

Natural Denims Ltd

Tonga bari, Ashulia, Dhaka
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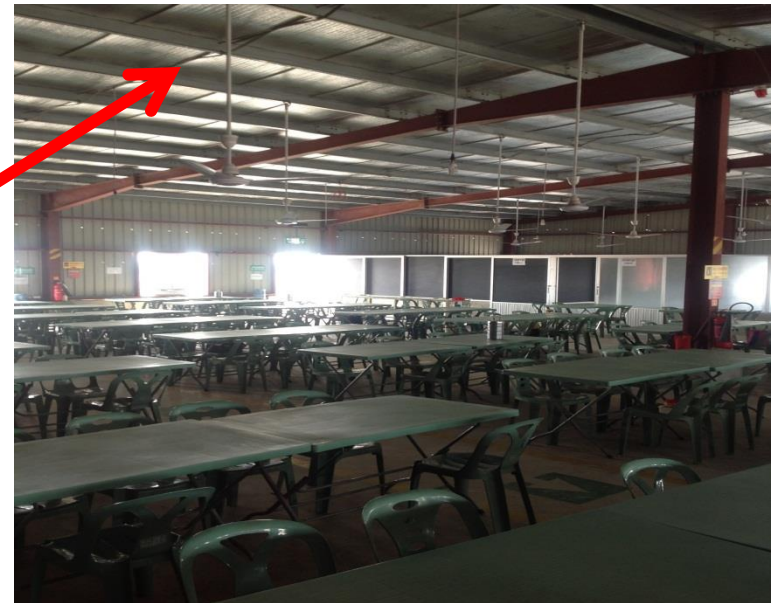


Steel frame supported on the concrete roof slab has no obvious horizontal stability system, in the plane of the steel roof, to resist high wind loads.



**Clad steel framed dining
area located at roof
level**

**Roof system has no
obvious horizontal
bracing to provide
stability in high winds**



**Significant Floor Loads at 6th Floor Level.
Determine Design Imposed Floor Load
capacity and limit storage loading accordingly**

Heavy Floor loads



Plan and height restrictions to be introduced to prevent future overloading – allow clear accessways

Storage loads to be limited to the building design loads

Cracking of perimeter brick façade wall and structural beam at the interface between the 7 storey main building and the 5 storey Annex



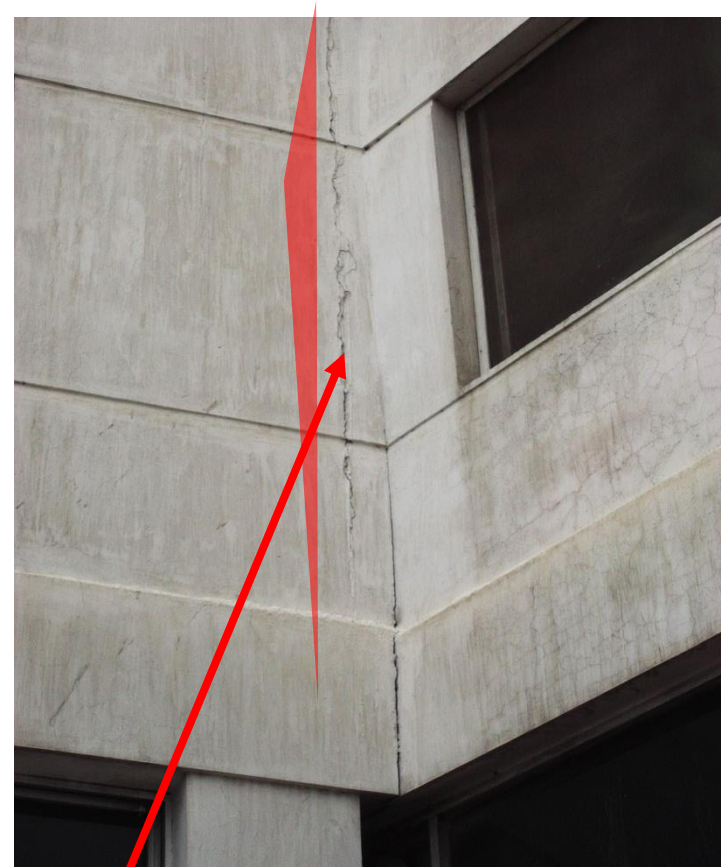
**Junction between Annex
and the main building**

- 3rd floor slab and above
are tied structurally
- 2nd floor slab and below
are not tied structurally

**Cracking at Interface
Between Main Building and
5 Storey Annex**



**Cracking at Interface
Between Main Building and
5 Storey Annex**



**Vertical Crack in Rendered
Brick Façade Wall at South
East Corner of Annex to
Main Building**



Structure at Annex joint line is linked at the upper floors



Cracking along internal beam at Interface Between Annex and Main Structure



Cracking at Interface Between Main Building and 5 Storey Annex

Priority Actions

Problems Observed

- Concrete stresses in internal columns at Ground Floor level need to be checked and strengths verified by coring
- The clad steel portal frame supported on the concrete roof slab has no obvious horizontal bracing system in the plane of the steel roof to resist high wind loads.
- Significant floor loads were observed at 6th floor level with packaged goods and denim stored to a height of approximately 1.8m. Building management to ensure that floor loads are limited to the imposed load for which the building floors are designed and that access ways are provided.
- Cracking of perimeter brick façade wall and a structural beam at the interface between the 7 storey main building and the 5 storey annex to the south to be monitored and repairs carried out to ensure that there is no rainwater ingress.

Item No.	Observation	Recommended Action Plan	Recommended Timeline
1	Verify concrete strengths in all internal columns at Ground Floor	Factory Engineer to review design, loads and columns stresses for columns identified above	6-weeks
2	Verify concrete strengths in all internal columns at Ground Floor	Verify insitu concrete stresses either by cores or existing cylinder strength data for these columns	6-weeks
3	Verify concrete strengths in all internal columns at Ground Floor	Produce and actively manage a loading plan for all floor plates within the factory giving consideration to floor capacity and column capacity.	6-months
4	The steel framed structure at roof level has no obvious horizontal bracing system in the plane of the steel roof to resist high wind loads.	Steel frame stability system to be designed by the Building Engineer and upgraded to support code lateral/wind loads.	6-months
5	Significant floor loads at 6 th floor level	Ensure that stacks of materials are separated by a 0.5m gap all around	6-weeks
6	Significant floor loads at 6 th floor level	Building Engineer to create controlled loading plans for all floors designating where storage can be placed and cannot be placed.	6-months
7	Cracking of perimeter rendered brick façade wall and structural beam at the interface between the main building and the 5 storey annex.	Building Engineer to inspect areas where cracking has occurred and propose a suitable repair to ensure that rainwater does not penetrate the building fabric.	6-months