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Building Plan & Management Group

See Distribution List

Dear Sir/Madam

ADVISORY ON GOOD PRACTICES OF DESIGN AND INSTALLATION OF HIGH NON-LOAD BEARING WALL

Objective

1 This circular is to advise the industry to adopt the following good practices in the design and installation of high non-load bearing walls exceeding 3.3 metres in height, so as to ensure that the walls remain stable. Such high walls are common in industrial, institutional and commercial buildings and can be constructed with various types of materials (See Figure 1 in Annex A).

Good practices in design and installation of high non-load bearing wall

2 As part of the good practices, the industry is advised to adopt the following when designing and installing high non-load bearing walls with height exceeding 3.3 metres:

- a) For requirements on design of non-load bearing walls, reference should be made to the following standards:
 - i. Singapore Standard SS EN 1992 – Eurocode 2: Design of concrete structures
 - ii. European Standard EN 1996 – Eurocode 6: Design of masonry structures
- b) For performance requirements on strength and robustness and methods of test for partition walls, reference should be made to the Singapore Standard SS 492: 2001 (2014) – Performance requirements for strength and robustness (including methods of test) for partition walls.
- c) A Professional Engineer (PE Civil) should be engaged to design and supervise all high non-load bearing walls constructed of concrete and masonry material. The design should include both the temporary and permanent states of the wall system.
- d) Builder should adhere to the method statement of installation of high non-load bearing wall system provided by the suppliers/designers. The design PE should endorse the method statement. A copy of the method statement should be kept on site.

- e) To meet the design requirements for lateral and vertical stability, the design PE should consider strengthening and bracing the wall panels using lintels and stiffeners, or with additional strengthening material added within the wall panels, or with a combination of both (See Figure 2 and Figure 3 in Annex A). If lintels and stiffeners are used, the member-to-member connections between the lintels and stiffeners, as well as their end connections to the primary supporting structural elements should be rigid and restrained.
- f) The interface between the wall panels and its bracing elements, especially if they are of different material (e.g. concrete and steel), should be properly treated to prevent movement cracks (See Figure 4 in Annex A). This can include, but is not limited to, applying effective movement-control measures at the interface of the wall panels and its bracing elements.

3 These good practices are not intended to be directional in nature but informative.

Enquiry for clarifications

4 Should you need further clarifications, please submit your enquiry through BCA's Online Feedback Form at <https://www.bca.gov.sg/feedbackform/> or call us at 1800 342 5222.

5 We would appreciate it if you could convey the contents of this circular to the members of your organisation.

Yours faithfully



PUNITHAN SHANMUGAM
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for COMMISSIONER OF BUILDING CONTROL

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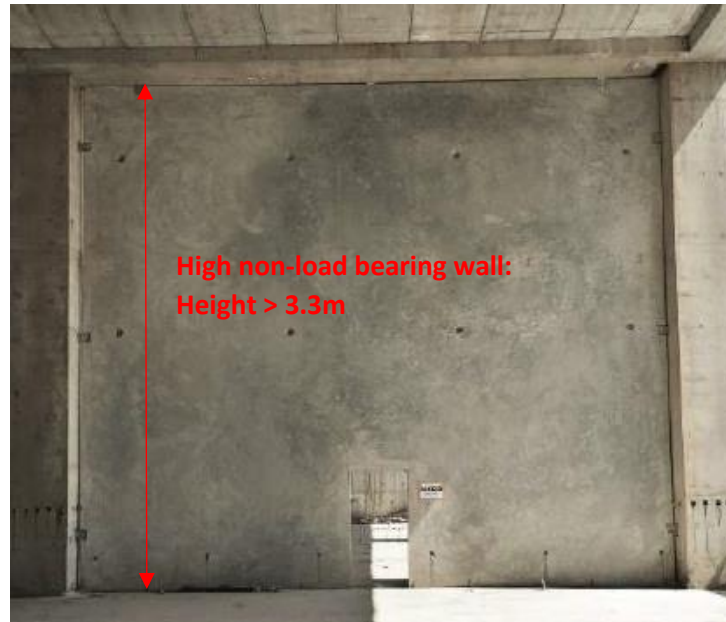


Figure 1: Non-load bearing wall exceeding 3.3 metres is considered as high non-load bearing wall

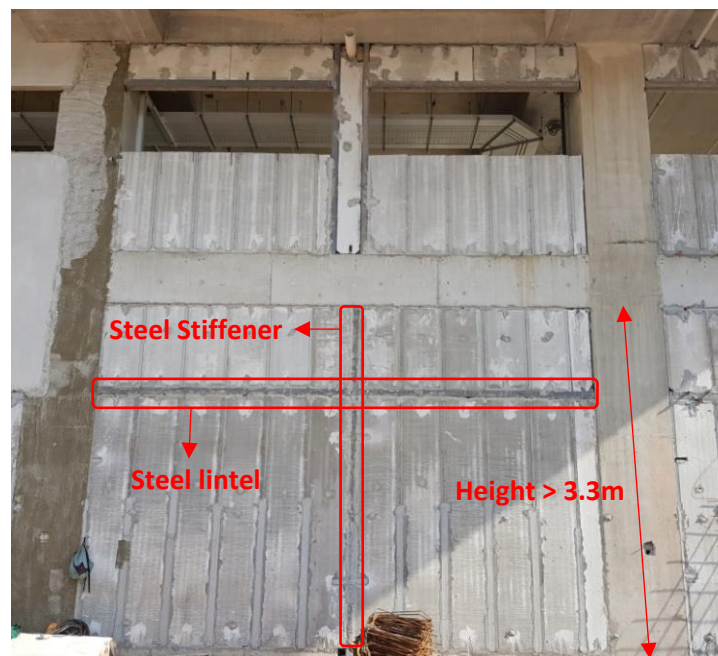


Figure 2: Erected precast hollow concrete wall with steel stiffeners and lintels



Figure 3: Erected precast hollow concrete wall with RC lintels



Figure 4: Interface cracks on external non-load bearing wall with no joint treatment