JAY CHAMBERS

CO-OPERATIVE PREMISES SOCIETY

Ltd..

STATUS REPORT ON STRUCTURAL ADEQUACY OF

JAY CHAMBERS CO-OPERATIVE PREMISES SOCIETY Ltd.

PLOT NO. 357, TPS NO. V,
Dayaldas Road,
Vile Parle (East),
Mumbai-400057

DATE: 02 / 02 / 2024

Compiled By:

VIPRA CONSULTANTS
CONSULTING STRUCTURAL ENGINEERS

OPERATING OFFICE

B / 37, CHADHA PREMISES CO OP SOC. LTD.,
TELLY GULLY CROSS LANE, ANDHERI (EAST),
MUMBAI 400069.

VIPRA CONSULTANTS
CONSULTING STRUCTURAL ENGINEERS
B-37, 7th Floor, 'A' Wing, Chadha Premises Co-op. Soc. Ltd., Tely Gully Cross Lane, Andheri (E), Mumbai - 400069.
Email: vipraconsultants@yahoo.co.in

02-02-2024

The Secretary,
JAI CHAMBERS CO-OPERATIVE PREMISES SOCIETY Ltd.
PLOT NO. 357,
Dayaldas Road,
Vile Parle (East),
Mumbai-400057

Sub: - STRUCTURAL AUDIT OF YOUR BUILDING.

Respected Sir,

At the outset itself we would like to thank you for selecting our organization for appointment as structural consultant to carry out a structural audit of your society building.

We are happy to submit herewith our report of the **STRUCTURAL AUDIT** carried out by our team, to examine the present condition and the balance life of your building. Please note that we are submitting a detailed report with the expected cost estimate to rectify the flaws noted by us in the report.

The gist of the **STRUCTURAL AUDIT** is as follows:

CONSIDERING ALL THE OBSERVATIONS MADE IN THE SURVEY REPORT, WE CAN SAY THAT THE OVERALL CONDITION OF THE BUILDING IS NOT SATISFACTORY. THE BUILDING SHOWS DAMAGES AND CRACKS. THE STRUCTURAL MEMBERS LIKE COLUMNS, BEAMS & SLABS, SHOW DAMAGES. ANY DELAY MAY FURTHER WORSON THE CONDITION OF THE BUILDING. THE STRUCTURAL CONDITION OF THE BUILDING IS SO BAD THAT IT IS BETTER TO DEMOLISH THE BUILDING AND RECONSTRUCT IT.

NOTE:

1- **INSPECTION OF FOUNDATION AND SEISMIC ASSESSMENT ARE BEYOND THE SCOPE OF THE STRUCTURAL AUDIT.**

IT IS MENDATORY FOR THE OWNERS / TENANTS TO GO FOR REPAIR WORKS AND THE DEFECTS POINTED OUT BY US ARE ATTENDED TO UNDER OUR TECHNICAL GUIDANCE AND SUPERVISION, WITHIN SIX MONTHS FROM THE DATE OF SUBMISSION OF THE SURVEY REPORT AND PROVIDED THAT THERE IS NO FORCE MAJEURE AFFECTING THE STRUCTURE.

Force Majeure shall mean any circumstances beyond the reasonable control of the consultant / society, which prevent or impede the performance of the

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proposed repair work, including, but not limited to any of the matters listed below;

- War Or Hostility
- Riot or Civil commotion or any such national emergency
- Earthquake, Flood, Tempest, Lightning, or any other such natural disaster.
- Accident, Fire Or Explosion on the site, not caused by the negligence of the society members.
- Law or Order of any Government or Government department, which impedes or delays the work

A mere shortage of materials, utilities or labour shall not constitute Force Majeure, unless such circumstances are created due to any of the above Force Majeure.
If such a Force Majeure comes into operation and thereby delays or prohibits the society from enforcing specific performance of this survey report, then the society shall give a written intimation to the consultant, giving details of the circumstances constituting the Force Majeure, provided such an intimation is given within 7 days from the operation of the Force Majeure.

M/s. **VIPRA CONSULTANTS** disclaim any responsibility or liability of the findings, if the society chooses not to get the structure repaired or rehabilitated under our technical guidance and supervision, **within 6 months from the date of submission of the survey report.**

M/s. **VIPRA CONSULTANTS** disclaim any responsibility or liability of the findings, if the society or any of its members chooses to knowingly or unknowingly change the loading pattern of the structure or to alter and/ or amend the existing structure without our knowledge or consent given in writing.

M/s. **VIPRA CONSULTANTS** Undertake not to disclose or reveal any technical information collected during investigation or brought to our notice during the course of investigation, without the explicit written approval of the society, **provided such information or observation is not directly or indirectly related to the structural stability of the building.**

All the remedial measurers suggested for structural strengthening are absolutely essential. Structural rehabilitation needs to be done in spite of economic constraints. The other works can be subject to budgetary constraints.

The time lag between the survey report and the actual repairing can lead to enhanced propagation of failures, and thereby enhancement of the budget.

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Finally, the overall responsibility of **VIPRA CONSULTANTS** is restricted to technical advice and monitoring of the actual work carried out by the contractor. All the legal procedural matters and the execution at site will be the responsibility of the user of this report, in case the same is not executed under our supervision.

Thanking you and assuring you of our best services at all times.

Yours sincerely
For VIPRA CONSULTANTS

V.U. Hatode

VIVEK U. HATODE
(STR/H/11)

VIPRA CONSULTANTS

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BRIEF SUMMARY

JAY CHAMBERS CO-OPERATIVE PREMISES SOCIETY Ltd., situated on PLOT NO. 357, TPS NO. V, Dayaldas Road, Vile Parle (East), Mumbai-400057. proposed to have their building's structure audited & requested **VIPRA CONSULTANTS.** to survey the building, with a view to assess the condition of the structure, and have a confirmed opinion.

V.U.Halode

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JAY CHAMBERS CO-OPERATIVE PREMISES SOCIETY Ltd. Comprises of 1 RCC framed building having two wings. The building is more than 34 ~~40~~ years old. Our survey team conducted an internal as well as external survey of the building. The external walls are seen to be non-load bearing 6" thick masonry filler walls plastered with sand faced plaster on the exterior and neeru finished plain cement plaster on the interior. The internal partition walls are seen to be of 4" thick brick masonry filer walls, finished plain cement plaster.

The survey was aimed at evaluating the general condition of the building with special emphasis on the structural stability and the ways and means of repairing the same along with the estimated costs thereof.

The building was visited and inspection carried out for:

A] STRUCTURAL DEFECTS & FAILURES OF COLUMN AND BEAMS.

B] SEEPAGE & LEAKAGE DEFECTS.

C] PLASTER DEFECTS.

D] PLUMBING DEFECTS & LEAKAGES.

Responsibility of **VIPRA CONSULTANTS.** is restricted to technical advice and monitoring of the actual work carried out by the contractor.

All the legal procedural matters and the execution at site will be the responsibility of the user of this report, **in case the job is not carried out under our supervision within the next 6 months.**

M.U.Halode

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GENERAL INFORMATION OF BUILDING	
1. Name of the building	**JAY CHAMBERS CO-OPERATIVE PREMISES SOCIETY Ltd.**
2. Address	**PLOT NO. 357, TPS NO. V, Dayaldas Road, Vile Parle (East), Mumbai-400057**
3. Date of inspection	27/01/2024
4. Year of construction	Approx. 1990
5. Age	34 YEARS
6. Mode of use	a) Original use : COMMERCIAL
	b) Present use : COMMERCIAL
7. Type of building	RCC framed structure.
8. No. of storey	Ground + 3 upper floors
9. No of wings	2 wings
10. Shape	Rectangular.
11. Plinth Level	at 0.3m above existing ground level.
12. Repairs History	1. Crack filing and external plaster was done aprrox. 4 years ago. 2. Crack filing was done on the IPS of the roof.

V.G Hatode

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GENERAL INFORMATION OF SURROUNDINGS:

- History of water logging : Not known.
- Adjoining construction/excavation noticed : Not noticed.
- Level difference with adjoining plots :Not Significant level difference.

DIAGNOSIS

In any building structure, damage to the structural members and others parts of building like external walls, partition walls, chajjas is primarily caused due to water seeping in from the parts of the building structure at top like terrace, coping on parapet wall, staircase top and through porous plaster or cracks in the plaster. This water percolate in the structural and other RCC members and when in contact with reinforcement steel causes oxidation reaction. The diameter of the rods thereby increases and tries to throw the surrounding concrete away thereby forming cracks in the concrete structure. Similarly, water also seeps in through junctions of chajjas and walls due to failure of waterproofing system.

The continuous splash of rainwater affects the terrace-waterproofing top and development of cracks starts. The cracks allow water inside and the structure starts deteriorating. The corrosion of reinforcement results in the formation of rust, which occupies a much larger volume than the steel from which it is formed. This corrosion product exerts large internal pressure resulting in cracks and spalling in concrete.

The formation of cracks in concrete further leads to quicker rate of corrosion, due to ingress of moisture and air resulting in failure of structure in due course.

N. U. Hatode

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Quality of concrete, cover thickness of concrete over reinforcement and condition of reinforcement are the major factors affecting the corrosion.

When the concrete cracks excessively during very early stage of its life. Excessive air entrapment also produces low strength concrete.

The construction deficiencies or material deficiencies may also be the cause of damage to the building structure.

The damage thus caused has to be repaired by appropriate methods and proper schemes of repairs. In the following pages, we have given our observations and inferences on the status of the building and the suitable methods of repairs are also described in brief.

The causes of these structural defects can mainly be attributed to-

- Monsoon leakage from external walls.
- Plumbing leakages.
- Carbonation of concrete.
- Corrosion of reinforcement.
- Inadequate maintenance.
- Proximity to surrounding drainage/ sewerage system.
- Weathering effect of salty climate in Mumbai.

a. OBSERVATIONS AND RECOMMENDATIONS:

1. ROOF AREA:

- The roof of the building is accessible from A wing. A M.S. staircase has been installed on the top floor of the A wing to access the roof.
- Part terrace was covered with plastic sheets. On the other half, IPS was observed. Crack filling was done on the IPS.
- A mobile tower was observed on the roof of the building.

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Recommendation :-

- The terrace is beyond repairs. There is no waterproofing existing on the roof slab.
- Due to the presences of cracks on the roof slab, lots of leakages are observed in the below units.

1. EXTERNAL COLUMNS, BEAMS, WALLS:

2.1: **External inspection of the building shows that conditions of existing columns and beams have developed major Structural Cracks at some places.**

2.2: **Separation cracks in beam and column junctions are seen at many places**.

2.3: Leakage and dampness is present in some of the external walls of the building, which is evident from the peeling of the paint.

2.4 The walls along the West & South side of the buildings are more affected as they are facing the general direction of monsoon rains and are hardly protected from the rains. Due to such seepage of rainwater through these cracks there is a possibility that the reinforcement may corrode forming loose scales. Existing **condition of external plaster is not satisfactory.** Major leakages & seepages have been found inside units particularly in rainy season.

2.5 The chajjas at floors level have developed major structural cracks at some places. Due to rusting of the bars the concrete area has given its way.

2.6 The external sand face plaster show hollowness (debonding from parent surface) at few locations.

2.7 The existing paint system is seen to have fully out-lived its water repellant property, by virtue of its age. Corrosion cracks are seen at few locations

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strongly indicating highly corroded reinforcement bars inside the elements. Peeling of paint along with moss attack is also observed a

2.8 In general the existing external plaster of the building is showing varieties of damages in the forms of plaster cracks, separation cracks, hollowness in the plaster, external paint peel off, dried patches of fungus growth etc.

3 STAIRCASE:

3.1: Structural cracks have developed on the waist slab of staircase. There is possibility of collapse of the plaster of the waist slab as at some places plaster is debonded with RCC waist slab.

3.2: The R.C pardies have developed cracks at some places.

3.3 The R.C columns supporting the staircase have developed major structural cracks at some places.

3.4: The Jali at mid landing level has also seen broken at many places.

3.5: The plaster of head room ceiling on the stair case has also debonded and given its way exposing the reinforcement of the slab.

3:6: The marble treads on the staircase are found to be broken at many places.

4 PLUMBING LINES :

1- Almost all the water down take GI pipes and the CI drainage piped are damaged.

7: . INTERNAL UNITS OBSERVATION:

The RCC members like columns, beams, slabs inside the flats are in **seen with major structural distresses**. Vertical & horizontal cracks and de-bonding were seen in the columns, beams and ceiling in some of the flats from inside .

In most of the units, the RCC members such as the beams, columns are covered with wooden panels.

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Seeing to the damage of exposed RCC members like columns and beams, it is most likely that the structural members inside the wooden panels are also damaged extensively.

❖ **Conclusion for N.D Test Results :**

1. Rebound hammer test results obtained in the building, indicates that average strength of concrete is 14.8 N/Sq.mm .

2. USPV test has been carried out with direct transmission as far as possible for reliable test results. USPV test Results show average velocity of pulse 1.59 Km/sec . This USPV value indicates **doubtful quality of in situ concrete** in the building.

3. Compressive strength of concrete core test results shows that maximum equivalent cube strength of in-situ concrete 18.1 N/Sq.mm and Which is less than design strength of concrete (Minimum 25 N/Sq.mm)

4. Carbonation test shows that the structural members are apprx. Carbonated up to 44 mm on average.

5. Overall Average Half Cell Potential value is -0.34V indicating Corrosion activity is uncertain inside columns.

6. On Chemical Analysis of Harden Core, pH value came to be 7.6, Chloride content is 0.17kg/m3 which is under permissible limit, Sulphate content is 0.09% which is under permissible limit.

7. Maximum Clear Cover is of 68 mm over columns.

REMARKS:

The received test result indicates major structural damage and very poor quality concrete of structural members.

According to our opinion, the cost of the repairs and rehabilitation of the building is so high that it is advisable to demolish the building and re-construct it.

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CONCLUSION:

The structural audit of the JAY CHAMBERS CO-OPERATIVE PREMISES SOCIETY Ltd., situated on PLOT NO. 357, TPS NO. V, Dayaldas Road, Vile Parle (East), Mumbai-400057., was carried out by us in January ,2024. The N.D tests were also carried out to ascertain the structural soundness of the building.

THE CONCRETE QUALITY IS DOUBTFUL AND THE REINFORCEMENT INSIDE IS HIGHLY CORRODED.

As per the physical inspection of the society building we found that:

1. The beams & columns of the building have developed structural cracks.
2. The waist slabs of staircase have also developed structural cracks.
3. Major cracks and decayed plaster was observed on the external side.

The building was occupied for more than ~~40~~ 34 years. Proper maintenance was also not done since last so many years. This lack of maintenance and not doing the structural repairs are the main cause of deterioration of building.

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In view of above, the existing building known as JAY CHAMBERS CO-OPERATIVE PREMISES SOCIETY Ltd., situated on PLOT NO. 357, TPS NO. V, Dayaldas Road, Vile Parle (East), Mumbai-400057is

1. **Structurally unsafe & beyond repairs and needs to be re-constructed.**
2. **Dangerous to human life.**

Hence in our opinion, the building should be demolished and reconstructed

VIVEK HATODE

REG NO.: STR / H / 11.

V.V.Hatode

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PROFORMA 'B'

	Subject	Structural Audit
	Name of Consultant	VIPRA CONSULTANTS
1	Name of Building	JAY CHAMBERS CO-OPERATIVE PREMISES SOCIETY Ltd.
2	C.T.S. No / Ward	PLOT NO. 357, TPS NO. V, Dayaldas Road, Vile Parle (East), Mumbai-400057
3	No of Storey	GR + 3
4	Year of Construction	34 YEARS
5	User Department	COMMERCIAL
6	Mode of Construction of existing bldg.	
	i) Foundation	Yes
	ii) Floors	RCC slabs
	iii) Walls	Brick Wall
	iv) Beams	Yes R.C.C.
	v) Columns	Yes R.C.C.
	vi) Roof	Yes R.C.C.
7	History of Repairs done year- wise	
	a) Slab recasting	No
	b) Column Jecketing	No
	i) Structural Repairs	NO
	ii) TENTATIVE Repairs	Crack filing and external plaster was done approx. 4 years ago.
	iii) Roof / Waterproofing	Crack filing was done.
	iv) Plumbing	NO
	v) Additions / Alterations if any	NO
8	Date of Inspection by Consultants	27/01/2024
9	Condition of	
	i) Internal Plaster	In some units, the plaster was found to be in bad condition. Debonded plaster was observed in the common areas and staircase.
	ii) External Plaster	The external plaster was found to be in bad condition.
	iii) Plumbing	Down take pipes & joints broken at places.
	iv) Drains lines / chambers	broken at places
10	Observation :-	
	a) Doors & windows don't close	No
	b) Column & steel exposed	Yes, at some places.

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	c) Settlement uneven flooring gaps between	Yes at many places.		
	d) Foundation settlement	out of scope		
	e) Deflection / sagging	No		
	f) Major cracks in column /beams	Yes at some places		
	g) Seepages / Leakages	Yes		
	h) Staircase area / Column conditions	Major structural damages to columns and waist slab.		
	i) Lift walls	Nil		
	j) U.G.Tank	NIL		
	k) OHT / Column conditions	Nil		
	l) Parapet at terrace	Nil		
	m) Chajjas	Damaged		
	n) Comman areas	Some area damaged		
	o) Toilets blocks	SOME OF THE TOILETS DAMAGED, LEAKAGES OBSERVED		
	p) Terrace waterproofing	Only IPS was done.		
11	Test carried out on structure / observations t	Findings	Ranges as per IS Code	
	NDT a) Ultrasonic pulse velocity Test	1.59 km/ sec	Concrete quality is doubtful	
	b) Rebound Hammer Test	14.8N /sq mm (avg)		
	c) Half cell Potential Test	-0.34	Corrossion acitivity is uncertain	
	d) Carbonation Depth Test	44mm	1mm / year of the age of Building Concrete	
	e) Core test	18.1 N/sqmm		
	f) Chemical Analysis			
	pH	7.6	Permissible limit: 6.5 to 12	
	chlorides	0.17	Permissible limit: Maximum 0.5 kg/m3	
	sulphates	0.09	Permissible limit: Maximum 4%	
	g) Cover meter test	68mm		

12	Distress Mapping Plan & Photographs with caption below about description of		
13	Brief Description of repairs to be done		
	a) Water proofing	BEYOND REPAIABLE	
	b) External Plaster	BEYOND REPAIABLE	
	c) Structural Repairs	BEYOND REPAIABLE	
	i) Column Jecketing	NO	
	ii) Slab recasting	NO	
	iii) RCC cover to be replaced	NO	
	iv) Beam casting	NO	
	d) Partial Evacuation durring repairs needed	NO	
	e) Propping	NO	
14	Conclusions of Consultants	Observation	Key Reason
	i) Whether structure is livable / of whether	No	BEYOND REPAIRABLE
	ii) Whether structure requires tentative repairs / mejor structural repairs & its time frame	No	BEYOND REPAIRABLE
	iii) Whether sructure can be allowed to occupy during course of repairs	No	
	iv) Nature / Methodology of repairs	BEYOND REPAIRABLE	
	v) Whether structure requires immediate propping if so its propping plan / methodology given	NO	
	vi) Whether other immediate safely measures required- what is specific recommendation?	NO	SINCE THE BUILDING IS BEYOND REPAIRS, IT SHOULD BE PULLED DOWN
	vii) Enhancement In life of structure after repair / frequency of repairs required in extended life period	No	
	viii) Projected repair cost / sq.ft.		Project cost
	ix) Projected reconstruction cost / sq.ft.	Rs. 3500/per sqft.	
	x) Specific remarks, whether building needs to be vacated / demolished / repairable	TO BE DEMOLISHED	
	xi) Whether structure in extremely critical condition	No	
15	Critical Oservation		TO BE DEMOLISHED

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16	Classification of Bldgs	Category	Auditors final coclusion
	YES	C1	To be evacuated demolition immediately
		C2-A	To be evacuated and / or partial demolition requiring major structural repairs. And requiring major structural repairs
		C2-B	No eviction onlymajor structural repairs
		C3	No eviction, needs repairs only

Structural Auditor
VIPRA CONSULTANTS
STR / H / 11.

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ARC Infinity Lab Private Limited

Client Name

M/s. Vipra Consultants

Office Address : B-37, A Wing, 7th Floor, Chadha Premises CSL, Tely Guly Cross lane, Andheri (East), Mumbai- 400 069.

Project Address :

Jay Chambers Co-Operative Premises Society Ltd.

Plot No. 357, TPS No. V, Dayaldas Road, Vile Parle (East), Mumbai- 400057.

JOB No.	:	ARC/23-24/4603	**Report Issue Date**	:	31-01-2024
Report No.	:	R-4603	**Letter Date**	:	27-01-2024
Structure Usage	:	Residential	**Structure Type**	:	RCC
Structure Age	:	35+ Year's	**Structure Storey**	:	G + 3

Test Report Verified By Sandesh Palav

Test Report Authorised By Raj Vaja

TEST CONDUCTED					
Ultrasonic Pulse Velocity	:	5	Brick	:	-
Rebound Hammer	:	5	Cover Meter	:	1
Half-cell Potential	:	2	Cement - Agg. Ratio	:	-
Carbonation Depth	:	2	Dye Penetration Test	:	-
Concrete Chemical	:	1	Ultrasonic Gauge Thickness	:	-
Concrete Core Comp.	:	1	Moisture Content	:	-

TEST REPORT

CLIENT NAME	: Vipra Consultants		
OFFICE ADDRESS	: B-37, A Wing, 7th Floor, Chadha Premises CSL, Tely Guly Cross lane, Andheri (East), Mumbai- 400 069.		
BUILDING NAME	: **Jay Chambers Co-Operative Premises Society Ltd.**		
SITE ADDRESS	: Plot No. 357, TPS No. V, Dayaldas Road, Vile Parle (East), Mumbai- 400057.		
SAMPLE TESTED AT	: **ON SITE**	**ULR NO.**	: TC118832400001123F
DISCIPLINE	: Non-destructive	**JOB No.**	: ARC/23-24/4603
GROUP	: Building Materials - Reinforced Concrete Structures	**TEST REPORT NO.**	: R-4603/01
TEST METHOD	IS 516 (Part5/Section1) : 2018 (Amd. No.1, 2019)	**LETTER DATE**	: 27-01-2024
QUANTITY	: 5 Points	**DATES OF TESTING**	: 27-01-2024 To 27-01-2024
SR. NO. OF INSTRUMENT	: UPV-01	**TEST REPORT DATE**	: 31-01-2024
TEMP. OF SURFACE	: 30 °C		

TEST RESULT OF ULTRASONIC PULSE VELOCITY

Sr. No.	Location	Member	Member ID	Surface Condition	Probing Method	Actual Velocity (Km/sec)	Corr. Velocity (Km/sec) !	Concrete Quality
1	A & B Wing, Ground Floor	Column	C-1*	Dry	Indirect	1.61	1.61	Doubtful
2	B Wing, Ground Floor	Column	C-2*	Dry	Indirect	1.43	1.43	Doubtful
3	B Wing, Ground Floor	Column	C-3*	Dry	Indirect	1.52	1.52	Doubtful
4	A & B Wing, Ground Floor	Column	C-4*	Dry	Indirect	1.34	1.34	Doubtful
5	A Wing, Ground Floor	Column	C-5*	Dry	Indirect	2.03	2.03	Doubtful

USPV RESULT SUMMARY FOR CONRETE ≤ M25

PULSE VELOCITY (km/s)	CONCRETE QUALITY GRADING	NO. OF RESULT	AVERAGE VALUE (km/s)	OVERALL AVERAGE
Above 4.5	Excellent	0	-	1.59
3.5 - 4.5	Good	0	-	
Below 3.5	Doubtful	5	1.59	

Remarks :

! As per IS 516 (Part5/Section1) : 2018 Clause No. 2.4.3.2.5, surface probing in general gives lower pulse velocity than in case of cross probing and depending on number of parameters and the pulse velocity may be increased by 0.5 km/Sec for value ≥ 3.0 km/sec.

As per IS 516 (Part5/Section1) : 2018 Clause No. 2.4.3.1 Annex B B-1.1, The Pulse Velocity of saturated concrete may be up to 5% higher than that of similar dry concrete. In general, drying of concrete may result in somewhat lower pulse velocity.

As per IS 516 (Part5/Section1) : 2018 Table 1, For the concrete grade > M25, Pulse Velocity, km/s for "Good and Doubtful" is "3.75 - 4.5" and "Below 3.75" respectively.
In case "Doubtful" quality it may be necessary to carry out further tests.

As per IS 516 (Part5/Section1) : 2018 Clause No. 2.4.1 Concrete surface shall be suitability prepaired, any plaster or other coating shall be removed.
Member ID with the * mark, represent the test conduted on plaster, as per client requirement

NOTE :

I. Sample/s was/were not drawn by laboratory and Results pertain only to the sample tested.
II. The Report is based on site condition made available at the time of testing.
III. Report shall not be reproduced except in full without approval of ARC infinity lab & any correction to Report without authorization invalidates report.

(Reviewed By)
Sandesh Palav
TE

ARC INFINITY LAB PRIVATE LIMITED MUMBAI

(Authorised By)
Raj Vaja
TE

**** END OF REPORT ****

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Near-Infant Jesus School, Dahisar (East), Mumbai 400 068.

TEST REPORT

CLIENT NAME	:	Vipra Consultants			
OFFICE ADDRESS	:	B-37, A Wing, 7th Floor, Chadha Premises CSL, Tely Guly Cross lane, Andheri (East), Mumbai- 400 069.			
BUILDING NAME	:	Jay Chambers Co-Operative Premises Society Ltd.			
SITE ADDRESS	:	Plot No. 357, TPS No. V, Dayaldas Road, Vile Parle (East), Mumbai- 400057.			
SAMPLE TESTED AT	:	ON SITE	ULR NO.	:	TC118832400001124F
DISCIPLINE	:	Non-destructive	JOB No.	:	ARC/23-24/4603
GROUP	:	Building Materials - Reinforced Concrete Structures	TEST REPORT NO.	:	R-4603/02
TEST METHOD	:	IS 516 (Part5/Section4) : 2020	LETTER DATE	:	27-01-2024
QUANTITY	:	5 Points	DATES OF TESTING	:	27-01-2024 To 27-01-2024
SR. NO. OF INSTRUMENT	:	RH-01	TEST REPORT DATE	:	31-01-2024

TEST RESULT OF REBOUND HAMMER

Sr. No.	Location	Member	Member ID	Surface Conditio	Direction of Rebound	Avg. Rebound Index	Comp. Strength, (N/mm^2)
1	A & B Wing, Ground Floor	Column	C-1	Dry	Horizontal	20.3	Below 10.0
2	B Wing, Ground Floor	Column	C-2	Dry	Horizontal	20.0	Below 10.0
3	B Wing, Ground Floor	Column	C-3	Dry	Horizontal	20.0	Below 10.0
4	A & B Wing, Ground Floor	Column	C-4	Dry	Horizontal	24.7	14.0
5	A Wing, Ground Floor	Column	C-5	Dry	Horizontal	25.7	15.5

Remarks :	Rebound Hammer Results Summary		
	Strength, N/mm^2	No. of Result	Average Comp. Strength, N/mm^2
As per IS 516 (Part 5 / Sec 4) Clause No 7.1.3, A wet condition will give underestimatation of the strength of concrete calibrated under dry conditions. In structural Concrete, this can be about 20% lower than in an equivalent dry concrete.	Below 10.0	3	--
As Per IS 516 (Part 5 / Sec 4) Clause No 8.1, The Probable accuracy of prediction of concrete strength in a structure by the Rebound hammer is ± 25 percent.	> 10.0	2	14.8
As per IS 516 (Part 5 / Sec 4) Clause No 7.1.4, Carbonated Concrete gives an overestimate of strength which in extreme cases can be up to 50 percent.			

NOTE :

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(Reviewed By)
Sandesh Palav
TE

ARC INFINITY LAB PRIVATE LIMITED MUMBAI

(Authorised By)
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** END OF REPORT **

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Shop No. 1, Ramani Compound, Anand Nagar Link Road,
Near-Infant Jesus School, Dahisar (East), Mumbai 400 068.

TEST REPORT

CLIENT NAME	: Vipra Consultants		
OFFICE ADDRESS	: B-37, A Wing, 7th Floor, Chadha Premises CSL, Tely Guly Cross lane, Andheri (East), Mumbai- 400 069.		
BUILDING NAME	: **Jay Chambers Co-Operative Premises Society Ltd.**		
SITE ADDRESS	: Plot No. 357, TPS No. V, Dayaldas Road, Vile Parle (East), Mumbai- 400057.		
SAMPLE TESTED AT	: **ON SITE**	**ULR NO.**	: TC118832400001125F
DISCIPLINE	: Non-destructive	**JOB No.**	: ARC/23-24/4603
GROUP	: Building Materials - Reinforced Concrete Structures	**TEST REPORT NO.**	: R-4603/03
TEST METHOD	: IS 516 Part 5, Sec 2	**LETTER DATE**	: 27-01-2024
QUANTITY	: 2 Points	**DATES OF TESTING**	: 27-01-2024 To 27-01-2024
SR. NO. OF INSTRUMENT	: HCP-01	**TEST REPORT DATE**	: 31-01-2024
TEMP. OF SURFACE	: 30 °C		

TEST RESULT OF HALF-CELL POTENTIAL

Sr. No.	Location	Member	Member ID	Electrode Cell	Pre-wetting Method	Half Cell Potential Value (-V)
1	B Wing, Ground Floor	Column	C-2	$Cu/CuSO_4$	By Spraying	-0.31
2	A Wing, Ground Floor	Column	C-6	$Cu/CuSO_4$	By Spraying	-0.36

REMARKS : Probability of corrosion according to IS 516 Part 5 Sec 2, Table 1

Sr. No.	Corrosion Probability	Half-cell potential reading, $Cu/CuSO_4$	No. of Points	Avg. Potential Value (-V)	Overall Average Potential Value
1	Low (there is a greater than 90 percent probability that no reinforcing steel corrosion is occurring in that area at the time of measurement)	> - 0.2 V	0	-	-0.34
2	Corrosion activity of the reinforcing steel in that area is uncertain	- 0.2 V to - 0.35 V	1	-0.31	
3	High (there is a greater than 90 percent probability that reinforcing steel corrosion is occurring in that area at the time of measurement)	< - 0.35 V	1	-0.36	
4	Severe corrosion	< - 0.5 V	0	-	

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OFFICE ADDRESS	: B-37, A Wing, 7th Floor, Chadha Premises CSL, Tely Guly Cross lane, Andheri (East), Mumbai- 400 069.		
BUILDING NAME	: Jay Chambers Co-Operative Premises Society Ltd,		
SITE ADDRESS	: Plot No. 357, TPS No. V, Dayaldas Road, Vile Parle (East), Mumbai- 400057.		
SAMPLE TESTED AT	: ON SITE	**ULR NO.**	: TC118832400001126F
DISCIPLINE	: Non-destructive	**JOB No.**	: ARC/23-24/4603
GROUP	: Building Materials - Reinforced Concrete Structures	**TEST REPORT NO.**	: R-4603/04
TEST METHOD	: IS 516 Part 5, Section 3 : 2021	**LETTER DATE**	: 27-01-2024
QUANTITY	: 2 Points	**DATES OF TESTING**	: 27-01-2024 To 27-01-2024
SR. NO. OF INSTRUMENT	: CAR-01	**TEST REPORT DATE**	: 31-01-2024

TEST REPORT HARDEN CONCRETE CARBONATION DEPTH

Sr. No.	Location	Member	Member ID	Age of Structure	Type & Size of Specimen Used	Avg. Carbonated Depth, mm
1	B Wing, Ground Floor	Column	C-2	35+ Year's	In Situ Drilling Holes	42
2	A Wing, Ground Floor	Column	C-6	35+ Year's	In Situ Drilling Holes	46

Compostion of Indicator Solution :Solution of phenolphthalein indicator normally 1g phenolphthalein is dissolved in 70ml ethyl alchohol and diluted to 100ml with distilled water.	**Over All Average Carbonated Depth, mm**	44

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TEST REPORT

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BUILDING NAME	: **Jay Chambers Co-Operative Premises Society Ltd.**		
SITE ADDRESS	: Plot No. 357, TPS No. V, Dayaldas Road, Vile Parle (East), Mumbai- 400057.		
SAMPLE TESTED AT	: **IN LABORATORY**	**ULR NO.**	: TC118832400001127F
DISCIPLINE	: Mechanical	**JOB No.**	: ARC/23-24/4603
GROUP	: Building Materials - Reinforced Concrete Structures	**TEST REPORT NO.**	: R-4603/06
TEST METHOD	: IS : 516 (Part 4) : 2018	**LETTER DATE**	: 27-01-2024
QUANTITY	: 1 Nos.	**DATES OF TESTING**	: 31-01-2024 To 31-01-2024
SR. NO. OF INSTRUMENT	: CTM-01	**TEST REPORT DATE**	: 31-01-2024

CONCRETRE CORE COMPRESSIVE STRENGTH

Sr No.	Specimen Location & ID Mark	Member	Date of Casting	Age of Specimen (Days)	Core Height (h) (mm) *	Core Dia (d) (mm)	Core Wt. (Kg) *	Cross sectional Area, mm^2	Max. Load (KN)	Actual Comp. Strength (N/mm2)	Correction Factor for (h/d) ratio $	Corrected Comp. Strength (N/mm2) #	Equivalent Cube Comp. Strength (N/mm2) !
1	A Wing, Ground Floor, C-6	Column	NA	NA	126.08	68.12	1.041	3645.0	51	13.93	0.984	14.52	18.1

Remarks		Acceptance Criteria as per IS: 456 - 2000 (Reaff: 2016) Clause No 17.4.3 :
*	Core density after trimming and capping of specimen	Concrete in the member represented by a core test shall be considered acceptable if the average equivalent cube strength of the cores is equal to at least 85% of the cube strength of the grade of concrete specified for the corresponding age and no individual core has a strength less than 75% .
#	Corrected Comp. Strength - After Diameter Factor and h/d Ratio Factor	
$	For h/d ratio correction factors are as per IS : 516 (Part 4) : 2018	
!	Equivalent cube compressive strength = 1.25 x corrected cylinder compressive strength as per clause 8.4.2 of IS : 516 (Part 4) : 2018	

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TEST REPORT

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BUILDING NAME	: **Jay Chambers Co-Operative Premises Society Ltd.**				
SITE ADDRESS	: Plot No. 357, TPS No. V, Dayaldas Road, Vile Parle (East), Mumbai- 400057.				
SAMPLE TESTED AT	: **ON SITE**	**ULR NO.**	: TC118832400001128F		
DISCIPLINE	: Non-destructive	**JOB No.**	: ARC/23-24/4603		
GROUP	: Building Materials - Reinforced Concrete Structures	**TEST REPORT NO.**	: R-4603/07		
TEST METHOD	: BS 1881 (Part 201)	**LETTER DATE**	: 27-01-2024		
QUANTITY	: 1 Nos	**DATES OF TESTING**	: 27-01-2024 To 27-01-2024		
SR. NO. OF INSTRUMENT	: CM-01	**TEST REPORT DATE**	: 31-01-2024		

TEST REPORT OF COVER METER TEST

Sr. No.	Location	Member	Member ID	Dimension of Member, (mm)	Max. Clear Cover, (mm)
1	A Wing, Ground Floor	Column	C-7*	490 x 280	68

Remarks:

*** - Member ID with this mark represent the Max Clear Cover measured with plaster.**

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TEST REPORT

CLIENT NAME	: Vipra Consultants		
OFFICE ADDRESS	: B-37, A Wing, 7th Floor, Chadha Premises CSL, Tely Guly Cross lane, Andheri (East), Mumbai- 400 069.		
BUILDING NAME	: Jay Chambers Co-Operative Premises Society Ltd.		
SITE ADDRESS	: Plot No. 357, TPS No. V, Dayaldas Road, Vile Parle (East), Mumbai- 400057.		
SAMPLE TESTED AT	: IN LABORATORY		
DISCIPLINE	: Chemical	**JOB No.**	: ARC/23-24/4603
GROUP	: Building Materials- Reinforced Concrete Structure	**TEST REPORT NO.**	: R-4603/05
TEST METHOD	: IS 2720 Part 26: 1987, IS 14959 Part 2: 2001, IS4032 : 1985	**LETTER DATE**	: 27-01-2024
QUANTITY	: 1 Points	**DATES OF TESTING**	: 30-01-2024 To 30-01-2024
		TEST REPORT DATE	: 31-01-2024

TEST REPORT OF HARDEN CONCRETE CHEMICAL

Sr. No.	Location	Member	ID Mark	Dilution	pH Value	Chloride as Cl, %	Sulphates as SO_4, %
1	A Wing, Ground Floor	Column	C-6	30 gm of Sample diluted in 200 ml DW	7.60	0.170	0.09

Remarks : Permissible Limits As Per IS- 456-2000 (RA 2011)

Sr. No.	Test Parameter	Permessible Limit as per IS 456	Average Value
1	pH Value	-	7.60
2	Chloride Content, %	PCC 3 kg/m3 & for RCC 0.5 kg/m3	0.17
3	Sulphates Content, %	Maximum 4 %.	0.09

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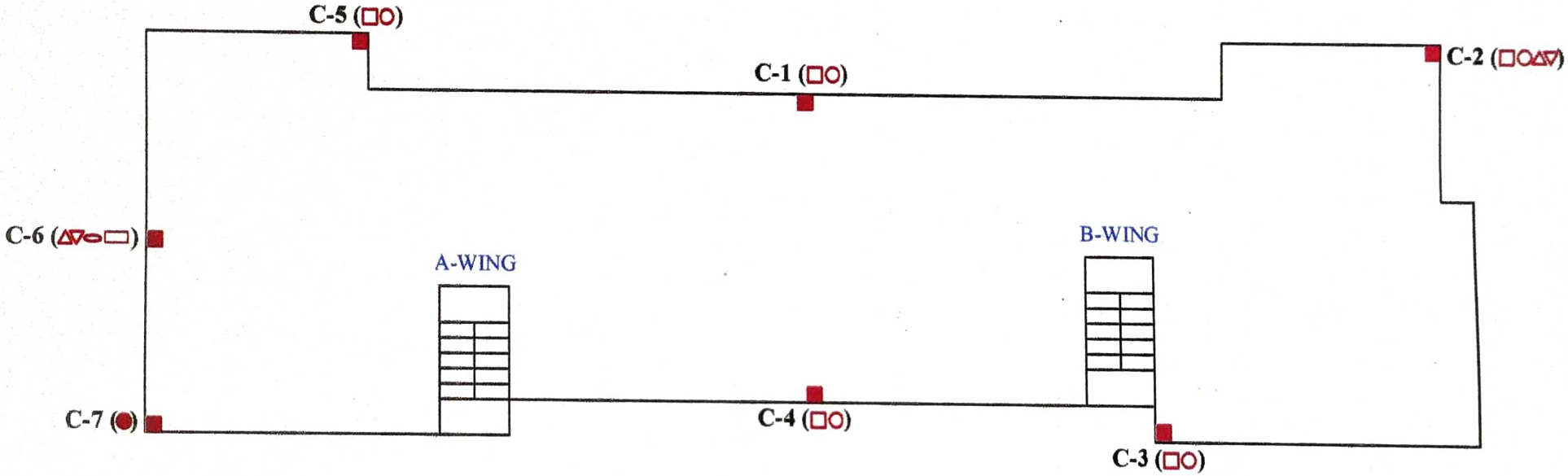
ARC INFINITY LAB PRIVATE LIMITED

Testing Layout Plan

Office Address .: Shop No.1, Ramani Compound, Anand Nagar Link Road, Dahisar (East), Mumbai - 400 068.



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Sr. No.	Name of test	Symbol
1	UPV	□
2	Rebound Hammer	○
3	Halfcell potential	△
4	Carbonation	▽
5	Concrete Core	⬭
6	Concrete Chemical	▭
7	Cover Meter	●

Client Name : Vipra Consultants

Site Address : Jay Chambers Co-Operative Premises Society Ltd., Plot No. 357, TPS No. V, Dayaldas Road, Vile Parle (East), Mumbai- 400057.

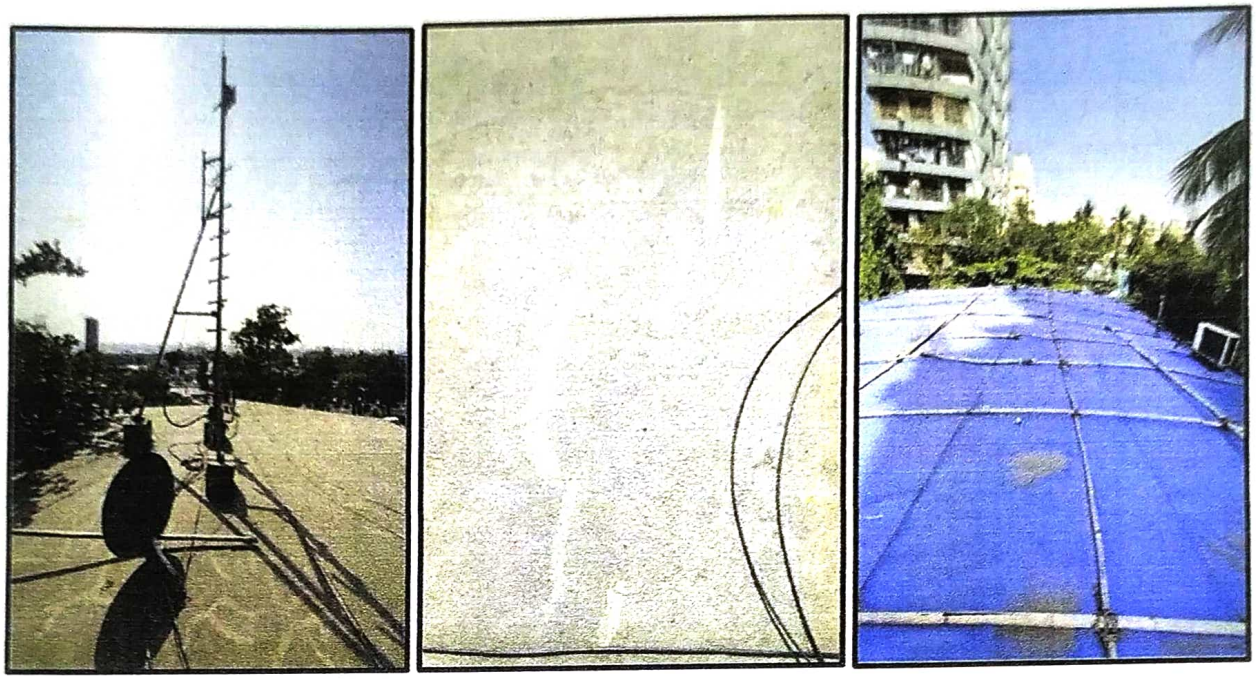
Report Date: 31/01/2024

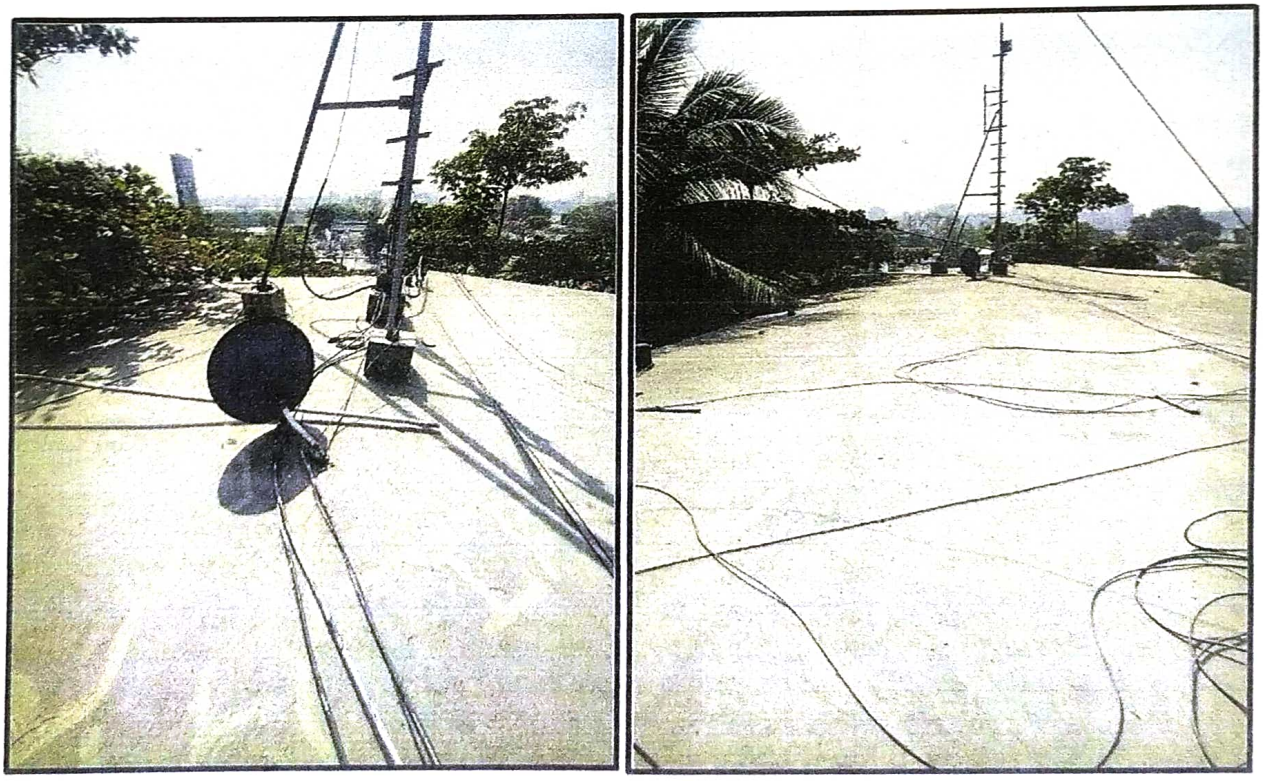
Test Report No: R-4603/08/01

PHOTOGRAPHIC REFERENCES

JAY CHAMBERS CO-OP PREMISES SOC.Ltd., VILE PARLE (E)

- TERRACE





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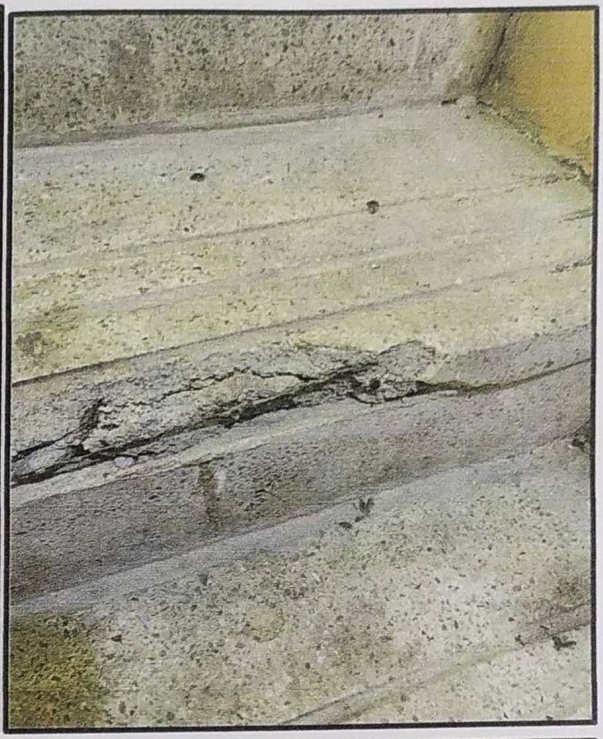
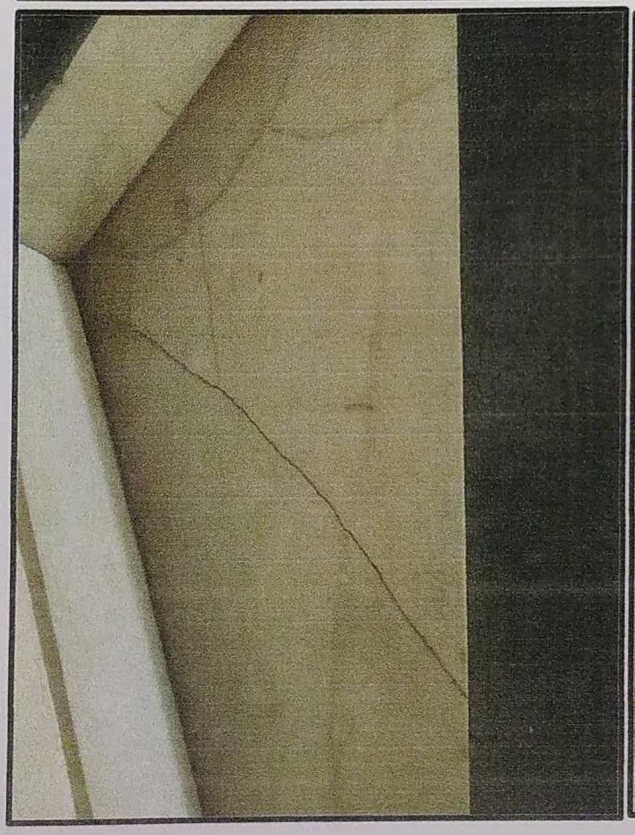
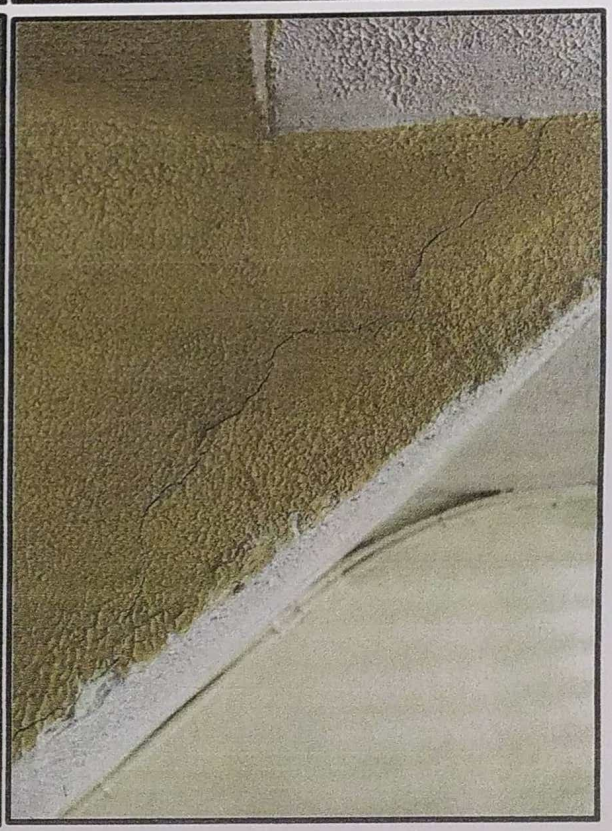
➢ STRUCTURAL DISTRESSES IN STAIRCASE AREA.







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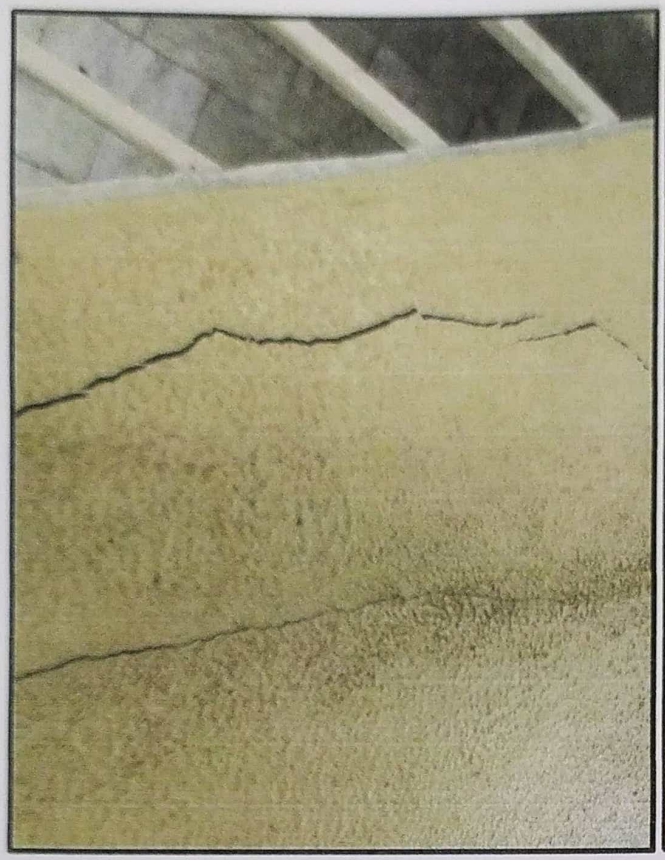

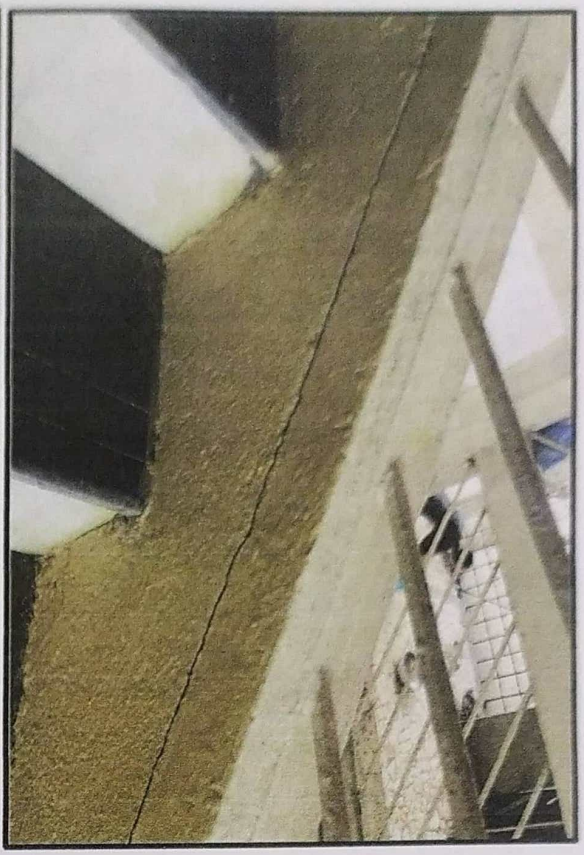

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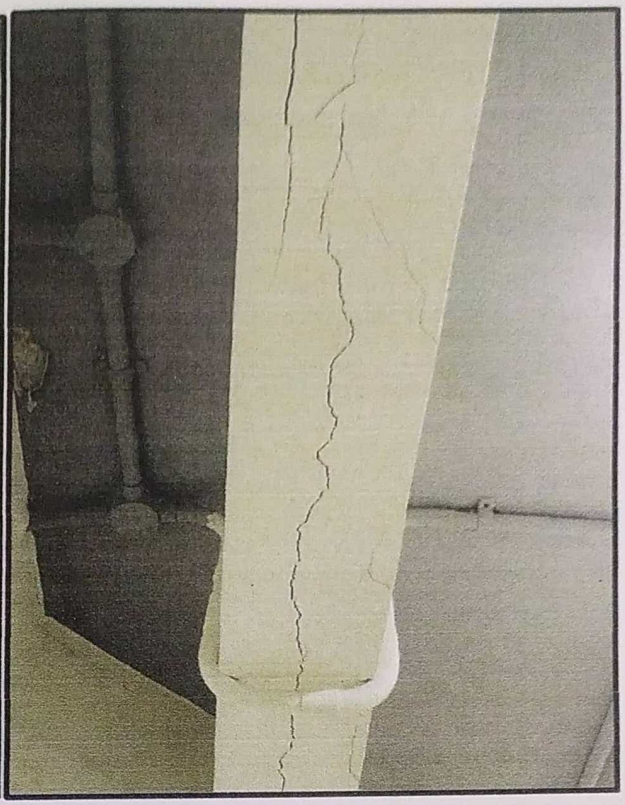
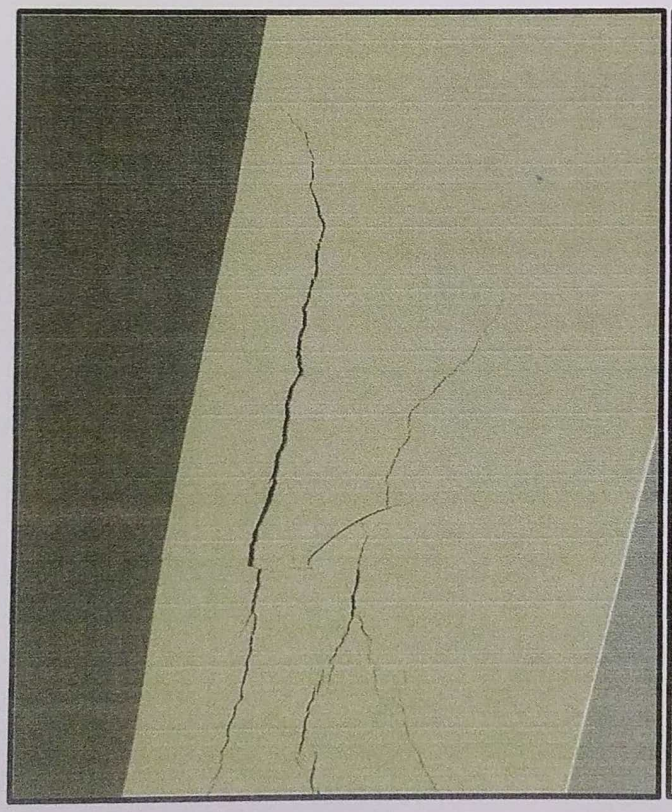
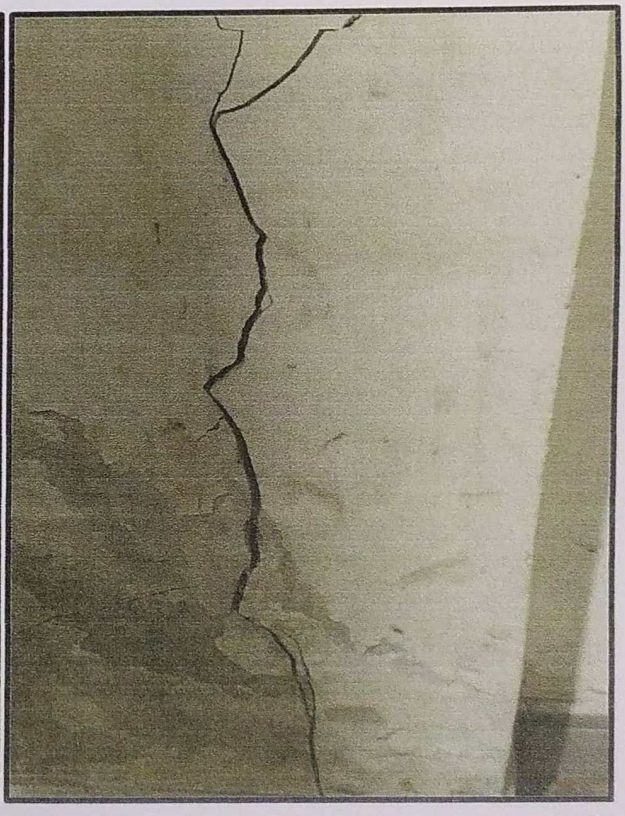
➢ STRUCTURAL DISTRESSES IN INTERNAL COLUMNS AND BEAMS.







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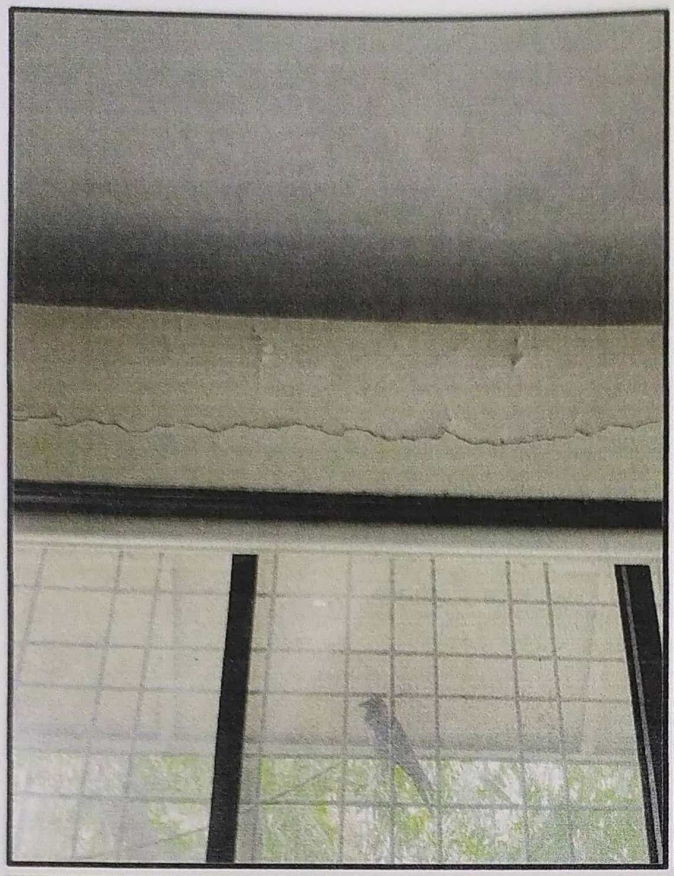

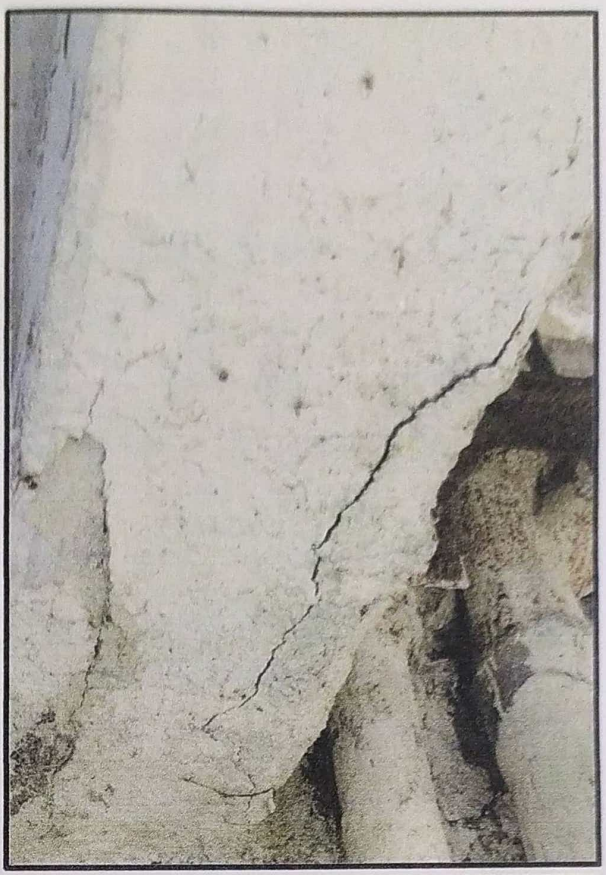

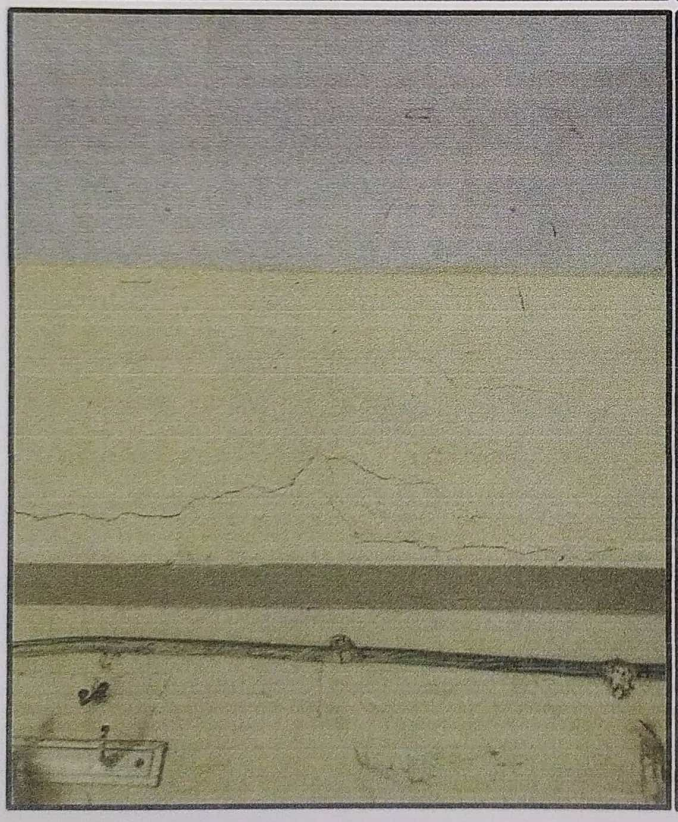

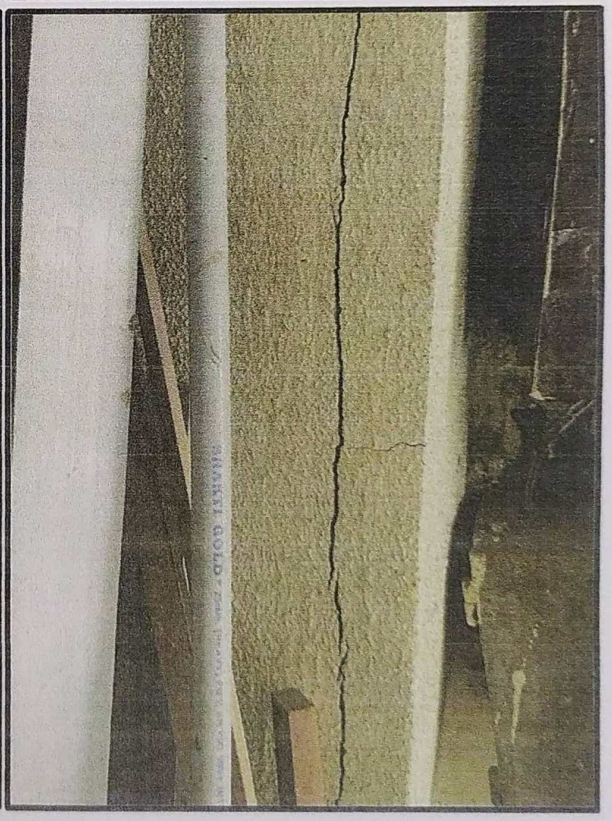

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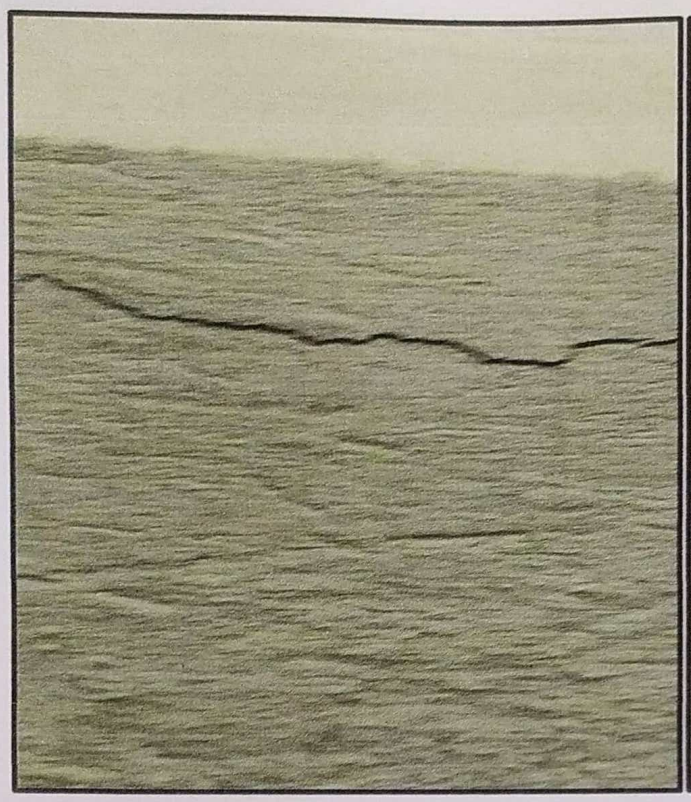

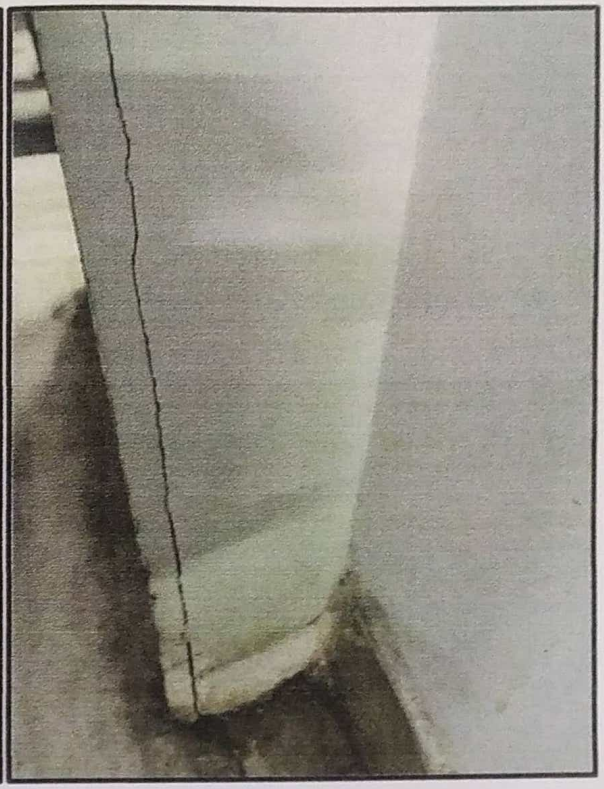

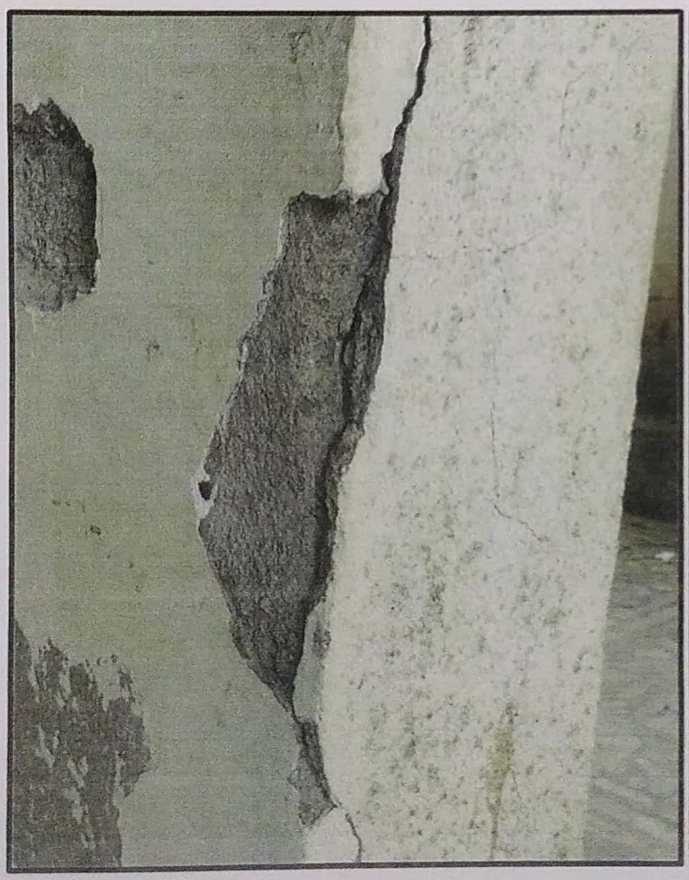

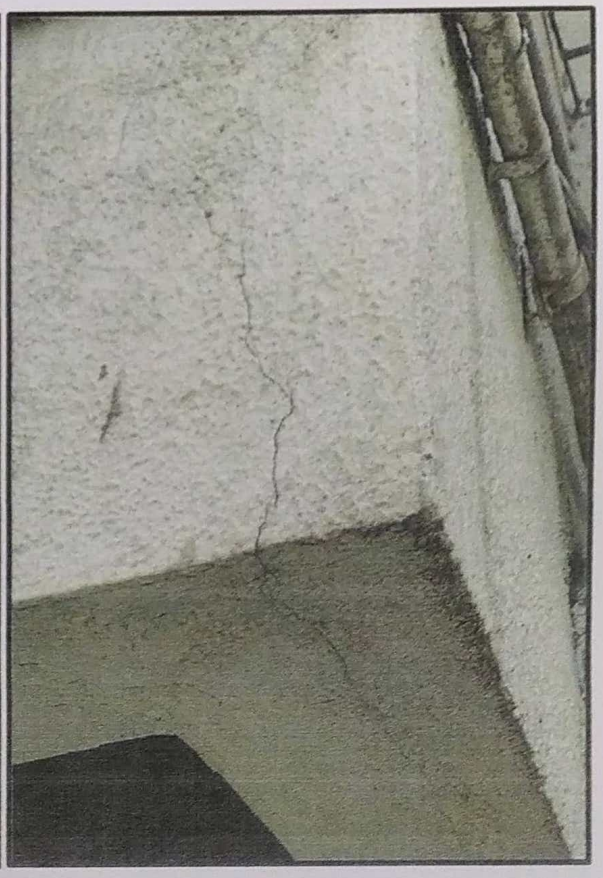

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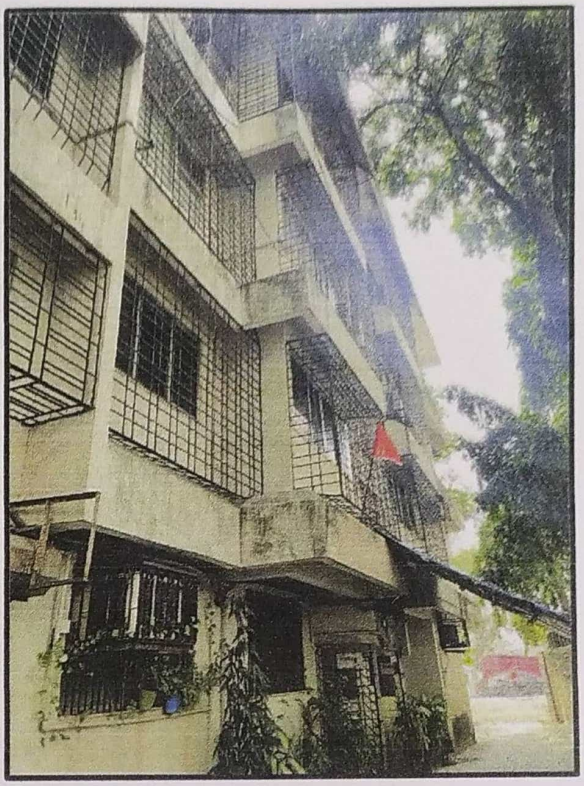
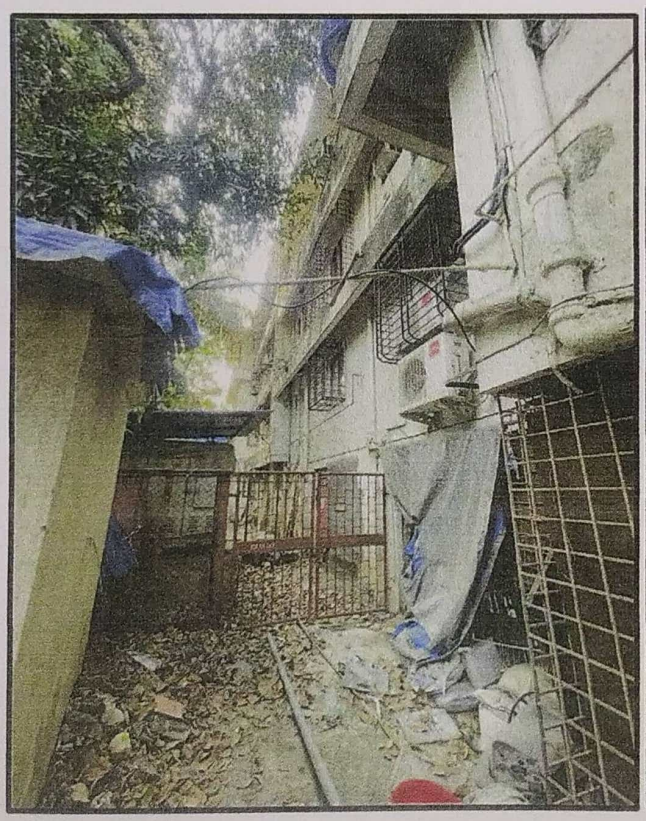
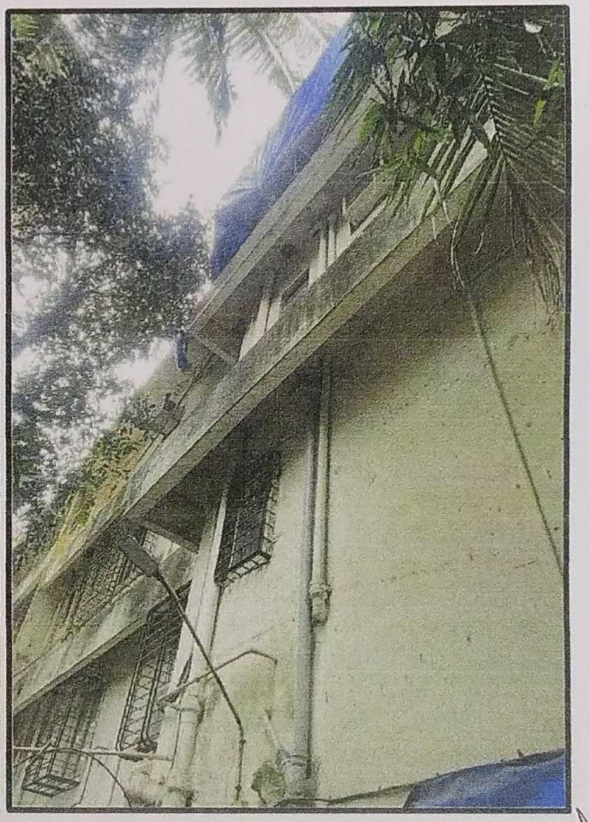
➢ EXTERNAL FAÇADE







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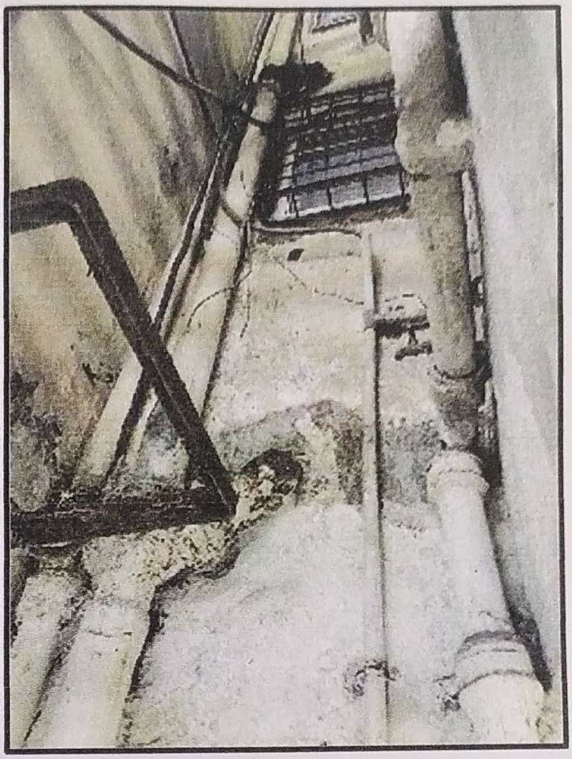
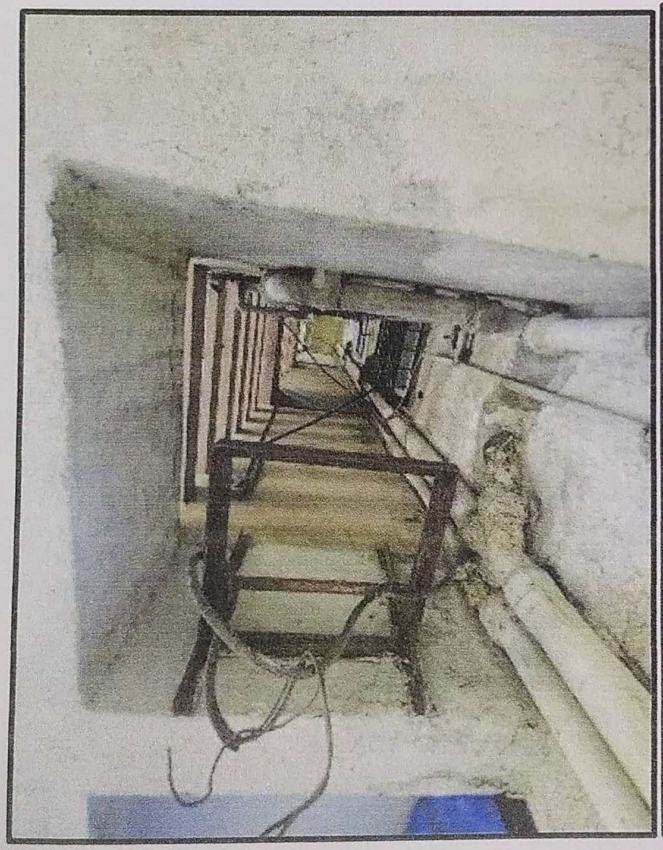
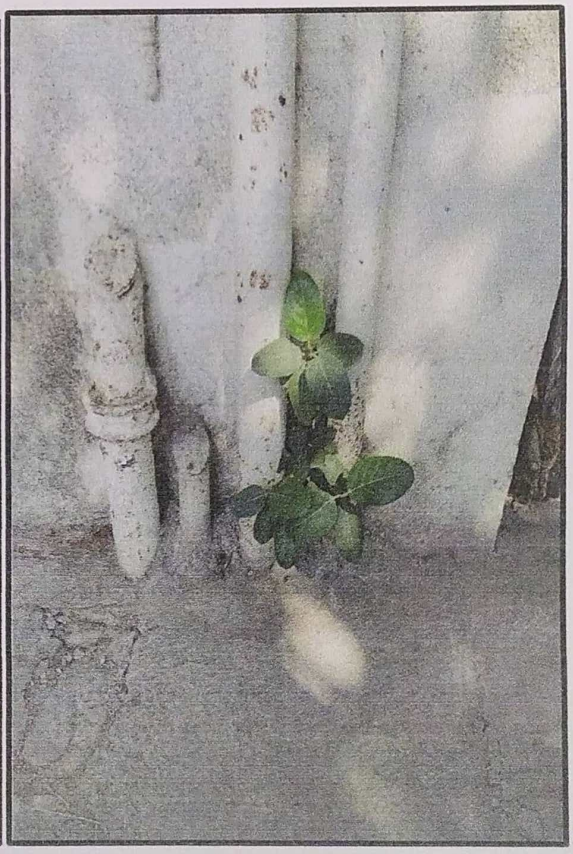
➢ PLUMBING JUNCTIONS AND DUCTS







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