

Ref: BD _____

Address: _____

Appendix _____ to approval dated _____

Cladding Works

In giving this approval of plans, I hereby impose the following conditions under item 6 in section 17(1) of the Buildings Ordinance (BO):

- #(a) Where stone cladding is to be used, flexural strength test of dimension stone and strength test of individual stone anchorage should be carried out in accordance with Practice Note for Authorized Persons, Registered Structural Engineers and Registered Geotechnical Engineers (PNAP) APP-16. Test results should be submitted prior to the application of occupation permit or the submission of Form BA14 as appropriate and certified by an independent testing agency which has carried out or supervised those tests and endorsed by the registered structural engineer (RSE) to confirm that the test results have achieved the required characteristic strengths adopted in the design.
- #(b) Where limestone is to be used as exterior cladding material, in addition to paragraph 1(a) above, aged strength testing should be carried out for limestone cladding in accordance with the PNAP APP-16. Test results should be submitted prior to the application of occupation permit or the submission of Form BA14 as appropriate and certified by an independent testing agency which has carried out or supervised those tests and endorsed by the RSE to confirm that the acceptance criteria for aged strength testing set out in the PNAP APP-16 have been complied with.
- #(c) Where aluminium/stainless steel/steel or the like section is to be used and the method of connection of the section to its supporting structure relies solely on interlocking without mechanical fixing, such as bolting or welding, performance test shall be carried out to demonstrate its integrity. Testing proposal shall be submitted by the RSE prior to the consent application of the works. The testing proposal should be prepared by making reference to Annex A. The test should be carried out by an independent laboratory* accredited by the Hong Kong Laboratory Accreditation Scheme (HOKLAS) or by other laboratory accreditation bodies which have reached mutual recognition agreements/arrangements with HOKLAS. The test results should be submitted prior to the application of occupation permit or the submission of Form BA14 as appropriate and appended with a statement signed by the RSE to confirm that the acceptance criteria appropriate to the test have been complied with.

2. The following conditions in respect of qualified supervision of works are imposed under item 6 in section 17(1) of the BO:

- (a) Qualified site supervision of the cladding works, including fabrication, erection and examination of the structural elements/fixings, by experienced

and competent persons as defined in (b) and (c), should be provided to ensure that the works are carried out in accordance with the plans approved and that the required standards are complied with.

- (b) The RSE should assign a quality control supervisor to supervise the works, determine the necessary frequency of inspection by the quality control supervisor which should not be less than once a week, and devise inspection check lists. The minimum qualifications and experience of the quality control supervisor is to be the same as the technically competent person (TCP) of grade T3 under the RSE's stream, as stipulated in the Code of Practice (CoP) for Site Supervision 2009.
- (c) The registered general building contractor (RGBC) should assign a quality control co-ordinator to provide full time on site supervision of the works and devise inspection check lists. The minimum qualifications and experience of the quality control co-ordinator is to be the same as the TCP of grade T1 under the RGBC's/registered specialist contractor's stream, as stipulated in the CoP for Site Supervision 2009.
- (d) The names and qualifications of the supervisory personnel representing the RSE and the RGBC respectively should be recorded in an inspection log book. The date, time, items inspected and inspection results should be clearly recorded in the log book. The log book should be kept on site for inspection by representatives of the Buildings Department.

#3. Under regulation 10 of the Building (Administration) Regulations, a fire test report* or fire assessment report* should be submitted to demonstrate that the cladding has been constructed of non-combustible materials in accordance with the section 28(1)(a) of the Building (Construction) Regulation and complies with the requirements of the Code of Practice for Fire Safety in Buildings 2011. The Authorized Person (AP) is required to confirm and certify in the schedule that the application and performance of the building materials and products comply with the relevant provisions of the BO and its subsidiary regulations prior to the application for an occupation permit or the submission of Form BA14, as appropriate.

Remark:

Laboratory/Organisation/Testing Agency for carrying out the test(s) should be independent of the Registered General Building Contractor (RGBC)/Registered Specialist Contractor (RSC).

Delete wherever inapplicable.

* A Directory of Accredited Laboratories in Hong Kong is obtainable from the Hong Kong Accreditation Service (HKAS) Executive, Innovation and Technology Commission.

A laboratory's accreditation for an individual test or calibration may be granted, modified or withdrawn at any time. Up-to-date information on accredited laboratories and their scopes of accreditation are available on the internet at the HKAS website at <http://www.itc.gov.hk/hkas/>.

Performance test

Performance test shall be carried out on a representative portion of the proposed aluminium/stainless steel/steel or the like section with the method of connection of the section to its supporting structure relies solely on interlocking without mechanical fixing.

2. The load sequence and duration of the operation of cyclic test are described in Table 1 below:

Table 1: Sequence and duration of tests for both positive and negative pressures

Test	Test Preparation	Repeated Test	Test Safety
Pressure	0-p ₁ -0-p ₁ -0-p ₁ -0	0-p ₂ -0-p ₂ -0-p ₂ -0-p ₂ -0-p ₂ -0	0-p ₃ -0
Duration	The period of transition from one pressure value to another should be not less than one second. The pressures are to be held at maximum or minimum values for at least three seconds.		

Notes:

- (a) For the test preparation, p₁ should be 0.5 p₂.
- (b) For the repeated positive and negative pressure test, p₂ should be the pressure obtained from the product of the total pressure coefficient C_p, size factor S_s and the design wind pressure Q_z appropriate to that part of the building, determined in accordance with the Code of Practice on Wind Effects in Hong Kong. The number of pressure pulses should not be less than five.
- (c) During the repeated positive and negative pressure tests, the deflection of any structural element of the specimen relies solely on interlocking without mechanical fixing should not exceed:
 - (i) 1/180 of the span or 20 mm, whichever is the less.
 - (ii) 1/90 of the span or 20 mm, whichever is the less, for cantilever type member.
- (d) The maximum required pressure p₃ should be 1.4 p₂.
- (e) The extent of recovery of deformation 15 minutes after the removal of the test load should be at least 95% and the specimen should not show any signs of separation, plastic deformation or deleterious effect.