



EMS Apparels Ltd

Barenda, Kashimpur, Gazipur
(23.976675, 90.310703)
24th July & 28th August 2019





Observations



Discrepancies between provided drawings/ load plan and on-site condition

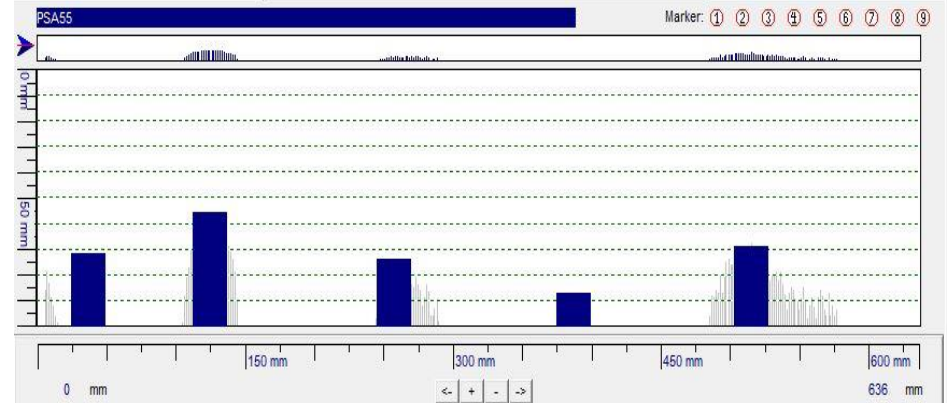
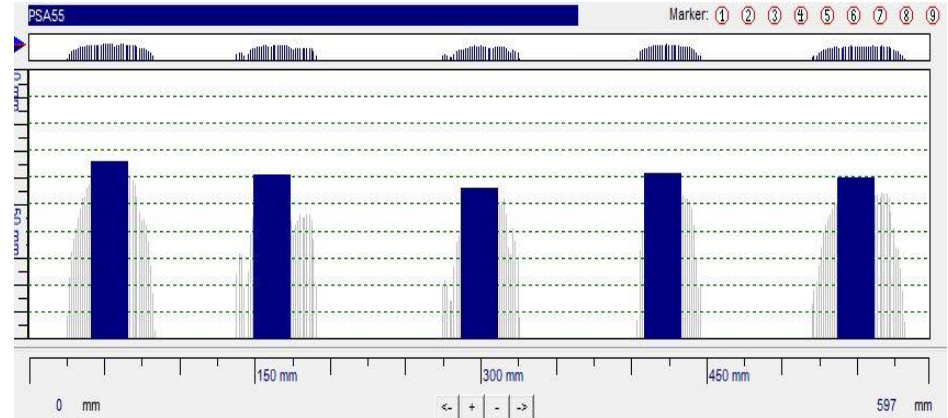
Observations: Main Building



SCHEMATIC OF REINFORCEMENT

Column Type	NO	C7(24"x24")	C8(24"x24")	C9(24"x24")	C10(24"x24")
UP TO GB	SIZE	24"x24"	24"x24"	24"x24"	24"x24"
	TIE	15-25 mm Ø	15-25 mm Ø	25-25 mm Ø	25-25 mm Ø
	SIZE	100 @ 4-6 c/c	100 @ 4-6 c/c	100 @ 4-6 c/c	100 @ 4-6 c/c
GROUND FLOOR	SIZE	24"x24"	24"x24"	24"x24"	24"x24"
	TIE	15-25 mm Ø	15-25 mm Ø	25-25 mm Ø	25-25 mm Ø
	SIZE	100 @ 4-6 c/c	100 @ 4-6 c/c	100 @ 4-6 c/c	100 @ 4-6 c/c
1ST FLOOR	SIZE	24"x24"	24"x24"	24"x24"	24"x24"
	TIE	15-25 mm Ø	15-25 mm Ø	25-25 mm Ø	25-25 mm Ø
	SIZE	100 @ 4-6 c/c	100 @ 4-6 c/c	100 @ 4-6 c/c	100 @ 4-6 c/c
2ND FLOOR	SIZE	24"x24"	24"x24"	24"x24"	24"x24"
	TIE	15-25 mm Ø	15-25 mm Ø	25-25 mm Ø	25-25 mm Ø
	SIZE	100 @ 4-6 c/c	100 @ 4-6 c/c	100 @ 4-6 c/c	100 @ 4-6 c/c
3RD FLOOR	SIZE	24"x24"	24"x24"	24"x24"	24"x24"
	TIE	15-25 mm Ø	15-25 mm Ø	25-25 mm Ø	25-25 mm Ø
	SIZE	100 @ 4-6 c/c	100 @ 4-6 c/c	100 @ 4-6 c/c	100 @ 4-6 c/c
4TH & 5TH FLOOR	SIZE	24"x24"	24"x24"	24"x24"	24"x24"
	TIE	15-25 mm Ø	15-25 mm Ø	25-25 mm Ø	25-25 mm Ø
	SIZE	100 @ 4-6 c/c	100 @ 4-6 c/c	100 @ 4-6 c/c	100 @ 4-6 c/c

Column Schedule



Scan result

Number of rebar of C8 type column does not match with column schedule. 18 nos of rebar were shown in column schedule whereas 16 nos of rebar are found by ferro scanning.



4.1.2. Live Load Calculation

According to BNBC Standard, live load is the load superimposed by the user or occupant of the building not including the environmental loads such as wind load, rain load, earth quake load or dead load. Table 4.1-2 describes the live load values considered for modeling the structure, which are referenced from Accord Standard.

Table 4.1-2 - Live load for various floors of the Structure

Floor ID	Use of floor	Load Value(psf)
Ground Floor	Finishing Goods store & printing Area	N/A
1 st Floor	Embroidery M/C & Drawstring Section	105.00
2 nd Floor	Knitting, Collar M/C & Yarn Store Section	84.00
3 rd Floor	Sewing Section	42.00
4 th Floor	Dinning, Finish Goods & Cut-pes Store Section	63.00
Roof	Open Area	30.00

The provided load plans are not matched with posted load plan. Also the prepared load plan not comply with BNBC. Factory is required to revise the design report including load plan that comply the BNBC.

During inspection over loading wasn't found. Factor of Safety calculation for internal & external columns were found satisfactory considering 3kPa allowable floor live loading for the building.



Observed floor loading



As-built documents for Fire pump room, Bonded warehouse, Wastage Shed not available



Fire pump room



Bonded warehouse

As-built documents weren't available for Fire pump room, Bonded warehouse, Wastage Shed. Building engineer is required to prepare "as constructed" drawings with complete structural information.



Wastage Shed



Apparent non-engineered Shed



Apparently non-engineered shed. Light weight roof truss structure supported on 125 mm brick wall. The connections appeared to be non-engineered.

Poor connection



Bonded warehouse



Non-engineered connection



Problems Observed

Main Building:

01: Discrepancies between provided drawings/load plan and on-site condition

Fire pump room, Bonded warehouse, Wastage Shed:

02: As-built documents for Fire pump room, Bonded warehouse, Wastage Shed not available.

03: Apparent non-engineered Shed.



Item No.	Observation	Recommended Action Plan	Recommended Timeline
1	Discrepancies between provided drawings/load plan and on-site condition	Building Engineer to survey the structure and prepare accurate as-built drawings.	6-weeks
2	Discrepancies between provided drawings/load plan and on-site condition	Factory is required to revise the design report including load plan that comply the BNBC.	6-weeks
3	Discrepancies between provided drawings/load plan and on-site condition	Produce and actively manage a loading plan for all floor plates within the factory, considering floor, column and foundation capacity as per BNBC provision.	6-weeks
4	As-built documents for Fire pump room, Bonded warehouse, Wastage Shed not available	Prepare “as constructed” drawings which reflect the actual site dimensions with complete structural information.	6-weeks
5	Apparently non-engineered Shed	Building engineer to check the adequacy of the lightweight roof structure against lateral loading.	6-weeks
6	Apparently non-engineered Shed	Carry out remedial works resulting from engineering assessment if necessary.	6-months