

支援建造業研討會-產品認證如何協助風險管理  
Seminar on Supports to Construction Industry -  
How Product Certification Helps in Risk Management

Product Certification Enhances Building Safety –  
Factors to Consider When Writing a Product  
Certification Scheme

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1

**Administrative**

Who are stakeholders  
Do a product certification scheme take cares of  
stakeholders interest?

What are their interests?

Who interested on its content:  
- supplier, CB, Govt, user, testing laboratory, trade union

Enhances building safety -- Building Related Professionals

Factors affecting these core values

2

**CS2 Construction Standard – Carbon Steel Bars  
for the Reinforcement of Concrete**

**Stakeholders**

Government Department

ArchSD  
BD  
CEDD  
DSD  
HKAS  
Highway  
WSD

Industry Representatives

HKU  
PolyU  
MTRC  
CityU  
HKUST  
HKIE  
Hong Kong Construction  
Association  
Hong Kong Institute of Steel  
Construction  
Association of Construction  
Materials Laboratories

3

**QSPSC TECHNICAL COMMITTEE**

Buildings Department  
City University of Hong Kong  
Civil Engineering and Development Department  
Henderson Land Development Company Limited  
Hong Kong Housing Authority  
Hsin Chong Construction Company Limited  
The Concrete Producers Association

Hong Kong Quality Assurance Agency



4

PRODUCT CONFORMITY CERTIFICATION SCHEME FOR  
ALUMINIUM WINDOWS  
(PCCS-AW)

**Stakeholders**

**MEMBERS OF THE PCCS-AW TECHNICAL COMMITTEE  
OF THE HONG KONG INSTITUTE OF STEEL CONSTRUCTION**

**Chairman**

Dr Y L Wong                      Hong Kong Polytechnic University

**Members**

Ir C K Cheung	Hong Kong Institution of Certified Auditors
Dr Andrew So	Hong Kong Institute of Steel Construction (Facade Group)
Ir Adam Choi	Hong Kong Institution of Engineers (Building Division)
Ir Sam Choi	Hong Kong Institution of Engineers (Materials Division)
Ir Vincent Chau	Housing Department
Mr Albert Leung	Hong Kong Curtain Wall Testing Centre Ltd
Ir Mike Lee	Castco Certification Service Ltd
Mr Joe Poon	Fugro Certification Service Ltd
Dr S W Yuen	RED Facade Consultant Ltd
Mr Joe Yu	Facadetch Laboratory Ltd
Prof Ben Young	University of Hong Kong
Dr Tommy Lo	City University of Hong Kong
Dr Eric Lim	Failure Analysis Consultant
Ir Sidney Tong	Property Management Company
Mr Wong Chi Chiu	Aluminium Window manufacturer
Mr Yeung Chung Hon	Frictional Hinge manufacturer
Mr Thomas Tsang	Aluminium Profile manufacturer

5

**Administrative Regulations**

1. Introduction
2. General definitions
3. Prerequisites for participation
4. Procedures for application and certification
5. Obligations of certified aluminium window manufacturers
6. Surveillance assessment and recertification assessment
7. Suspension and withdrawal of certification
8. Information on certified aluminium window manufacturers
9. Appeals against decisions
10. Changes to the regulations
11. Complaints
12. Confidentiality
13. Experience and qualification of lead auditors and technical auditors

6

### Balance

- Balance between control and uncertainty, standard
- Balance between supply/implementation
- reliability vs design assumption? (acceptance test frequency)
- Factors affecting core values, design margin
- Sustainability of testing standard
- Balance between Quality/measures
- Level of expertise – who carry out audit, implementation, testing
- Balance between specific objectives: enhances building safety
- Key factors for safety
- resources
- training of technical staff / professional staff

7

### Testing Frequency

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)
<b>Dimension check</b>					
Overall Size	See Table 1	Y	A	Y	Y
Individual Member	See Table 1	Y	A	Y	Y
<b>Operation &amp; Strength Tests</b>					
Hardness	BS 903: Part A26	Y	---	---	Y
Aging	BS 903: Part A19	Y	---	---	Y

Initial type (ITT) and audit (AT) tests: "Y" means yes.

Production Control Test frequency:

"A" means 1 test for every 5000 products (window unit), with a minimum of 1 time per year and a maximum for 1 time per 2 months.

"B" means 1 test for every 10000 products (window unit), with a minimum of 1 time per year and a maximum for 1 time per 6 months.

Note 1 Specimens of aluminium windows and its parts shall be sampled in accordance with requirement of this Scheme in Table 1. Unless otherwise specified.

Note 2 For each sampling, one typical critical type of aluminium windows will be sampled for testing. Unless otherwise specified by the customer of the aluminium window.

\* 1 test per project

8

BS 6375-1:2009

BRITISH STANDARD

### Building Safety Test for resistance to wind

8.1 The specimen shall be tested in accordance with BS EN 12211 and classified in accordance with BS EN 12210. Classification levels applicable in the UK shall be in accordance with Table 1. Wind loading shall be calculated in accordance with Annex A.

NOTE 1 For the purpose of the tests, three sets of test pressure are defined:

- P1 applied to measure the deflection of parts of the test specimen;
- P2 pulsating pressure applied for 50 cycles to assess performance under repeated wind loads;
- P3 applied to assess the safety of the specimen under extreme conditions.

The values of P1, P2 and P3 are related as follows: P2 = 0.5 P1, and P3 = 1.5 P1.

NOTE 2 BS EN 1026, which is cited within BS EN 12211, gives the negative pressure test as an option. However, BS 6375 follows the convention of BS EN 14351-1, which requires both positive and negative pressure testing to be undertaken and the results averaged.

NOTE 3 The resistance to wind load test, BS EN 12211, specifies a repeat air permeability test. This repeat air test is conducted with both positive and negative pressures. The assessment of the increase in air permeability is based on the numerical average of the positive and negative air permeability values (m<sup>3</sup>/h) at each pressure step.

### Building Safety

ALUMINIUM WINDOWS

Steel Re-bar

More to come



10

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Thank You

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11