# KDS Apparels Ltd. (9498)

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20.April.2014

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## Identified Priority 1 Concerns

- Block B Building – used as storage facility with no loading plan; loading to be reduced.

- Steel structures have unorthodox details and no documentation.

## 1st Priority 1 Concern

Block B building was built in 2005 with brick stone chip aggregate.

Columns reflect information provided on structural drawings which indicated 300mm x 450mm plan size with 14-20mm bars. one column was Ferro-scanned to confirm information.

Loading on typical floor was between approximately 4,8 kPa to 6 kPa.

The Managing Director was advised at the closing meeting to create and use loading plans immediately and remove all loading on the cantilevered section of Block B that is not recorded on any drawings.

Loading is to be reduced to acceptable stress levels. Limit loading to 3 kPa. We require a full Detailed Engineering Assessment of Block B.

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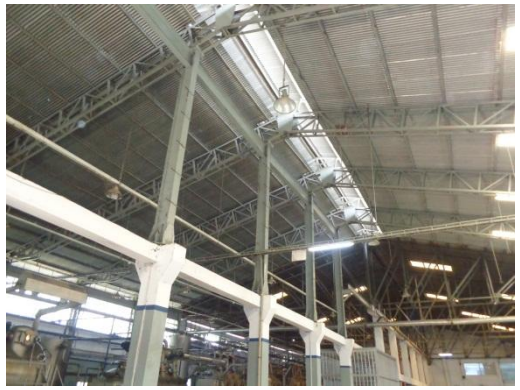

## 2nd Priority 1 Concern

During our survey, we found two steel structure buildings at the ground floor and a steel shed structure at the roof. We also found two bridges connecting both main buildings. Unorthodox details were noted in all parts.

As mentioned, no structural drawings were available for any of the steelwork structures.

Notable points:

1. Wind column in weak axis
2. Unrestrained bottom chords for uplift forces
3. Long spans for angles used for decking support
4. Improvised splices or bearing points

We require a full Detailed Engineering Assessment of the steelwork on this facility.

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# Identified Priority 2 Concerns

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## 1st Priority 2 Concern

Our visit revealed a cantilevered section at the back of Block B. This was not shown on the structural drawings provided.

The capacity of the beams and slab as well as columns and foundations are to be included in the Detailed Engineering Assessment.

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# Identified Priority 3 Concerns

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## 1st Priority 3 Concern

No waterproofing membrane was visible on the roof of the main buildings. This means that any cracks in the surface finishes on the roof will allow water to seep into the concrete slab beneath the finishes, and cause long-term soaking of the slab. The same applies to the water tanks at roof.

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# Overall Stability System

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Sway stability of building could probably be expected from rigid frame system (beam and column participation) although no ductile detailing is provided in structural plans.

Masonry infill is unrestrained and cannot be considered as any form of lateral restraint.

We require that these items be investigated as part of a Detailed Engineering Assessment.

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# Priority Actions

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## Problems Observed Summary

**ITEM 1: Priority 1 –** Block B Building is used as storage facility with no loading plan.

**ITEM 2: Priority 1 –** Steel structures have unorthodox details and no documentation.

**ITEM 3: Priority 2 –** Block B has a cantilevered section not shown on any drawings.

**ITEM 4: Priority 3 –** Waterproofing of roof level.

## Item 1 and actions

Block B Building is used as storage facility with no loading plan.

| | |
|---|---|
| **Priority 1 (Immediate – Now)** | • Verify in-situ stress and material properties by testing 100mm dia. Concrete cores of four columns.<br>• Commence a Detailed Engineering Assessment. |
| **Priority 2 (within 6 – weeks)** | • Create and actively manage loading plans for all floors<br>• Induct workers on the use of the loading plans. |
| **Priority 3 (within 6-months)** | • Maintain and enforce the loading plans. |

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## Item 2 and actions

Steel structures have unorthodox details and no documentation.

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| **Priority 1 (Immediate – Now)** | • Carry out a full Detailed Engineering Assessment of the steel structures evaluating capacities under gravity, lateral and uplift forces. |
| **Priority 2 (within 6 – weeks)** | • None |
| **Priority 3 (within 6-months)** | • None |

## Item 3 and actions

Block B has a cantilevered section not shown on any drawings.

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| **Priority 1 (Immediate – Now)** | • Remove all loading on the cantilevered sections at all levels. |
| **Priority 2 (within 6 – weeks)** | • Include an evaluation the ability of the beams and slabs as well as perimeter columns and foundations to take the surveyed loading in a full Detail Engineering Assessment. |
| **Priority 3 (within 6-months)** | • None |

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## Item 4 and actions

Waterproofing of roof.

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|---|---|
| **Priority 1 (Immediate – Now)** | • None |
| **Priority 2 (within 6 – weeks)** | • None |
| **Priority 3 (within 6-months)** | • Apply a new waterproofing membrane to all exposed roofs. |