

INNOVATIVE KNITEX LIMITED

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(23.6232306, 90.4819740)

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Building Information

Factory Building: The structure is partially nine storied (G+8) reinforced concrete (RC) structure including a partial roof shed on 7th floor.

Observations

**Stress in column exceeds
normal design limit**



Floor layout



Over Head Water Tank

The cursory calculation indicates that column's (under water tank) stress exceeds the normal design limit considering a typical floor live load 2kPa, stair live load of 4 kPa, and minimum concrete strength of 16.31 MPa. The building engineer is required to review the design, loads, and column stresses for the marked columns based on in-situ material strength. Verify in-situ concrete stresses by 100 mm diameter cores from a minimum of 4 columns. Produce and actively manage a loading plan for all floors considering floor and column capacity.

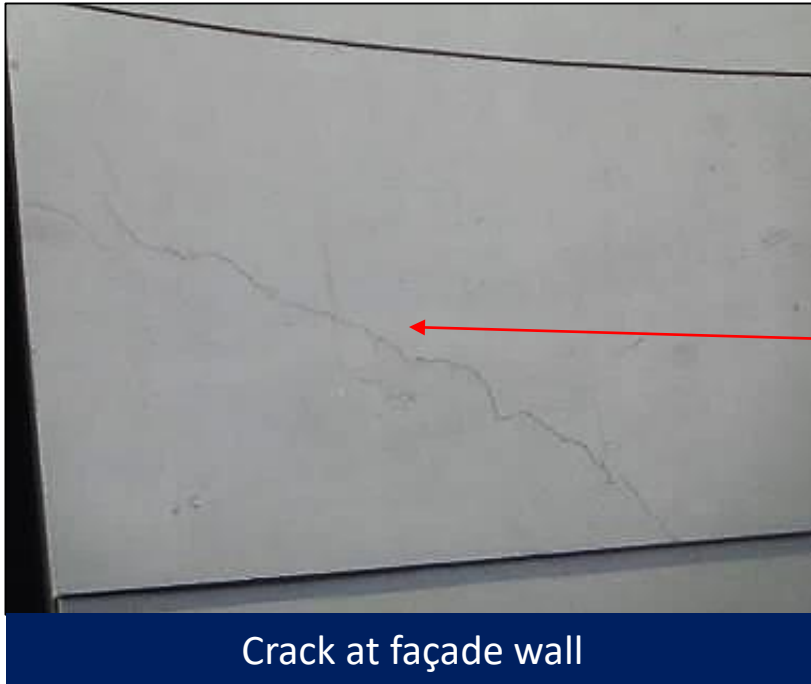
Absence of design documents



No design report was available for partially nine storied (G+8)
Factory Building

As per BNBC, every building or structure designed shall have its design documents prepared in accordance with the provision of Section 1.9.1. The design document shall include a design report, and a set of structural drawings, which shall be prepared in compliance with section 1.9.1.1 and section 1.9.1.2, part-6 of BNBC. At the time of inspection, only as-built drawing, load plan and geotechnical report were available, but no design report was available which are required to be prepared in compliance with section 1.9.1.1 (part-6, BNBC).

Hairline cracks at façade wall



Crack at façade wall



Hairline cracks were observed at several locations of the building. Building engineer is required to investigate the reason of the crack & suggest proper remedial actions.

Inadequate parapet wall



The height of the parapet wall above roof were found inadequate. Building engineer is required to increase the parapet wall to avoid possible falling hazard.

**Dampness observed at
several locations**



Signage of dampness at slab, beam & column



Signage of dampness at partition wall at toilet

Signage of dampness was observed several locations of the building. Building engineer is required to investigate the reason of the dampness and suggest proper remedial actions.

**Non-structural elements not
anchored or braced**

Some plastic tanks resting on the rooftop and racks on different floors are not adequately anchored or braced to resist lateral (earthquake) forces.

Adequately anchor and brace all non-structural elements (all buildings) to resist earthquake forces to comply with the BNBC.



Plastic water tank on roof



Rack on floor level

**No obvious lateral stability
at cargo lift**



Cargo lift

Cargo lift at east side of the building



No bracing observed from inside the lift



Pulley hoist of the lift

No bracing was observed at the steel frame of the cargo lift. Building engineer is required to check lateral stability and capacity of the cargo lift.

Lack of lateral stability system (Roof Shed)



Lack of compression member along long direction of the shed. No roof bracing observed.

The building engineer is required to check the lateral stability system of the steel shed.

Problems Observed

Factory Building:

Item 01: Stress in column exceeds normal design limit.

Item 02: Absence of design documents.

Item 03: Hairline cracks at façade wall.

Item 04: Inadequate parapet wall.

Item 05: Dampness observed at several locations.

Item 06: Non-structural elements not anchored or braced.

Item 07: No obvious lateral stability at cargo lift.

Item 08: Lack of lateral stability system (Roof Shed).

Priority Actions

Item No.	Observation	Recommended Action Plan	Recommended Timeline
01	Stress in column exceeds normal design limit.	Building Engineer to review design, loads and columns stresses in area identified above.	6-weeks
02	Stress in column exceeds normal design limit.	Verify in-situ concrete stresses by 100mm dia. cores from minimum of 4 columns.	6-weeks
03	Stress in column exceeds normal design limit.	Produce and actively manage a loading plan for all floor plates considering floor and column capacity.	6-weeks
04	Stress in column exceeds normal design limit.	Carry out remedial works where required.	6-months
05	Stress in column exceeds normal design limit.	Continue to implement floor loading plan.	6-months
06	Absence of design documents.	Building engineer is required to prepare the design documents including a design report, and a set of structural drawings in compliance with section 1.9.1.1 and section 1.9.1.2, part-6 of BNBC and submit it to RSC for review.	6-weeks
07	Absence of design documents.	Carry out remedial works (if any) after reviewed by the RSC.	6-months
08	Hairline cracks at façade wall.	Building engineer is required to investigate the reason of the crack & suggest proper remedial actions.	6-weeks

Item No.	Observation	Recommended Action Plan	Recommended Timeline
09	Inadequate parapet wall.	Building is required to complete the construction of parapet wall to avoid potential of falling hazard.	6-weeks
10	Dampness observed at several locations.	Building engineer is required to investigate the reason of the dampness and suggest proper remedial actions.	6-weeks
11	Non-structural elements not anchored or braced.	Building is required to anchored or braced properly all kinds of non-structural elements.	6-weeks
12	No obvious lateral stability at cargo lift.	Building engineer is required to check lateral stability and capacity of the cargo lift and suggest proper remedial actions accordingly.	6-weeks
13	No obvious lateral stability at cargo lift.	Carry out remedial works (if any) after reviewed by the RSC.	6-months
14	Lack of lateral stability system (Roof Shed).	Building engineer is required to check the lateral stability system and suggest proper remedial actions accordingly.	6-weeks
15	Lack of lateral stability system (Roof Shed).	Carry out remedial works (if any) after reviewed by the RSC.	6-months