Knit Asia Limited

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ACCORD on Fire and Building Safety in Bangladesh

ARUP

Boilers compressors located on Ground Floor slab (suspended over water tank)

Engineer is to perform detailed calculations to prove slab thickness and (if required) :

- **Reduce loads by removing machinery**
- **Reinforce slab**

Boilers compressors located on Ground Floor slab (suspended over water tank)

Water tank loading on roof

Engineer is to perform detailed calculations to prove slab thickness and (if required) :

- **Reduce loads by emptying tanks**
- **Reinforce slab**

Water tank loading on roof

Load management storage (high density items)

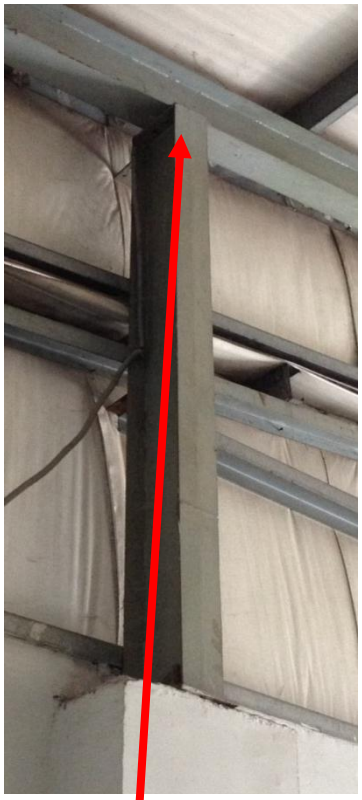
Plan and height restrictions in place to consider high density loading to prevent future overloading.

Restrictions for high density loading to be based on design floor loading.

Load management in storage

Stability of light weight steel roof structure

- Horizontal bracing not tightened
- Vertical bracing not present



No positive connection between wind girders and rafters

Engineer is to perform detailed calculations to prove bracing and connection, and (if required) :

- Install additional bracing
- Reinforce connection

Stability light weight steel roof structure

Water causing damage and corrosion

Repair internal and external water damage. Examples of current damage shown below.

Water damage in staircase below water tank

Lintel beam above windows

Water causing damage and corrosion

Water damage on external facade

Water causing damage and corrosion

Movement between brick cladding and concrete column

Crack between column and façade

Movement between brick cladding and concrete column

Cover for movement joint at ground floor

Cover for movement joint at ground floor

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Priority Actions

Problems Observed

1. Verify concrete column insitu strength and compare with design stress
2. High loading from Boiler/compressors on Ground Floor slab

3. Check on roof structure from localised high loading from water tanks required – cracking observed

4. Limit density of loading on 4th Floor (Accessories& General Store)

5. No vertical bracing to steel roof structure; some fixings missing

6. Water causing damage and corrosion to external facade

7. Movement between structure and brick cladding – check restraint to brick panels

8. Potential for concrete/debris to fall out of movement joint in First Floor Slab and injure personnel below

Item No.	Observation	Recommended Action Plan	Recommended Timeline
1	Verify concrete strengths in internal columns as identified below	Factory Engineer to review design, loads and columns stresses on GL 8 (area with 7.1m x 7m grid)	6-Weeks
2	Verify concrete strengths in internal columns as identified below	Verify insitu concrete stresses either by cores or existing cylinder strength data	6-Weeks
3	Verify concrete strengths in internal columns as identified below	Produce and actively manage a loading plan for all floor plates within the factory giving consideration to floor capacity and column capacity.	6-Months

Item No.	Observation	Recommended Action Plan	Recommended Timeline
4	Boilers/ compressors located on Ground Floor slab (suspended over water tank)	Building Engineer Verify that beam/slab has sufficient capacity to support plant	6-Months
5	Water tanks located on the roof structure mounted on concrete plinths; some cracking observed to mid-spans of slab soffits which support tanks	Building Engineer to verify that beam/slab has sufficient capacity to support fully filled water tanks plus concrete plinth	6-Weeks
6	Materials stacked in densely spaced piles within Accessories & General Stores on 4th Floor	Maintain load as per that observed during inspection	6-Weeks

Item No.	Observation	Recommended Action Plan	Recommended Timeline
7	Materials stacked in densely spaced piles within Accessories & General Stores on 4th Floor	Building Engineer to create controlled loading plans for all floors designating where storage can be placed and can not be placed.	6-Months
8	Lightweight steel roof – vertical bracing not present, roof bracing not tightened and wind girders at gable do not appear to be positively fixed to rafter	Building Engineer to verify if columns can act as vertical cantilevers under lateral loads and install bracing if necessary.	6-Months
9	Lightweight steel roof – vertical bracing not present, roof bracing not tightened and wind girders at gable do not appear to be positively fixed to rafter	Plan bracing to be tightened	6-Months

Item No.	Observation	Recommended Action Plan	Recommended Timeline
10	Lightweight steel roof – vertical bracing not present, roof bracing not tightened and wind girders at gable do not appear to be positively fixed to rafter	Wind Girders in Gable wall to be fixed to rafters	6-Months
11	Water causing damage and corrosion	Building Engineer to inspect water damaged structure including the exterior and propose a suitable repair.	6-Months
12	Movement between brick cladding and concrete columns along GL 07	Building Engineer to investigate and propose a suitable repair/restraint detail if necessary	6-Weeks

Item No.	Observation	Recommended Action Plan	Recommended Timeline
13	Potential for material to fall out of movement joint in First Floor Slab and injure personnel below	Install suitable channel detail as per all other suspended levels	6-Weeks