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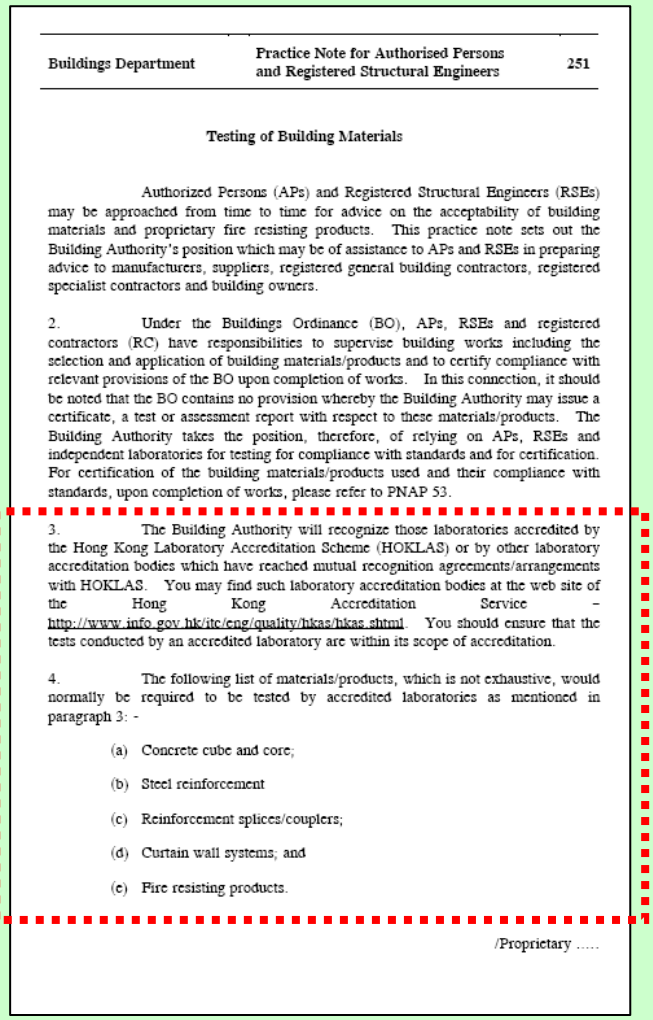
Loading Test on Profiled Steel Decking To BS EN 1993-1-3: 2006 and BS5950: Part 6: 1995

Scope

In order to demonstrate structural adequacy against the sagging and the hogging moment capacities as well as the web crippling resistances of the profiled steel decking, it is essential to perform a series of one point load, four point load and web crippling tests in accordance with the recommendations given in Section 7 of BS5950: Part 6: 1995 as well as Annex A of BS EN 1993-1-3: 2006.

It is clearly stated in the paragraphs 3 and 4 of PNAP251 – Testing of Building Materials, all testing of building materials should be carried out by established testing organizations with suitable qualifications and relevant experience such as a HOKLAS accredited laboratory or equivalent.



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Testing of Building Materials

Authorized Persons (APs) and Registered Structural Engineers (RSEs) may be approached from time to time for advice on the acceptability of building materials and proprietary fire resisting products. This practice note sets out the Building Authority's position which may be of assistance to APs and RSEs in preparing advice to manufacturers, suppliers, registered general building contractors, registered specialist contractors and building owners.

2. Under the Buildings Ordinance (BO), APs, RSEs and registered contractors (RC) have responsibilities to supervise building works including the selection and application of building materials/products and to certify compliance with relevant provisions of the BO upon completion of works. In this connection, it should be noted that the BO contains no provision whereby the Building Authority may issue a certificate, a test or assessment report with respect to these materials/products. The Building Authority takes the position, therefore, of relying on APs, RSEs and independent laboratories for testing for compliance with standards and for certification. For certification of the building materials/products used and their compliance with standards, upon completion of works, please refer to PNAP 53.

3. The Building Authority will recognize those laboratories accredited by the Hong Kong Laboratory Accreditation Scheme (HOKLAS) or by other laboratory accreditation bodies which have reached mutual recognition agreements/arrangements with HOKLAS. You may find such laboratory accreditation bodies at the web site of the Hong Kong Accreditation Service – http://www.info.gov.hk/itc/eng/quality/hkas/hkas.shtml. You should ensure that the tests conducted by an accredited laboratory are within its scope of accreditation.

4. The following list of materials/products, which is not exhaustive, would normally be required to be tested by accredited laboratories as mentioned in paragraph 3: -

(a) Concrete cube and core;

(b) Steel reinforcement

(c) Reinforcement splices/couplers;

(d) Curtain wall systems; and

(e) Fire resisting products.

/Proprietary .....

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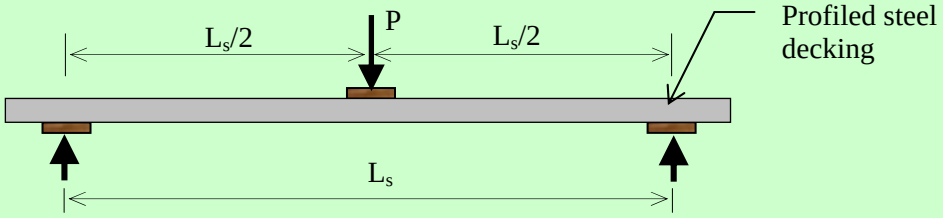
Objectives

The purpose of loading tests of profiled steel decking is to determine its section capacities as well as overall performance of the profiled steel decking directly by testing. The results obtained should be applied only to the particular steel decking profiles, material thickness and steel grade tested.

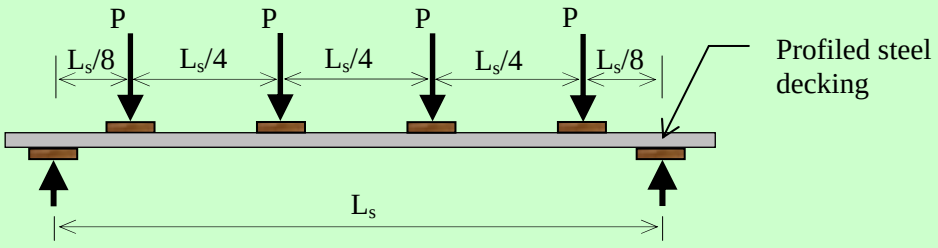
The test data can be used to establish the sagging and the hogging moment capacities and web crippling resistances of the decking in construction stage.

Test Methods

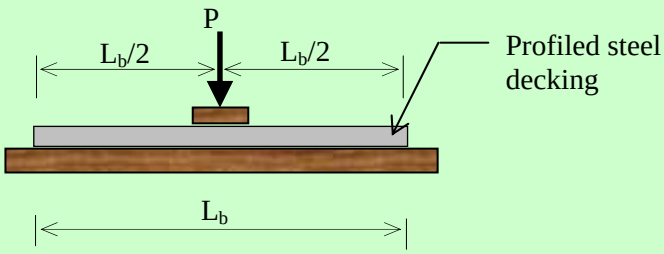
- Section 7 of BS5950: Part 6: 1996.
- Annex A of BS EN 1993-1-3: 2006.



One Point Load Test



Four Point Load Test



Wed Crippling Test