STRUCTURAL AUDIT REPORT

FOR

B.M.RUIA GIRLS COLLEGE,11 KRISHNA KUNJ,
VACHHA GANDHI ROAD,GAMDEVI, GRANT ROAD,
MUMBAI – 4000 07



SAURABH Associates
Architects / Engineers & PMC

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Vile Parle (East), Mumbai-400 057.

Email: saurabhaassociates@gmail.com. Website: www.saurabhpmc.com

JAN - 2023

SAURABH ASSOCIATES MUMBAI

Date: 17 JAN 2023

To,

THE HON'B SECRETARY/CHAIRMAN/OCCUPIER/TENANTS,
B.M.RUIA GIRLS COLLEGE,11 KRISHNA KUNJ,
VACHHA GANDHI ROAD,GAMDEVI, GRANT ROAD,
MUMBAI – 4000 07

Dear Sir / Madam,

This has reference to the above subject; we thank you for appointing us as Consultant for inspection of your building structure. This inspection includes the detail structural assessment. We have inspected the structure externally and internally (as was made visible to us during audit) to assess the condition of structural members such as slabs, beams, columns, brick walls etc. The report is prepared by doing visual survey.

We have enclosed Structural Inspection report based on visual observations and ND Test results.

Thanking you

- **Note : The structure come under in a C2- B category.(repairable)**

For SAURABH ASSOCAITES.
O. B. SAHU
Structural Engineer
Reg. Nc STR/S-292

SAURABH ASSOCIATES MUMBAI

Shri. O.B.Sahu.
(Structural Engineers & Consultants)
MCGM Reg. no. STR/S/297.

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PERFORMA "B"

	Subject:- **STRUCTURAL AUDIT REPORT OF THE BUILDING**	
	Name of Consultants :- **SAURABH ASSOCIATES**	
1.	Name of Building: - B.M.RUIA GIRLS COLLEGE, 11 KRISHNA KUNJ, VACHHA GANDHI ROAD,GAMDEVI, GRANT ROAD, MUMBAI – 4000 07	
2.	CTS No. / Ward	
3.	No. of Story	Ground + Five Floor Storied Building
4.	Year of construction	1958-59
5.	User Department	Residential cum school
6.	Mode of construction of existing building	
	i. Foundation	R.C.C.
	ii. Floor	R.C.C.
	iii. Walls	Bricks/Blocks
	iv. Beams	R.C.C.
	v. Columns	R.C.C.
	vi. Roof	R.C.C.
7	History of repairs done years wise (a) Slab recasting (b) Column jacketing	 No No
	i. Structural repairs	Yes - 2014
	ii. Tenantable repairs	Yes - 2014
	iii. Roof / waterproofing	Yes - 2014
	iv. Plumbing	Yes - 2014
	v. Additional / alterations if any	No
8	Date of inspection by consultant-	29/02/2020
9	Condition of -	
	i. Internal plaster	Hollow Sound & Seepages spot observe
	ii. External plaster	Minor Cracks
	iii. Plumbing's	Good Condition

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	iv. Drains lines / chambers	Working Condition
10	**Observation -**	
	a) Door & windows don't close	Working properly
	b) Column & steel exposed	Some Places
	c) Settlement uneven flooring gaps between and skirting floor	Not seen
	d) Foundation settlement	No
	e) Deflections / sagging	Not seen
	f) Major cracks in column / beams	Cracks observed
	g) Seepages / leakages	Yes, From External walls side
	h) Staircase area / column condition	Minor cracks & hollow sound observed
	i) Lift walls	Good Condition
	j) U.G. Tank	Good Condition
	k) OHT / Column Condition	Cracks observed at bottom level
	l) Parapet at terrace	Good Condition
	m) Chhajas	Crack Observed
	n) Common areas	Some Places Cracks
	o) Toilet blocks	Seepage observed
	p) Terrace / water proofing	Cracks Developed & Hollow Sound

	Test carried out or instrument/observation thereof	Findings	Range as per IS code
	a) Ultrasonic pulse velocity test	Average range 2.2 km/s Medium range 2.6 km/s Good range 3.6 km/s	Ultra pulse velocity grading as per IS13311(part I) 1992 a) Above 4.5 km/s excellent b) 3.5 km/s to 4.5 km/s Good c) 3.0 km/s to 3.5 km/s medium d) Below 3.0 km/s doubtful
	b) Rebound hammer test	Min- 13 N/mm	15 N/mm the minimum

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			required as per IS 13311 (Part-2) 1992
	c) Half-cell potential test	Less than 50% probability of corrosion	HCP test are done in accordance with ASTM C876 standard the half-cell potential range between 205(-mv) to 320 (-mv)
	d) Carbonation depth test	39 mm	
	e) Core test	13.74 Mpa <15 N/mm2	Concrete core test done as per IS 456 indicate values of crushing strength in the in situ concrete is in the range of 17.22N/mm2 to 24.27 N/mm2 which is very much as required
	f) Chemical analysis	PH 8 (Average) CL. 0.453 SO_3 0.355 The chemical analysis indicates chloride & sulphide content within limits	Permissible Limit PH = 6.5 – 12 CL = 0.60 SO_3 = 4.0 Ph not less than 8 Cl (kg/M3) for PCC , Maximum 3.0 kg of Chloride per M3 of concrete for RCC, Maximum 0.60 kg of chloride per m3 of concrete. So_3 (%) less than 4% by mass of cement in the concrete mix
	g) Cement aggregate ratio	Not undertaken	Not undertaken

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12	Distress mapping plan & photographs with caption below about description of structural members and its location	

	a) Waterproofing	Yes. Need to be Terrace waterproofing
	b) External plaster	Patch Plaster Required
	c) Structural repair	Yes, Need to be Repair as per our Specified method
	i. Column jacketing	No
	ii. Slab recasting	No
	iii. RCCC cover to be replace	No
	iv. Beam recasting	No
	v. Polymer modified work	Required
	vi. R.C.C Casting / micro concrete	Required
	d) Partial evacuation during repairs needed	-
	e) Propping	No

14	Conclusion of consultants -	Observation	Key Reason
	i. Whether structure is liveable	Yes	-
	ii. Whether structure requires tenantable repairs / major structural repairs & its time frame	Structural cracks in RCC elements and non-structural cracks in the plaster or non-load bearing walls. The structural cracks are minor to major along the main reinforcement of the structural element; time frame of building repairs approx. 3 Months	
	iii. Whether structure can be allowed to occupy during course of repairs	Yes.	-
	iv. Nature / methodology of repairs	a) Structural Repair work b) Micro concrete for column & Beam	

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		c) External Plaster &Internal Plaster d) Waterproofing Treatment for external surface	
	v. Whether structure requires immediate propping. If so, its propping plan / methodology given	No	
	vi. Whether other immediate safety measures required – what is specific recommendation?	**Terrace waterproofing and internal flats Should be repairs**	
	vii. Enhancement in life of structure after repair / frequency of repairs required in extended life period	7 to 10 Years	
	viii. Projected repair cost / sq.ft		
	ix. Projected reconstruction cost / sq.ft	Nil	**Nil**
	x. Specific remarks, whether building needs to be vacated / demolished / repairable	Need to be Repairable Building	-
	xi. Whether structure in extremely critical condition	-	-

15	**Critical observation**		
		C1	Demolition immediately
		C2-A	To be evacuated and / or partial demolition requiring major structural repairs
	External / Internal Column , Beam, R.C.C Pardi & Slab ceiling has Minor Damage	**C2-B**	**No eviction only structural repairs**
		C3	No eviction needs minor repairs only

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METHODOLOGY AND INVESTIGATION

1. Condition survey

   Condition survey is an examination of concrete for the purpose of identifying and defining area of distress. The objective of condition surveys of a building structure is:

A) To identify:-

Causes of distress

Their sources.

B) To assess:-

1. The extent of distress occurred due to corrosion
2. The residual strength of the structure.

C) To priorities the distressed elements according to seriousness of repairs

D) To select and plan the effective remedy.

1.2. Stages for Condition Survey:-The condition survey has following stages.

1. Preliminary inspection.
2. Planning.
3. Visual inspection
4. Field and laboratory testing

[illegible]

The building was investigated rooms by rooms for observation and external area of the building. Some of the column, beams & slab within the section were observed for a range of defects such as cracks, Spells, Crazing, seepage etc. All the defects were marked on the observation sheets with approximate repair area which formed the
total data of the structure.

[illegible]

Some of the column & beams inside the Rooms were subjected to tapping by hammer. The hollow sound was recorded in the observation sheets as follow, which was evaluated for remedial measures.

(C) NON DESTRUCTIVE OBSERVATIONS

Some of the column & beams inside the rooms and the passage areas were subjected to Tests by Ultrasonic Pulse Velocity and Carbonation tests , Core test and rebar mapping The readings were recorded which were evaluated further for remedial measures.

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1. INTERNAL OBSERVATIONS

- ✓ **In view of the floors shows plaster cracks, Paint is found peeling and seepage spots are observed on the wall from external faced.** Paint is found peeling & seepage spots are observed on the wall from external faced. Some Rooms of plaster is also observed to be unsound & leading to water seepage to the internal rooms & confirmed from the internal Rooms visit.
- ✓ In rooms plaster cracks, the brick masonry work. The diagonal cracks observed in brick masonry walls at some places.

- ✓ In view of the rooms shows corrosion based cracks on columns & beams. The cracks in concrete are observed parallel to main reinforcement bars and the same are occurring at many places without any particular pattern.

- ✓ The absence of damp proof course at the DPC level could allow the dampness to rise quite high. This combined with substandard materials and workmanship could get further aggravate deterioration process. Thus, extra care must be taken in materials selection and have proper control on quality of concrete in structures.

[illegible] OBSERVATIONS

- ✓ Though, the external plaster of the building looks to be bad condition, however, defects like loose pockets. Separation & shrinkage cracks. Reasons of plaster cracking or De-bonding.
- ✓ The Building is of R.C.C frame and brickwork / block masonry .R.C.C Columns and Beams show corrosion based cracks at many places.
- ✓ The exterior face of the building shows cracks, crazing, and delamination in plaster.
- ✓ Beam & column adjoining to wall delamination is noticed at various places on the façade of the building.
- ✓ All these defects propagate to seepage and leakages. Seepage near any R.C.C. member's leads to further propagation of defects like rebar's corrosion, etc.
- ✓ Other important problem in the building appears to be the seepages from the dead walls & entire exteriors, more prominent on the south & west sides of the building. The level of damage is more on the account of the south west sides due to atmospheric direction of monsoon.
- ✓ Due to these problems, the condition of the building appears to be quite leaky and structural distress is observed in most of the corner columns & beams.

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3. PLASTER

- ✓ External plaster acts as a skin on the RCC frame and the brick /block work, the most vulnerable part is the joints between the RCC and brick work.
- ✓ Major cracks observed accelerating the passage of water through the wall resulting in seepages inside Flats.
- ✓ The building is not crack filled painted; which has to be attended periodically to avoid further distress in the building.
- ✓ At many places joints between RCC members and brick/ block work have separated and water is found to be seeping inside.
- ✓ Most of the plaster in the building sides which are exposed due to monsoons directly, the extent of seepage is lesser than the side's facing monsoon.
- ✓ Due to forces of weather and carbonation in some places, plaster has deteriorated.

4. R.C.C CHAJJAS

- ✓ Wide cracks in chajjas seen near bottom instead of top.

5. STAIRCASE AND COMMON PASSAGE

- ✓
- ✓ Column and ceiling areas.

6. PLUMBING

- ✓ All plumbing are in good condition no any problems from vertical plumbing and loop lines ,

7. OVER HEAD ROOM

- ✓ The fading of paint is observed & plaster is found hollow sound. In over head room the external surface cracks are opened.

8. OVERHEAD WATER TANK

- ✓ O.H water tank R.C.C members found plaster is found hollow sound. Cracks noticed algae growth.

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9. TERRACE

✓ The entire existing terrace having china chips topping is found cracked & hollow as well as treated with chemical coating / crack filling treatment at many places. Most of the top floor residents in all the wings have reported monsoon leakage / seepage complaints from the terrace slab as well as balcony tops above their flats. Any defects to the terrace waterproofing leads to the direct monsoon leakage to the flat just beneath the terrace, which also affects the structural members in the vicinity. Hence, it is suggested to carry out complete waterproofing for the entire terrace along with balcony tops with **injection grouting, wherever required using silicon resin solution. A sandwich layer of polymer coating is also suggested for 100%, "No Leakage Result". China mosaic topping may also be provided for better cooling effect.**

Due to the smooth surface of china mosaic chips, monsoon water gets easily drained off from the terrace and it prevents water absorption too. Also, China Mosaic finish reflects back **70% of heat radiation,** which comes from Sun. This will help in reducing the heat passing to the top floor residents and enhance the life of waterproofing.

[illegible]

✓ Looking into all aspects of the building maintenance and as per our detailed Survey, we suggest that the building needs to be thoroughly repaired and painted in a planned manner.

✓ For any RCC framed structure the R.C.C components are like the bones in a body and hold the entire load of the body and any damage to the same has to be rectified immediately and cannot be left unattended for long period of time.

Based on the careful evaluation of the extent and cause of cracking, procedures can be selected to accomplish one or more of the following objectives:

✓ Restore and increase strength

✓ Restore and increase stiffness

✓ Improve functional performance

✓ Provide water tightness

✓ Improve appearance of the concrete surface

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- ✓ Improve durability
- ✓ Prevent development of corrosive environment at reinforcement

✓ To bring the RCC components to their near original strength the same have to be repaired by polymer modified mortar and micro concrete methods.

✓ The RCC members originally deteriorated due to ingress of water and to prevent it happening again all sources of leakages must be stopped completely.

✓ Plaster acts like a skin to the bones in a RCC structure, but the skin also needs to have a raincoat and the same is provided by a good quality resin based coating.

To stop the ingress of water the following steps have to be taken.

- ✓ **Structural Repairs (Wherever Necessary)**
- ✓ **External Plaster.**
- ✓ **Crack Filing/Joint Filing.**
- ✓ **External Drain down take Plumbing (Wherever Necessary).**
- ✓ **Terrace waterproofing.**
- ✓ **Internal Terrace parapet wall plaster repairs.**

There for Rehabilitation of the RCC members and will constitute the following steps

- ✓ Propping the structure wherever necessary.
- ✓ Removing loose/disintegrated concrete
- ✓ Cleaning the affected steel & Adding steel wherever necessary
- ✓ Applying Passivator coat to the steel, Applying Bond Coat and doing
- ✓ Polymer /Micro Concrete treatment depending on the requirements
- ✓ And finishing with new plaster.

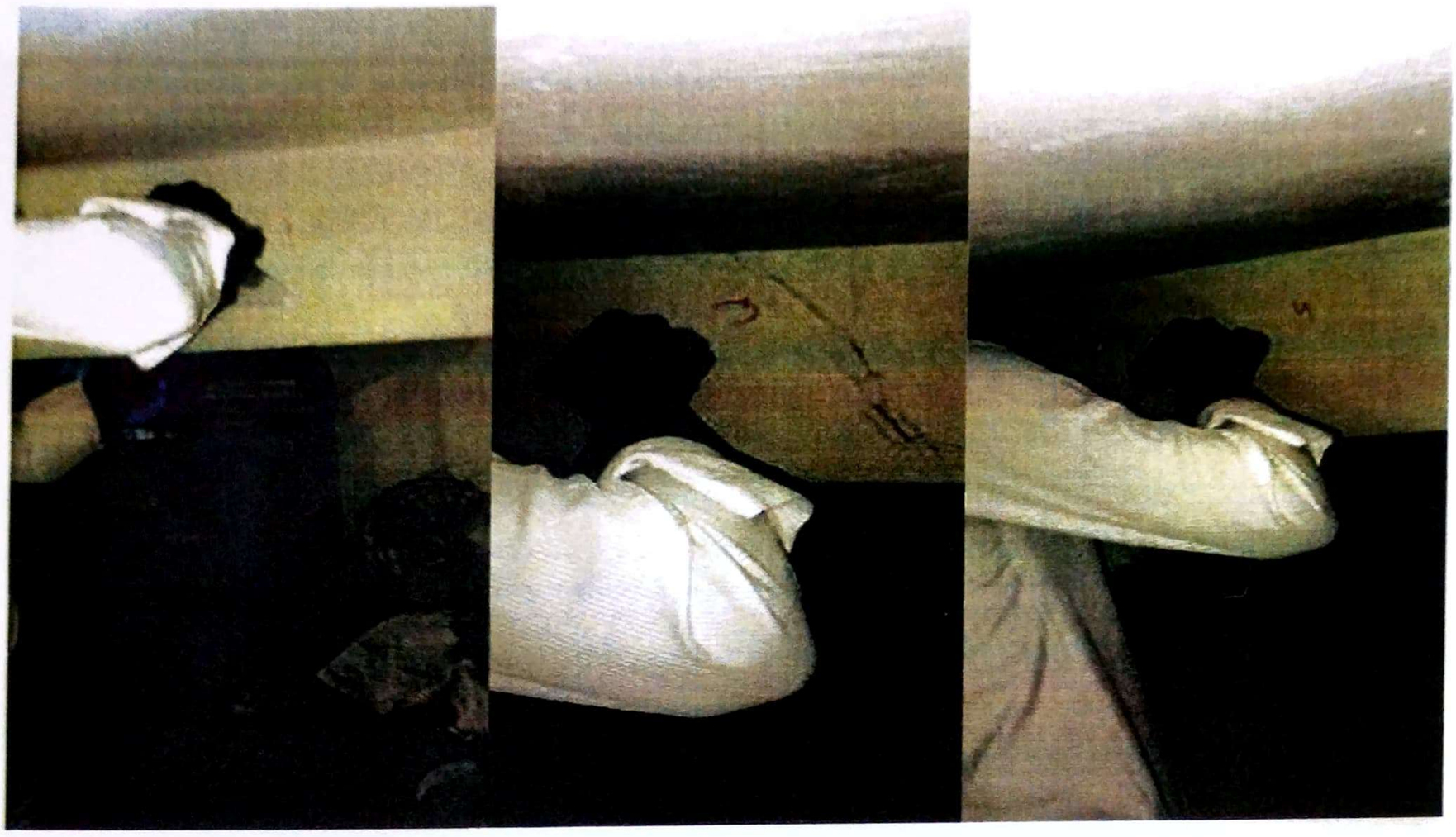
MICRO CONCRETE REPAIRS TO R.C.C. COLUMN, BEAM

In terms of to restoration of extensive damages in R.C.C. micro concrete: micro concrete is a very high strength mix design concrete, its factory made product. Its dry powder in grey color more like cement constitutes cement as a one component & other's graded fine aggregate, additive in powder form & free flowing agent, because of this micro concrete can placed in less thickness & mix. Material can travel in narrow gape & having self-leveling properties, so that it provides very smooth & uniform finish. Strength equivalent to 35 m concrete can be achieved in only three day setting placing time. After overnight setting de Shuttering is possible.

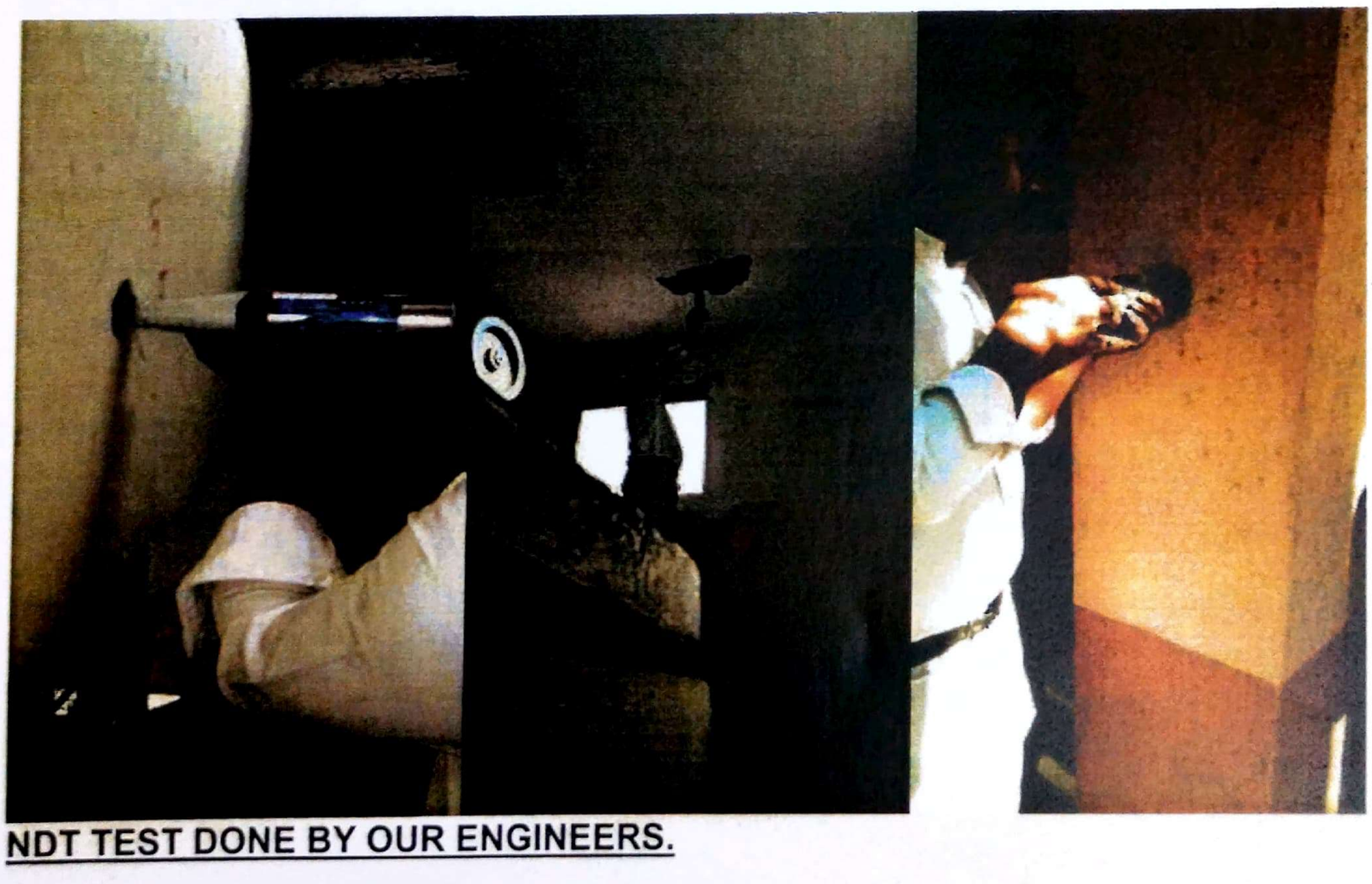
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NDT TEST DONE BY OUR ENGINEERS.



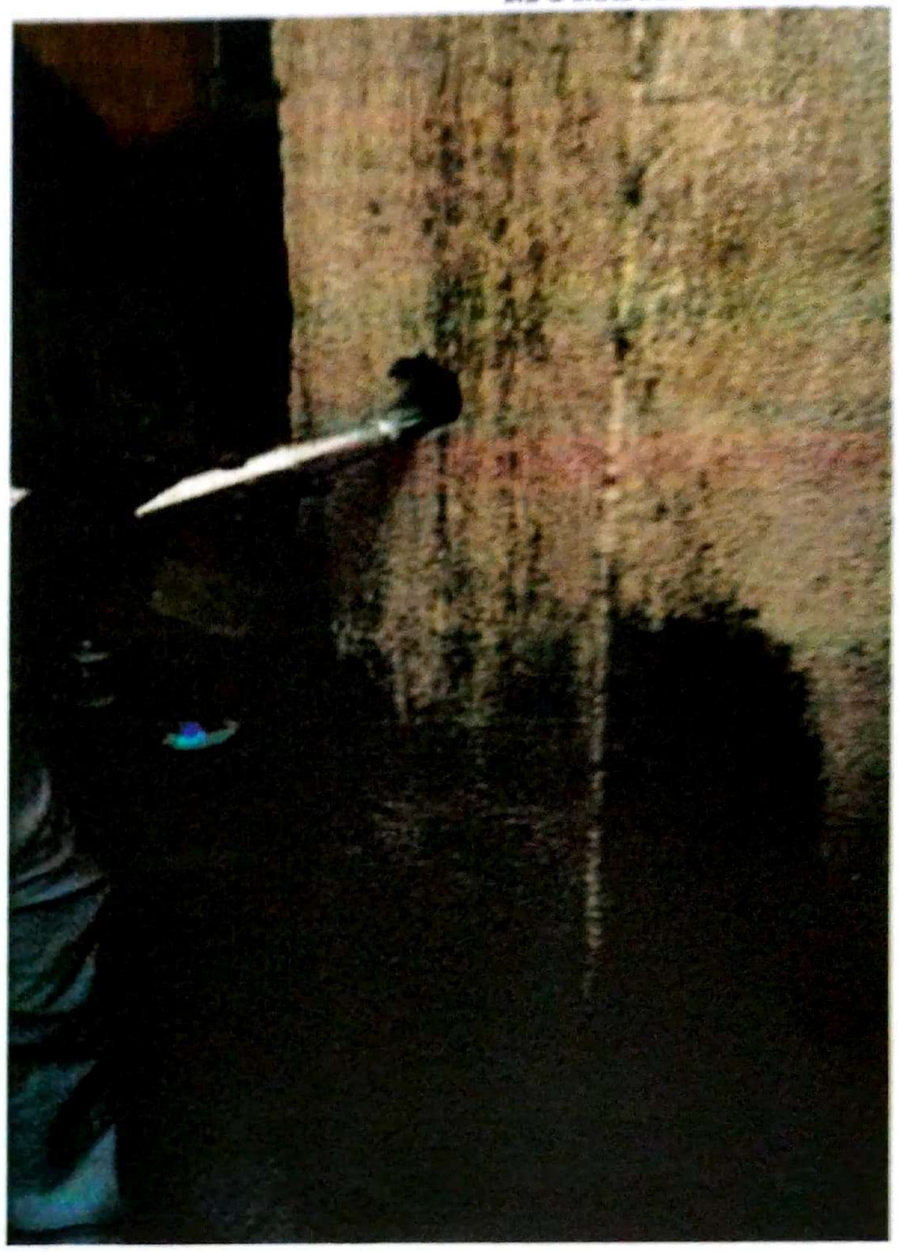
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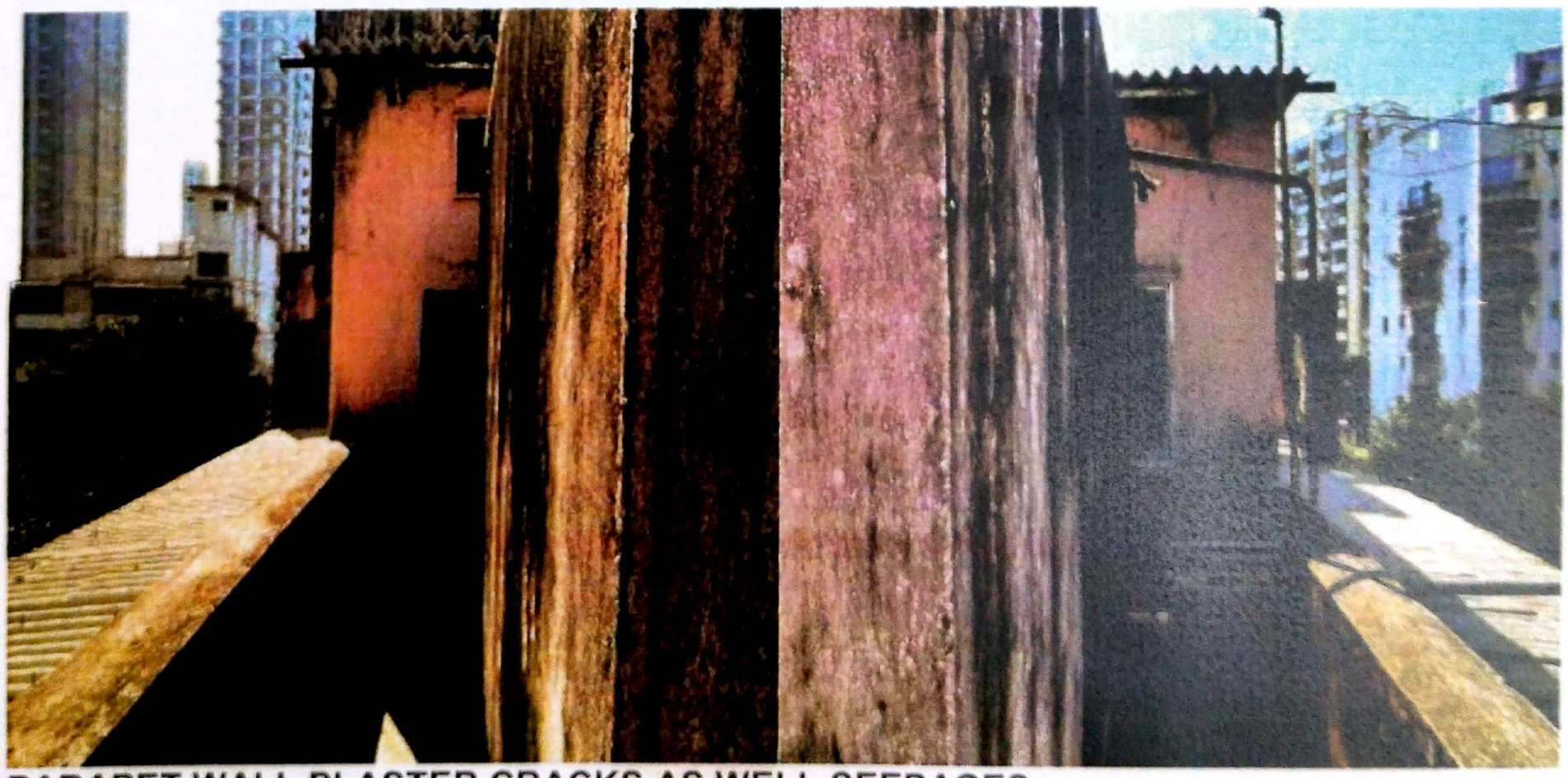
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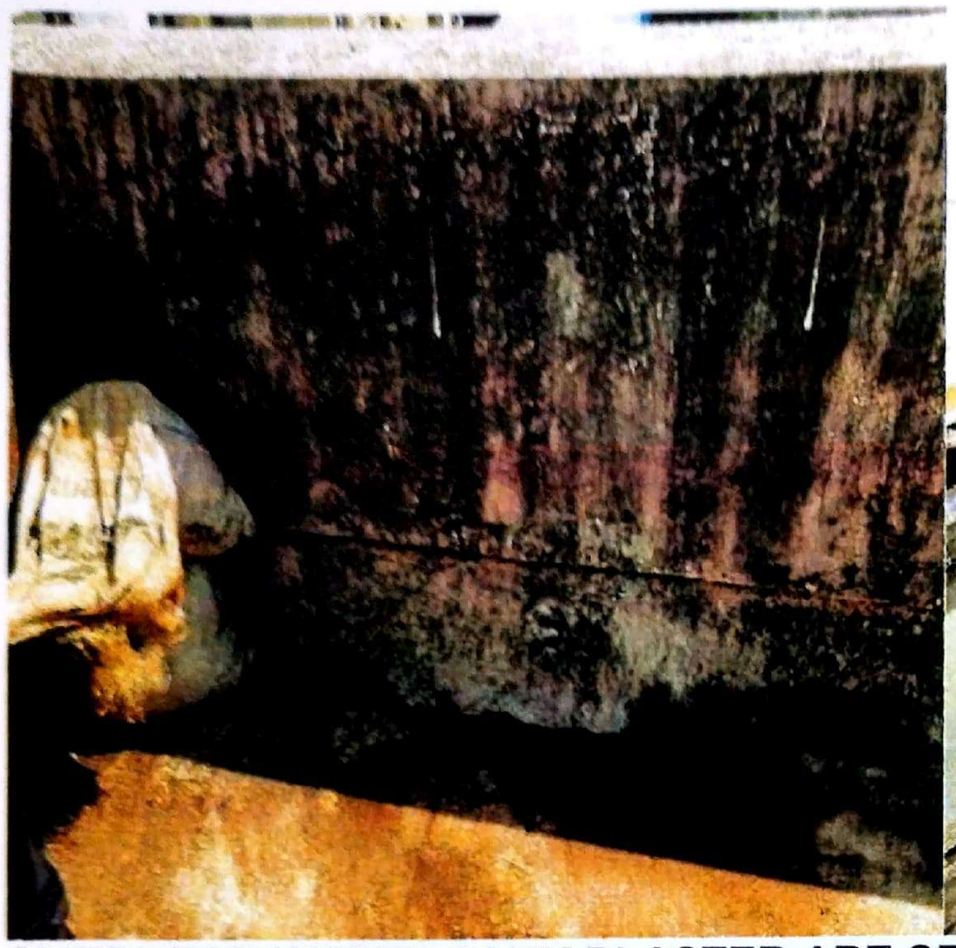


PARAPET WALL PLASTER CRACKS AS WELL SEEPAGES.

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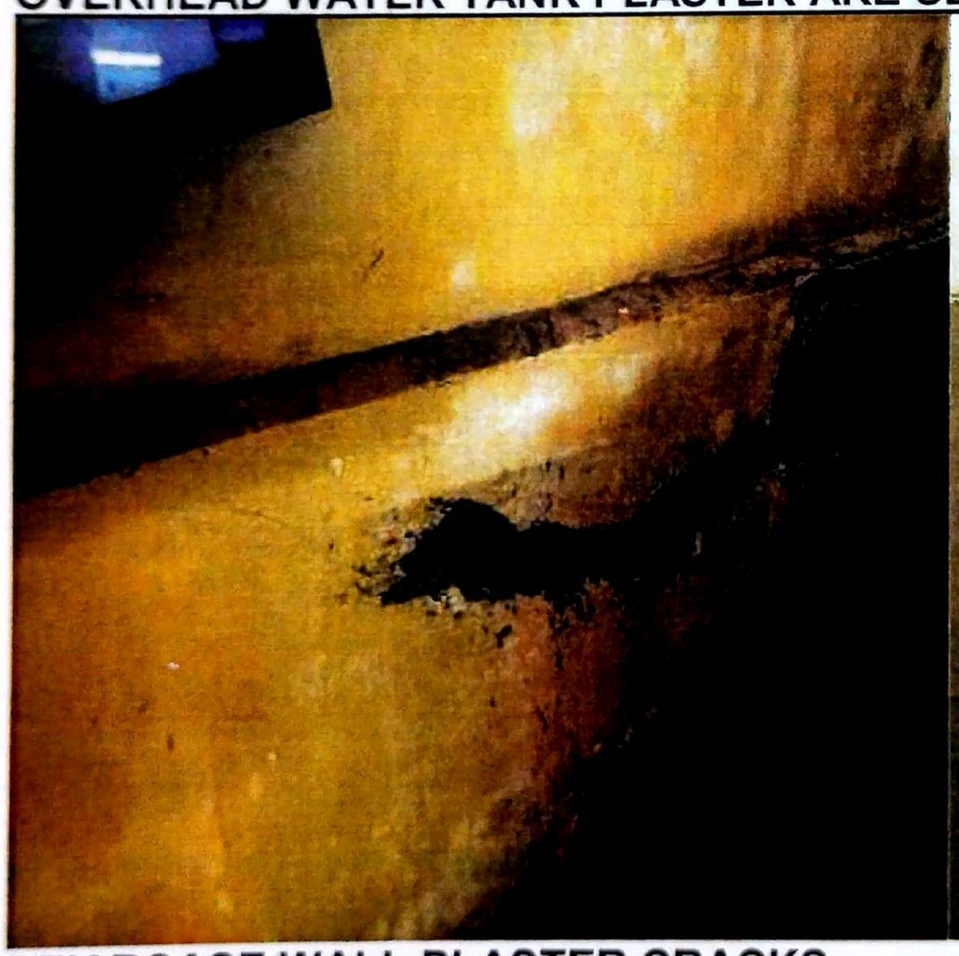
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OVERHEAD WATER TANK PLASTER ARE SEEPAGES.



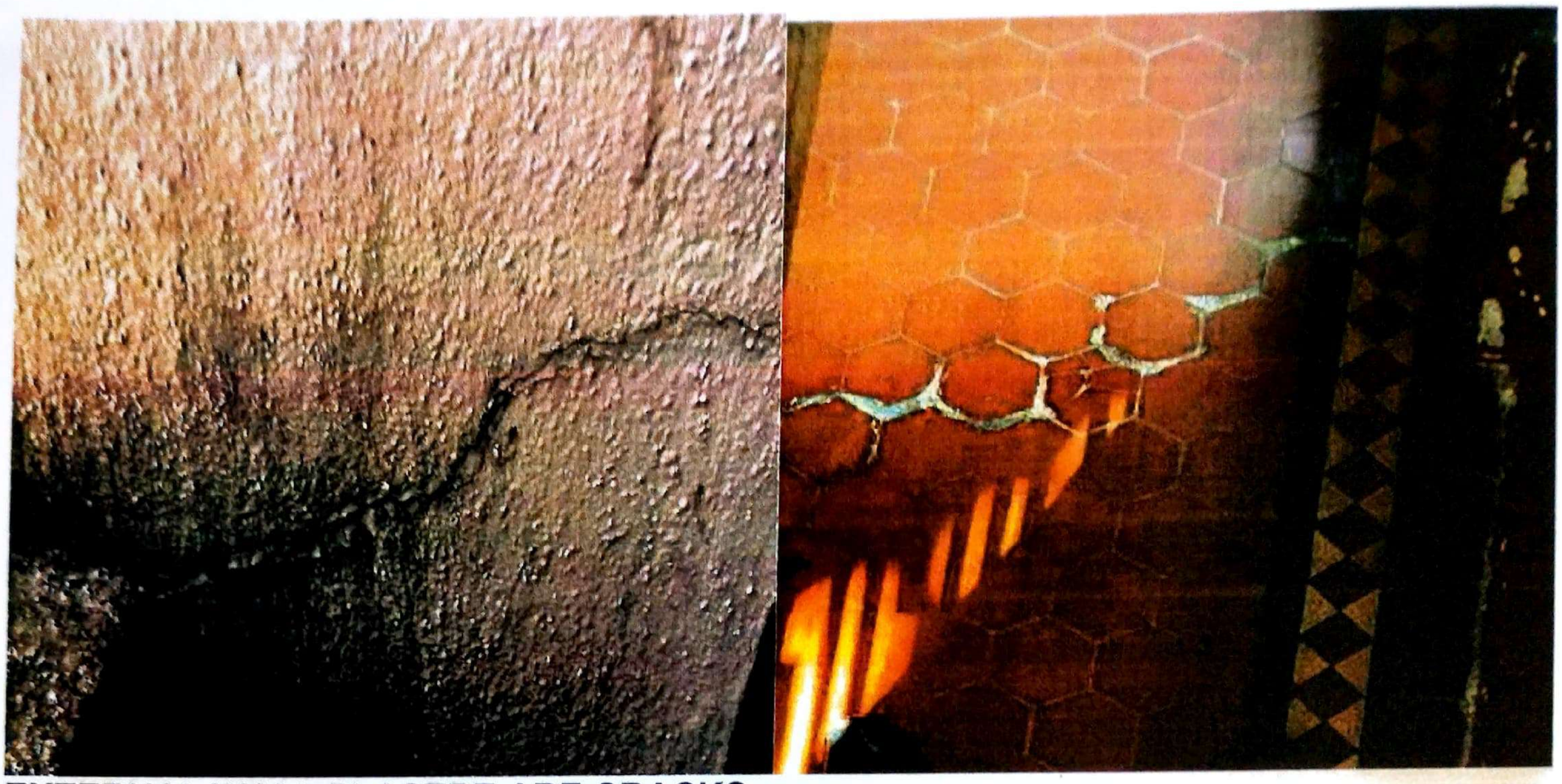


STIARCASE WALL PLASTER CRACKS.

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EXTERNAL WALL PLASTRE ARE CRACKS.



DUCT PLASTER ARE CRACKS AS WEEL SEEPAGES.

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GROUND FLOOR COLUMN WALL SEPARATION GAP HAS BEEN DEVELOPPED.



FLAT INTERNAL WALL SEEPAGES.

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STAIRACSE WALL SEEPAGES IN DRY CONDTION.

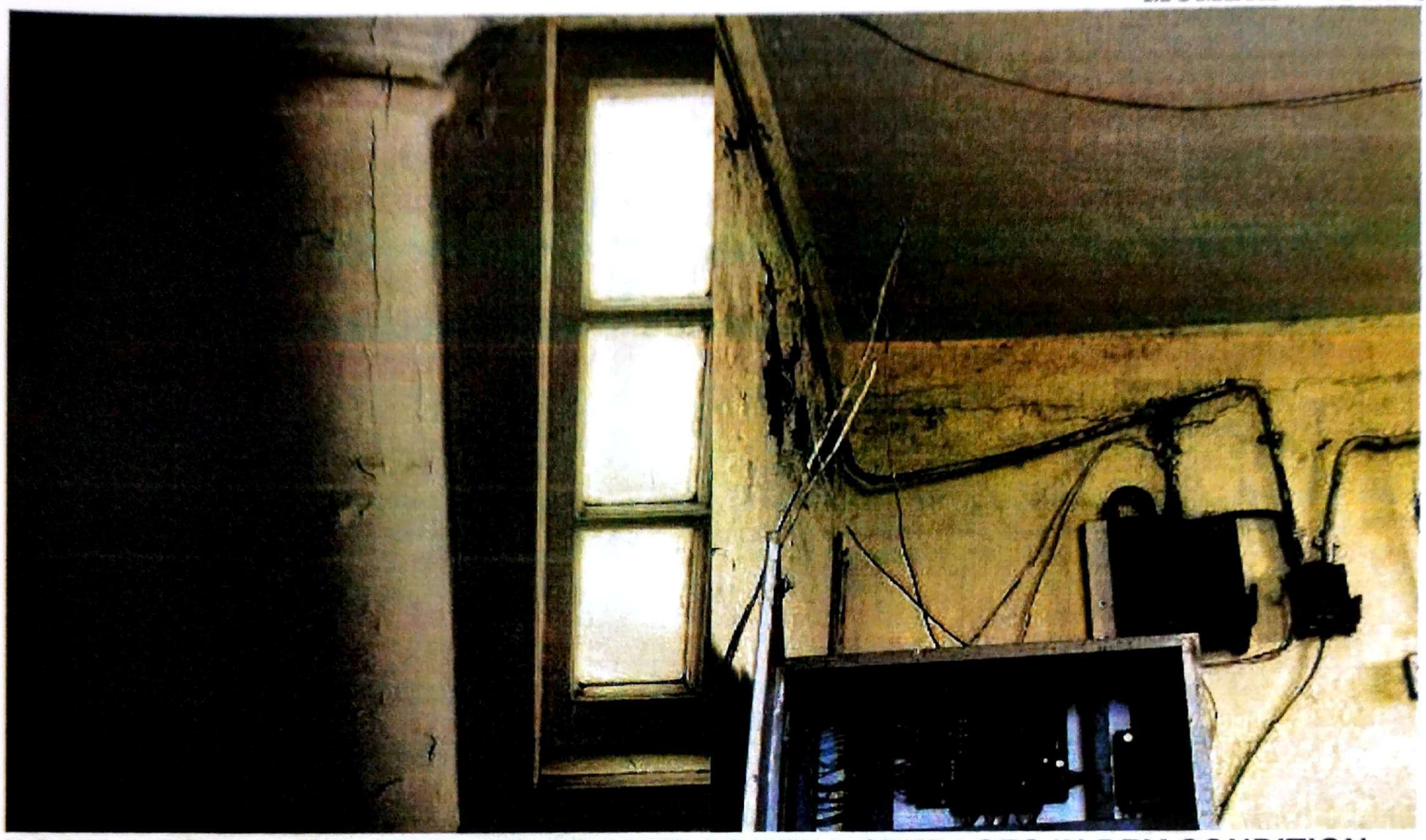


STAIRACSE WALL AND SLAB SEEPAGES IN DRY CONDTION.

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ROOM INTERNAL PLASTER ARE CRACKS AS WELL SEEPAGES IN DRY CONDITION.

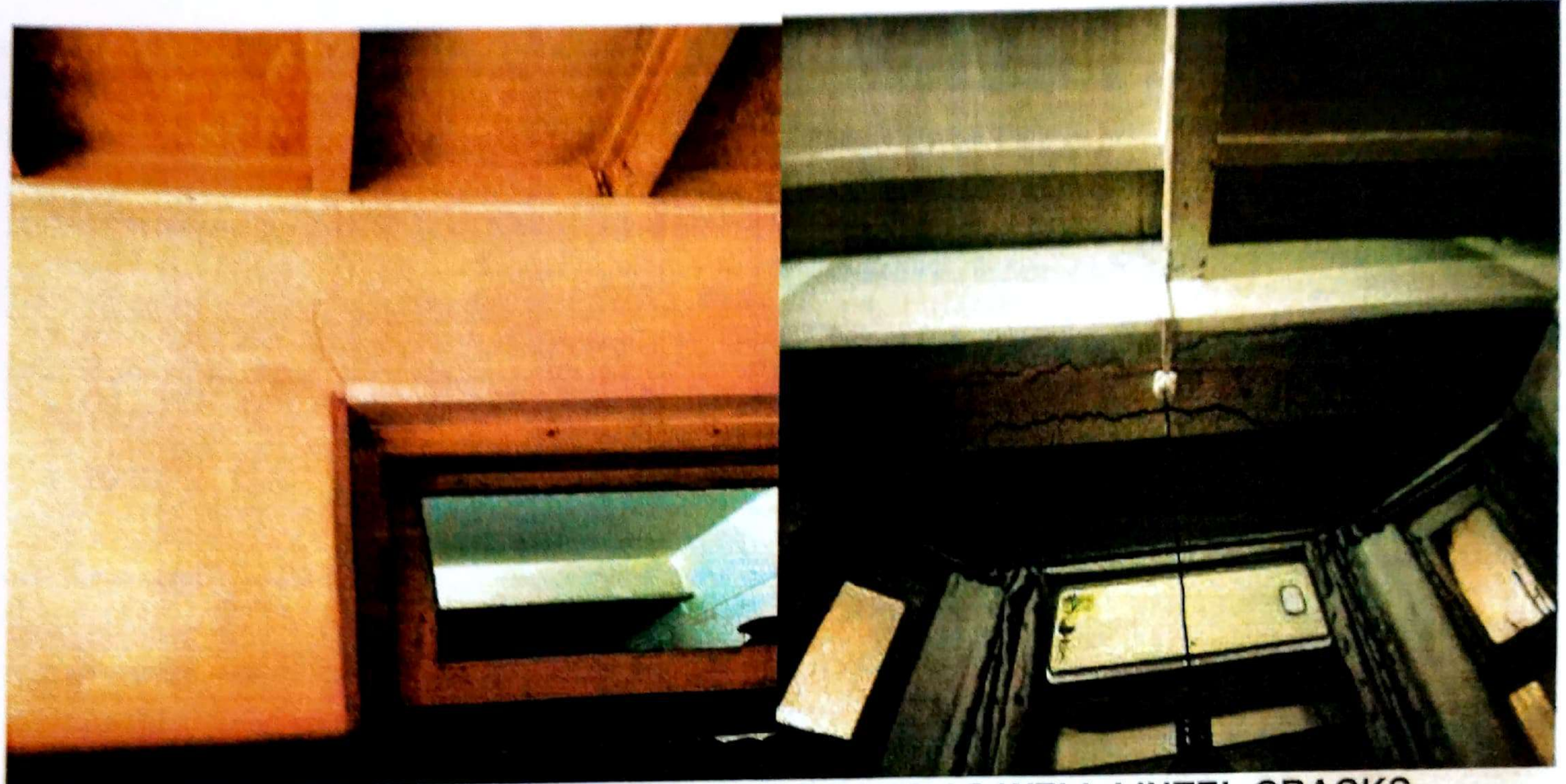


ROOM INTERNAL PLASTER ARE CRACKS AS WELL SEEPAGES IN DRY CONDITION.

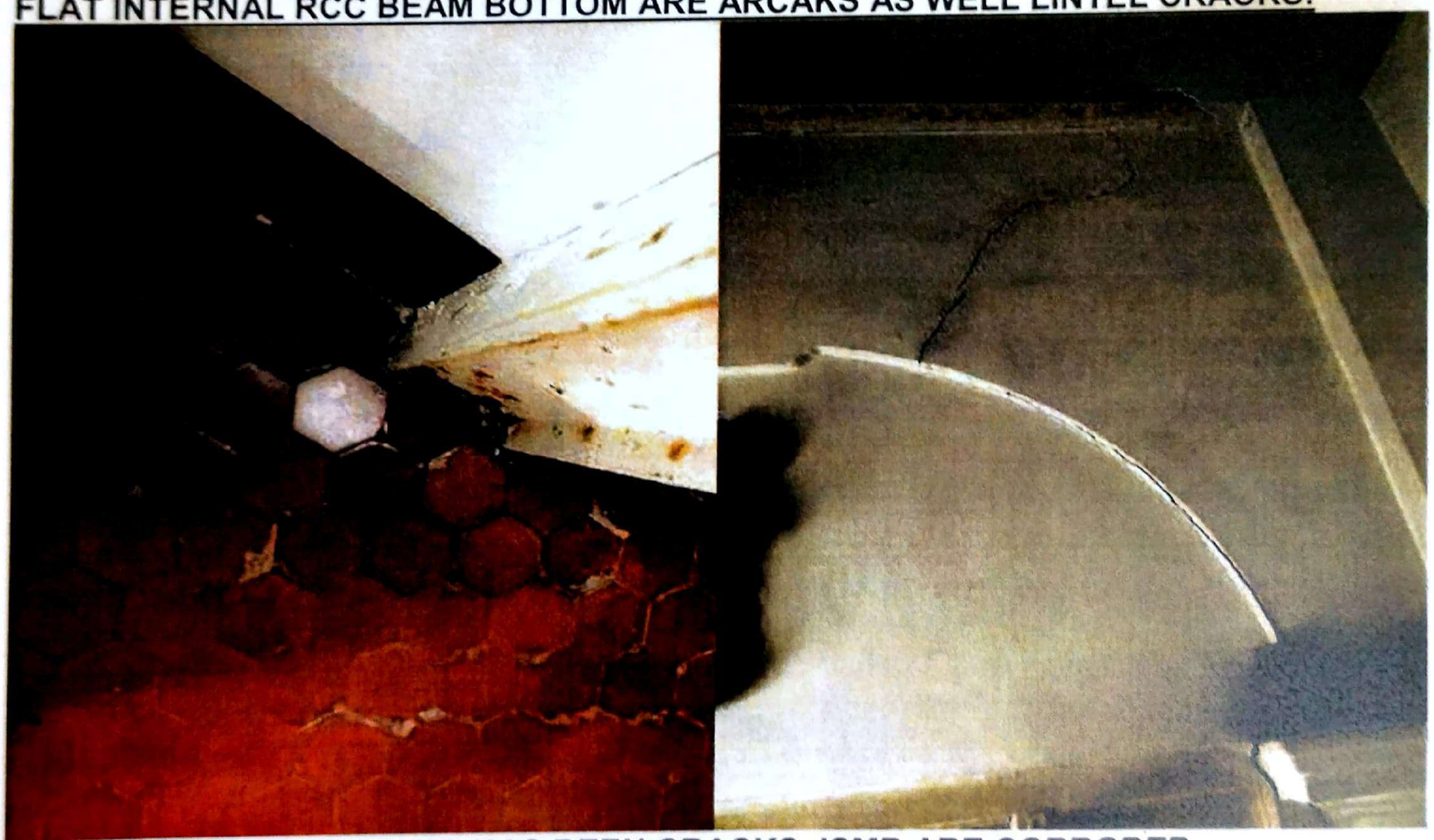
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FLAT INTERNAL RCC BEAM BOTTOM ARE ARCAKS AS WELL LINTEL CRACKS.

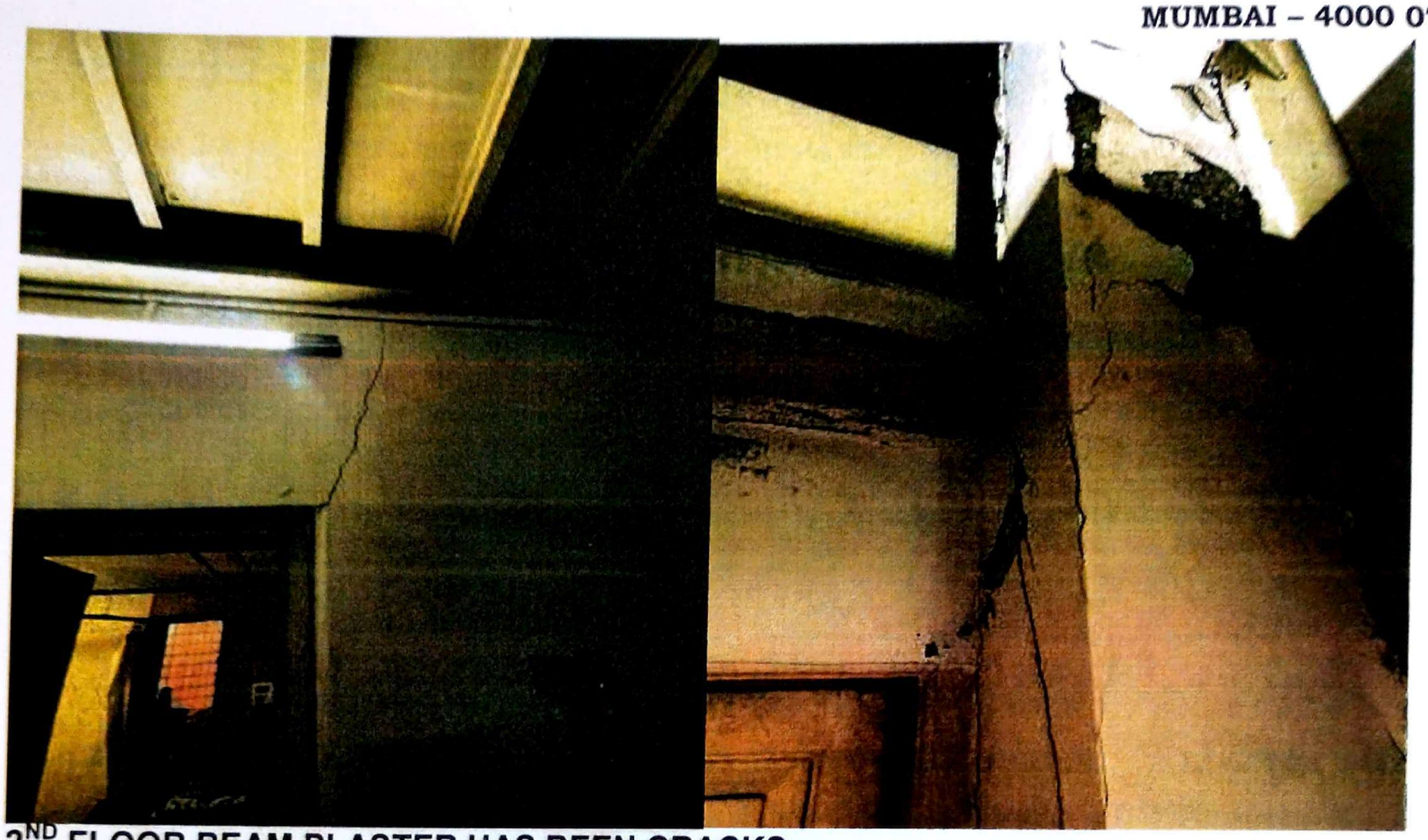


2ND FLOOR BEAM PLASTER HAS BEEN CRACKS. ISMB ARE CORRODED.

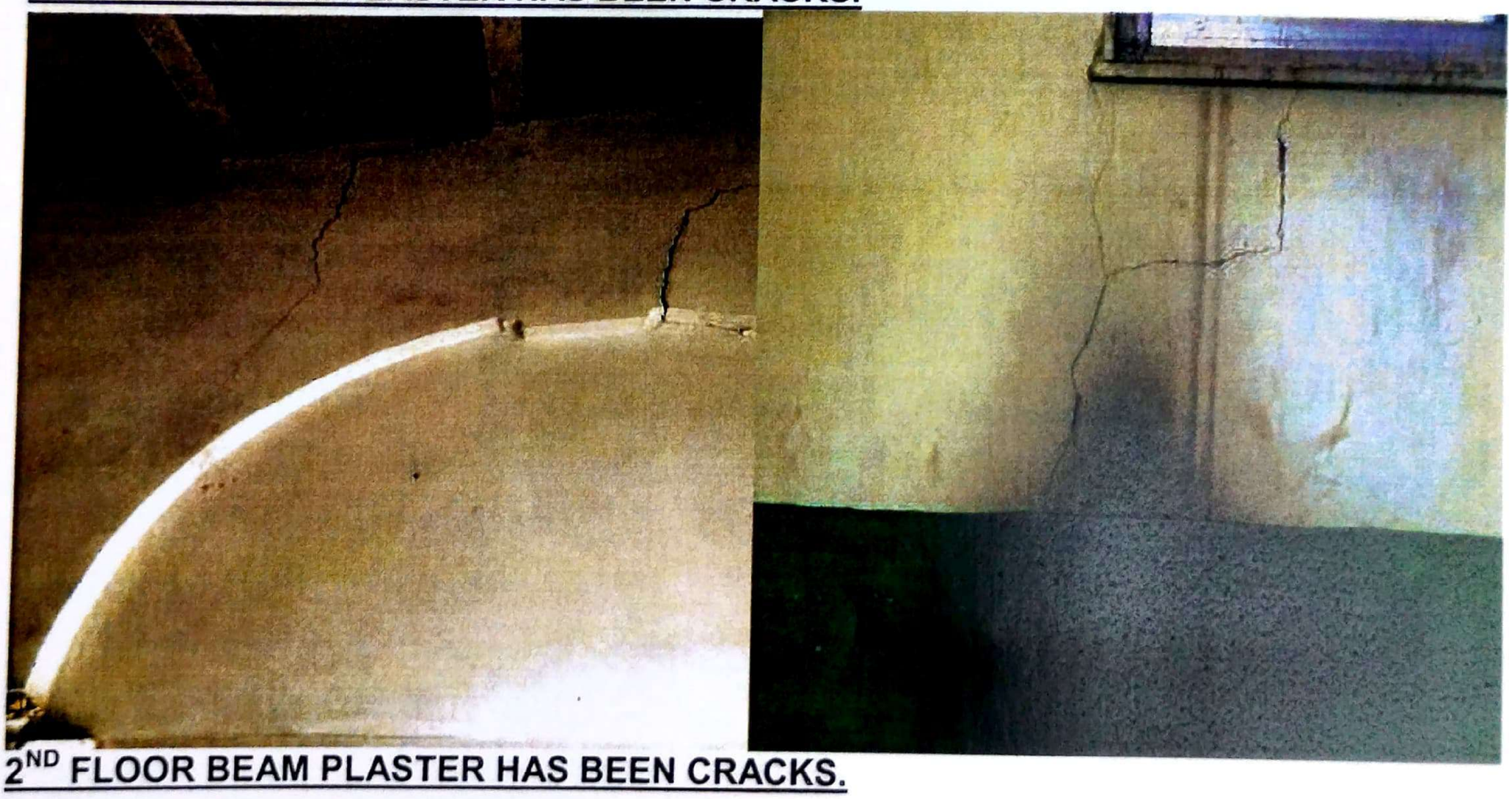
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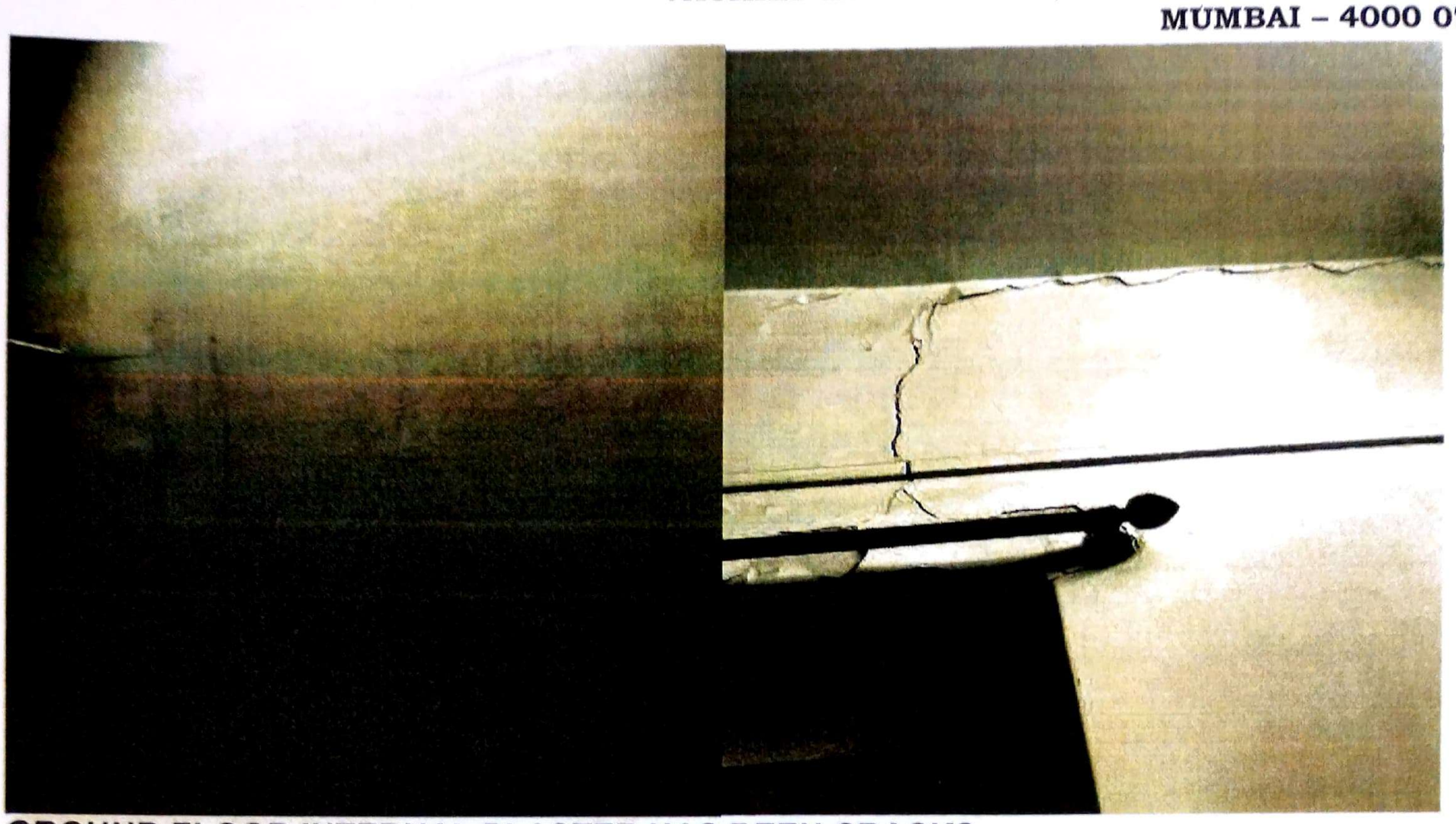


2ND FLOOR BEAM PLASTER HAS BEEN CRACKS.

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GROUND FLOOR INTERNAL PLASTER HAS BEEN CRACKS.



GROUND FLOOR INTERNAL PLASTER HAS BEEN CRACKS.

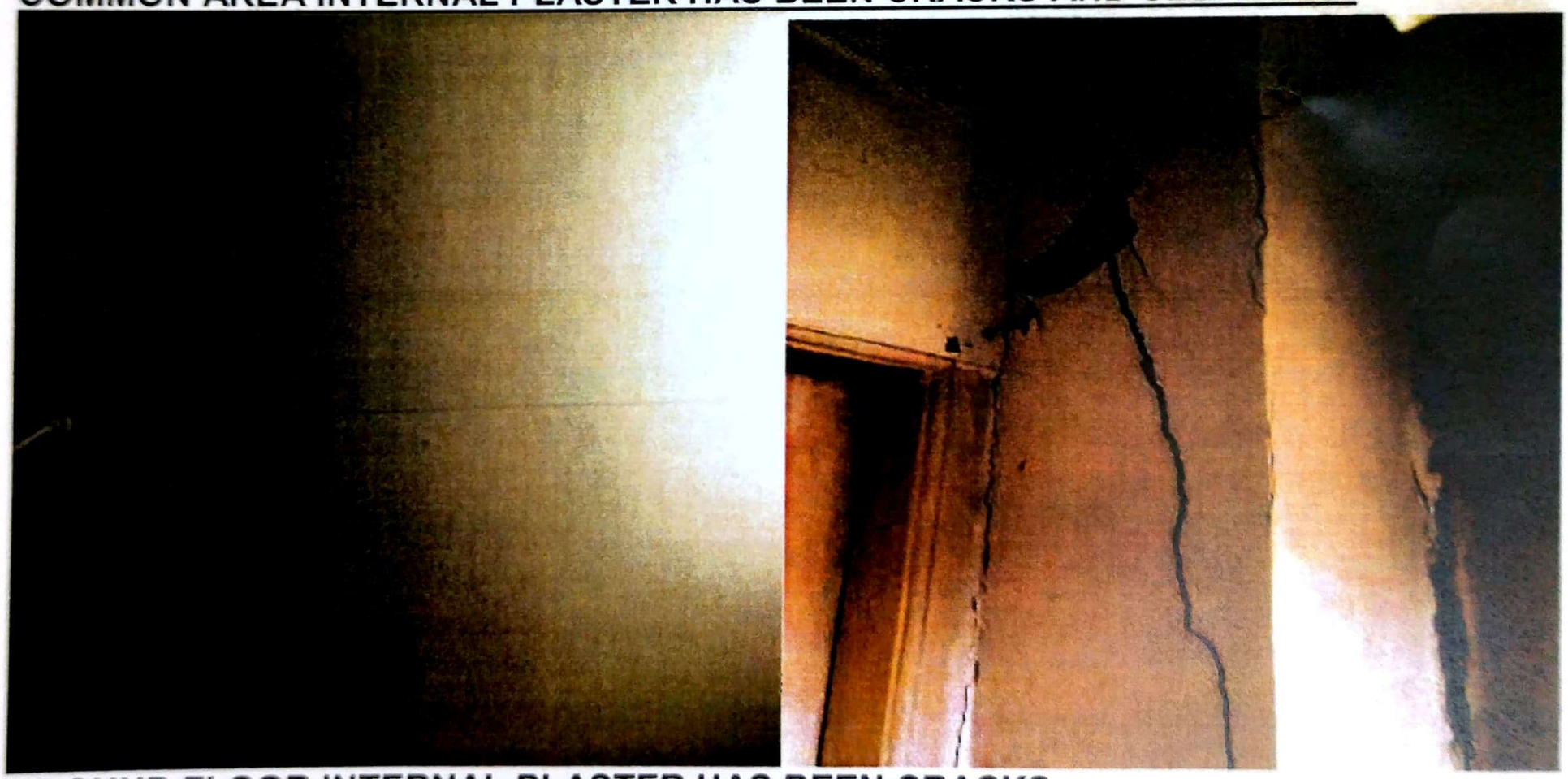
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COMMON AREA INTERNAL PLASTER HAS BEEN CRACKS AND SEEPAGES.

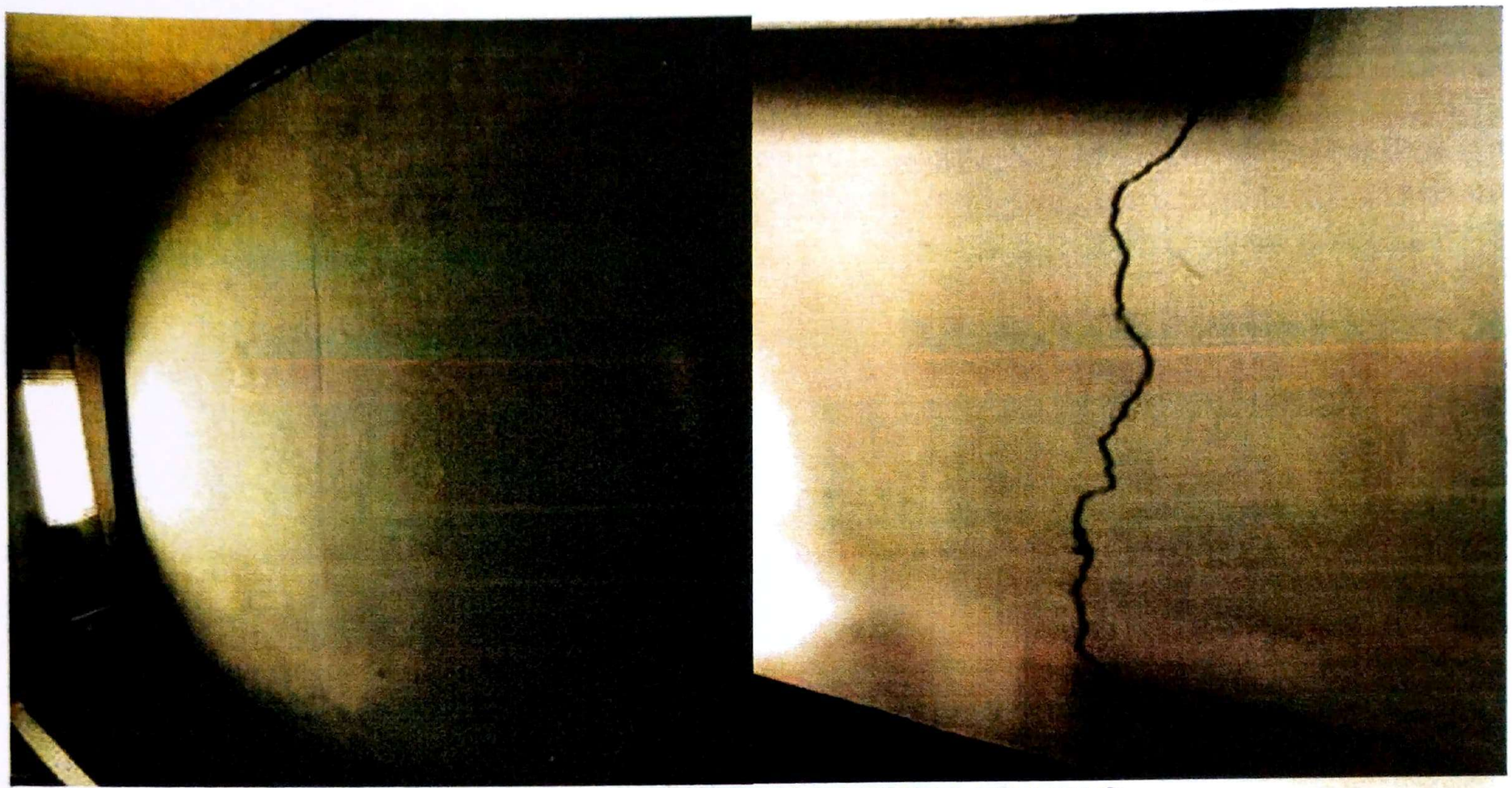


GROUND FLOOR INTERNAL PLASTER HAS BEEN CRACKS

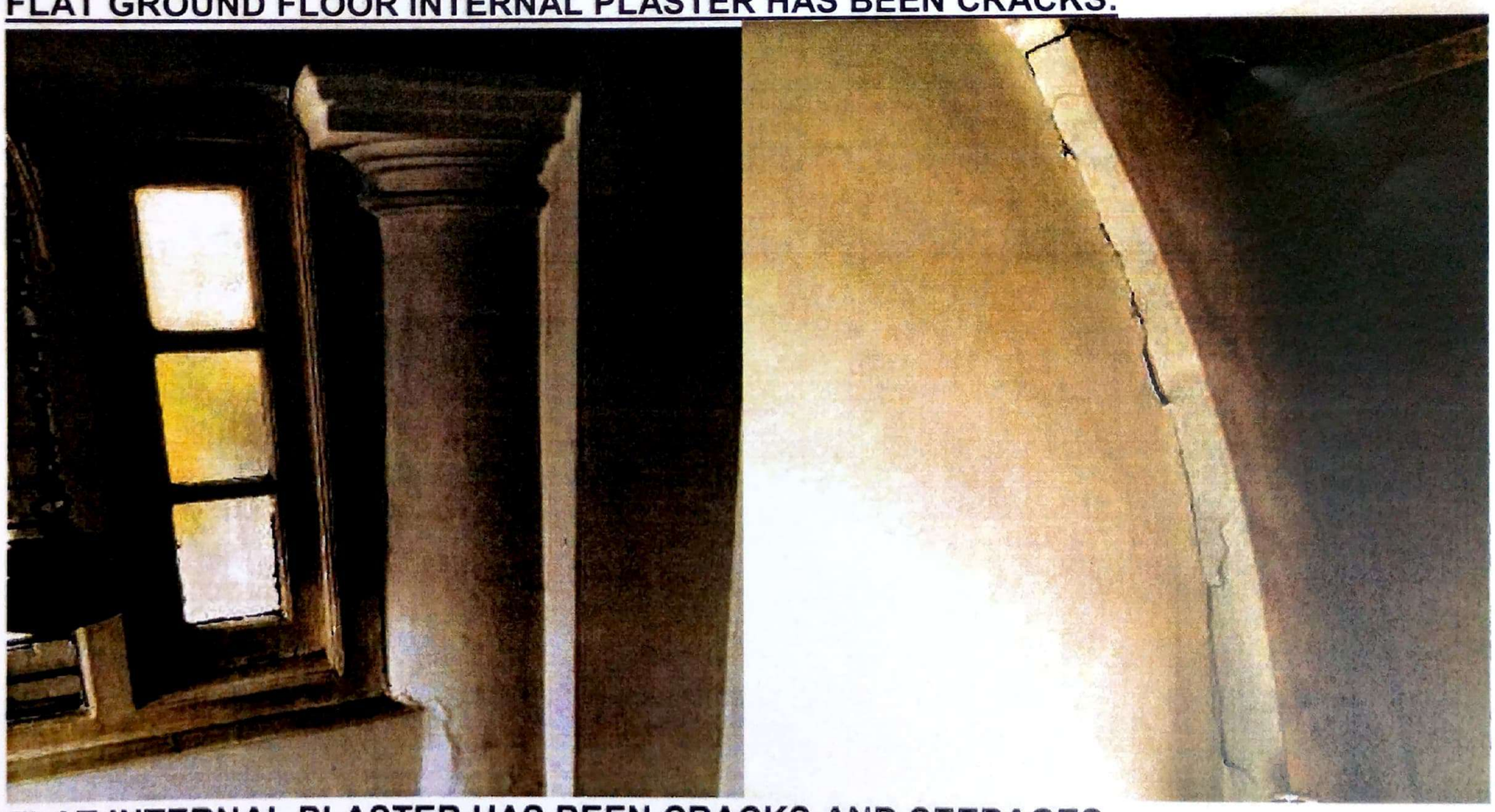
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B.M.RUIA GIRLS COLLEGE,11 KRISHNA KUNJ,
VACHHA GANDHI ROAD,GAMDEVI, GRANT ROAD,
MUMBAI – 4000 07.



FLAT GROUND FLOOR INTERNAL PLASTER HAS BEEN CRACKS.

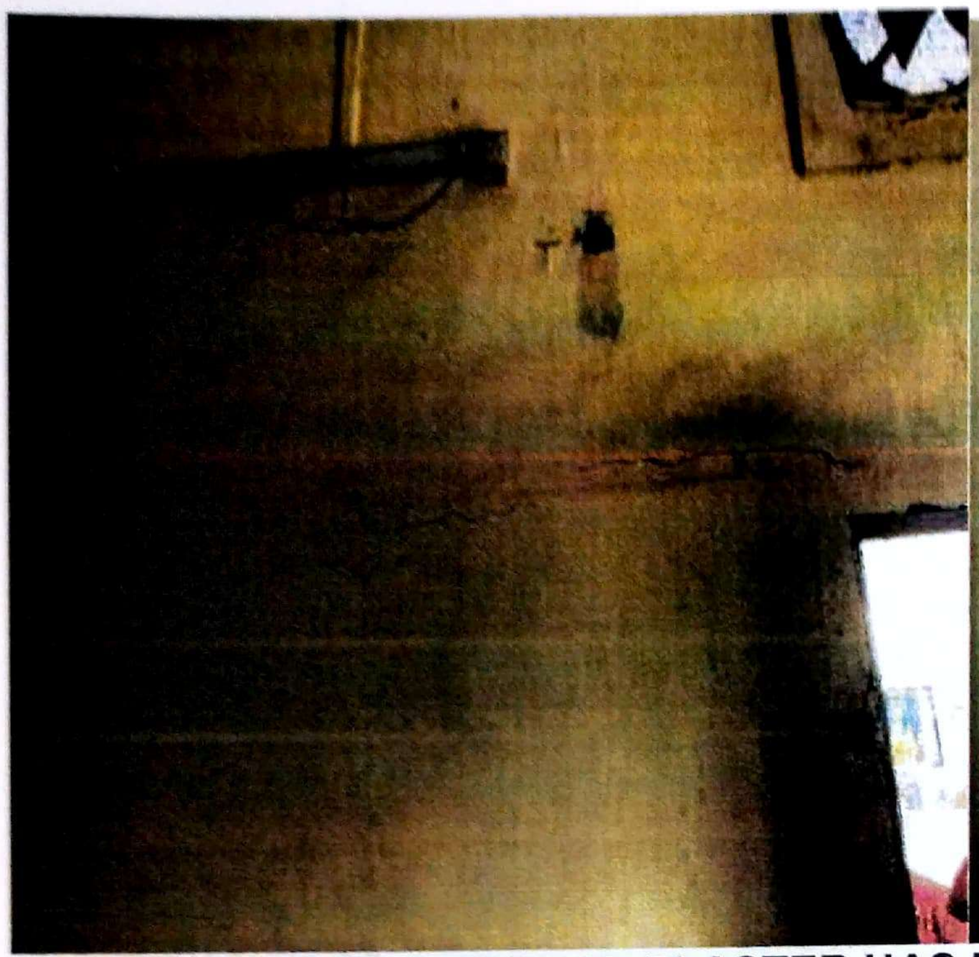


FLAT INTERNAL PLASTER HAS BEEN CRACKS AND SEEPAGES.

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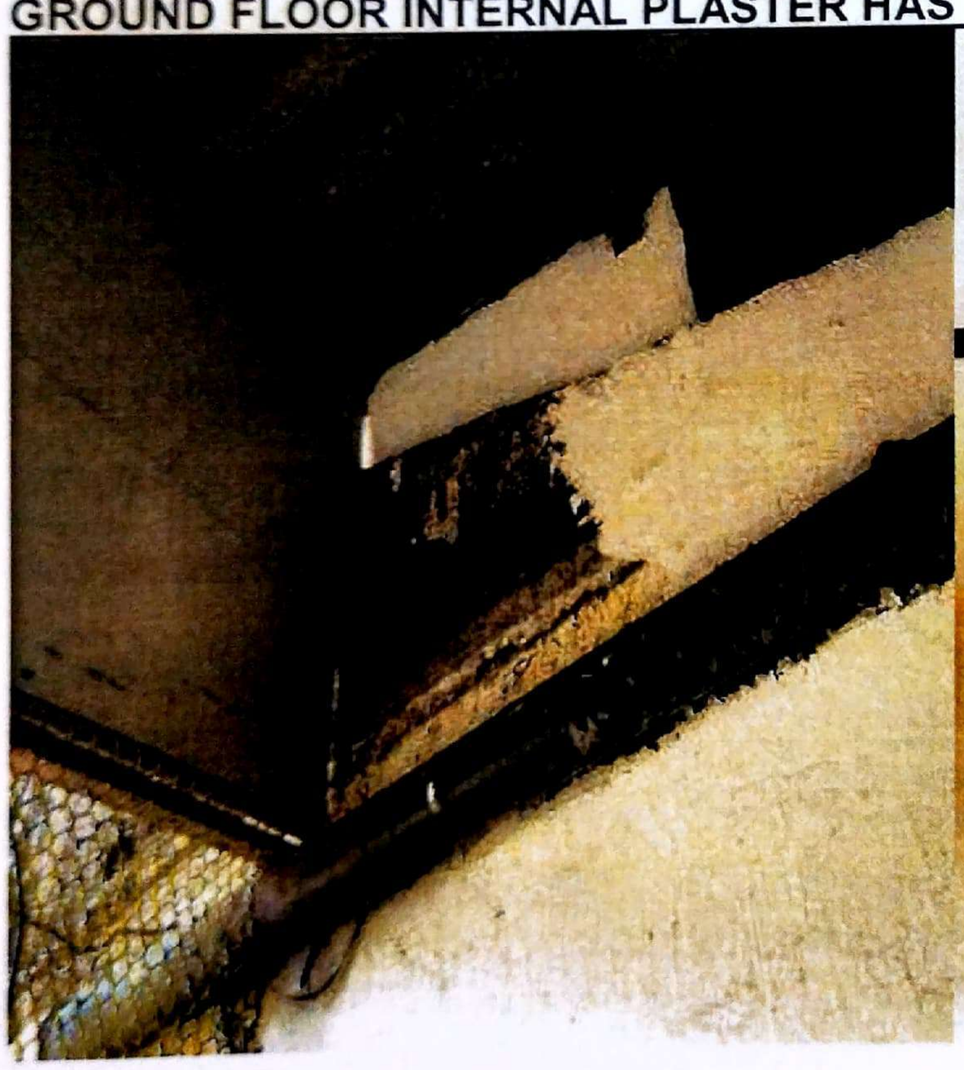
JAN 2023

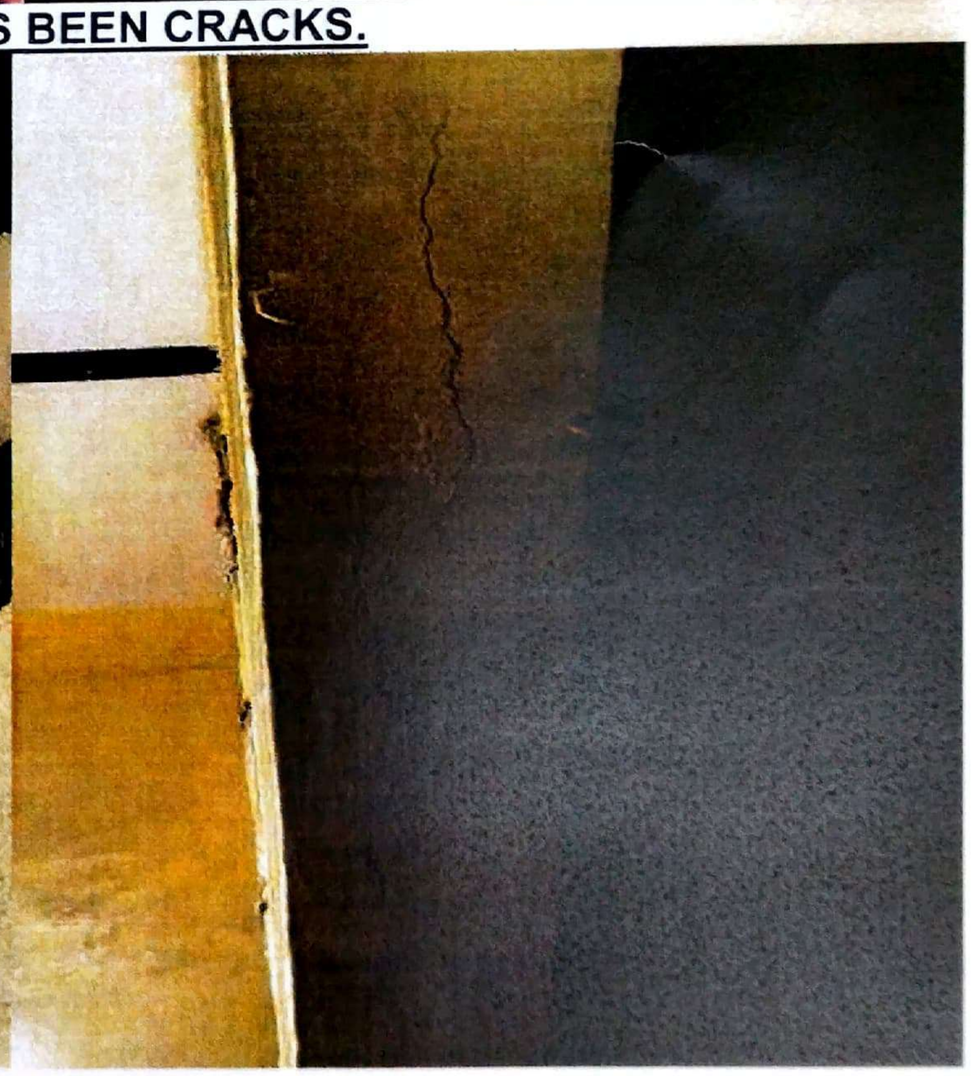
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MUMBAI – 4000 07.





GROUND FLOOR INTERNAL PLASTER HAS BEEN CRACKS.

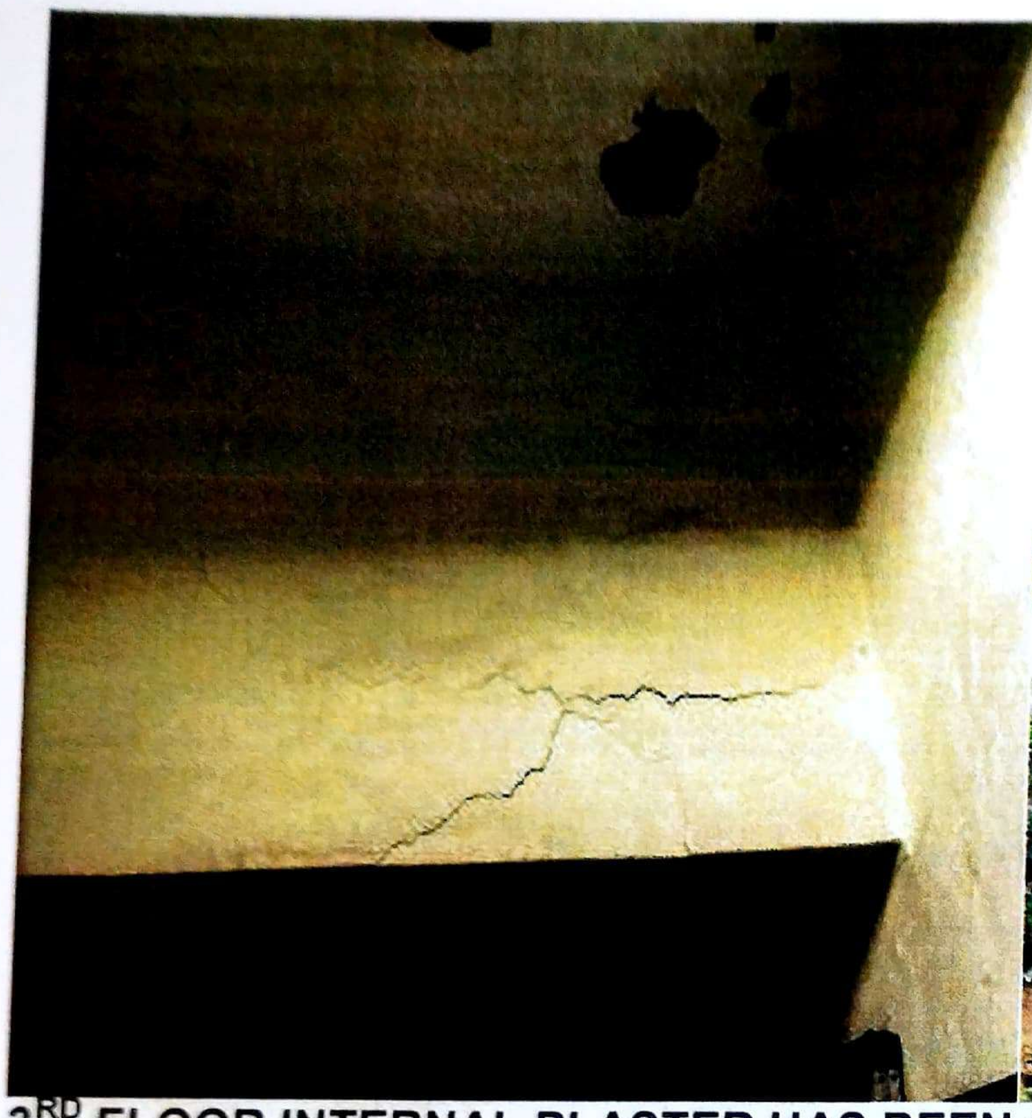




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JAN 2023

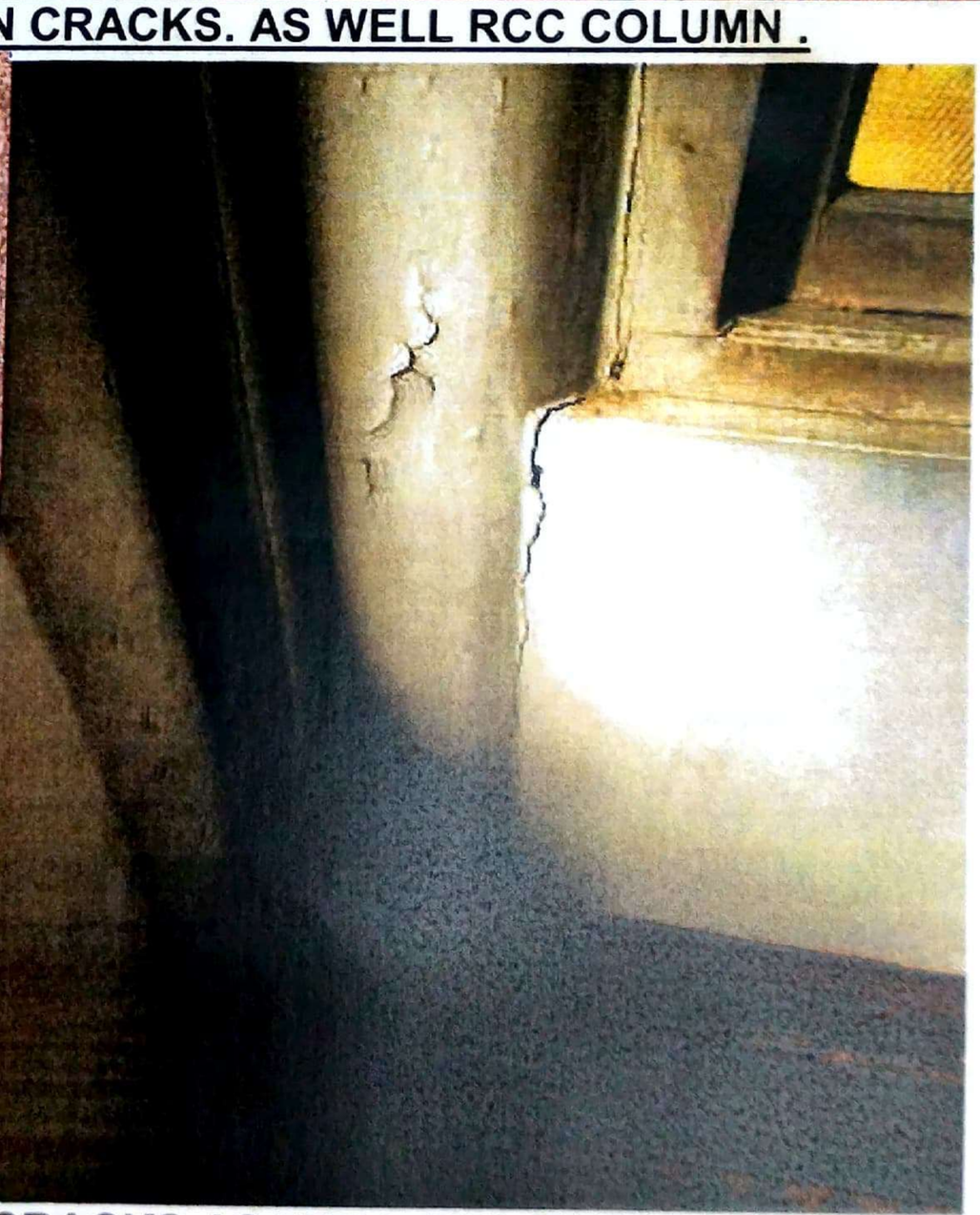
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MUMBAI – 4000 07.





3RD FLOOR INTERNAL PLASTER HAS BEEN CRACKS. AS WELL RCC COLUMN .



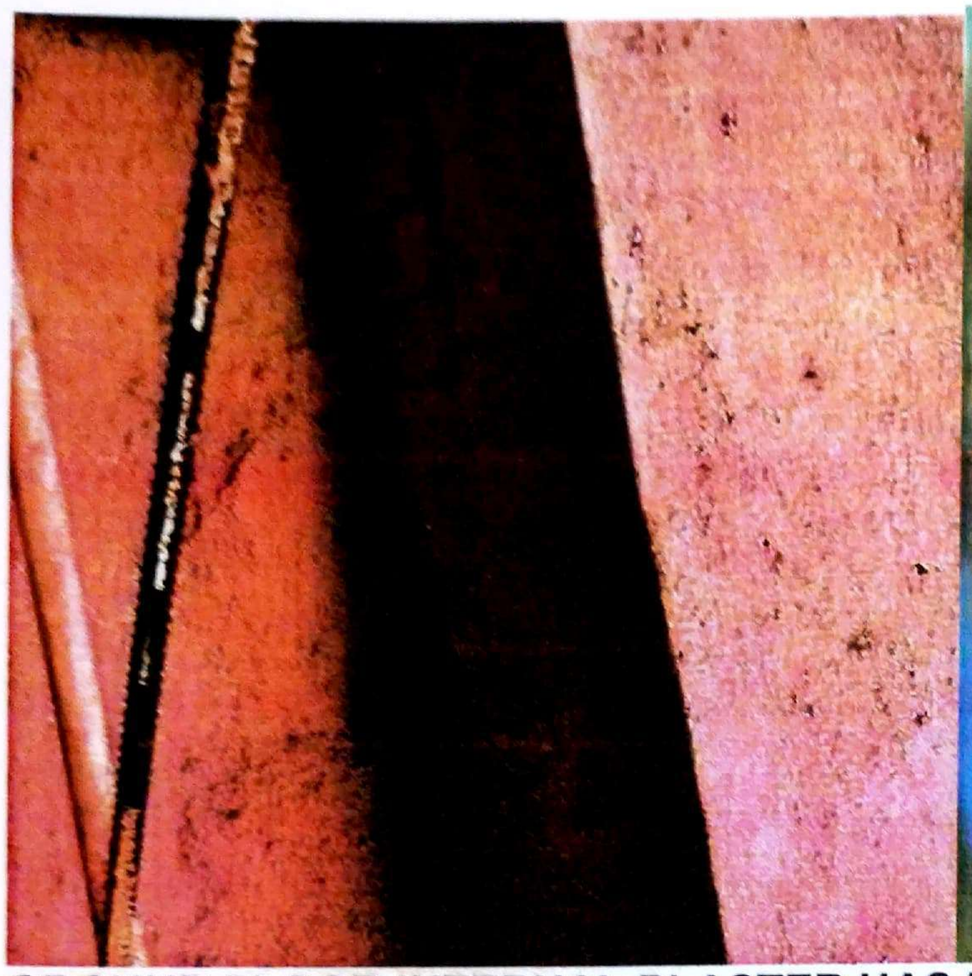


GROUND FLOOR RCC COLUMN HAS BEEN CRACKS AS WELL BULGING.

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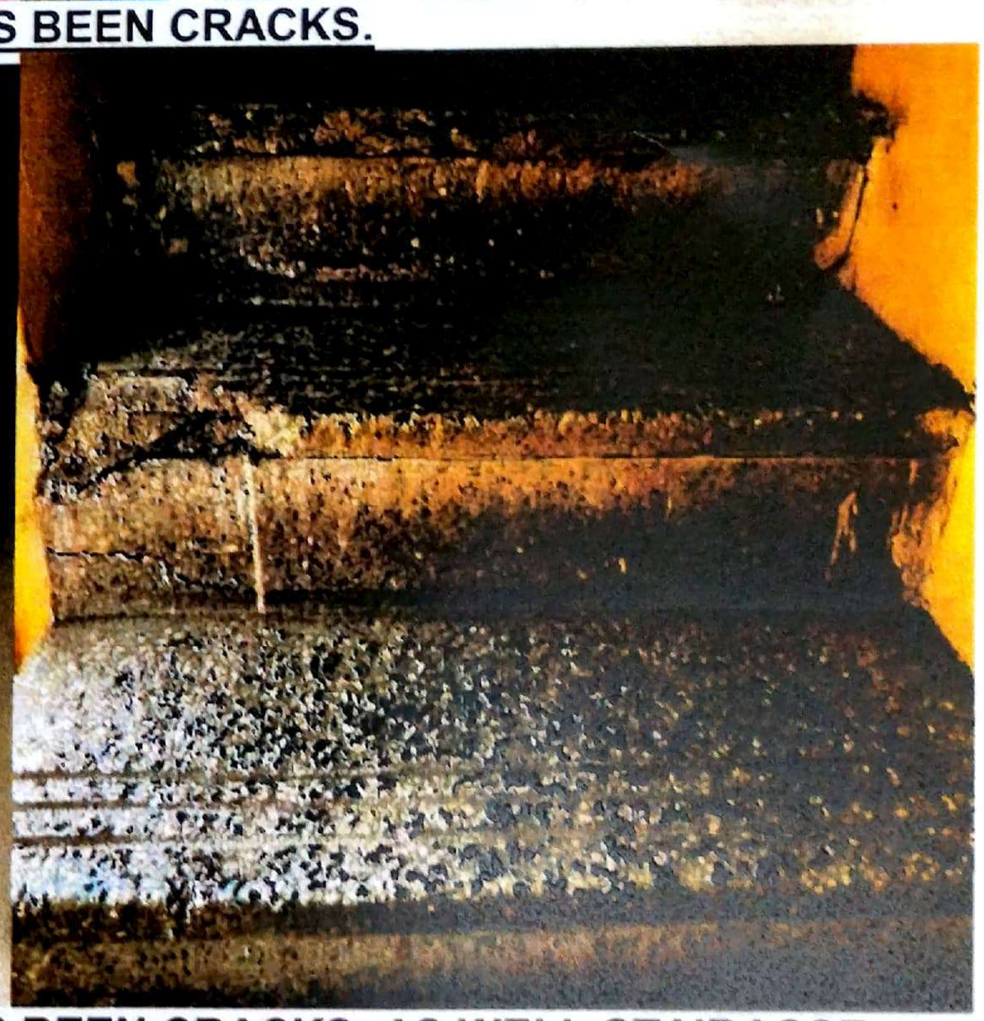
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MUMBAI – 4000 07.





GROUND FLOOR INTERNAL PLASTER HAS BEEN CRACKS.





GROUND FLOOR INTERNAL PLASTER HAS BEEN CRACKS. AS WELL STAIRACSE TRED ARE CRACKS.

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MUMBAI

NDT Test Report

for

B.M.RUIA GIRLS COLLEGE,
11 KRISHNA KUNJ,
VACHHA GANDHI ROAD, GAMDEVI, GRANT ROAD,
MUMBAI – 4000 07.

SAURABH ASSOCIATES

Project # 1031

**8, Ground Floor, Kunkuwadi CHS LTD. Opp. Dixit Road,
Near Hanuman Temple,
Vile Parle (East), Mumbai-400 057.**

Email: saurabhaassociates@gmail.com.
Website: www.saurabhpmc.com

	Name of Person	Signature	Date
Supervisor	Sarvan .Y		17/01/2023
Report prepared	Gaytri Shinde		02/02/2021
Report checked	Shailesh Yadav		02/02/2021

SAURABH ASSOCIATES MUMBAI

PROJECT INFORMATION PAGE

Customer/Consultants	**SAURABH ASSOCIATES**	**Building Name**	
Site Address	B.M.RUIA GIRLS COLLEGE, 11 KRISHNA KUNJ, VACHHA GANDHI ROAD,GAMDEVI, GRANT ROAD, MUMBAI – 4000 07.	**Report Date**	17/01/2023
Project no.	1031	**Structure Age**	ABOVE 60 YEARS
Structure Type	RCC	**No. of Floors**	GR + 05
Building Usage	RESIDENTIAL CUM SCHOOL BUILDING		

Number of Tests Conducted at Site

UPV	10	**HCP**	05
Rebound Hammer	10	**Carbonation**	05
Core cutting	02	**Rebar Mapping**	02
Pile Integrity	0	**Pile Dynamic**	0
COVER TEST	0	**Weld Test (LPI)**	0
Ultrasonic Thickness Gauge	0	**Chemical Test**	02

Naming Conventions used in Report

Member ID	- Element number as per client's drawing - These can be based on grid numbers if no element numbers are available - Element numbers are provided by us if no element or grid numbers are present on client's drawing
Level	- Floor at which element is present. For columns, the start and end floor levels are indicated. - In case of industrial buildings, this can be the approximate height from ground level
Test Location on Member	Columns: whether the test has been done near the Top, Middle or Bottom of the column height Beams: whether the test has been done near the mid-span(MID) or near the supports (END)Slabs. Whether the test has been done near any of the slab edges (EDGE) or away from the edge (CENTER).

SAURABH ASSOCIATES MUMBAI

NDT TEST RESULTS (UPV / Rebound Hammer)

Customer	SAURABH ASSOCIATES	Building Name	
Site Address	B.M.RUIA GIRLS COLLEGE, 11 KRISHNA KUNJ, VACHHA GANDHI ROAD,GAMDEVI, GRANT ROAD, MUMBAI – 4000 07.	Report Date	17/01/2023
Project no.	1031	Buildiing Age	ABOVE 60 YEARS

NDT RESULTS

Test Location					UPV Results			Rebound Hammer Results		
Sl No.	Unit	Member ID	Level	Element Type	UPV (km/s)	Concrete Quality	Surface Condition	Hammer Reading (Rebound Number)	Hammer Direction	Equiv. cube strength (MPa)
1		C1	GF	Column	3.60	Doubtful	DRY	30	HOR	15
2		C2	GF	Column	3.33	Doubtful	DRY	28	HOR	12
3		C3	GF	Column	3.78	Good	DRY	32	HOR	16
4		C4	GF	Column	2.89	Poor	DRY	26	HOR	10
5	CORE	C5	GF	Column	3.79	Good	DRY	29	HOR	13
6		C6	GF	Column	3.77	Good	DRY	31	HOR	15
7		C7	GF	Column	3.23	Doubtful	DRY	28	HOR	12
8		C8	GF	Column	2.60	Poor	DRY	24	HOR	9
9		C9	GF	Column	3.01	Doubtful	DRY	28	HOR	12
10	CORE	C10	GF	Column	3.65	Doubtful	DRY	27	HOR	12

UPV READING MAX =3.78, MIN =2.60

UPV Results Summary

Criteria	Concrete Quality	No. of readings
Above 4.40km/s	Excellent	0
3.75 to 4.40 km/s	Good	3
3.0 to 3.75 km/s	Doubtful	5
Below 3.0 km/s	Poor	2

Rebound Hammer Results Summary

R NO.Hammer Reading	Equiv. cube strength
AVG	AVG
28.3	13.0

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Architects | Engineers & PMC

NDT TEST RESULTS (HCP / Carbonation)

Customer	SAURABH ASSOCIATES	**Building Name**	
Site Address	B.M.RUIA GIRLS COLLEGE, 11 KRISHNA KUNJ, VACHHA GANDHI ROAD,GAMDEVI, GRANT ROAD, MUMBAI – 4000 07.	**Report Date**	17/01/2023
Project no.	1031	**Buildiing Age**	ABOVE 60 YEARS

NDT RESULTS

Test Location					HCP Results	CARBONATION DEPTH (MM)	
SRNO	UNIT	ID	FLOOR	Element Type	Potential (mV)	DEPTH (MM)	Observed Depth
1		C1	GF	Column	-305	60	45
2		C2	GF	Column	-264	50	50
3		C4	GF	Column	-360	55	40
4		C5	GF	Column	-356	50	45
5		C10	GF	Column	-265	55	45
						AVG	45.0

HCP Results Summary		NO .OF	CARBONATION Result Summary
Criteria	Probability of corrosion	Reading	Average Carbonation Valuue (mm)
More than -200 mV	10%	0	45
-200 mV to -350 mV	50%	3	
Less than -350 mV	90%	2	

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Architects / Engineers (P)Ltd.

TEST RESULTS FOR CHEMICAL TEST

		Customer	SAURABH ASSOCIATES
		Building Name	
Project no.	1031	**Site Address**	B.M.RUIA GIRLS COLLEGE, 11 KRISHNA KUNJ, VACHHA GANDHI ROAD,GAMDEVI, GRANT ROAD, MUMBAI – 4000 07.
Report Date	17/01/2023	**Building Age**	ABOVE 60 YEARS

Test Location				**Chemical Test Results**		
Serial No.	**Member ID**	**Level**	**Element Type**	**pH**	**CL (kg/m^3)**	**SO3**
1	C5	GF	Column	08	0.453	O.355
2	C10	GF	Column	09	0.430	O.355

Notes: Permissible limits as per IS 456:2000

Ph	Not less than 8
CL (kg/m^3)	For PCC, maximum 3.0 kg of Chloride per m^3 of concrete.
	For RCC, maximum 0.6 kg of Chloride per m^3 of concrete.
SO3 (%)	Less than 4% by mass of cement in the concrete mix.

SAURABH ASSOCIATES
MUMBAI

NDT TEST RESULTS (Reinforcement Mapping)

Customer	SAURABH ASSOCIATES	Building Name	
ite Address	B.M.RUIA GIRLS COLLEGE, 11 KRISHNA KUNJ, VACHHA GANDHI ROAD,GAMDEVI, GRANT ROAD, MUMBAI – 4000 07.	Report Date	17/01/2023
ructure Type	RCC	Project no.	1031

NDT RESULTS

		For Column				For Slabs Only				Remarks
ONCERTE COVER	Dimensions of Member mm	Main Bars Nos	Main Bar Dia mm	Stirrups Dia mm	Stirrups Spacing mm	Main Bar Dia mm	Main Bar spacing mm	Longitudinal Bar Dia mm	Longitudinal bar spacing	
50MM	250X500	8	16	8	165C/C					
40MM	250X 500	8	16	8	150C/C					

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Architects / Engineers & PMC

TEST RESULTS FOR CONCRETE CORE TESTS

Customer	SAURABH ASSOCIATES	**Building Name**	
Site Address	B.M.RUIA GIRLS COLLEGE, 11 KRISHNA KUNJ, VACHHA GANDHI ROAD,GAMDEVI, GRANT ROAD, MUMBAI – 4000 07.	**Report Date**	17/01/2023
Project no.	1031	**Buildiing Age**	ABOVE 60 YEARS

NDT RESULTS

Test Location					Core Test Results								
Serial No.	Member ID	Floor	Element Type	Test Location on Member	Core Dia, D (mm)	Core Length, L (mm)	L/D	Wet Weight of sample (kg)	Wet Density (kg/m3)	Failure Load (kN)	Core Strength (MPa)	Correction factor (as per IS 516 & SP24)	Equiv. cube strength (MPa)
1	C5	GF	Column	Mid	68	98.6	1.45	0.869	2428	38.3	10.55	1.271	13.41
2	C10	GF	Column	Mid	68	100.0	1.47	0.901	2482	41.1	11.32	1.243	14.08
								Average	2455				13.74

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