



Facade Group

PRODUCT CONFORMITY CERTIFICATION SCHEME

FOR

FRICTIONAL HINGES

(PCCS – FH)

PARTS ONE & TWO

Administrative Regulations

Technical Regulations

Issue 1

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HONG KONG INSTITUTE OF STEEL CONSTRUCTION

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HONG KONG INSTITUTE OF STEEL CONSTRUCTION

PRODUCT CONFORMITY CERTIFICATION SCHEME FOR FRICTIONAL HINGES
(PCCS-FH)

The Scheme has been developed by the Hong Kong Institute of Steel Construction (HKISC) to provide a framework for the certification of the production of frictional hinges. This Scheme can be generally adopted by all frictional hinge manufacturers in order to show conformity with all necessary technical requirements in accordance with this Scheme. The manufacturers shall also comply with the systematic requirements laid down by the ISO 9001 quality management system (QMS) standard.

The Scheme is the effort of co-operation between representatives of local academics, frictional hinge producers, contractors, government bodies and users to develop a product conformity certification scheme for frictional hinges in accordance with the ISO/IEC Guide 65, under the auspice of the Hong Kong Institute of Steel Construction.

The Executive Board of the Hong Kong Institute of Steel Construction wishes to thank all members of the HKISC Technical Committee which is responsible for the preparation of the PCCS-FH. Without their dedicated helps, the Scheme could not have been produced.

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PRODUCT CONFORMITY CERTIFICATION SCHEME

FOR

FRICTIONAL HINGES

(PCCS - FH)

PART ONE

Administrative Regulations

HONG KONG INSTITUTE OF STEEL CONSTRUCTION

Administrative Regulations

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Product Conformity Certification Scheme

for

Frictional Hinges

ADMINISTRATIVE REGULATIONS

1. INTRODUCTION

- 1.1 The purpose of the Scheme is to ensure that all frictional hinges produced by Certified Frictional Hinge Manufacturers meet Purchasers' specified requirements. This is a product certification scheme that requires Certified Frictional Hinge Manufacturers to operate a quality system which complies with ISO 9001 and the Regulations of the Scheme.
- 1.2 The Administrative Regulations set out the rules for the operation of the Scheme and the rights and obligations of Certified Frictional Hinge Manufacturers in relation to the Scheme.
- 1.3 The Technical Regulations set out technical requirements for the Scheme.
- 1.4 This Scheme is a System 5 product certification scheme in accordance with ISO/IEC Guide 67, including initial assessment of quality and production systems, initial plant inspection and type testing, reassessment of Certified Frictional Hinge Manufacturers' quality and production systems, followed by periodic surveillance visits and regular audit testing that takes into account the Certified Frictional Hinge Manufacturers' quality system and the testing of samples.
- 1.5 A Certification Body who uses this Scheme for certification of frictional hinge manufacturing plants may be accredited by Hong Kong Accreditation Service (HKAS) or its Mutual Recognition Agreement (MRA) partners in accordance with this Scheme, ISO/IEC Guide 65 and its corresponding IAF Guidance.

2. GENERAL DEFINITIONS

- 2.1 The following definitions are applied to the Regulations:

Administrative Regulations: The regulations which set out basic Administrative Requirement for the Scheme.

Applicant: An individual, firm or company who has formally applied to become a Certified Frictional Hinge Manufacturer.

Areas For Improvement: Areas for improvement (AFI) are not nonconformities and corrective actions are not mandatory. However, the assessment team judges by their experience that these are potential problem areas which may deserve attention.

Assessment: An in-depth appraisal of an Applicant's or a Certified Frictional Hinge Manufacturer's quality and technical system at a Plant to assess compliance with the Regulations. It is classified as Certification, Surveillance and Recertification assessments.

Audit Testing: Sampling and testing of frictional hinges which are ordered by an assessment team during an assessment. In Certification, Surveillance and Recertification Assessments, frictional hinges shall be sampled and tested for audit testing. The testing and compliance standards shall be confirmed by the assessment team in considering Purchaser's specifications and the Regulations of this Scheme. The test shall be conducted by an independent HOKLAS or its MRA partners accredited laboratory and the result shall be produced in a HOKLAS endorsed test report or equivalent.

Auditor: A nominee of the Certification Body appointed to carry out assessments. Auditors are classified as Lead and Technical Auditors.

Certificate of Conformity: The certificate issued by the Certification Body to confirm certification of an Applicant or a Certified Frictional Hinge Manufacturer in respect of a particular frictional hinge manufacturing plant.

Certification: Acceptance by the Certification Body, on The basis of assessments, that the Applicant or the Certified Frictional Hinge Manufacturer complies with the Regulations for a particular frictional hinge.

Certification Board: A decision making board of a Certification Body to deliberate and grant a Certification or otherwise to an Applicant or a Recertification to a Certified Frictional Hinge Manufacturer.

Certification Body: An organization who is accredited by HKAS under the Hong Kong Certification Body Accreditation Scheme (HKCAS) in the field of "Product Certification" to process applications from the Applicant to become a Certified Frictional Hinge Manufacturer.

Certification Mark: The Certification Body logo which Certified Frictional Hinge Manufacturers are licensed to use. The use of this logo should be in accordance with the Regulations.

Certified Frictional Hinge Manufacturer: An Applicant who has achieved Certification.

Critical Non-conformity: Significant deviations of products from specified requirements in the Regulations, or the absence of, or failure to implement and maintain, a series of required quality management system elements, or a situation which would, on the basis of available objective evidence raise highest degree of doubts to the conformity of the product that the Certified Frictional Hinge Manufacturer produces.

Major Non-conformity: Deviation of products from specified requirements in the Regulations, or the absence of, or failure to implement and maintain, one or more required quality management system elements, or a situation which would, on the basis of available objective evidence raise serious doubts to the conformity of the product that the Certified Frictional Hinge Manufacturer produces.

Minor Non-conformity: Failure to meet one requirement of a clause of ISO 9001 QMS and/or this Scheme or other necessary reference documents, and which is considered NOT to constitute a risk to the quality of the products that the Certified Frictional Hinge Manufacturer produces.

Plant: A Plant for the production of certified frictional hinges.

Plant Register: The register of certified Plant maintained by the Certification Body of all Plants which have attained Certification and are currently certified.

Purchaser: An individual, firm or company, who entered into a contract with a Certified Frictional Hinge Manufacturer to purchase certified frictional hinges.

Quality Assurance: All the activities and functions concerned with the attainment of the quality of frictional hinges.

Quality Control: The operational techniques and activities that sustain the quality of frictional hinges as set out in a specification agreed between the Purchaser and the Certified Frictional Hinge Manufacturer and in accordance with the Regulations.

Quality Manual: The document describing the Applicant's or Certified Frictional Hinge Manufacturer's structures, resources, procedures and methods which together ensure that the Applicant or Certified Frictional Hinge Manufacturer can meet the requirements of the Scheme.

Quality Records: The records required by the Certified Frictional Hinge Manufacturer's Quality Manual to be kept by the Certified Frictional Hinge Manufacturer to meet the requirements of the Regulations.

Quality System Management Office: A location at which a Certified Frictional Hinge Manufacturer's quality and production records are maintained.

Regulations: The combined Administrative Regulations and Technical Regulations.

Scheme: The product conformity certification scheme for the certification of the production of frictional hinges. The Scheme is owned by the Hong Kong Institute of Steel Construction.

Technical Committee: The Committee under HKISC responsible for the drafting, amendment and maintenance of the PCCS-FH Scheme document.

Technical Regulations: The regulations set out the technical requirements of the Scheme.

3. PREREQUISITES FOR PARTICIPATION

- 3.1 Any individual, firm or company engaged in the production of frictional hinges, shall be eligible as an Applicant to apply to become a Certified Frictional Hinge Manufacturer.
- 3.2 The Applicant will be required to demonstrate the ability to comply with the Regulations and shall confirm agreement to comply with the Regulations.
- 3.3 The Applicant shall nominate a quality system management office and/or a plant office to be responsible for the overall management of the frictional hinge production and supply activities of the Plant of the Applicant.
- 3.4 The Applicant shall establish and maintain a documented quality system in accordance with the requirements of the Administrative Regulations. The same quality system shall apply to the production of frictional hinges in a Plant of the Applicant within the Scheme.
- 3.5 The Applicant shall obtain relevant permits for the operation of the Plant to fulfill relevant statutory and regulatory requirements and establish a quality system management office to maintain quality records for at least three months before the Certification Assessment.
- 3.6 Upon successful Certification Assessments and subsequent decision made by the Certification Board or equivalent function of the Certification Body, the Applicant shall be granted with a Certificate of Conformity to this Scheme for the product manufactured at its Plant.

4. PROCEDURES FOR APPLICATION AND CERTIFICATION

4.1 Application

- 4.1.1 For consideration to become a Certified Frictional Hinge Manufacturer, an Applicant shall:
 1. complete and submit the applicant form prescribed by Certification Body;
 2. pay the appropriate fee;
 3. provide the Quality Manual and related documentations for Assessment;
 4. nominate a person to be the management representative and the Applicant's formal contact with the Certification Body.

4.2 Certification Assessment

- 4.2.1 On receipt of an application, an assessment team consisting of a Lead Auditor and one or more Technical Auditors will assess the quality and technical documentations for compliance with the Regulations and arrange to perform on site assessment of the Quality System Management Office and Manufacturing Plant.

4.2.2 Certification Assessment shall comprise the following:

1. Overall assessment of the quality management and production systems.
2. Manufacturing Plant. The assessment team will assess the plant and equipment including the calibration of such plant and equipment and the operation of the relevant sections of the Certified Frictional Hinge Manufacturer's quality and technical systems conforming to the Regulations.
3. Quality System Management Office. The assessment team will assess the quality system relating to the Plant by an assessment of quality and production records.
4. Evaluation of the results of production testing. The assessment team will assess the quality control system by carrying out an evaluation of quality control (QC) testing results covering a minimum of three months. The assessment team will also examine relevant quality and production records to confirm the output of quality control systems, and hence authenticate the conformity of the frictional hinges to the specified criteria in the Regulations.
5. Audit testing. The assessment team shall take random representative samples at the point of release of frictional hinges from the Plant and/or depots supplied with the frictional hinges by the Plant. The first batch of the frictional hinges to be certified is used for initial type testing. The relevant requirements specified in the Regulations shall be checked for compliance. The test shall be carried out by an independent HOKLAS or its MRA partners accredited laboratory and the results produced in an endorsed test report. The choice of selecting an accredited laboratory for testing shall be based on an agreement between the frictional hinge manufacturer and the Certification Body.

The results shall be evaluated by the assessment team of the Certification Body and an evaluation report shall be produced.

4.2.3 On completion of the Certification Assessment, the assessment team will report the type of nonconformities found and obtain the Applicant's acknowledgement of these. The assessment team will indicate orally a written recommendation for Certification or otherwise.

4.2.4 There are four possible recommendations:

1. **No nonconformity.** Certification will be recommended to the decision making Certification Board or equivalent function of the certification body. Some AFIs may be given for the improvement of the quality and technical systems.
2. **A number of minor nonconformities** which do not cumulatively indicate a major failure of the quality management system and product quality. Certification will be recommended after receipt of a letter giving satisfactory details of corrections and corrective actions which will remove the nonconformities from the system after successful implementation. The time limit for the receipt of the letter will be two weeks.

Note that corrections and corrective actions do not have to be implemented before the receipt of the letter by the Certification Body. Corrections and corrective actions shall be implemented within an acceptable time which will be a maximum of four weeks or such lesser time as the assessment team may decide. Minor nonconformities will be audited on the first subsequent Surveillance Assessment.

3. **A major nonconformity or a number of systematic minor nonconformities** which accumulate to indicate a major failure of the quality management system and product quality. The Applicant will be required to respond giving satisfactory details of corrections and corrective actions which will rectify the nonconformities in the system after successful implementation. The time limit for the written response will be two weeks.

Corrections and corrective actions shall be implemented within an acceptable time which will usually be between one to three months.

Certification will not be recommended until the nonconformities have been rectified from the system and a satisfactory follow up assessment has been carried out.

If the Applicant is not ready for the follow up assessment within six months, the application will be considered unsuccessful. A new application will be required.

4. **A critical nonconformity** indicating that the extent of the system failure is considered by the assessment team to require more than six months for corrections. The Applicant will be required to re-apply for Certification after a period of at least six months following the date of Certification Assessment.

4.3 **Certification**

- 4.3.1 On receipt of the assessment team's written recommendation, the Certification Body will decide to grant Certification or otherwise based on the decision made by the Certification Board or equivalent function.
- 4.3.2 The Applicant shall sign an agreement to be abode by the Regulations and the regulations of the Certification Body. A Certificate of Conformity will be issued to the Applicant for that Plant.
- 4.3.3 Details of the Certified Frictional Hinge Manufacturer together with its locations and details of the certified Plant will be included on the Plant Register published in the Certification Body's website or equivalent means.
- 4.3.4 Where an application for participation in this Scheme is rejected or Certification is refused, the Applicant shall have the right of representation to an appeal committee in accordance with the Certification Body regulations.

4.4 **Certificate of Conformity and Certification Mark**

- 4.4.1 Upon Certification, conformity of frictional hinges to the PCCS-FH Scheme requirements shall be indicated by a Certificate of Conformity issued by the Certification Body. The Certified Frictional Hinge Manufacturer shall be entitled to use the Certification Body logo as a Certification Mark in accordance with the Certification Body regulations.

4.4.2 Certificate of Conformity shall include, in particular:

- (a) the name and address of the Certification Body,
- (b) the name and address of the Certified Frictional Hinge Manufacturer and of the Plant,
- (c) the name of the certified frictional hinges,
- (d) statement that the Frictional Hinges conform to the requirements of the relevant product specification standard and the conformity is established according to the PCCS-FH Scheme,
- (e) the certificate number assigned by the Certification Body.

The Certificate of Conformity shall entitle the manufacturer to use the Certification Mark on packaging materials and any documentations used for the certified frictional hinges.

4.4.3 A Certified Frictional Hinge Manufacturer may also use the Certification Mark on quotations and delivery notes for Plants which have achieved Certification and may use the Certification Mark on stationery, brochures and other advertising media.

4.4.4 The conformity marking shall consist of the Certification Mark and shall be followed by:

- (a) the identification number of the Certified Frictional Hinge Manufacturer,
- (b) the standard designation of the frictional hinges to the PCCS-FH Scheme.

5. OBLIGATIONS OF CERTIFIED FRICTIONAL HINGE MANUFACTURERS

5.1 The Certified Frictional Hinge Manufacturer shall operate a quality management system in accordance with ISO 9001. The Certified Frictional Hinge Manufacturer shall also comply with the Regulations.

5.2 The Certified Frictional Hinge Manufacturer's quality and technical documentations shall be applied to its Plant producing and supplying the products within the Scheme.

5.3 The Certified Frictional Hinge Manufacturer shall pay an annual fee to Certification Body for each Certification. The Certified Frictional Hinge Manufacturer shall also pay an initial assessment fee and all subsequent fees to Certification Body for assessment, surveillance and re-assessment. The amount of all fees will be determined by the Certification Body. The Certified Frictional Hinge Manufacturer shall bear the cost of any Audit Testing which may be directed.

5.4 The Certified Frictional Hinge Manufacturer shall afford an assessment team full assistance and cooperation during any assessments, producing documentation and Quality Records when requested, allowing an assessment team to have free access to a Plant and Quality Records Centre and assisting with Audit Testing as necessary.

5.5 The Certified Frictional Hinge Manufacturer shall not sub-contract the production and supply of frictional hinges unless specific prior approval has been obtained from the Certification Body. Such approval will only be given if the proposed sub-contractor is also a Certified Frictional Hinge Manufacturer and the Purchaser has been informed of and agreed with the sub-contract arrangement.

5.6 The Certified Frictional Hinge Manufacturer may use the Certification Mark as described above but shall not use it in a manner that may bring HKISC or the Certification Body into disrepute.

- 5.7 The Certified Frictional Hinge Manufacturer shall keep the Certification Body informed in writing of changes in circumstances which may affect Certification. Such changes include:
1. Changes in ownership or name.
 2. The resignation of its management representative or company directors.
 3. Changes in the Quality Manual or significant items in its Plant.
 4. Changes of the location of the Plant and/or Quality System Management Office.
 5. Closure of a manufacturing Plant.
- 5.8 The Certified Frictional Hinge Manufacturer shall inform the Certification Body any significant changes to the product, manufacturing process or quality system, which may affect the conformity of the product. In such case, the Certification Body shall evaluate the degree of such changes to the product quality and may demand an assessment for such changes and the Certified Frictional Hinge Manufacturer may be asked not to release the product before the performance of an on site assessment.
- 5.9 The Certified Frictional Hinge Manufacturer shall keep a list of its purchasers who purchased the certified frictional hinges for the purpose of recall in case if it is necessary.

6. SURVEILLANCE ASSESSMENT AND RECERTIFICATION ASSESSMENT

- 6.1 After Certification, the assessment team will conduct periodic Surveillance Assessments to the Plant and associated Quality System Management Office, for assessment of the Certified Frictional Hinge Manufacturer.

6.2 Frequency and Purpose of Surveillance Assessment

- 6.2.1 The frequency of routine Surveillance Assessments for the first three-year Certification and subsequent Certification cycles shall be at least every nine months.

Surveillance Assessments shall comprise the following:

1. Manufacturing Plant. The surveillance assessment team will assess plant and equipment including the calibration of such plant and equipment and the operation of the relevant sections of the Certified Frictional Hinge Manufacturer's quality and technical documentations conforming to the Regulations.
2. Quality System Management Office. The surveillance assessment team will assess the quality system relating to the Plant by an assessment of the quality and production records.
3. Evaluation of the results of production testing. The surveillance assessment team will assess and evaluate the results of all quality control tests since the previous assessment. The surveillance team will also examine relevant quality records to confirm the output of control systems, and hence authenticate the conformity of the frictional hinges to the specified criteria in the Regulations and relevant requirements.

4. Audit testing. The surveillance assessment team shall take random representative samples at the point of release of certified frictional hinges from the plant and/or depots supplied with the product by the plant. The sample of a certified frictional hinge is used for audit testing. The relevant properties specified in the Regulations shall be determined for checking compliance. The test shall be carried out by a HOKLAS or its MRA partners accredited laboratory and the results produced in an endorsed test report.

The results shall be evaluated by the assessment team of the Certification Body and a report shall be produced.

- 6.2.2 Other Surveillance Assessments will be made for follow up assessment purposes following a report of major or critical nonconformities. Such assessments may require either:

1. a partial assessment to confirm that nonconformities have been corrected; or
2. a full assessment to confirm compliance with the Regulations.

6.3 Conclusions from Surveillance Assessment

- 6.3.1 On completion of each Surveillance Assessment, the surveillance assessment team will report the type of nonconformities found and obtain the Certified Frictional Hinge Manufacturer's acknowledgement of these. The surveillance assessment team will indicate orally with a written recommendation for continued Certification or otherwise.

- 6.3.2 There are four possible recommendations:

1. Certification should be confirmed. The Plant and its associated Quality System Management Office comply with the Regulations with no nonconformity. Some AFIs may be given for the improvement of the quality and technical systems.
2. Certification should be conditionally confirmed. **A number of minor nonconformities** exist which do not cumulatively indicate a major failure of the quality management system and product quality. Certification will be recommended to be confirmed after receiving a written response from the Certified Frictional Hinge Manufacturer stating details of the proposed corrections and corrective actions, to which the judgment of the surveillance assessment team will rectify the nonconformities in the system after successful implementation. The time limit for the receipt of the written reply will be two weeks. Corrections and corrective actions shall be implemented within an acceptable time limit which will be a maximum of four weeks or such lesser time as the surveillance assessment team may decide.
3. Suspension of Certification is recommended. A **major nonconformity** or a **number of systematic minor nonconformities** exist which accumulate to indicate a major failure of the quality management system and product quality. The Certified Frictional Hinge Manufacturer will be required to submit a written reply stating details of the proposed corrections and corrective actions, to which the judgment of the surveillance assessment team will rectify the nonconformities in the system after successful implementation. The time limit for the receipt of the written response will be two weeks. Surveillance assessment team shall assess the corrections and corrective actions to ensure proposed actions are effectively implemented before the reinstatement of the Certification.

A partial or full re-assessment, as directed by the surveillance assessment team, will be required within three months before reinstatement of Certification can be recommended.

4. Withdrawal of Certification is recommended. A critical nonconformity, major nonconformity or a number of systematic minor nonconformities have not been rectified in the system in accordance with the relevant procedures stated in the Regulations, or if the Certified Frictional Hinge Manufacturer is persistently failing to comply with its obligation under this Scheme.

6.4 Recertification Assessment

- 6.4.1 The duration of a Certification is three years. Recertification Assessment will be carried out at every third year of each three-year Certification cycle. The Recertification Assessment will be carried out as if it is an initial Certification Assessment.

7. SUSPENSION AND WITHDRAWAL OF CERTIFICATION

- 7.1 On receipt of an adverse Assessment report and recommendation from the assessment team on any Plants or associated Quality System Management Office, the Certification Board or equivalent will agree or otherwise that the Certification for the Plant will be suspended or withdrawn.
- 7.2 If the Certified Frictional Hinge Manufacturer is, at any time in the opinion of the Certification Board, failing systematically to comply with the Scheme either by reason of suspension of Certification for the majority of its Plant or by reason of its failure to comply with its obligations under the Scheme, then the Certification Body will suspend the Certification for all certified Plants of the Certified Frictional Hinge Manufacturer.
- 7.3 If the Certification is suspended in accordance with Clause 7.2, a full Certification Assessment of the Certified Frictional Hinge Manufacturer's Plant under the Scheme will be required within three months after the suspension of Certification is made before reinstatement of Certification can be recommended.
- 7.4 If, upon an assessment following suspension in accordance with Clause 7.3, a major nonconformity or a number of systematic minor nonconformities have not been rectified in the system, or if the Certified Frictional Hinge Manufacturer is persistently failing to comply with his obligations under the Scheme, then the Certification Body may, in its absolute discretion, withdraw all the Certificates of Conformity of the Certified Frictional Hinge Manufacturer.
- 7.5 In the event that the Certification Body suspends or withdraws the Certification of any Plants of a Certified Frictional Hinge Manufacturer, the Certification Body may publish such decisions in appropriate newspapers or similar media. If the Certification Body has exercised its right to publish such decisions, then the Certification Body will, at the request of the Certified Frictional Hinge Manufacturer, publish any decisions reinstating a Certification.
- 7.6 If the Certification for a Plant is suspended or withdrawn, the Certified Frictional Hinge Manufacturer shall cease to use the Certification Mark in relation to that Plant.

8. INFORMATION ON CERTIFIED FRICTIONAL HINGE MANUFACTURERS

- 8.1 Upon the request of any Purchasers, end users or any concerned parties of the certified frictional hinges, the Certification Body will provide verbal and, if requested, written confirmation of the status of any Certified Frictional Hinge Manufacturers or Plant under its register.
- 8.2 Any announcement or confirmation of the suspension or withdrawal of Certification will state the reasons for such suspension or withdrawal.

9. APPEALS AGAINST DECISIONS

- 9.1 The Applicant or Certified Frictional Hinge Manufacturer shall have the right of appeal against any decisions of the Certification Board or equivalent to an appeal committee set up under the Certification Body. Details of the appeal procedure are given in the Certification Body regulations.

10. CHANGES TO THE REGULATIONS

- 10.1 The Certification Body will give Certified Frictional Hinge Manufacturers at least a three-month written notice of any intended changes to the Certification Body regulations to allow for clarification between Certified Frictional Hinge Manufacturers and the Certification Body.
- 10.2 Following any changes to the Certification Body regulations which the Certification Board or equivalent may agree, the Certified Frictional Hinge Manufacturer shall be allowed at least three months to carry out any adjustments to their quality assurance scheme which may be required as a result of such changes.

11. COMPLAINTS

- 11.1 Certified Frictional Hinge Manufacturers shall keep a record of all written complaints received from any concerned parties. These records shall be made available to the assessment team at the time of any Assessments.
- 11.2 The Certification Body will keep a record of all written complaints in relation to a Certified Frictional Hinge Manufacturer received from any concerned parties. Such complaints will be investigated at the discretion of Certification Body and reported to the Certification Board or equivalent.
- 11.3 The Certification Body will respond to complainants with a report which is confined to a statement upon the certification status of the Certified Frictional Hinge Manufacturer.

12. CONFIDENTIALITY

- 12.1 Certified Frictional Hinge Manufacturers shall disclose to the assessment team for the purposes of Assessments all information or records obtained from or pertaining to Purchasers and connected with the Scheme.
- 12.2 The assessment team and the Certification Body will not disclose information or records obtained from Certified Frictional Hinge Manufacturers except as may be permitted by the Certification Body regulations.

13. EXPERIENCE AND QUALIFICATION OF LEAD AUDITORS AND TECHNICAL AUDITORS

- 13.1 Lead Auditors who are eligible for auditing PCCS-FH
 - Registered IPC or Hong Kong Institution of Certified Auditors (HKICA) Lead Auditor in QMS or equivalent.
- 13.2 Technical Auditors who are eligible for auditing PCCS-FH technical management system shall have the following training, experience and qualifications:
 - a. Registered HKICA Product Certification auditor in relevant fields or equivalent,
 - b. A relevant Higher Diploma or Degree in architectural studies, buildings, materials science, structural or civil engineering, or other related fields; and
 - c. With a minimum of two years relevant industry technical experience, or a minimum of two years quality management system audit experience for relevant manufacturing industry, or with appropriate training held by or acceptable to the Hong Kong Institute of Steel Construction for this purpose.

PRODUCT CONFORMITY CERTIFICATION SCHEME

FOR

FRICTIONAL HINGES

(PCCS-FH)

PART TWO

Technical Regulations

HONG KONG INSTITUTE OF STEEL CONSTRUCTION

Technical Regulations

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Product Conformity Certification Scheme

for

Frictional Hinges

TECHNICAL REGULATIONS

1. INTRODUCTION

- 1.1 The Technical Regulations set out the technical requirements of the Scheme.
- 1.2 The Technical Regulations shall be read in conjunction with the Administrative Regulations.

2. QUALITY SYSTEM

- 2.1 An effective quality system shall be established, documented and maintained in accordance with the prevailing ISO 9001 requirements to ensure and demonstrate that the frictional hinges produced and supplied under the Scheme conforms to the relevant requirements and the Regulations.

3. CERTIFIED FRICTIONAL HINGE MANUFACTURERS' QUALITY RESPONSIBILITIES

- 3.1 The Certified Frictional Hinge Manufacturer shall nominate a Quality Management Representative who shall have defined authority and responsibility for ensuring that the requirements of ISO 9001 and the Technical Regulations are met.
- 3.2 All staff shall be technically competent for the functions that they perform and are aware of the effects of these functions on the product quality. A proper training procedure shall be set up and maintained for the training of technical staff.

4. TECHNICAL DEFINITIONS

- 4.1 Frictional Hinge – A mechanism consists of friction pivots, sliding stays, base rails and screws. It is made of stainless steel of designated grade. It connects the moving parts of an aluminium window with its fixed part.

5. REQUIREMENTS OF FRICTIONAL HINGES

- 5.1 Frictional hinge surface quality :
 - 5.1.1 Free from rust, cracks ;
 - 5.1.2 Friction pivots are correctly positioned at the sliding stays, squarely pinned and not over-clamped.
- 5.2 Friction pivots, sliding stays, base rails and screws of frictional hinges

5.2.1 All sliding stays are to be minimum 2.5 mm thick. All sliding stays and base rails are stainless steel of UNS Designation S30400 to ASTM A240/A240M-09c or equivalent grade of other recognized standards specified by the Purchaser;

5.2.2 Friction pivots and screws are to be stainless steel of either UNS Designation S30200, S30400 or S30430 to ASTM A493-09, or equivalent grade of other recognized standards;

5.2.3 The performance requirements for friction hinges shall be in accordance with **Table 1** of these Regulations.

Table 1 – Performance Requirements for Frictional Hinges

Items	Method	Acceptance Standards
Sliding stays and base rails		
Mechanical properties	BS 18 : 1987 or BS EN 10002-1:2001 or other equivalent methods	ASTM A240/A240M-09c
Chemical composition	HOKLAS accredited in-house test methods or other standard methods	ASTM A240/A240M-09c
Friction pivots		
Mechanical properties	BS 18 : 1987 or BS EN 10002-1:2001 or other equivalent methods	ASTM A493-09
Chemical composition	HOKLAS accredited in-house test methods or other standard methods	ASTM A493-09

6. EVALUATION OF CONFORMITY

6.1 General requirements

6.1.1 The Scheme for the evaluation of conformity includes the following tasks :

- (b) Initial Type Tests (ITT)
- (c) Plant Production Control (PPC) Tests
- (d) Audit Testing (AT)

A Certified Frictional Hinge Manufacturer having a quality management system to ISO 9001 and the Regulations in this Scheme is deemed to meet the requirements of Plant Production Control.

6.2 Initial Type Tests

One first evaluation of a frictional hinge to the requirements of the Regulations, appropriate initial type testing in **Table 2** shall be carried out to confirm that the characteristics of the product meet the requirements of the Regulations in this Scheme and the relevant requirements.

Initial type tests shall also be carried out on existing products after any change in raw materials or manufacturing procedures that can modify the declared values of the characteristics or application properties. In these cases the appropriate initial type testing to be carried out are those, to the opinion of the Certified Frictional Hinge Manufacturer based on sound technical projection, for the characteristics and properties that can be affected and need confirmation; any new property or properties arising from a change of formulation or manufacturing procedure shall be tested and the results reported.

Samples for initial type tests shall be sampled by the Certification Assessment team on site at the dispatching point of the manufacturing Plant. The tests shall be conducted by a HOKLAS or its MRA partners accredited test laboratory. The results shall be reported in HOKLAS endorsed test certificate or equivalent.

Table 2 : Initial type test, plant production control test and audit testing frequency

Test	Test method and requirement	Initial type test (ITT)	Plant Production control Test (PPC)	Audit testing (AT)	
				(Surveillance)	(Recertification)
Sliding stays and base rails					
Mechanical property	See Table 1	Y	A	Y	Y
Chemical composition	See Table 1	Y	A	Y	Y
Friction pivots					
Mechanical property	See Table 1	Y	A	Y	Y
Chemical composition	See Table 1	Y	A	Y	Y
Initial type (ITT) and audit (AT) tests : "Y" means yes.					
Production Control Test frequency : "A" means 1 test for every 500,000 products, with a minimum of 1 time per year and a maximum for 1 time per 6 months.					

6.3 **Plant Production Control Test**

A PPC plan and procedures relevant to the declared properties, as confirmed by the initial type tests, of the Certified Frictional Hinge Manufacturer shall be established and implemented in accordance with the requirements in the Regulations.

Any change in raw materials, source of supply, manufacturing procedures or control plan that can affect the properties of the product shall be recorded.

The PPC procedures shall consist of a system for the production quality control to ensure that the product complies with the relevant requirements.

The production control shall consist of the following main phases:

- (a) inspection and testing of raw materials,
- (b) inspection and testing of production equipment and process,
- (c) inspection and testing on finished products.

6.3.1 **Production**

6.3.1.1 **Raw materials**

The manufacturer shall define the acceptance criteria and control procedures for incoming materials to ensure that these are not used until it has been verified that they comply with the required specifications.

6.3.1.2 **Production process**

The manufacturer shall identify and define the plant and production processes and ensure that the processes are carried out under controlled conditions clearly described in the procedures. The processes are verified by means of inspections and tests documented in a plan, as frequency and values or criteria are required both on equipment and on operations in the process. The actions to be taken when control values or criteria are not obtained shall be given.

6.3.2 **Finished products**

The number and size of the samples, the frequency of sampling, the test performed and the result obtained shall be recorded. The test shall be conducted at least with the frequency specified in **Table 2**. For the purposes of PPC, alternative tests to those given in **Table 2** may be used, provided that a correlation of the test results between both tests, for the product in question, is established.

6.3.3 **Statistical techniques**

Where and when possible and applicable, the results of inspections and testing shall be interpreted by means of statistical techniques, by attributes or by variables, to verify the product characteristics and to determine if the production complies with the compliance criteria and the product complies with the declared values.

6.4 Registration and traceability

The Certified Frictional Hinge Manufacturer shall establish and maintain suitable procedures for the identification and traceability of materials from receipts of raw materials and during all stages of production and delivery.

7. AUDIT TESTING

7.1 Audit testing of samples for Surveillance Assessments and Recertification Assessments shall be in accordance with **Table 2**.

8. MARKING AND LABELLING

8.1 General Requirements

Products complying with the Regulations of the PCCS-FH Scheme shall be clearly marked with the following information:

- (a) Brand name of the product,
- (b) Manufacturer's mark and place of origin,
- (c) Date or code of production, and conditions of storage,
- (d) PCCS-FH and relevant requirements,
- (e) Type of product,
- (f) Model and series numbers,
- (g) Details of size,
- (h) Address of manufacturer,
- (i) Packing and yield,
- (j) Any other manufacturer's specification or recommendations on the use of this frictional hinges.

The information shall be marked on the packaging and/or the product's technical data sheet.

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