Overview of Implementation of Production Certification in HKHA Projects

by Joseph Y W MAK
Chief Structural Engineer / Development and Construction
Hong Kong Housing Authority
OUTLINE

(A) Programme and Progress of Implementation

(B) Factors to be considered in implementing Product Certification
Programme for Implementation in HKHA Projects

(A) PROGRAMME AND PROGRESS OF IMPLEMENTATION

Timber Doorsets (Fire Resistance)

Panel Walls (Fire Resistance)

Stage 1 Implementation (Tender out date: 1/5/2010)
Programme for Implementation in HKHA Projects

(A) PROGRAMME AND PROGRESS OF IMPLEMENTATION

Cement for Architectural Use

Tile Adhesives

Stage 2 Implementation (Tender out date: 1/8/2010)
Programme for Implementation in HKHA Projects

Repair Mortars

Ceramic Tiles

Stage 3 Implementation (Tender out date: 1/12/2010)
Programme for Implementation in HKHA Projects

Aluminium Windows

Stage 4 Implementation (Tender out date: 1/4/2011)
## Current Progress of Certifying Bodies Securing Accreditation

<table>
<thead>
<tr>
<th>Building Materials/Products</th>
<th>Certifying Bodies</th>
</tr>
</thead>
<tbody>
<tr>
<td>Panel Walls (Stage 1)</td>
<td>• HKCS (accredited)</td>
</tr>
<tr>
<td></td>
<td>• Fugro (accredited)</td>
</tr>
<tr>
<td></td>
<td>• Castco (applied)</td>
</tr>
<tr>
<td>Timber Doorsets (Stage 1)</td>
<td>• HKCS (accredited)</td>
</tr>
<tr>
<td></td>
<td>• Fugro (accredited)</td>
</tr>
<tr>
<td></td>
<td>• Castco (applied)</td>
</tr>
<tr>
<td>Cement for Architectural Use (Stage 2)</td>
<td>• SGS (applied)</td>
</tr>
<tr>
<td></td>
<td>• Castco (applied)</td>
</tr>
<tr>
<td>Tile Adhesives (Stage 2)</td>
<td>• Fugro (applied)</td>
</tr>
<tr>
<td></td>
<td>• Castco (applied)</td>
</tr>
<tr>
<td></td>
<td>• HKQAA (applied)</td>
</tr>
</tbody>
</table>
### Current Progress of Issuance of Product Conformity Certification Scheme (PCCS)

<table>
<thead>
<tr>
<th>Building Materials/Products</th>
<th>Product Conformity Certification Scheme (PCCS)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Panel Walls (Fire Resistance) #</td>
<td>Available</td>
</tr>
<tr>
<td>Timber Doorsets (Fire Resistance) #</td>
<td>Available</td>
</tr>
<tr>
<td>Cement Products *</td>
<td>Available</td>
</tr>
<tr>
<td>Tile Adhesives *</td>
<td>Available</td>
</tr>
<tr>
<td>Repair Mortars *</td>
<td>Available</td>
</tr>
<tr>
<td>Ceramic Tiles *</td>
<td>Available</td>
</tr>
<tr>
<td>Aluminum Windows #</td>
<td>Under Preparation</td>
</tr>
</tbody>
</table>

We would like to express our sincere gratitude to the following professional institutes for preparing the above schemes:-

* Hong Kong Concrete Institute (HKCI)
# Hong Kong Institute of Steel Construction (HKISC)
## Current progress of Suppliers applying for Product Certification

<table>
<thead>
<tr>
<th>Building Materials /Products</th>
<th>Interested Suppliers</th>
<th>Certification Status (Anticipated date to obtain product certification)</th>
</tr>
</thead>
</table>
| Panel Walls (Fire Resistance) (Stage 1) | • Yau Lee Wah  
• Buildmates  
• Y Tong | Applied (12/2010)  
Applied (12/2010)  
Applied (12/2010) |
| Timber Doorsets (Fire Resistance) (Stage 1) | • Kin Hing  
• Kwong Yin Wing Koo | Applied (12/2010)  
Applied (12/2010) |
| Cement for Architectural Use (Stage 2) | • Wealth Bridge  
• Continental Cement and Gypsum | Applied (12/2010)  
Applied (12/2010) |
### Current progress of Suppliers applying for Products Certification (cont’d)

<table>
<thead>
<tr>
<th>Building Materials /Products</th>
<th>Interested Suppliers</th>
<th>Certification Status (Anticipated date to obtain product certification)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tile Adhesives (Stage 2)</td>
<td>• Eastern Gotech</td>
<td>Applied (11/2010)</td>
</tr>
<tr>
<td></td>
<td>• Optimix</td>
<td>Applied (11/2010)</td>
</tr>
<tr>
<td></td>
<td>• Scoretech</td>
<td>Applied (11/2010)</td>
</tr>
<tr>
<td>Repair Mortars (Stage 3)</td>
<td>• Fosroc</td>
<td>Applied (12/2010)</td>
</tr>
</tbody>
</table>
Cost and time of getting Product Certification

- Cost for each material to have certification is in the order of $80,000, although some materials may require higher cost because of more expensive testing cost (e.g. fire test for timber door).

- The time frame of getting the certificate is around 6-9 months.
Product Certification Requirement vs Client’s Requirements (CSR)

- Product Certification (P.C.) Requirements are to be promoted to majority of factories supplying to Hong Kong industry.

- Standards should not be targeted too high, but to a level commensurate with majority needs in the industry; otherwise, P.C. may not be readily received.
Client Specific Requirements (CSR) may be tailor-made to suit specific needs of client and can be specified under client’s own contract specification associated with P.C.

When the majority of industry has progressed to a higher standard, these CSR conditions could be incorporated into the PCCS.
Availability and Choice of Laboratories (In-territory vs Out-territory)

- Chief Executive Policy Address encourages Hong Kong Testing Services Industry to play an important role – one of the six pillars.

- Laboratory services in Hong Kong have a good reputation to be impartial and independent.

- Where appropriate, testing associated with P.C. audit may deploy Hong Kong laboratories under CSR, unless the testing laboratory for a particular material is not available in-territory.
Availability and Choice of Laboratories (In-territory vs Out-territory) (cont’d)

- Certification audit for critical tests should better be witnessed by representatives of certifying bodies.
- Testing should follow international standards; whereas frequency of testing should be nominal. Higher frequency of testing should better be under CSR, if required, for otherwise it may incur excessive cost and time to the manufacturers.
Overseas Suppliers vs Mainland Suppliers

- Overseas or Mainland products which own good international brand name and which are produced under rigorous supervision may be exempted from P.C. requirements. The consideration for exemption could be handled on case-by-case basis.

- From practical point of view, it may also be difficult to conduct surveillance audits in very distant factories.
Overseas Suppliers vs Mainland Suppliers (cont’d)

- For products with well established factory control, accredited test certificates may suffice. Normally, with relatively large quantity of production for worldwide market, test certificates are issued more frequently and more up-to-date.

- For Mainland suppliers, particularly those in the Pearl River Region, control through P.C. in the upstream could assure better quality and safeguard the interest of our construction industry.
Traceability of Products

- Products certified in the factory are continuously delivered and disseminated to the clients. They may be transported directly to designated clients or to the open market.

- Designated clients may require certain traceability of products under CSR. For the open market, it is up to the producers who may initiate their own system of traceability, such as product quality labels, to give purchasers better confidence.
Traceability of Products (cont’d)

- In HA, we are piloting the use of RFID for four types of products, namely, precast facade, panel wall, aluminum window and timber door.
Traceability of Products (cont’d)

RFID in Precast Facade

RFID in Panel Wall
(B) FACTORS TO BE CONSIDERED IN IMPLEMENTATION

Traceability of Products (cont’d)

- RFID in Aluminium Window
- RFID in Timber Door
CONCLUSION

- **Product Certification** is a new and innovative initiative in the Hong Kong Industry.

- It requires the collaboration and cooperation of various stakeholders to make it a success.

- Large corporation/clients could take the lead to drive ahead this meaningful initiative.
Thank You