NDT Laboratory
Încercări nedistructive în construcții

str. Pascal Cristian nr.35, sector 6, BUCURESTI
CUI: RO 22633658, J/40/20046/2007
BRD Crangasi
IBAN: RO77BRDE410SV99376714100RON

RAPORT INCERCARI NEDISTRUCTIVE 387 /2022



NDT LABORATORY
INTRARE Nr. 387/2022
IEŞIRE
Ziua 03 Luna 10 Anul 2022

CLADIRE LOCUINTE str.PIATA PACHE PROTOPOPESCU 11 ,S2 BUCURESTI

Intocmit: Specialist incercari nedistructive
Dr. ing. Teodor PAVLU

Aprobat: Sef de Laborator & Specialist Incercari Nedistructive
ing. Bogdan DORNESCU

NDT LABORATORY BUCUREŞTI - ROMÂNIA LABORATOR AUTORIZAT GRAD ISC Aut. nr. 3589

SOCIETATEA CONSTRUCTII PAVLU DESIGN S.R.L. C.U.I.: RO 22633658 BUCUREŞTI - ROMÂNIA

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RAPORT INCERCARI NEDISTRUCTIVE nr 387 /03 .10.2022

privind

"Determinarea rezistentei betonului si zidariei prin metoda nedistructiva combinata si armaturi prin pahometrie ,OTEL PRIN LEEB "

Cap.1 – DATE GENERALE

Prezenta documentatie a fost intocmita la solicitarea **EXPERT TEHNIC MLPAT .**

1. Numar contract: 277 /2022
2. Scopul testarilor: Evaluarea rezistentei la compresiune a betonului ,zidariei din elementele structurii

Adresa unde s-au facut incercarile:

CLADIRE LOCUINTE str.PIATA PACHE PROTOPOPESCU 11 ,S2 BUCURESTI

Cap.2 – DESCRIEREA OBIECTIVULUI INCERCAT

LOCUINTE . Incercarile au fost realizata pe structura beton ,zidarie

Cap.3 – INCERCARI SOLICITATE

Cerinte:

1. Controlul calitatii betonului,zidarie si determinare armaturi.

Elementele supuse testarii au fost stabilite de catre proiectant si expert tehnic.

Cap. 4 – DESCRIEREA INCERCARILOR

1. Data executarii testelor: 03. 10.2022
2. Temperatura aerului la locul de incercare: +20°C
3. Date privind compozitia si clasa betonului:
   - varsta betonului: > 6 luni
   - corpuri de proba: nu exista
4. Date privind structura de rezistenta:
   - Casa zidarie
5. Pregatirea obiectelor de incercat: conform NP 137-2014
6. Pahometrul: INNOVATEST TC110,RADAR PROCEQ
7. Sclerometrul: PROCEQ Schmidt tip N
8. Betonoscop: PUNDIT
9. Durometru Leeb Proceq
10. Rezultatele incercarii si prelucrarea acestora: conform Anexa1,2

Pentru testele efectuate exista incertitudini de masurarea cu privire la rezultatul acestora cauzate de precizia metodelor aplicate. Pentru metoda combinata abaterile sunt in limita a 15% - 20%

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Cap. 5 – CONCLUZII

1. Rezistentele betonului si zidariei pe fiecare element incercat sunt dupa cum urmeaza:

   a. ZIDARIE Z1 - SUBSOL = SCLEROMETRIE zidarie cpp- -- echiv caramida C90, +MORTAR DE VAR M 20 -REZULTAT PENETROMETRIE = 1,6 Mpa

   b. BETON STALP S25 E3 -echivalent beton C 12/15

   c. BETON GRINDA G26 E3 -echivalent beton C 12/15

2. Masuratorile privind pozitia armaturilor pe elementele de b.a. precum si dimensiunea acestora sunt descrise in ANEXA 2

Cap. 6 – OBSERVATII

Rezultatele obtinute sunt prezentate in Anexe 1 SI 2

Documentele emise: Raportul de incercare;Anexe 1 SI 2

Este interzisa reproducerea partiala sau totala a raporului de incercare sau a documentelor insotitoare.

Rezultatele obtinute sunt valabile la data efectuarii testelor si limitate la elementele incercate.

Prezentul raport cuprinde 4 pagini + pagini anexe

S.C. PAVLU DESIGN CONTSTRUCT S.R.L. declara ca incercarile efectuate nu au fost facute sub presiuni de orice natura.

Cap. 7 – ANEXE

Anexa 1 – Datele inregistrate si rezultate raport Anexa 2 – Poze

Intocmit: Specialist incercari nedistructive
DR. ing. Teodor PAVLU

Aprobat: Sef de Laborator
ing. Bogdan DORNESCU

CLADIRE LOCUINTE str.PIATA PACHE PROTOPOPESCU 11 ,S2 BUCURESTI

DETRMINAREA VALORII REZISTENTEI EFECTIVE

Nr. Crt.	Element	Sectiune	Punct	Distanta (cm)	Timp (µs)	Viteza ultrasonica V_L (m/s)		Indice de recul N (div)		$f_{c,ref}$ - C_t=1 (N/mm²)	C_t	C_v	Rezistenta efectiva $f_{c,ef}$ (N/mm²)	
						ind.	med.	ind.	med.				sect.	med. elem.
1	STALP	A	1	25.00	70.00	3571	3704	36	38	21	1	0.9	19	19
			2	25.00	63.00	3968		36						
			3	25.00	70.00	3571		36						
		B	1	25.00	63.00	3968	3815	36		21	1	0.9	19	
			2	25.00	70.00	3571		36						
			3	25.00	64.00	3906		36						
		C	1	25.00	70.00	3571	3683	36		21	1	0.9	19	
			2	25.00	70.00	3571		36						
			3	25.00	64.00	3906		36						
		D	1	25.00	70.00	3571	3663	36		21	1	0.9	19	
			2	25.00	65.00	3846		36						
			3	25.00	70.00	3571		36						
		E	1	25.00	65.00	3846	3755	36		21	1	0.9	19	
			2	25.00	70.00	3571		36						
			3	25.00	65.00	3846		36						

$f_{med,el}$ 19 N/mm² → $f_{ck,med,el}$ 14 N/mm²

$f_{min,sect}$ 19 N/mm² → $f_{ck,min,sect}$ 24 N/mm² → f_{ck} 14 N/mm²

Concluzie: Betonul corespunde clasei de beton C12/15

NDT LABORATORY ROMANIA BUCUREȘTI LABORATOR AUTORIZAT GRAD II C.S.C. 6986

CLADIRE LOCUINTE str.PIATA PACHE PROTOPOPESCU 11 ,S2 BUCURESTI

DETRMINAREA VALORII REZISTENTEI EFECTIVE

Nr. Crt.	Element	Sectiune	Punct	Distanta (cm)	Timp (μs)	Viteza ultrasonica V_L (m/s)		Indice de recul N (div)		$f_{c,ref}$ - C_t=1 (N/mm²)	C_t	C_v	Rezistenta efectiva $f_{c,ef}$ (N/mm²)	
						ind.	med.	ind.	med.				sect.	med. elem.
2	GRINDA	A	1	18.00	47.00	3830	3803	34	38	20	1	0.9	18	18
			2	18.00	47.00	3830		34						
			3	18.00	48.00	3750		34						
		B	1	18.00	47.00	3830	3803	34		20	1	0.9	18	
			2	18.00	48.00	3750		34						
			3	18.00	47.00	3830		34						
		C	1	18.00	47.00	3830	3803	34		20	1	0.9	18	
			2	18.00	48.00	3750		34						
			3	18.00	47.00	3830		34						
		D	1	18.00	48.00	3750	3777	34		20	1	0.9	18	
			2	18.00	47.00	3830		34						
			3	18.00	48.00	3750		34						
		E	1	18.00	47.00	3830	3830	34		20	1	0.9	18	
			2	18.00	47.00	3830		34						
			3	18.00	47.00	3830		34						

$f_{med,el}$ 18 N/mm² → $f_{ck,med,el}$ 13 N/mm²

$f_{min,sect}$ 18 N/mm² → $f_{ck,min,sect}$ 23 N/mm² → f_{ck} 13 N/mm²

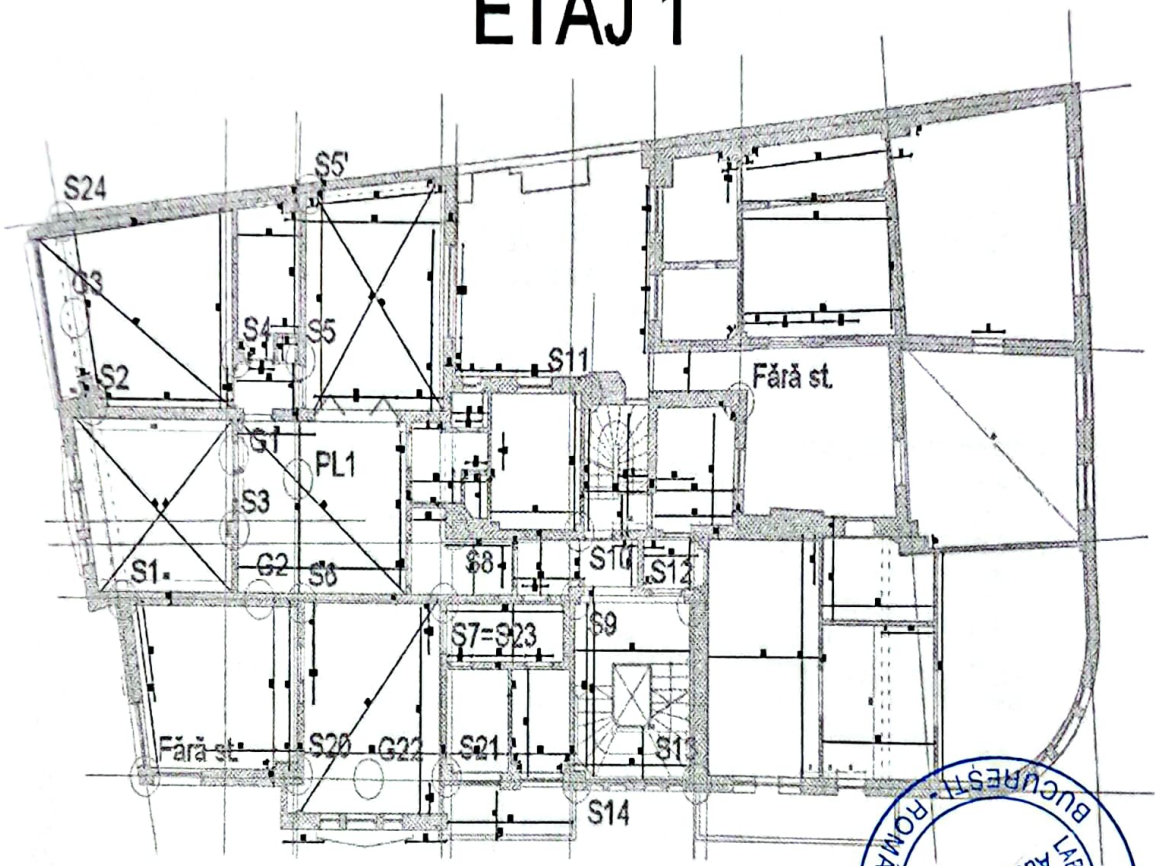
Concluzie: Betonul corespunde clasei de beton C12/15

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ANEXA 2- raport 387 /2022

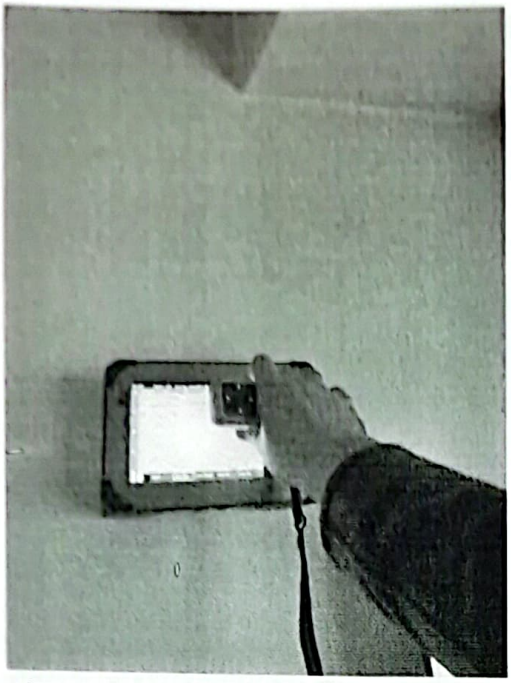
CLADIRE LOCUINTE str.PIATA PACHE PROTOPOPESCU 11 ,S2 BUCURESTI

ETAJ 1



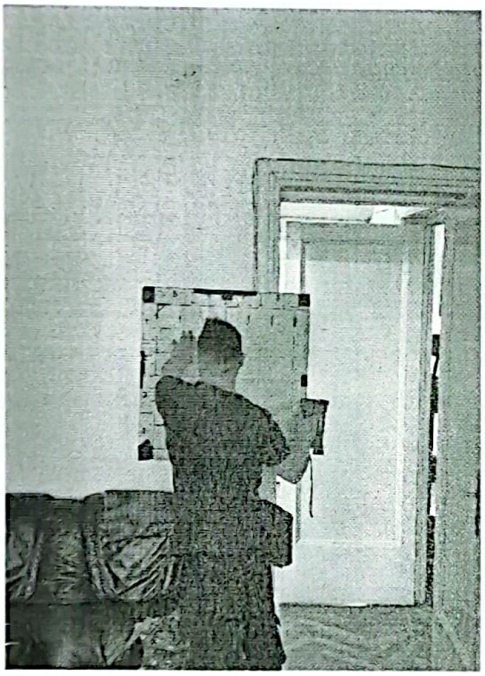
BUCUREȘTI - ROMÂNIA LABORATOR AUTORIZAT GRADUL II NDT LABORATORY Aut. nr. 3589 ISC

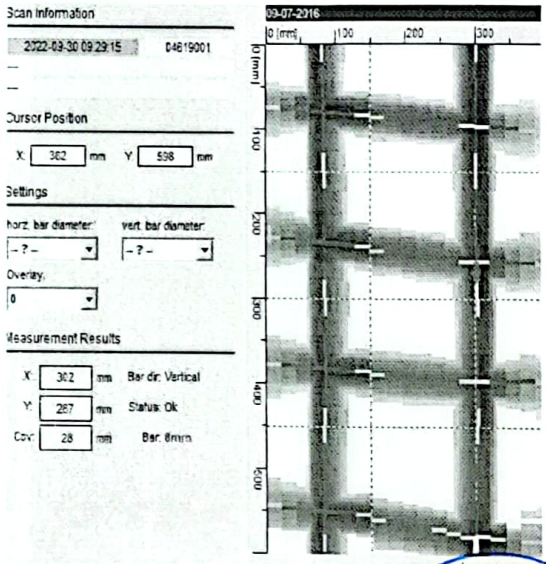
-POZITIONARE TESTE ETAJ 1





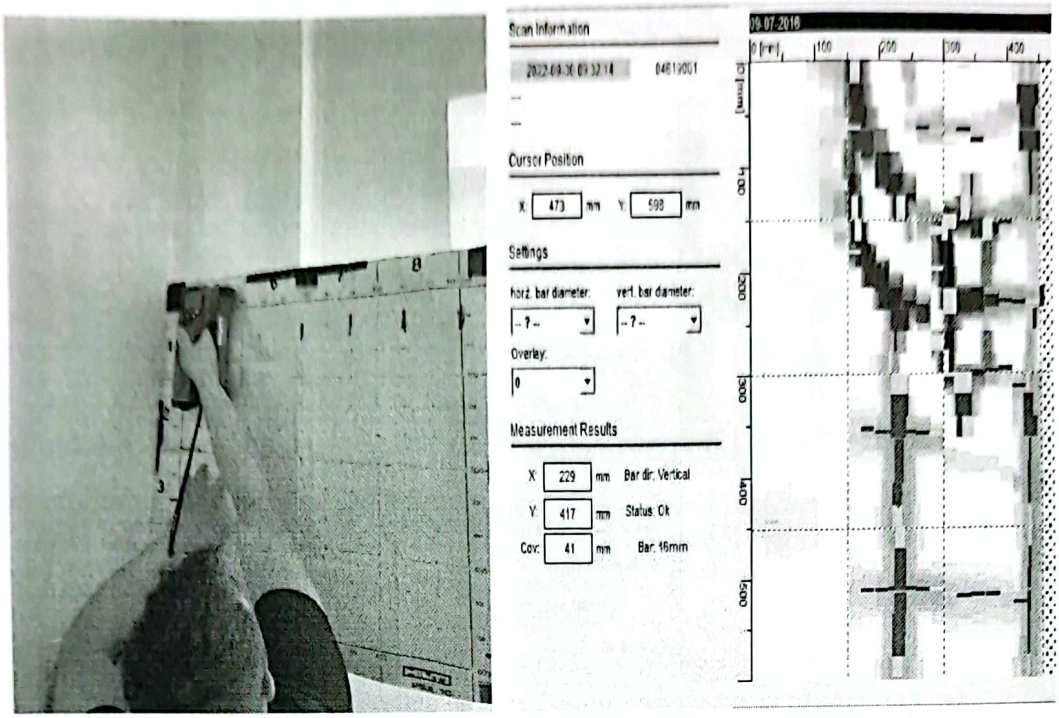
1)RADAR PERETI ZIDARIE -STALPI B.A S1 si S2



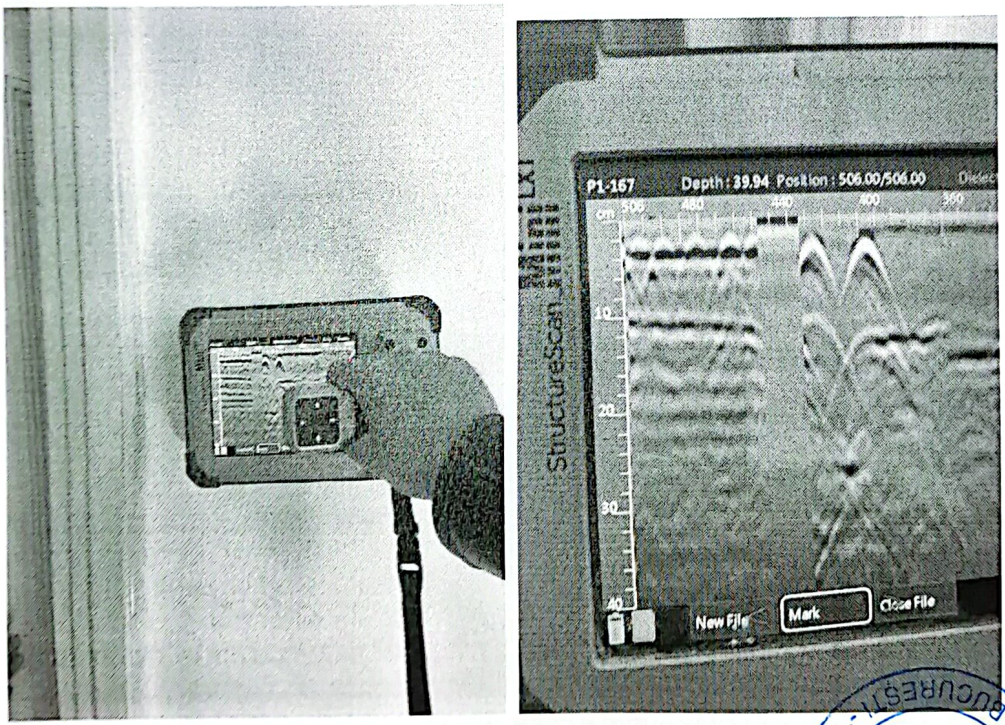


2)RADAR+2D PERETI ZIDARIE -STALPI B.A S3 - 2 BARE 14-16MM+ETR 6MM/15 CM

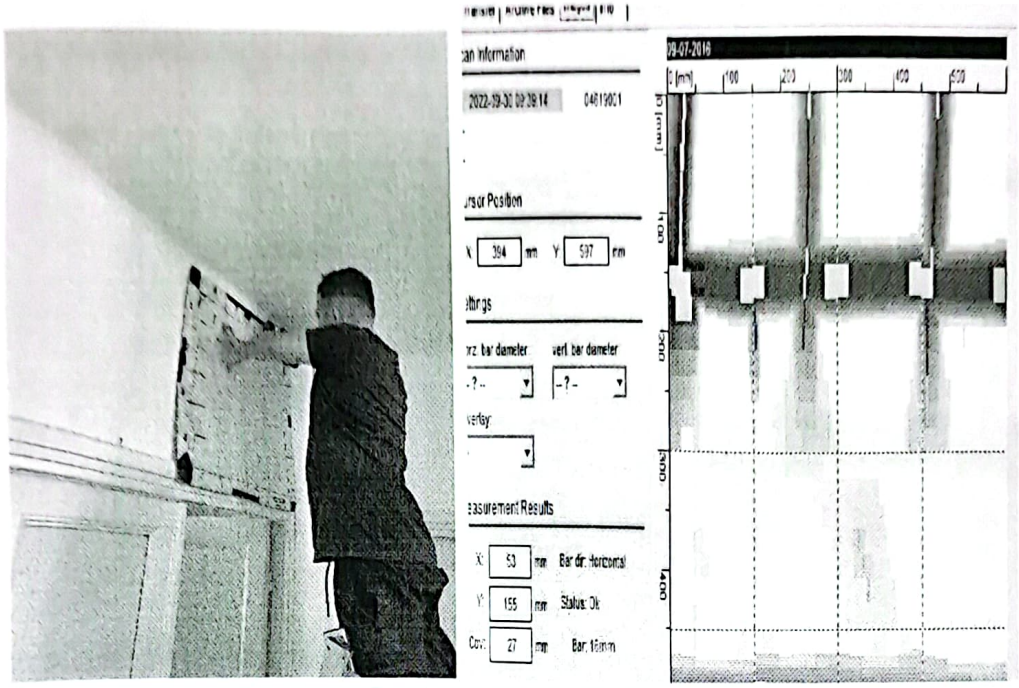
NDT LABORATORY ROMÂNIA BUCUREȘTI LABORATOR AUTORIZAT GRAD II ISC nr. 3589



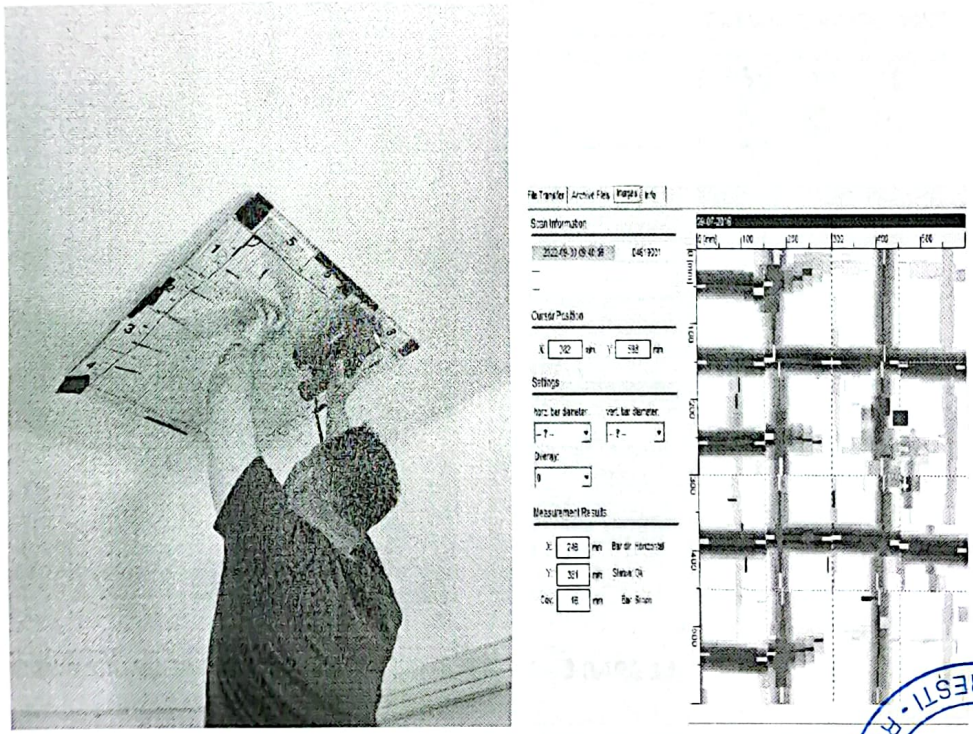
3)RADAR+2D PERETI ZIDARIE -STALPI B.A S2- 2 BARE 14-16MM+ETR 6MM/15 CM



4)RADAR PERETI ZIDARIE -STALPI B.A S4 - 2 BARE 14-16MM+ETR 6MM/15 CM



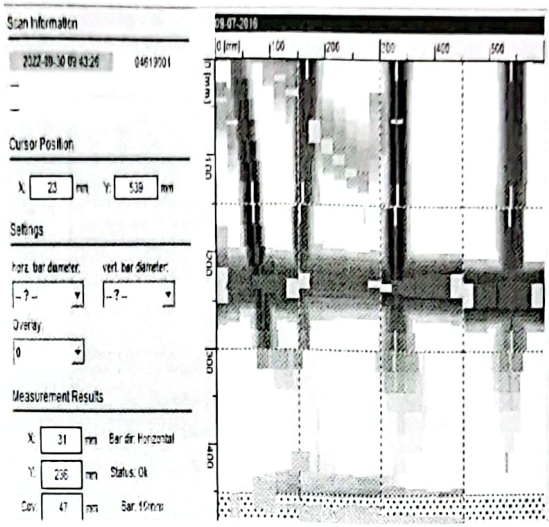
5)RADAR+2D PERETI ZIDARIE -GR B.A G1 - BARE JOS 16MM +ETR 6MM/15 CM



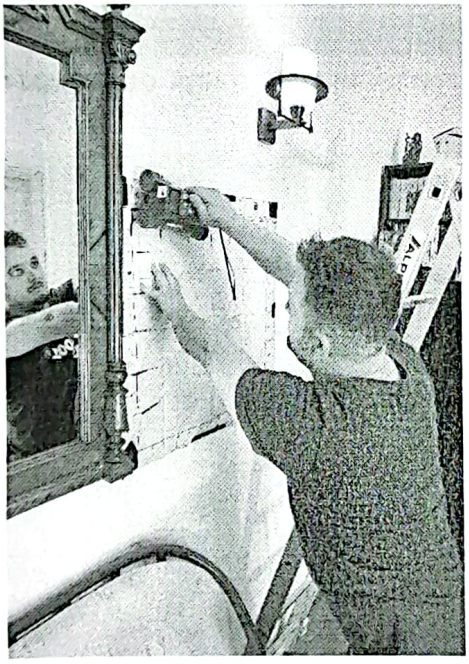
6)RADAR+2D PLANSEU - B.A PL1 PLASA BARE 8 MM/15 CM - VAR DE CAMP/REAZEM

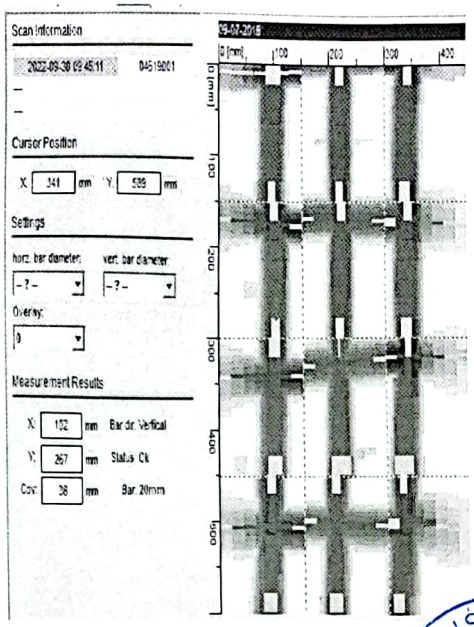
NDT LABORATORY
LABORATOR AUTORIZAT GRAD II
BUCUREȘTI - ROMÂNIA
ISO
Aut. nr. 3350



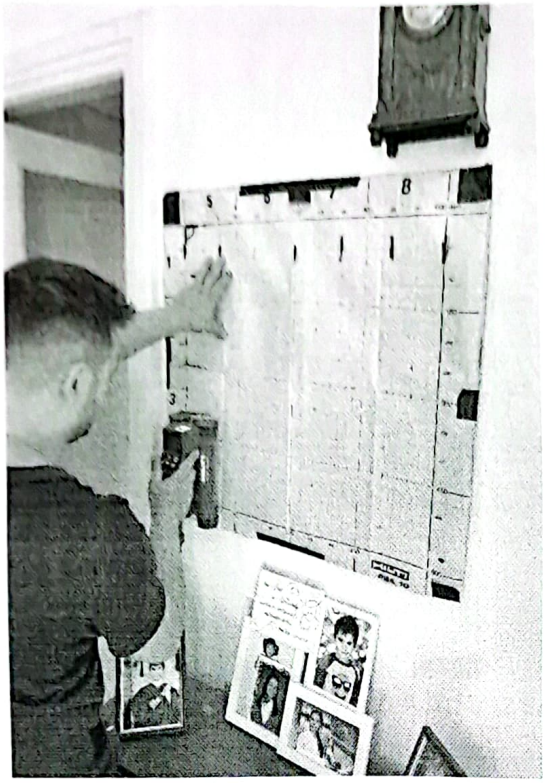


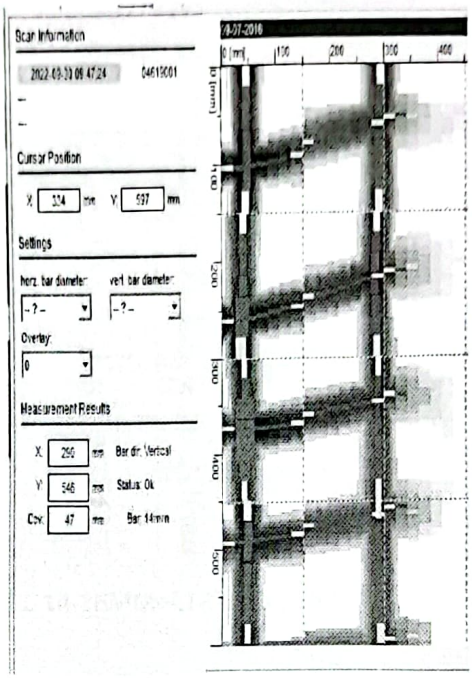
7)RADAR+2D PERETI ZIDARIE -GR B.A G2 - BARE JOS 16MM +ETR 6MM/15 CM





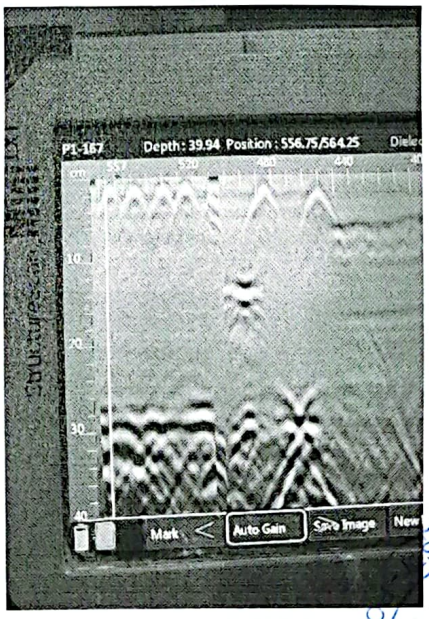
8)RADAR+2D PERETI ZIDARIE -STALPI B.A S6 - 3 BARE 14-16MM+ETR 6MM/20 CM





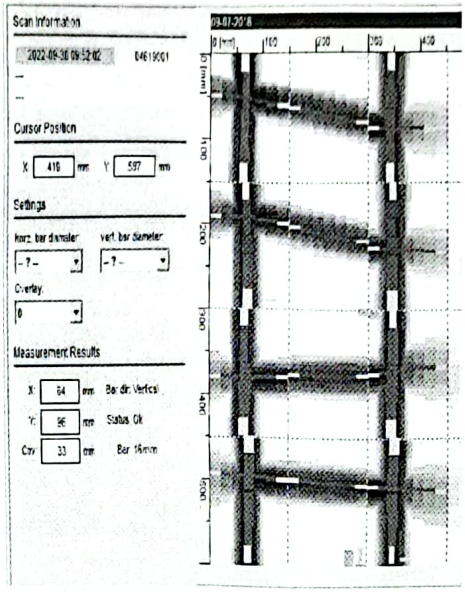
9)RADAR+2D PERETI ZIDARIE -STALPI B.A S5 - 2 BARE 14-16MM+ETR 6MM/20 CM





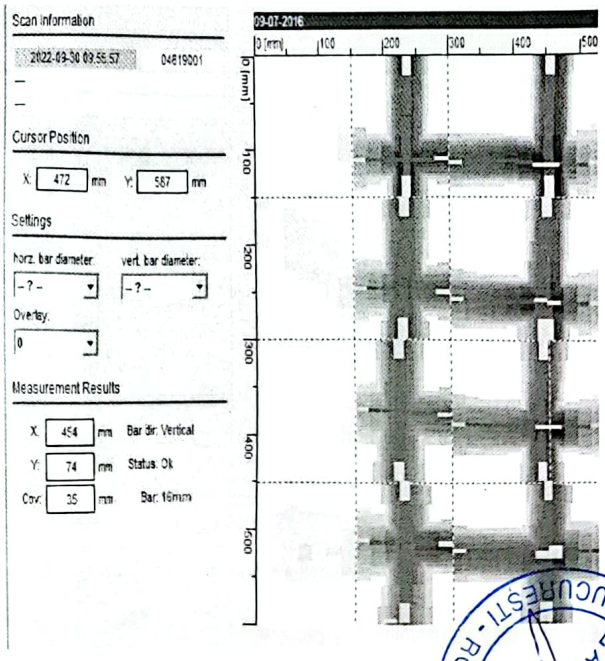
10)RADAR PERETI ZIDARIE -STALPI B.A S7 - 2 BARE 14-16MM+ETR 6MM/15 CM



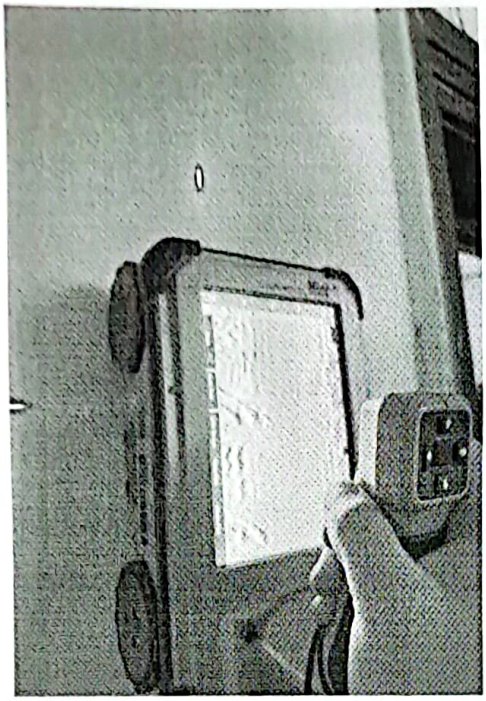


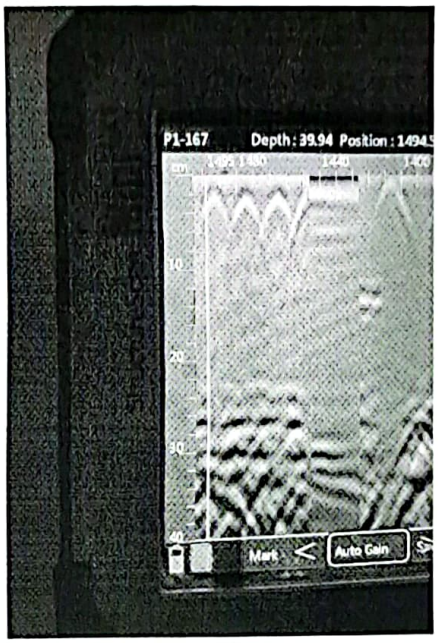
11)RADAR +2D ZIDARIE -STALPI B.A S8 - 2 BARE 14-16MM+ETR 6MM/15 CM



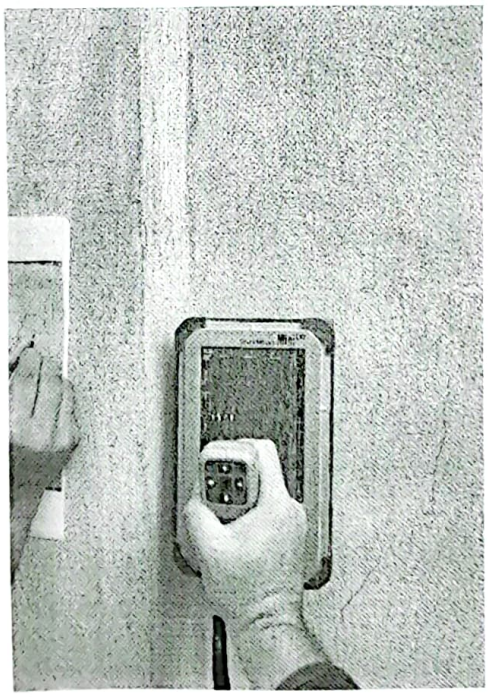


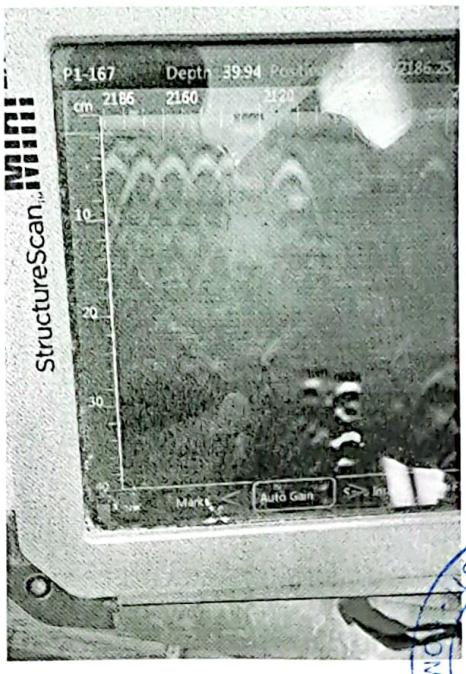
12)RADAR +2D ZIDARIE -STALPI B.A S9 - 2 BARE 14-16MM+ETR 6MM/15 CM



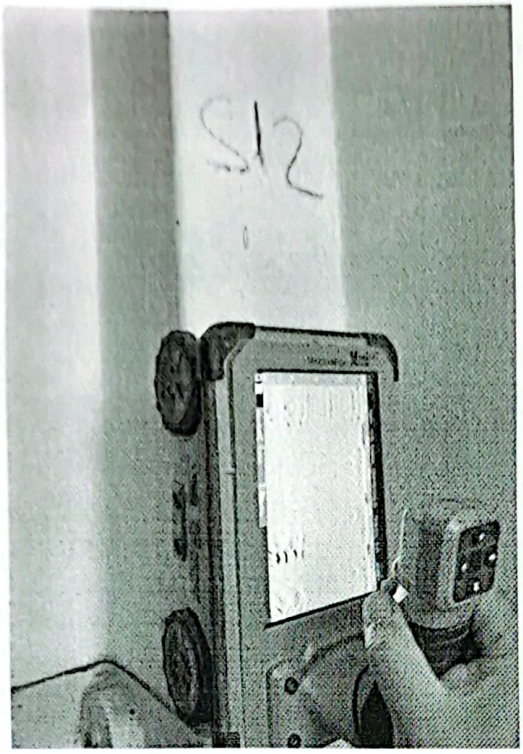


13RADAR +2D ZIDARIE -STALPI B.A S10 - 2 BARE 14-16MM+ETR 6MM/15 CM



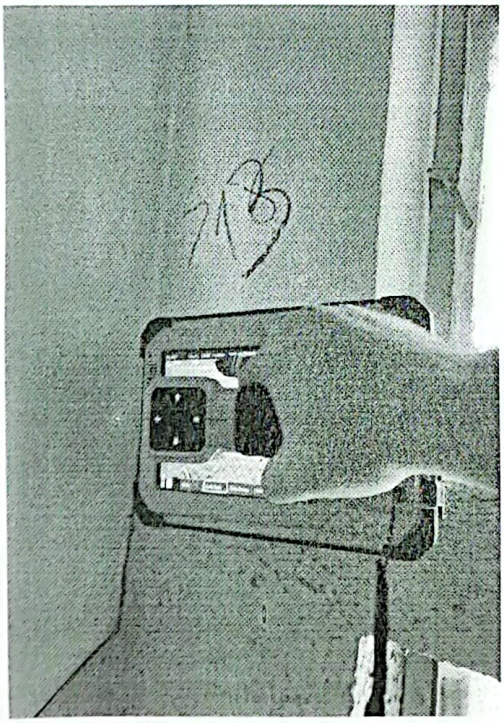


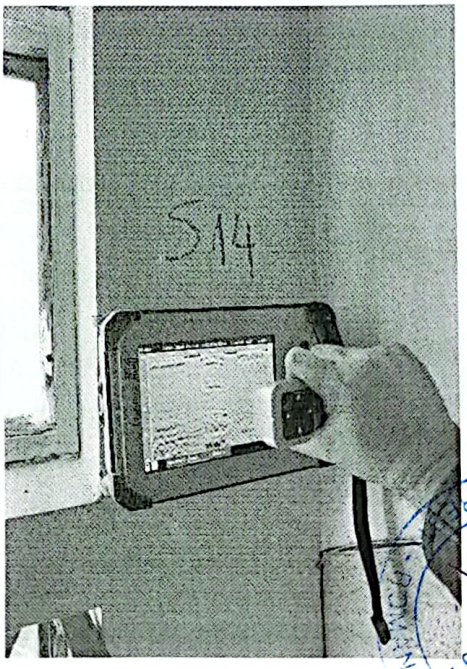
14)RADAR +2D ZIDARIE -STALPI B.A S11- 2 BARE 14-16MM+ETR 6MM/15 CM



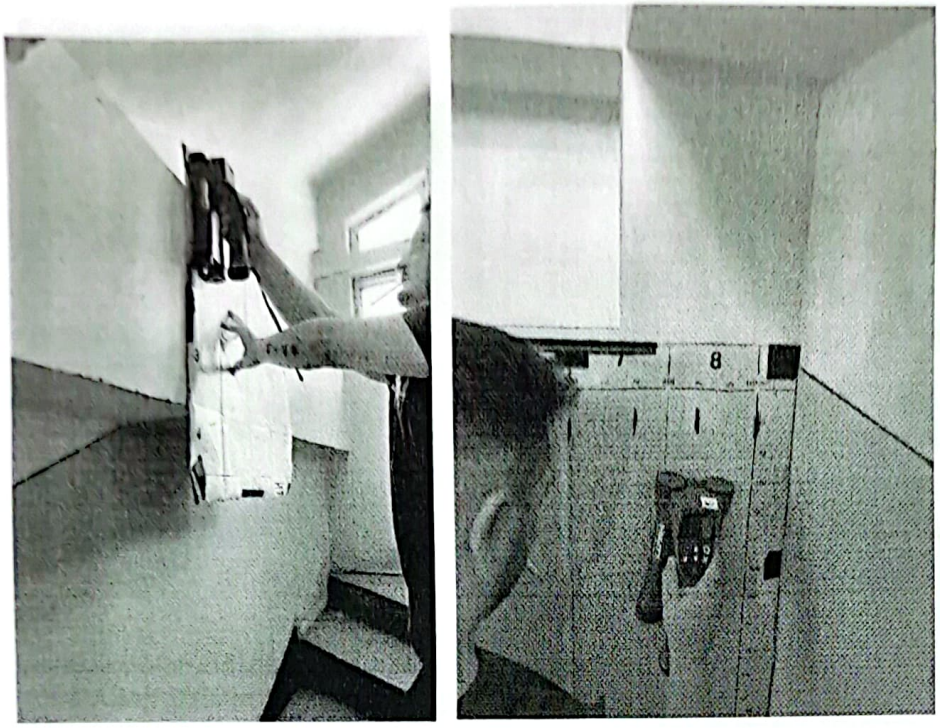


15)RADAR ZIDARIE -STALPI B.A S12 - 2 BARE 14-16MM+ETR 6MM/15 CM

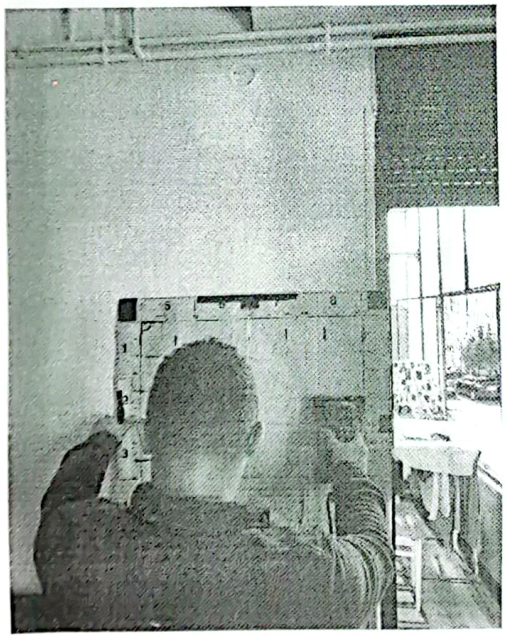


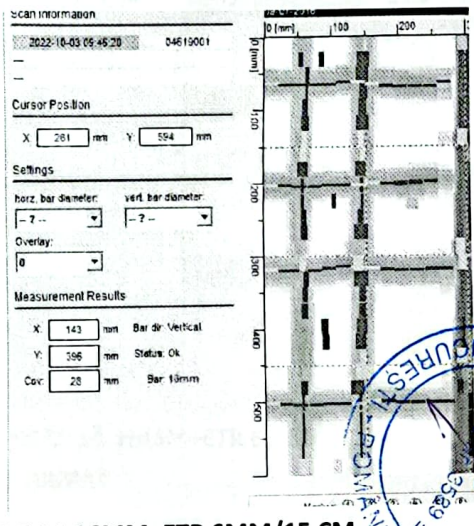


16)RADAR ZIDARIE -STALPI B.A S13+S14 - 2 BARE 14-16MM+ETR 6MM/15 CM

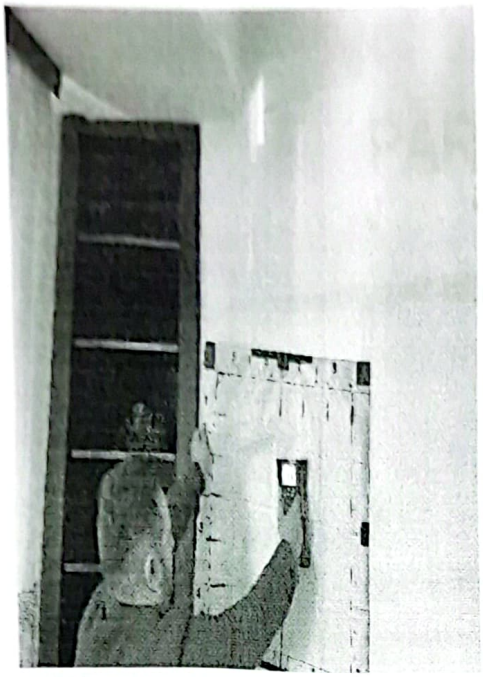


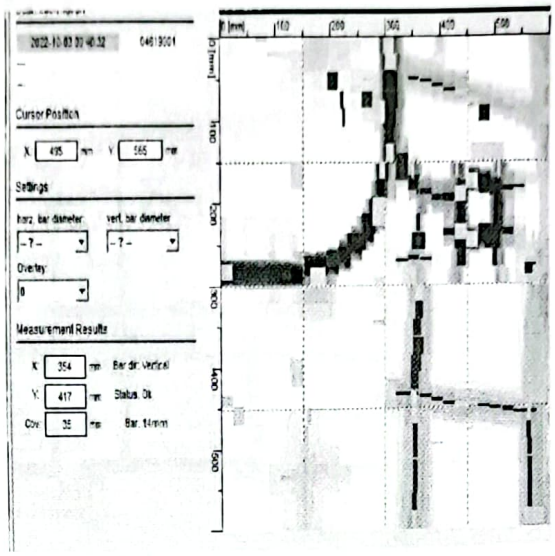
11)RADAR +2D STALPI B.A +GR B.A. CONSOLIDARE - 2 BARE 14-16MM+ETR 6MM/15 CM





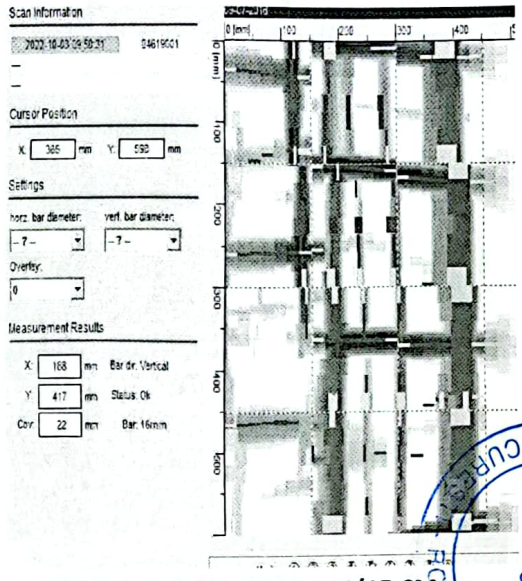
18)RADAR ZIDARIE -STALPI B.A S21- 2 BARE 14-16MM+ETR 6MM/15 CM



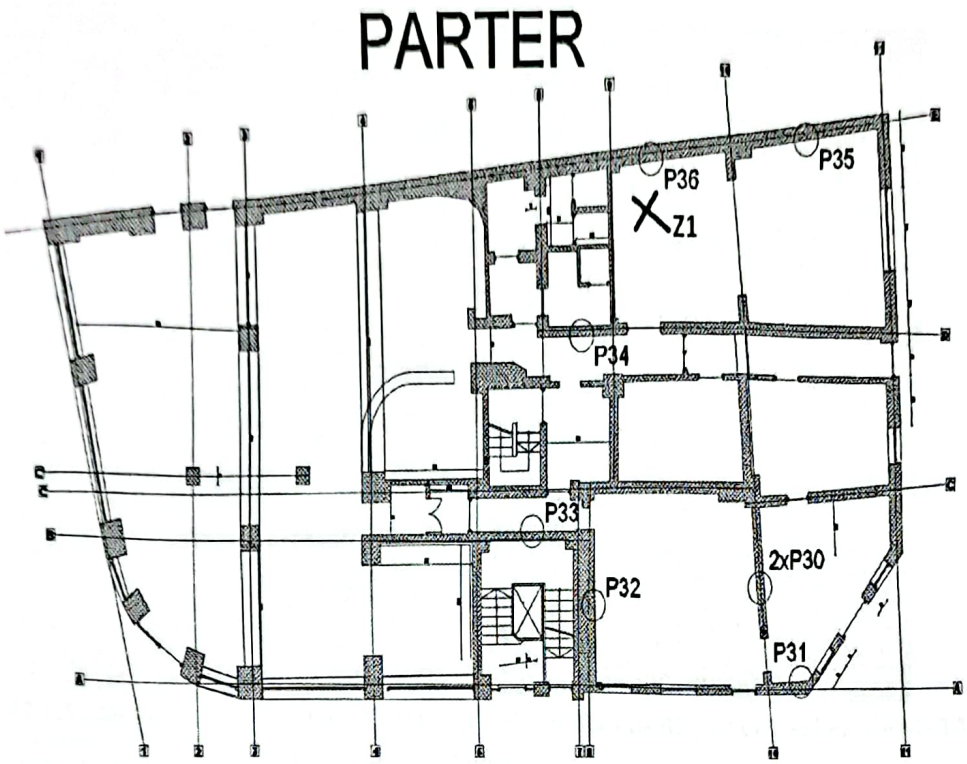


19)RADAR ZIDARIE -STALPI B.A S22 - 2 BARE 14-16MM+ETR 6MM/15 CM

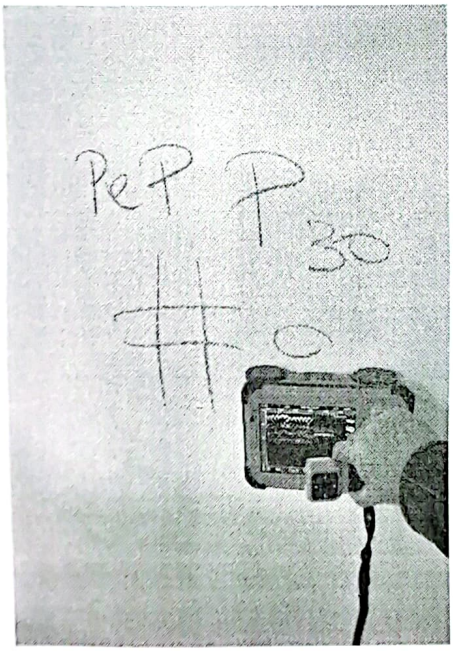


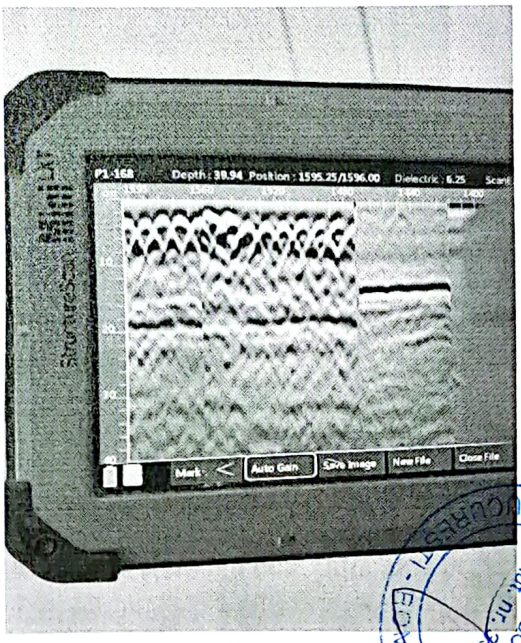


20)RADAR ZIDARIE -GRINDA B.A G23 - 4 BARE 14-16MM+ETR 6MM/15 CM
-GRINDA SE CONTINUA CU O PLACA DE BETON ARMAT

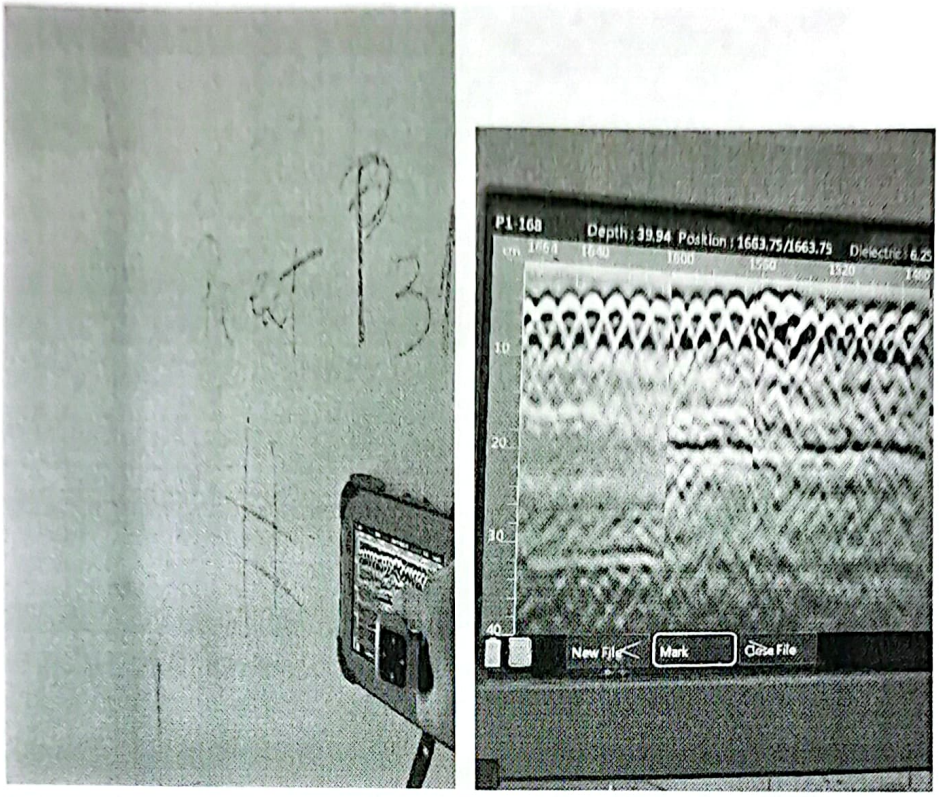


-POZITIE TESTE PARTER

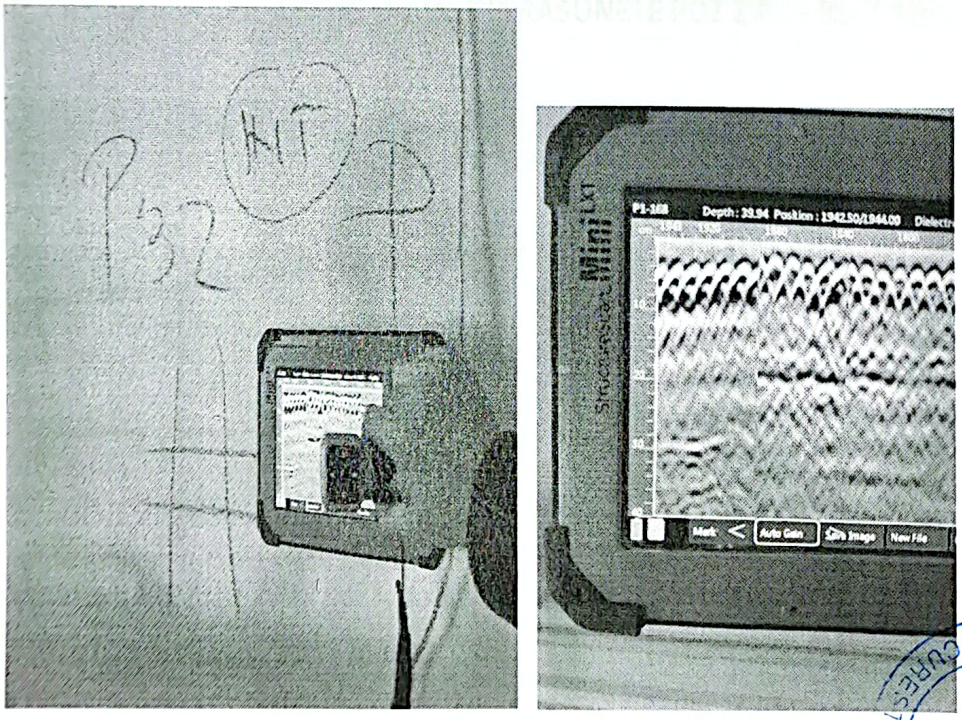




21)RADAR PERETE CONSOLIDAT PARTER P30 -PLASA BARE /10 CM -SAPA ARMATĂ

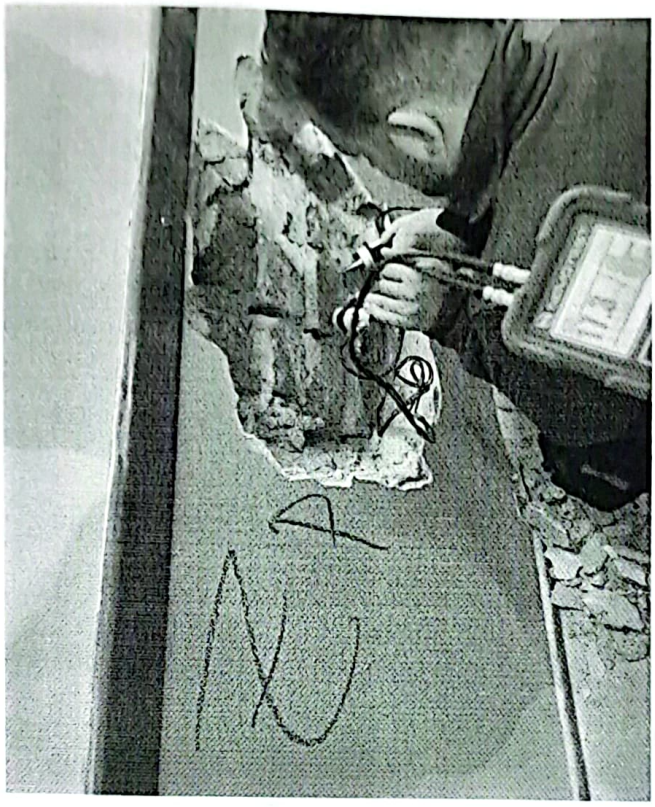


22)RADAR PERETE CONSOLIDAT PARTER P31-PLASA BARE /10 CM -SAPA ARMATA

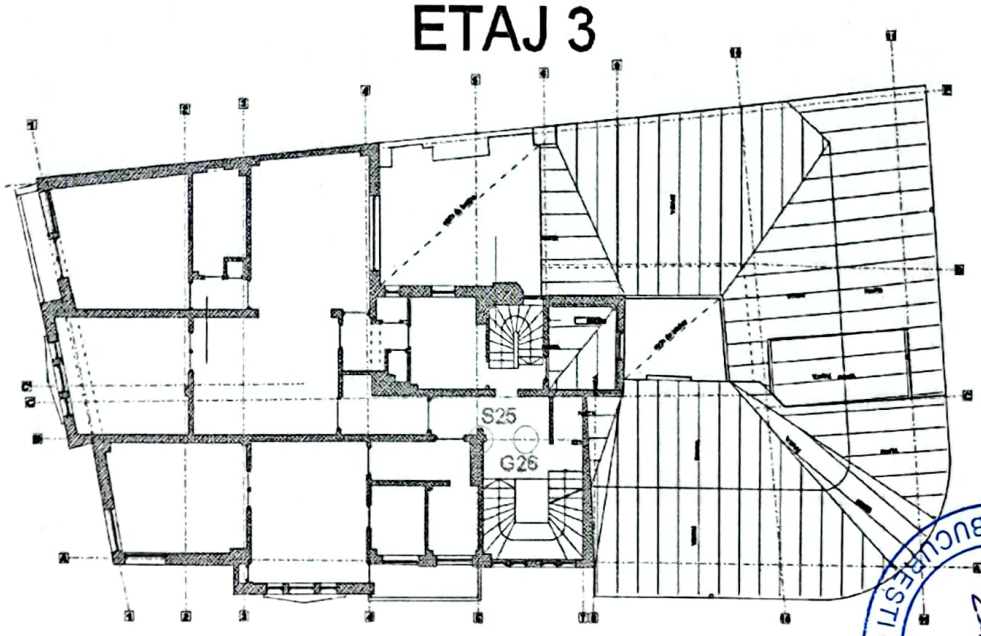


23)RADAR PERETE CONSOLIDAT PARTER P32-PLASA BARE /10 CM -SAPA ARMATA

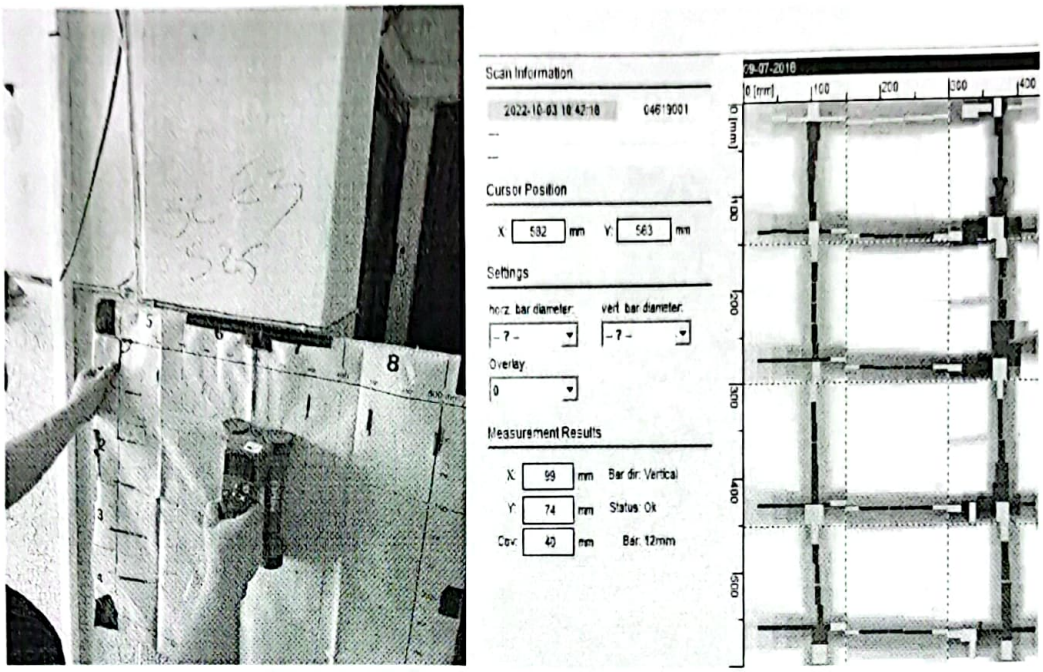
NDT LABORATOR AUTORIZAT GRAD II
BUCUREȘTI
Aut. nr. 3589



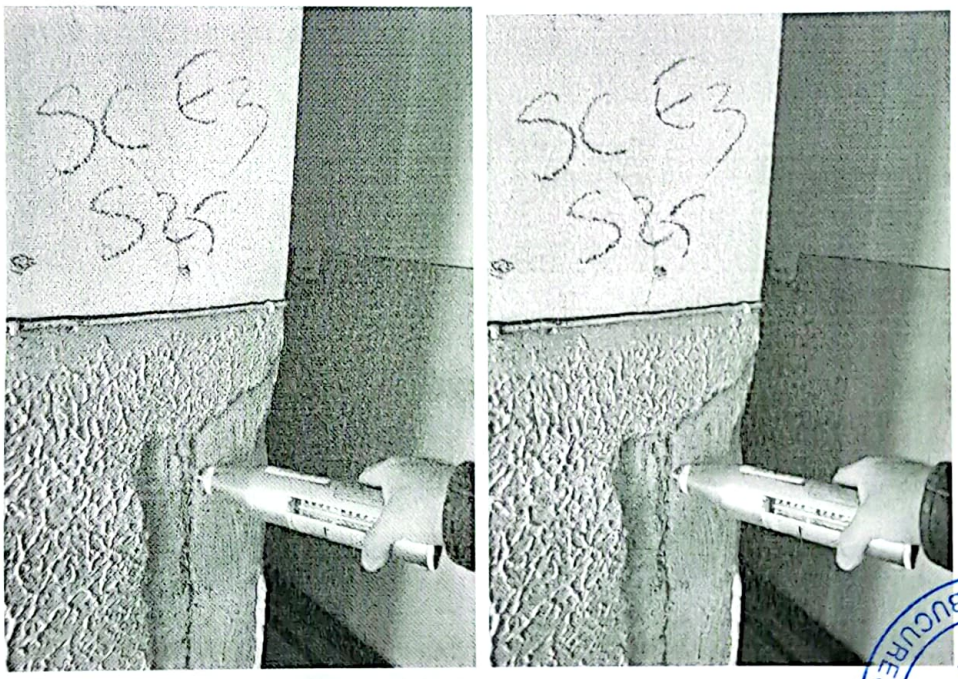
30) CARAMIDA CPP -CROSS WAVE ULTRASUNETE POZ Z P – Rc=7 Mpa



-POZITIE TESTE ETAJ 3



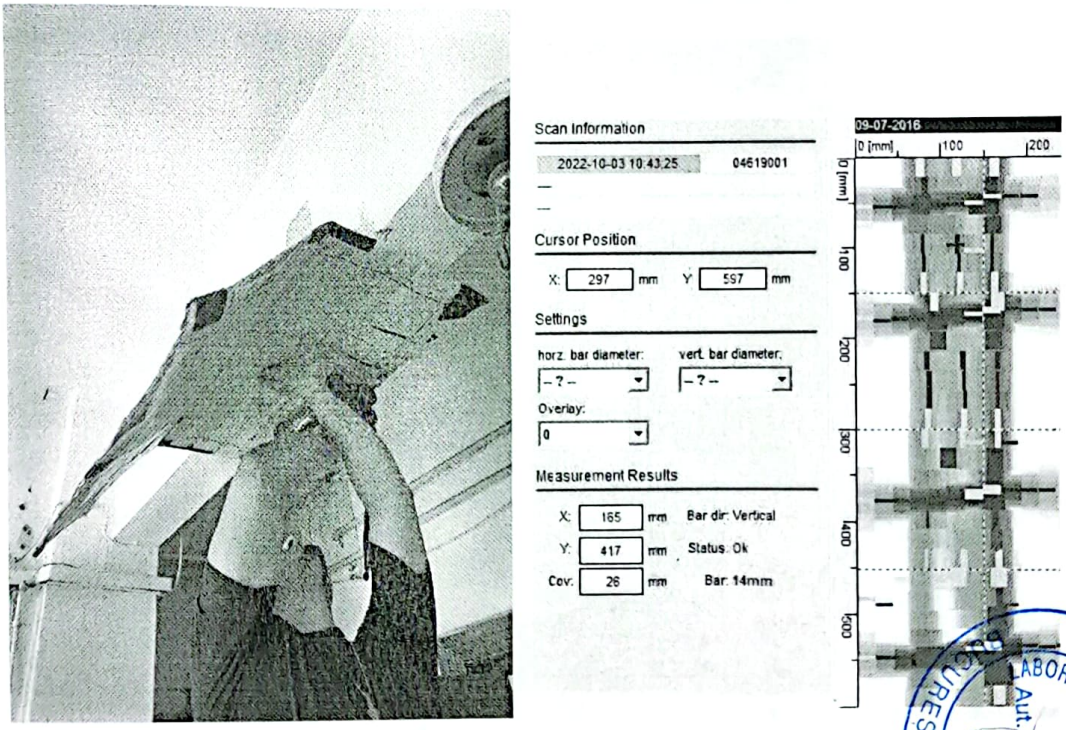
31)RADAR ZIDARIE -STALPI B.A S25- 2 BARE 12- 14 MM+ETR 6MM/15 CM



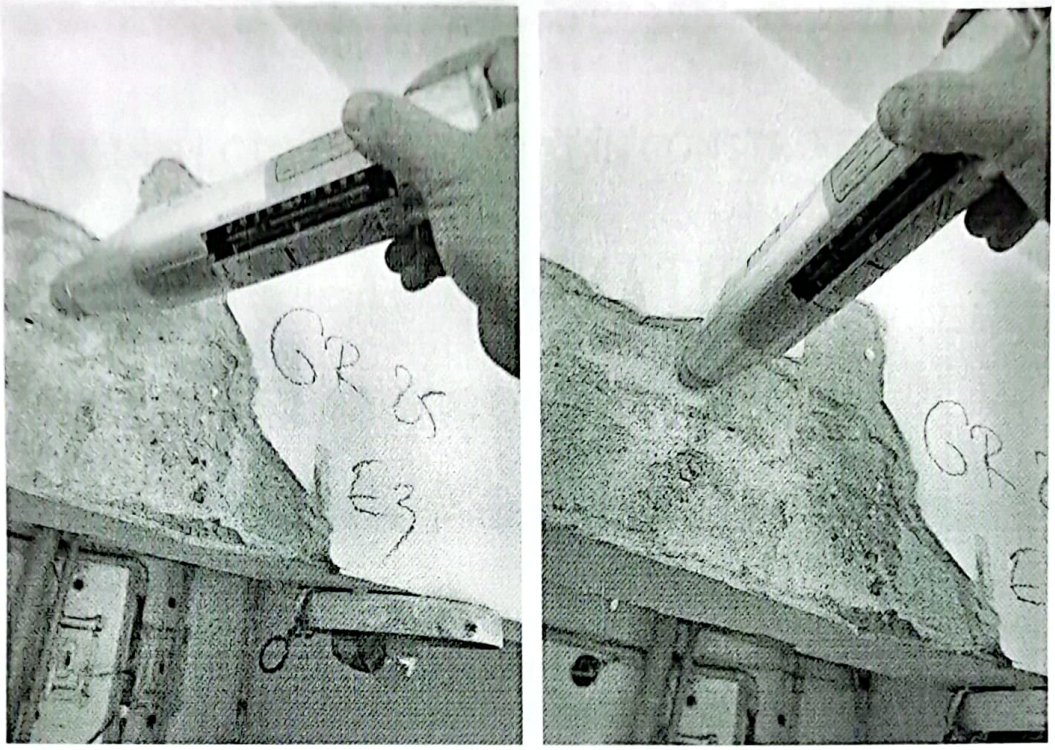
32)SCLEROMETRIE STALP E3 -ANEXA 1



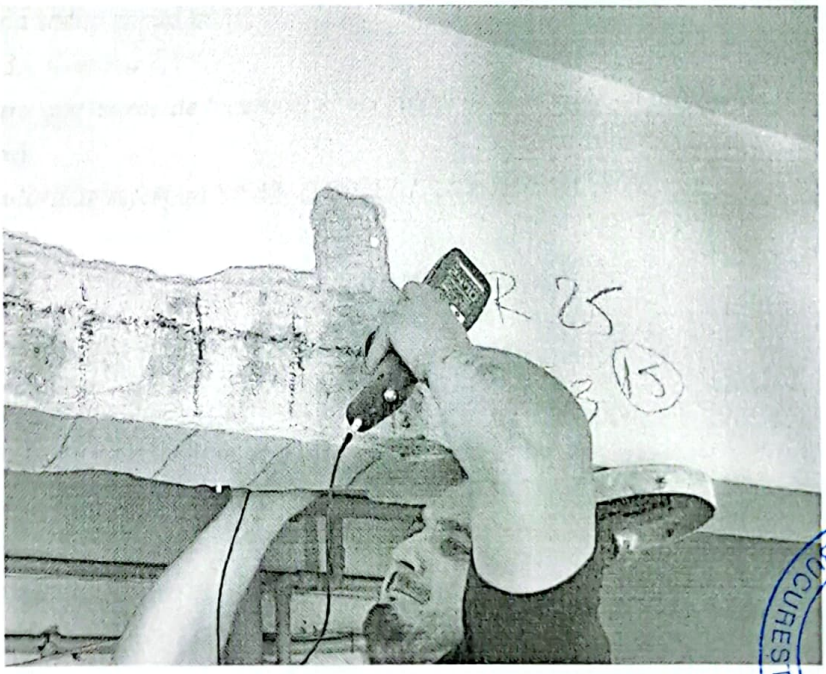
33)BETONOSCOPIE STALP E 3 -ANEXA 1



34)RADAR ZIDARIE -GR B.A G25 S20X40 CM - 3 BARE 14-16MM+ETR 6MM/15 CM



35)SCLEROMETRIE GRINDA 25 -ANEXA 1



35)BETONOSCOPIE GRINDA G 25 -ANEXA 1

NDT LABORATOR
LABORATOR AUTORIZAT RAD II
Aut. nr. 2589
ISC
BUCURESTI - ROMÂNIA

INSPECTORATUL DE STAT ÎN CONSTRUCŢII

AUTORIZAŢIE

LABORATOR DE GRADUL II

Nr. 3589
Data: 18.03.2020

Se autorizează Laboratorul: "LABORATOR DE ANALIZE ŞI ÎNCERCĂRI ÎN CONSTRUCŢII - NDT LABORATORY - GRAD II - S.C. PAVLU DESIGN CONSTRUCT S.R.L."
aparţinând "S.C. PAVLU DESIGN CONSTRUCT S.R.L."
înmatriculată sub Nr J40/20046/2007 C.I.F. RO 22633658
având sediul social în MUNICIPIUL BUCUREŞTI, SECTOR 6, Str. Inginer Pascal Cristian, Nr. 35, Camera 1,
pentru efectuarea de încercări şi verificări de laborator, în profilurile şi pentru încercările din anexă.
Standard de referinţă SR EN ISO/CEI 17025:2005/AC:2007.

INSPECTOR GENERAL

ing. Tom