01_2000.pdf for full version