

INITIAL STRUCTURAL INTEGRITY ASSESSMENT REPORT (SIAR)

Factory Name: **That's It Sports Wear Ltd**
Address: **147-148 East Narasinghpur Ashulia, Savar Ashulia,
Savar Dhaka Bangladesh**
Assessor: **Uttaron Technologies**
Date: **26 Feb 2014**



Introduction to the Report

The following report contains a site profile and summary of non-conformities identified during an onsite assessment commissioned by the Alliance for Bangladesh Worker Safety (Alliance) and conducted by a third-party Qualified Assessment Firm (QAF). The assessment was conducted against the Alliance for Bangladesh Worker Safety Assessment Protocols (APs) and Fire Safety and Structural Integrity Standard, which is harmonized with the factory assessment guidelines developed by Bangladesh University of Engineering and Technology (BUET) for the Bangladesh National Tripartite Plan of Action (NTPA). The goal of the Alliance process is to provide clear and practical technical requirements by which Bangladeshi Ready Made Garment (RMG) Factories producing for Alliance members may be consistently and fairly evaluated for fire, structural, and electrical safety in a non-duplicative manner. Each assessment will prompt action plans that will be used by RMG factories to systematically and sustainably improve safety conditions for garment workers. Beyond tracking and reporting on action steps taken in a transparent manner, the Alliance organization and its members will seek to further support factory improvements through technical assistance, training, implementation support for functional Worker Committees, and in some cases financial assistance and wage support for workers if factories are closed for remediation.

The contents of the report do not constitute a guarantee of compliance with the applicable laws, the Alliance Standard or the absolute or continued safety against fire, electrical and/or structural integrity issues that may lead to injury or loss of life. The report is designed to provide a non-exhaustive summary of risk issues, based on a limited sampling and duration of time onsite by the named QAF. Neither the QAF nor the Alliance can certify or guarantee the quality, outcome, or effectiveness of actions taken in response to the report.

For more information and report feedback please go to: www.bangladeshworkersafety.org.





GENERAL INFORMATION

General Information	
Factory Name:	That's It Sports Wear Ltd
Address:	147-148 East Narasinghpur Ashulia, Savar Ashulia, Savar Dhaka Bangladesh
Country:	Bangladesh
Province:	Dhaka
City:	Ashulia, Savar
Zip Code:	1341
Audit Duration:	1 Days
Re-Audit:	Re-Audit After 0 Months
Draft Report Date :	26 February 2014
Final Report Date :	19 February 2015
Are all Action Items From Previous Assessment Completed?:	N/A
Buildings in Complex :	1 Main Building and 1 Ancillary Building (Generator Building)
Number of Building Levels (Stories) :	10 (Ground + 9)
Approximate Building Area (SF) :	420,000 SF
Date of Building Construction :	2003-2004 (Ground to Level 3), 2004-2007 (Level 4 to Level 10)
Date of Last Building Renovation/Addition :	A portion of the Level 10 slab is being reconstructed as the result of a fire in 2013.
Is the Building mixed use?:	No
Ancillary Structures in Complex :	1 (Generator Building)
Number of Ancillary Levels (Stories) :	1 (Ground Floor)
Approximate Ancillary	5,000 SF

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ALLIANCE
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Structures Area (SF) :	
Number of Occupants :	Average 775 per floor from level 1 to 9. Total occupants = 6,250
Exterior Facade Description :	Brick masonry infill between structural concrete frame elements. Brick masonry typically covered with cement mortar. Glass windows.
Structural System Description :	Monolithic concrete flat slabs with peripheral beams. Concrete columns with a foundation system consisting of piles.
Issues were not found during the structural integrity assessment that required the Emergency Escalation Protocol (and referral to NTC Review Panel)?:	Yes



ASSESSMENT FINDINGS

Structural System Design

Question:	Are the available FoS for the columns adequate based on Preliminary calculation?	
Priority Level:	High	
Non-Compliance Level:	2	
Description:	Column FoS calculations were based on a concrete compressive strength of 2,370 psi based on the Alliance Standard minimum strength for stone chip aggregate concrete. Nondestructive testing for in-situ concrete compressive strength was not performed as part of this assessment. In-situ reinforcement configuration was determined via ferro-scanning. Column FoS results for 42 psf live load: Central column - 1.54 Corner column - 3.25 Edge column - 2.10 The FoS of central columns considering 42 psf live load is 1.54 which is below 1.86, warranting additional investigation via destructive core testing.	
Source of Findings:	Uploaded Document: Column Stress Calculations	
Suggested Plan of Action:	Engage qualified structural engineering consulting to conduct investigation of the strength of the concrete. Concrete strength shall be assessed by taking at least 4 nos. of 4 inch diameter cores from the area of concern. If cores are to be taken from column, it is advisable to take it from an upper level where the stresses are low (for practical reasons 3 inch cores may be taken from columns). In addition, ultrasonic pulse velocity test (UPV)& Rebound Hammer shall be used to have concrete strength in sufficient number of columns in the lower tiers so that a level of confidence is achieved. Develop a combined method as per ACI 228.1R-03. The calibrated results of core tests and UPV & Hammer combined method shall be used to determine a reliable value of concrete strength in columns. Maintain current use of the floors and don't change use or increase occupation, either of which could increase loading. Ensure no floor has more than 2kN/m2 (42 psf) live load (Occupancy or storage) at any time.	
Suggested Deadline Date:	15 Apr 2015	
Standard:	Provide results of preliminary calculations in space provided. a) column capacity; FoS > 1.86 - Safe b) column capacity; FoS 1.5 -1.86 - Needs Evaluation c) Column capacity; FoS 1.25-1.5 - Needs Evaluation d) Column capacity; FoS <1.25 - Unsafe In case of a critically low FoS (<1.25), consider Immediate Escalation Protocol	
Question:	Are credible structural design documents available for review and kept on site?	
Priority Level:	Medium	
Non-Compliance Level:	3	
Description:	Partially presented by the factory. Full documents were not available at site to review during visit.	



Source of Findings:	Document Review: Documents reviewed on-site.	
Suggested Plan of Action:	Have a qualified structural engineer to prepare credible as-built documents based on the requirements of Part 8 Section 8.19 of the Alliance Standard.	
Suggested Deadline Date:	15 Apr 2015	
Standard:	Alliance Standard Part 8 Section 8.19 Required Structural Documentation for New and Existing Factories	
Question:	Where density of operations, storage of materials, or equipment weights require live load capacity in excess of 2.0 kN/m ² (42 psf), do the design documents confirm that the required load capacity exists? Or has the load capacity been analytically confirmed and certified by an Alliance-qualified structural engineer?	 
Priority Level:	Medium	
Non-Compliance Level:	3	
Description:	No authentic design document was found during visit to verify the floors capacity for any excess load. Machines load in different floors and storage like fabrics roll and raw materials found as concentrated load at level six.	
Source of Findings:	Photograph: Load on Floor	
Suggested Plan of Action:	Have a qualified structural engineer confirm that capacity to support the load is available. Load Plans complying with Alliance Standard Part 8 Section 8.20.4.3 should also be developed	
Suggested Deadline Date:	15 Apr 2015	
Standard:	Alliance Standards Part 8 Section 8.15 Minimum Floor Design Loads	
Question:	Are Certificates of Occupancy available for review?	
Priority Level:	Low	
Non-Compliance Level:	2	
Description:	Certificates of occupancy were not available for review.	
Source of Findings:	Document Review: Documents reviewed on-site.	
Suggested Plan of Action:	Provide Certificates of Occupancy for review.	
Suggested Deadline Date:	15 Apr 2015	
Standard:	Alliance Standard Part 8 Section 8.3 Preliminary Structural Assessment	
Question:	Is a Geotechnical Report available for review and kept on site?	



Priority Level:	Low
Non-Compliance Level:	2
Description:	Geotechnical Report found without any signature of the engineer.
Source of Findings:	Document Review: Documents reviewed on-site.
Suggested Plan of Action:	Under guidance from a qualified structural engineer arrange geotechnical investigation at close vicinity of the structure and make the report available for review.
Suggested Deadline Date:	15 Apr 2015
Standard:	Alliance Standard Part 8 Section 8.2 Structural Integrity of Existing Factory Buildings

Structural System Construction

Question:	Are all non-structural elements suspended from, attached to, or resting atop the structure adequately anchored and braced to resist earthquake forces?
Priority Level:	Medium
Non-Compliance Level:	2
Description:	The following elements were noted to not have adequate bracing or anchorages to resist seismic forces: -Fire protection standpipe at exterior facade -AC units at exterior facade -Storage racks on Levels 4, 6 and 8 - Rooftop water tank
Source of Findings:	Photograph: Unbraced elements
Suggested Plan of Action:	Develop engineered plans to brace all non-structural elements to resist earthquake forces to comply with the BNBC and Alliance Standard. Install anchor and braces as shown on approved plans.
Suggested Deadline Date:	15 Apr 2015
Standard:	Alliance Standards Part 8 Section 8.18 Seismic Bracing of Key Non-Structural Elements and 2006 BNBC Part 6





Question:	Have all areas of needed maintenance, including areas with efflorescence, dampness, standing water on rooftops, and corrosion been addressed.
Priority Level:	Medium
Non-Compliance Level:	1
Description:	Floor tiles were noted to be damaged or missing in some areas. Although not a structural issue, this condition presents a trip hazard for pedestrians and should be addressed.
Source of Findings:	Photograph: Damaged floor tiles.
Suggested Plan of Action:	Replace damaged and missing floor tiles throughout the building.
Suggested Deadline Date:	15 Apr 2015
Standard:	Alliance Standard Part 8 Section 8.26 Durability and Maintenance



Structural Safety Programs

Question:	Is a program in place to ensure that the live loads for which a floor or roof is or has been designed will not be exceeded?
Priority Level:	Medium
Non-Compliance Level:	2
Description:	No effective load management program witnessed during visit.
Source of Findings:	Document Review: No documented load management program.
Suggested Plan of Action:	Develop a program to ensure that all live loads for which a floor or roof has been designed for will not be exceeded. The designated Load Manager shall oversee this program and ensure it is enforced.
Suggested Deadline Date:	15 Apr 2015
Standard:	Alliance Standard Part 13 Section 13.7 and Part 8 Section 8.9.
Question:	Have Load Plans been prepared for each floor documenting the actual maximum operational loading that is intended and/or allowable on each floor.
Priority Level:	Low
Non-Compliance Level:	2
Description:	No such kind of documents were found during the visit.
Source of Findings:	Document Review: Documents reviewed on-site.
Suggested Plan of Action:	Have a qualified structural engineer to develop Floor Loading Plans as per the requirements of Part 8 Section 8.20.5.3



Suggested Deadline Date:	15 Apr 2015	
Standard:	Alliance Standard Part 8 Section 8.10 Floor Loading Plans (Load Plans)	
Question:	Are Floor Load Plans posted as required?	
Priority Level:	Low	
Non-Compliance Level:	2	
Description:	Floor Load Plans are not posted at required places.	
Source of Findings:	Visual Assessment: No posted load plans	
Suggested Plan of Action:	Have a qualified structural engineer to prepare load plans including the information required in Section 8.20 of the Alliance Standard. Floor load plans should be visibly posted on all levels of all buildings.	
Suggested Deadline Date:	15 Apr 2015	
Standard:	Alliance Standard Part 8 Section 8.20.5.3	
Question:	Are areas used for storage of work materials and work products, clearly marked to indicate the acceptable loading limits as described in the Load Plan for that floor?	
Priority Level:	Low	
Non-Compliance Level:	2	
Description:	No load plan or such marking found for any floor.	
Source of Findings:	Visual Assessment: No storage loading limit markings observed.	
Suggested Plan of Action:	Provide signage or the appropriate markings at all areas used for storage to indicate the acceptable loading limits detailed in the Load Plan.	
Suggested Deadline Date:	15 Apr 2015	
Standard:	Alliance Standard Part 8 Section 8.11 Floor Load Markings	