

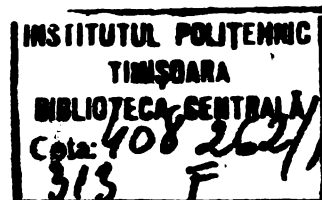
MINISTERUL EDUCATIEI SI INVATAMINTULUI
INSTITUTUL POLITEHNIC "TRAIAN VUIA" TIMISOARA
FACULTATEA DE CONSTRUCTII
CATEDRA DE BETON ARMAT SI CLADIRI

Ing. FLORIAN-DAN TUDOR

CONTRIBUTII LA STUDIUL COMPORTARII
DIAFRAGMELOR DIN BETON
SUB EFECTUL DEFORMATIILOR IMPIEDEATE

A N E X A
LA TEZA DE DOCTORAT

BIBLIOTECA CENTRALĂ
UNIVERSITATEA "POLITEHNICA"
TIMIȘOARA



CONDUCATOR ȘTIINȚIFIC :

Prof.dr.doc.ing. IOAN FILIMON

Prezenta ANEXA reprezintă parte integrantă din Teza de doctorat. Ea conține modul de alcătuire al elementelor experimentale (fundații, pereți, planșee și fragmente liniare) precum și modul de dispunere al aparaturii de măsură.

Sînt prezentate, pentru fiecare element experimental, diagramele de deformații ale conturului sau ale zonelor de interes și diagramele de variație a deschiderii fisurilor pe înălțimea elementelor experimentale.

Modul de fisurare al elementelor este prezentat sub forma unor relevee - fotografii, pe baza cărora s-au prelucrat datele experimentale prezentate în capitolul 4 din țeză.

Anexa conține :

- 23 figuri de alcătuire a modelelor și caracteristici ale materialelor utilizate;
- 17 diagrame grupate, de deformații;
- 46 relevee - fotografii ale fisurilor;
- 27 diagrame de variație a deschiderii fisurilor.

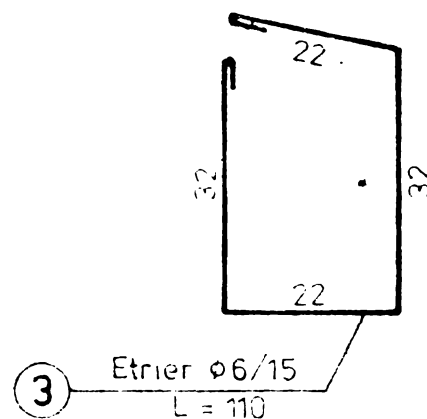
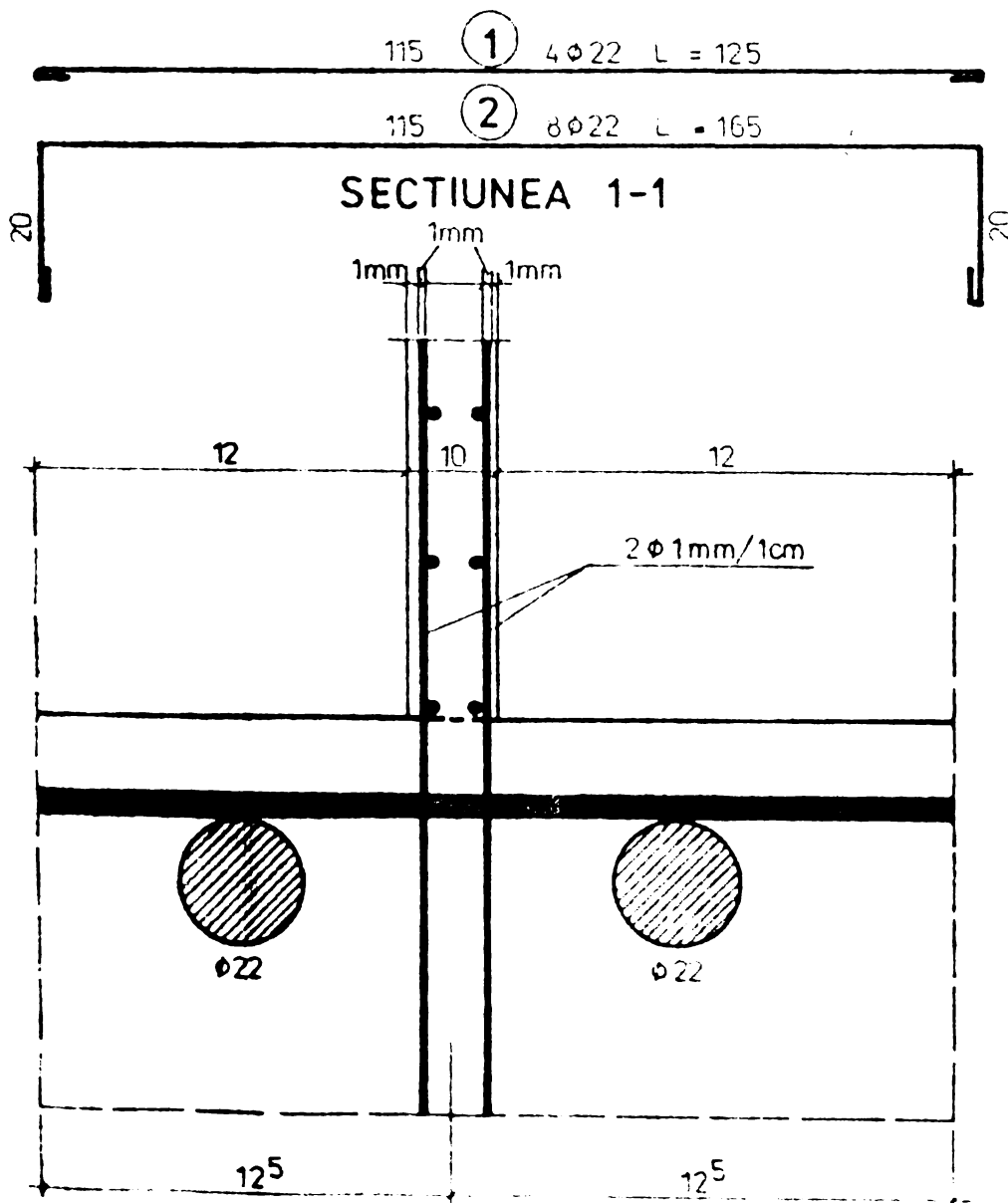
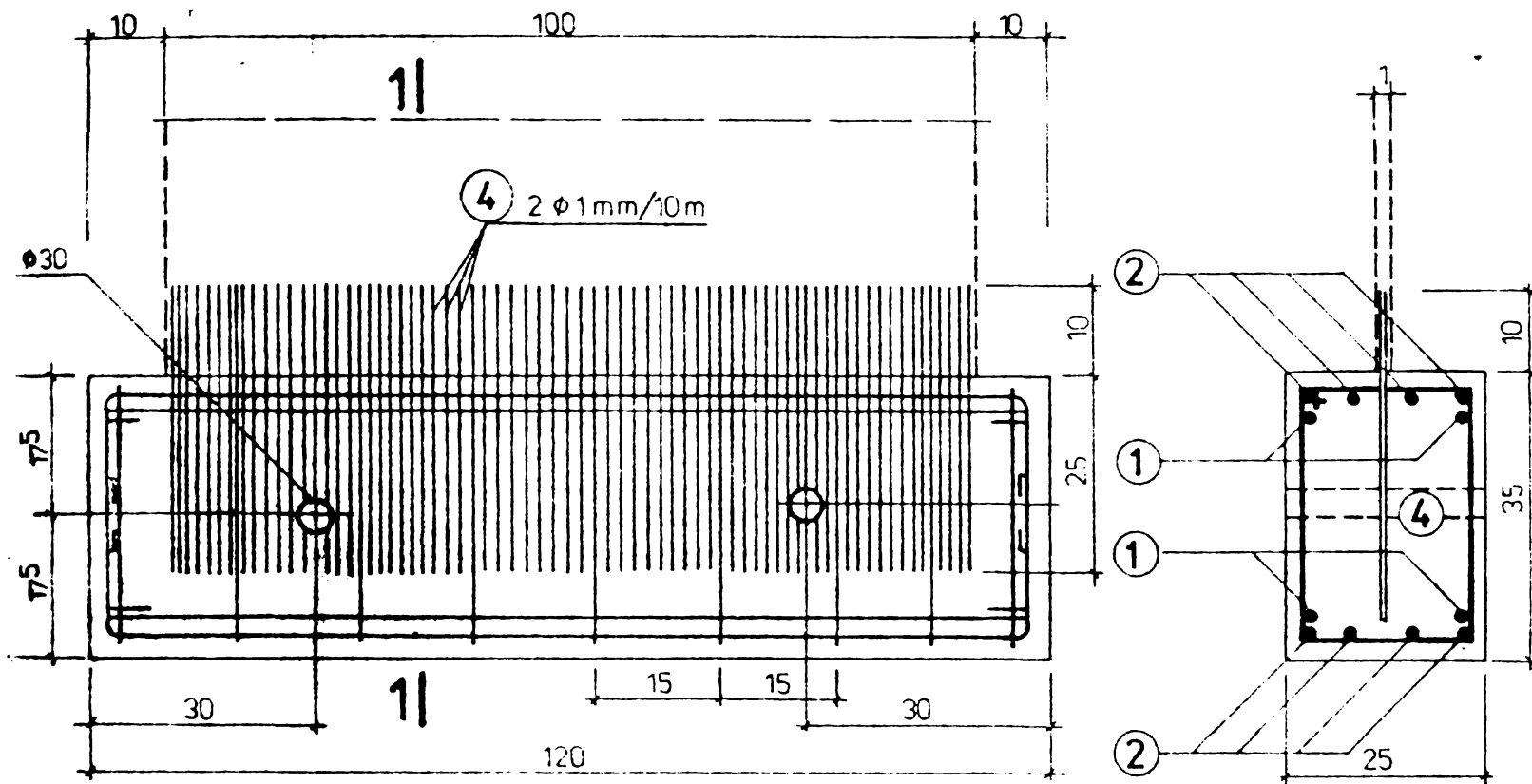
G U P R I N S

- Fig. A.1. - A.4. - Armarea fundațiilor și pereților plini.
- Fig. A.5. - Turnarea elementelor experimentale în camera de climatizare.
- Fig.A.6, - A.9. - Armarea pereților cu goluri și a buiandrugilor.
- Fig. A.10 a, b. - Dispunerea aparaturii și armarea elementelor de tip pereți cu lățimi diferite.
- Fig. A.11. - Dispunerea aparaturii la elementele de tip pereți cu fundații.
- Fig. A.12. - Armarea planșeelor prefabricate.
- Fig.A.13. - A.14. - Dispunerea aparaturii la elemente cu un planșeu prefabricat respectiv un nivel.
- Fig. A.15. - Aspecte din faza de măsurare a deformațiilor elementelor experimentale.
- Fig. A.16. - Armarea pereților cu armături concentrate.
- Fig.A.17. - A. 18. - Armarea și dispunerea aparaturii la elemente cu miez monolit și panouri prefabricate.
- Fig. A.19. - Alcătuirea elementelor turnate succesiv.
- Fig.A.20. - A. 21. - Alcătuirea cofragului și dispunerea aparaturii la fragmente liniare blocate la capete.
- Fig.A.22. - A.23. - Diagrame de variație ale caracteristicilor materialelor utilizate.
- Fig.A.24. - A.34. - Variația deformațiilor conturului la elemente cu fundații și planșee.
- Fig.A.35. - A.40. - Deformații ale elementelor cu miez monolit și panouri prefabricate.
- Fig. A.41. - Variația deformațiilor în cazul elementelor turnate succesiv.
- Fig.A.41. - A.82. - Releveele - fotografii ale fisurilor elementelor experimentale de tip pereți.
- Fig.A.83. - A.85. - Releveele fisurilor și variația deschiderii lor la fragmente liniare cu blocare la capete.

Fig. A.86. - A.104. - Variația deschiderii fisurilor la
elemente de tip pereți.

Fig. A.105. - A.108. - Variația deschiderii fisurilor la
elemente cu armare concentrată.

PLAN ARMARE FUNDATIE

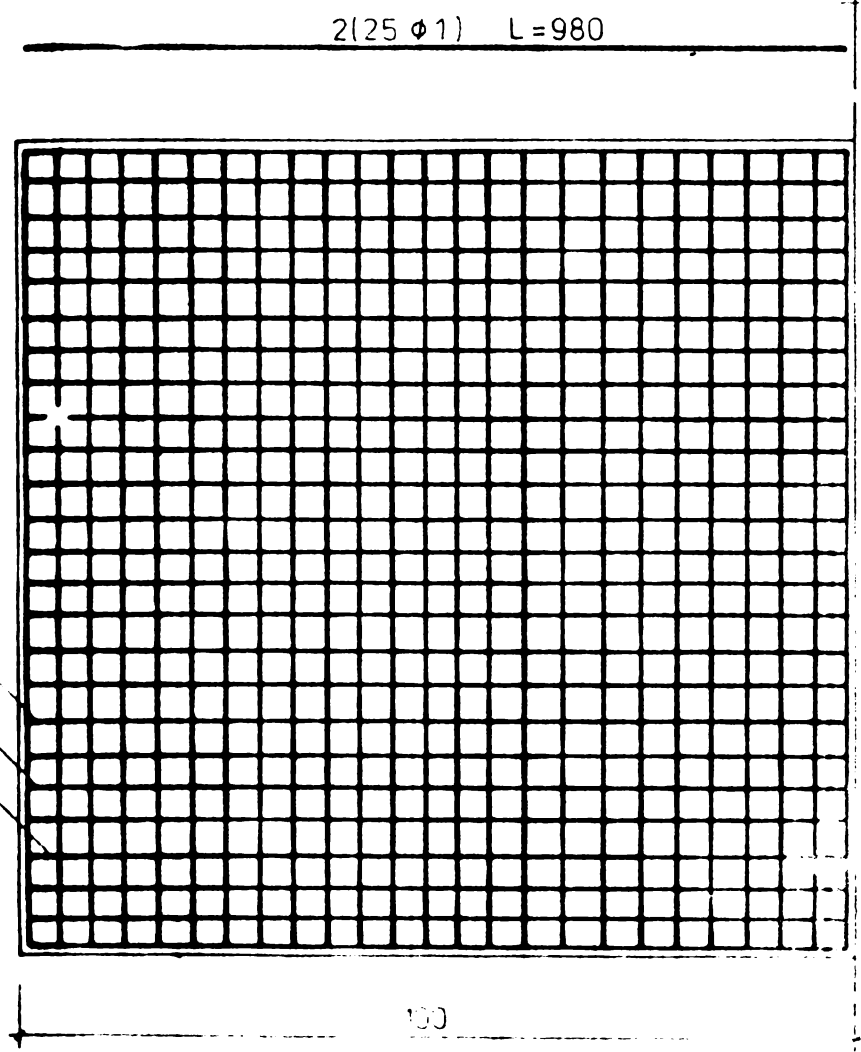


OB 38
B 200

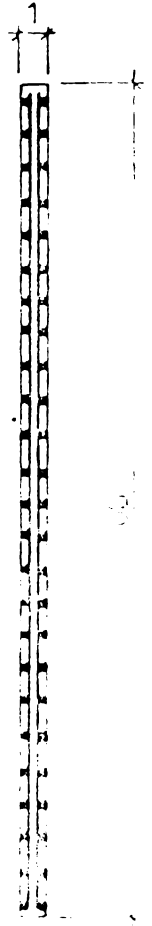
Fig. A1.

PLAN ARMARE PERETE
($P_2 = 0.4$)

2 $\phi 1 / 4$ cm



FUNDATIE



2 (25 $\phi 1$) L = 1100

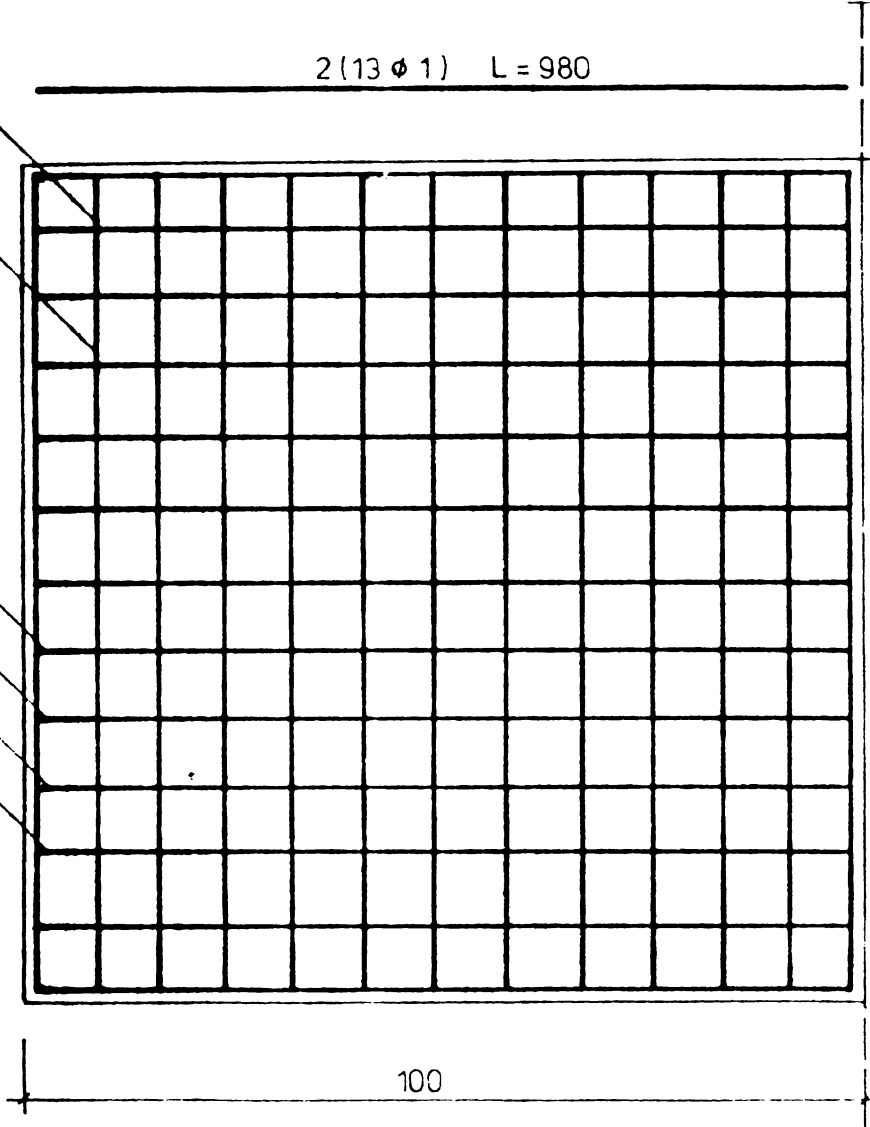
990

Fig. A2.

PLAN ARMARE PERETE
($P_1 = 0.2$)

2 $\phi 1 / 8.2$ cm

2 $\phi 1 / 8.2$ cm



FUNDATIE

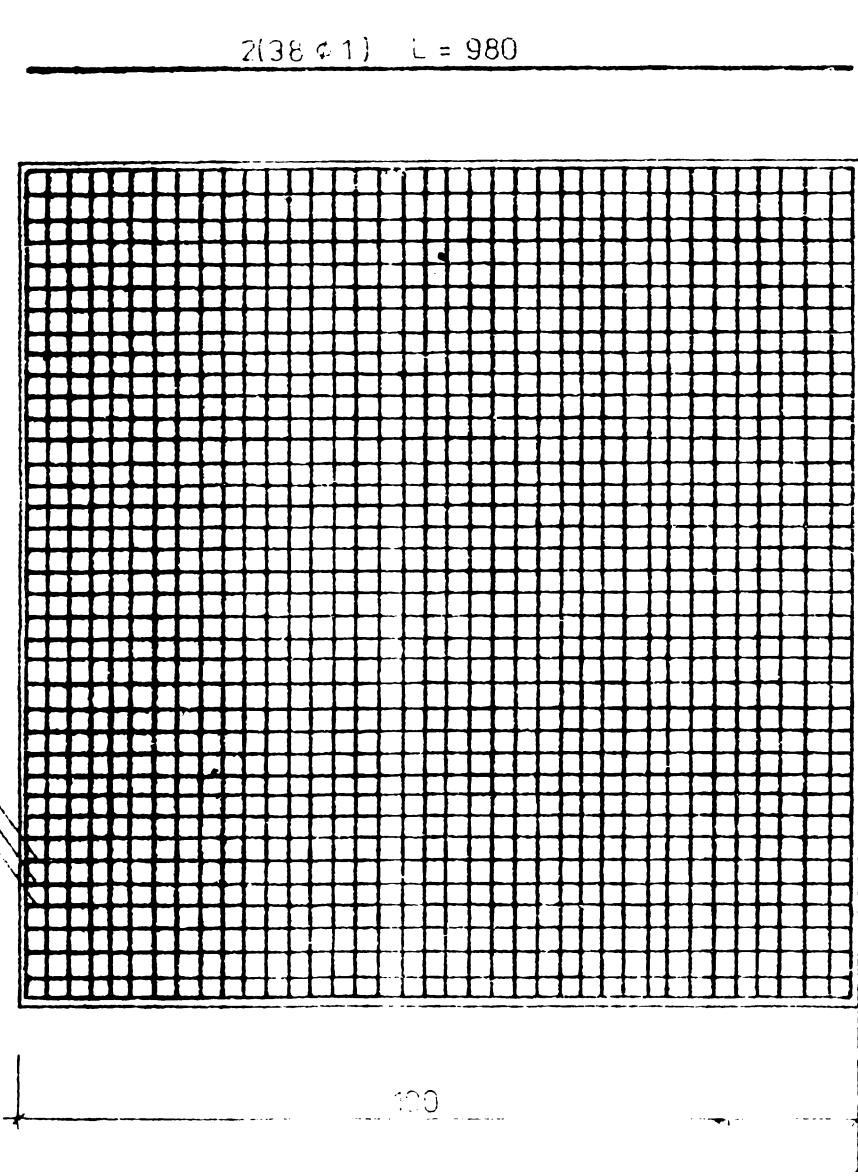


2 (13 $\phi 1$) L = 1100

990

Fig. A2.

PLAN ARMARE PERETE
($\rho_3 = 0.6$)
2 $\phi 1 / 2.6 \text{ cm}$



FUNDATIE

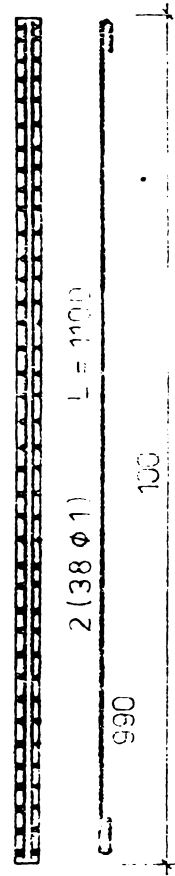


Fig. A5.

Fig. A4.

PLAN ARMARE PERETE

($p = 0,1$)

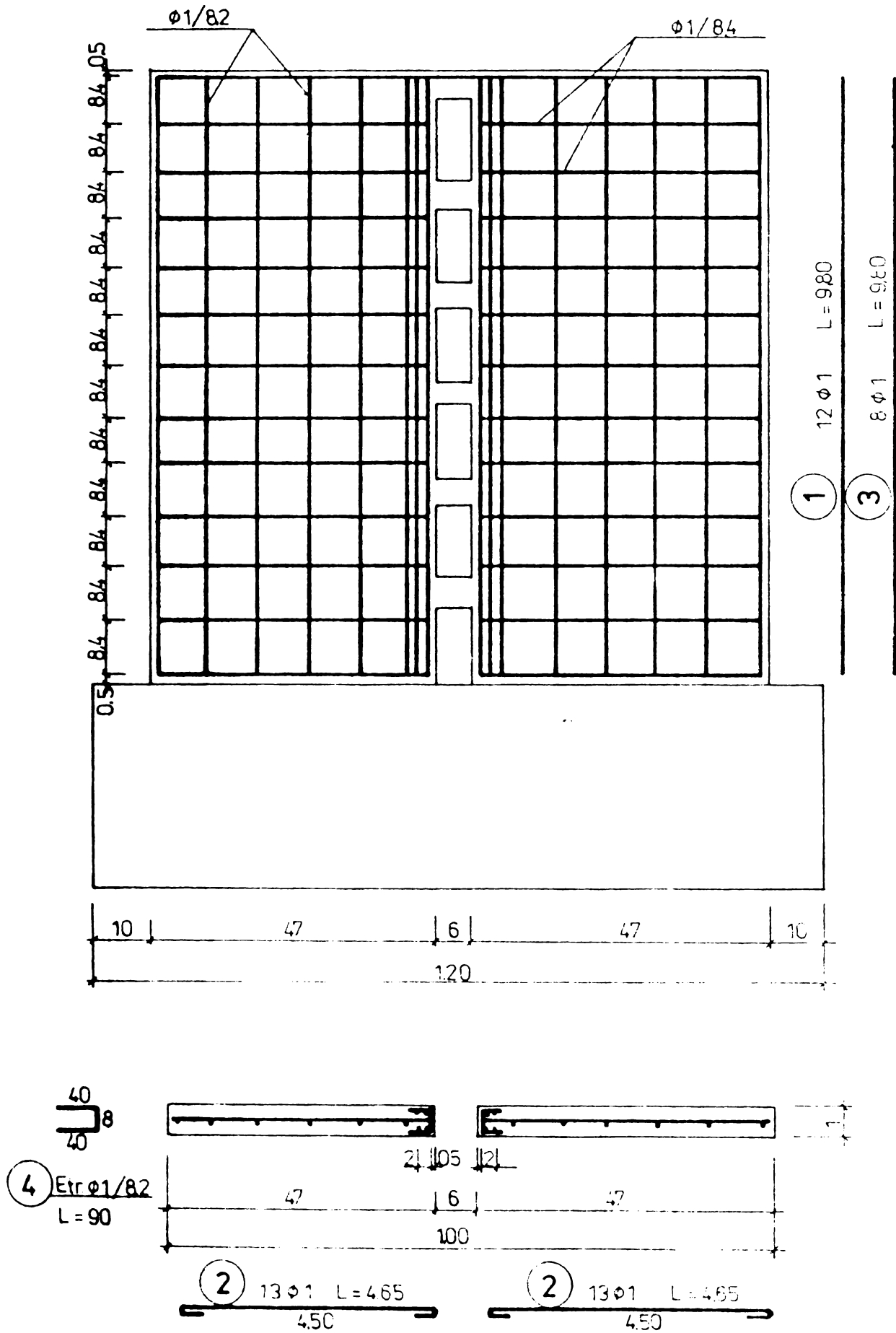


Fig. A6.

GOLURI MEDII

PLAN ARMARE PERETE

($p = 0.15\%$)

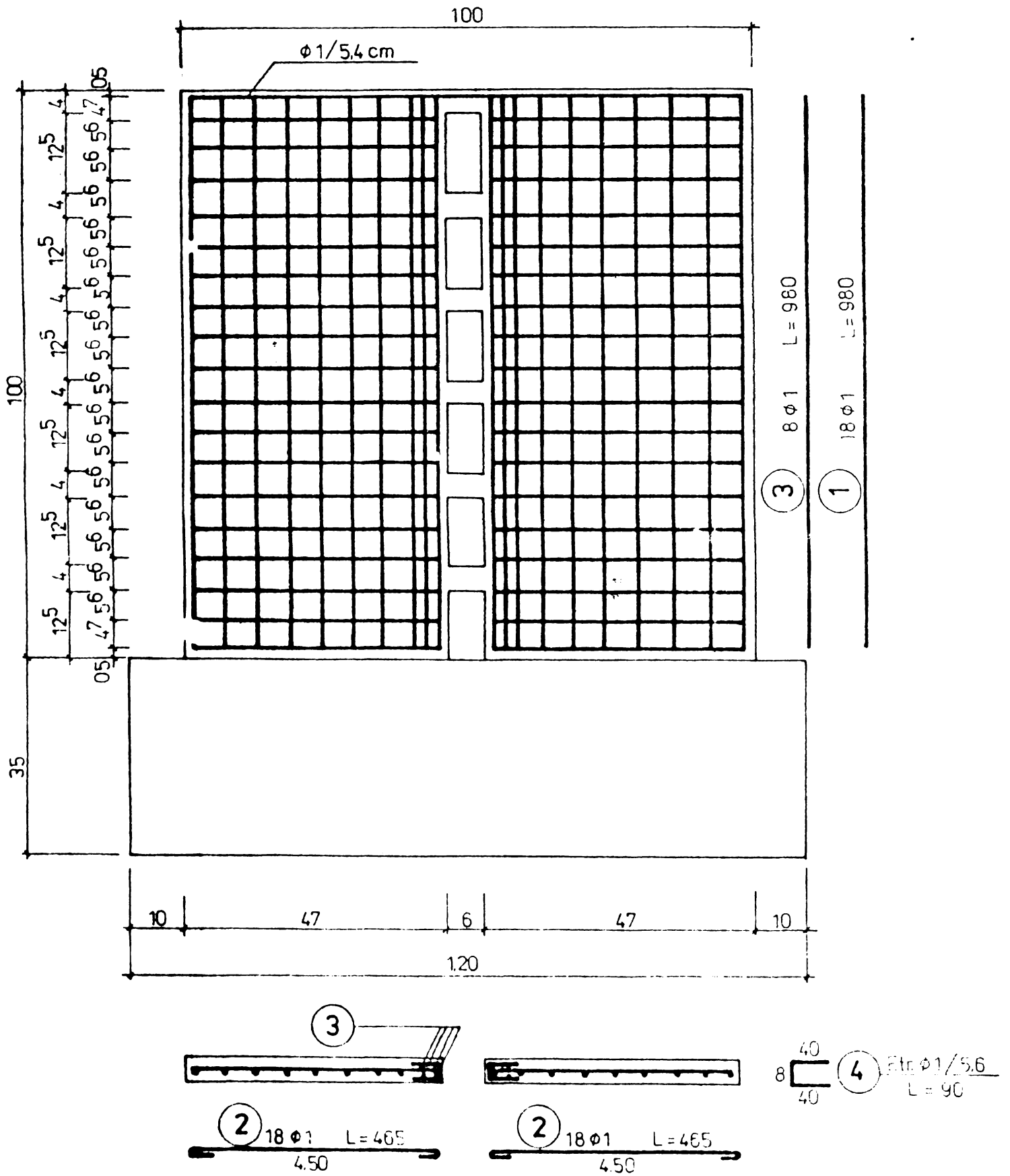


Fig. A7.

GOLURI MEDII

PLAN ARMARE PERETE

($p = 0,2\%$)

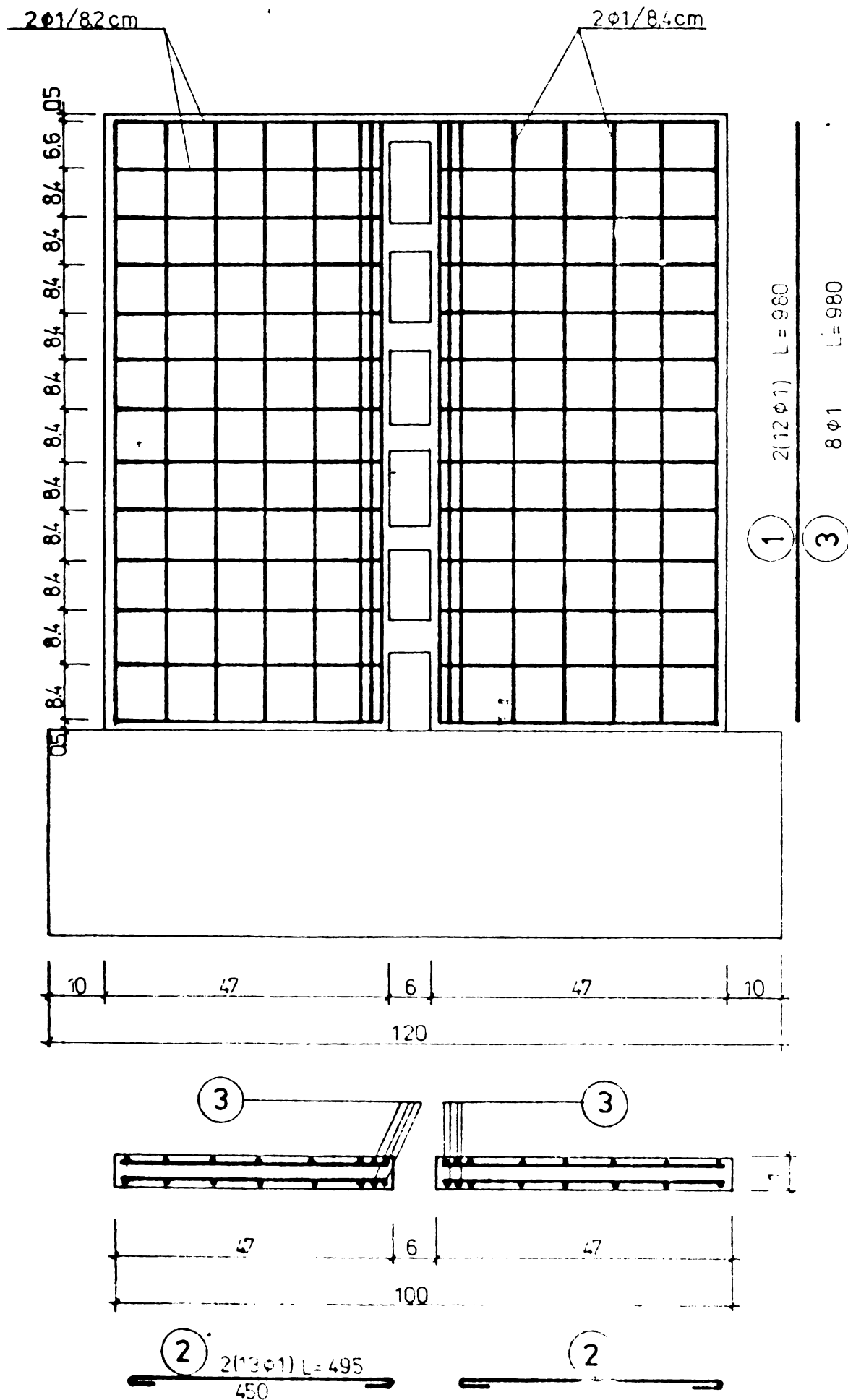
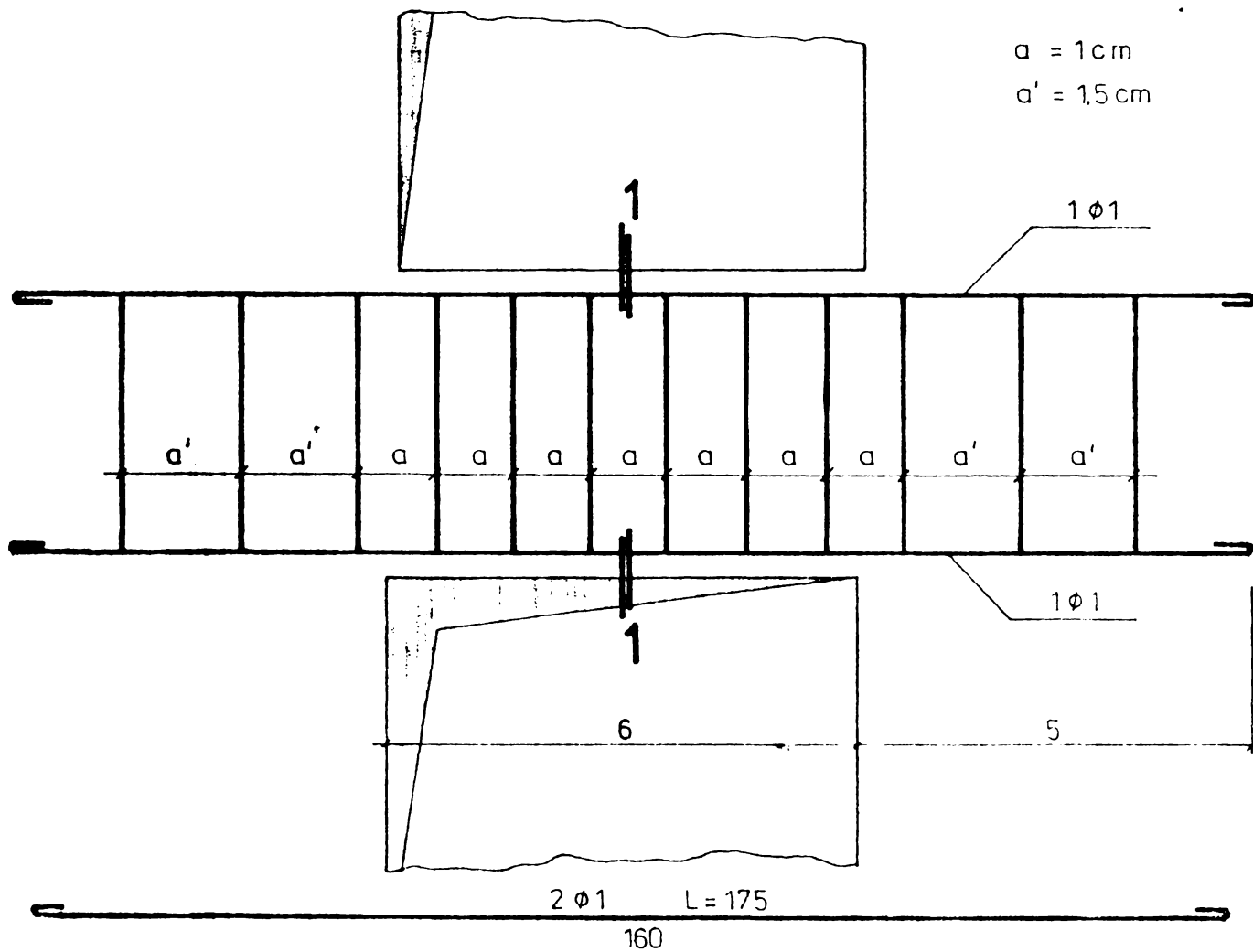


Fig. A8.

GOLURI MEDII

ARMARE BUIANDRUGI



SECTIUNEA 1-1

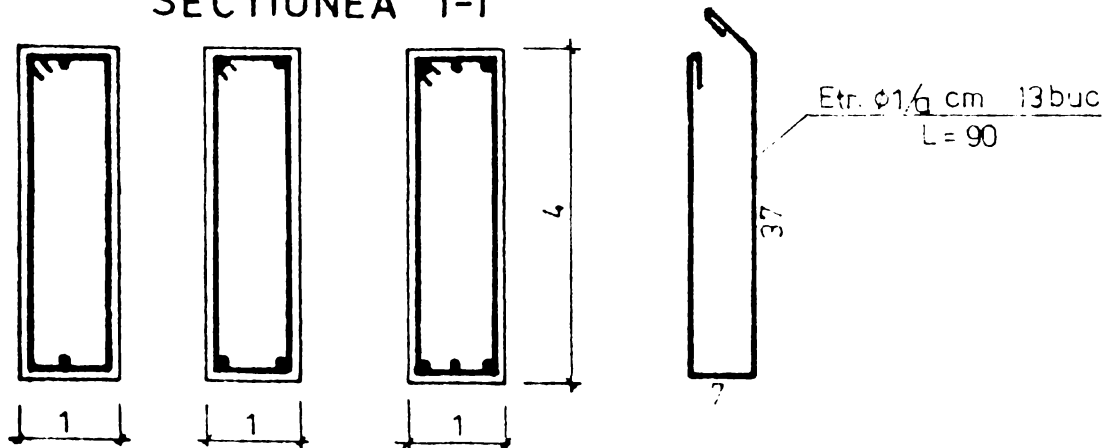
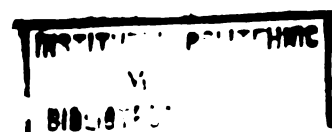


Fig. A9.

GOL MEDIU

$\mu = 0,4 - 0,8 - 1,2 \%$

Scara 1:1



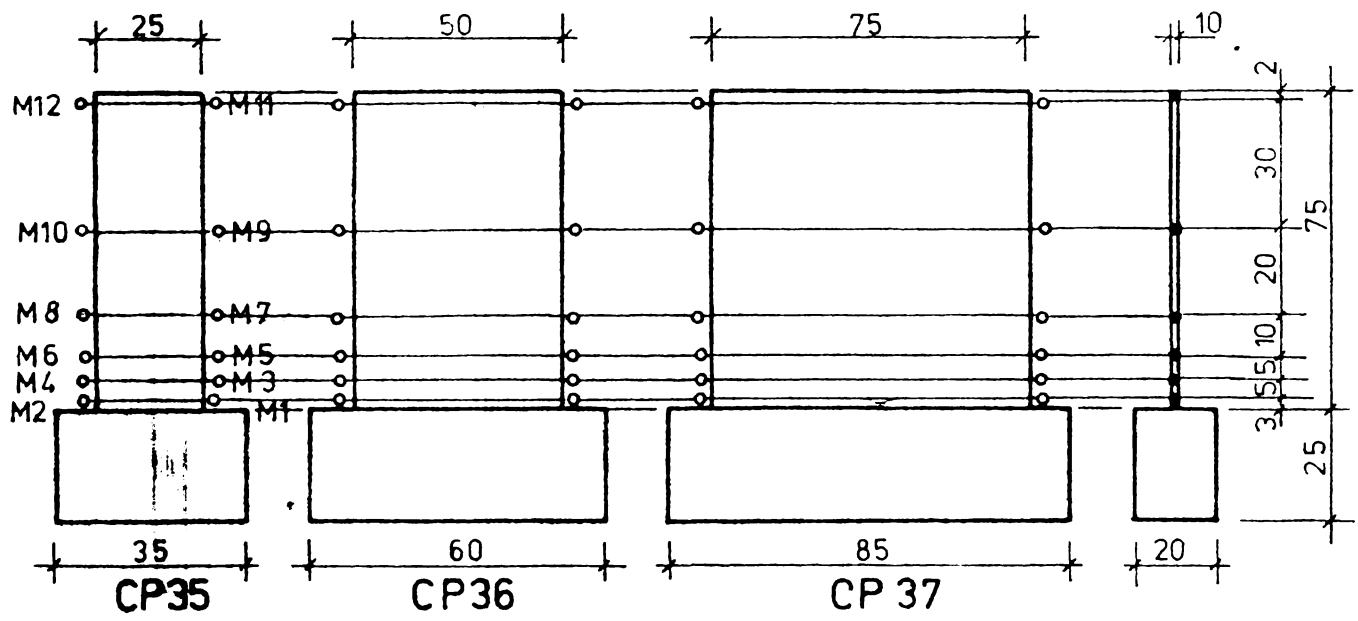


Fig. A10a

DISPUNEREA COMPARATOARELOR

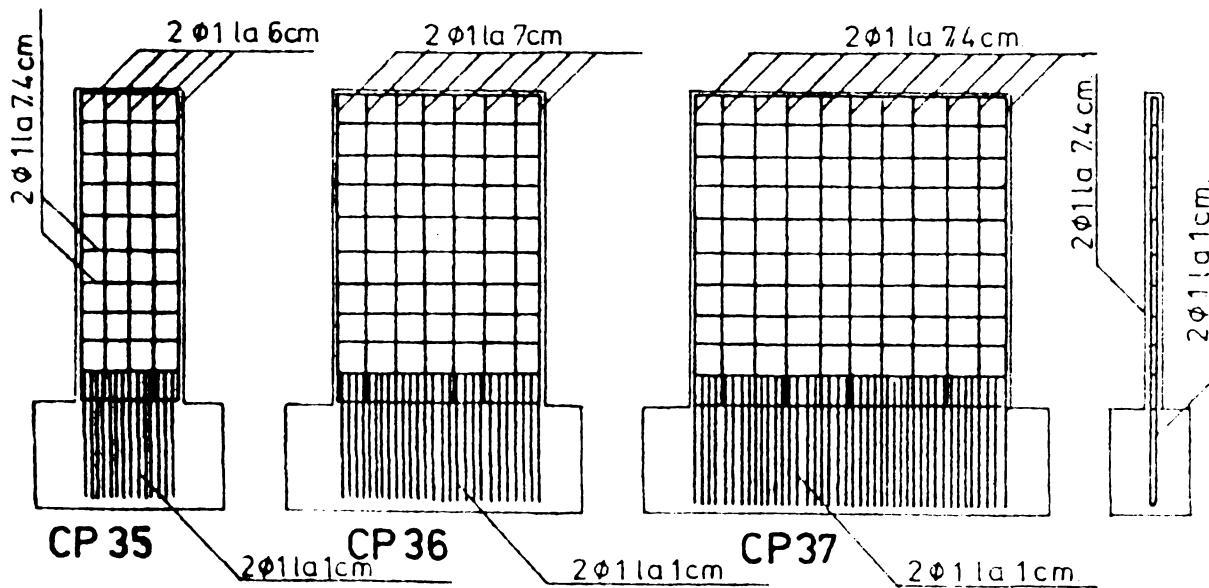
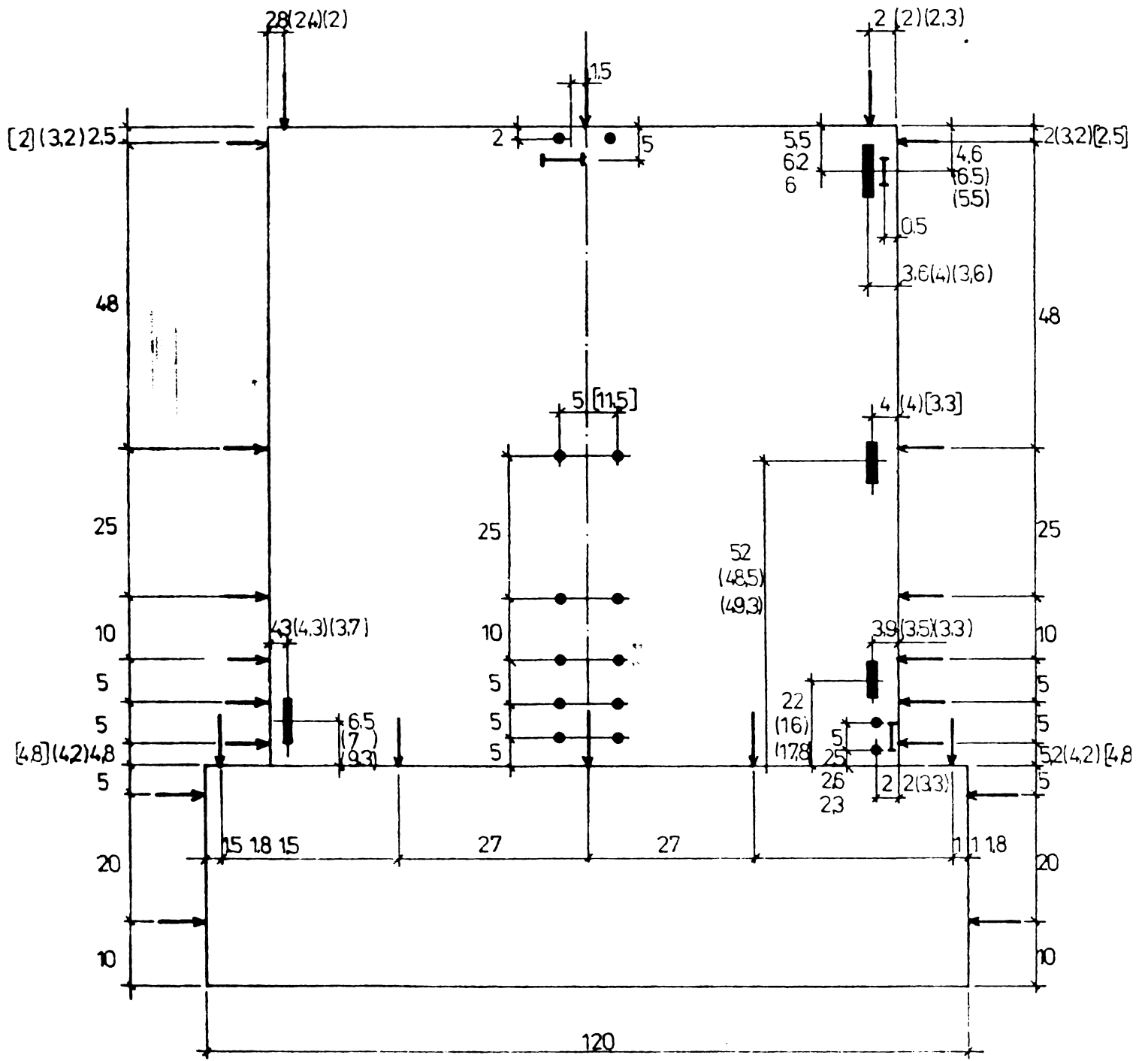


Fig. A 10b.

ARMAREA ELEMENTELOR






-  TIMBRE TENSIOMETRICE
-  DEFOMETRU
-  MICROCOMPARATOR

Fig. A11.
 PLAN DE MONTARE A APARATELOR
 DE MASURA

PLAN ARMARE JUMATATE PLANSEU

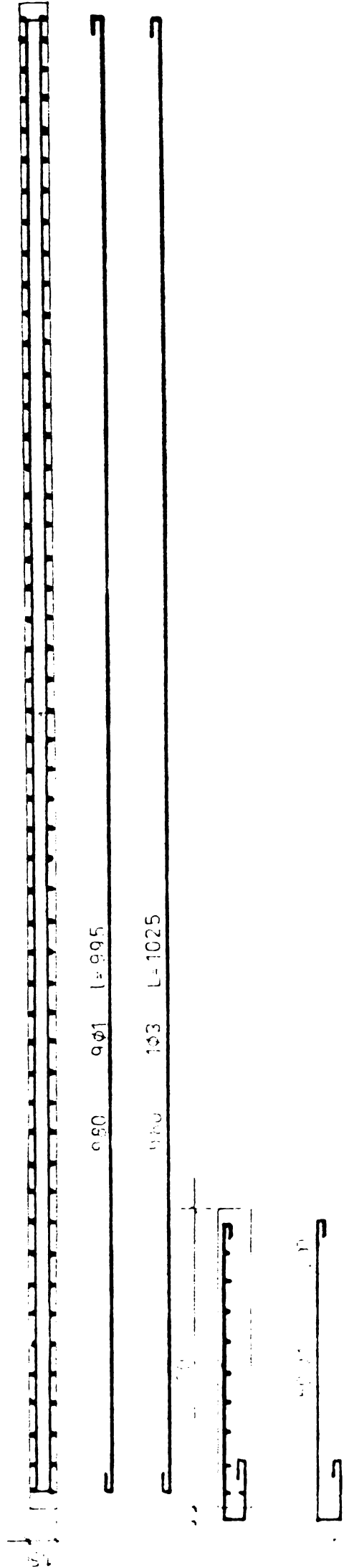
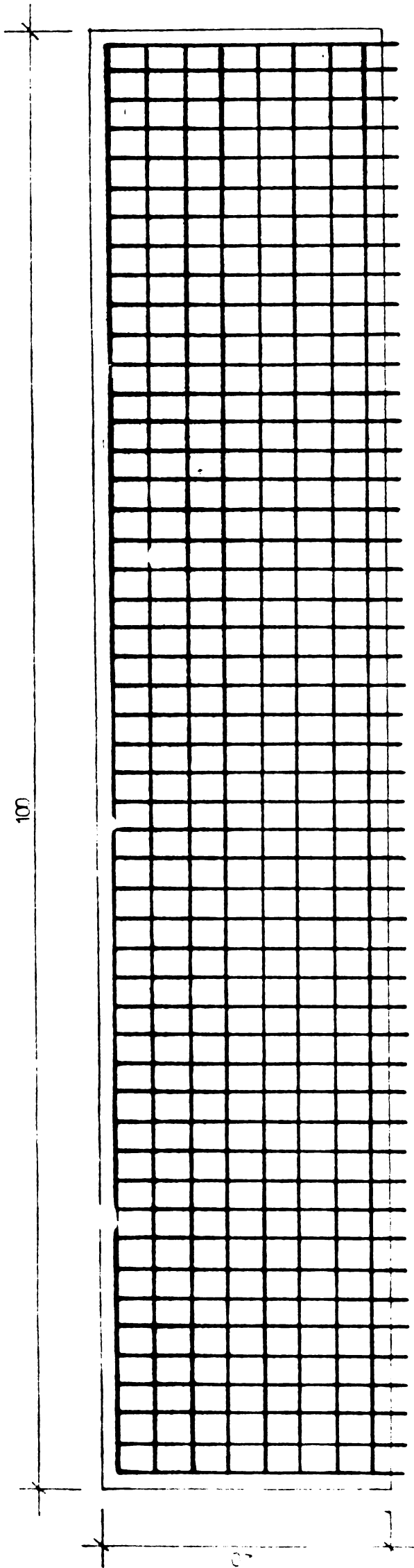


Fig. A 12.

POZ. 4.

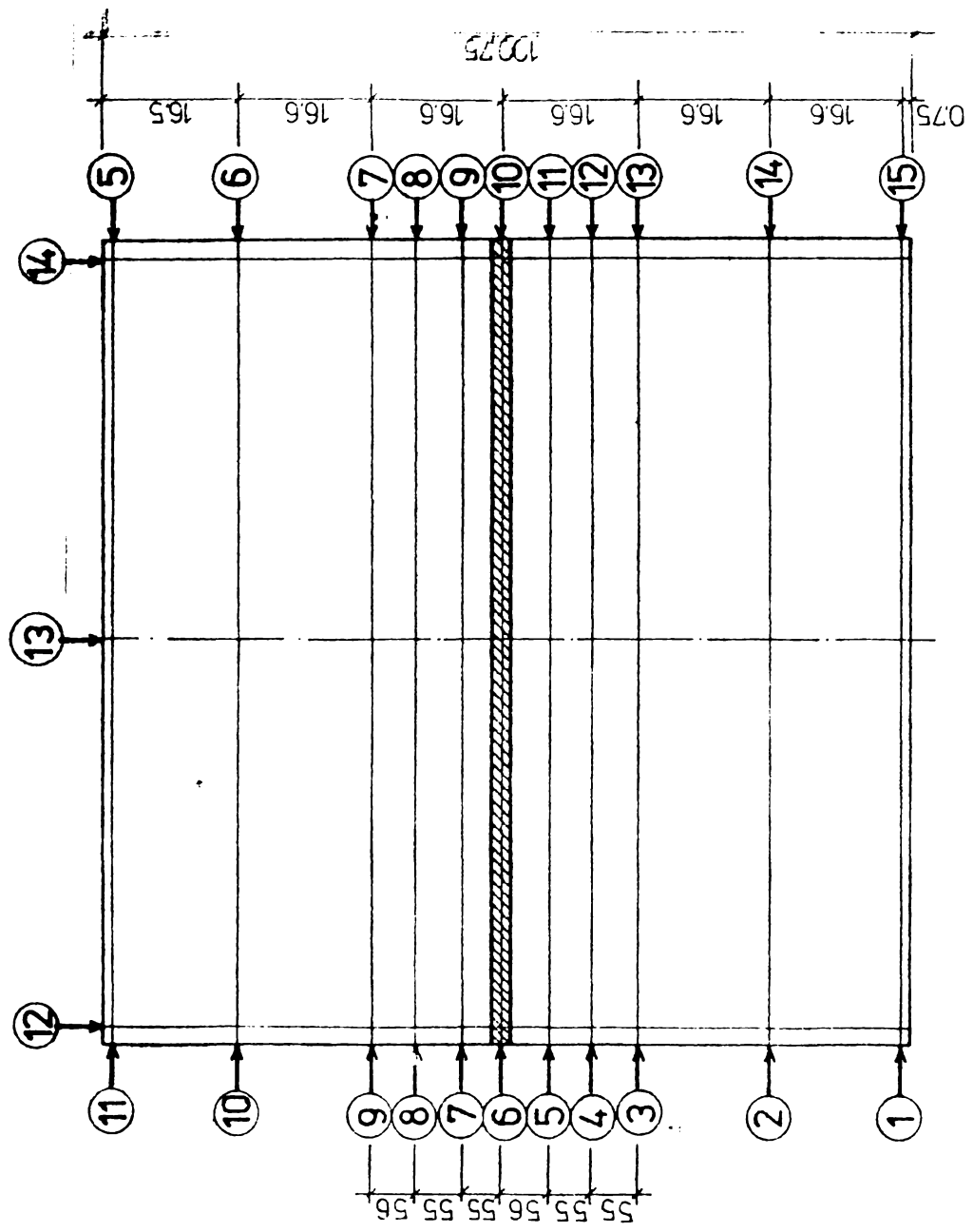


Fig. A13.

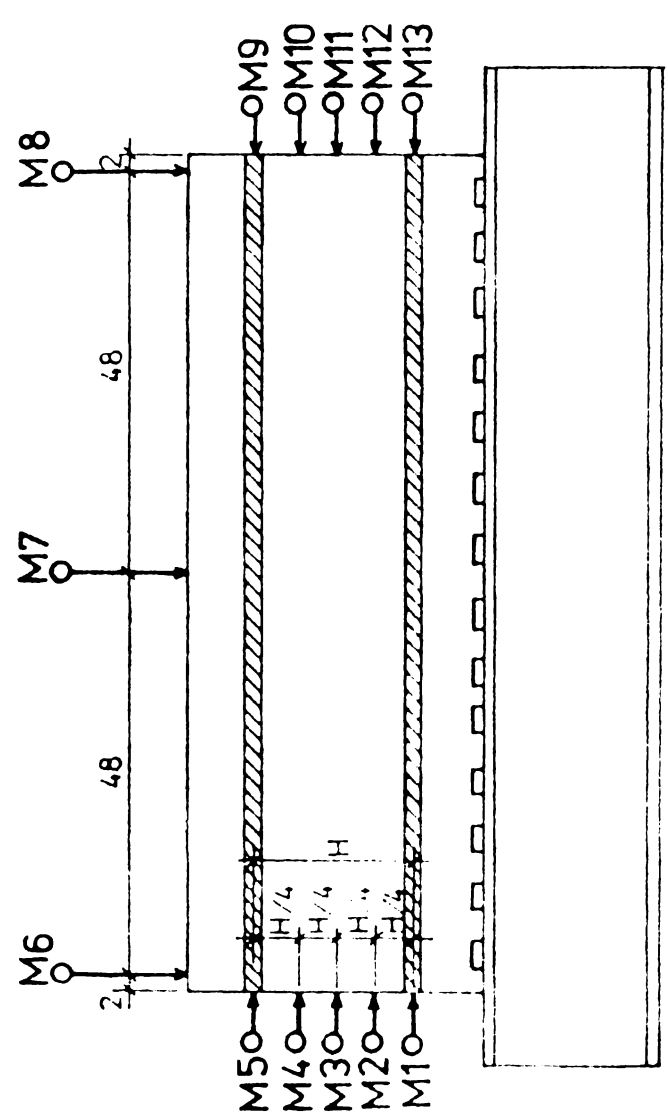
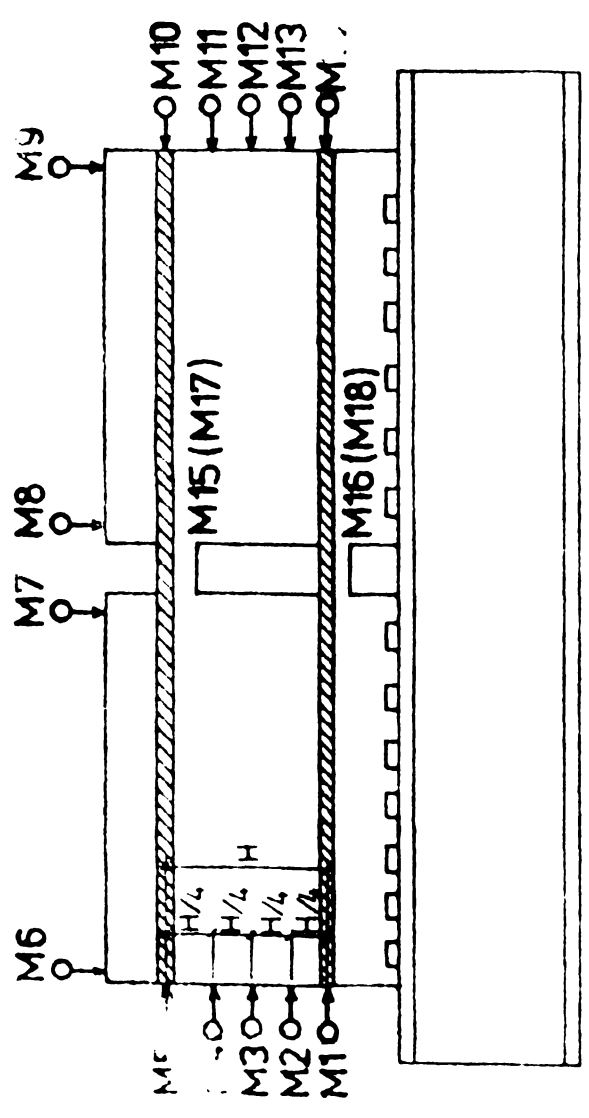


Fig. A14.

PLAN DE MONTARE A COMPARATOARELOR
LA ELEMENTE CU UN NIVEL

PLAN DE MONTARE A COMPARATOARELOR

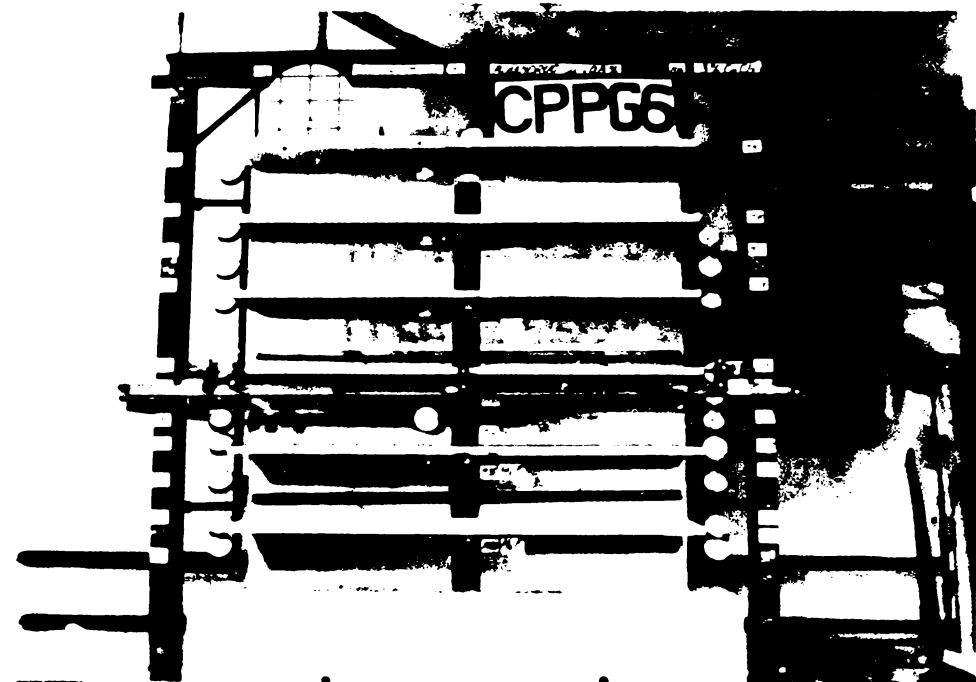
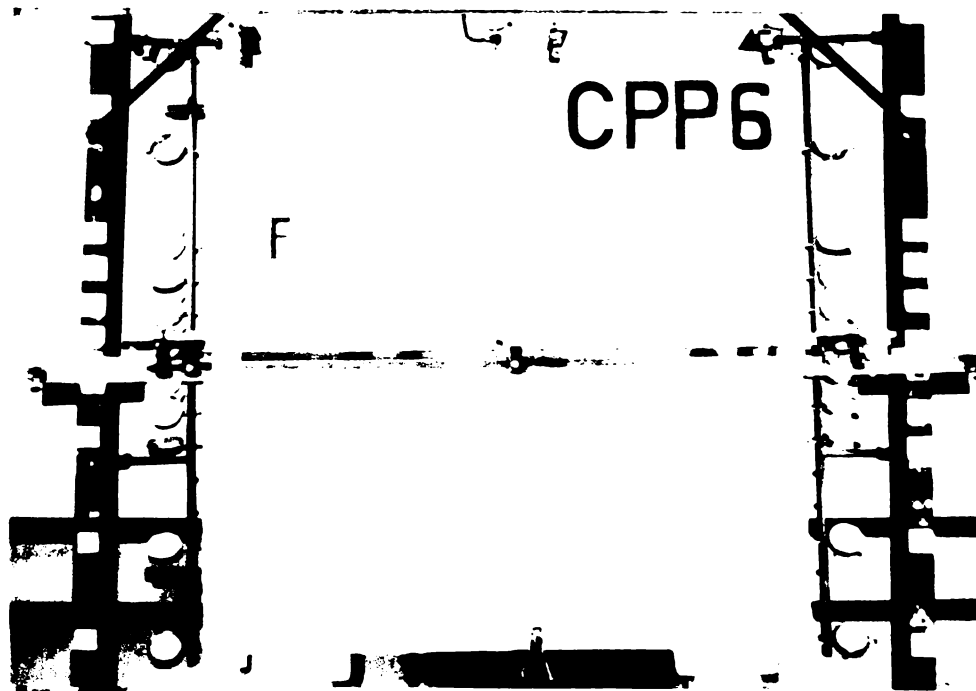
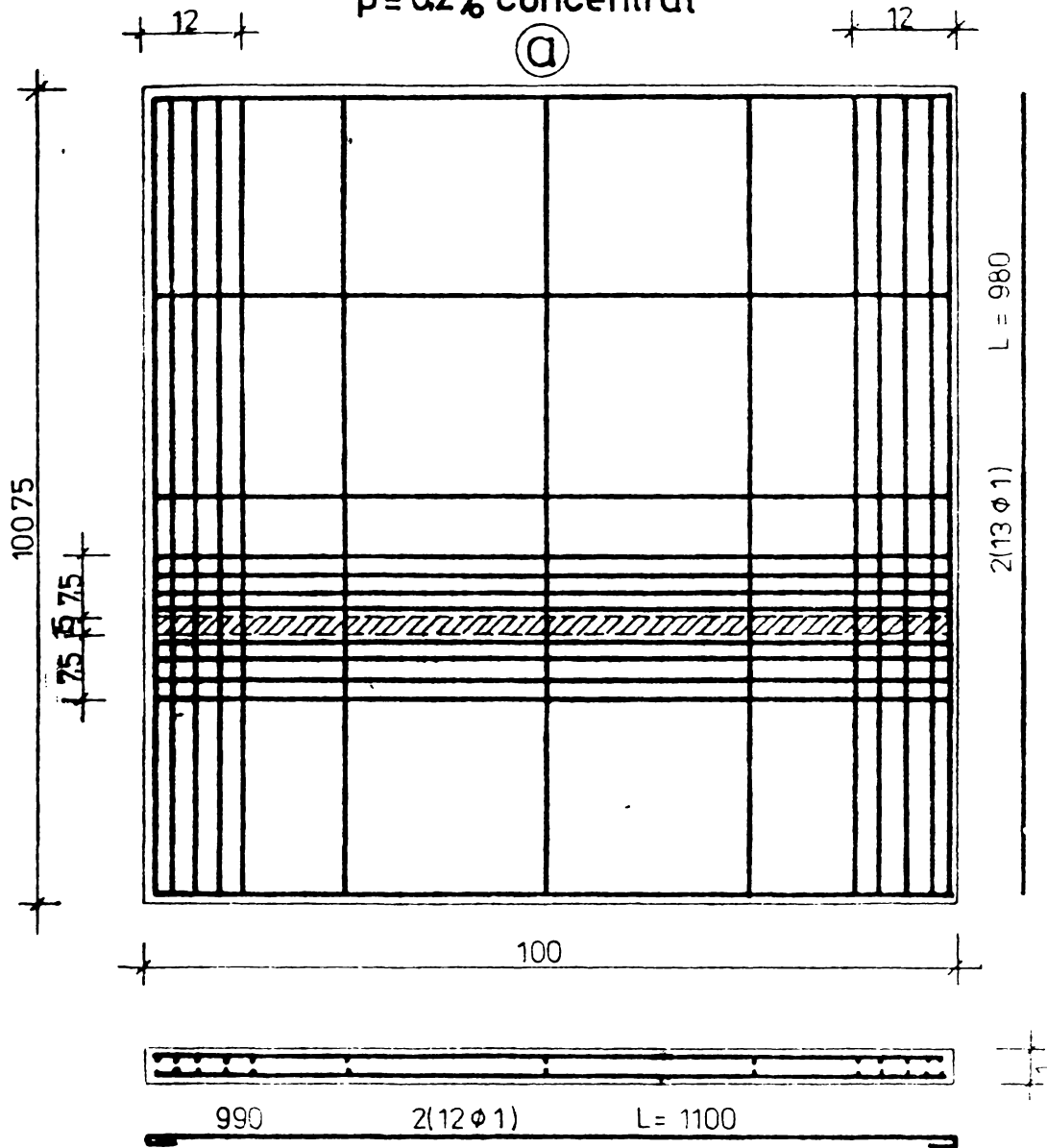


Fig. A15

FEDERAL BUREAU OF INVESTIGATION
U.S. DEPARTMENT OF JUSTICE

PLAN ARMARE CPP. 13.

$p = 0.2\%$ concentrat



PLAN ARMARE CPP. 22.

$p = 0.4\%$ concentrat

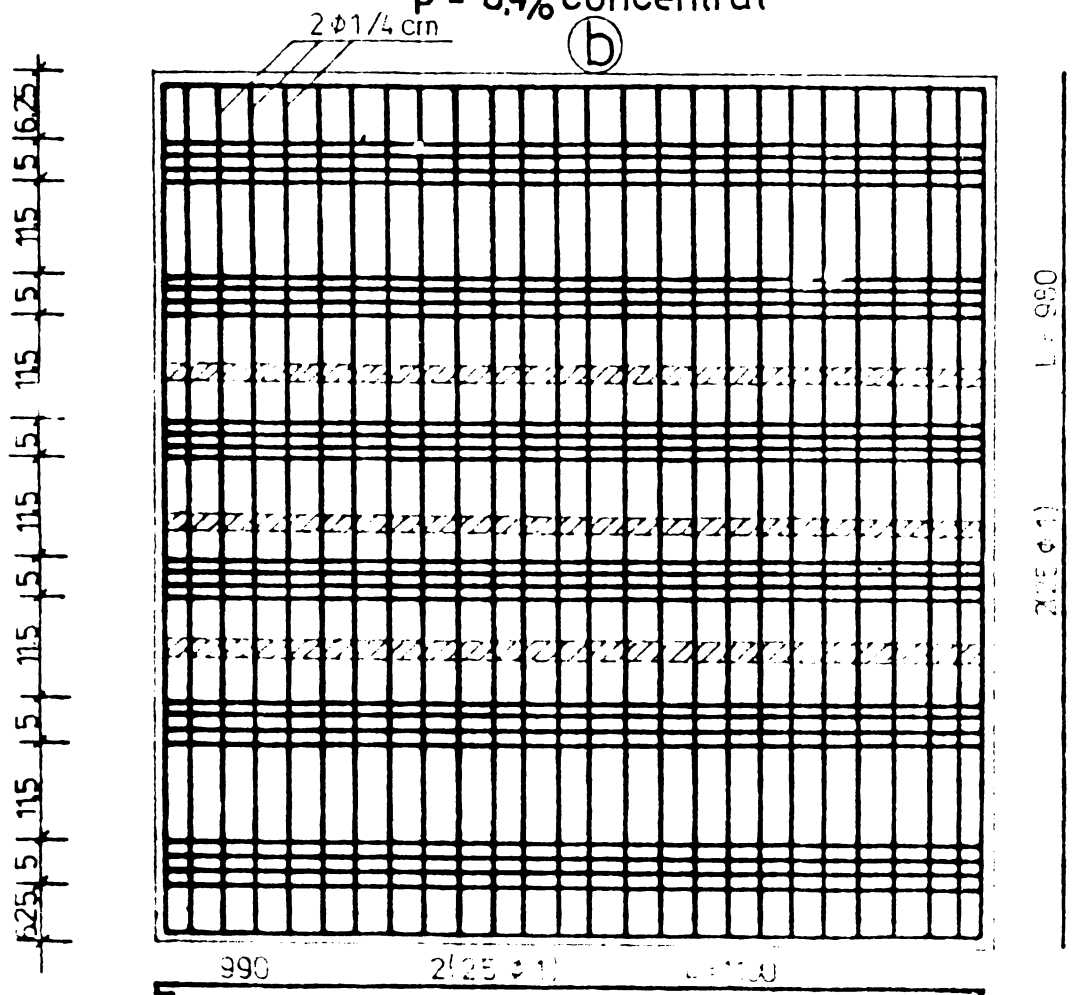
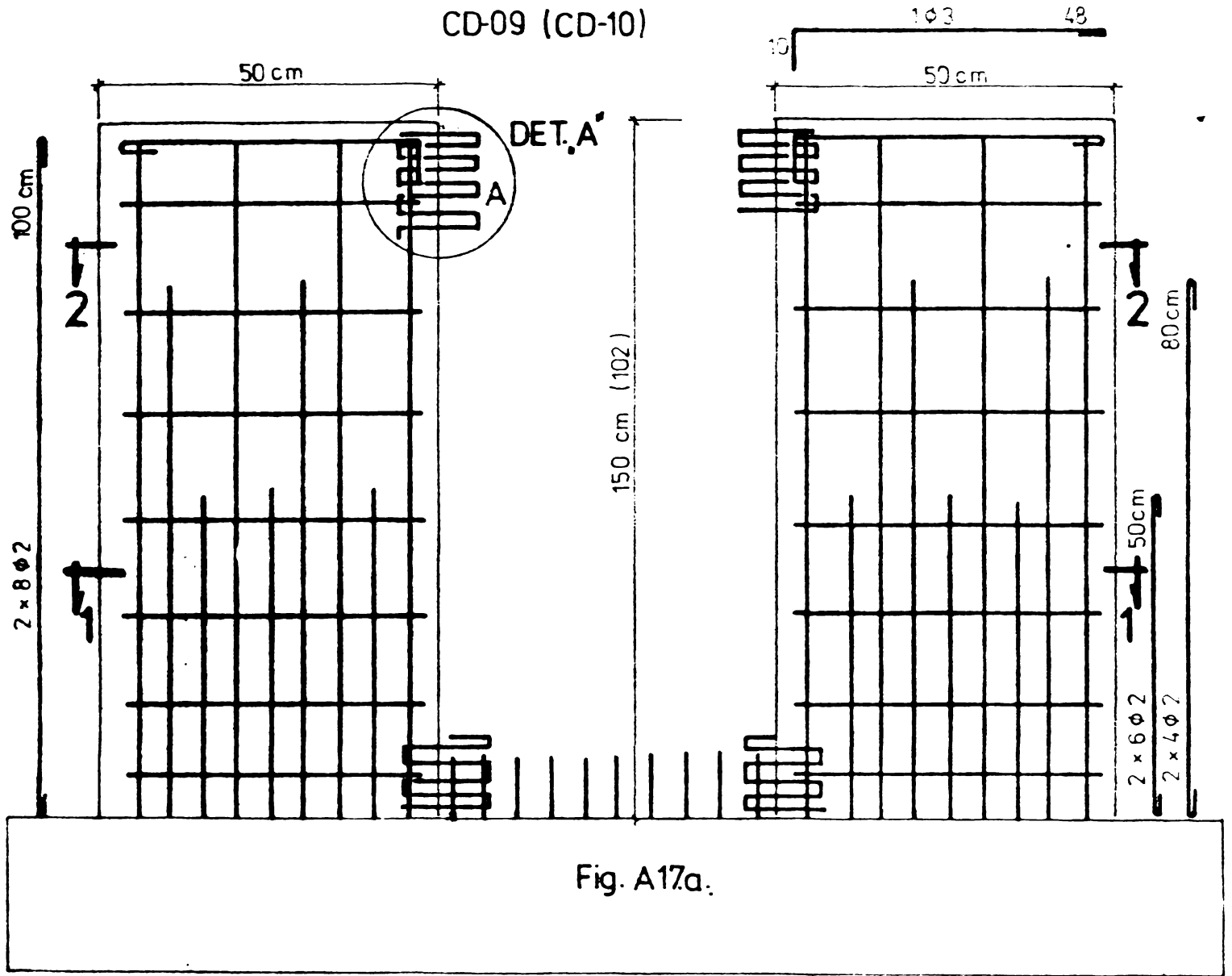
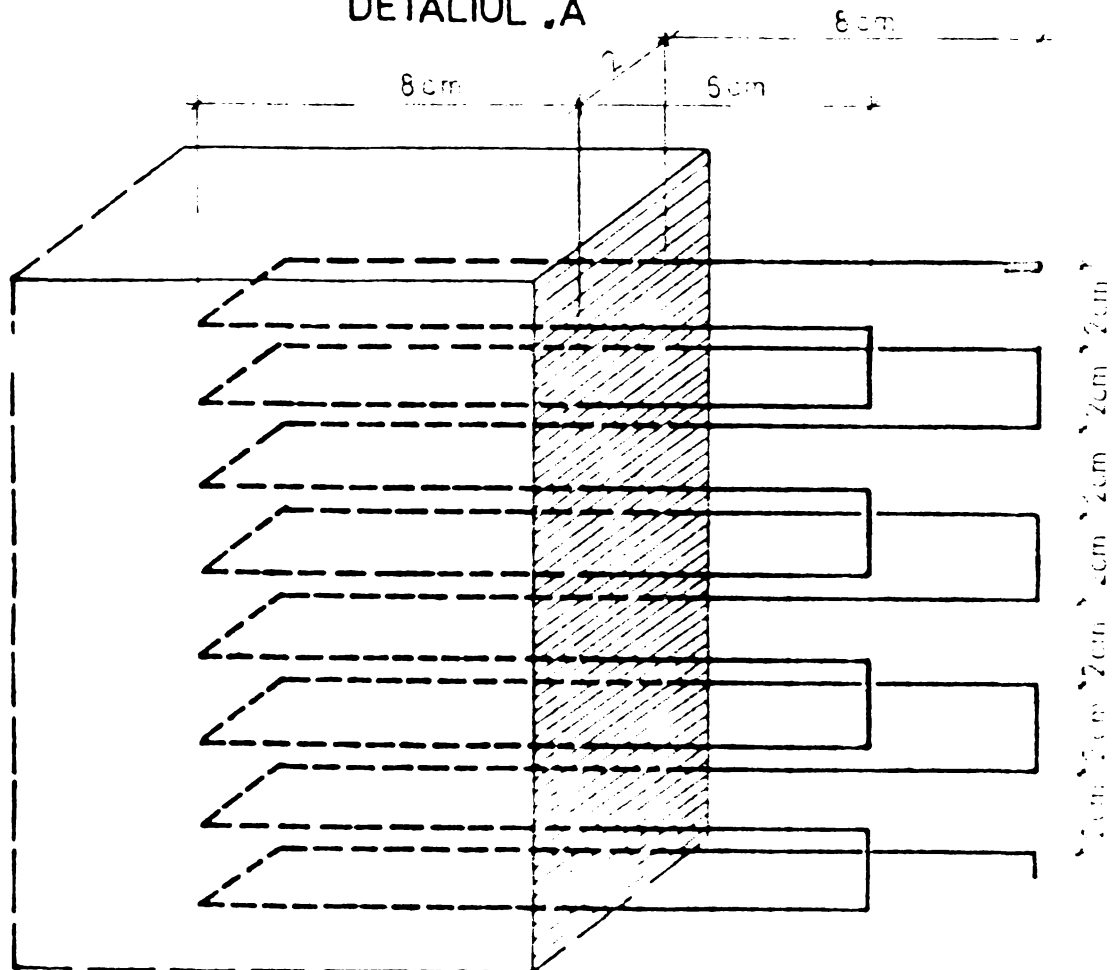


Fig. A16.

ARMAREA DIAFRAGMELOR
CD-09 (CD-10)

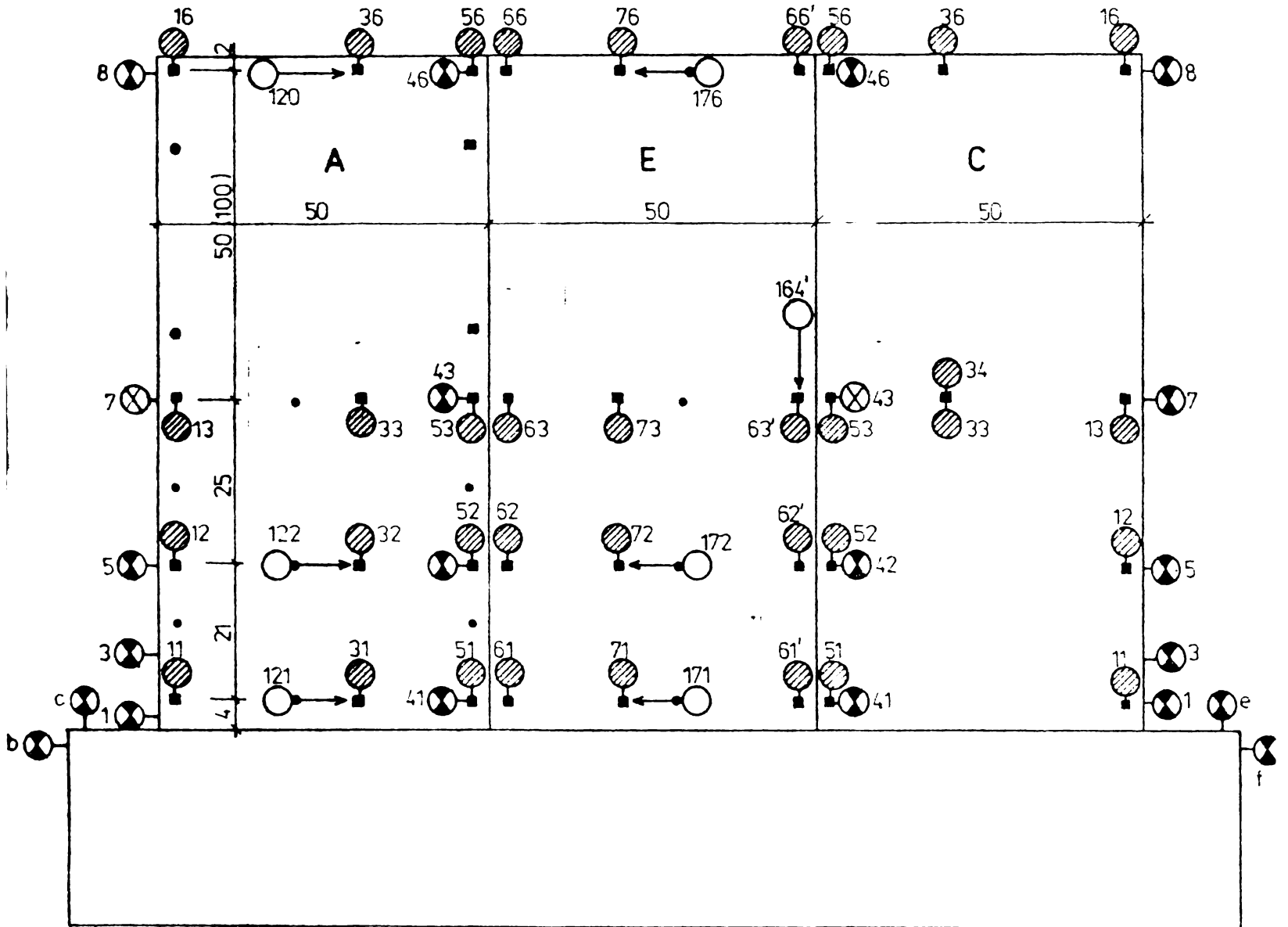


VEDERE IN PERSPECTIVA
DETALIUL „A”



PLAN DE MONTARE A MICROCOMPARATOARELOR

CD-09 si CD-10



LEGENDA:




-  MICROCOMPARATOARE 1/100 CU REPER EXTERIOR
-  MICROCOMPARATOARE 1/1000 CU REPER EXTERIOR
-  MICROCOMPARATOARE 1/1000 MONTAT PE PERETE

Fig. A.18a.

PLAN DE MONTARE A MICROCOMPARATOARELOR

CD - 11

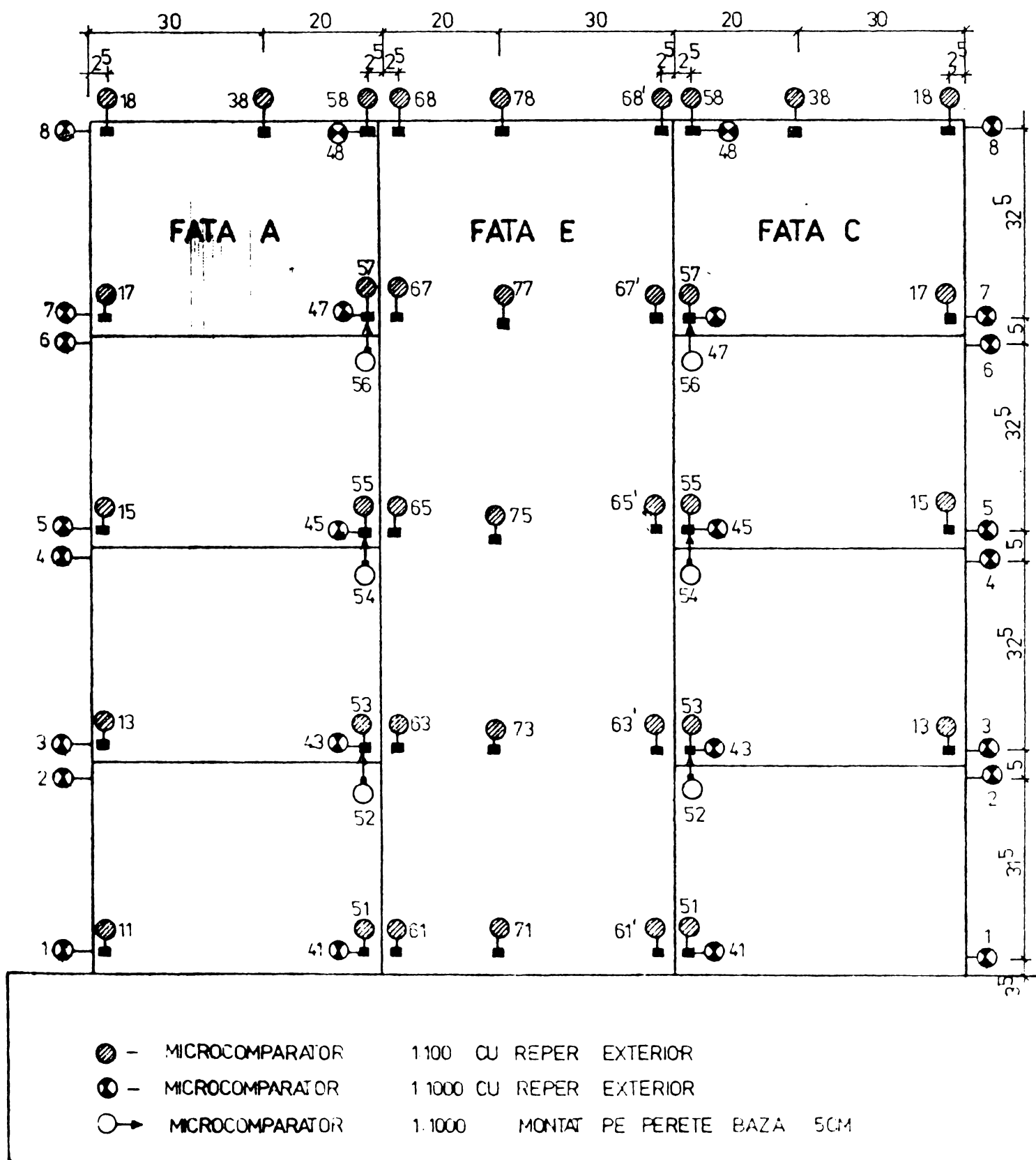


Fig. A18b.

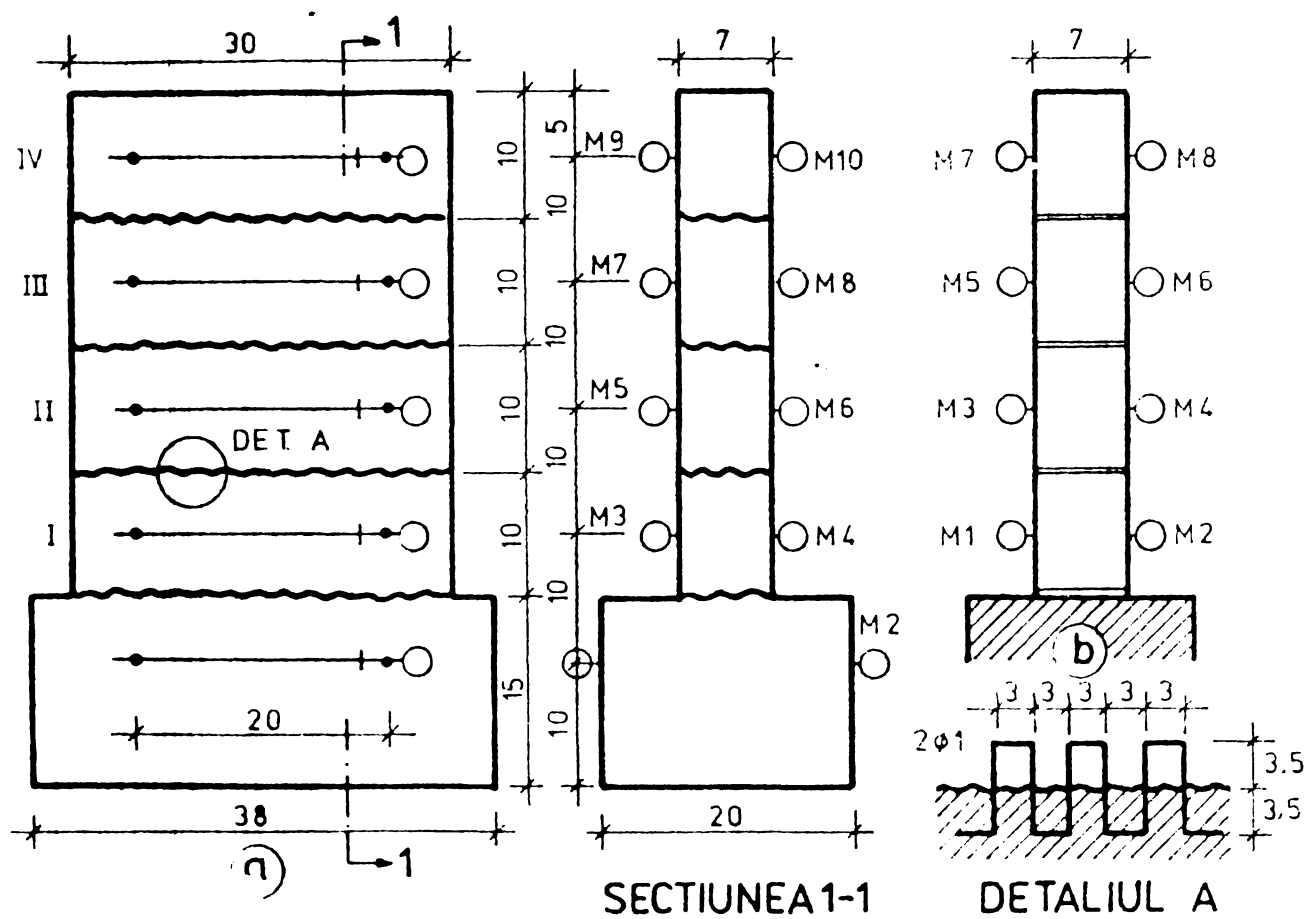
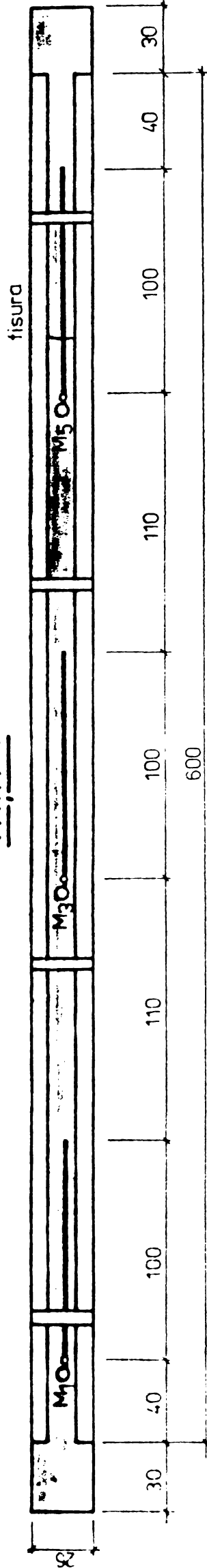


Fig. A19

FATA 1



FATA 2

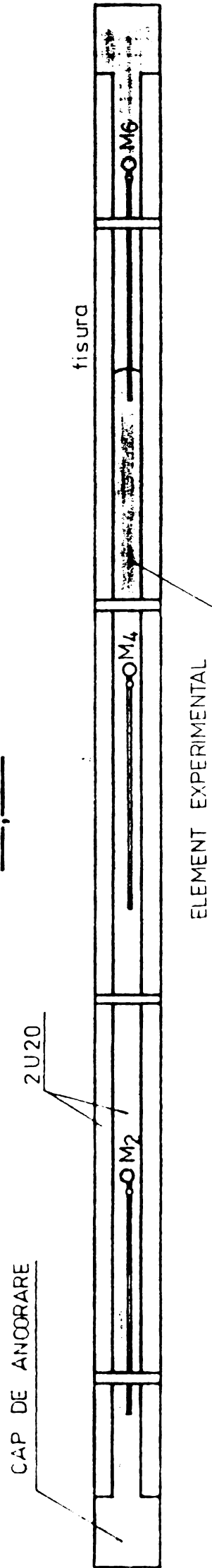


Fig. A 20.

POZITIA MICROCOMPARATOARELOR LA
FRAGMENTE LINIARE

COFRAJ PENTRU FRAGMENTE LINIARE SC.1:15

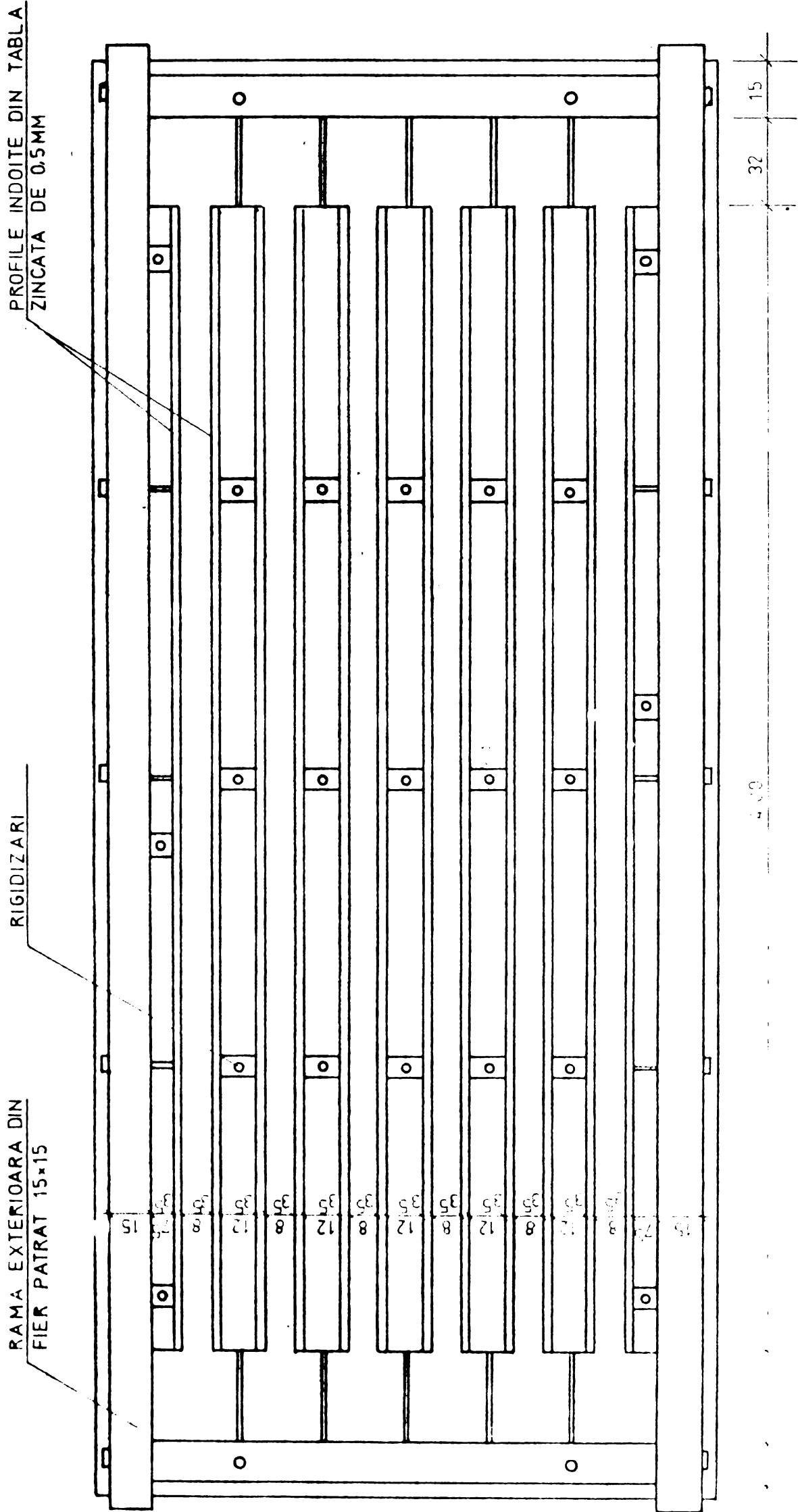


Fig A21

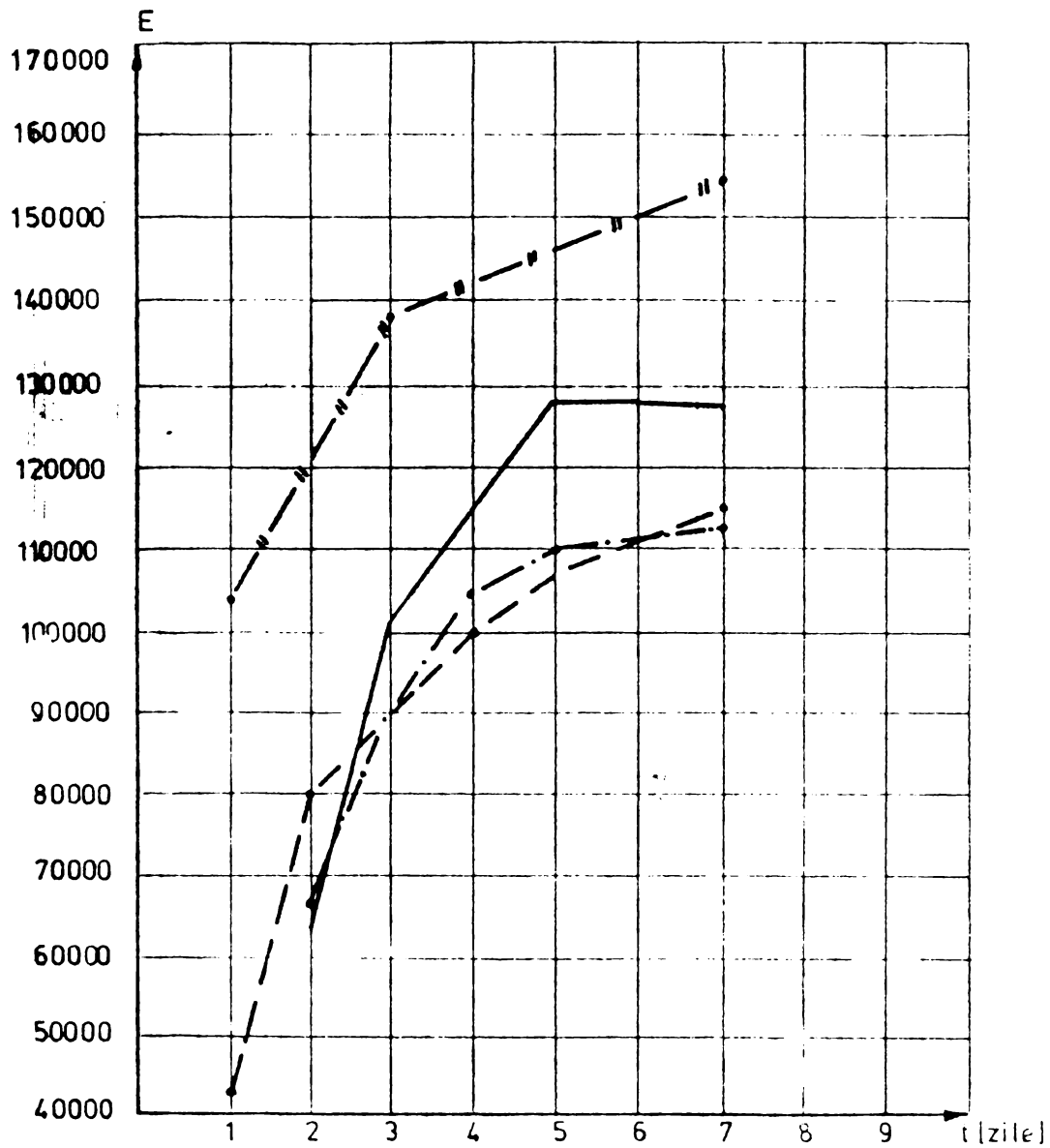
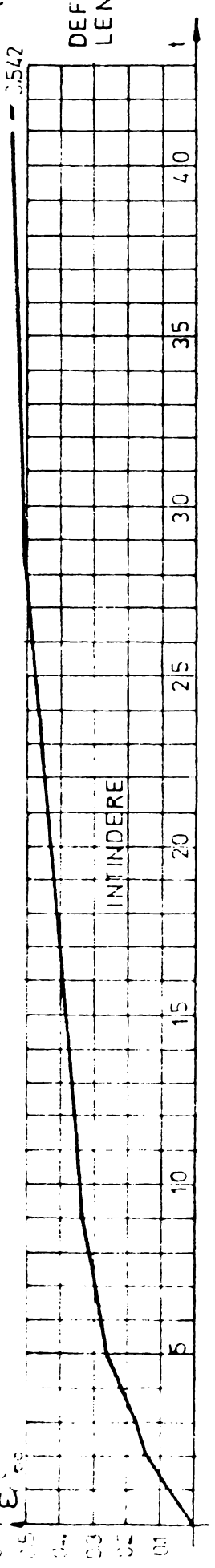
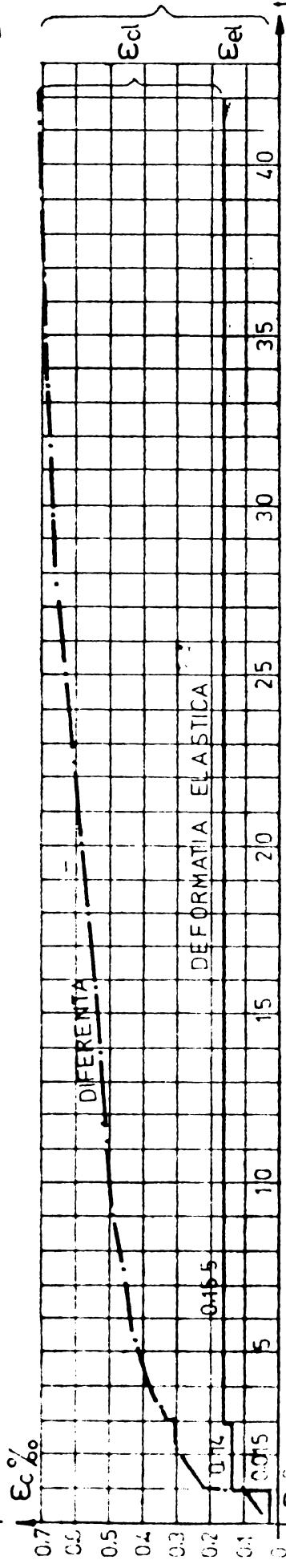
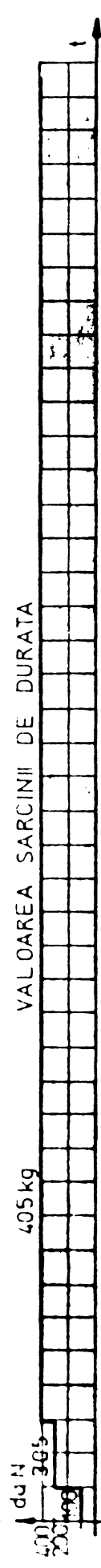
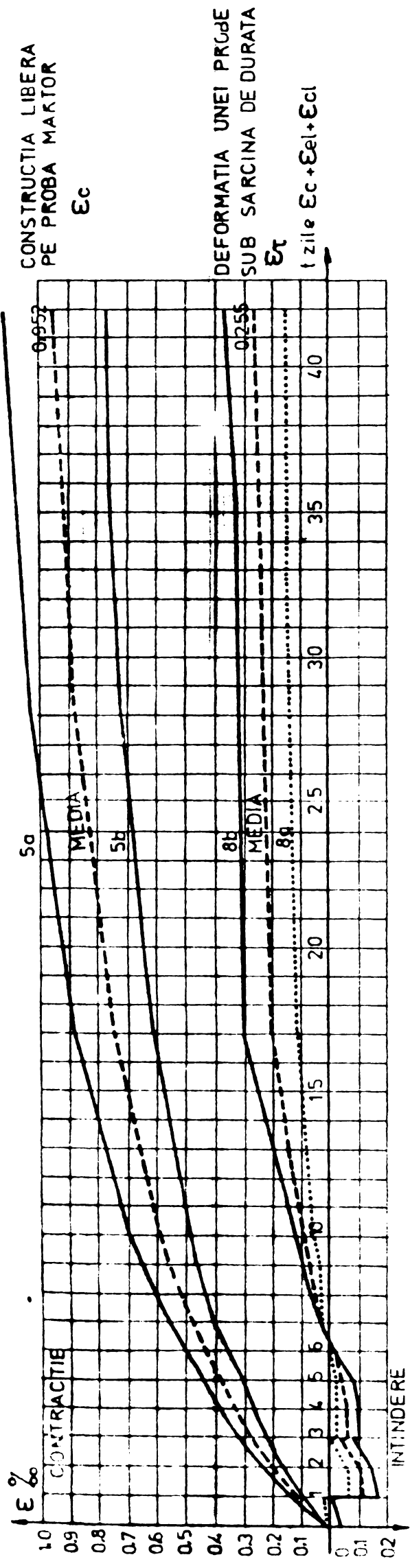


Fig. A 22

VARIATIA E IN TIMP, PENTRU
MORTARELE PERETILOR, CU
ADAOS CaCl_2 3%

- MODELE CU FUNDATIE
- MODELE CU UN PLANSEU
- MODELE CU 6 PLANSEE
- MODELE CU UN NIVEL



d) SERA CP-02 AGREGATE 1-2 MM
 DOZAJ 11 PRISME 5x5x30 cm
 CIMENT PZ 400 VIRSTA IN ORIGINE 2 ZILE

Fig. A 23

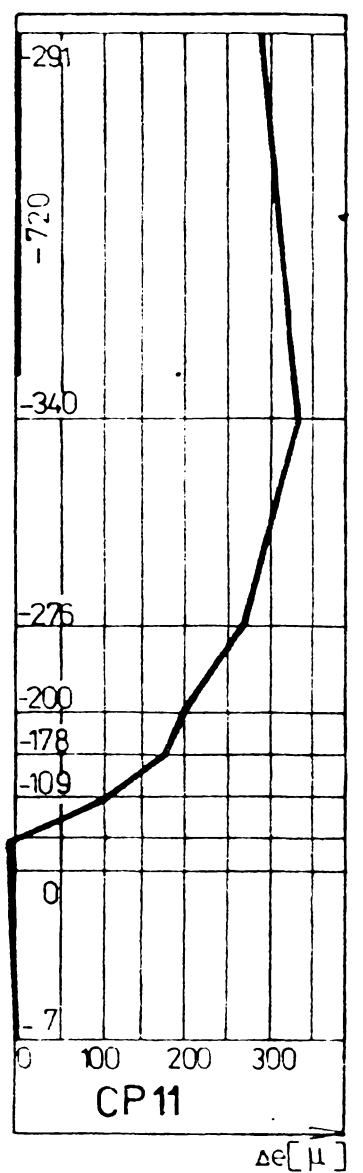
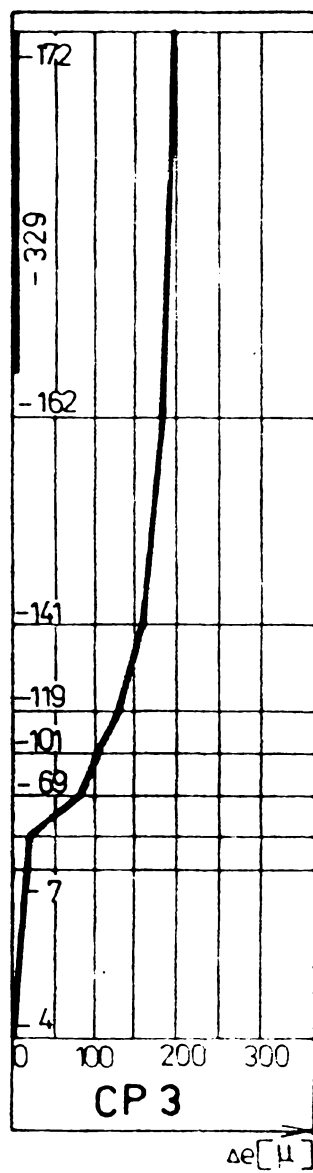
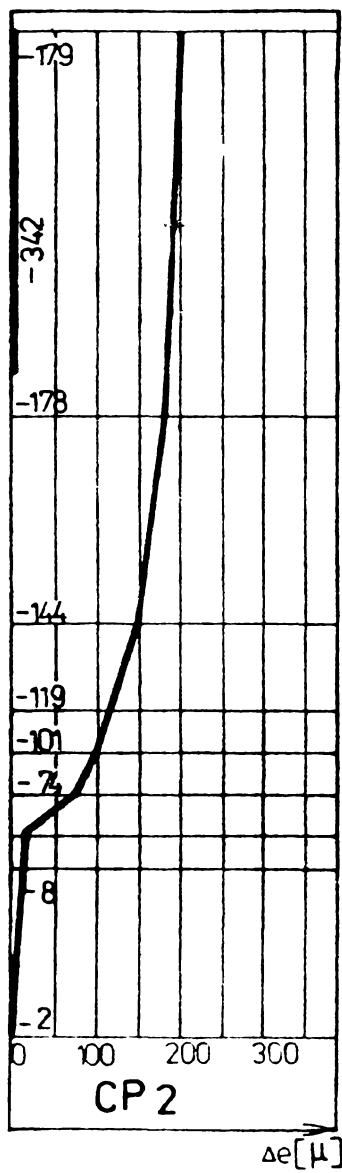
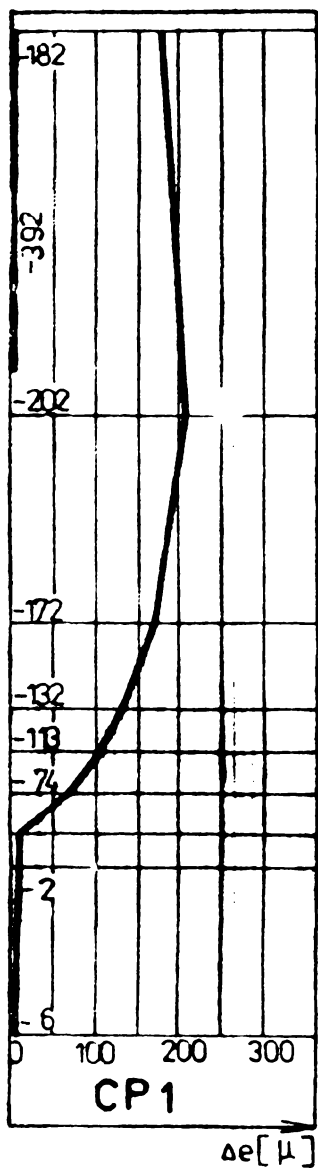


Fig. A24.

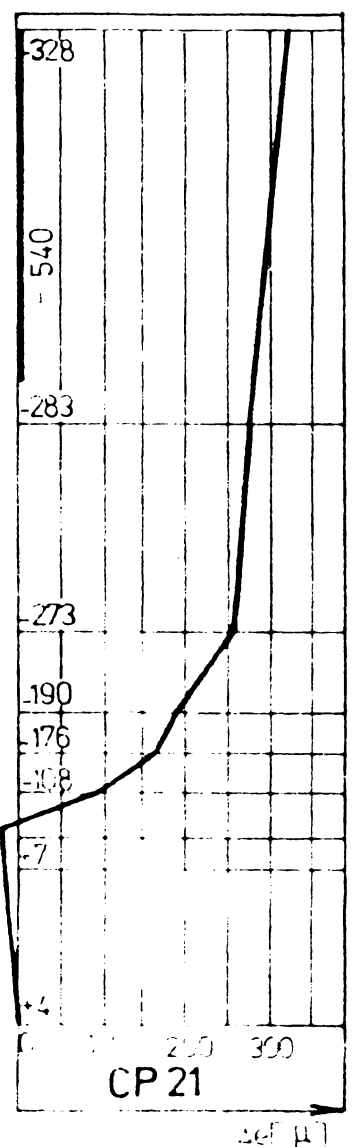
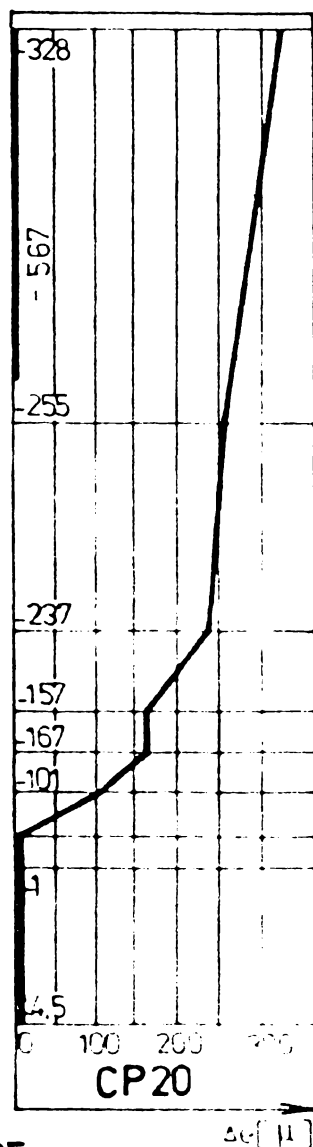
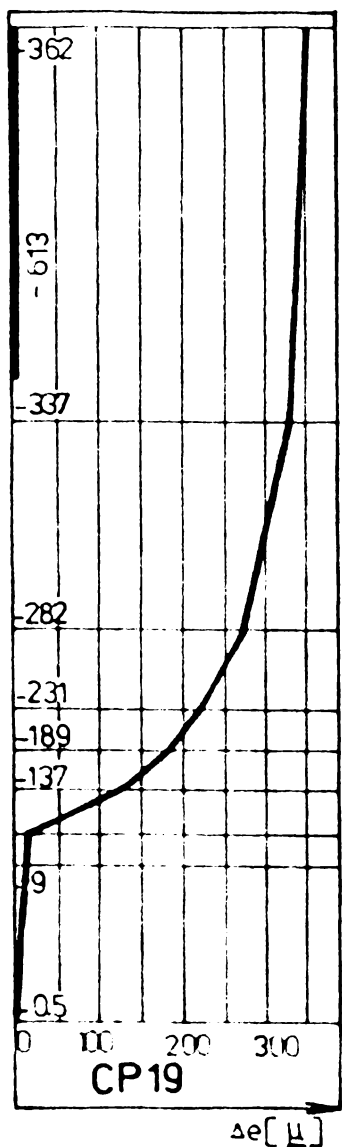
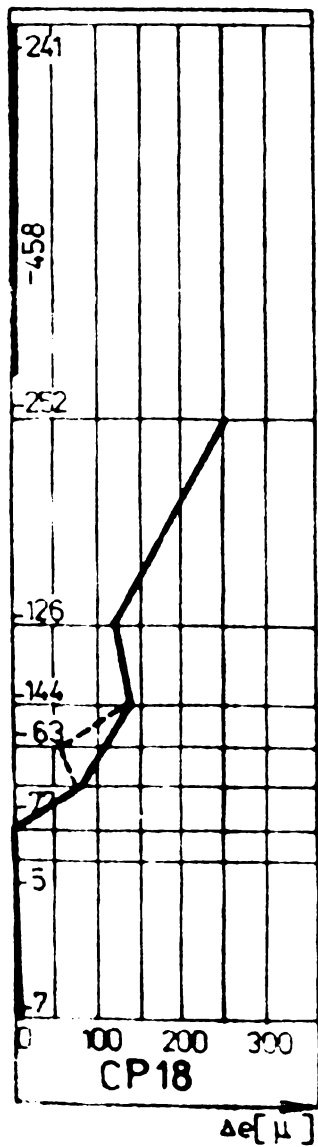


Fig. A25.

DEFORMATII ALE CONTURULUI

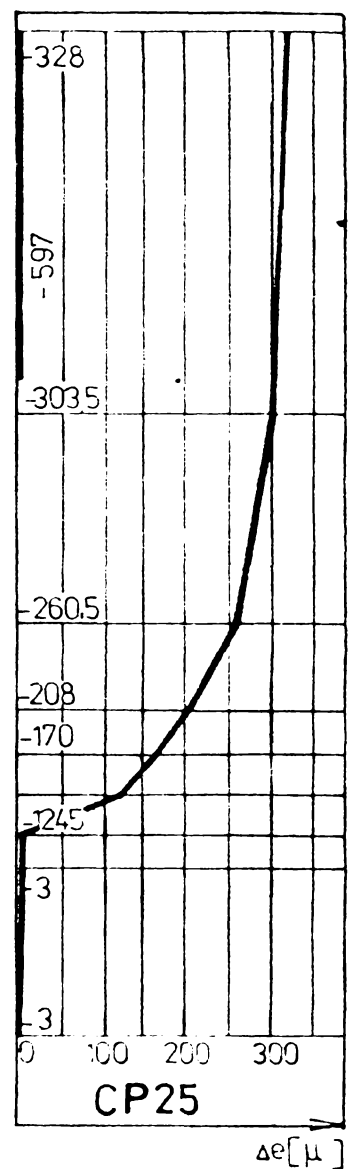
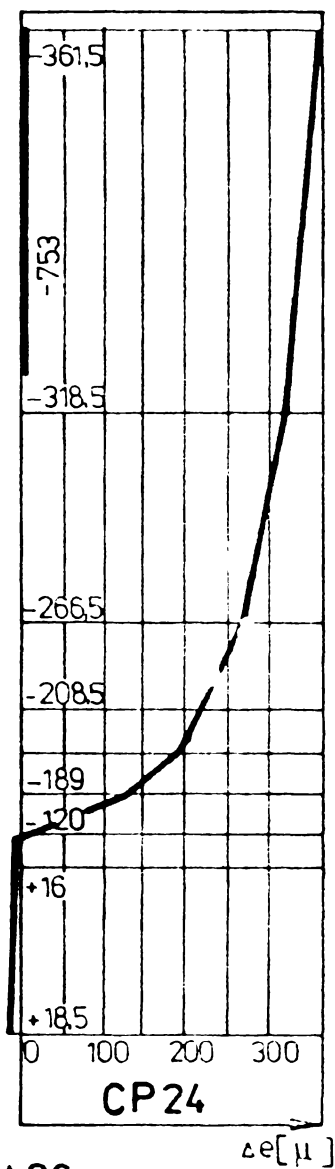
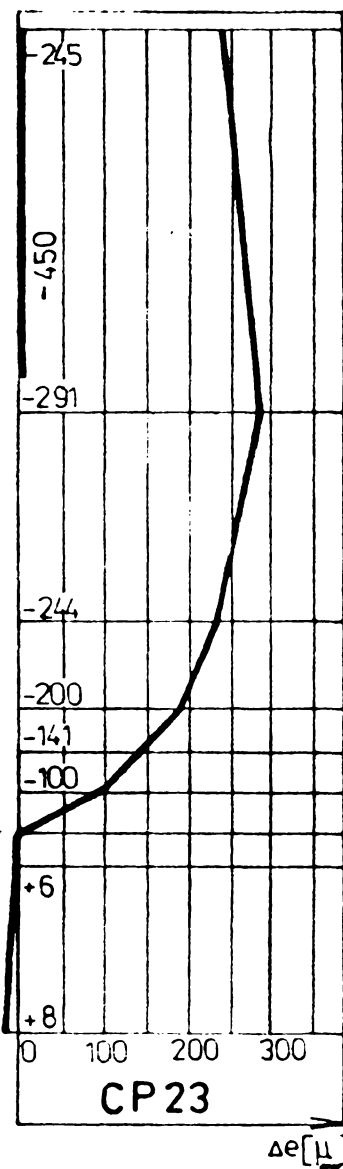
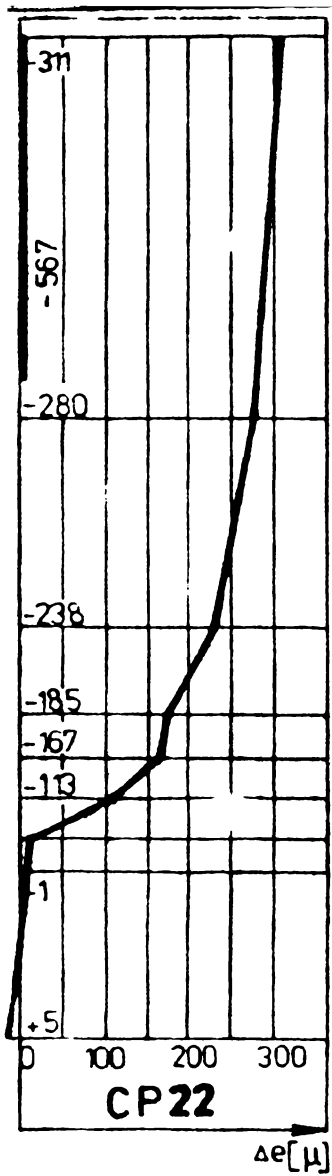


Fig. A26.

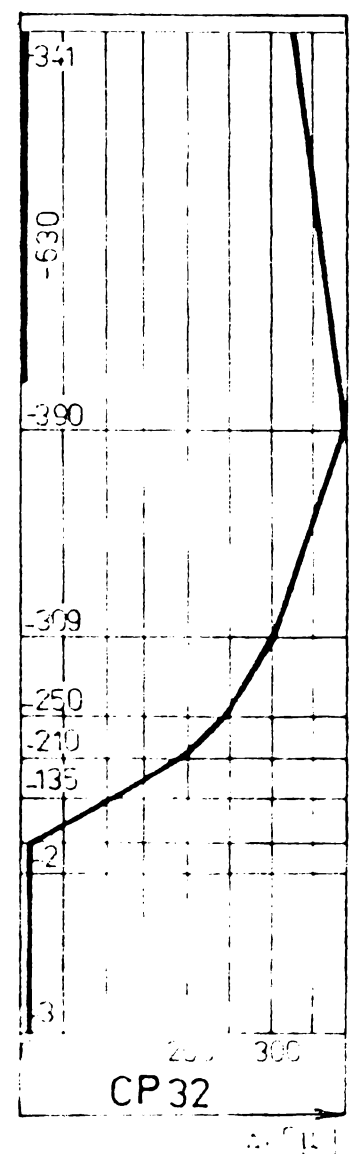
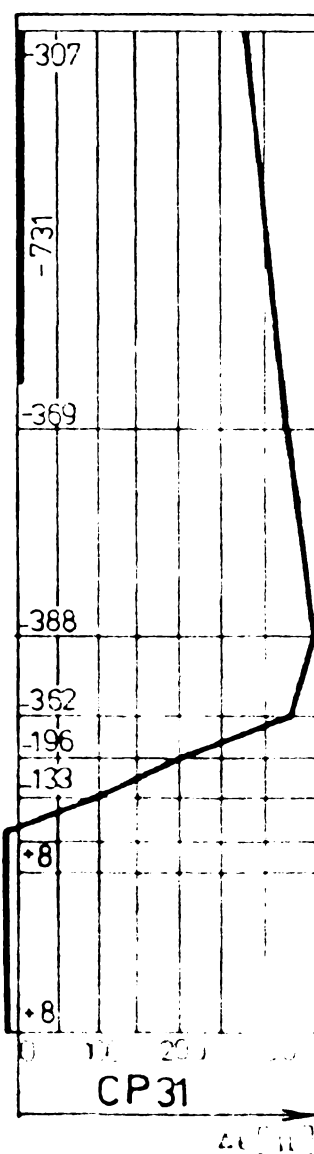
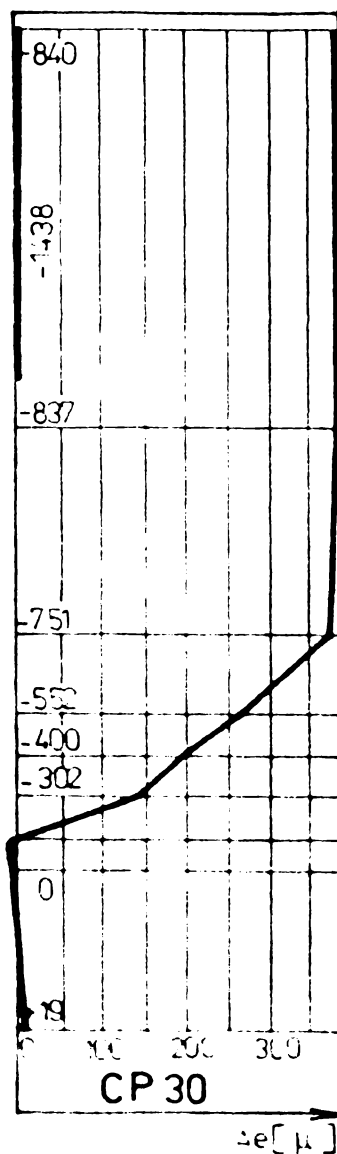
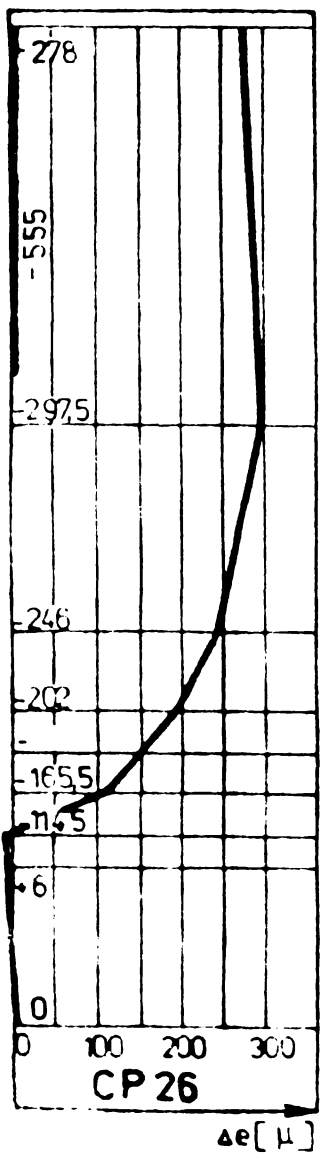


Fig. A27.

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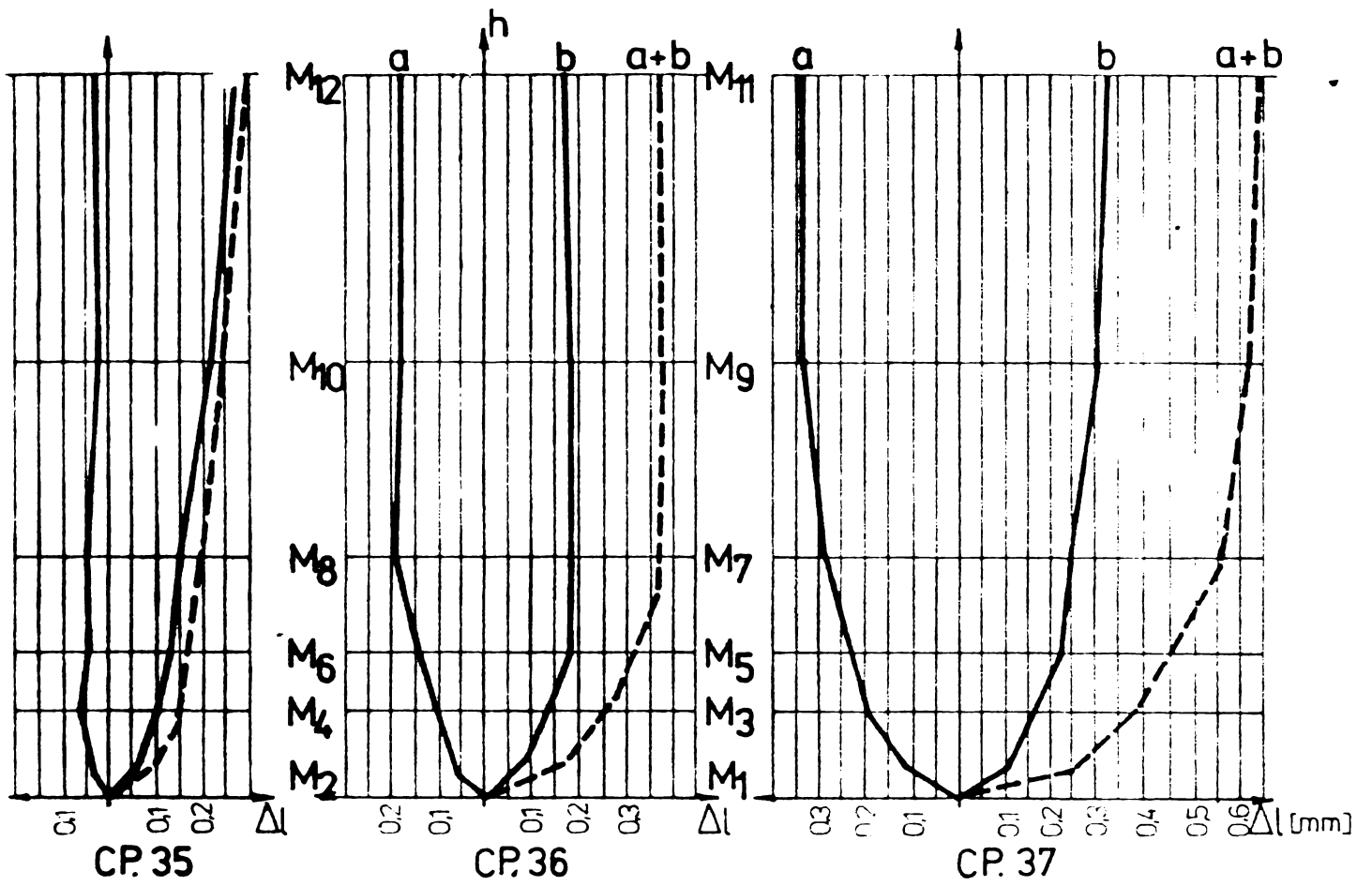


Fig. A 28.
DEFORMATII ALE CONTURULUI

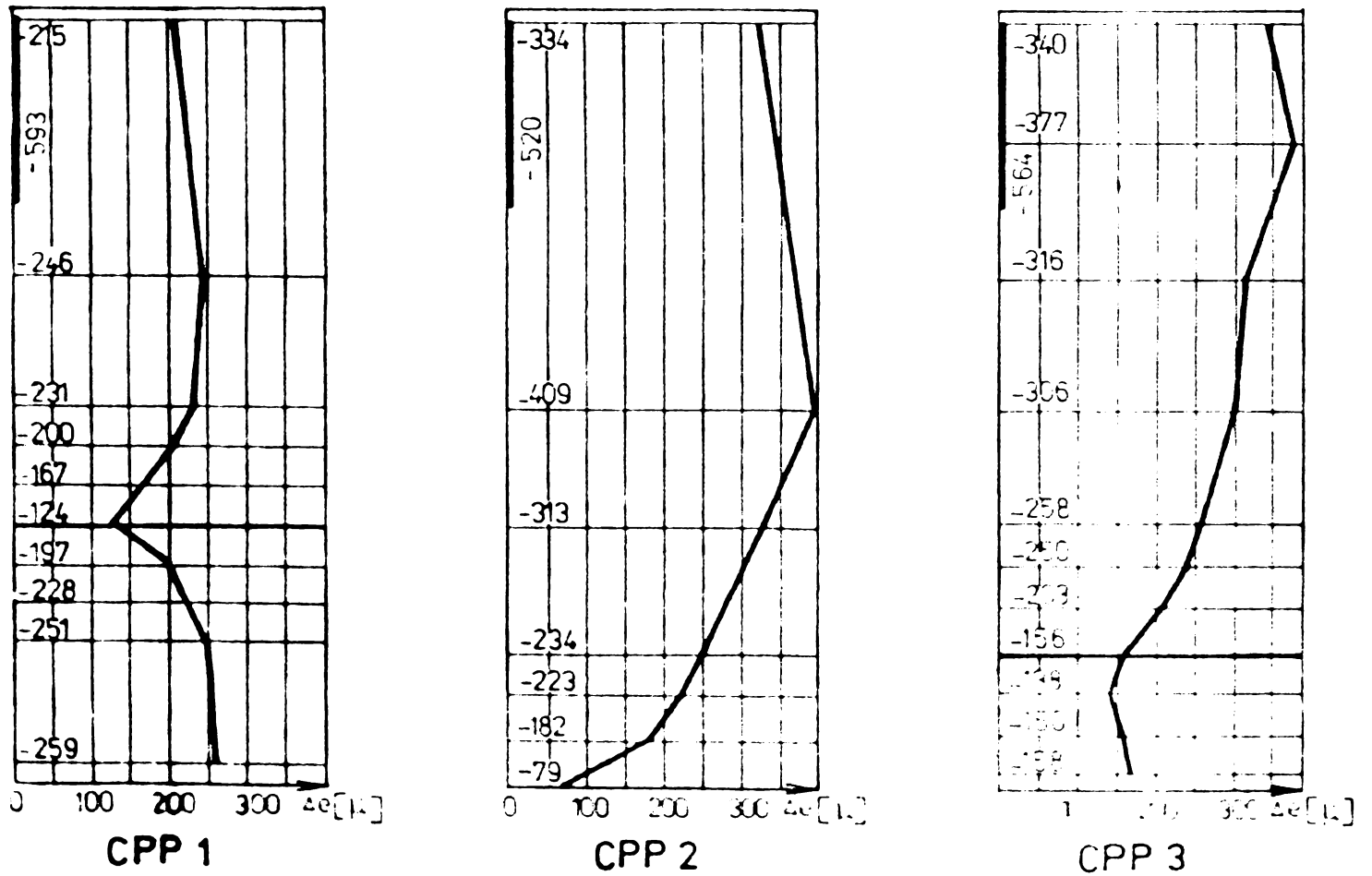
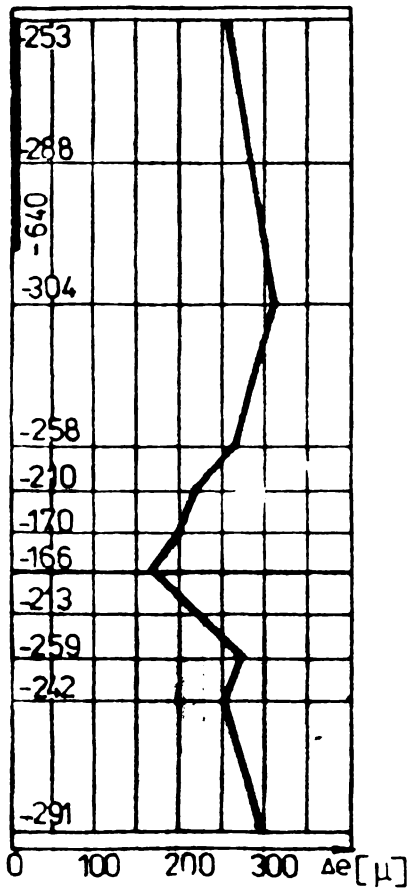
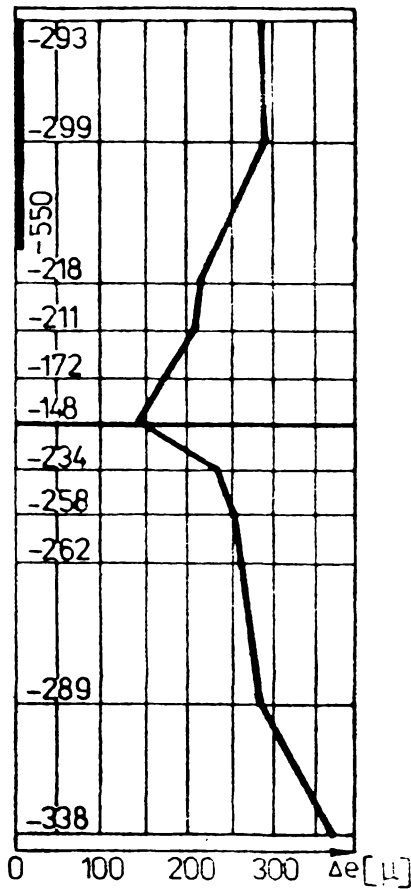


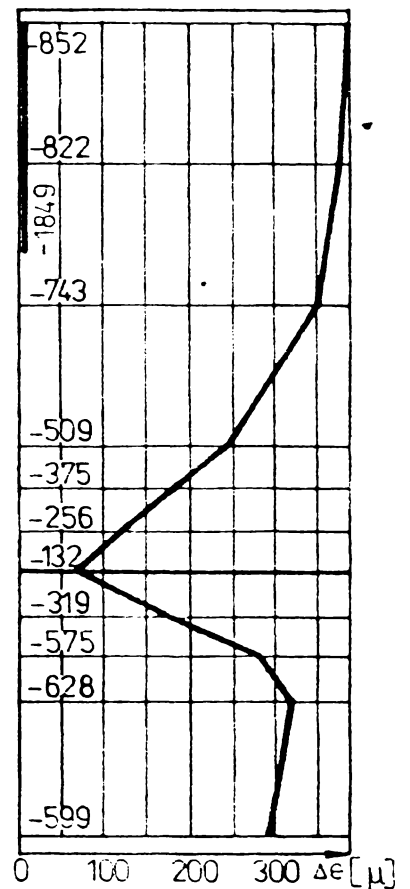
Fig. A 29.
DEFORMATII ALE CONTURULUI



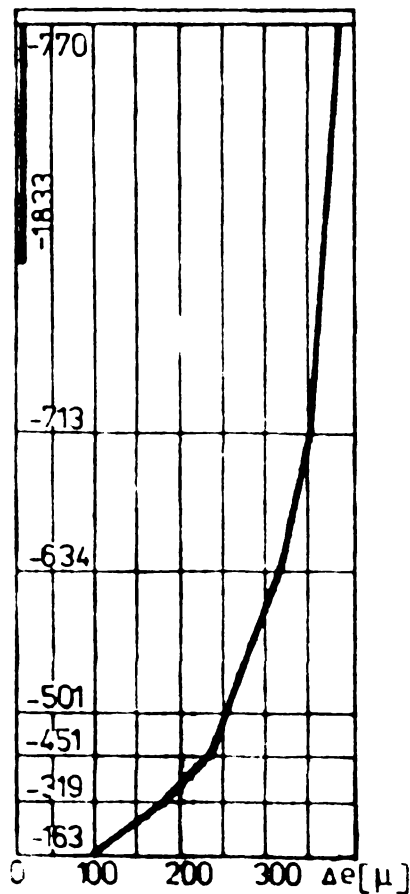
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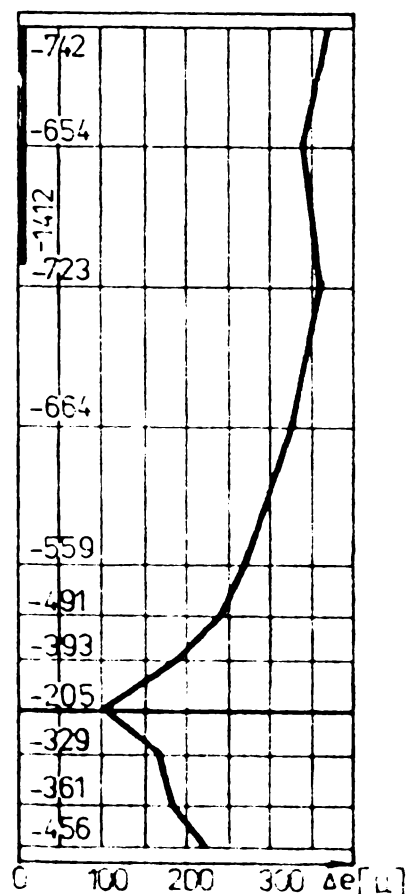
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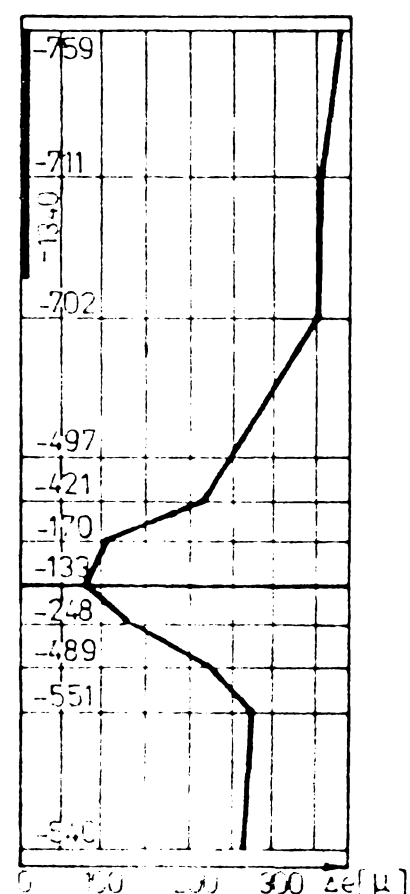
CPP 7



CPP 8



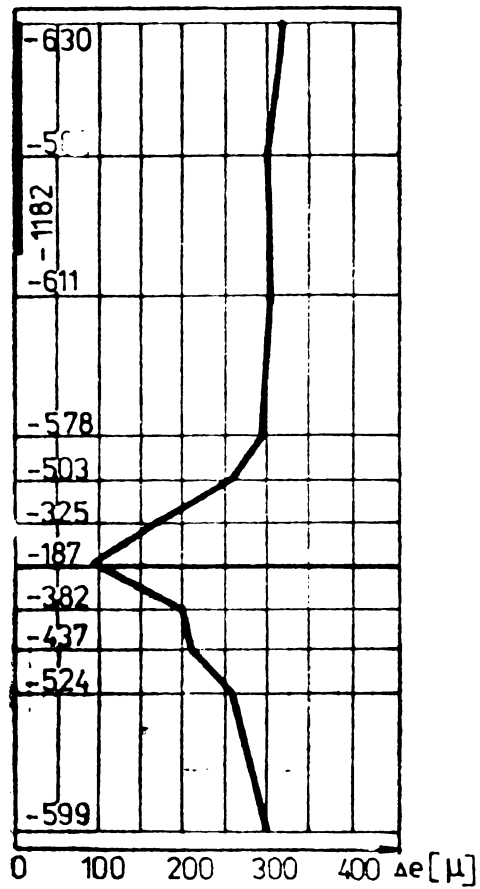
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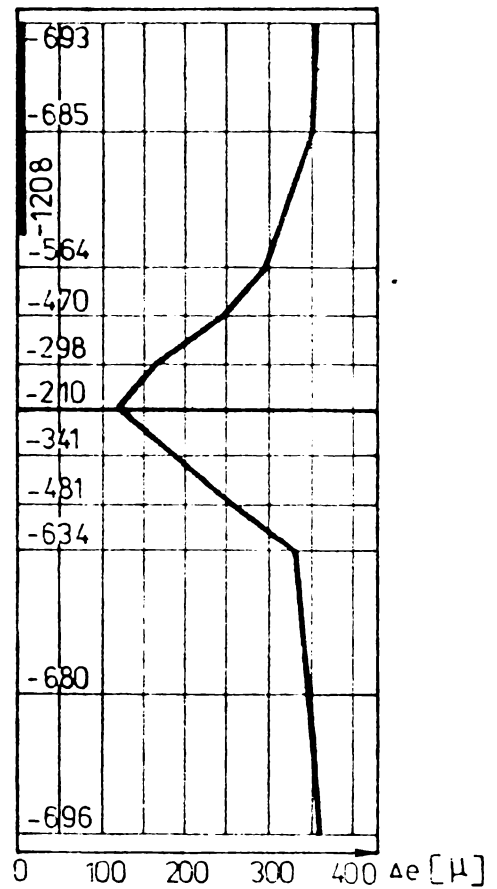
CPP 10

Fig. A30.

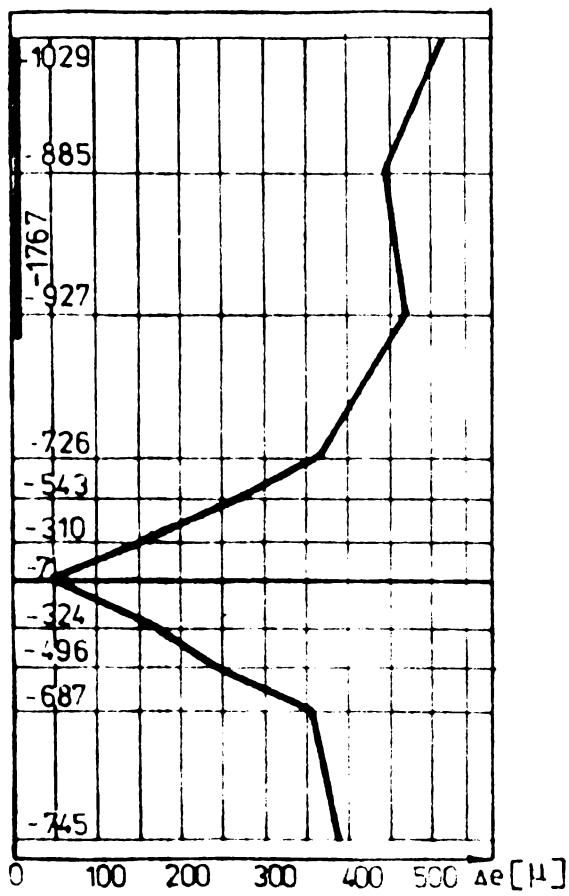
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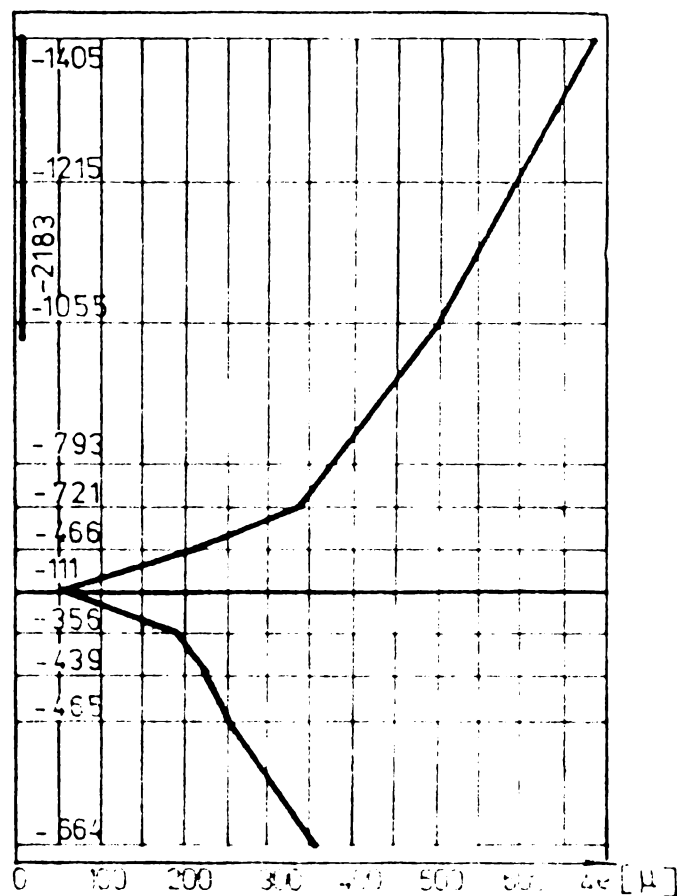
CPP 11



CPP 12



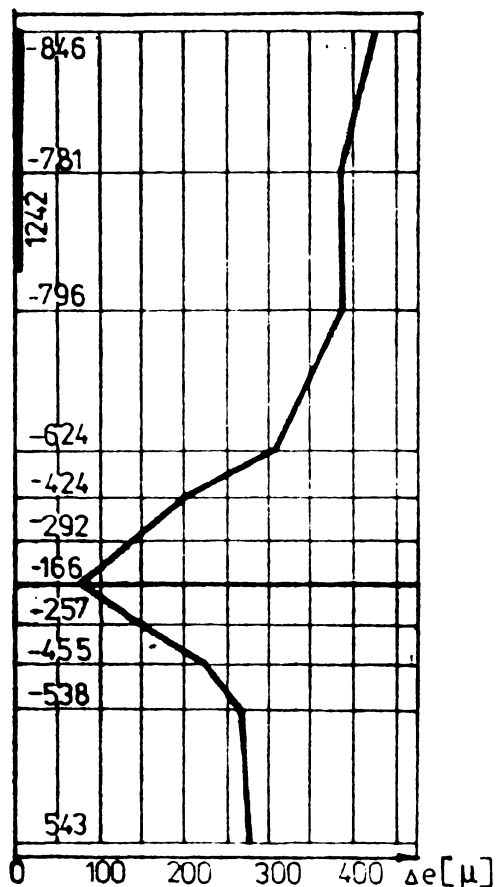
CPP 23



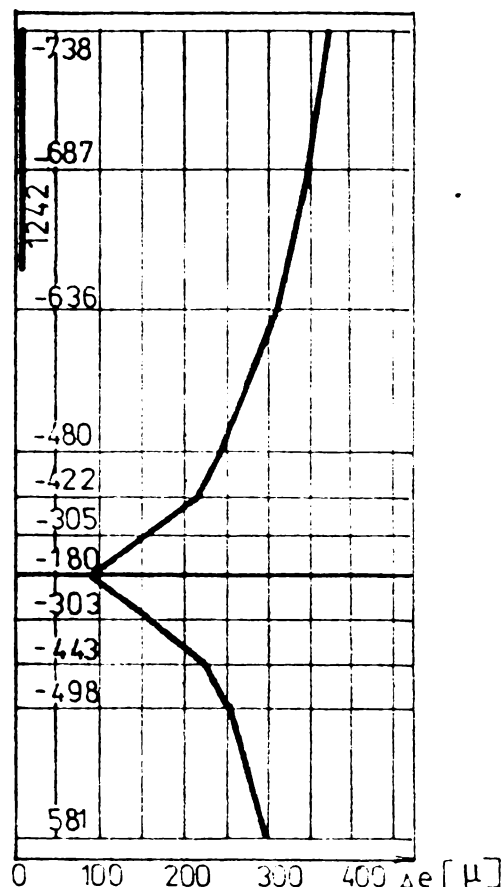
CPP 24

Fig. A31.

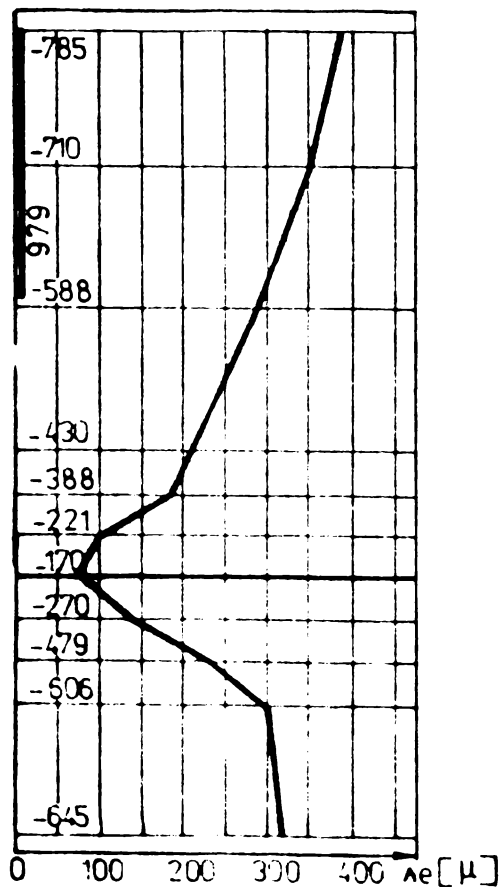
DEFORMATII ALE CONTURULUI



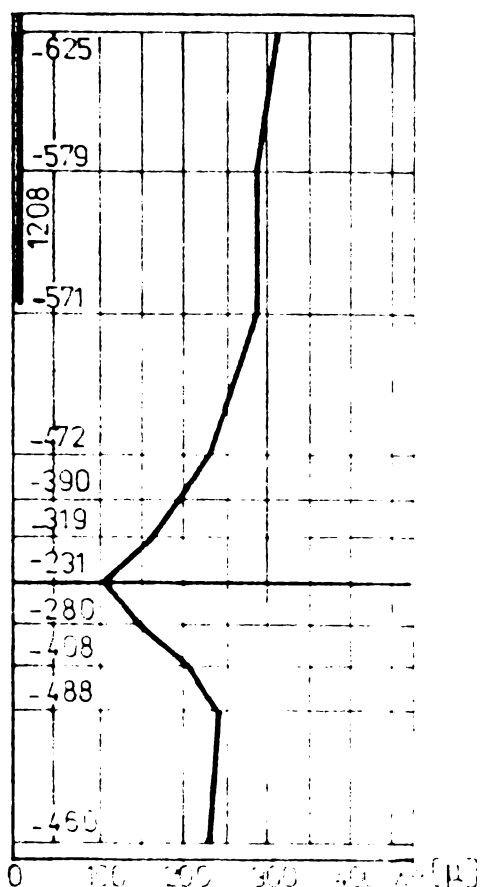
CPP 13



CPP 19



CPP 16



CPP 20

Fig. A32.
DEFORMATII ALE CONTURULUI

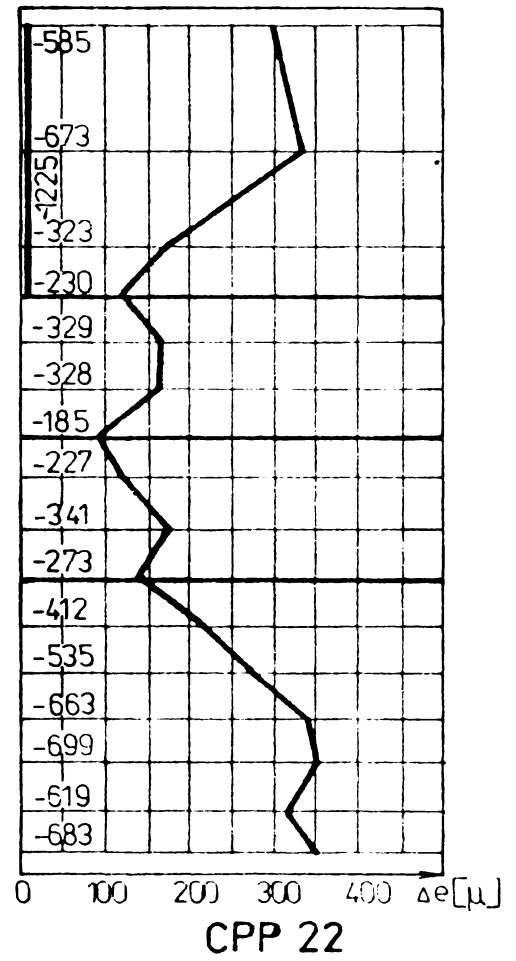
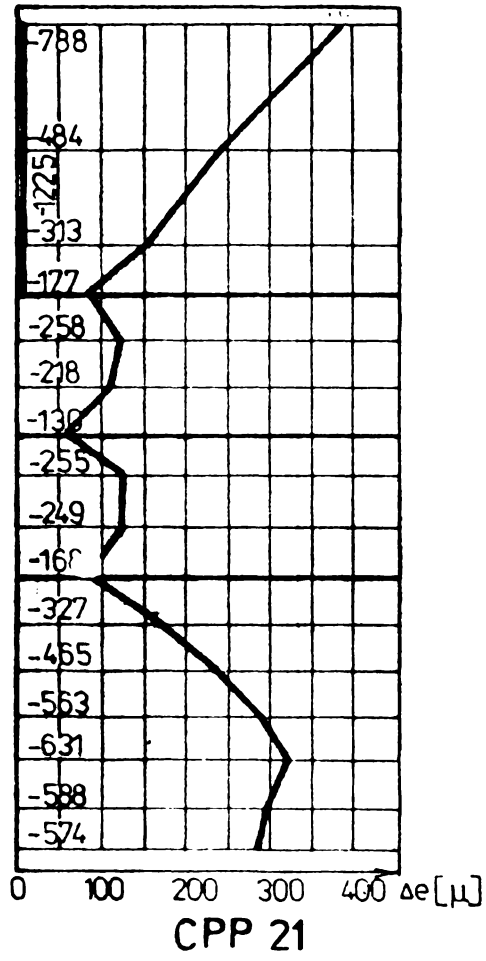


Fig. A33.

DEFORMATII ALE CONTURULUI

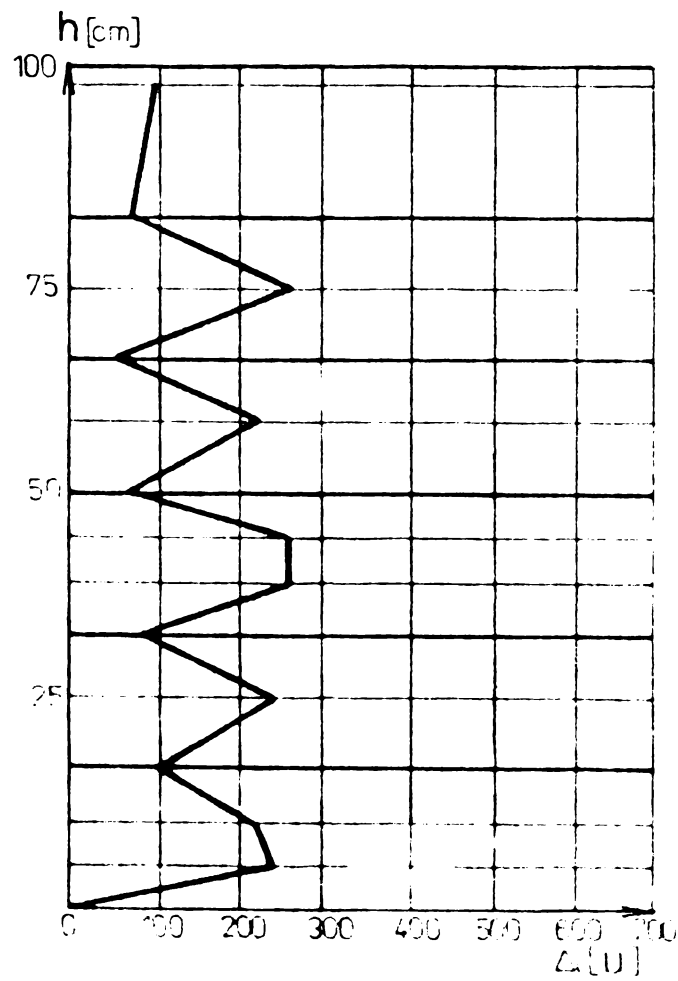


Fig. A34.

DEFORMATII ALE CONTURULUI

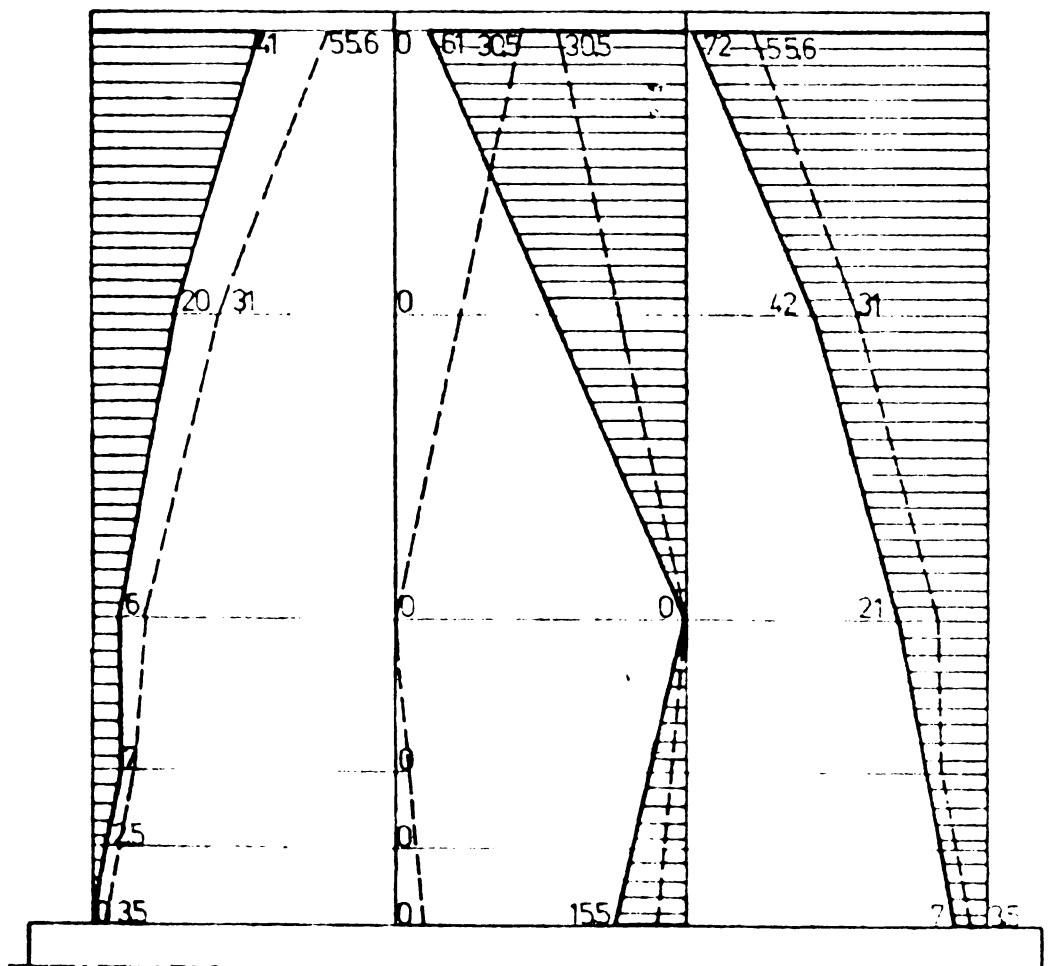
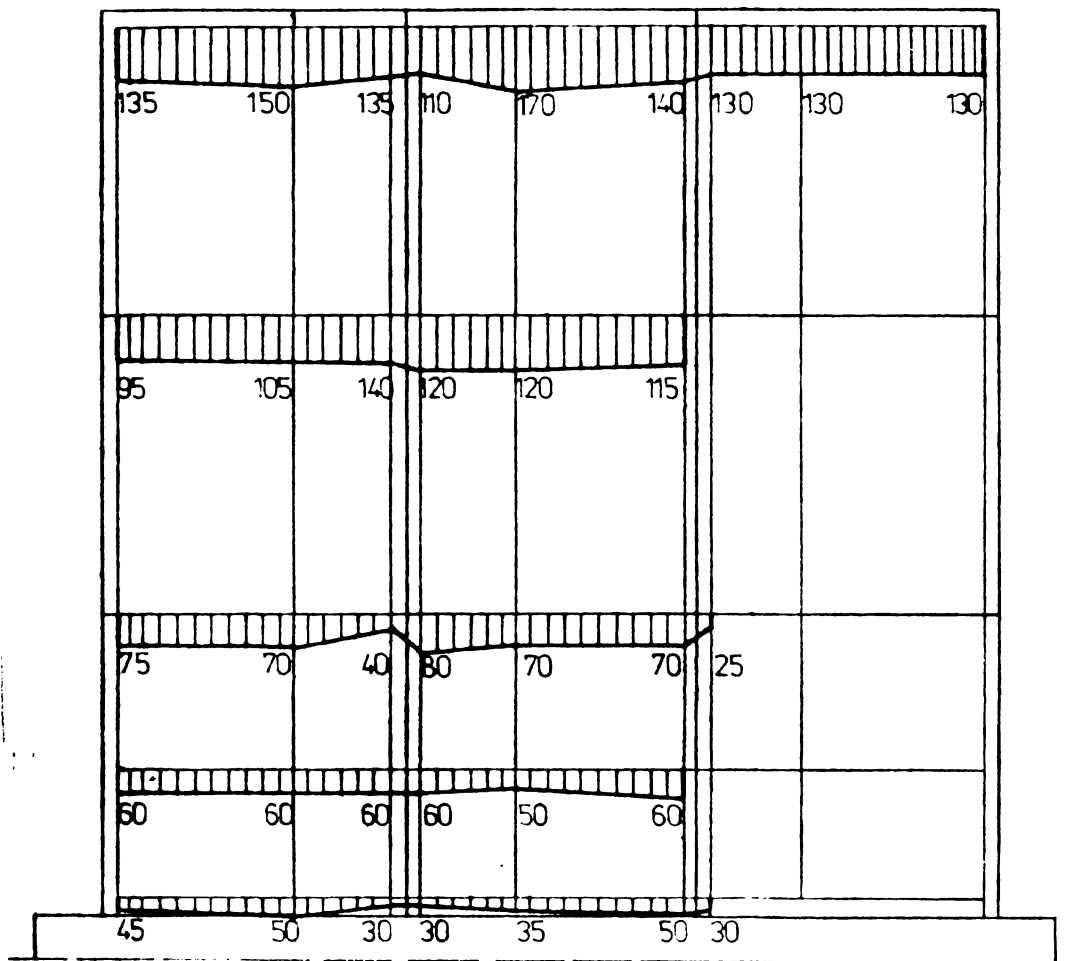


Fig. A 35.

DEFORMATI VERTICALE SI
 ORIZONTALE [$t = 28-43$ ZILE] [μ]
 CO 9-ETAPA a-ii-a

- CITIRI REALE
- - - CITIRI MEDI

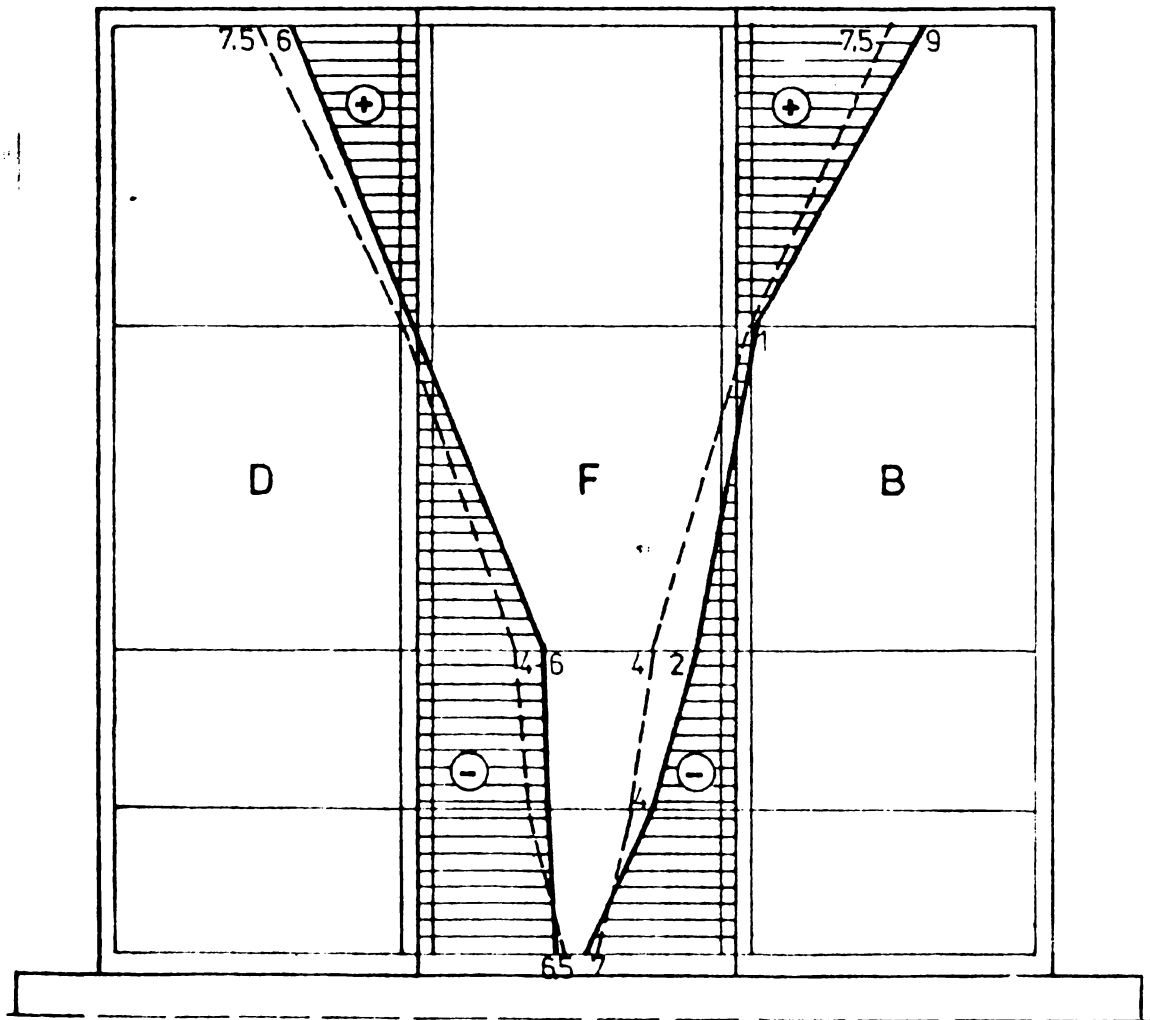


Fig. A36

CD-09 ETAPA II
 DEPLASAREA RELATIVA A MARGINILOR
 VERTICALE INTERIOARE [μ]
 — CITIRI DIRECTE
 - - - MEDIA MARGINILOR OMOLOAGE

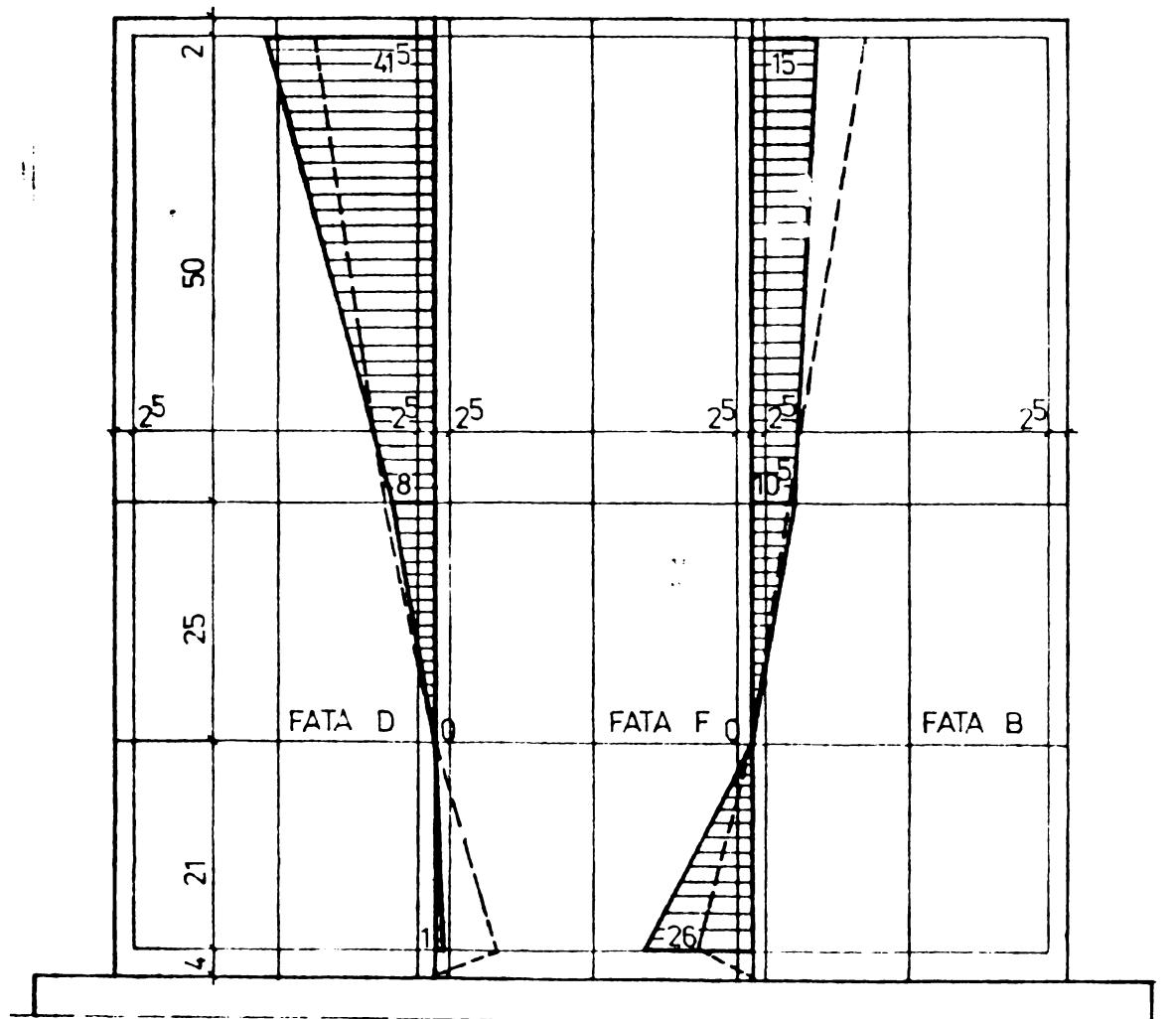


Fig. A 38.

CD - 10 ETAPA a-]-a
 DEPLASAREA RELATIVA A
 MARGINILOR INTERIOARE [μ]
 VERTICALE.

- 28 ZILE
- - - MEDIA CITIRILOR

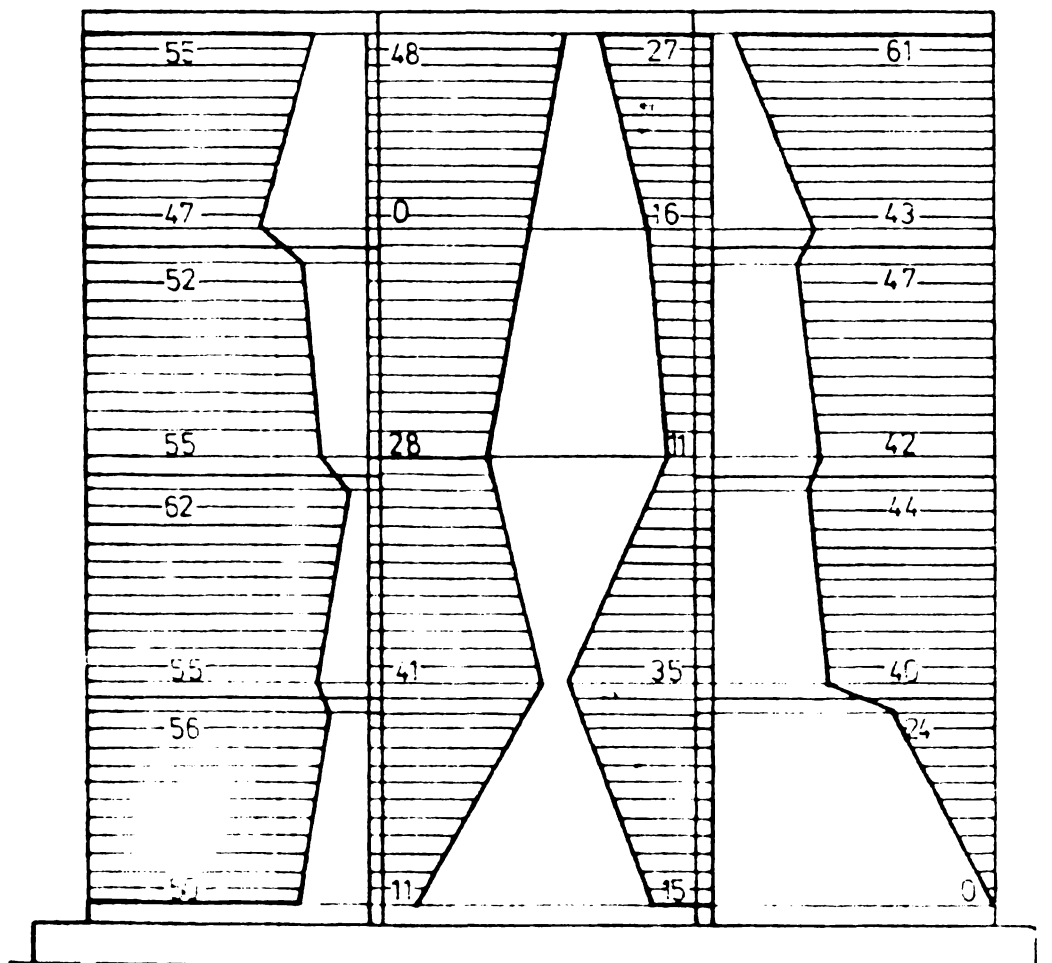
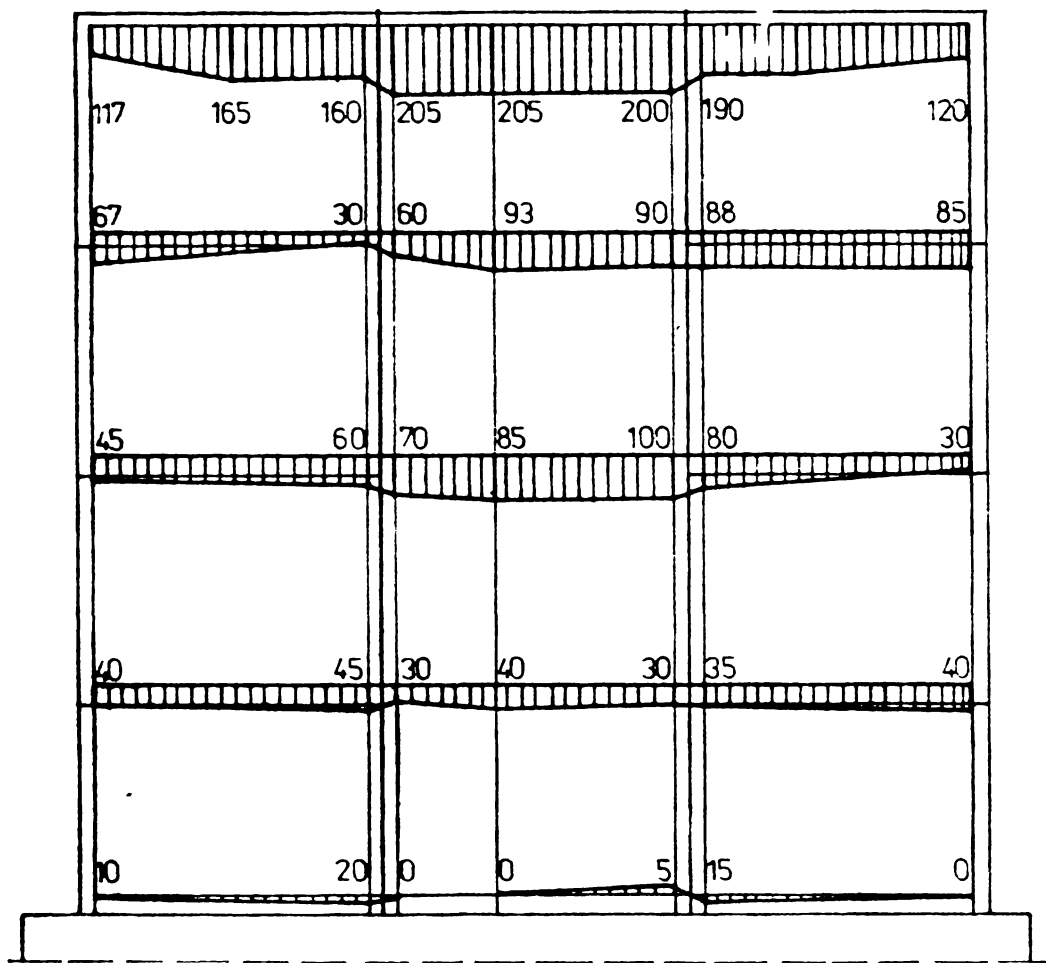


Fig. A39.

CD-11 ETAPA a-III-a
 DEFORMATIILE TOTALE PE
 VERTICALA SI ORIZZONTALA [μ]
 VIRSTA DE LA (28-45)ZILE

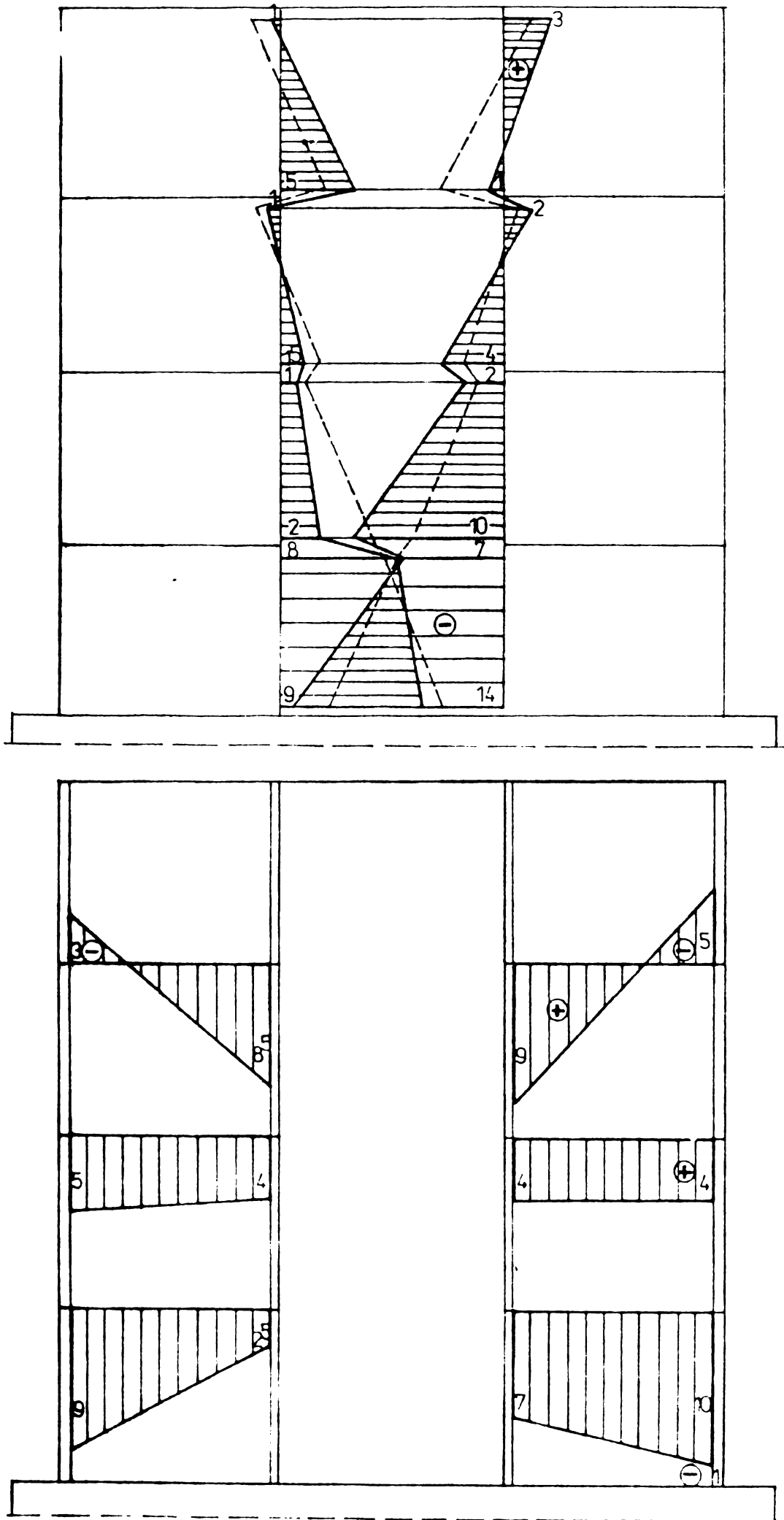


Fig. A40.

CD 11 FAZA II
 DEFORMATIILE ROSTURILOR VERTICALE
 SI ROSTURILOR ORIZONTALE [μ]

- DESCHIDERE ROST
 - INCHIDERE ROST
- VIRSTA DE LA (28-35) ZILE

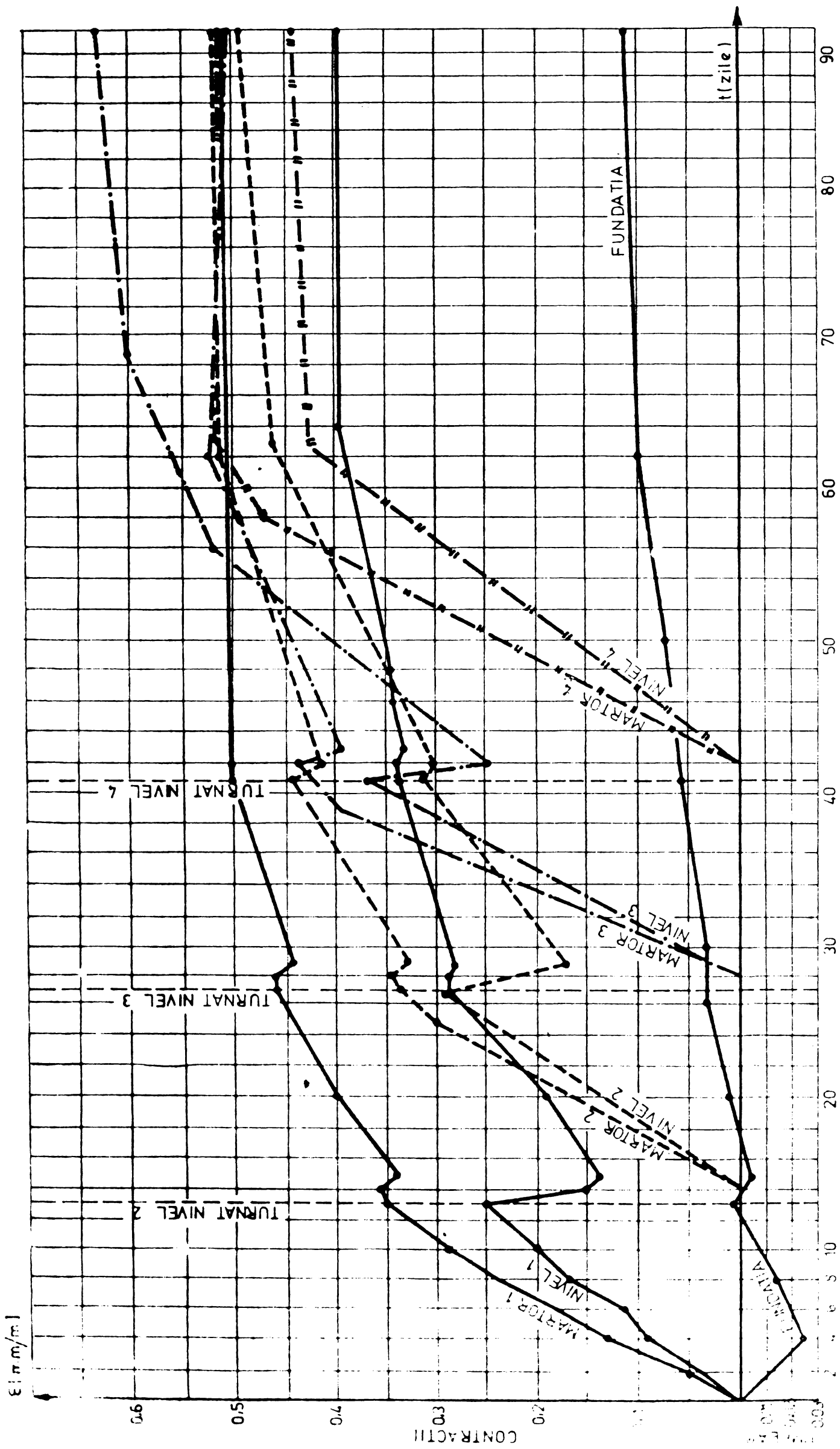
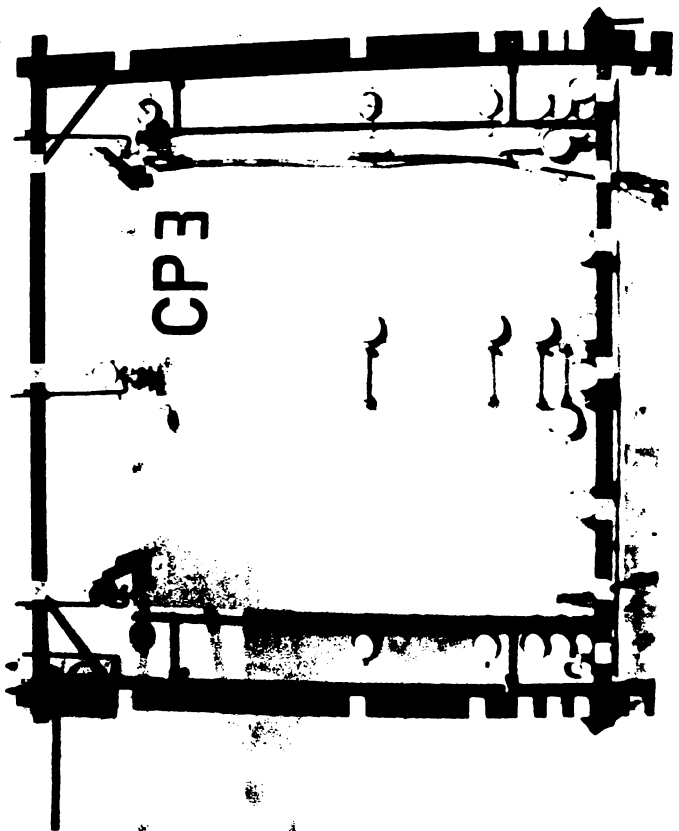
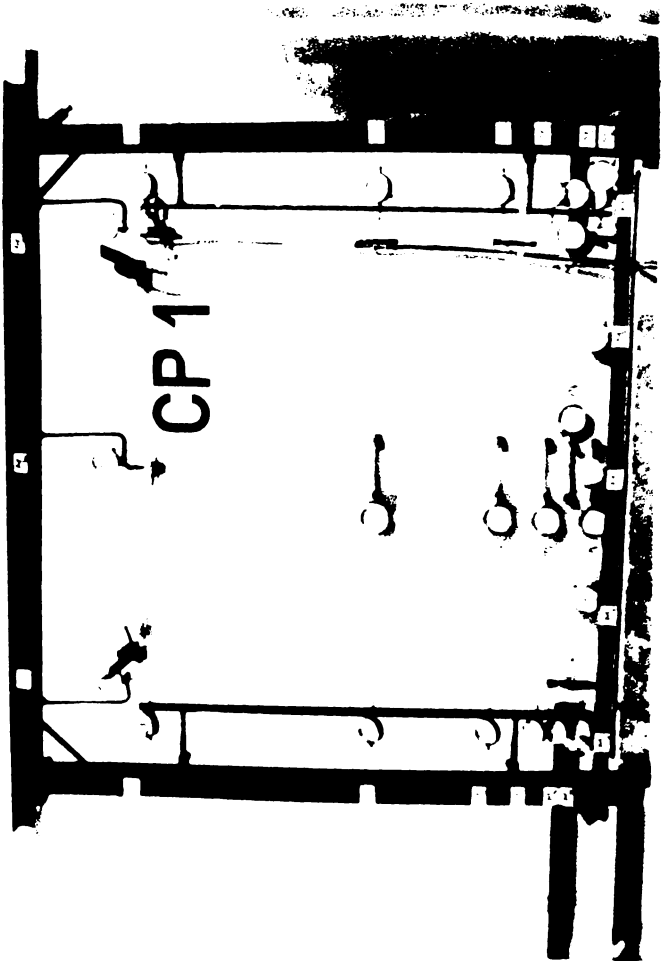
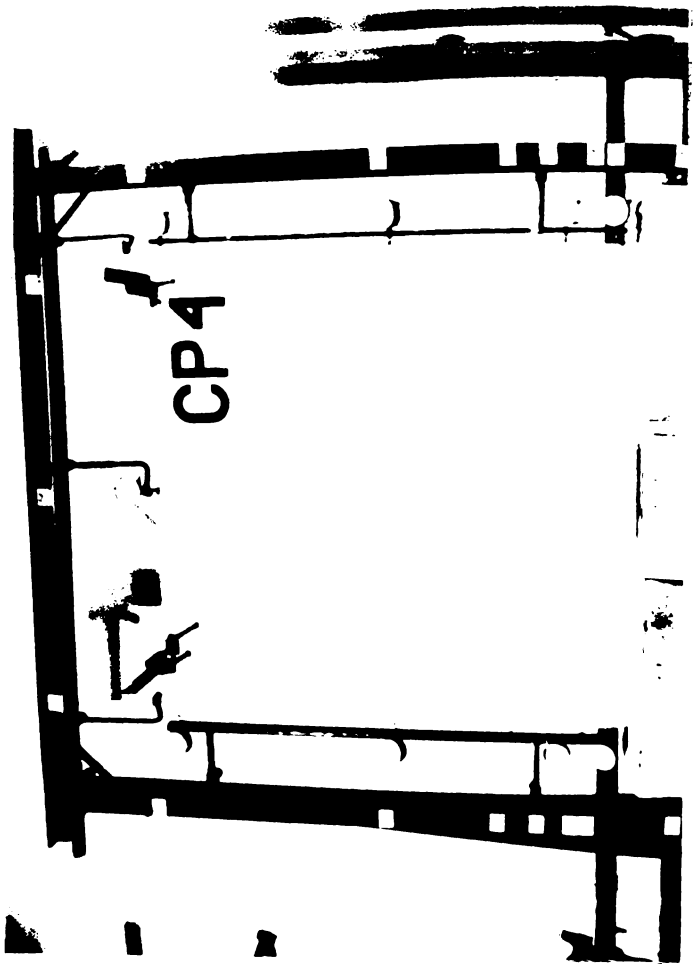
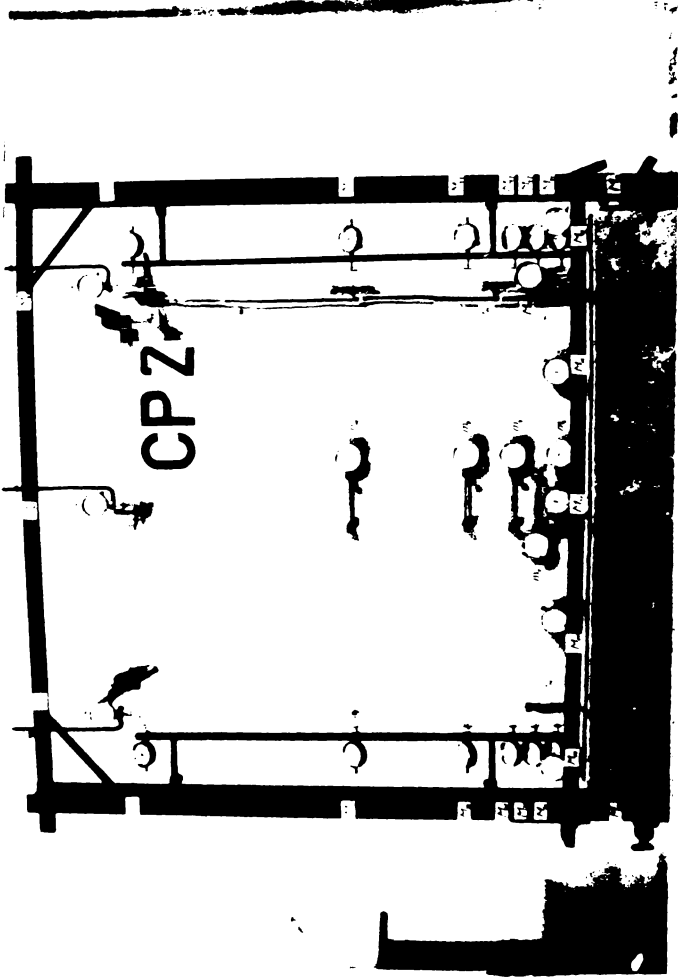
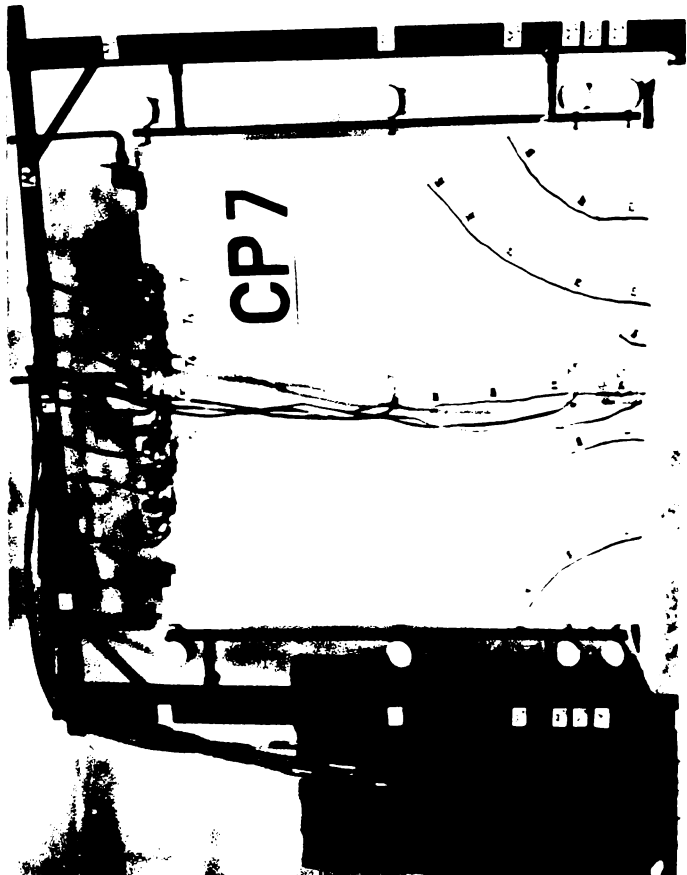
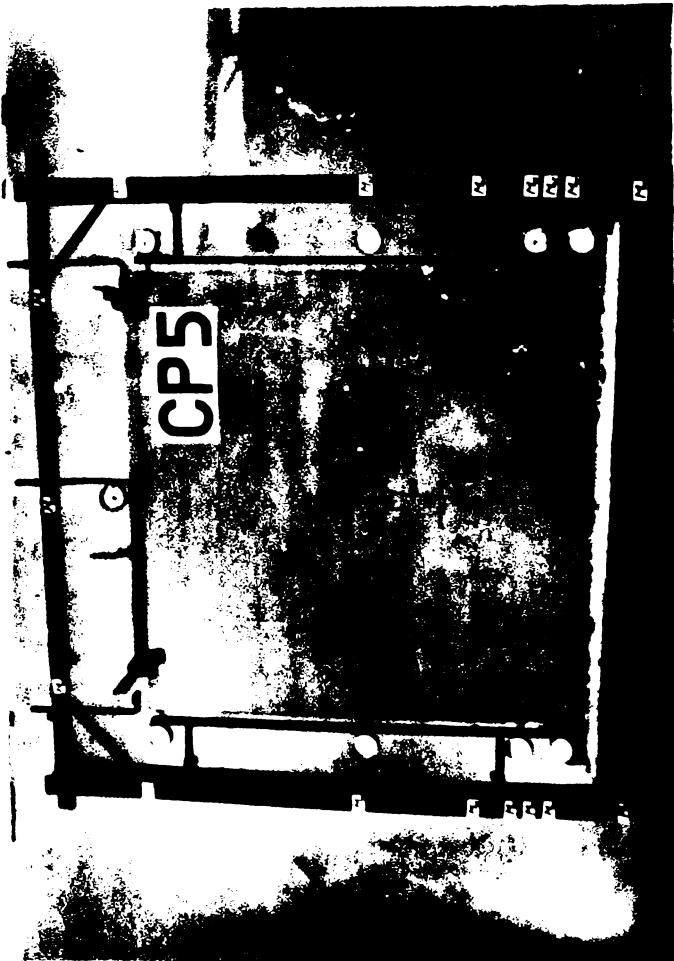
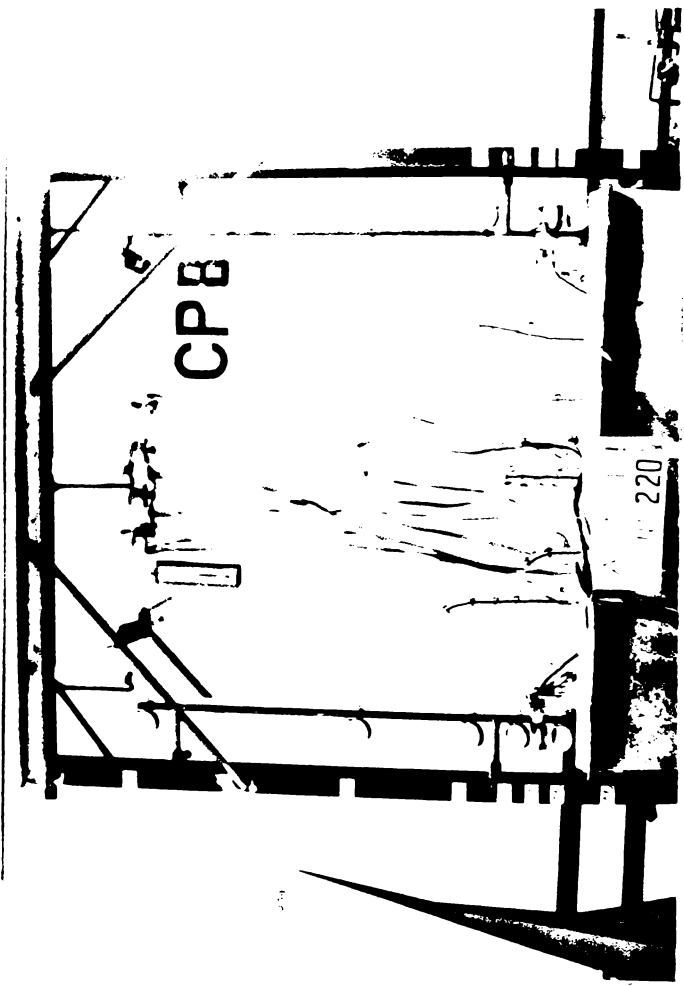
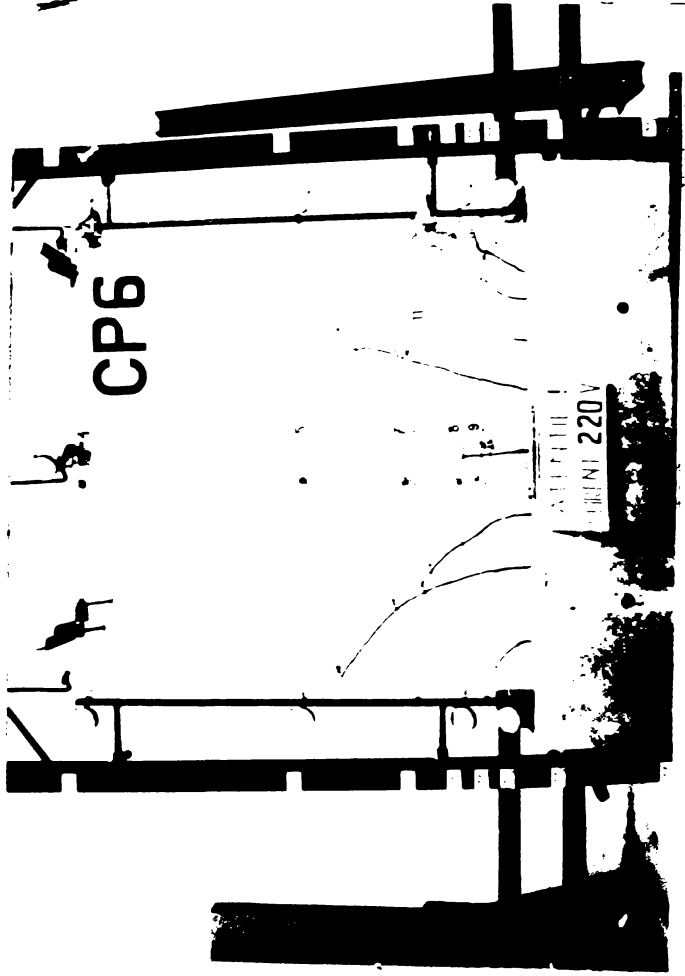


Fig. A.41.

CONTRACTII ALE PERETILOR SI MARTORILOR TURNATI SUCCESIV





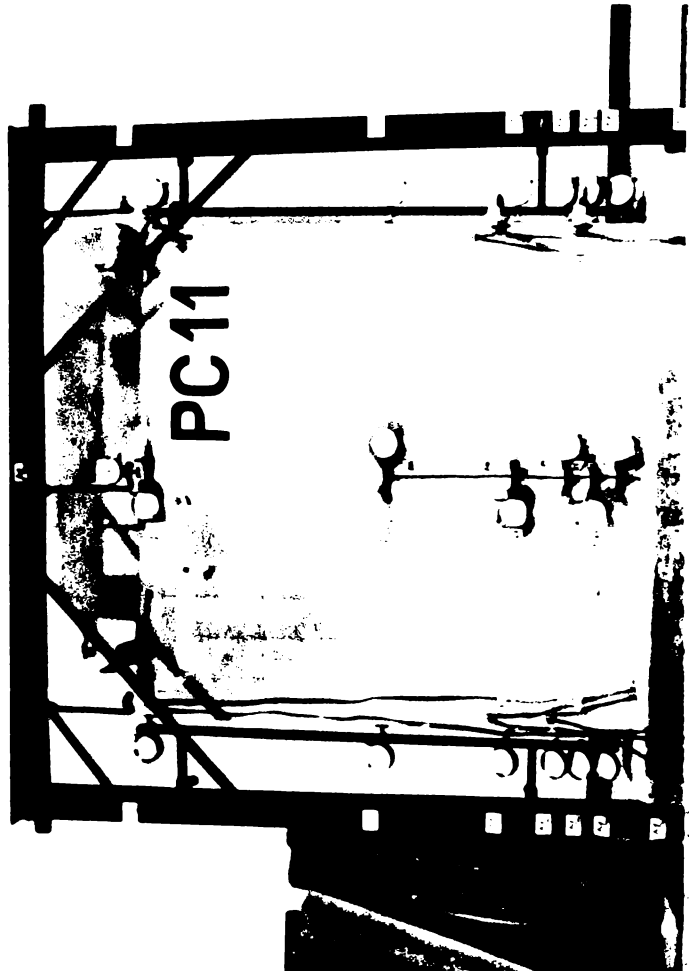
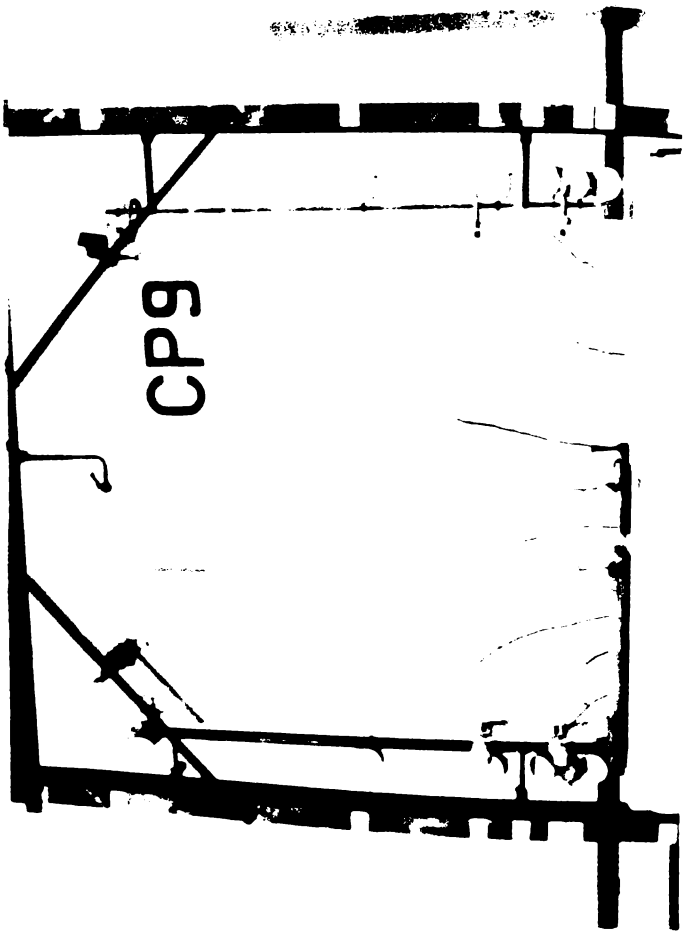
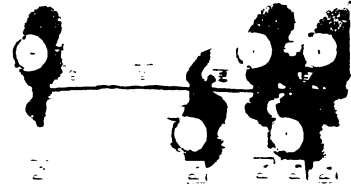
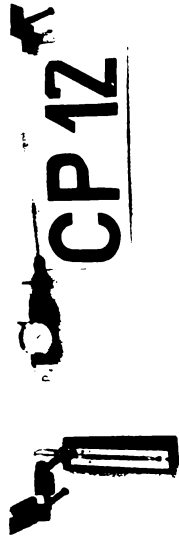
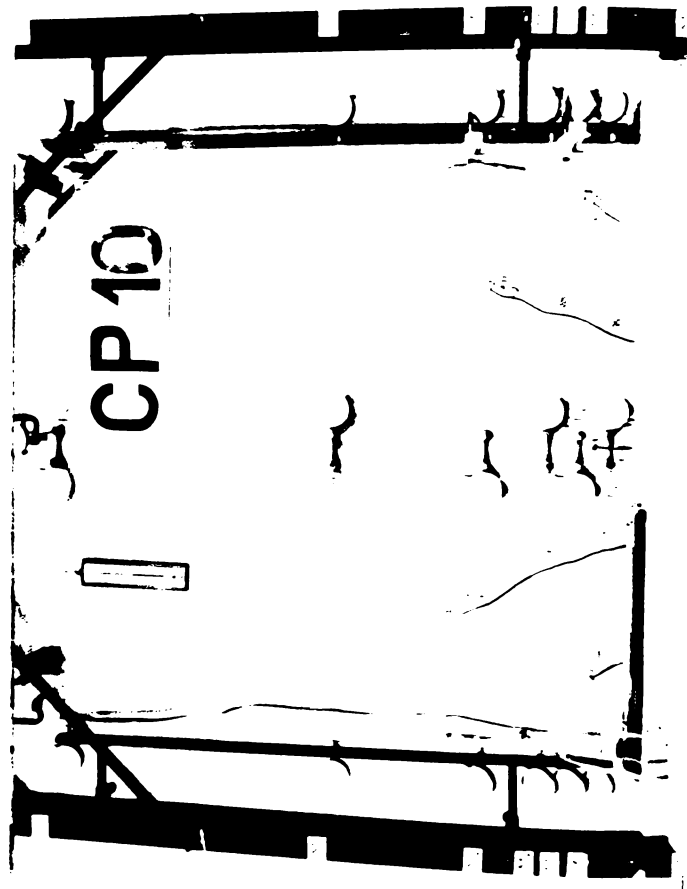
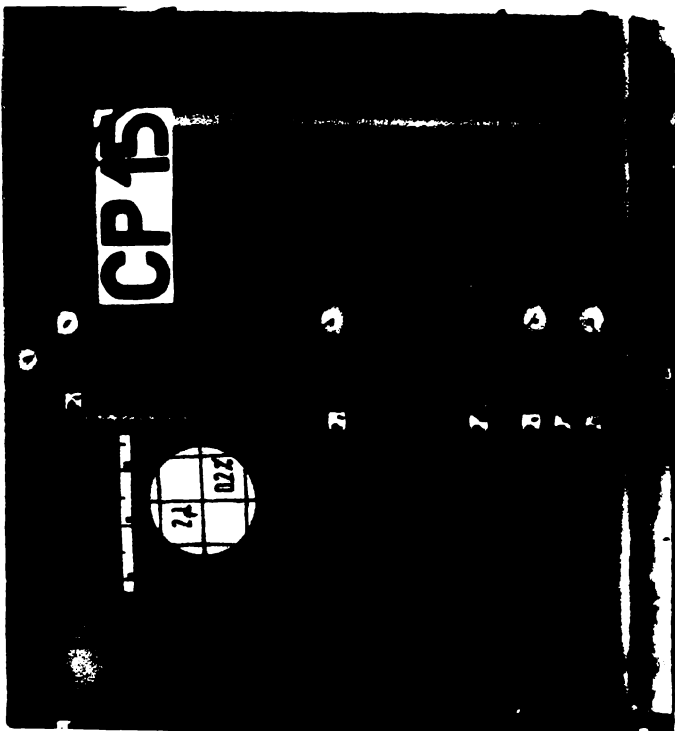
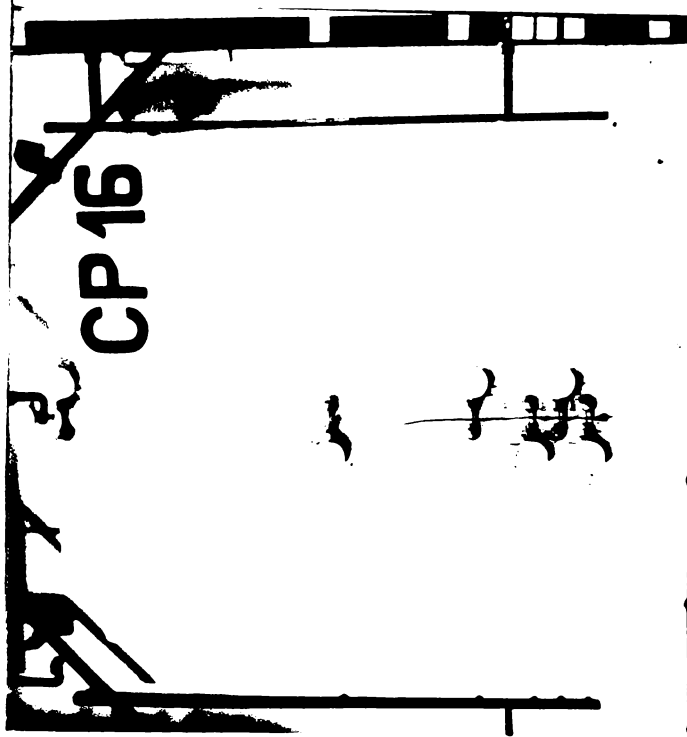


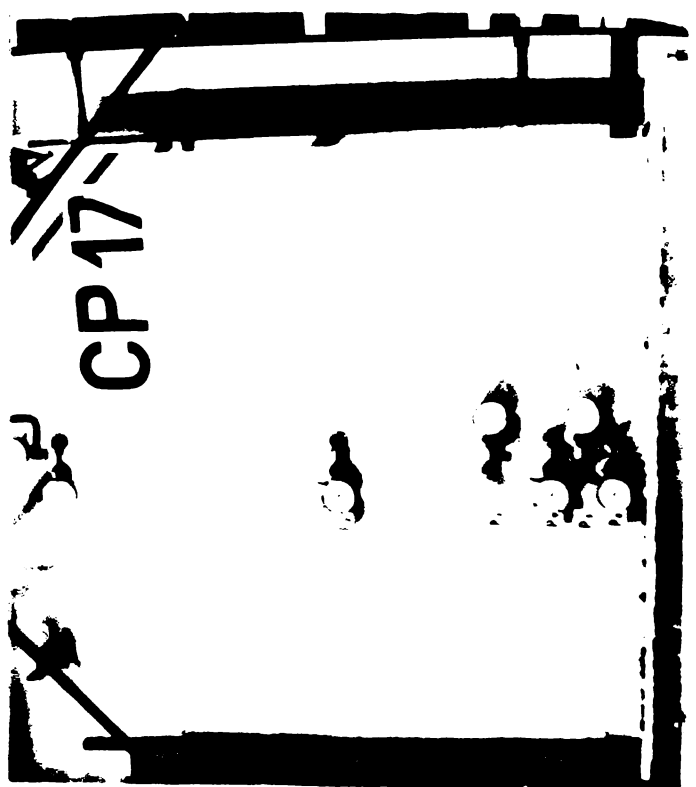
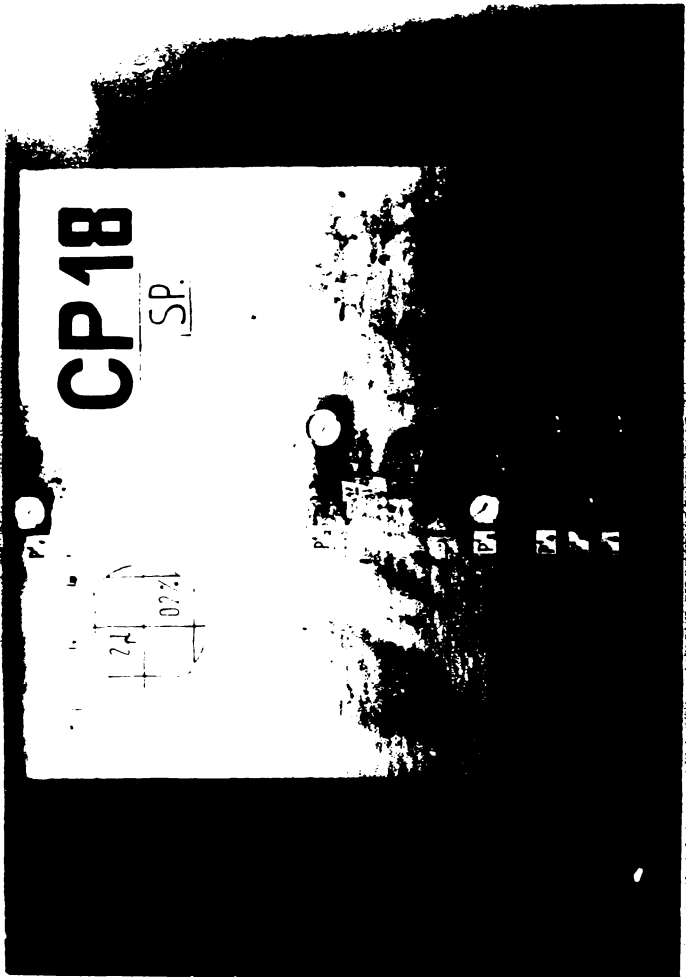
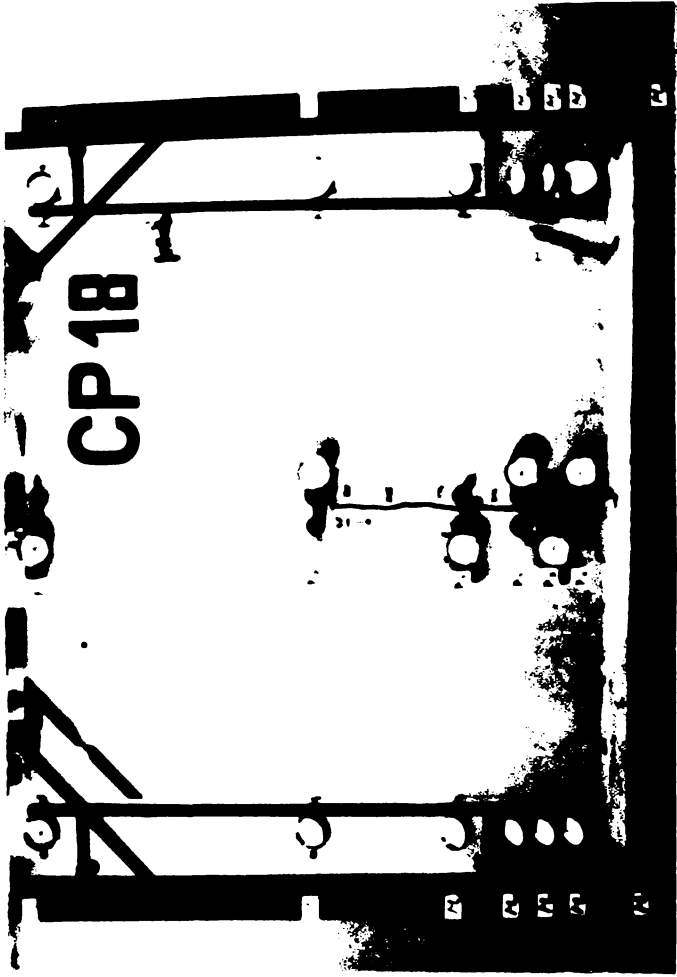
FIG. A-14

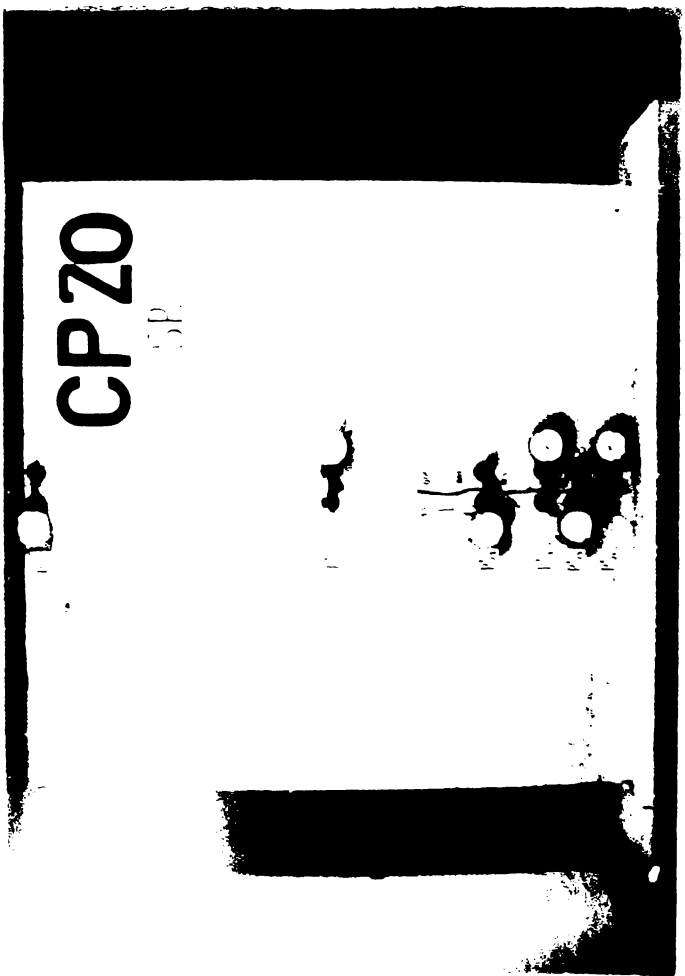
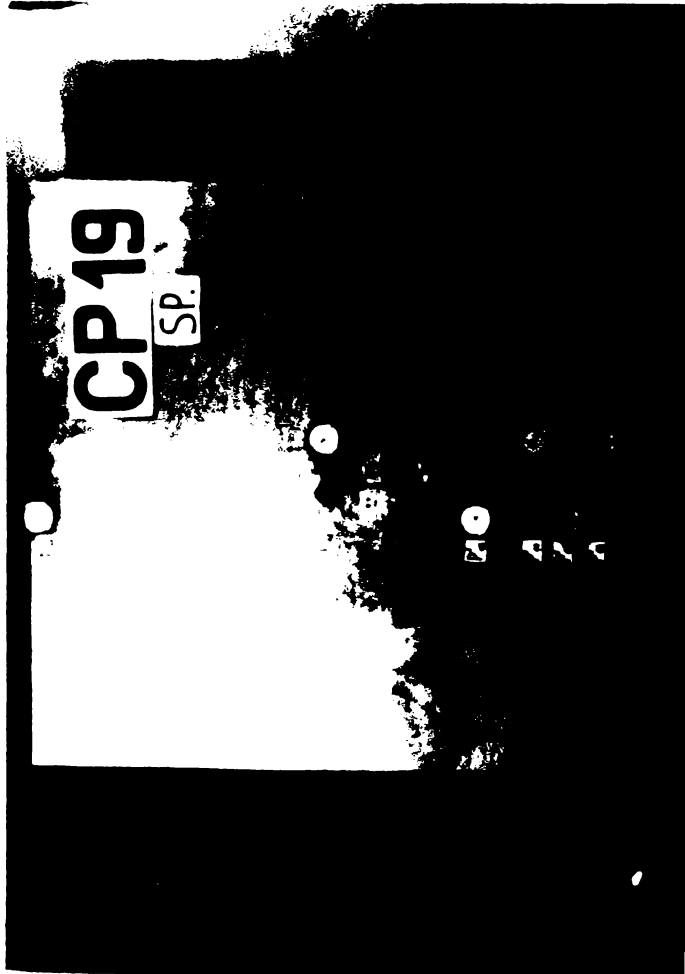
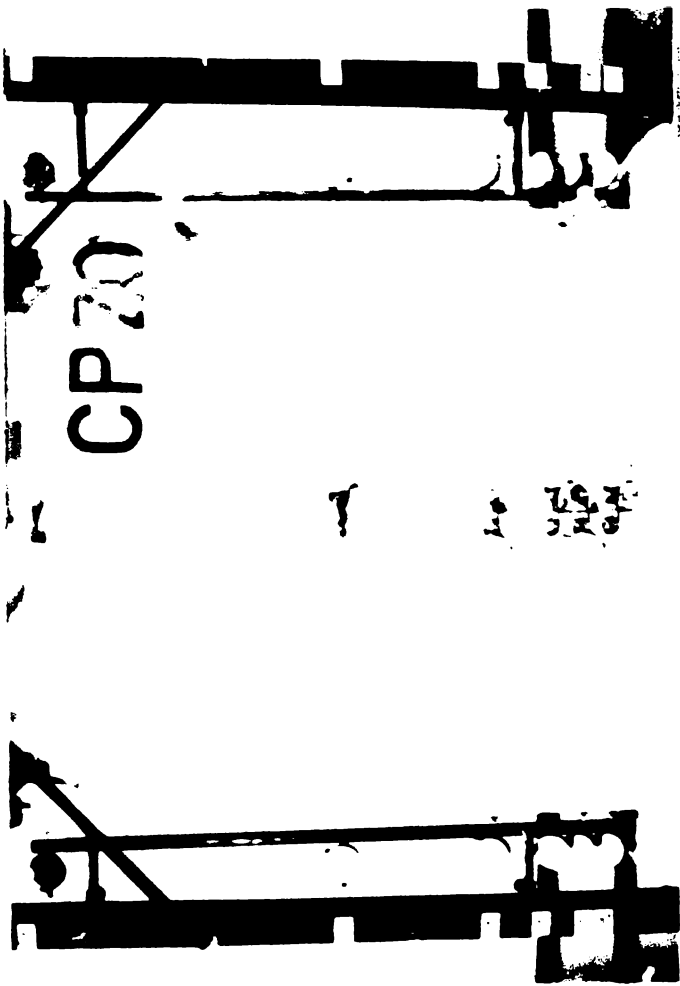
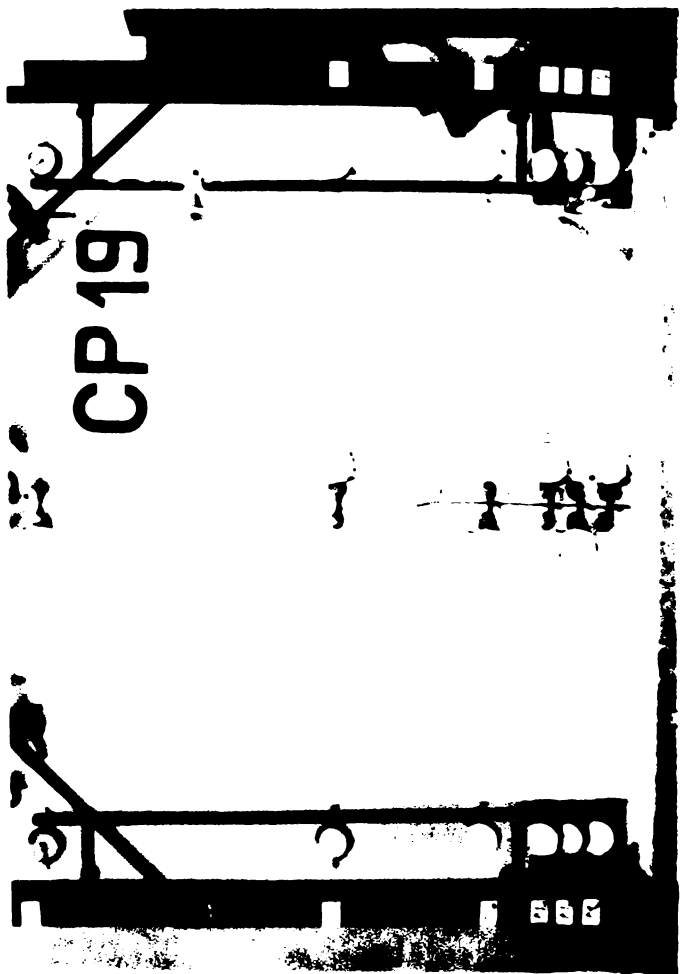
CP13



CP16







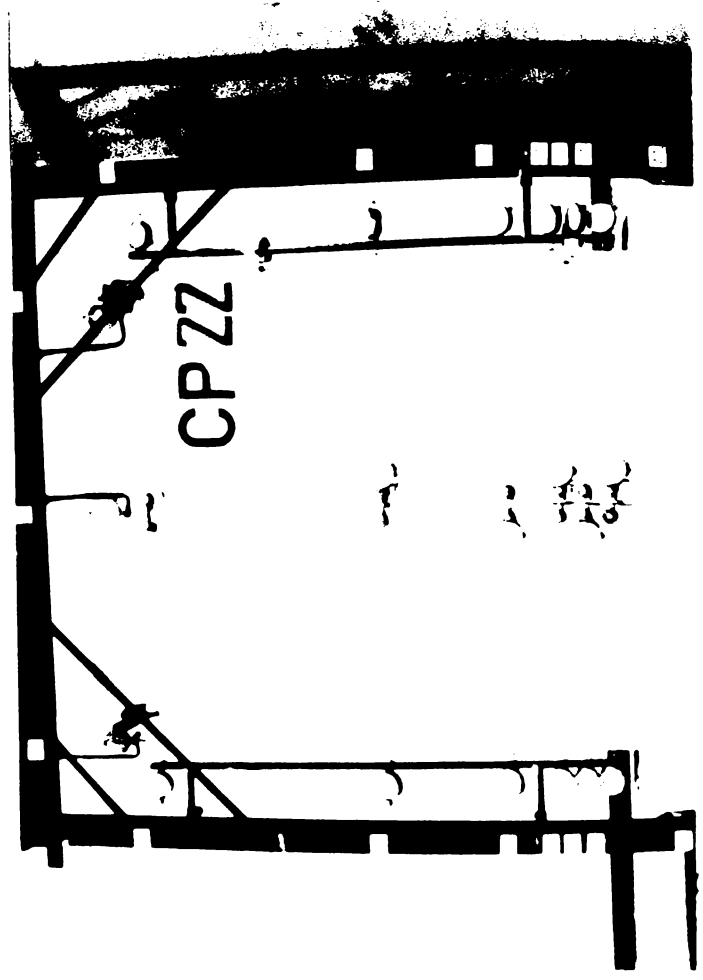
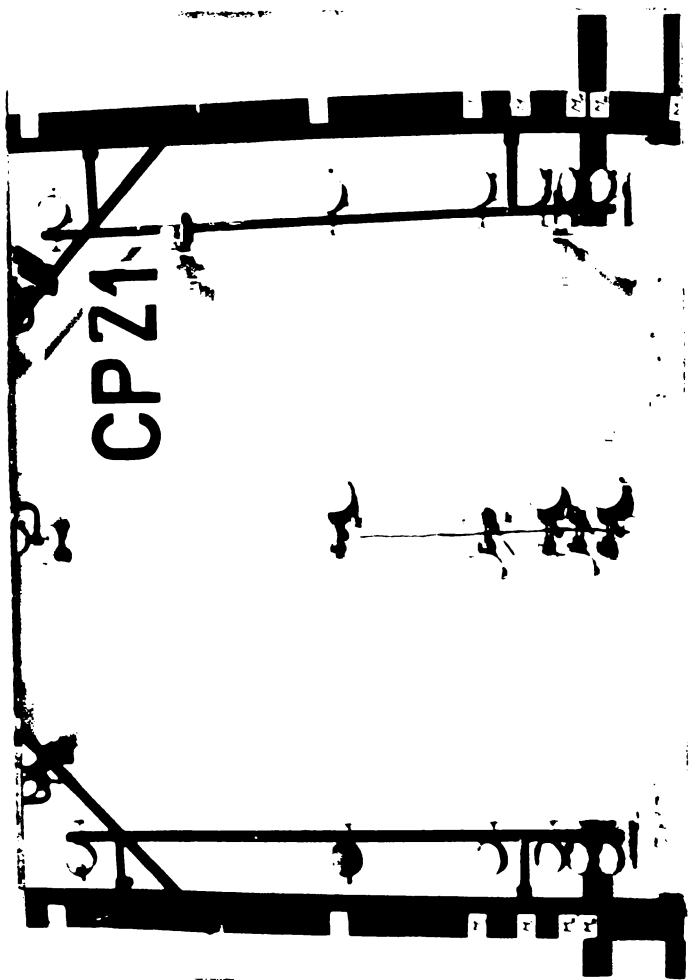
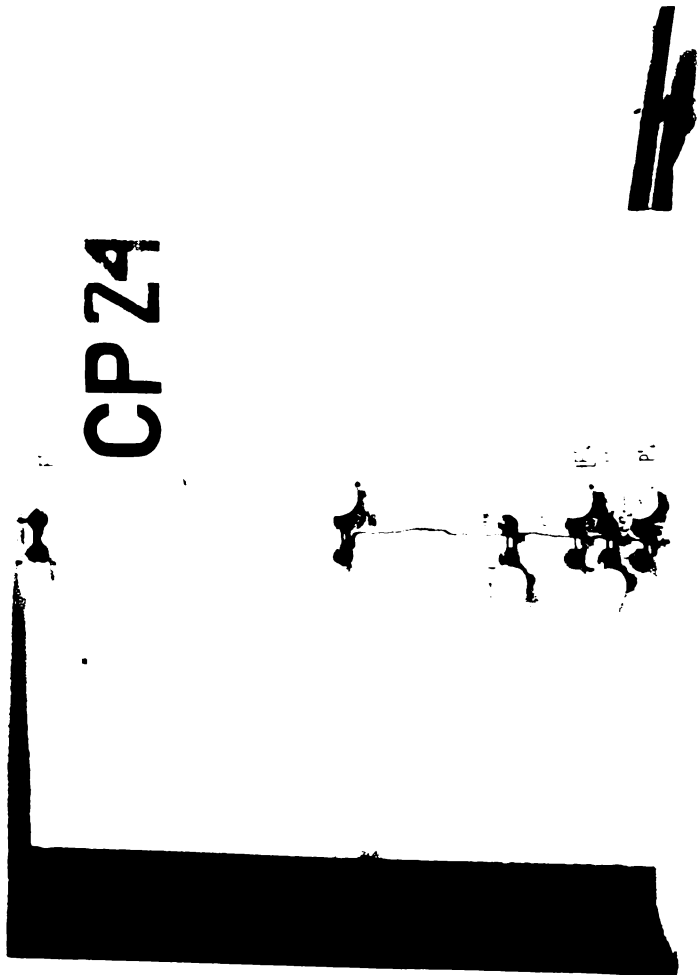
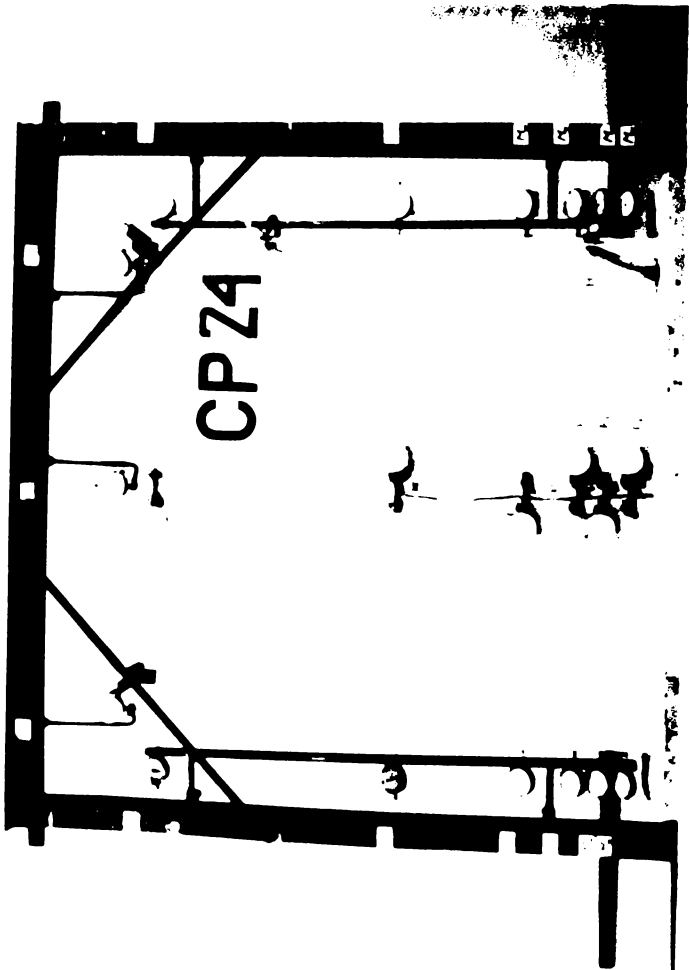
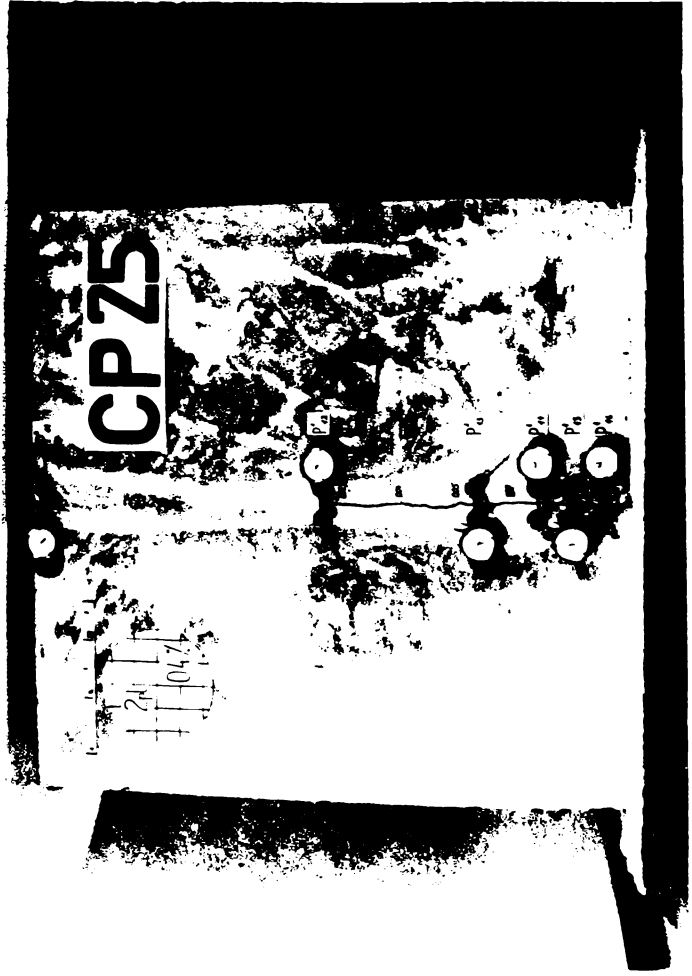
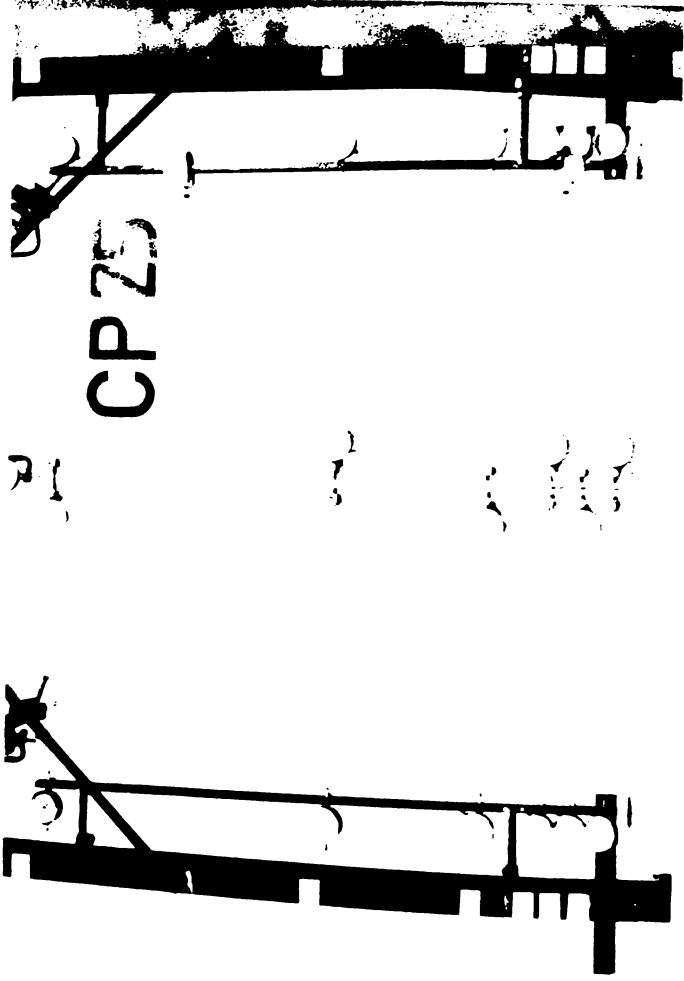
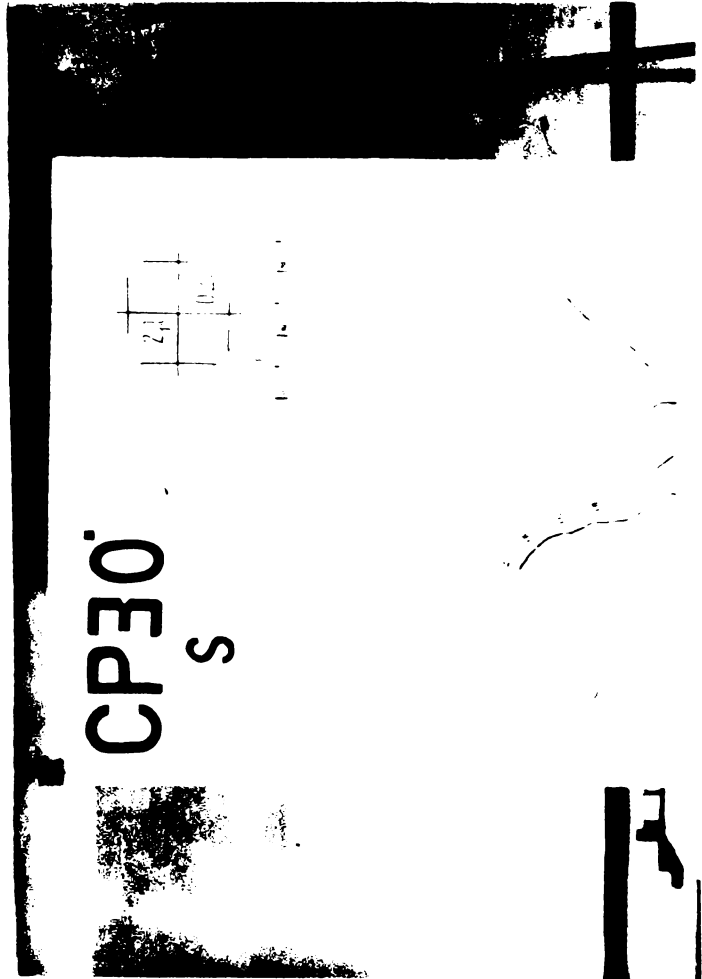
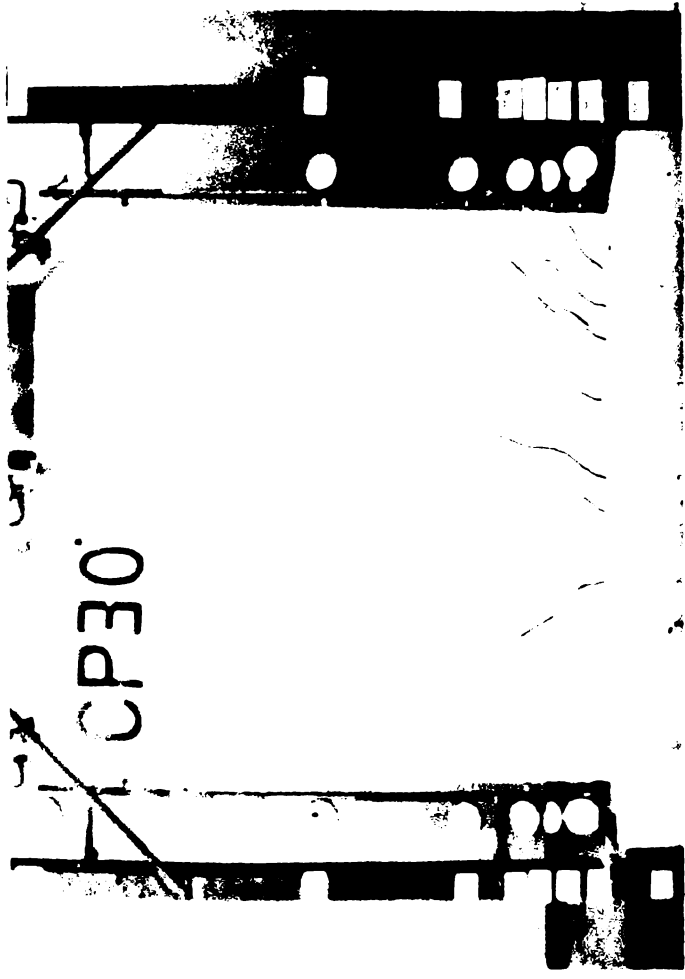
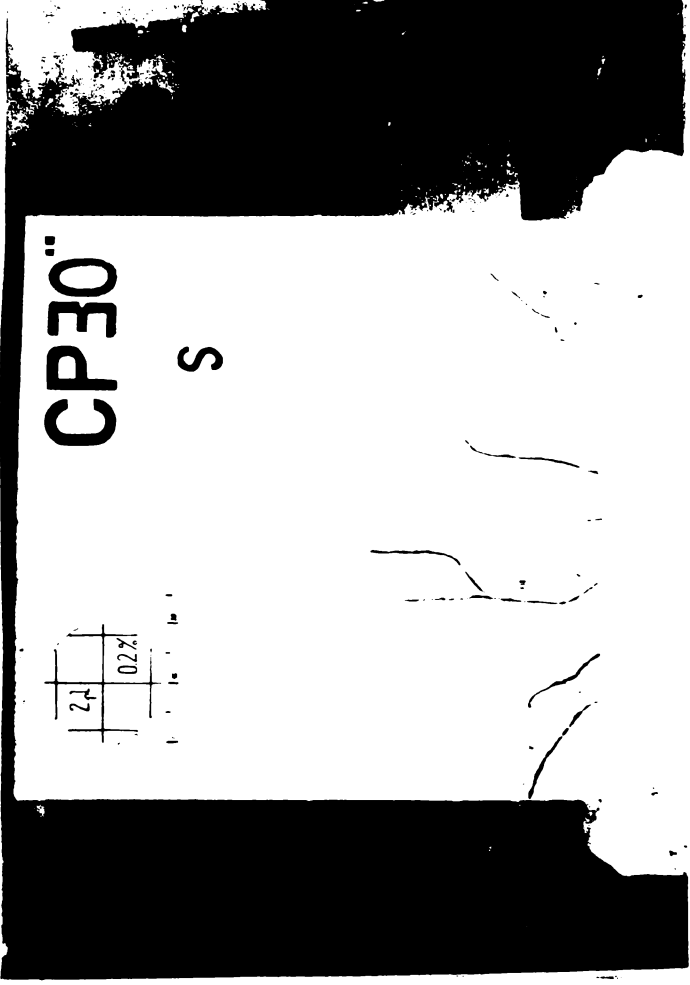
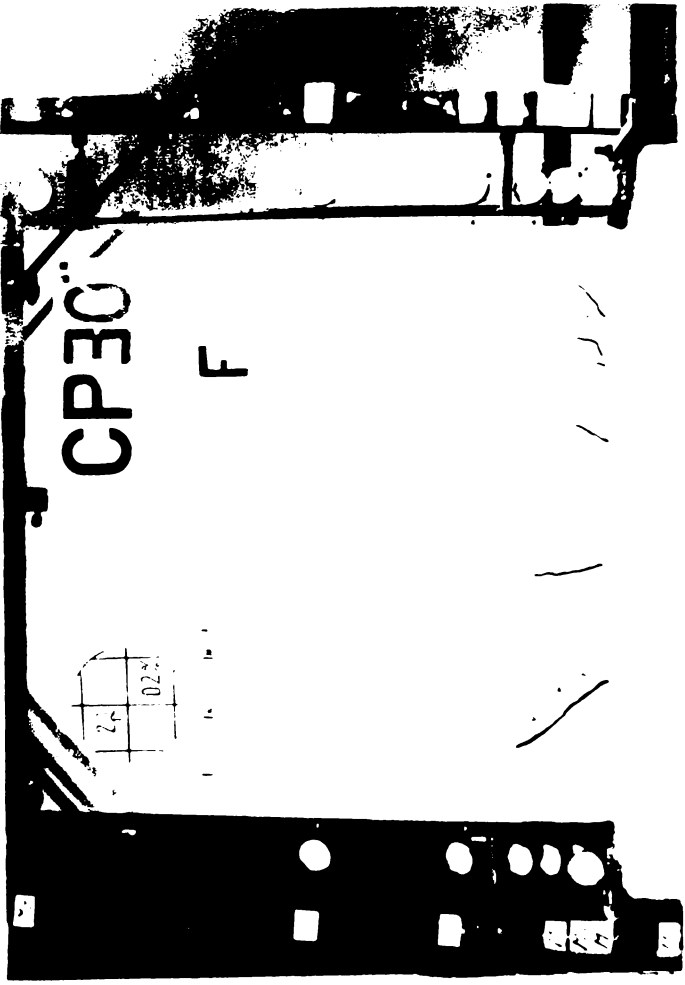
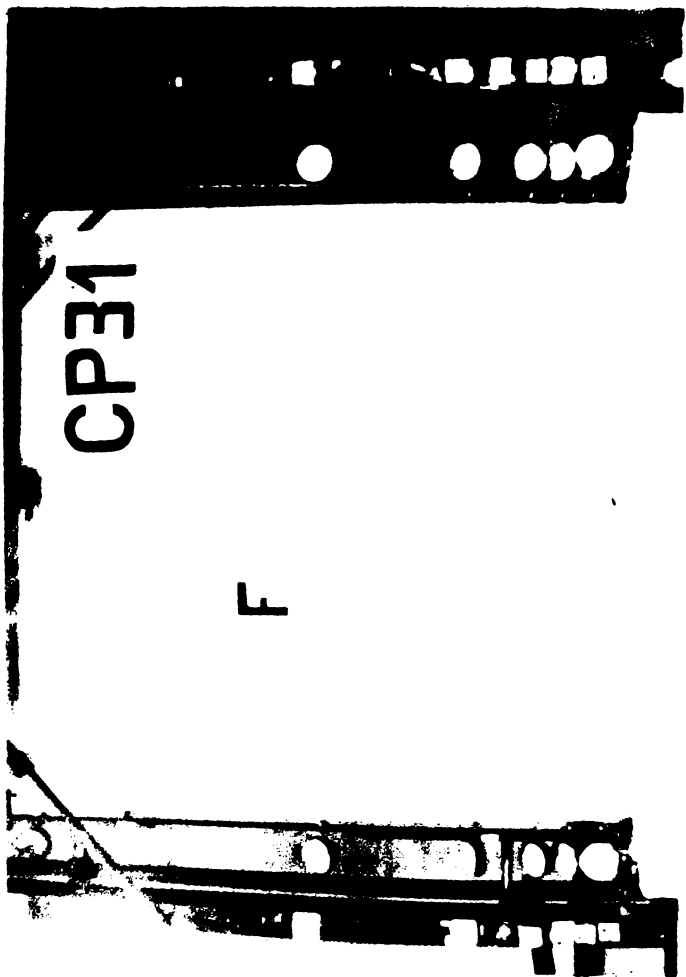
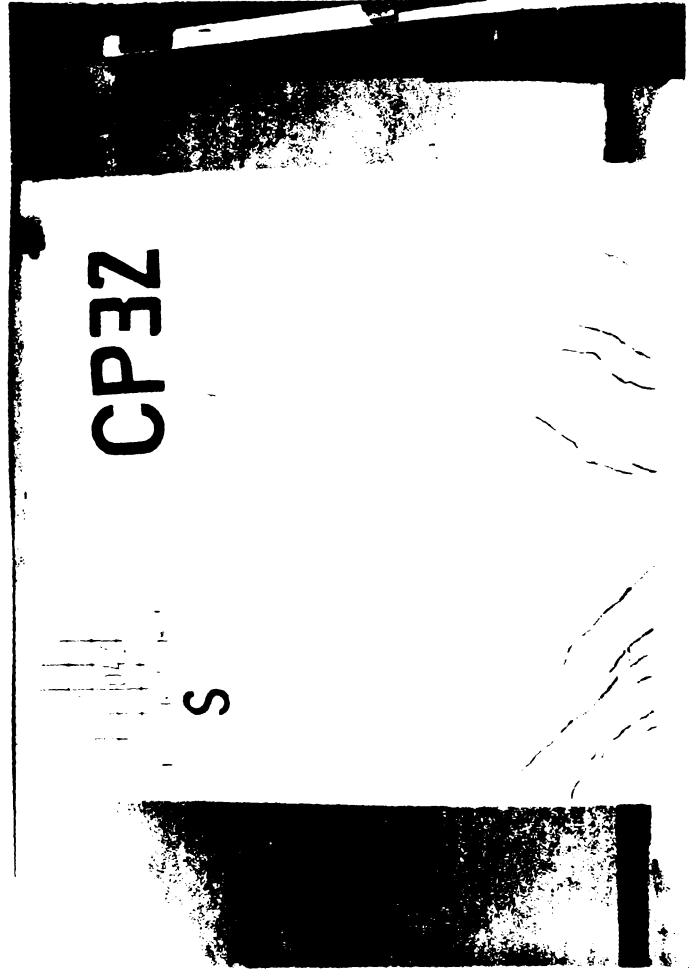
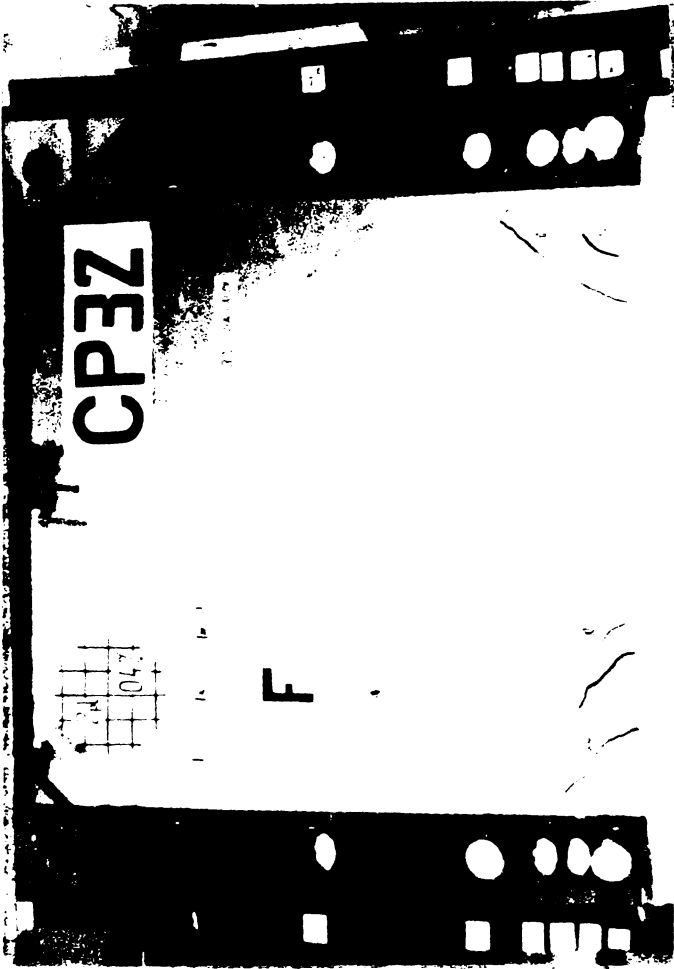


Fig. A-8







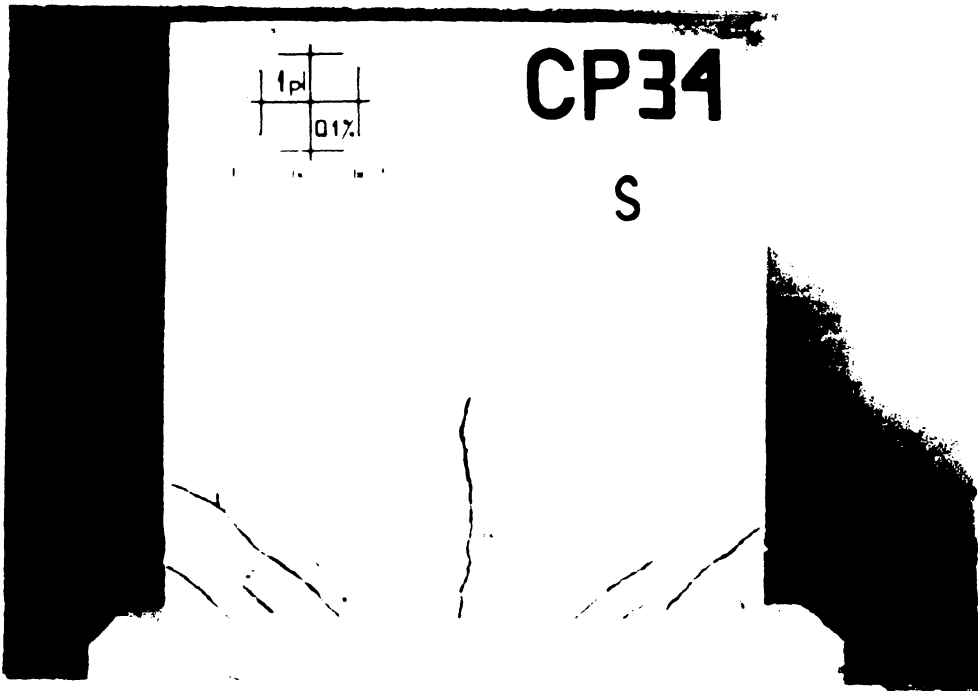
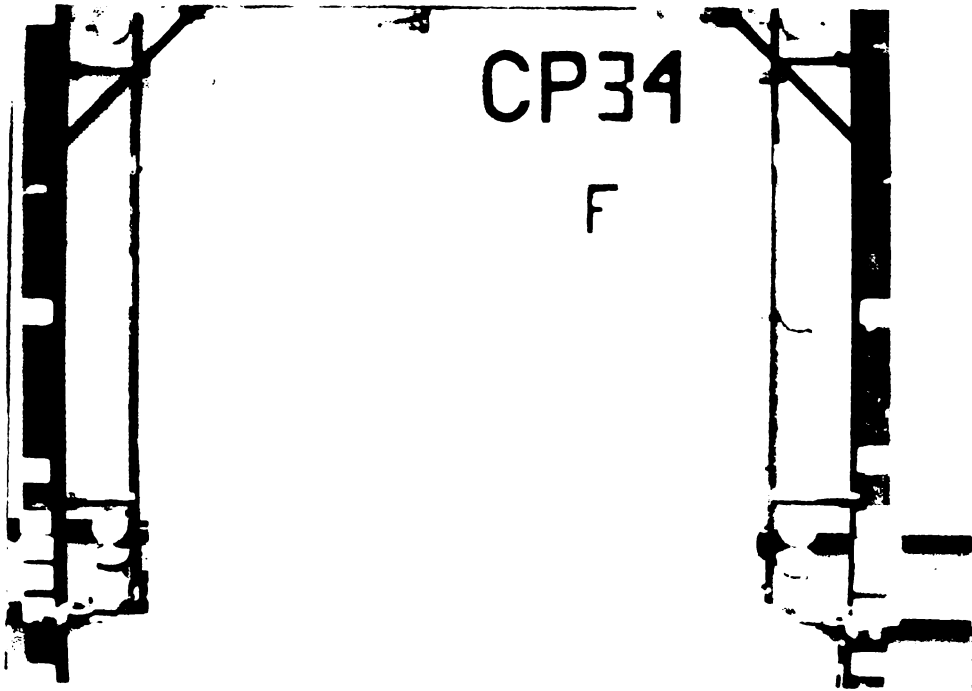
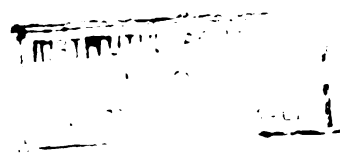
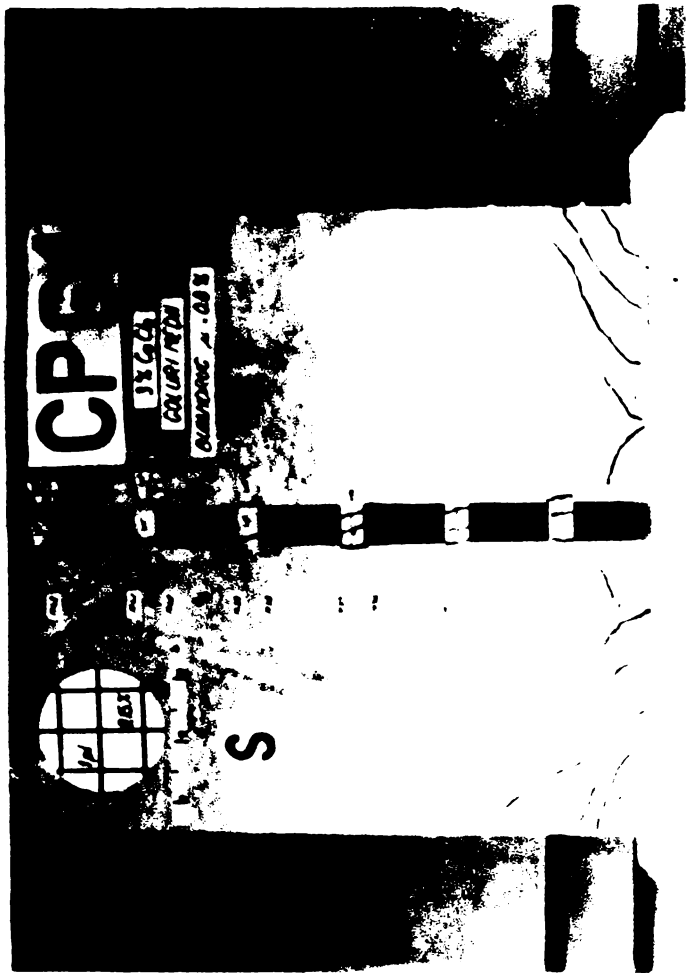
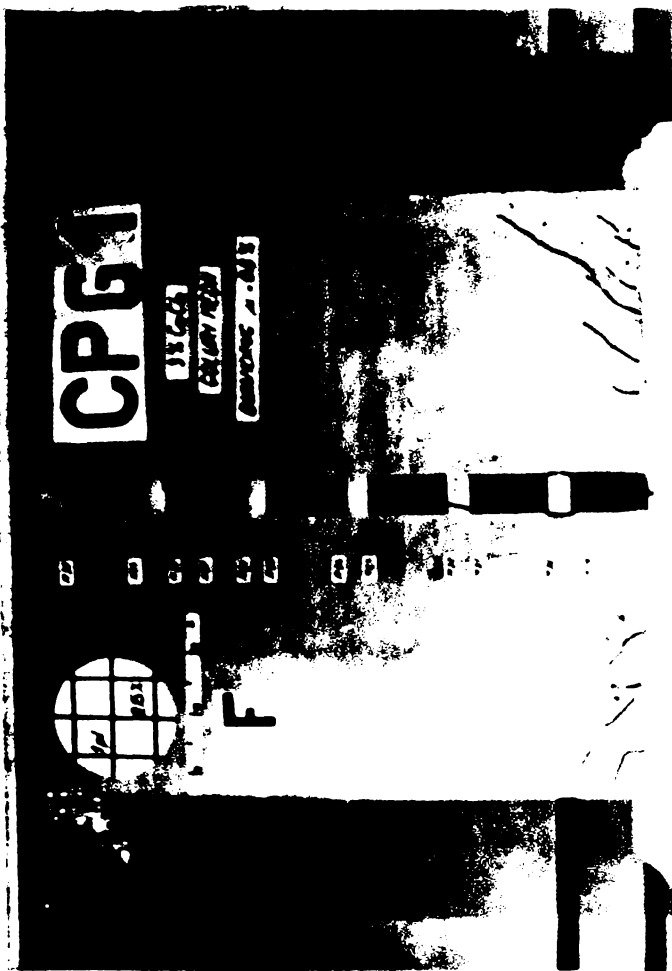
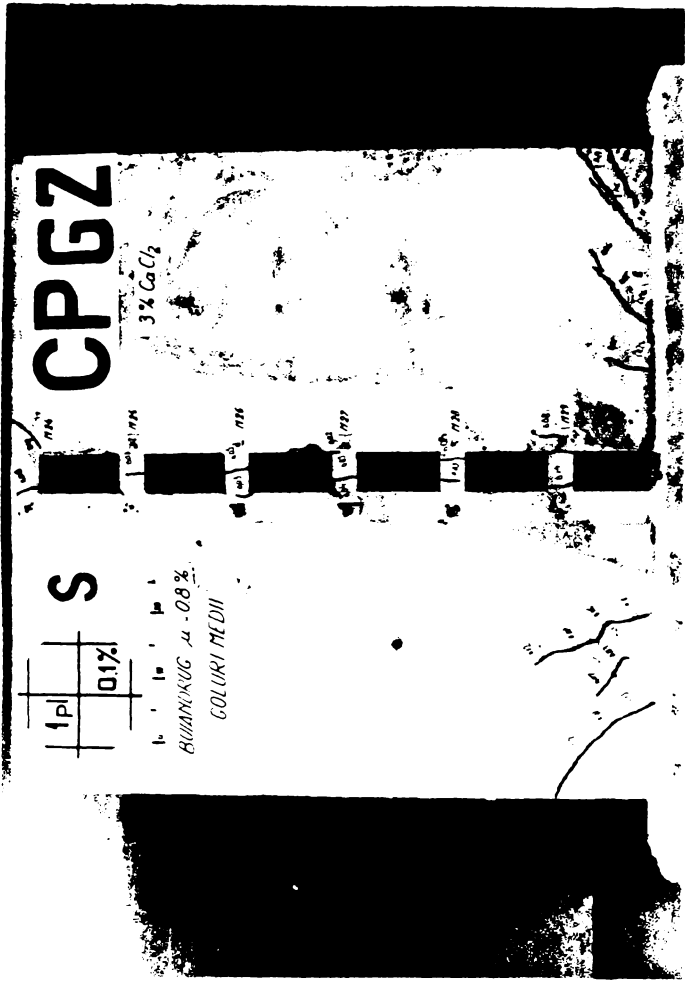
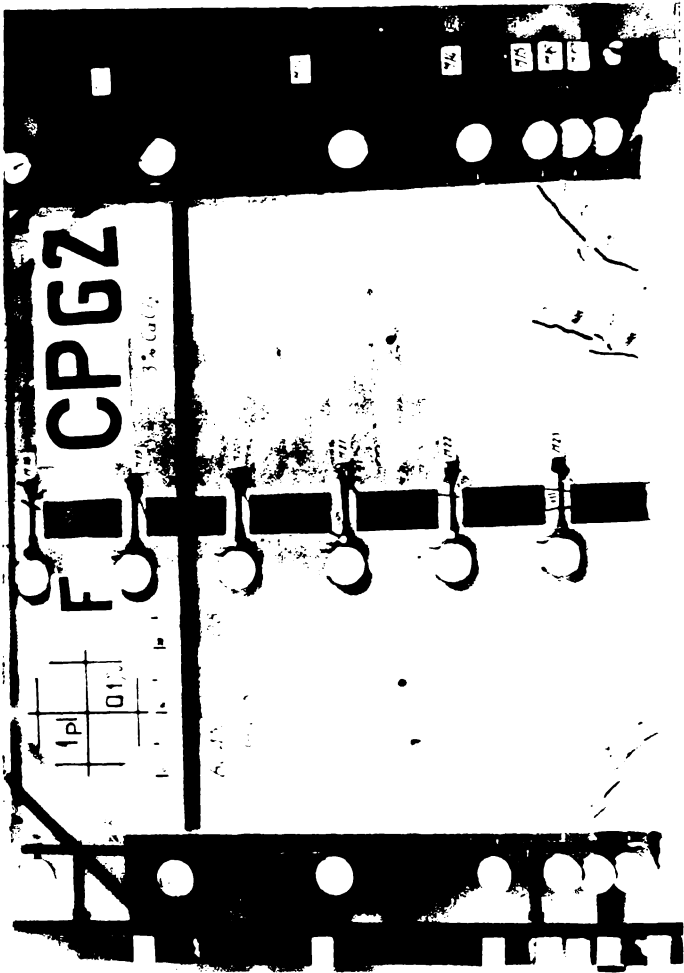
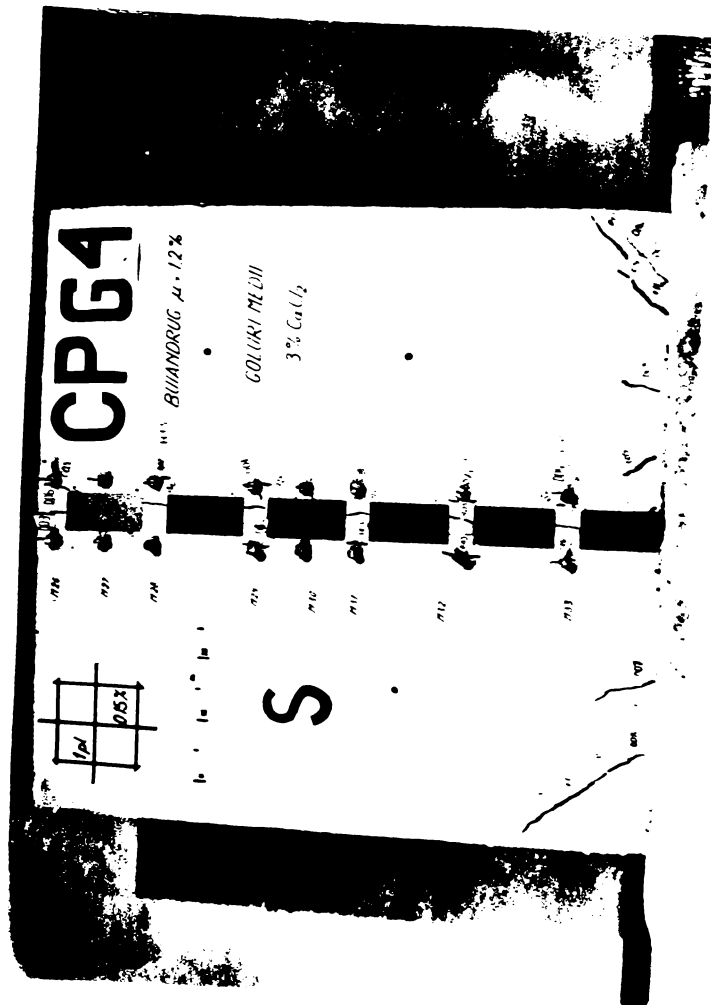
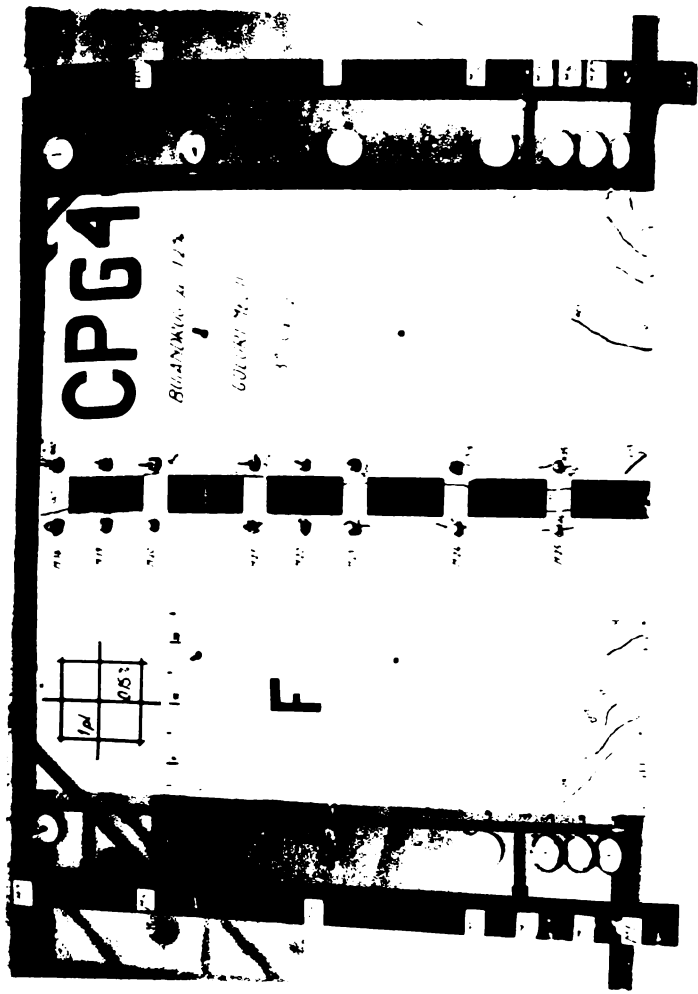
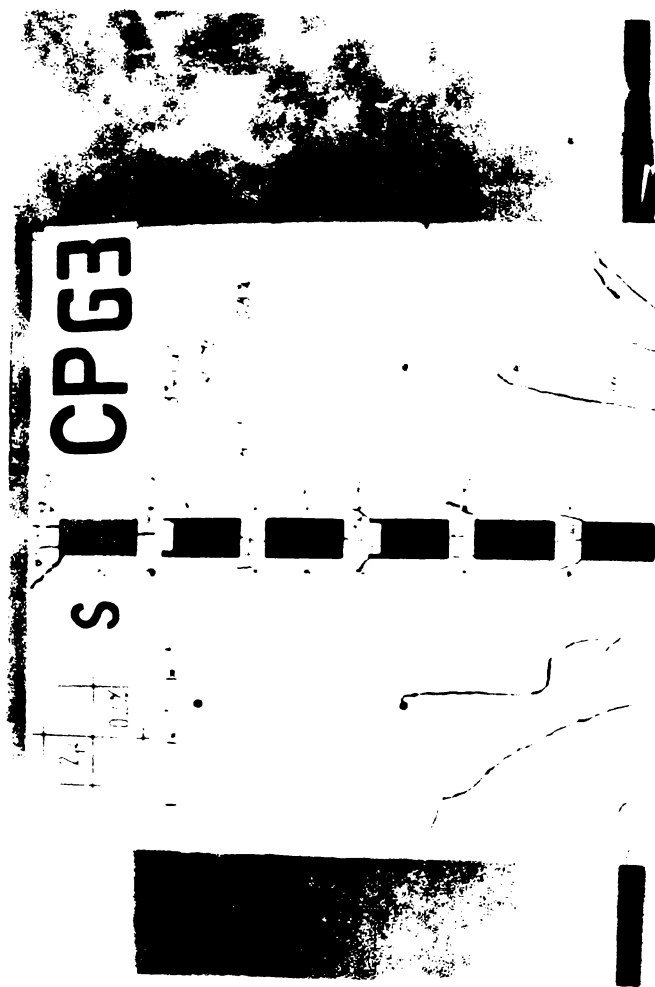
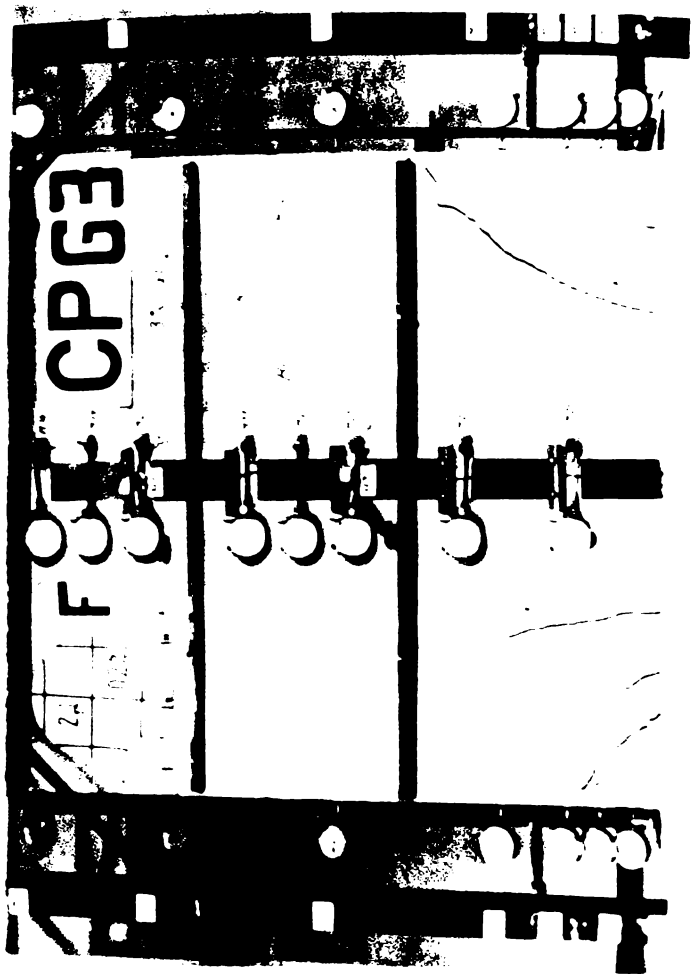
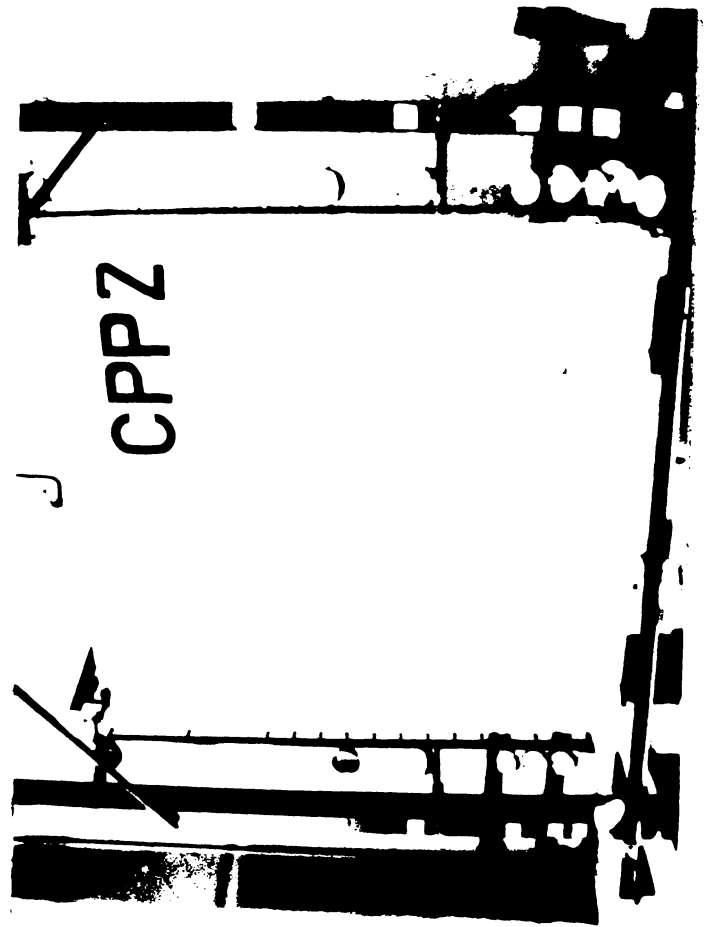
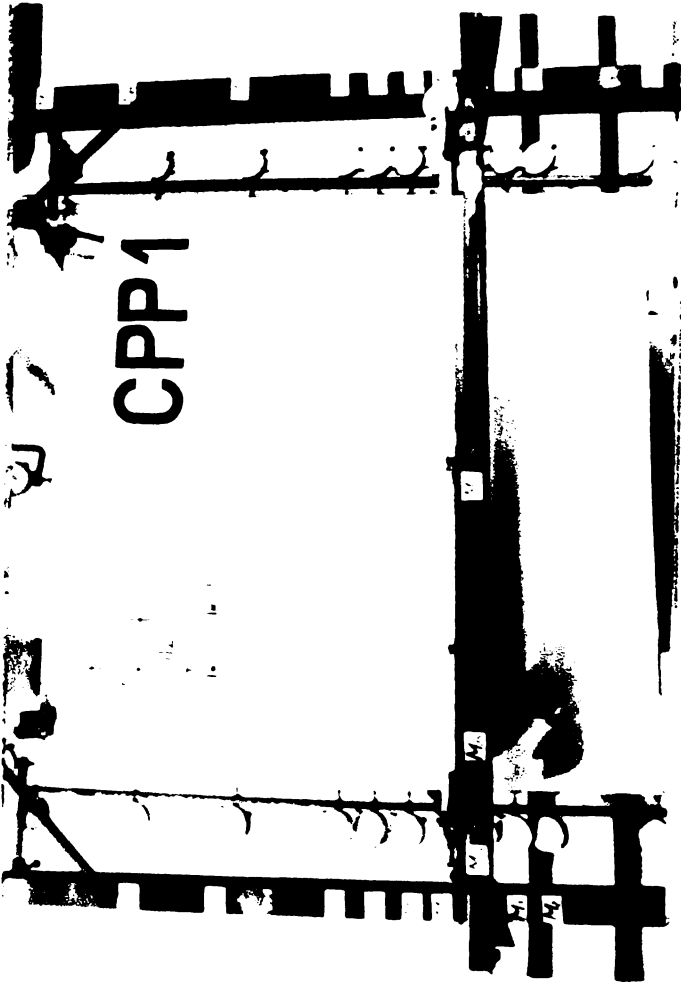
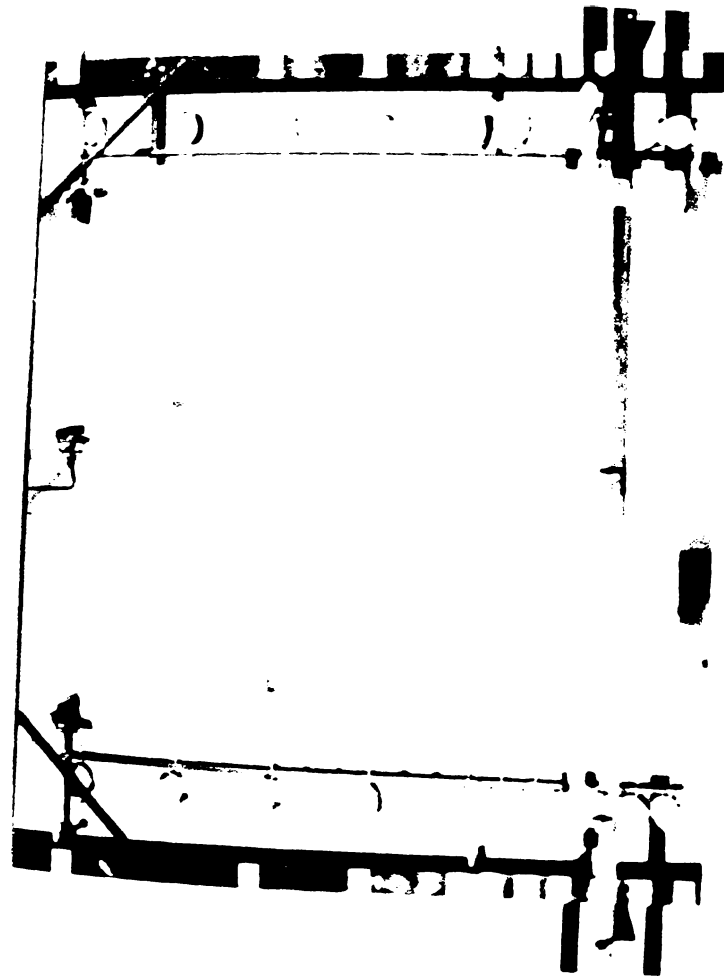


Fig. A.53







CPP7

F



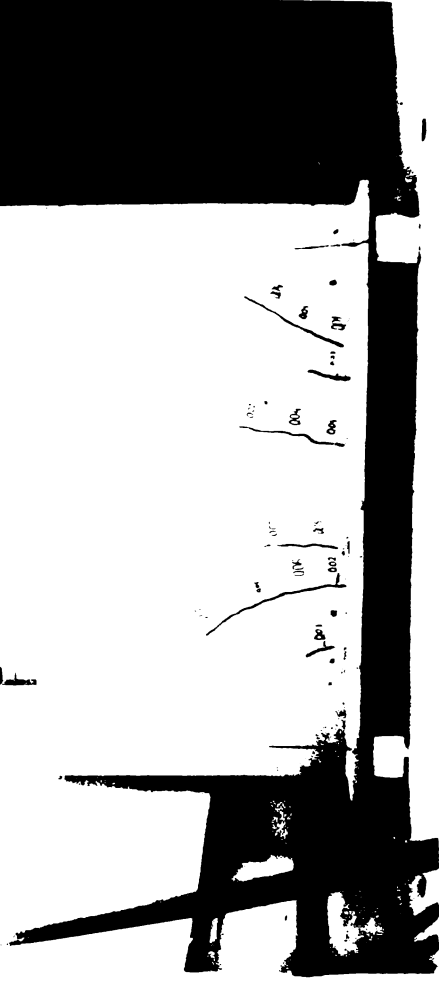
CPP7

S

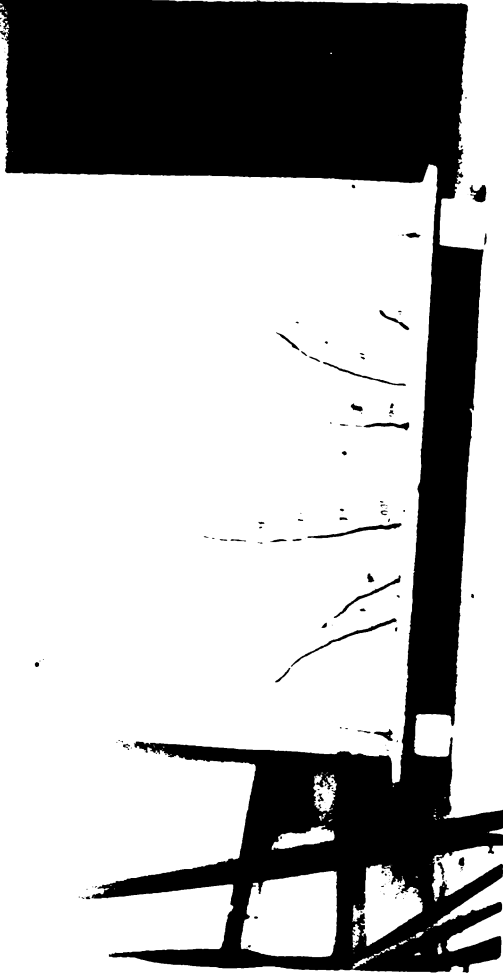


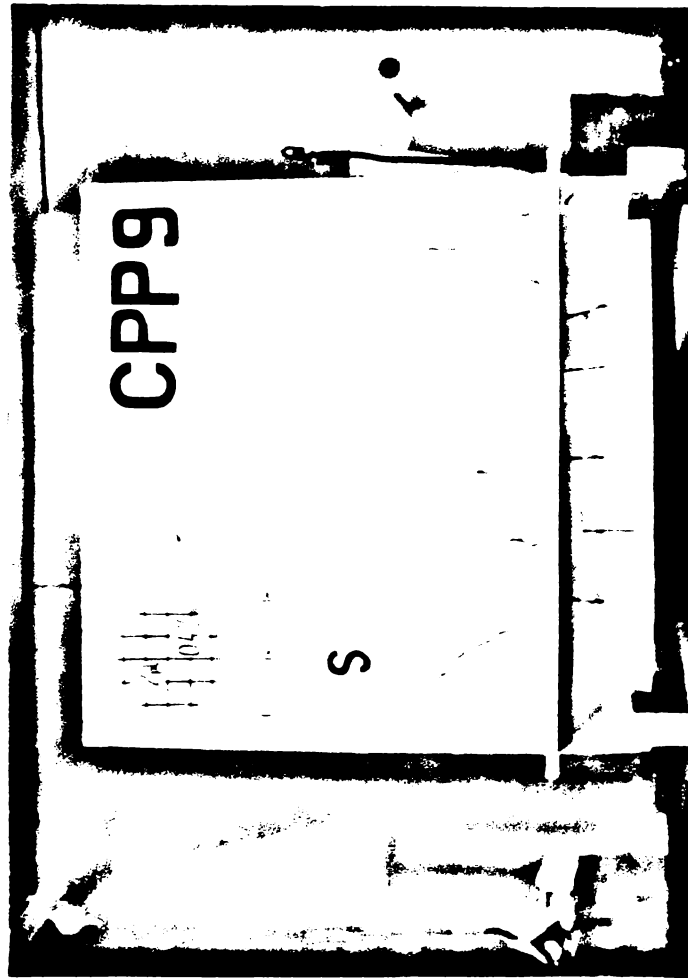
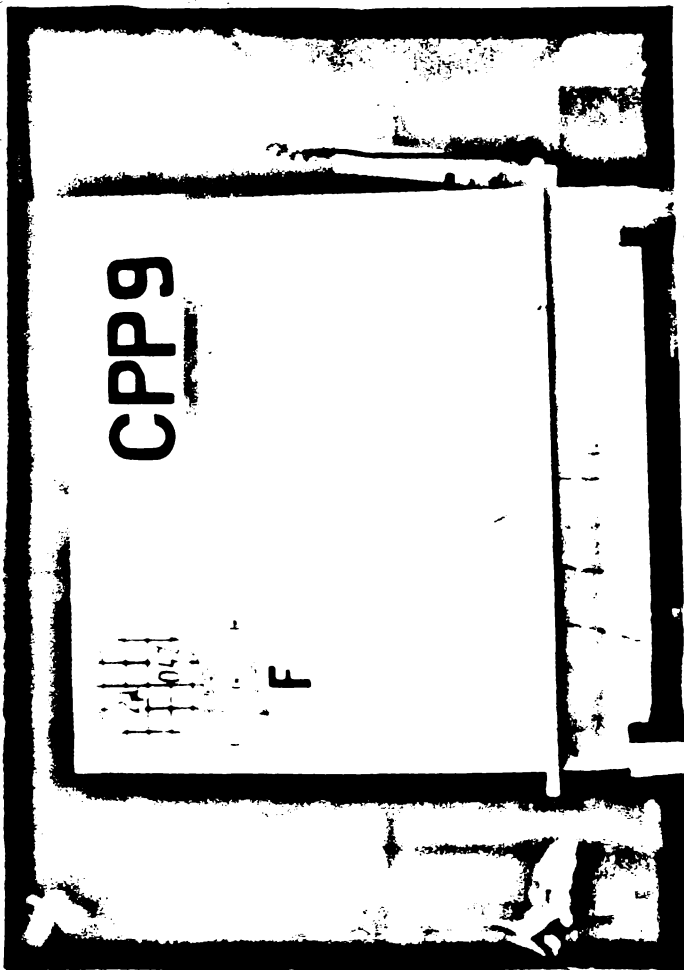
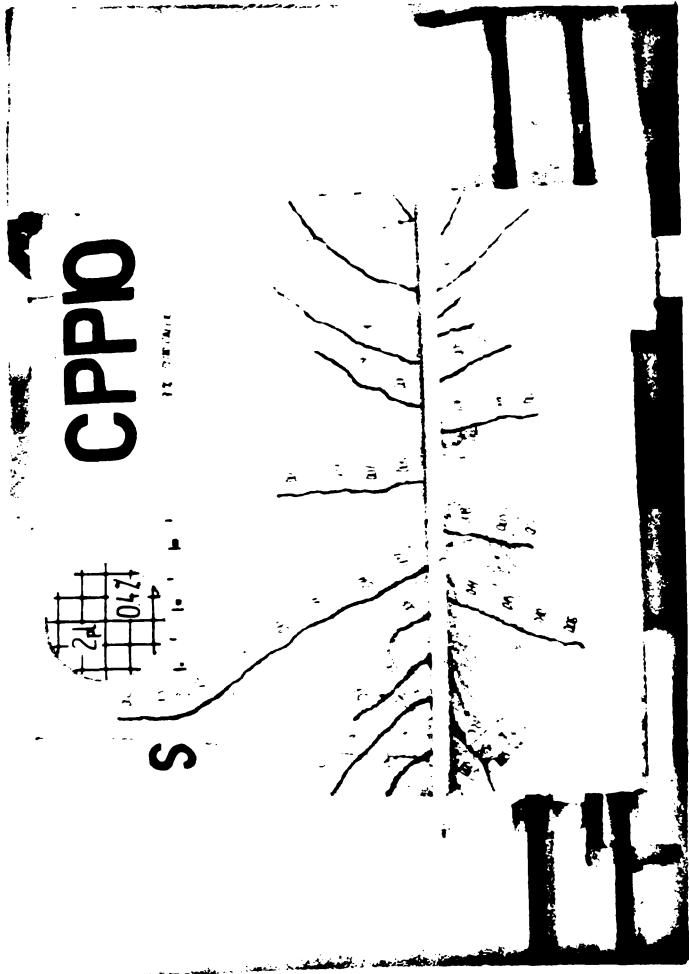
CPP8

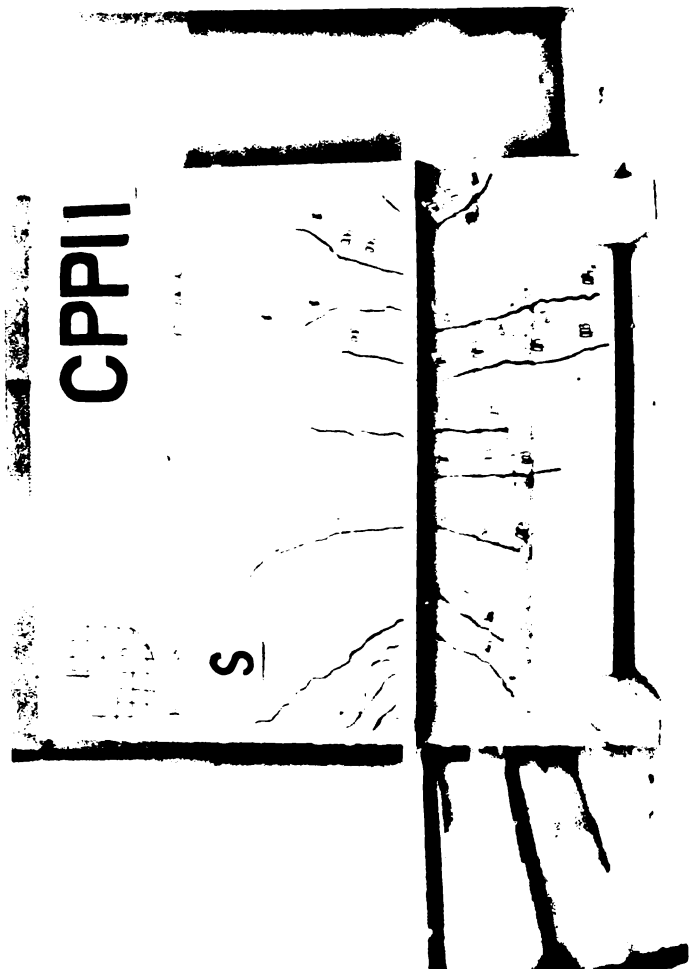
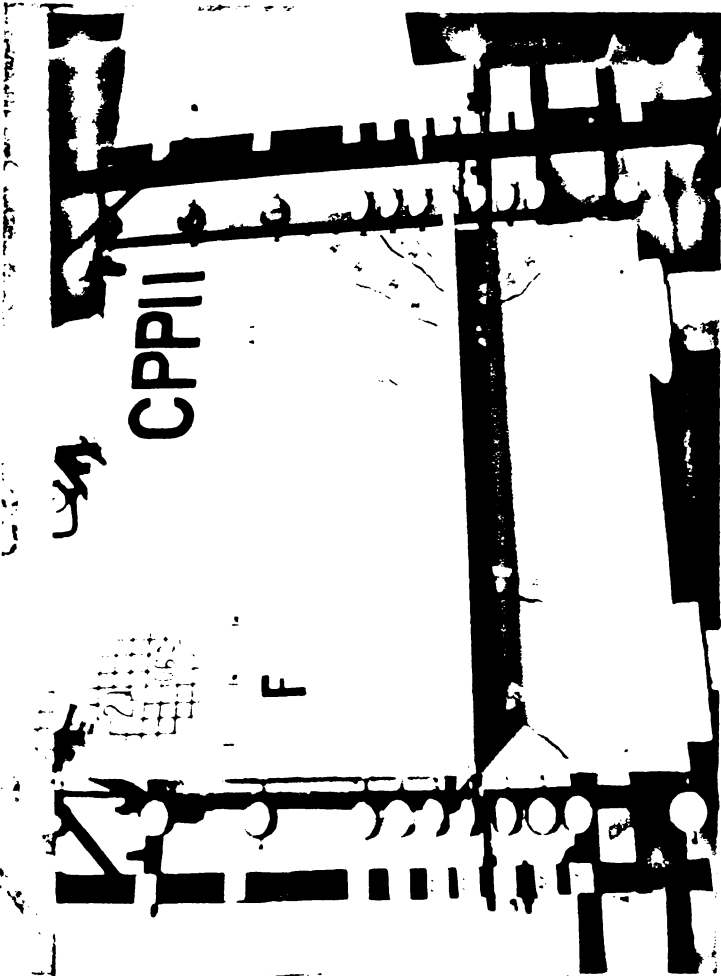
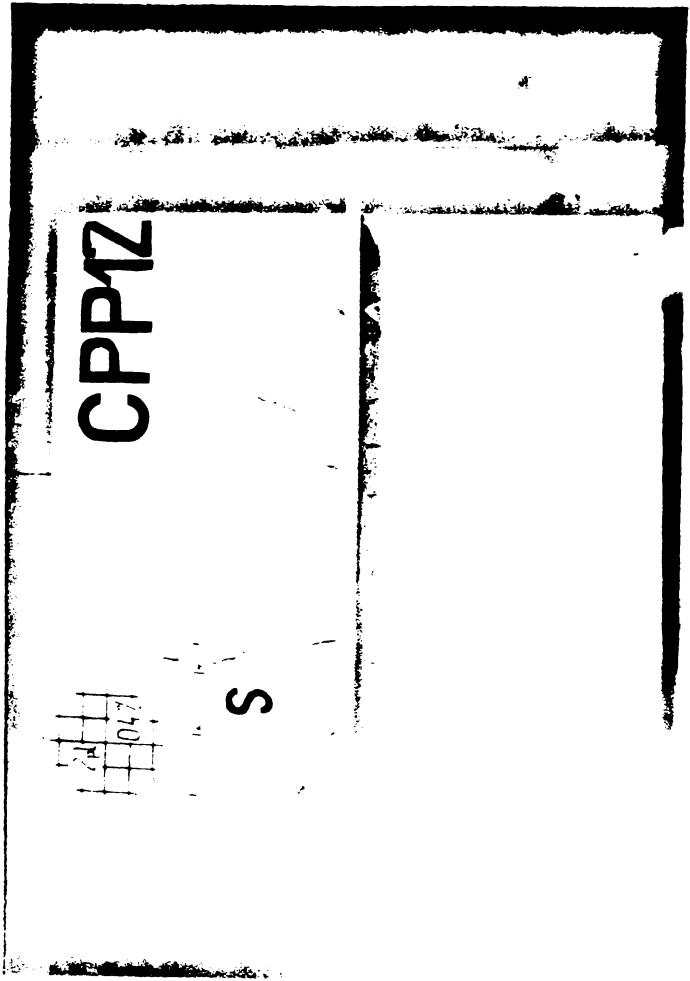
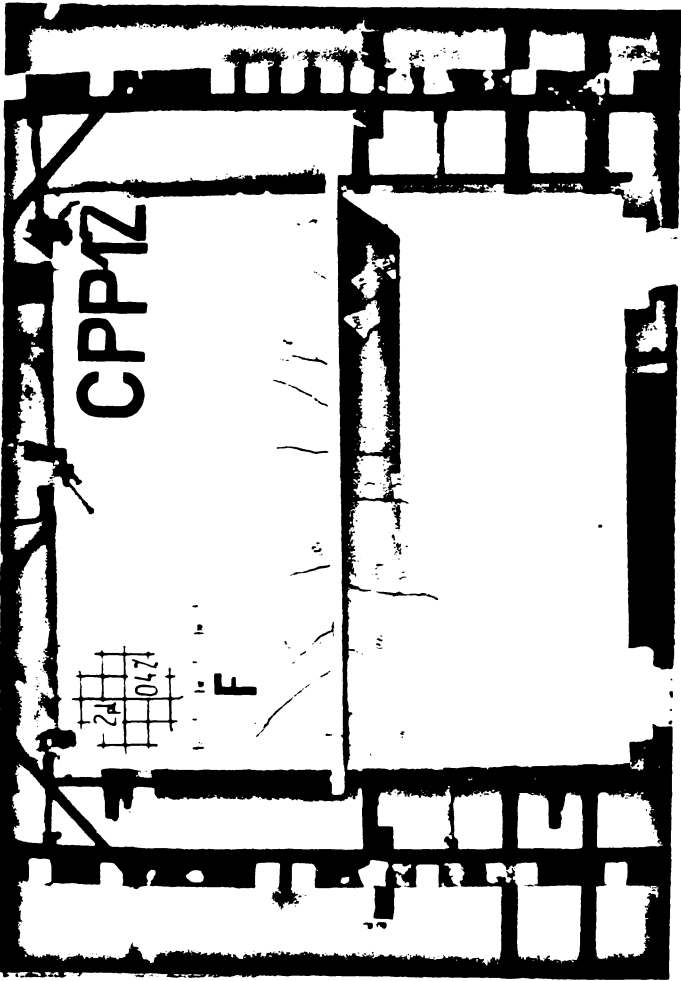
F

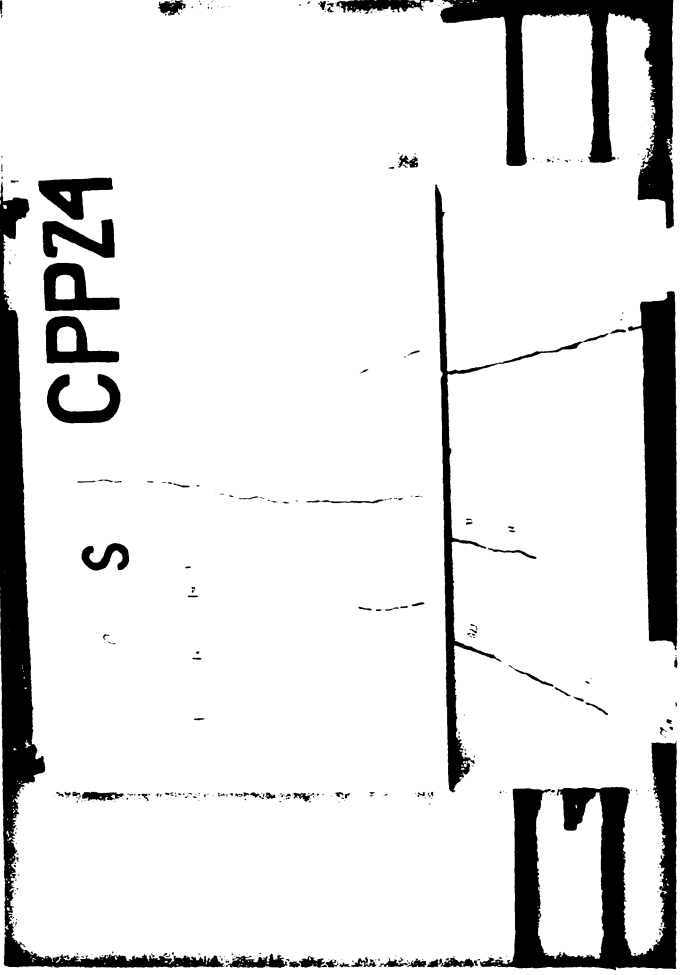
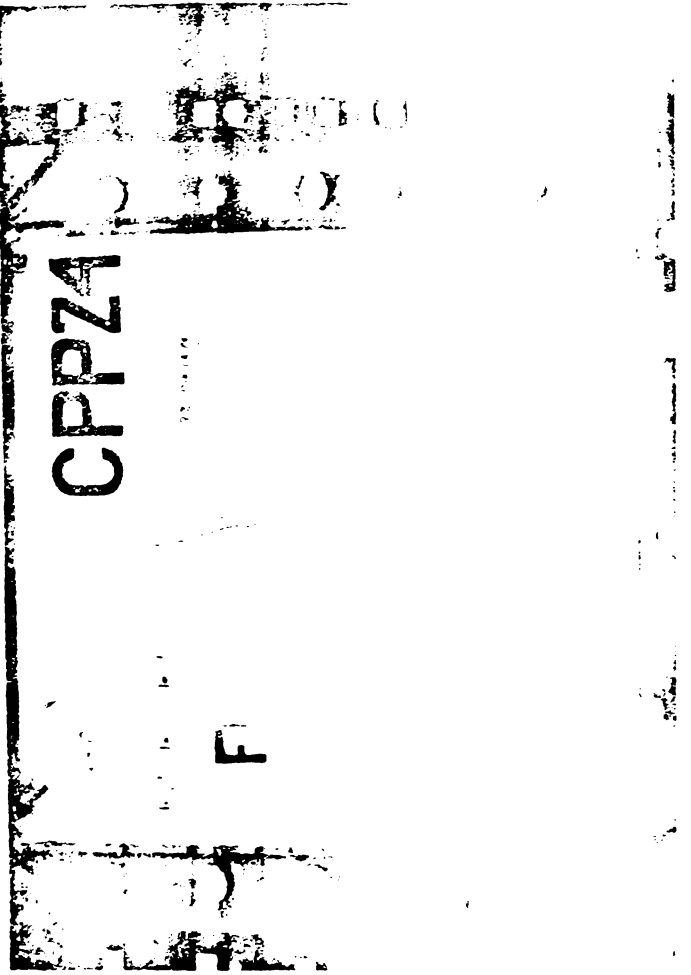
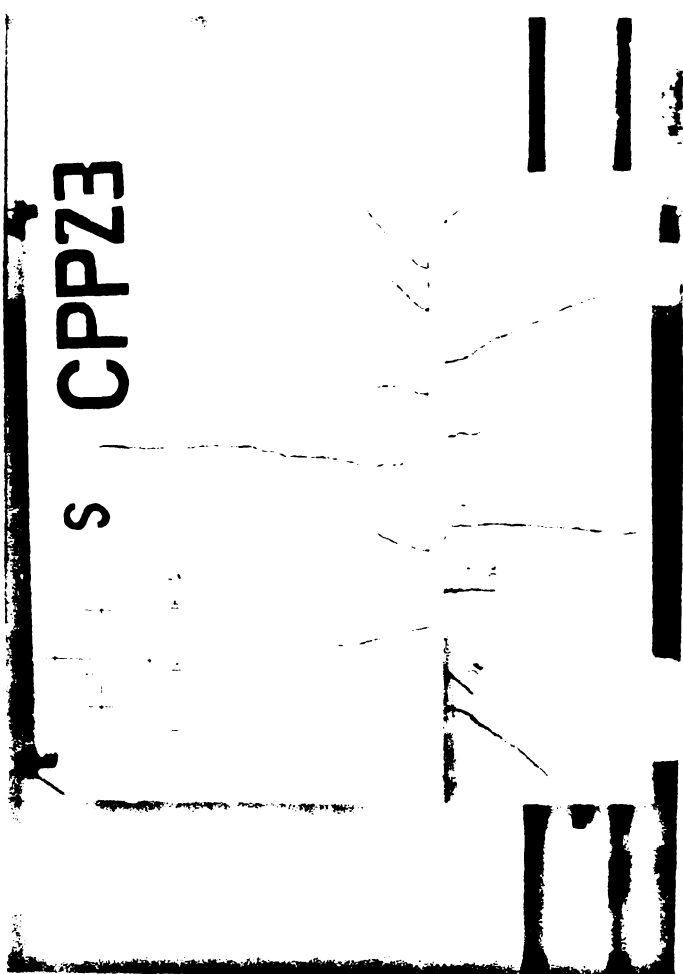
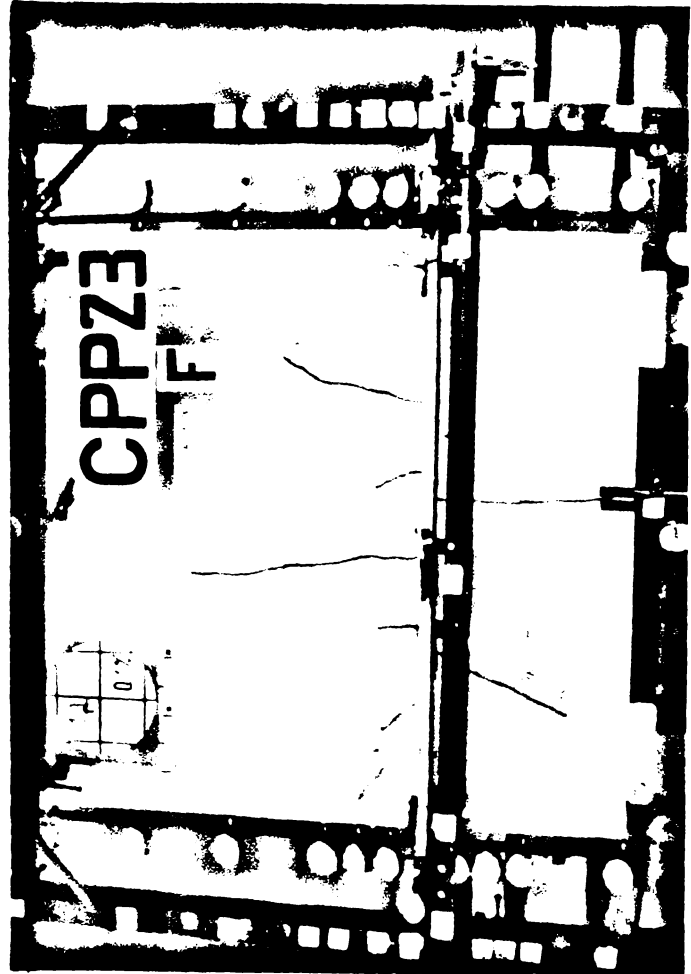


CPP8

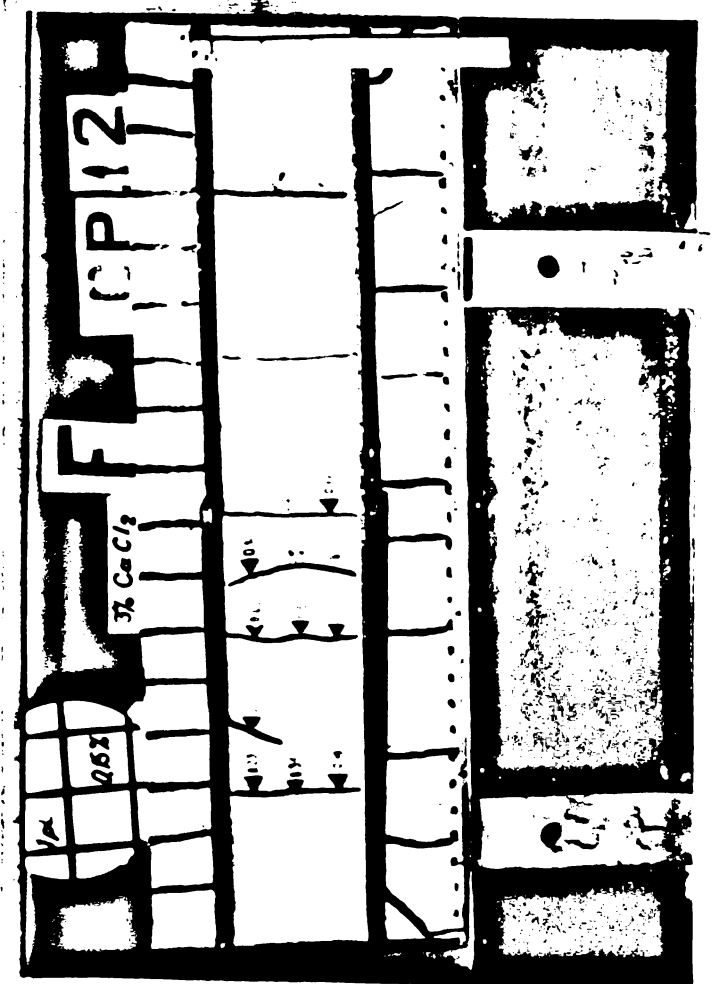
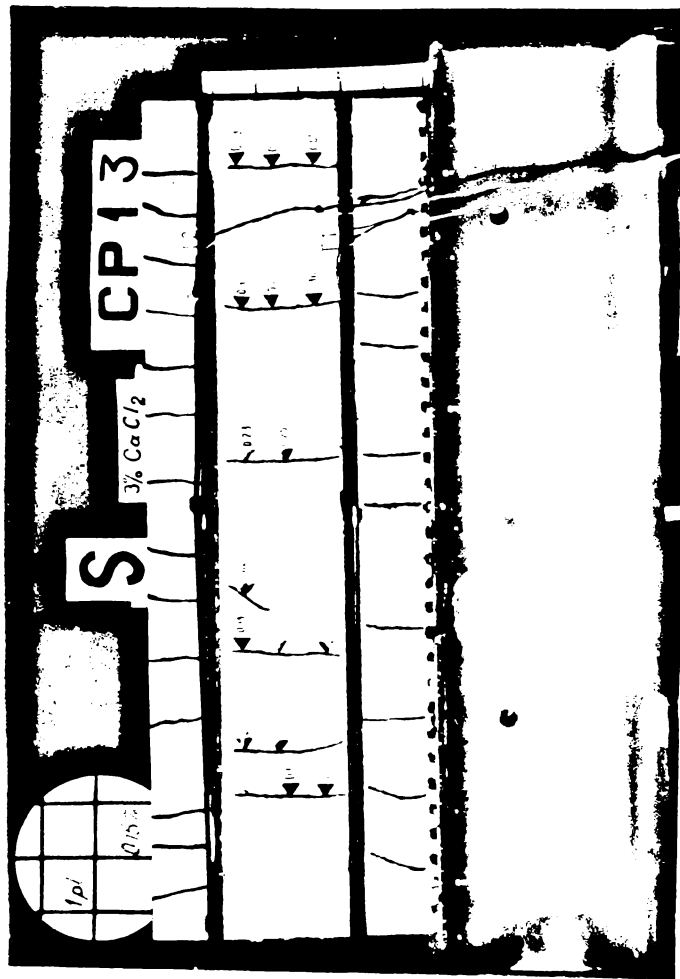
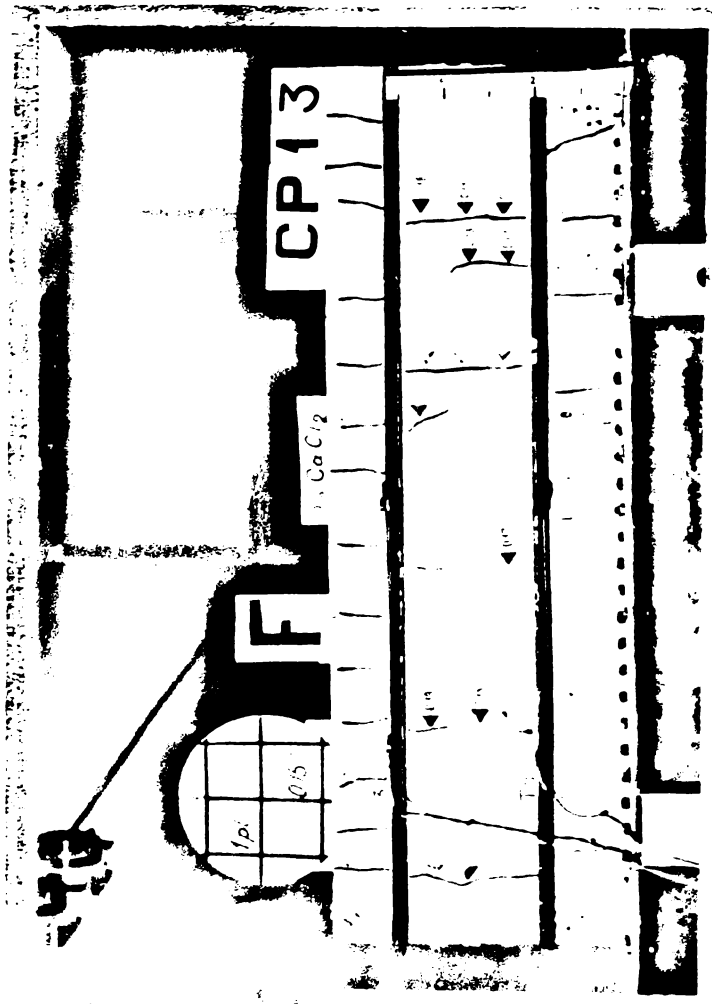


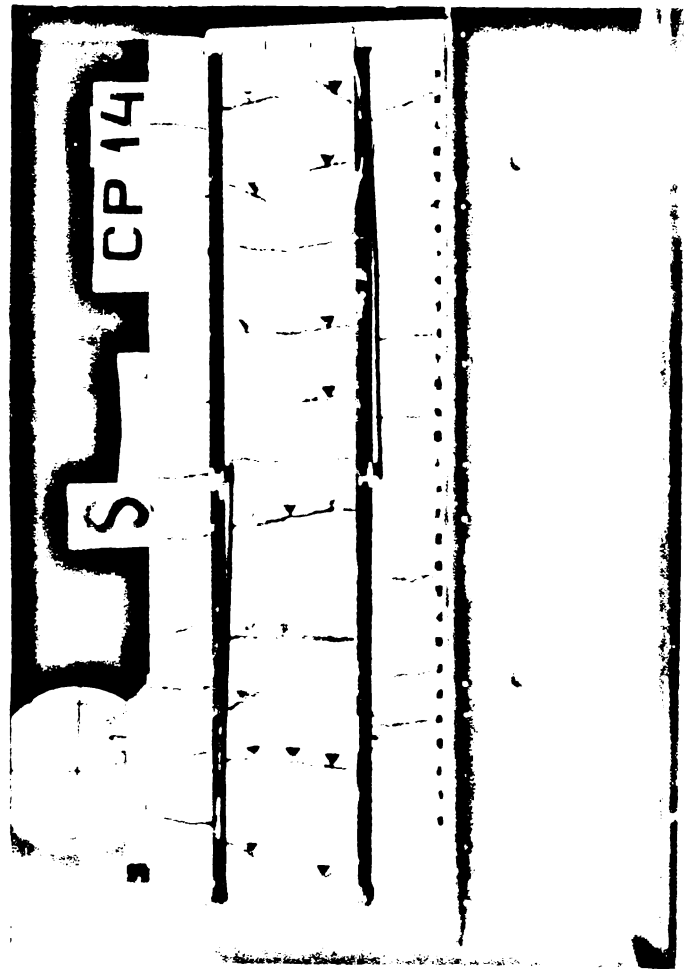
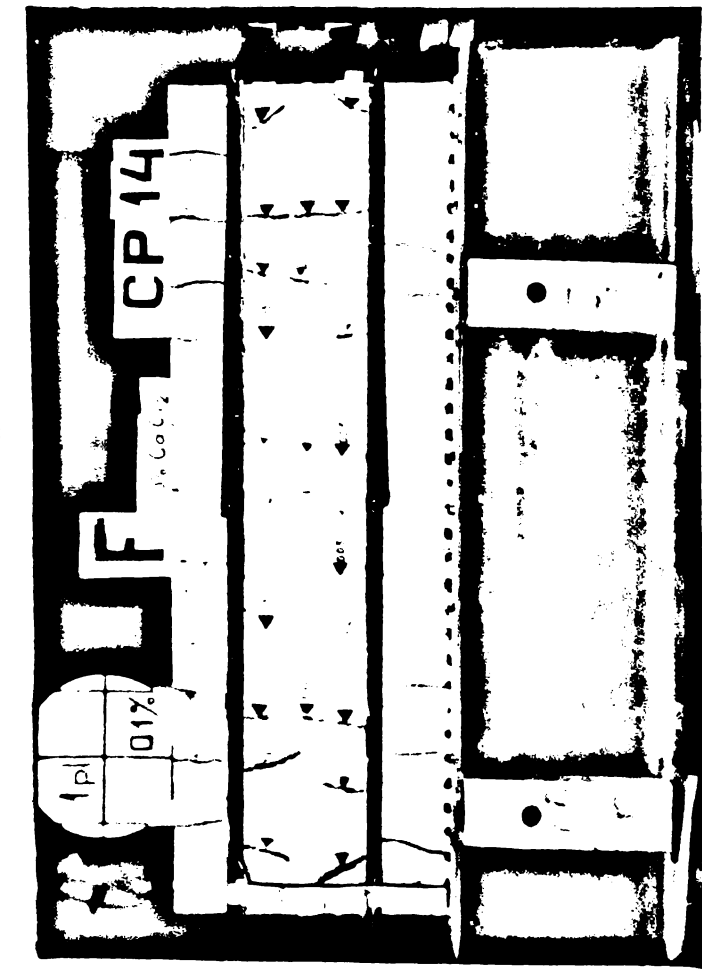
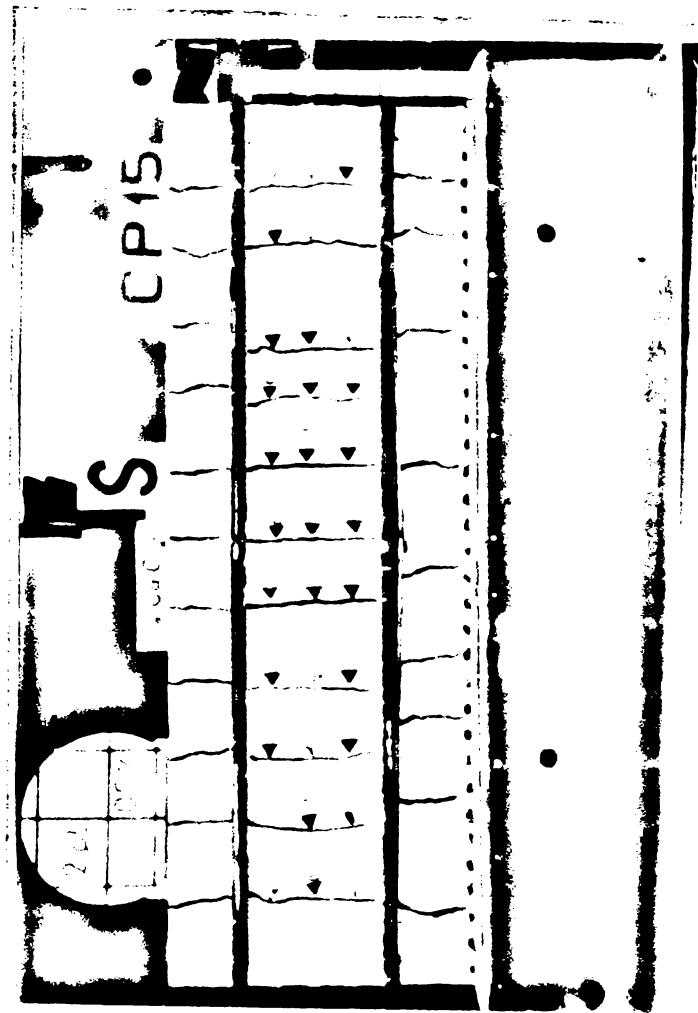
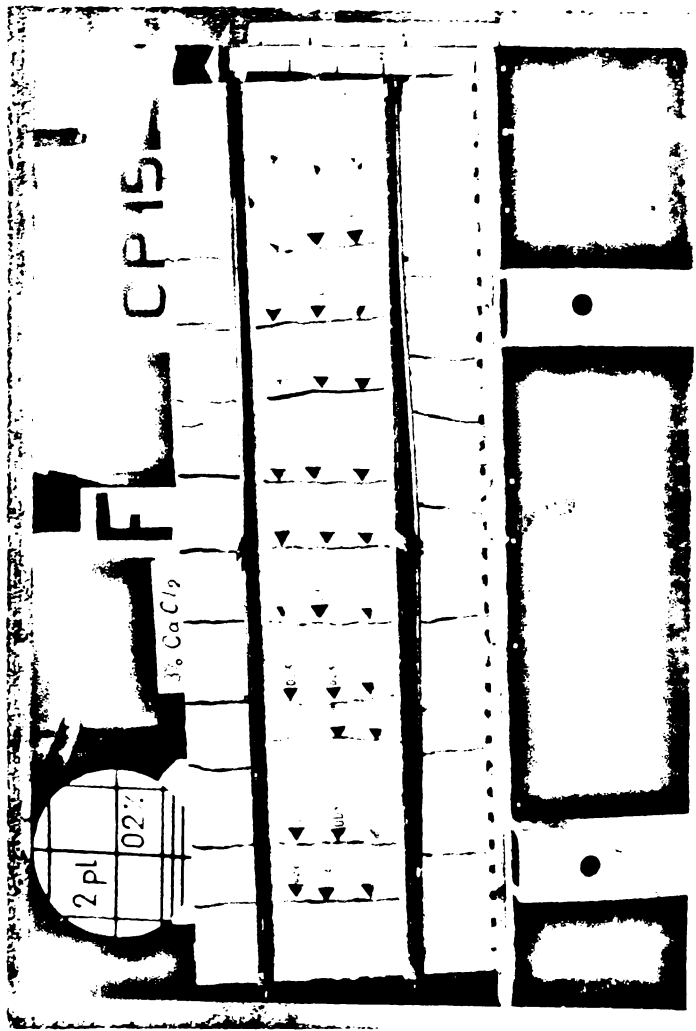




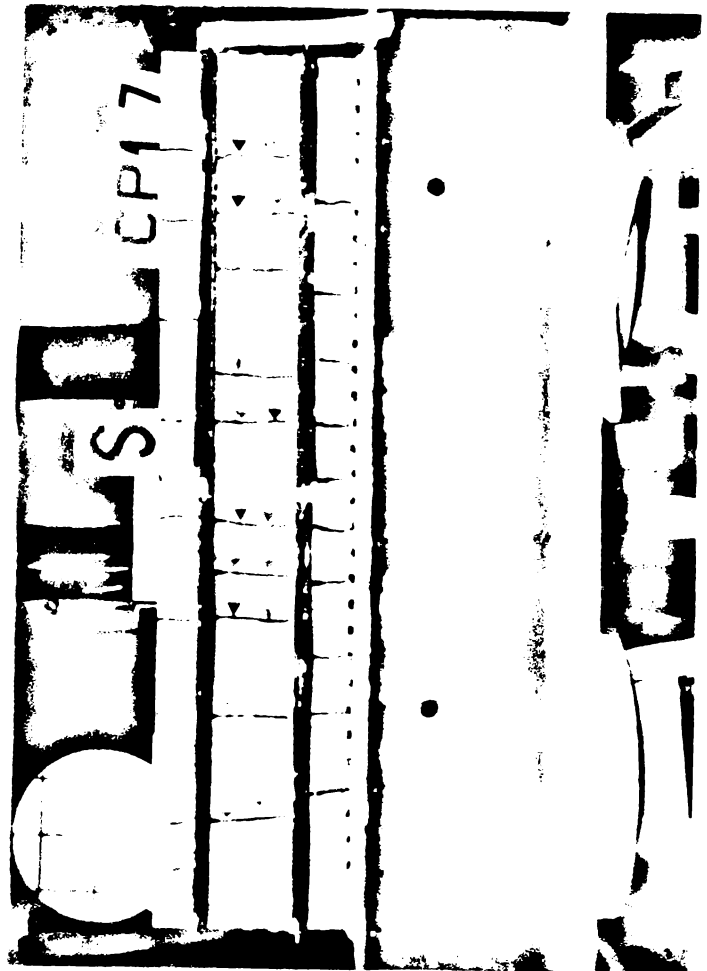
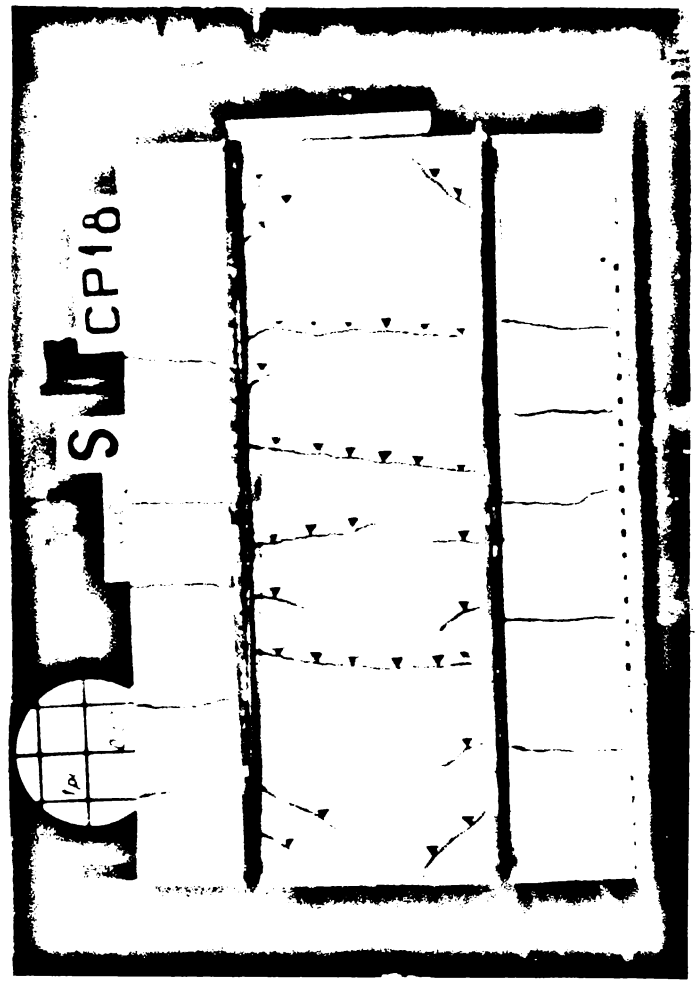
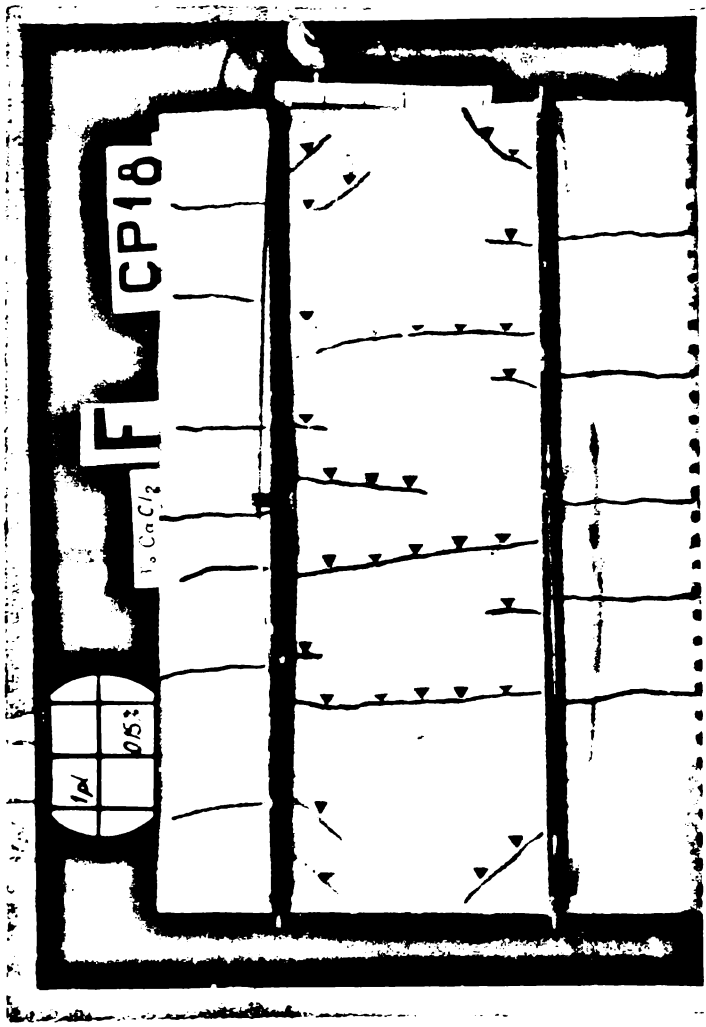


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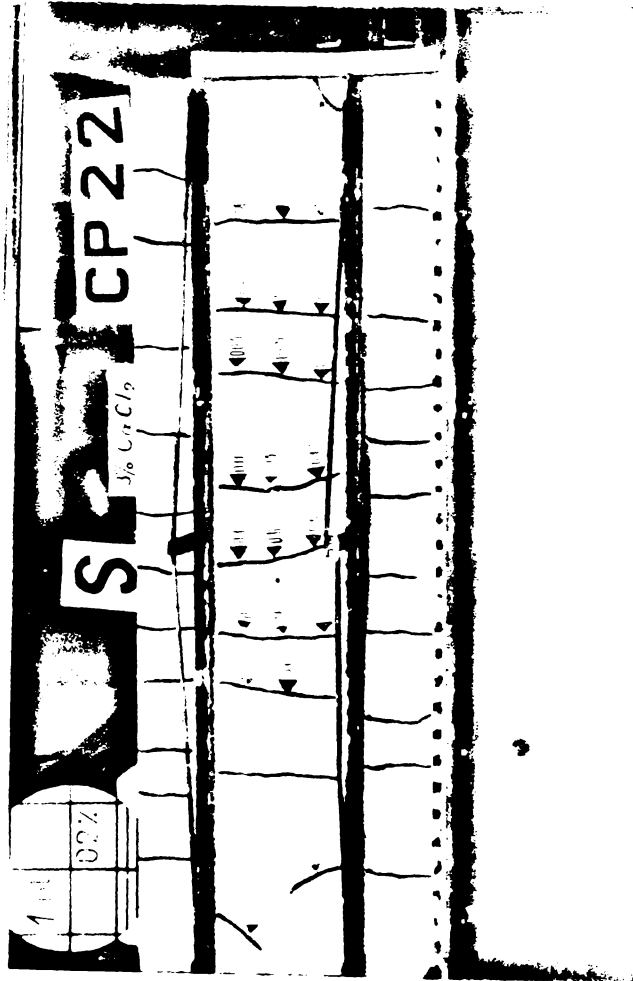
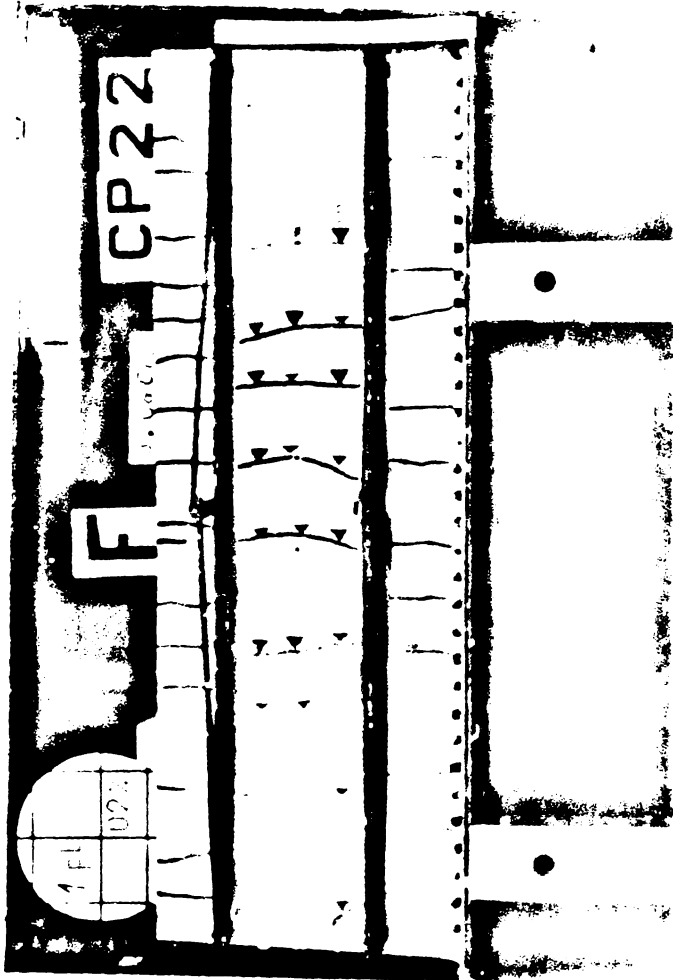
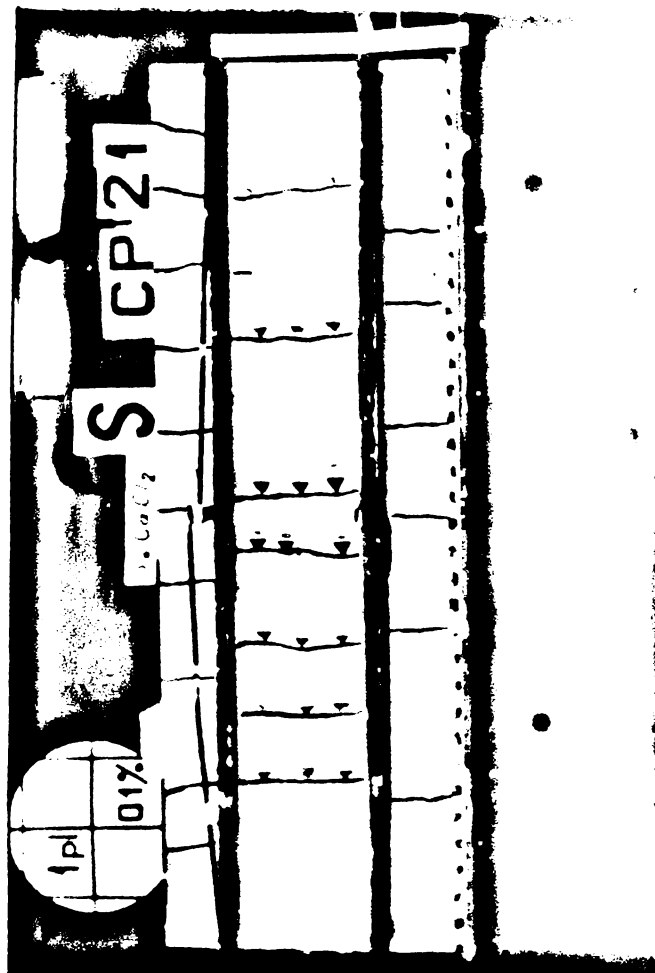
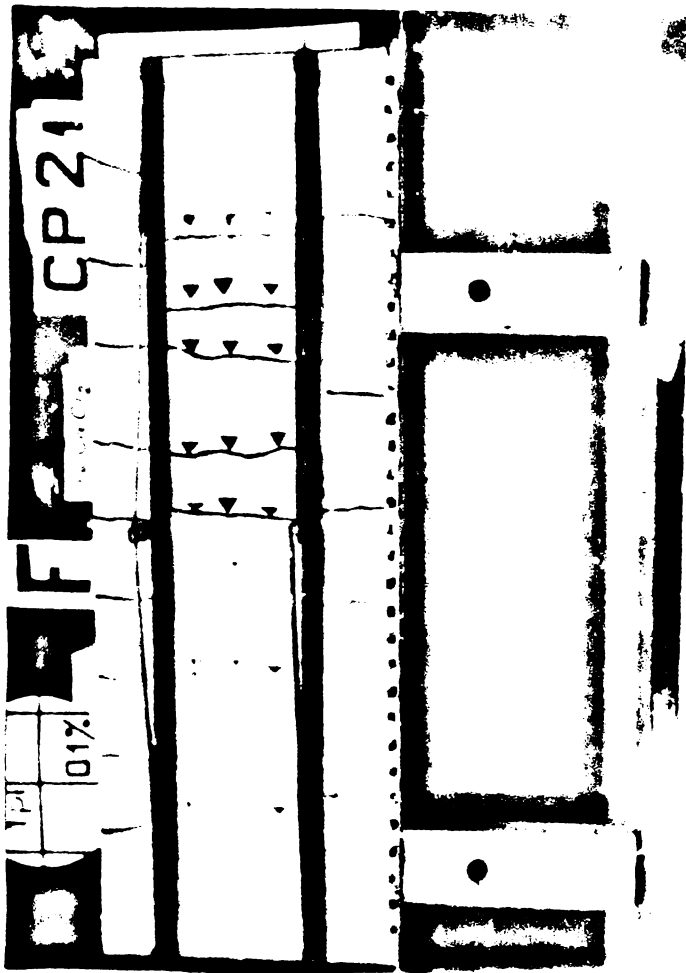
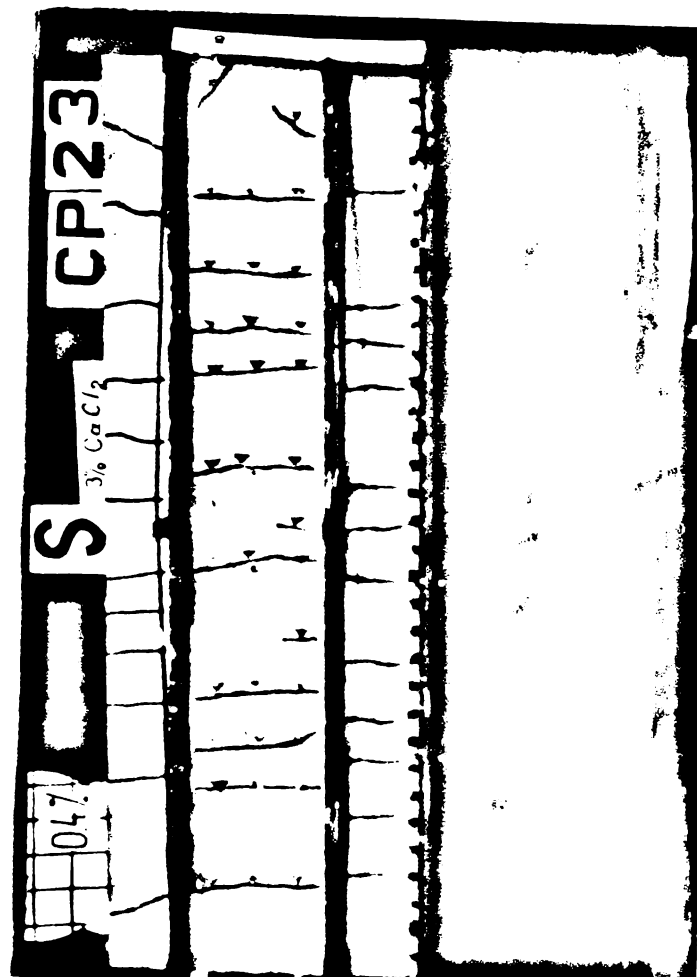
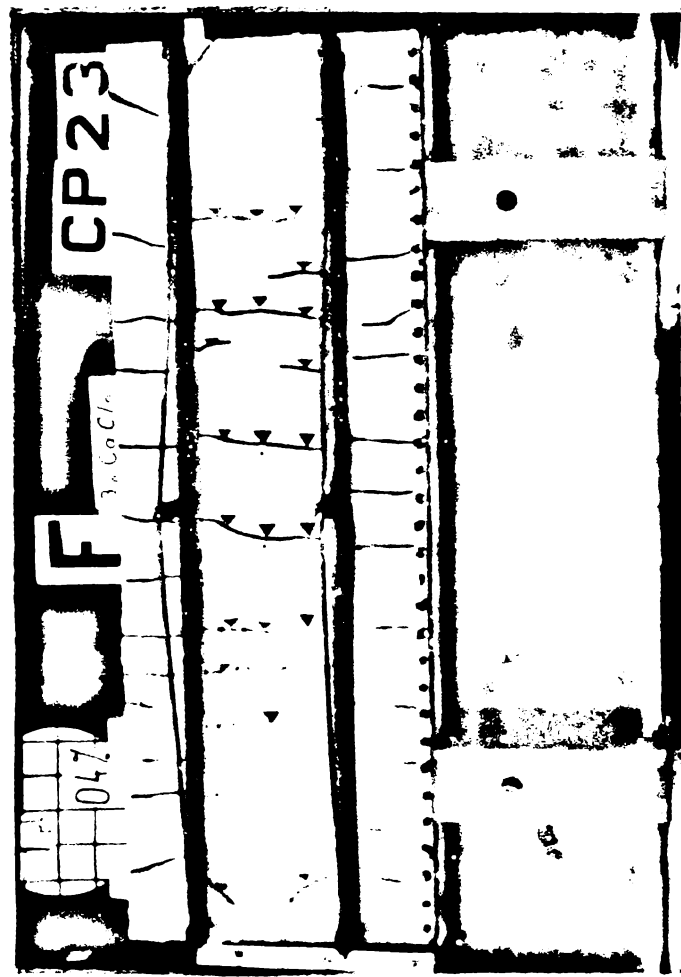
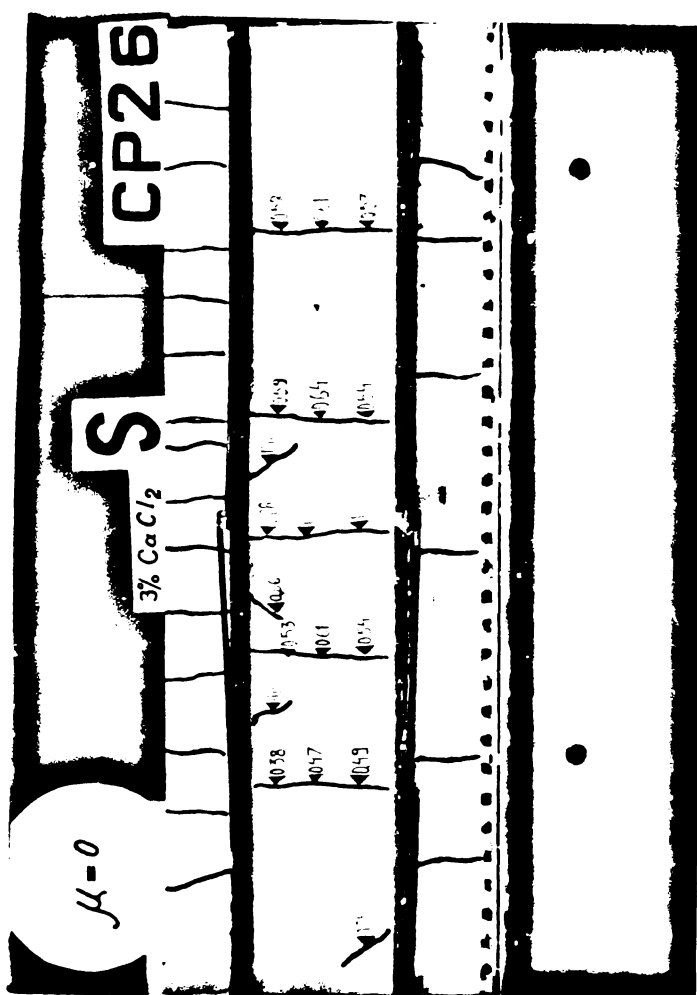
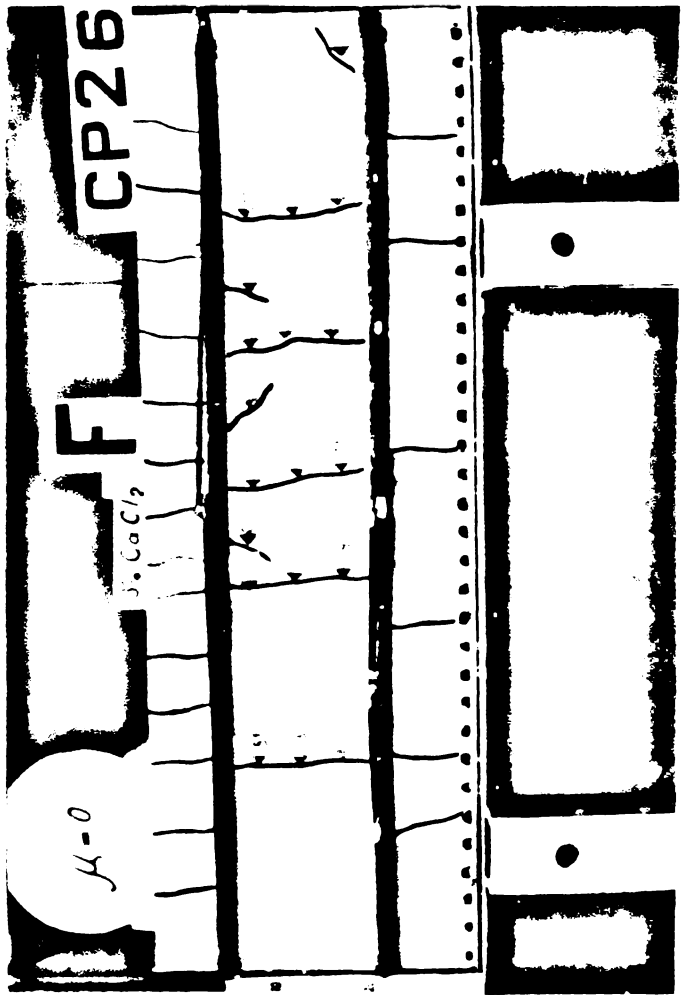
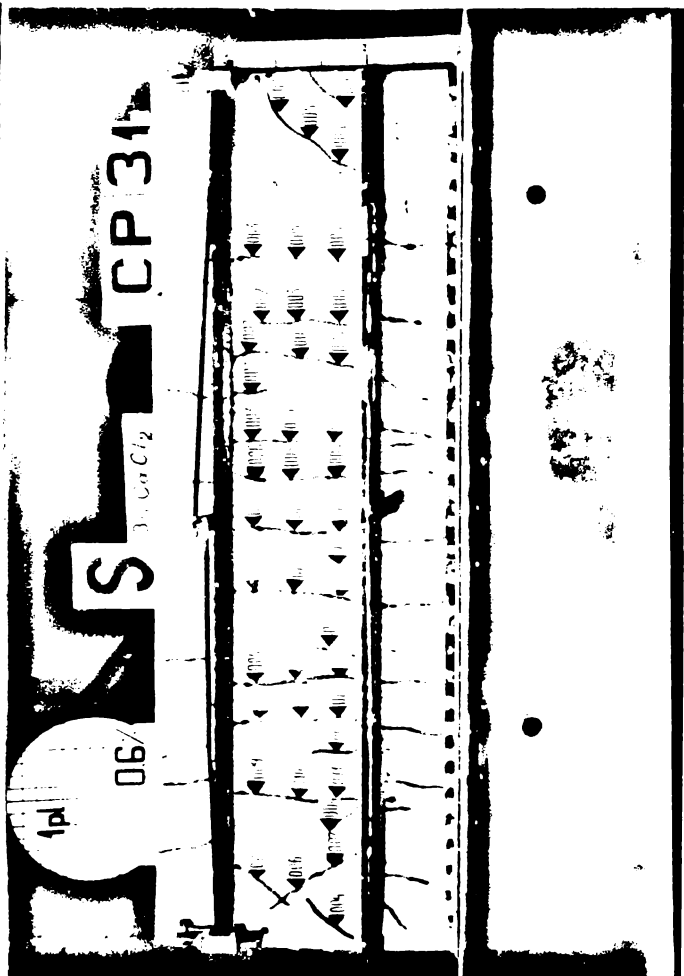
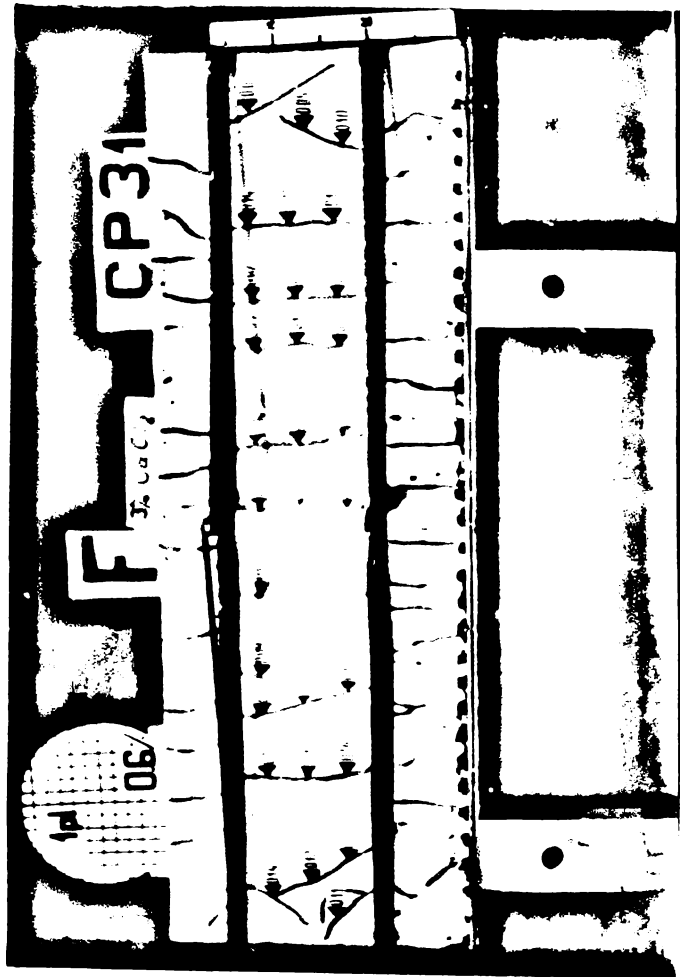
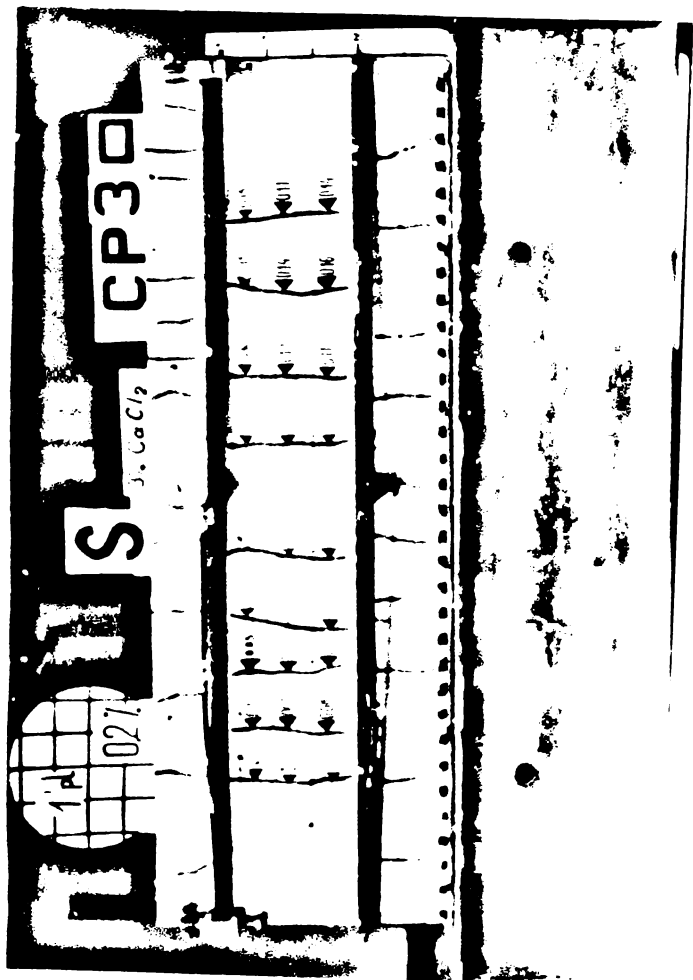
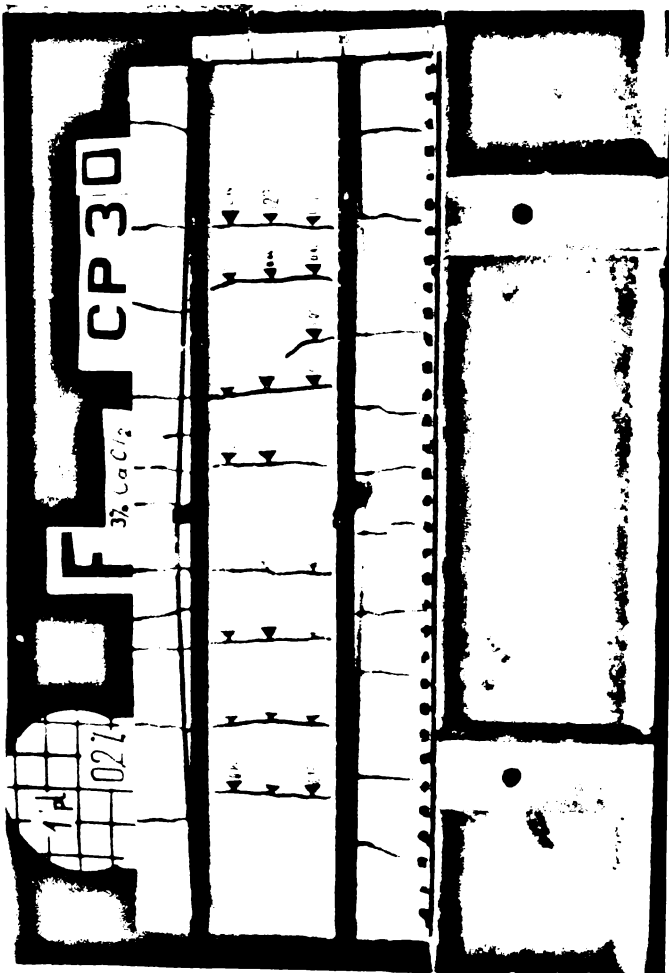


FIG. A.64





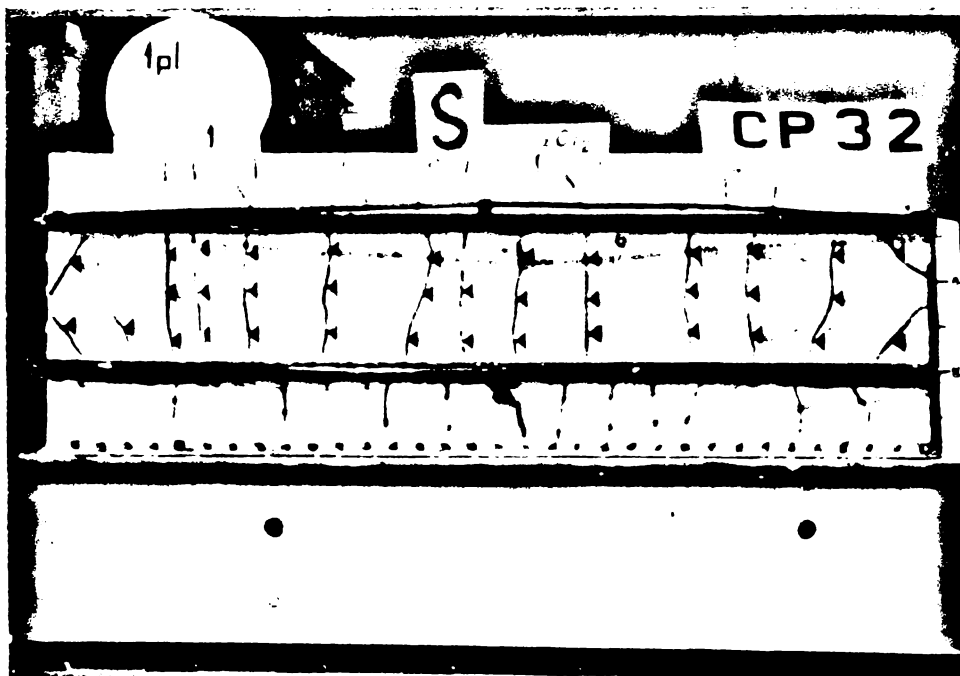
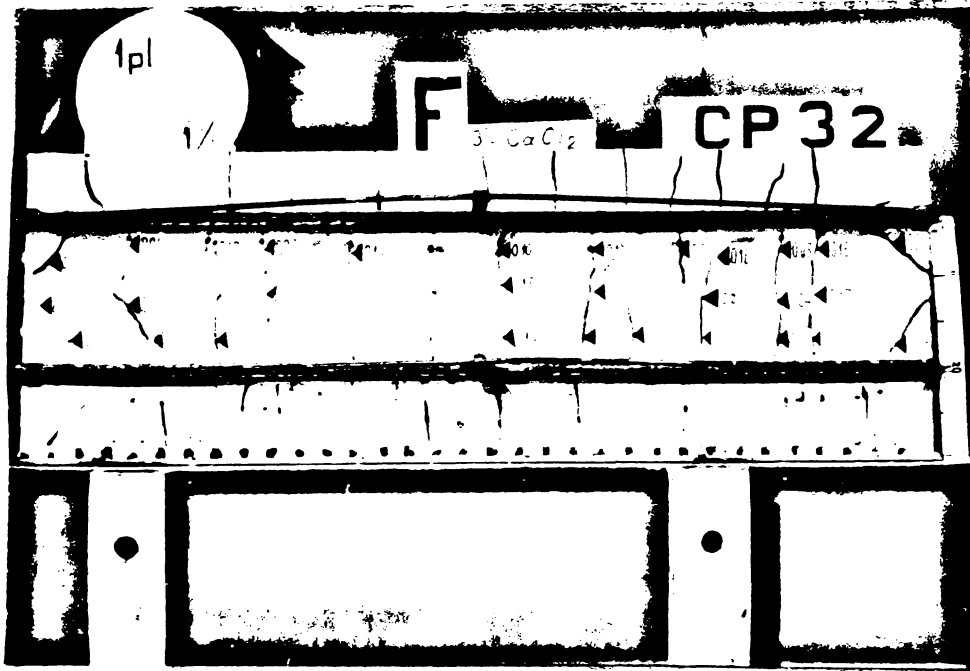


Fig. A67

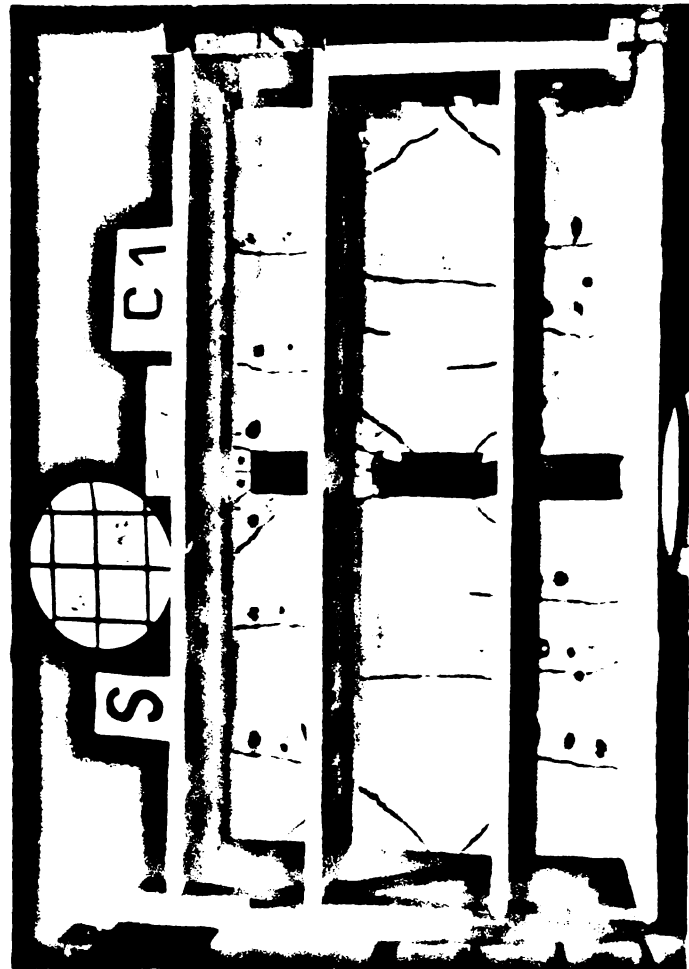


Fig. A.68a

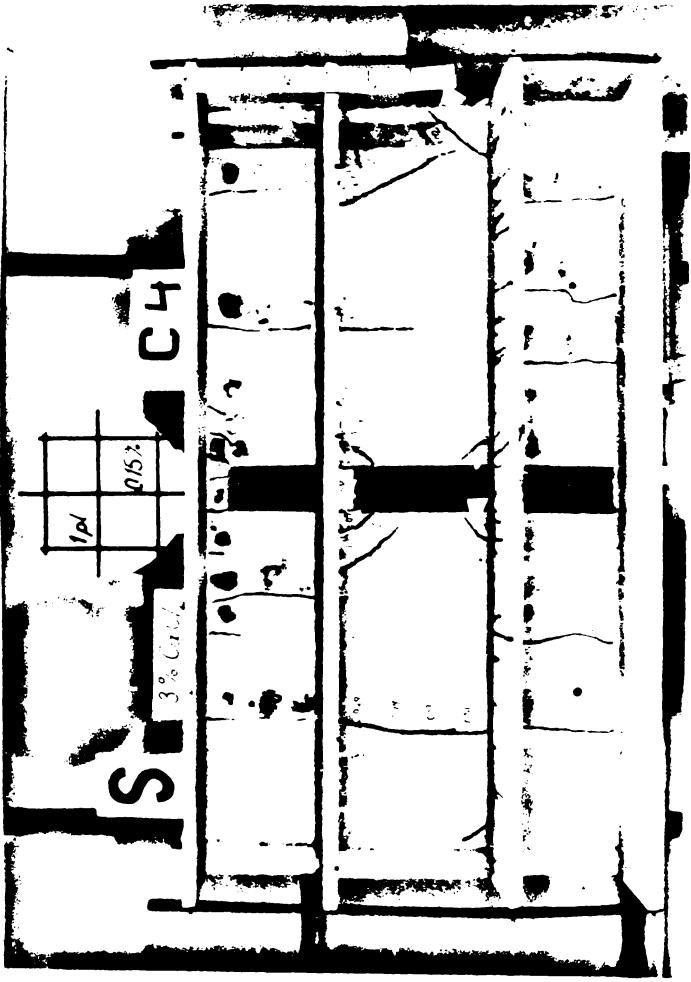
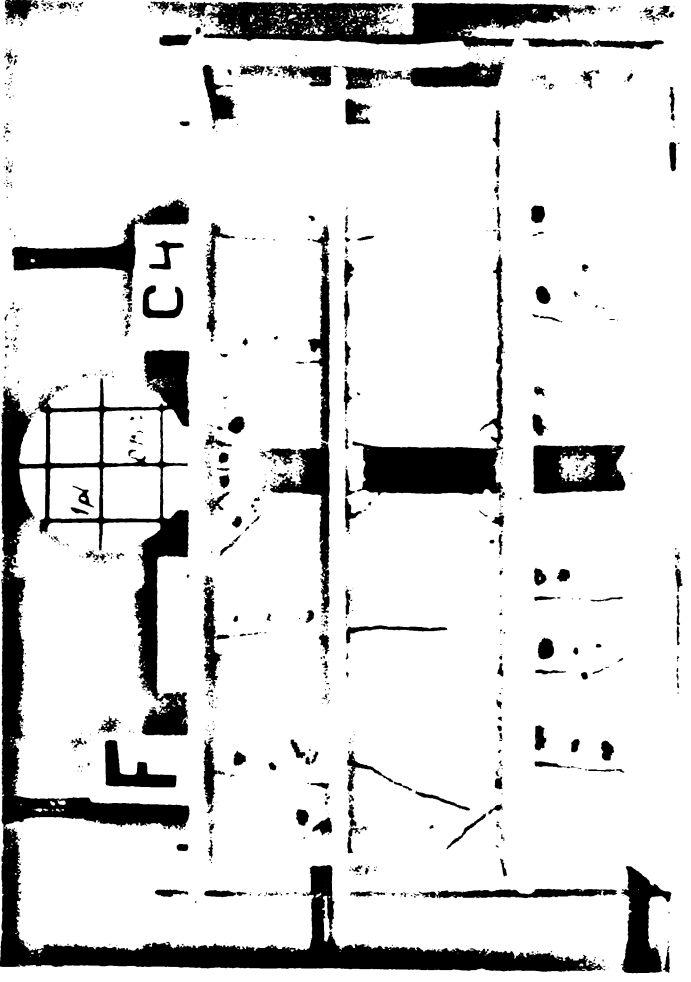
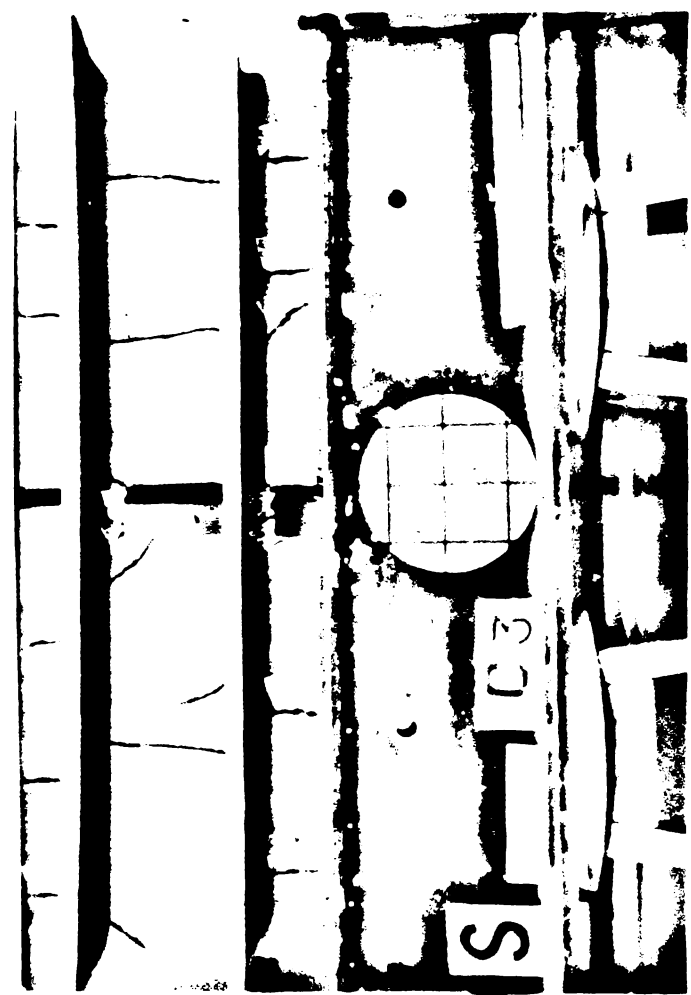
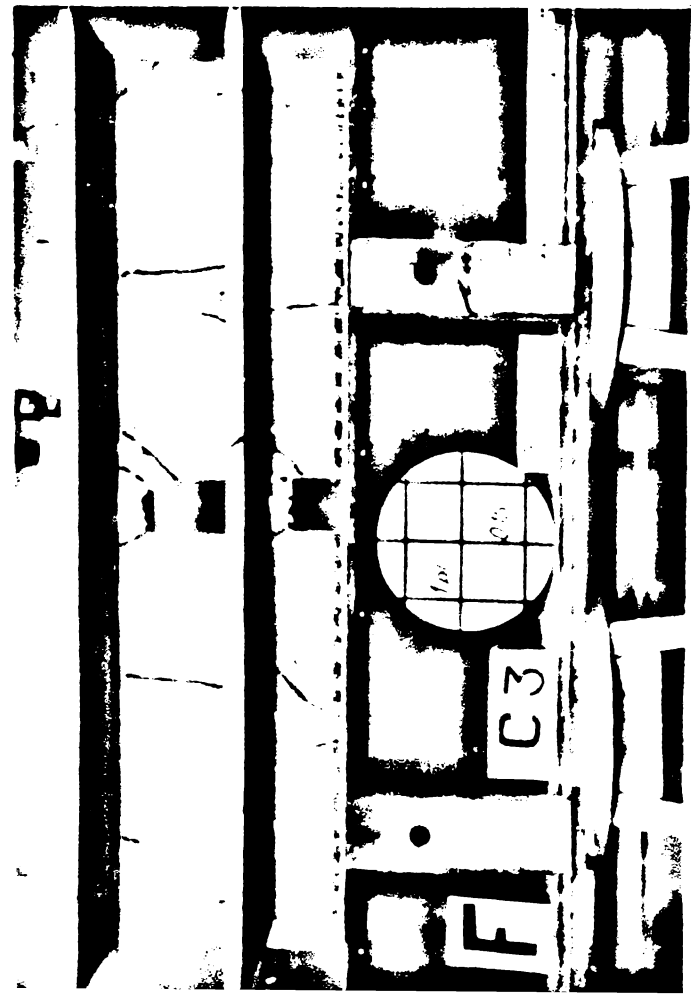


Fig. A.68b.

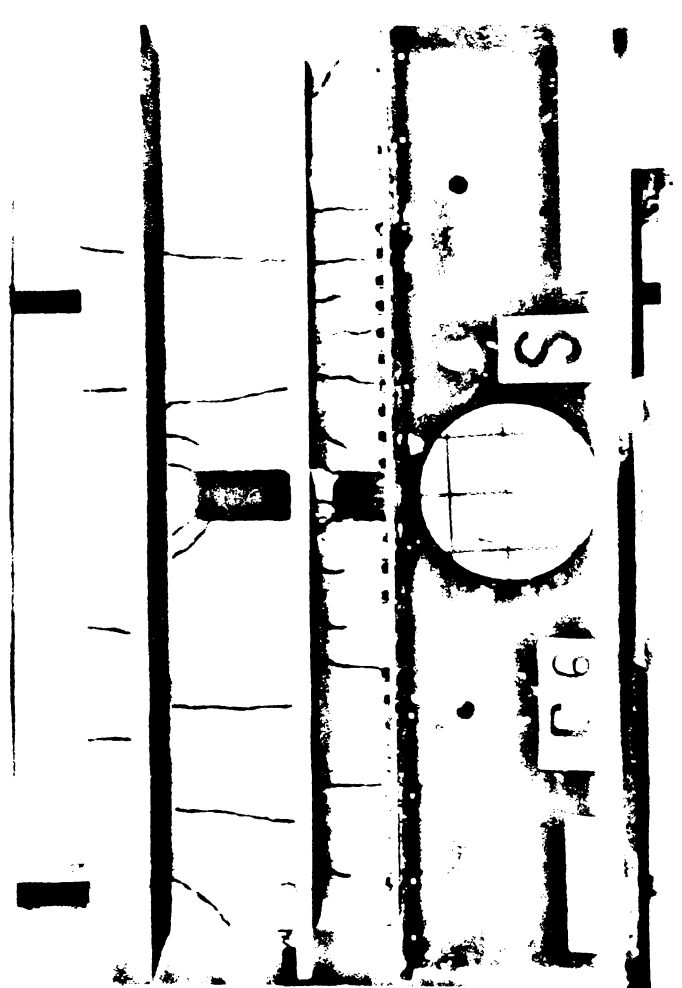
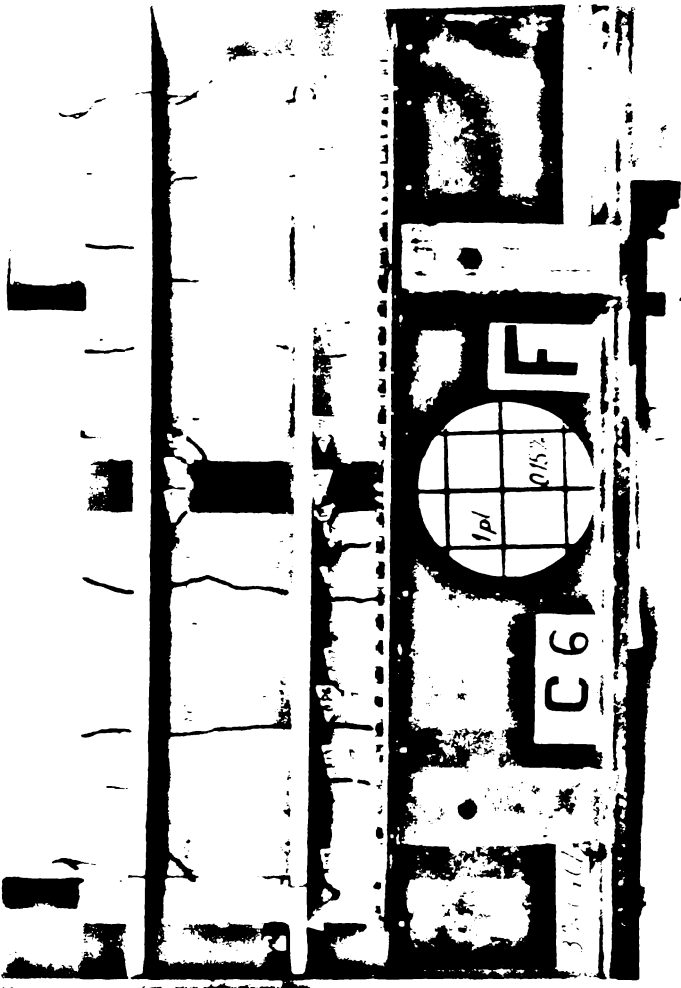
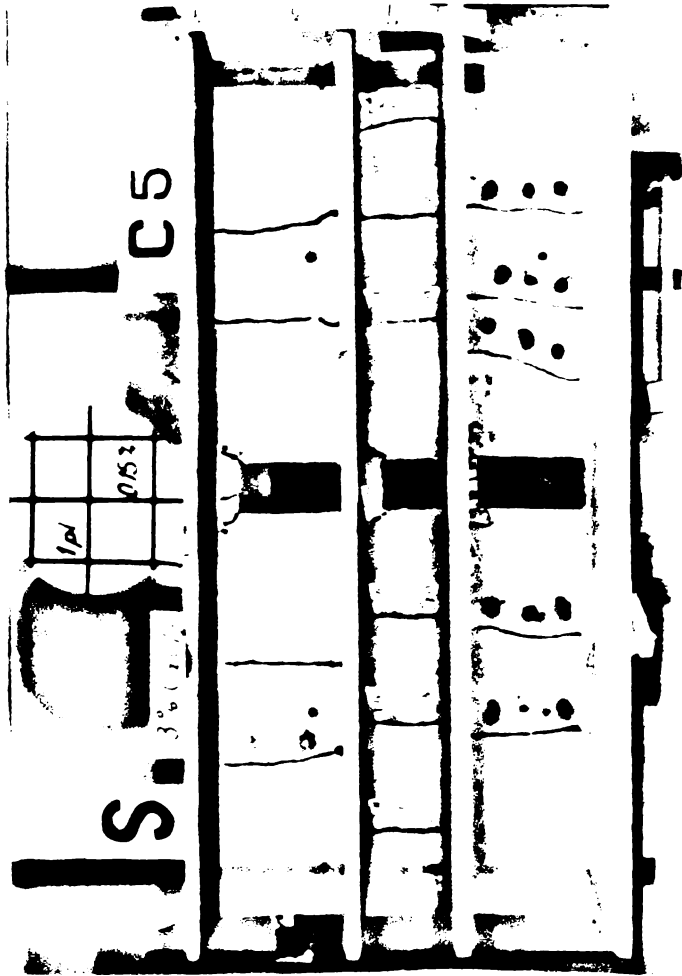
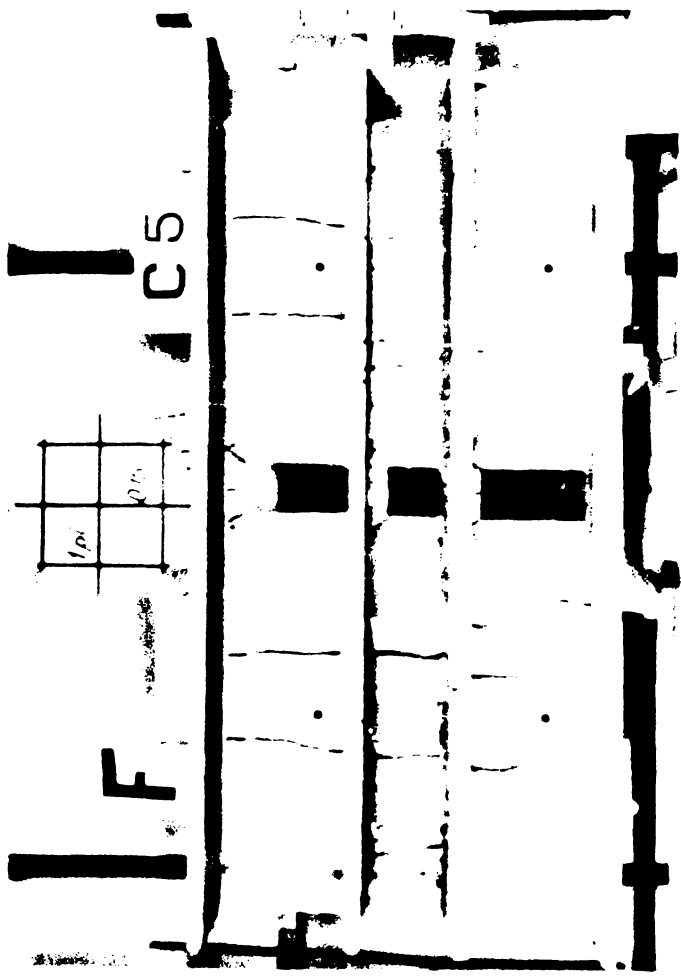


Fig. A-69

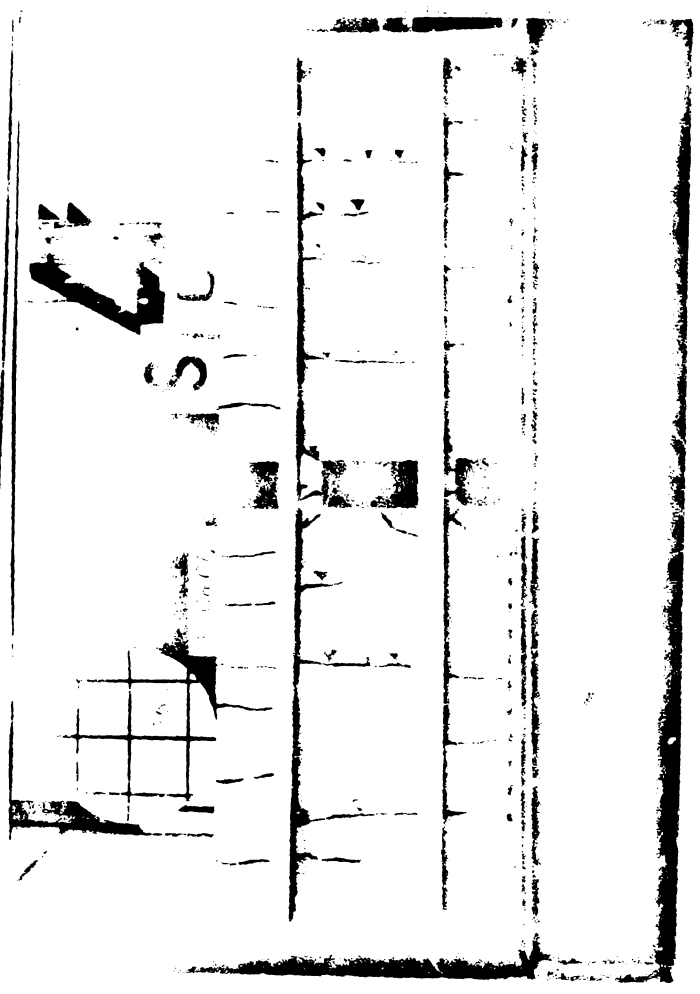
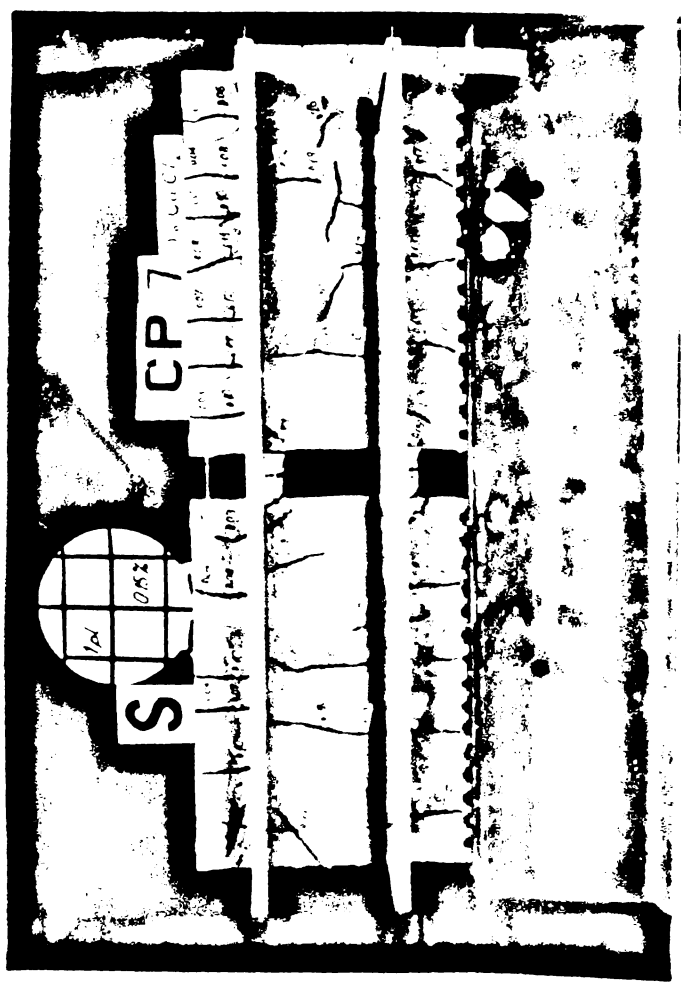
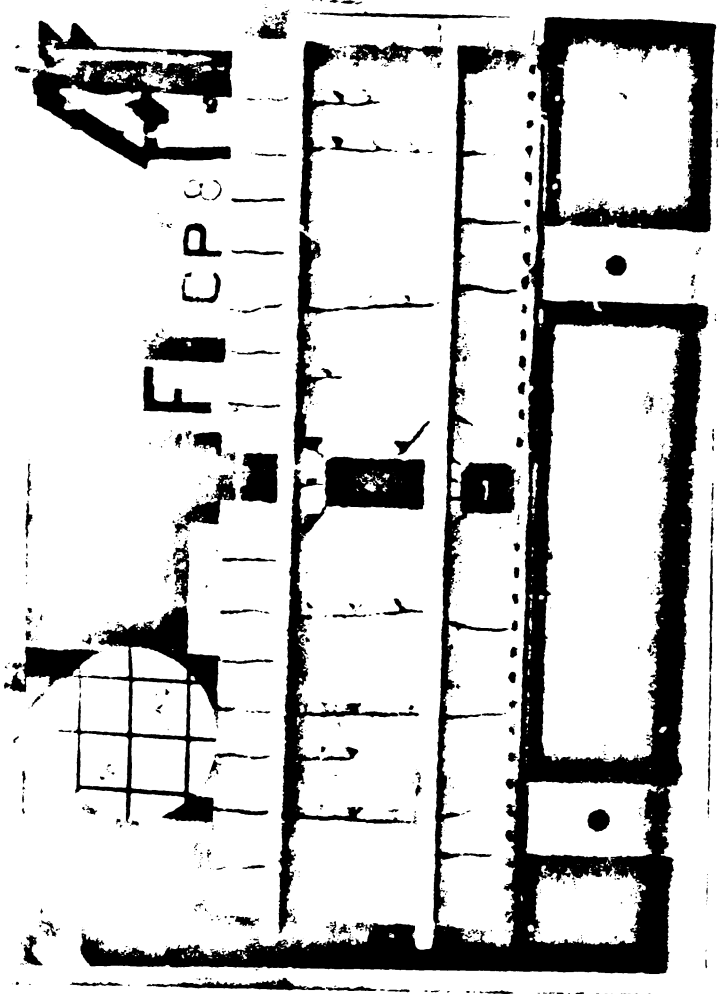
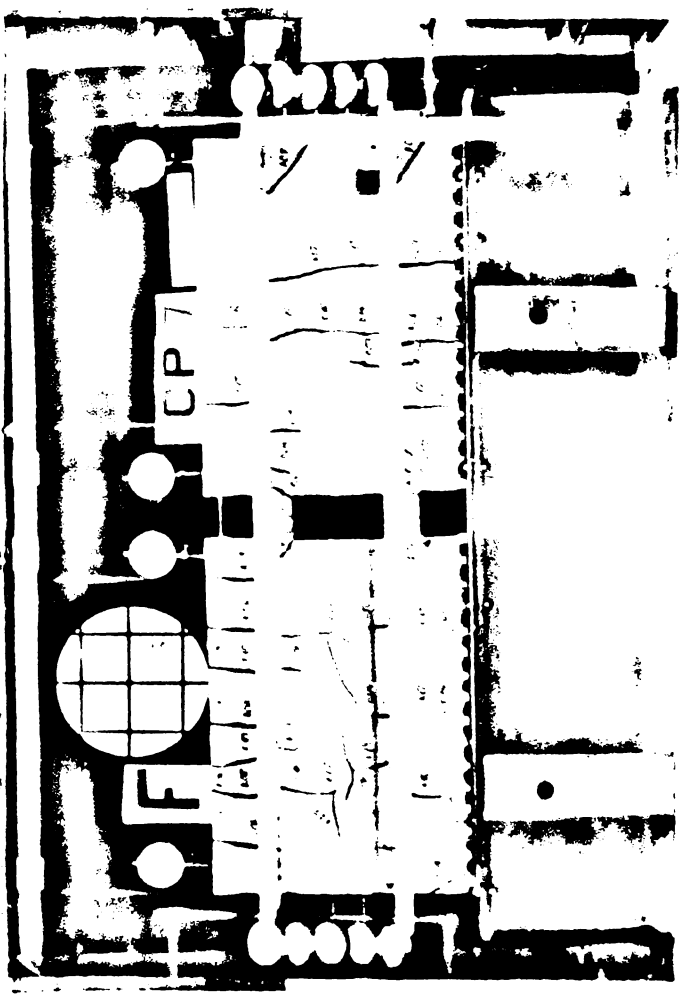


Fig. A70

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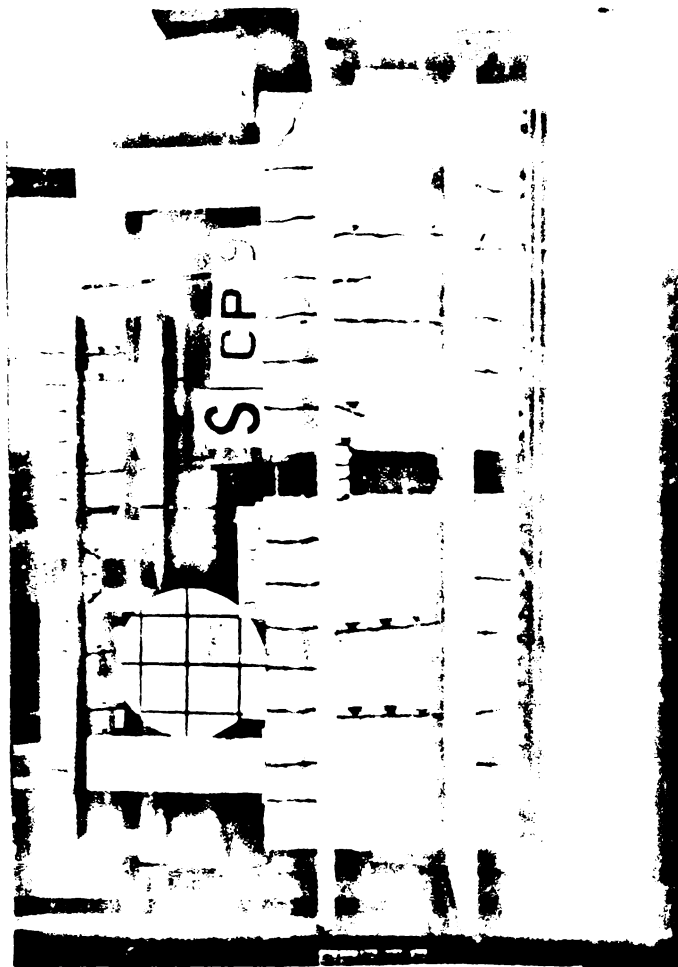
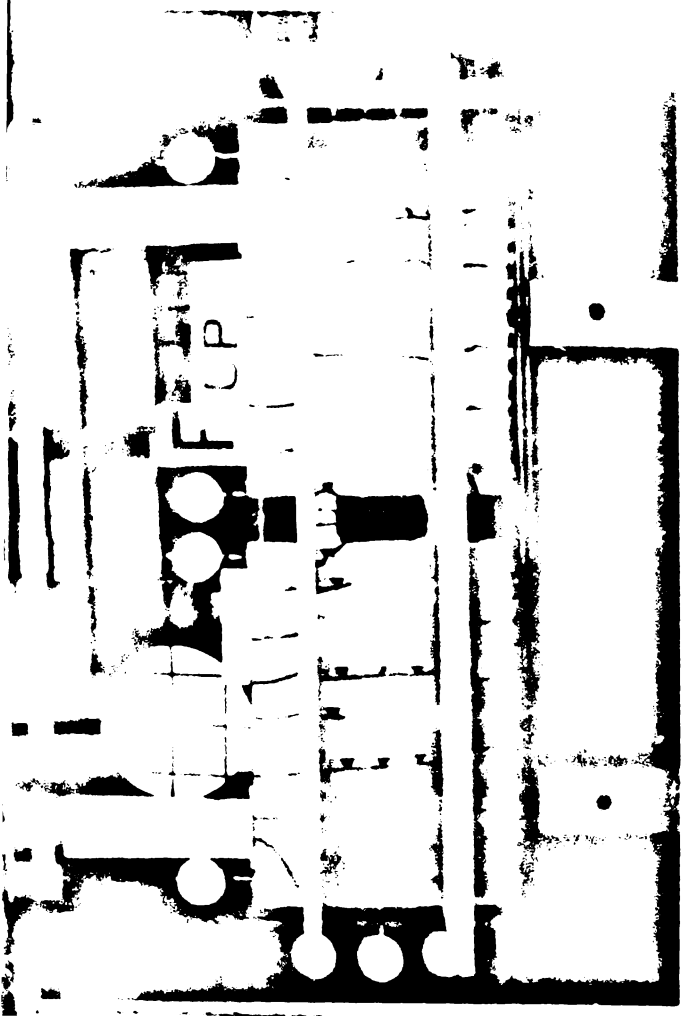
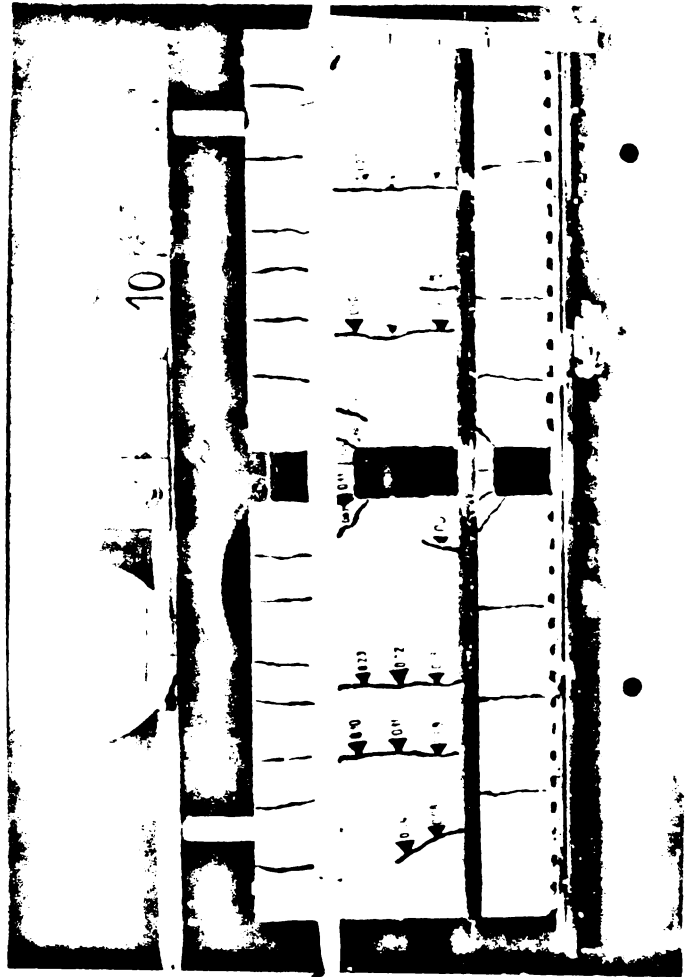
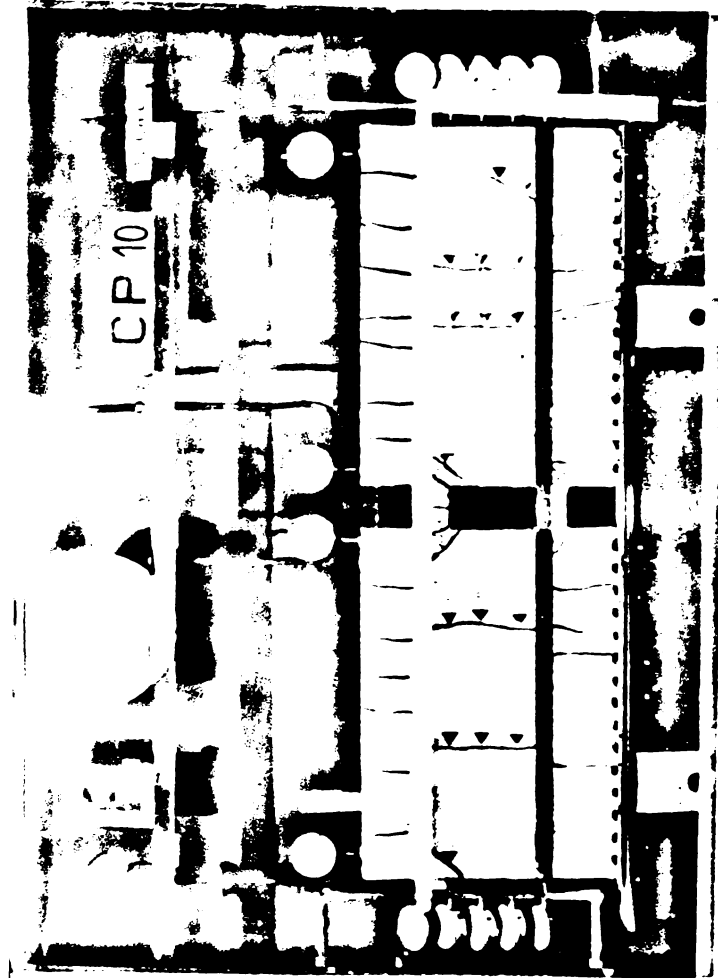
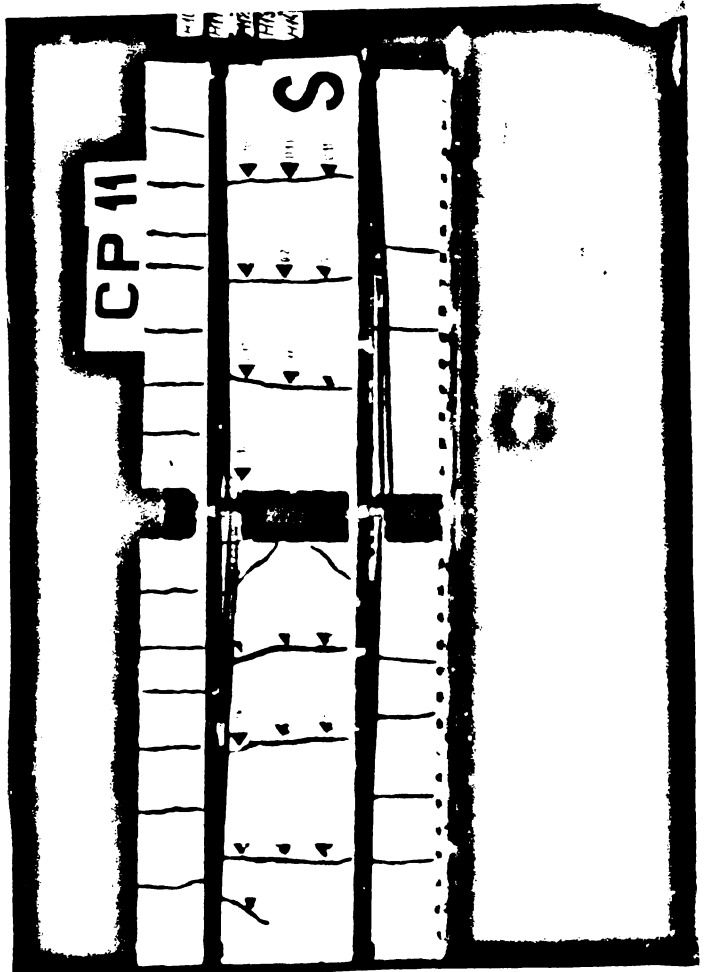
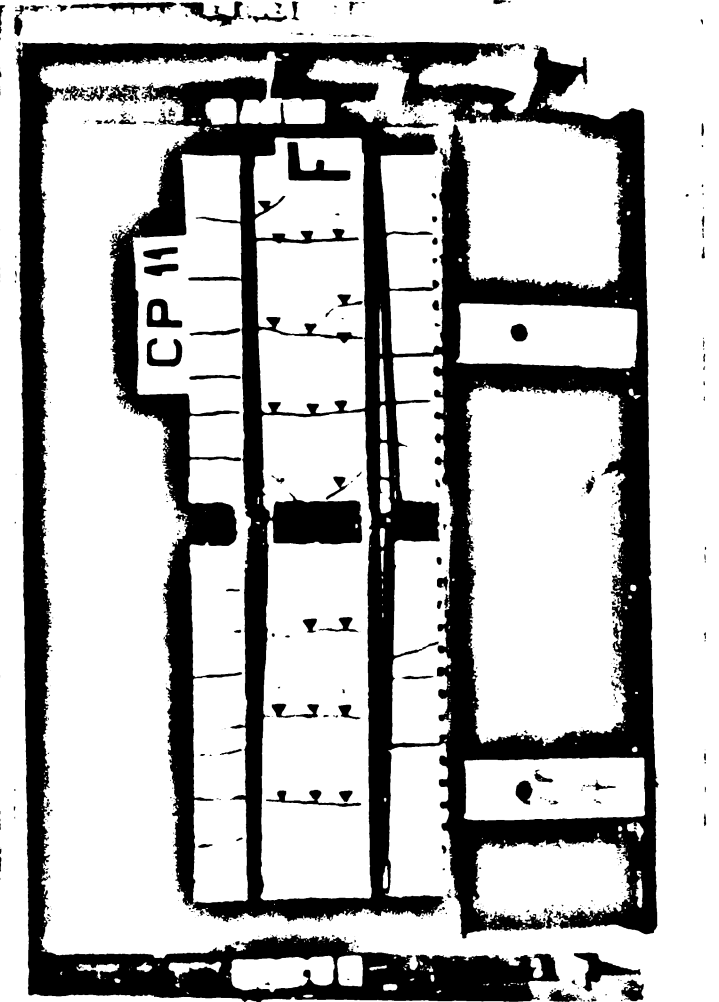
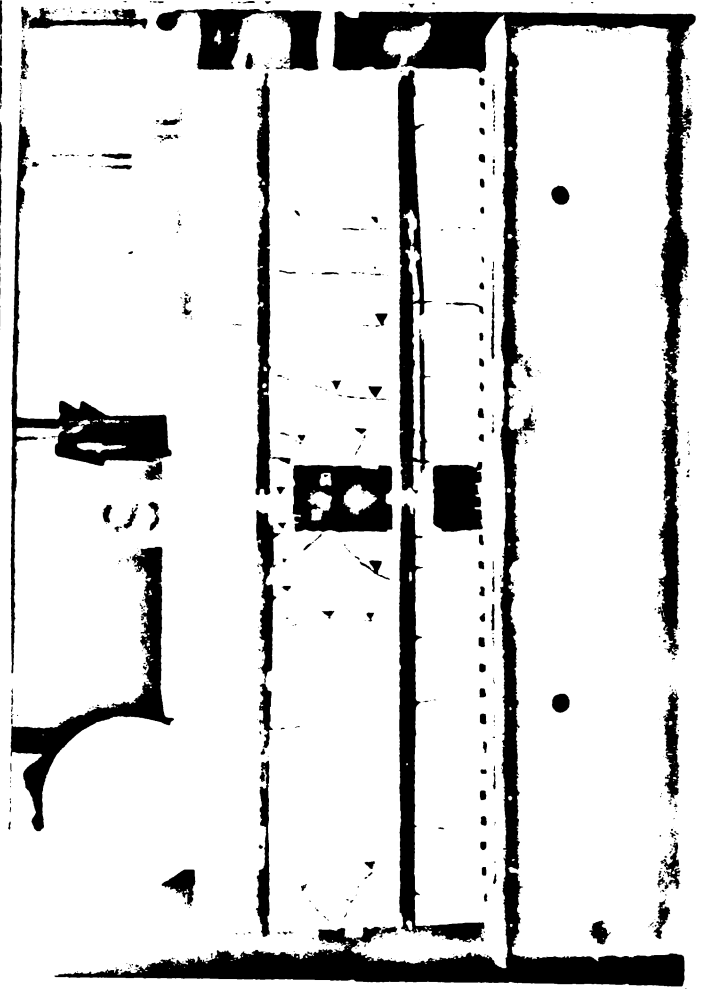
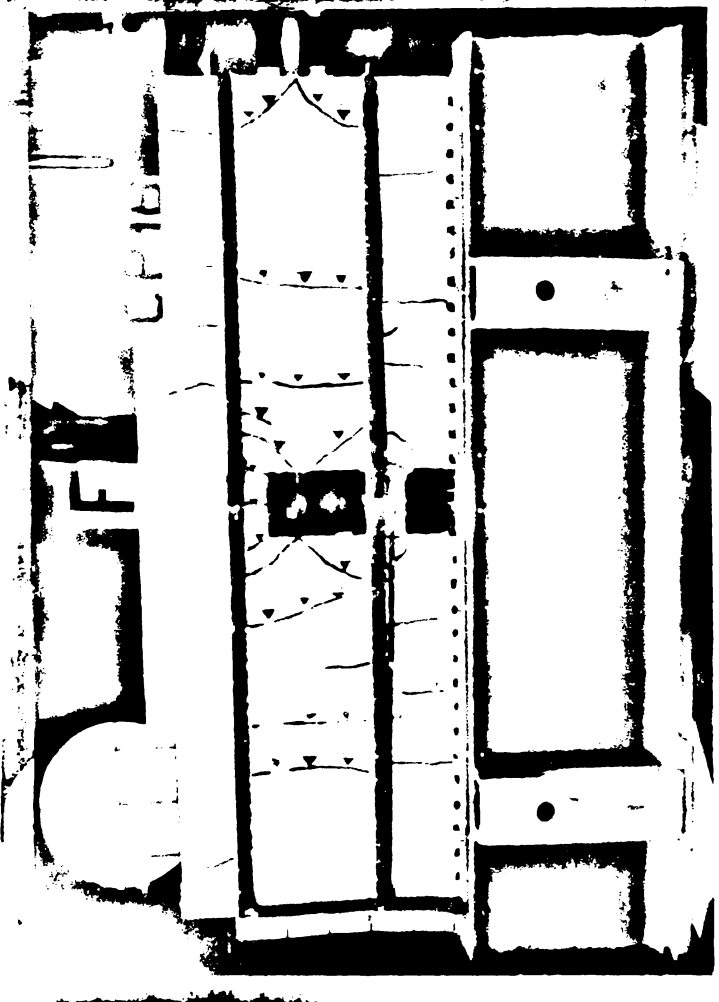


FIG. A71



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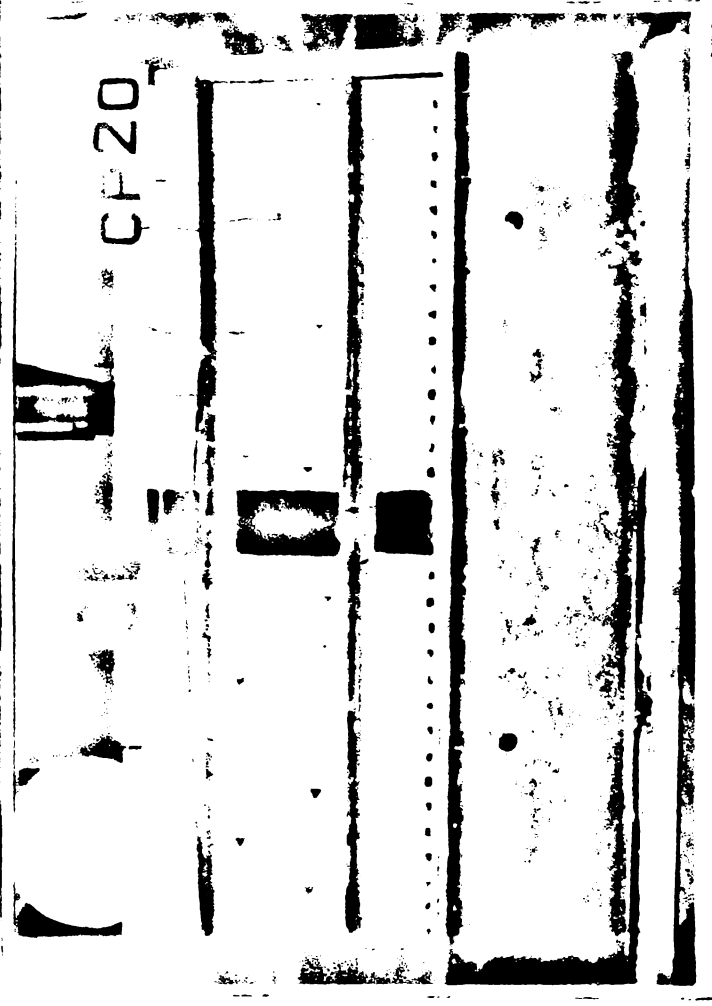
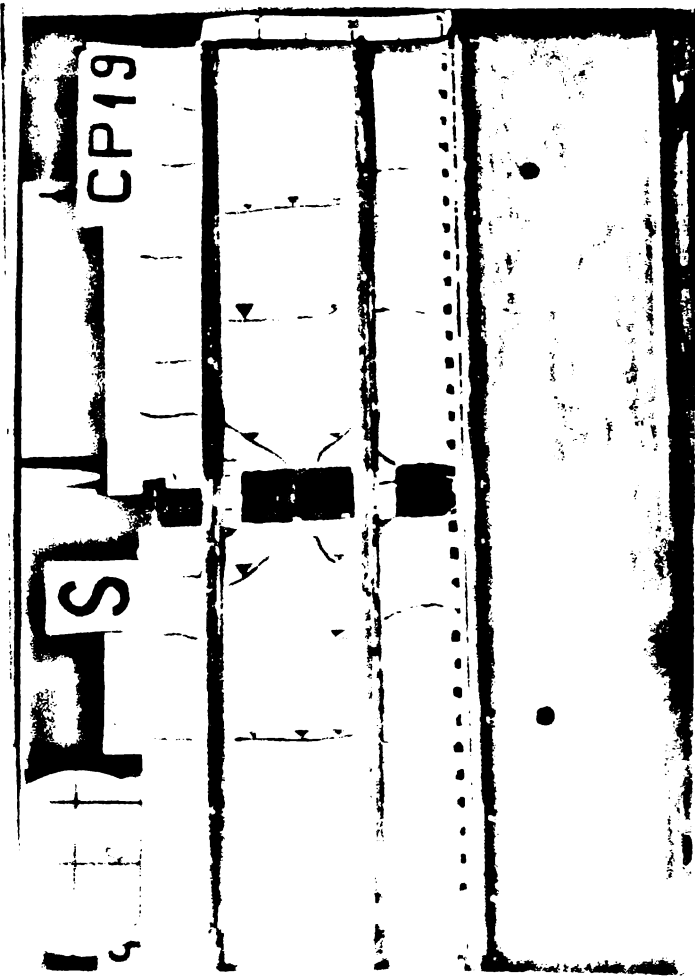
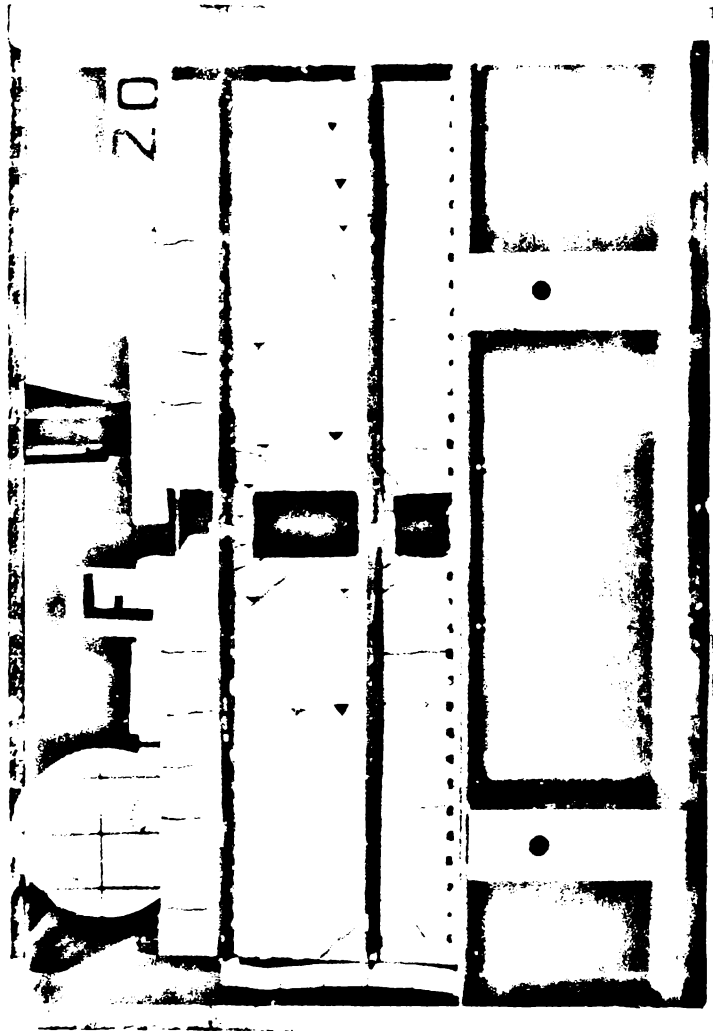
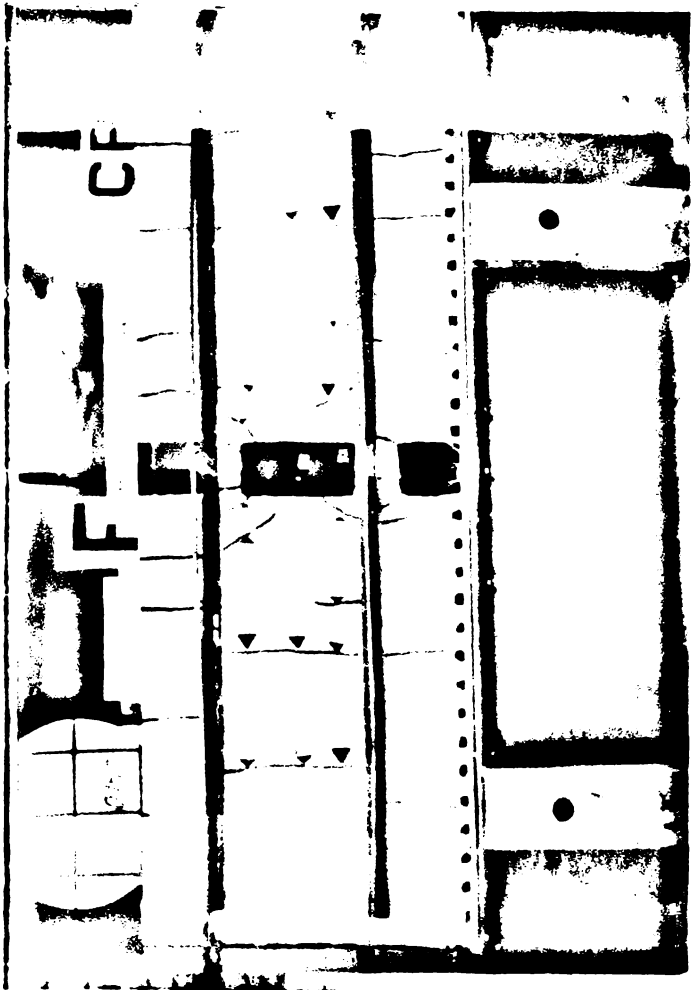
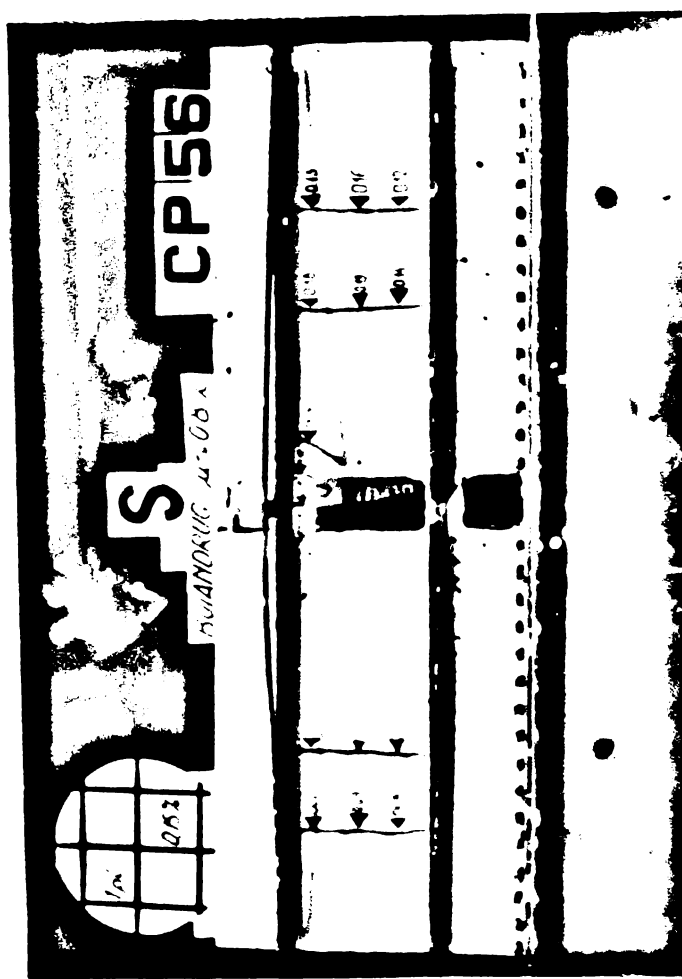
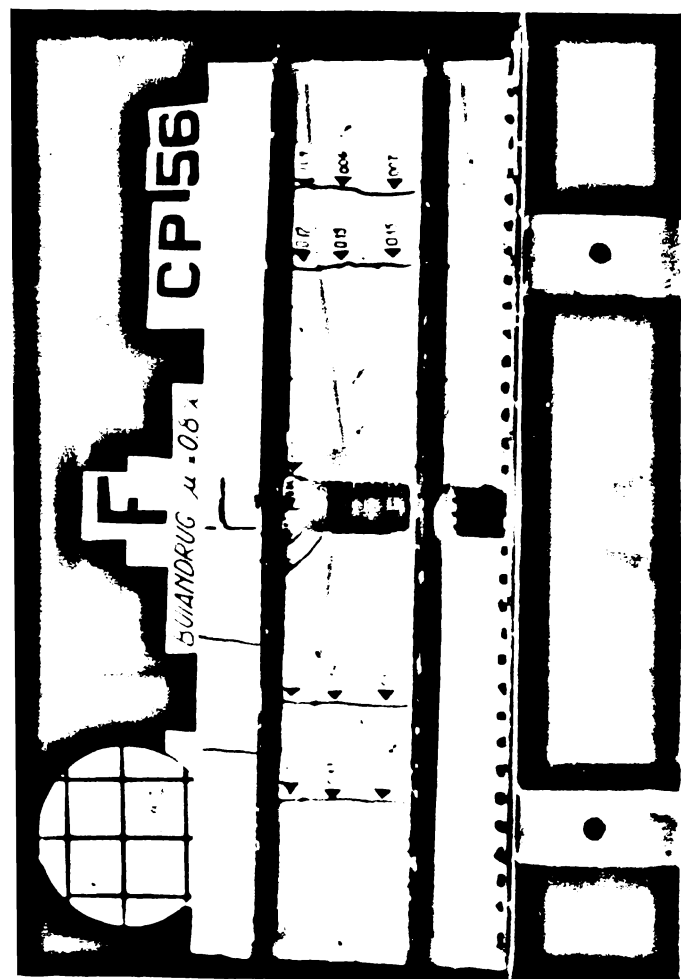
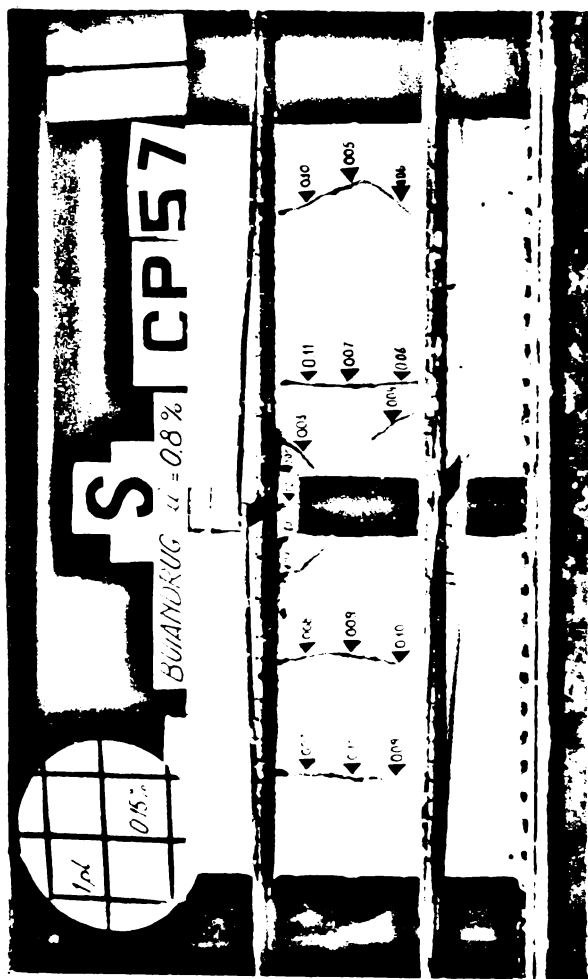
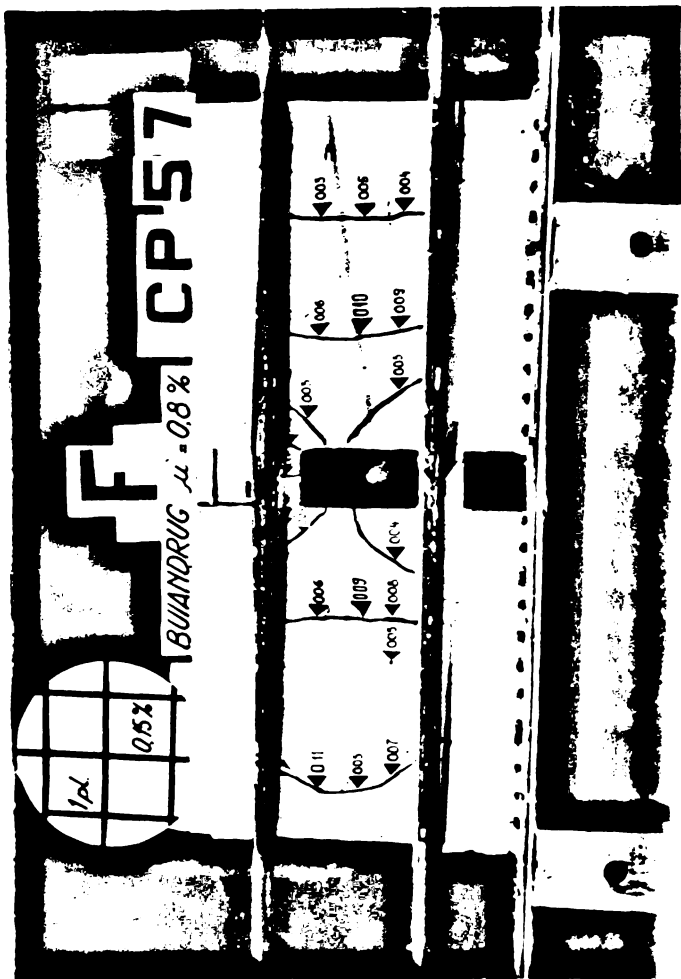


Fig. A.73



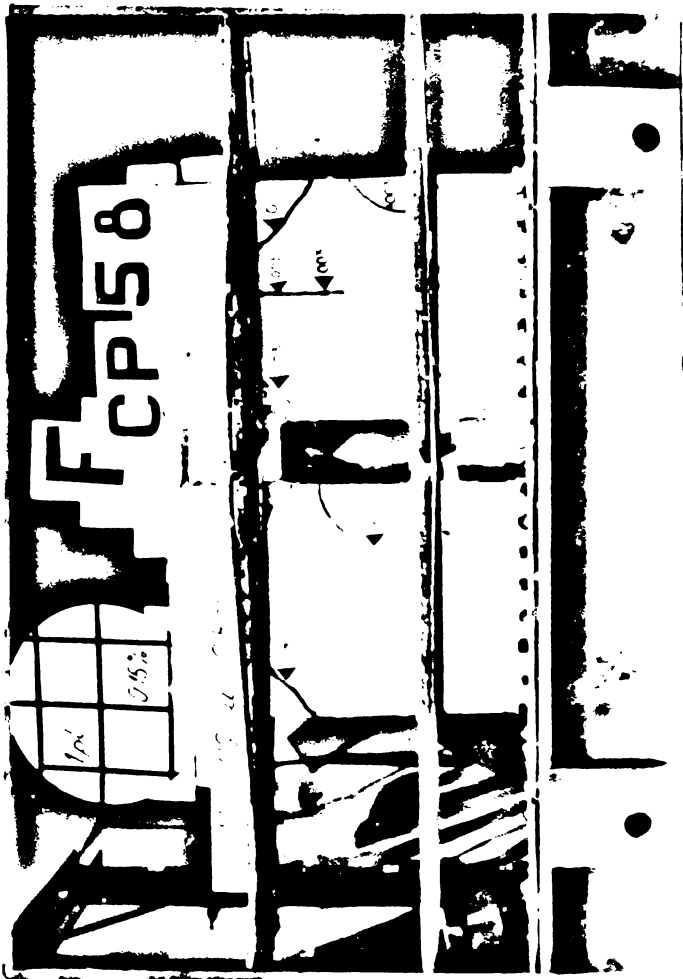
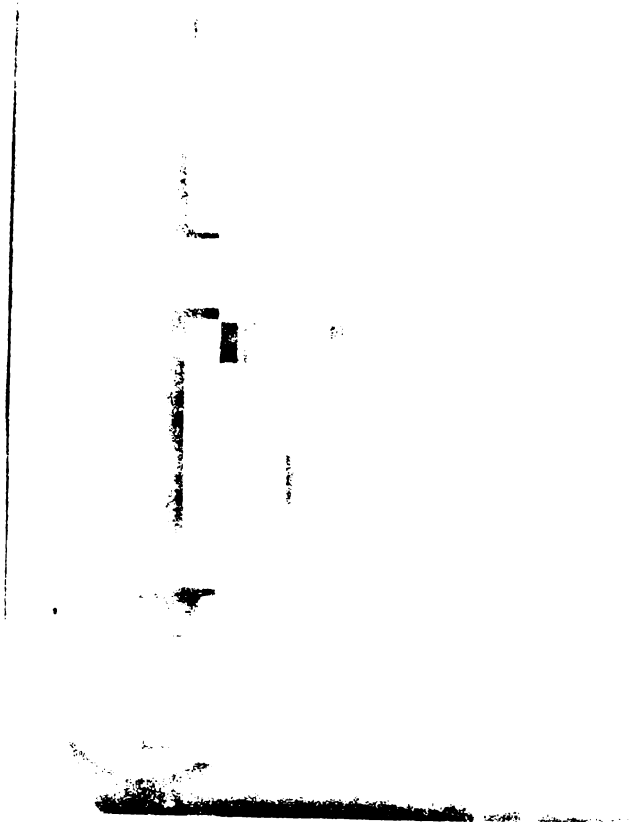
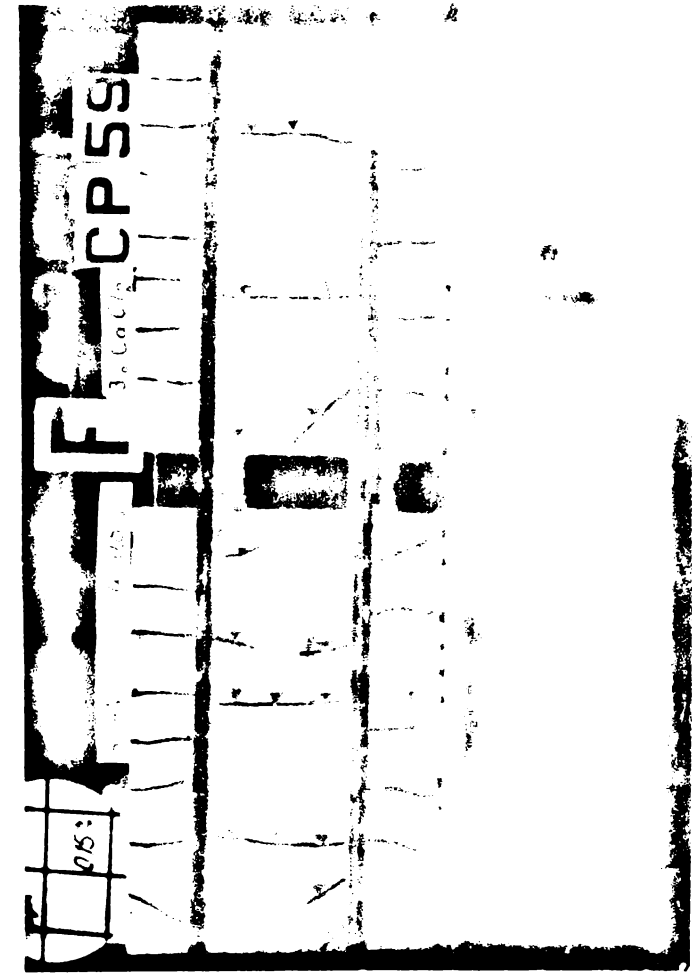


Fig. 10/3

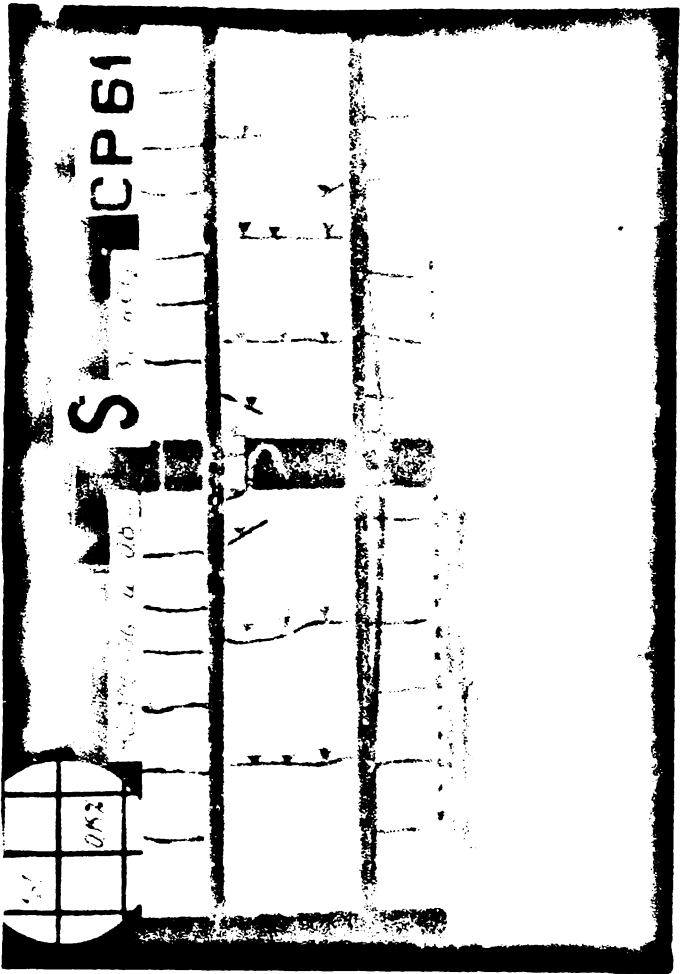
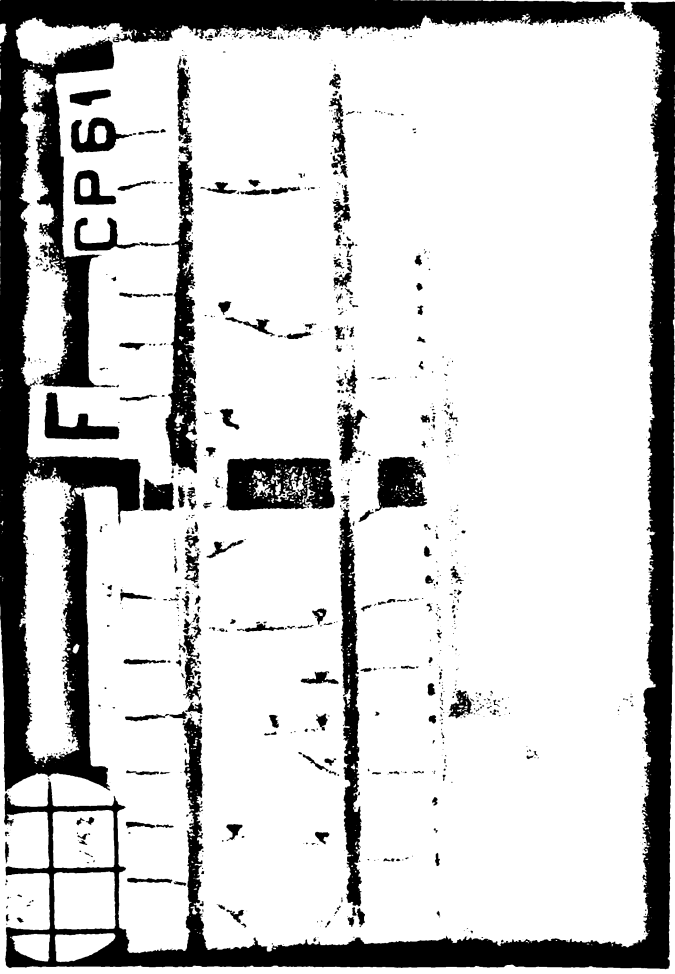
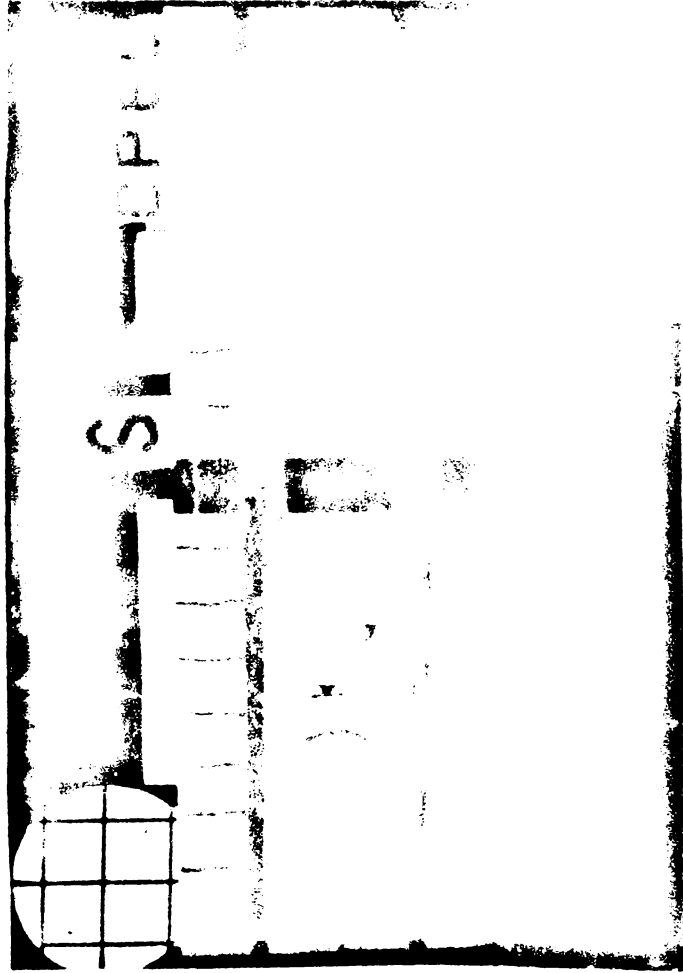
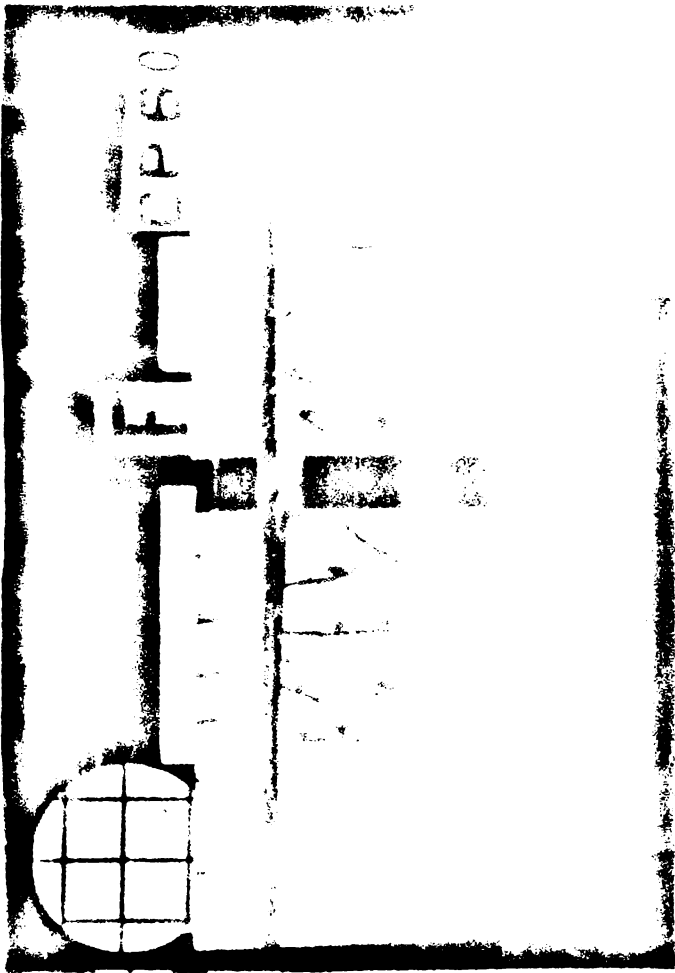
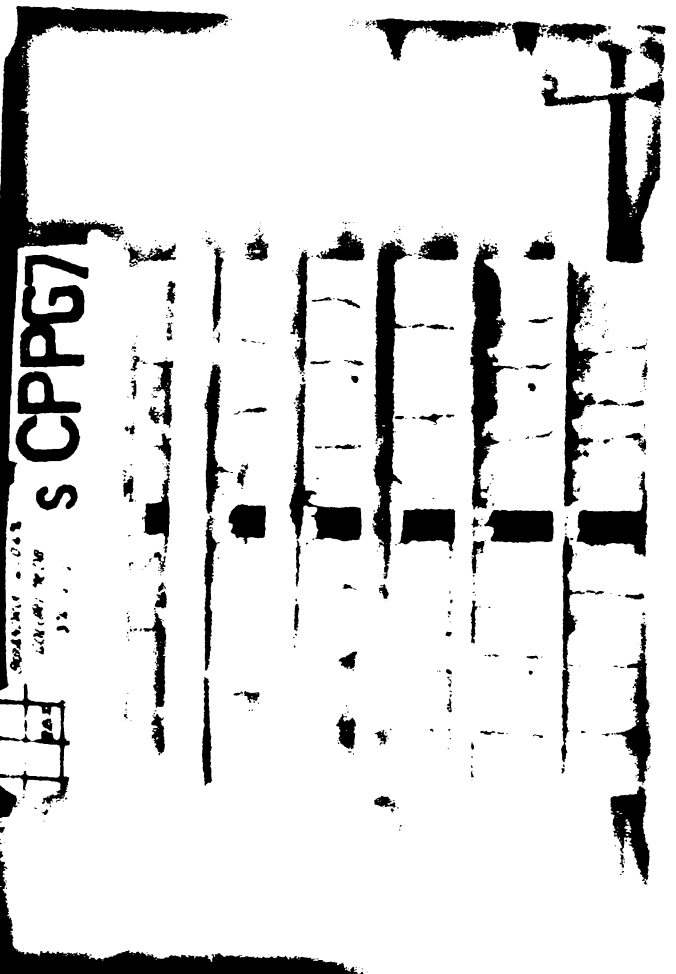
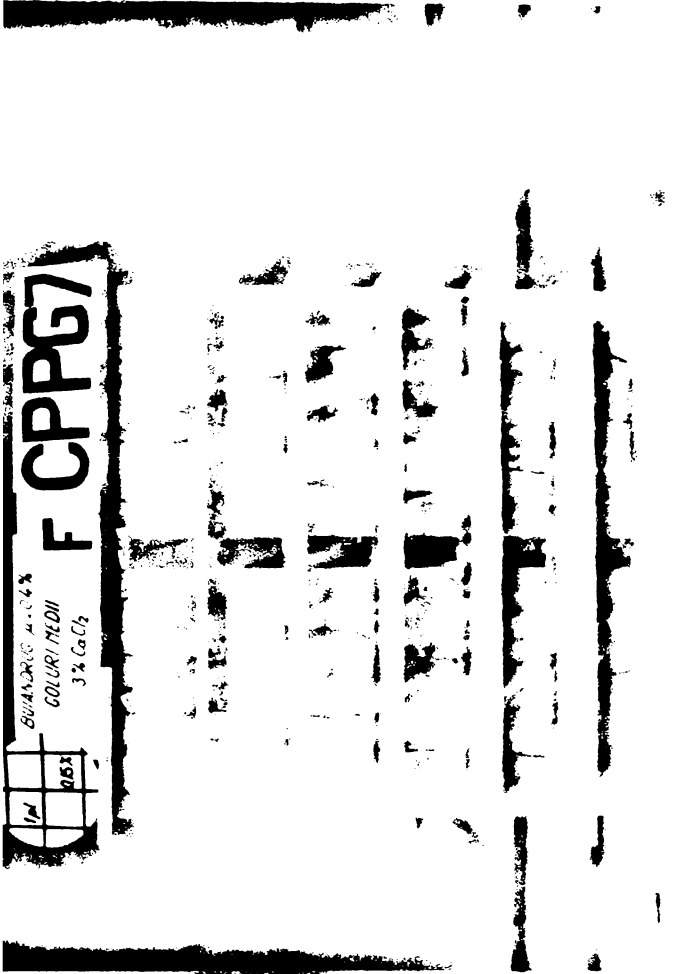
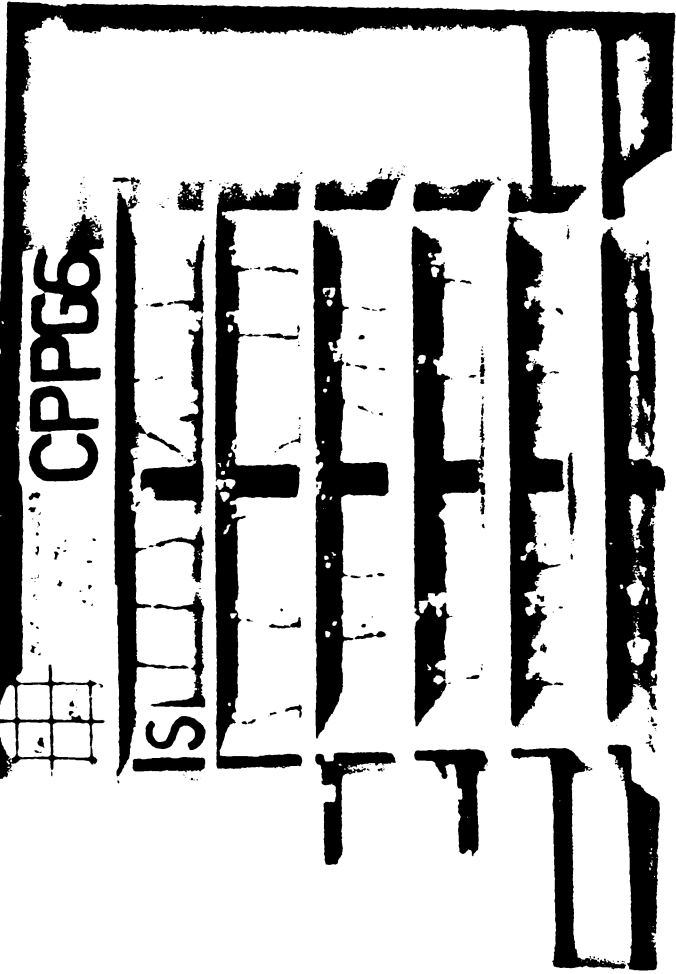
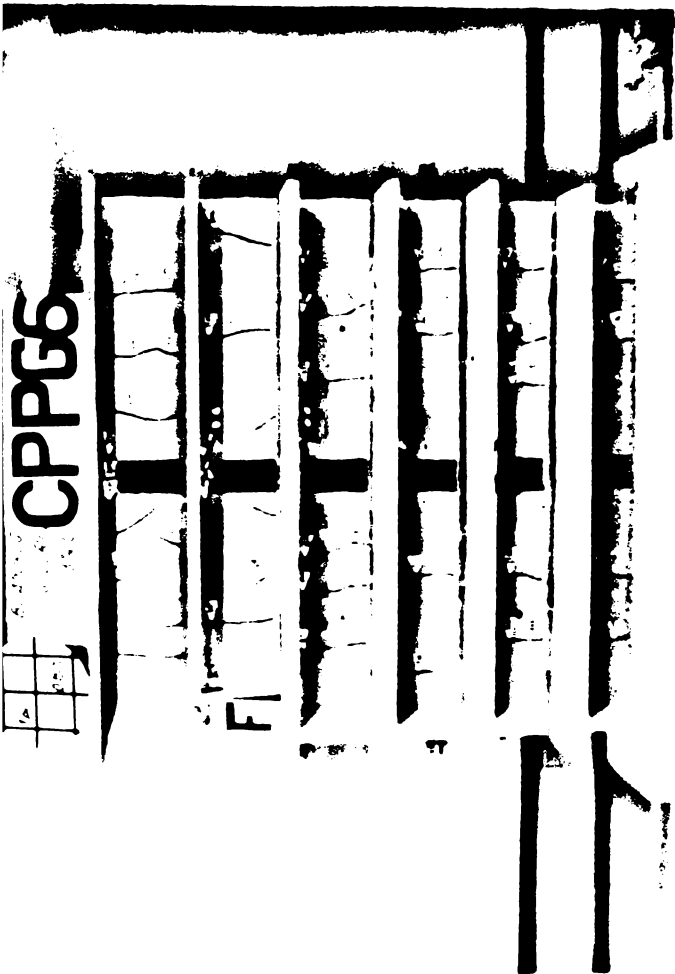


Figure 10



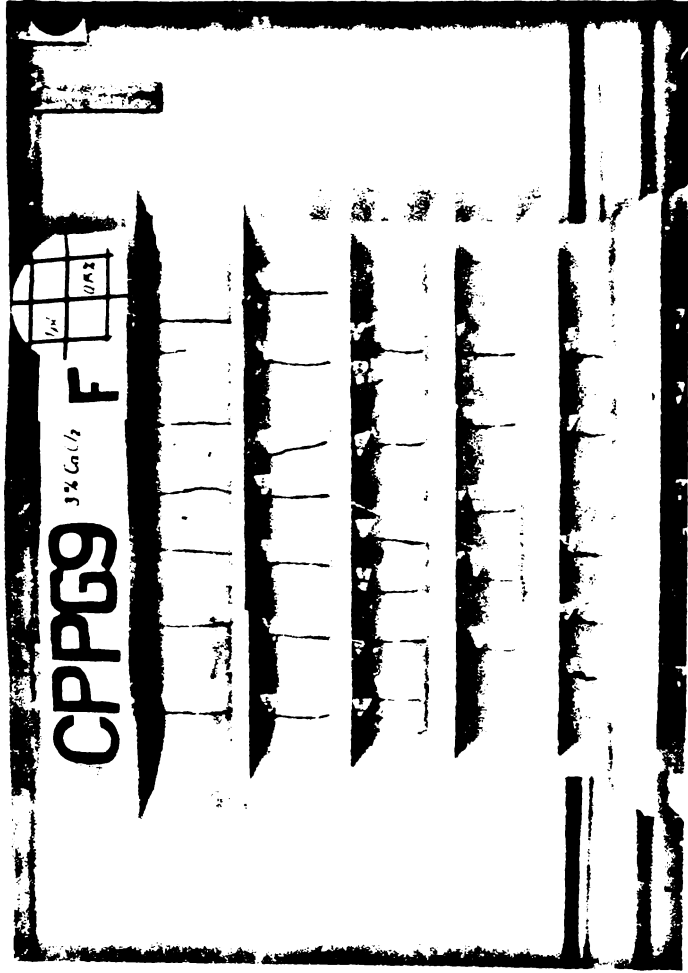
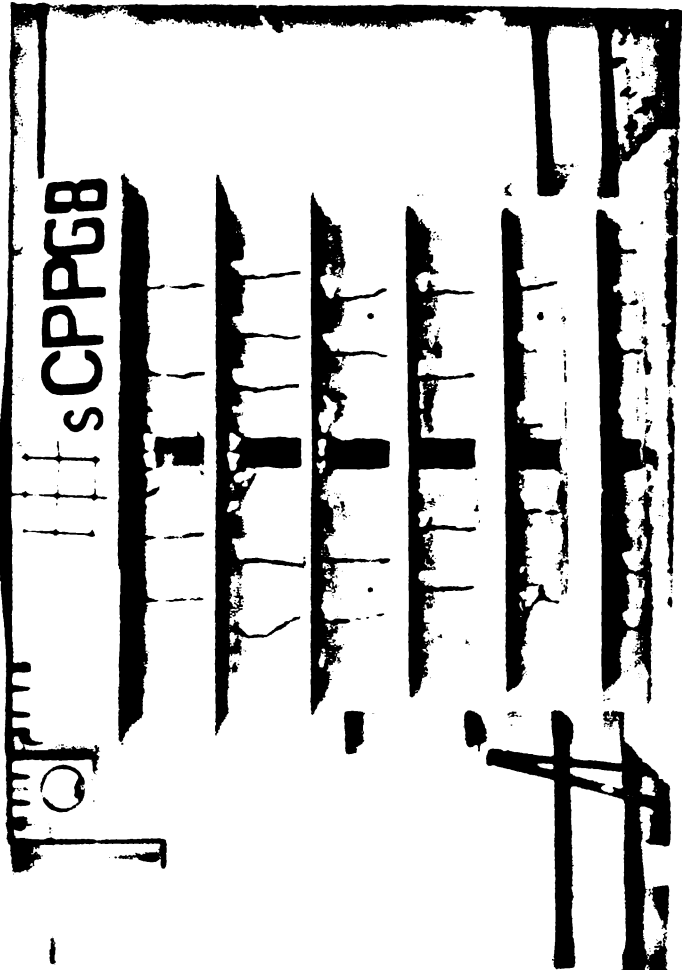
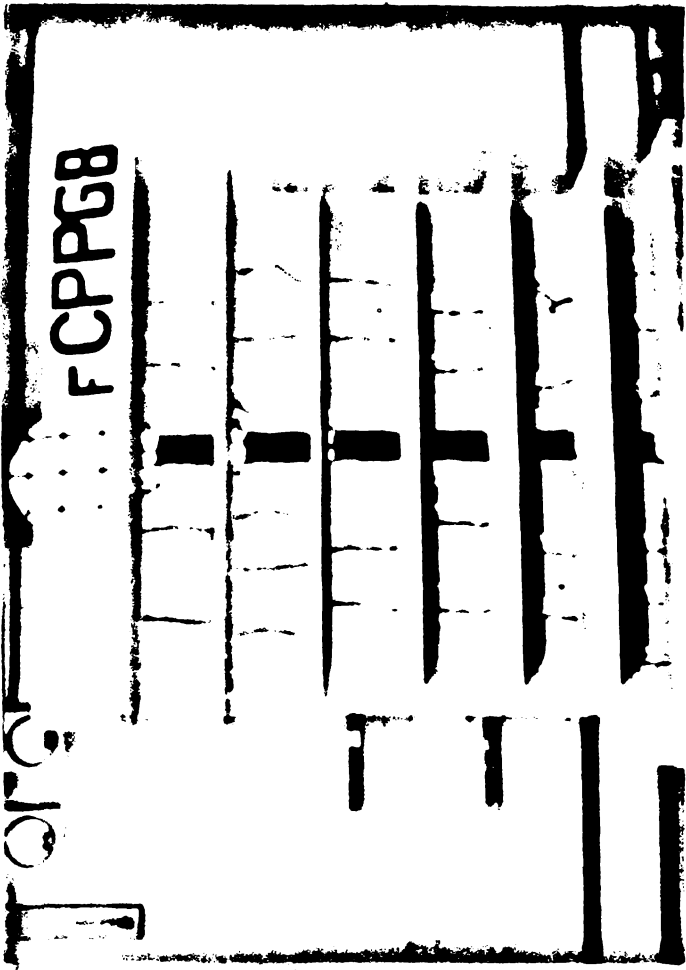


Fig. A7.

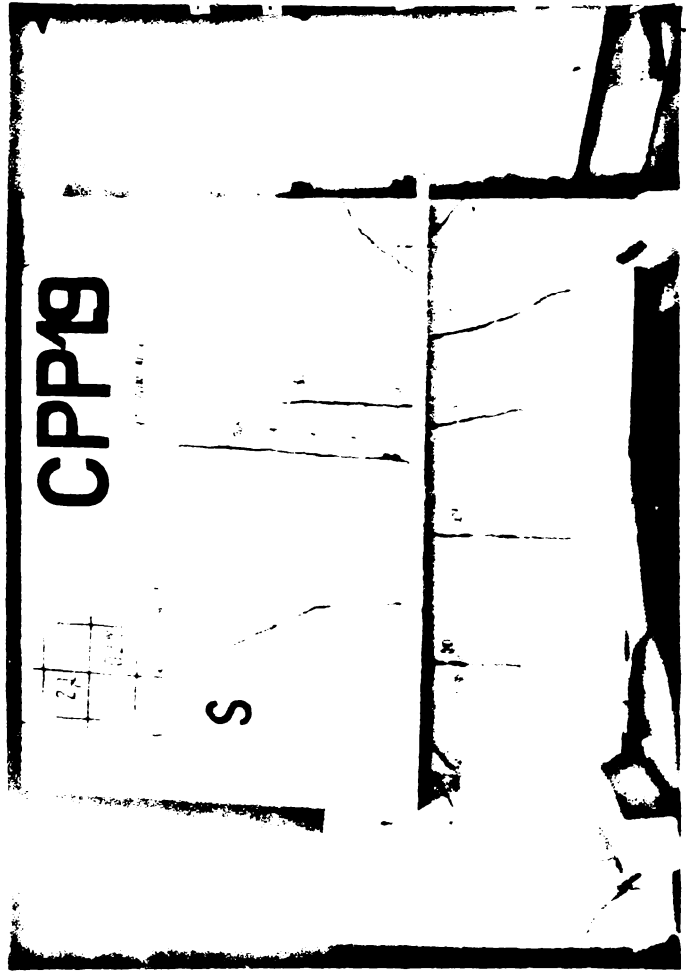
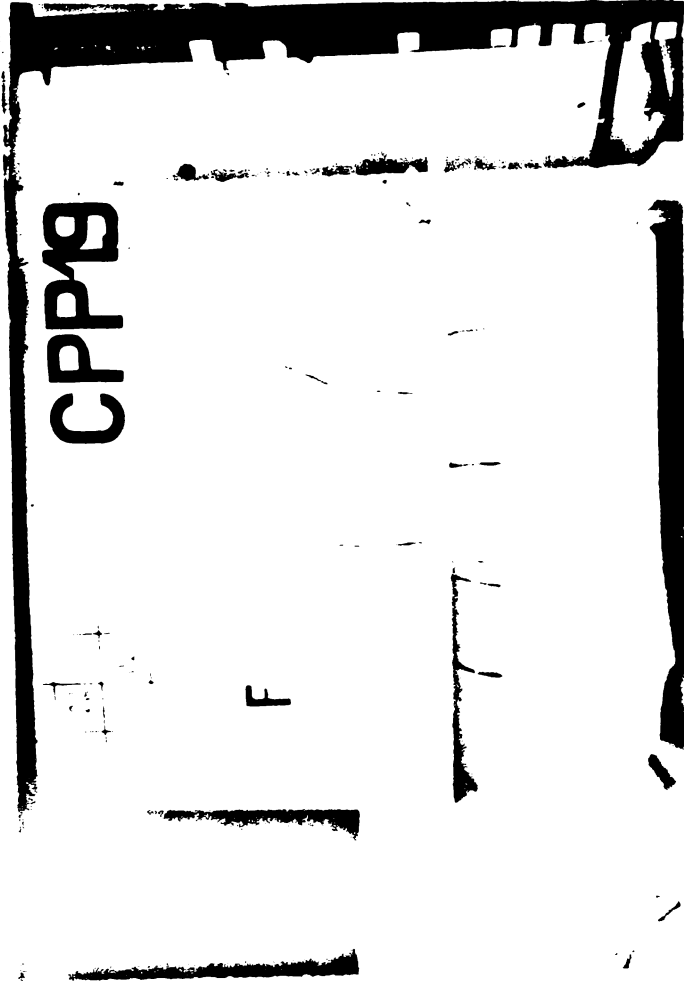
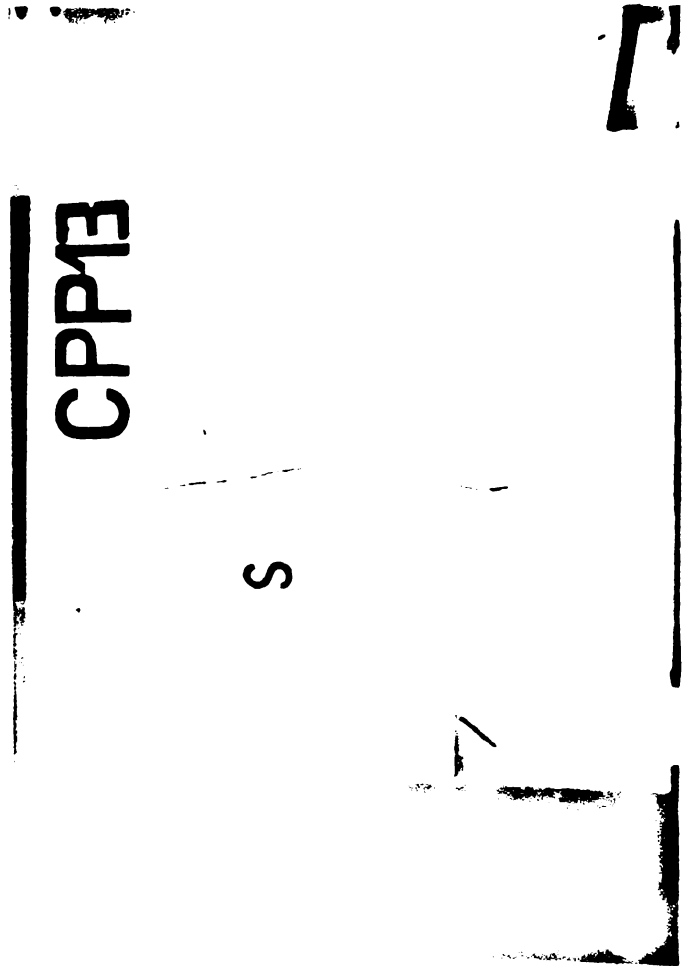
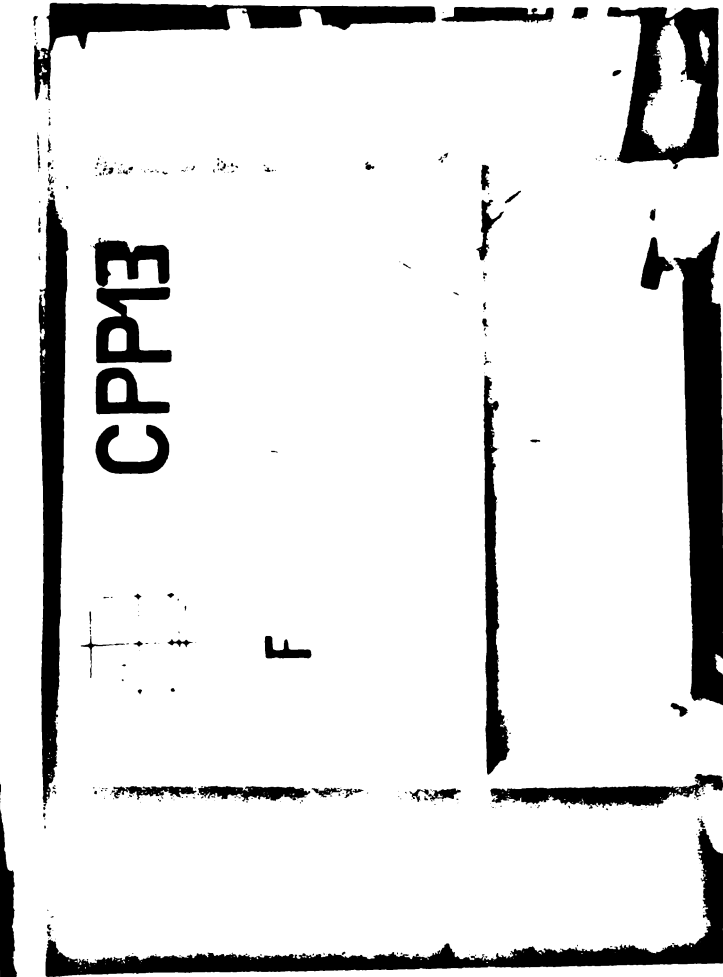
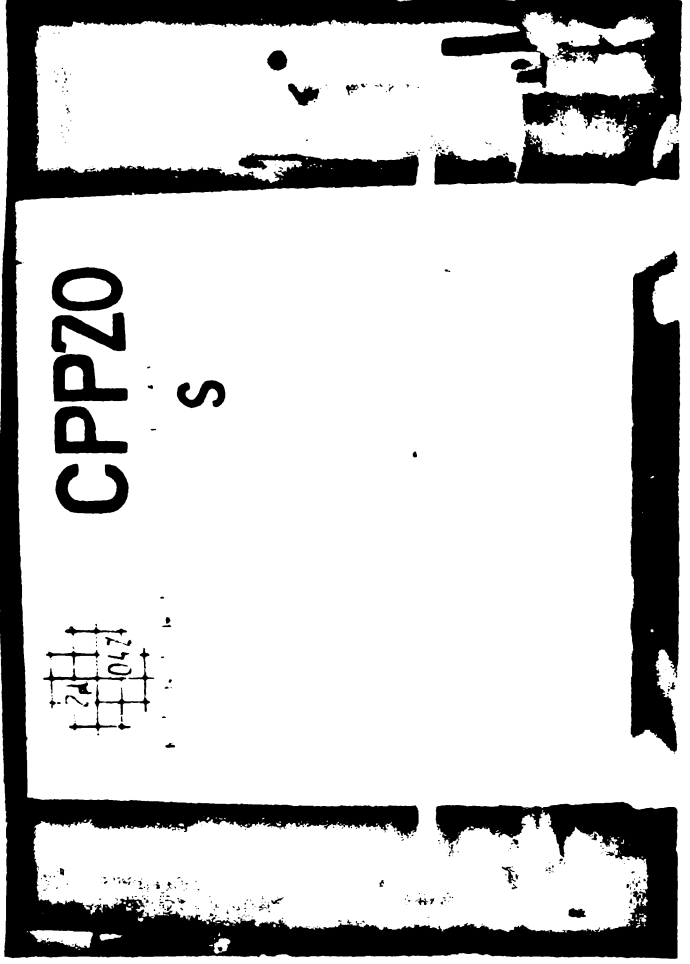
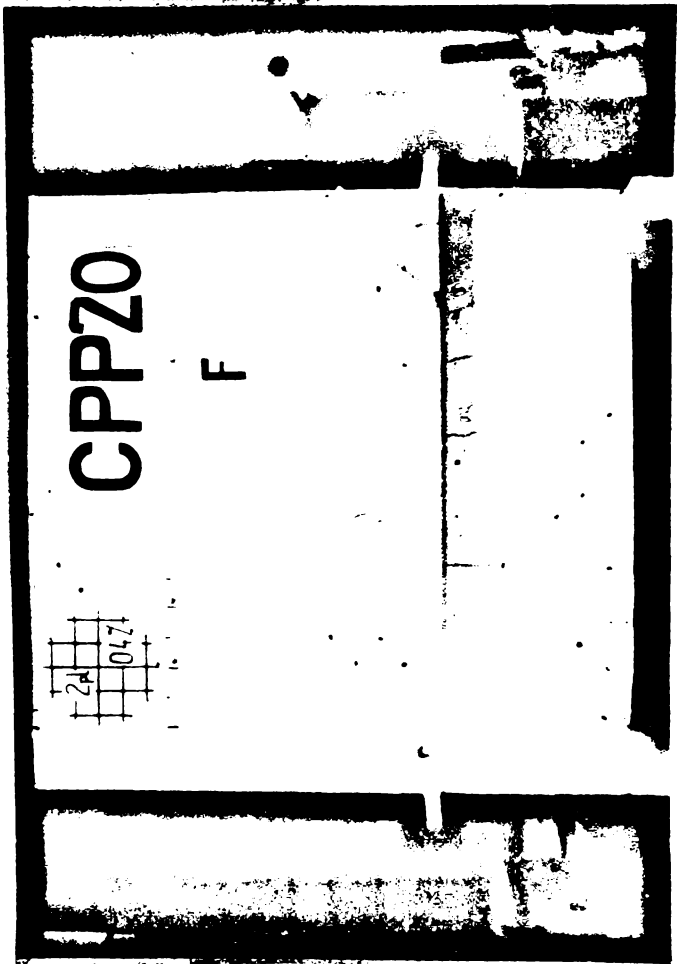
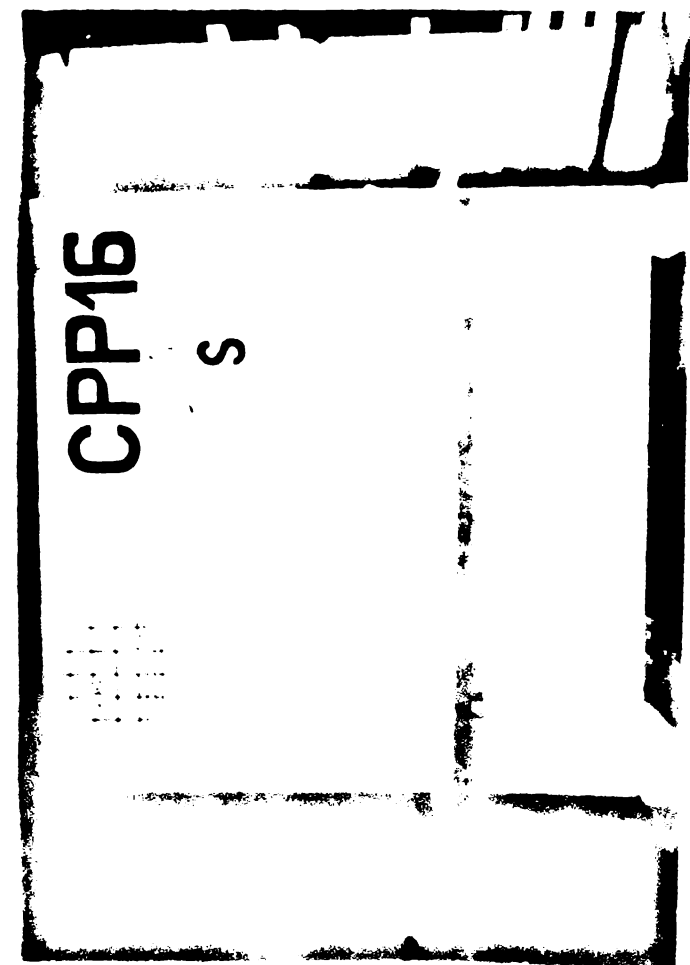
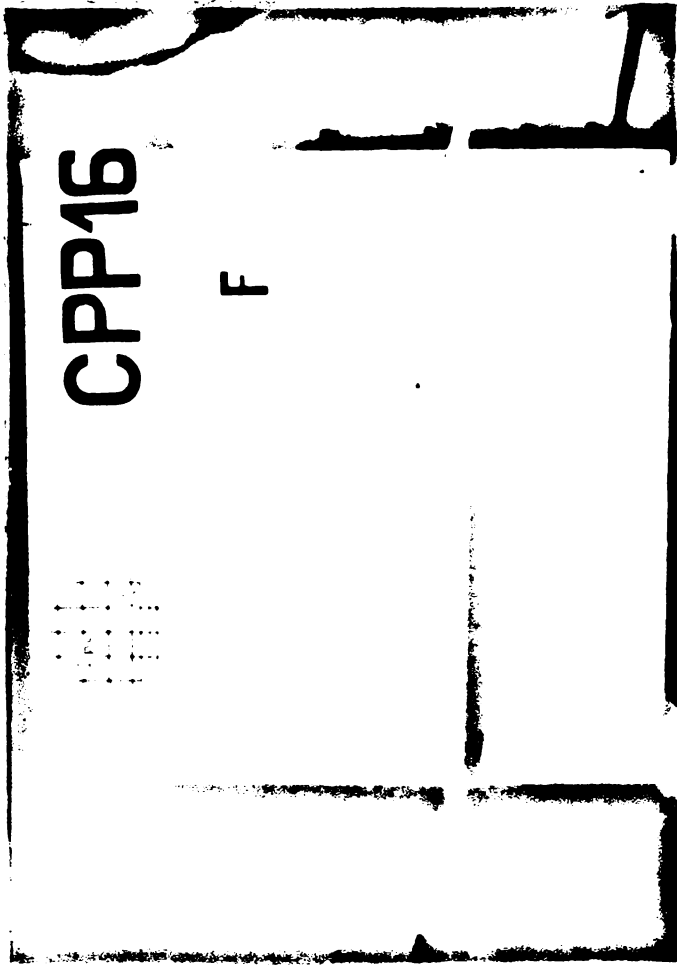
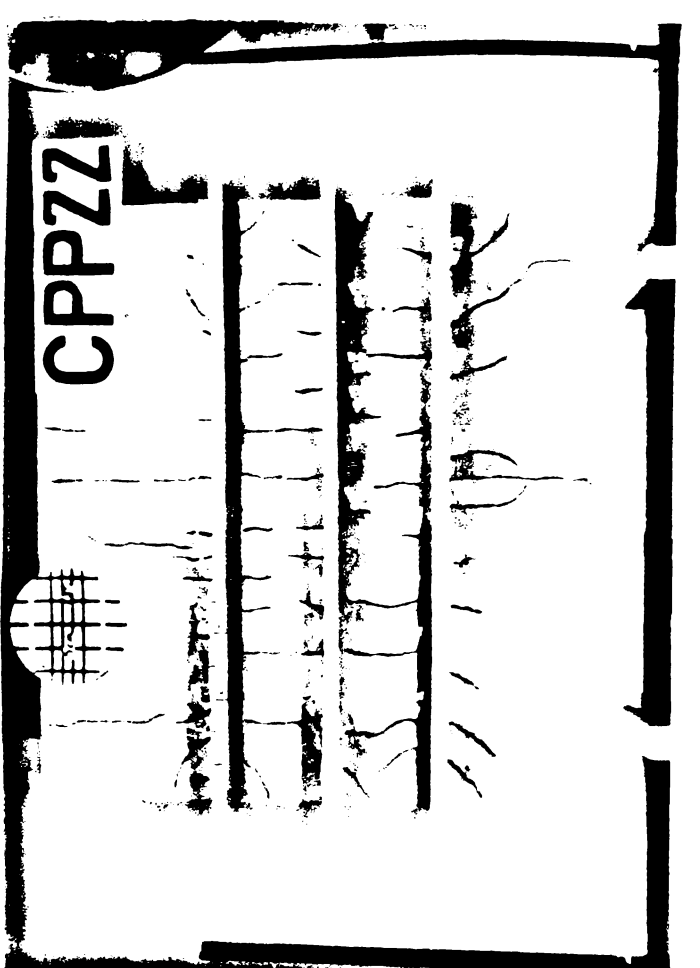
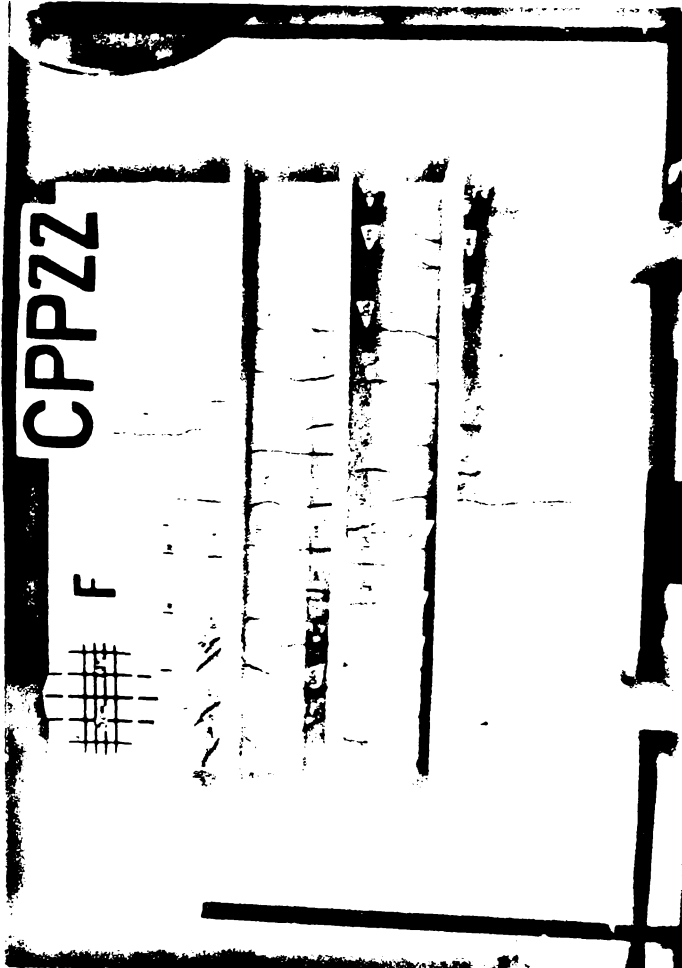
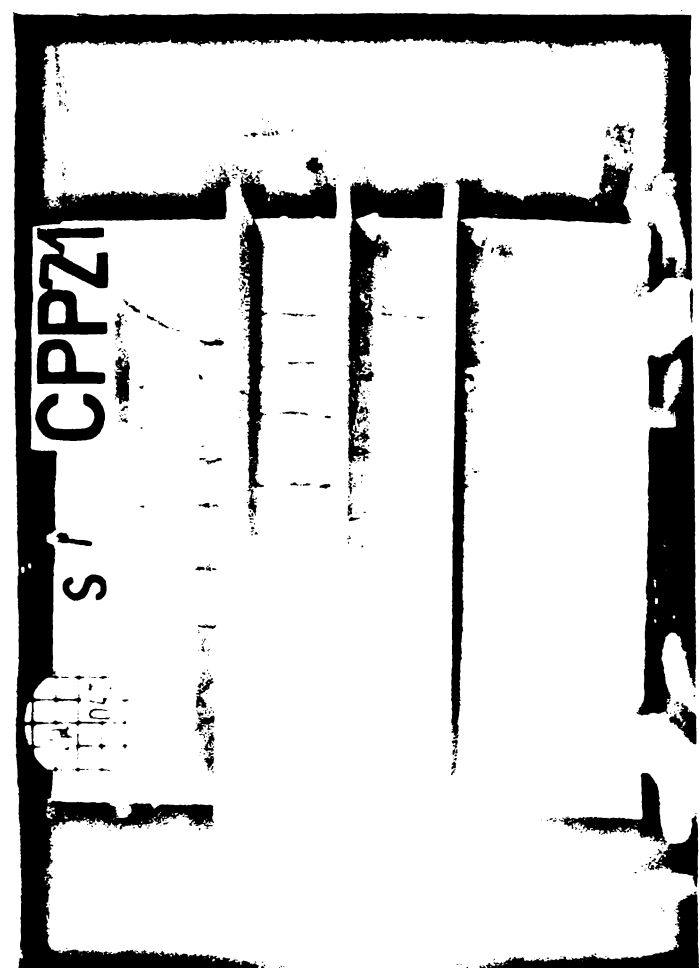
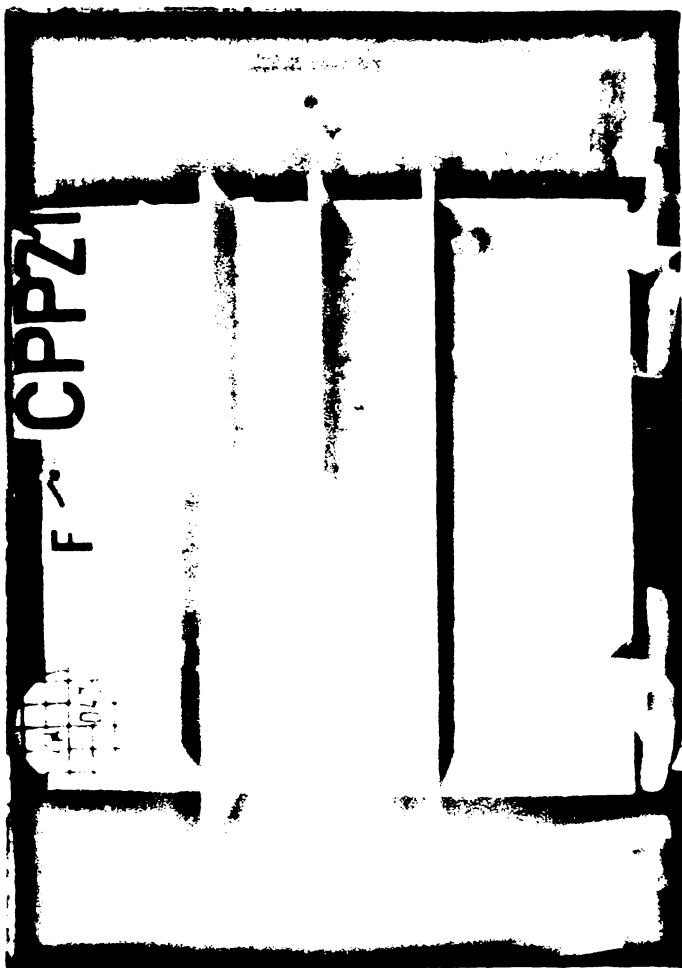
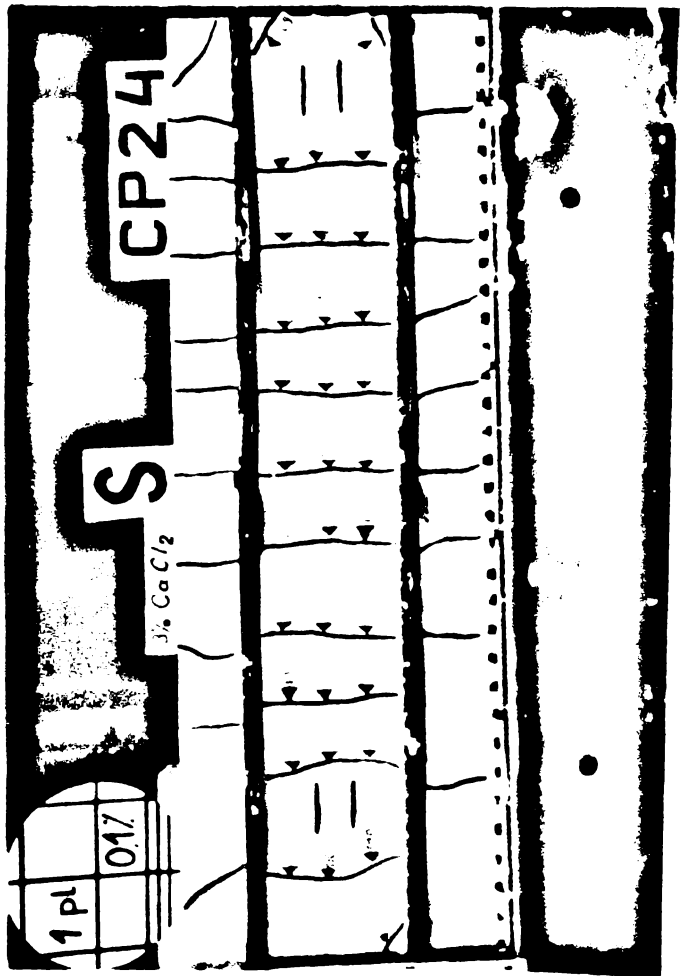
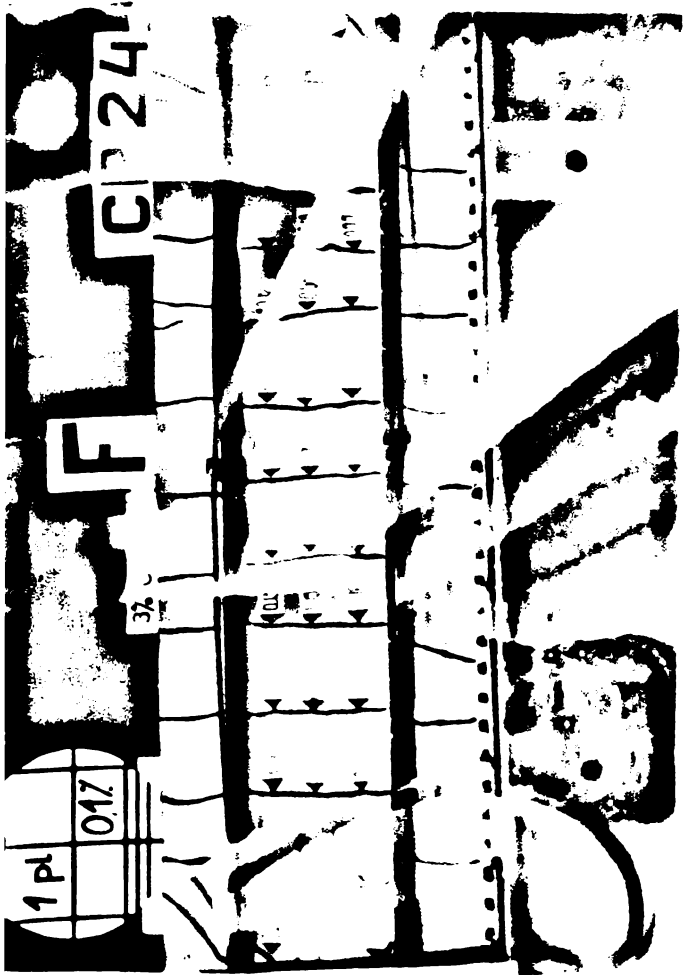
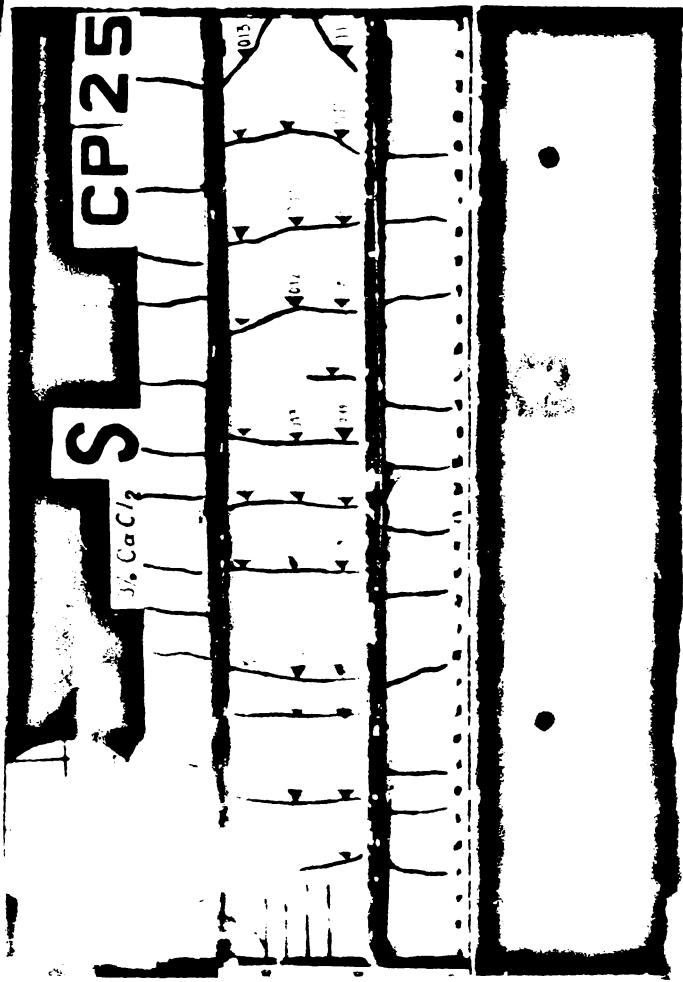
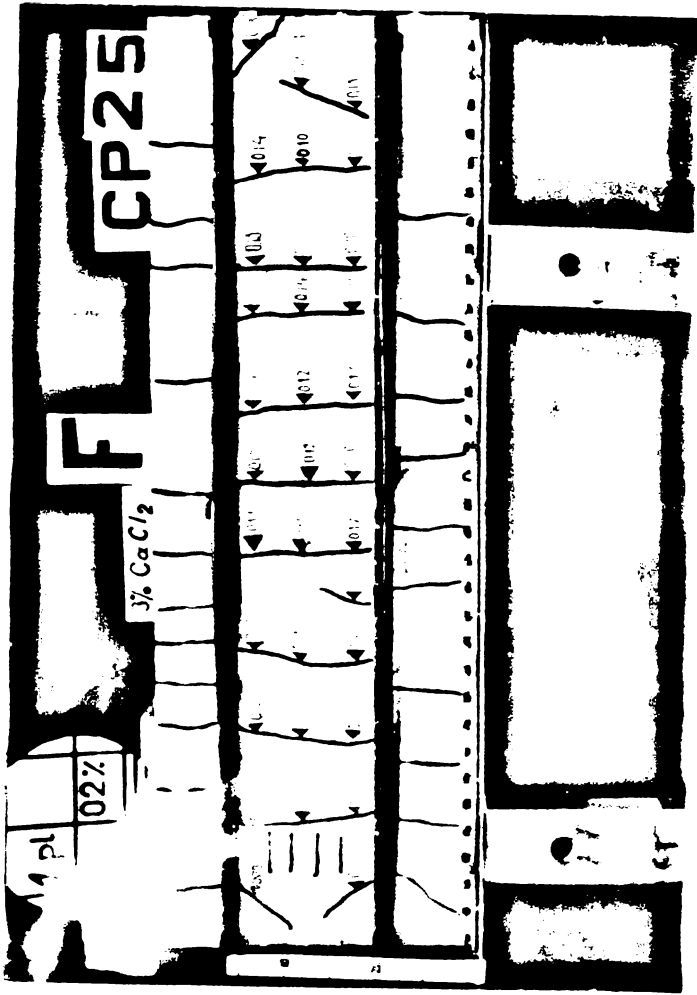


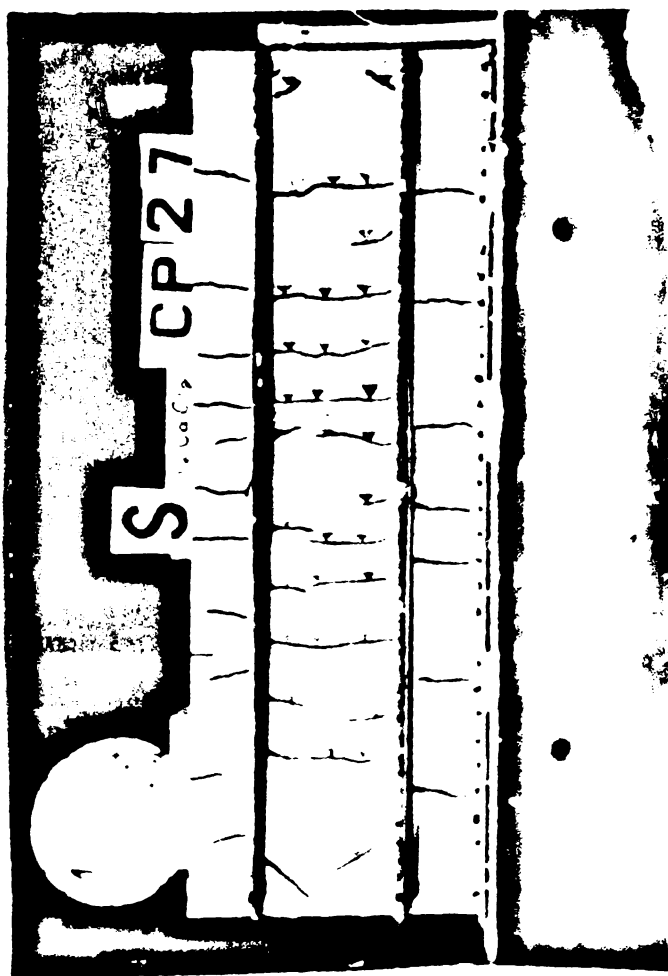
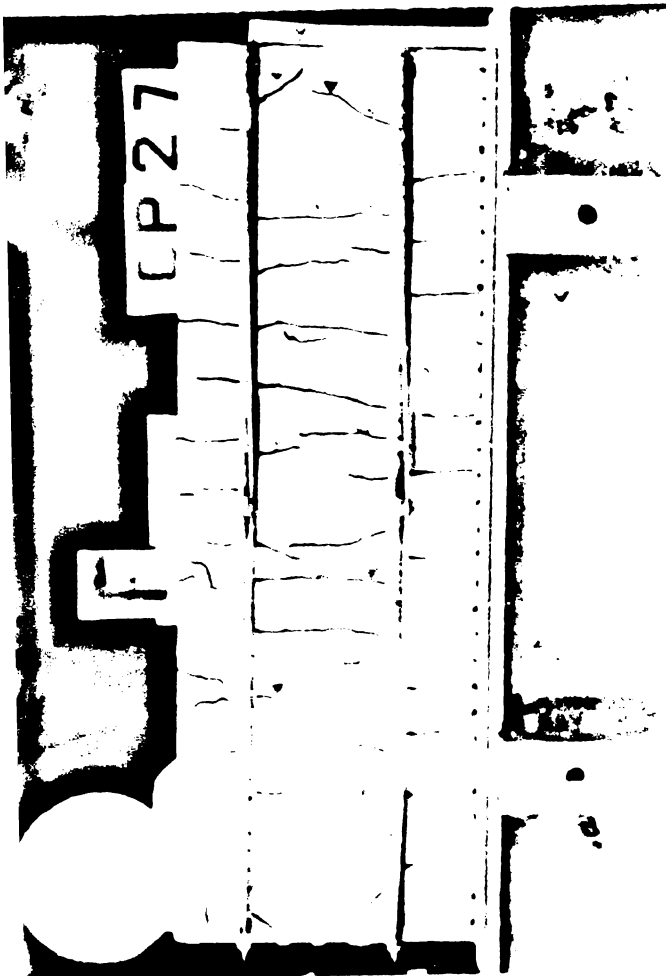
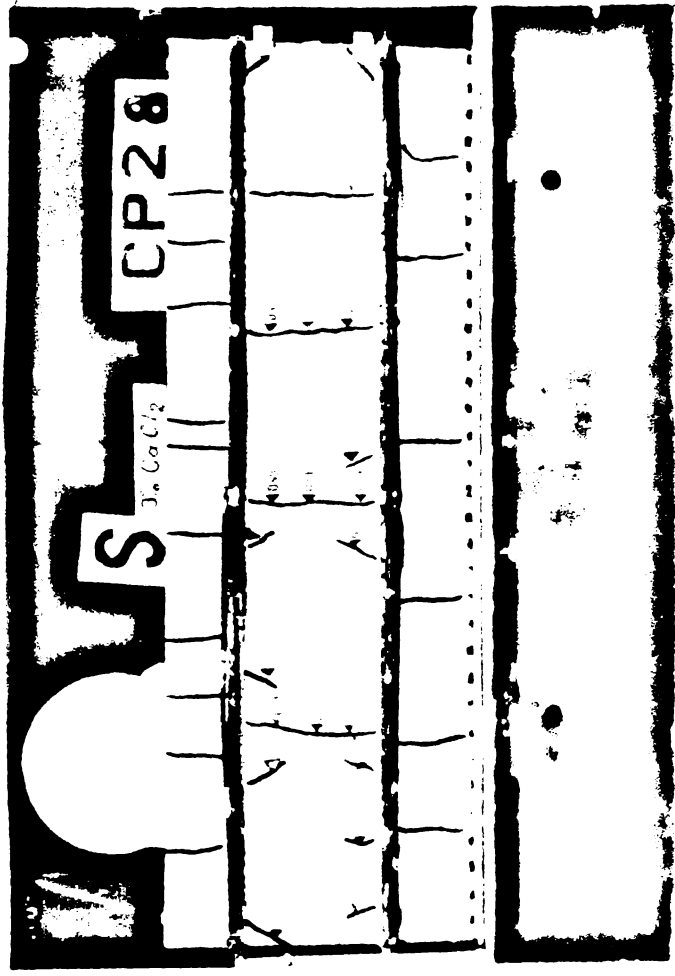
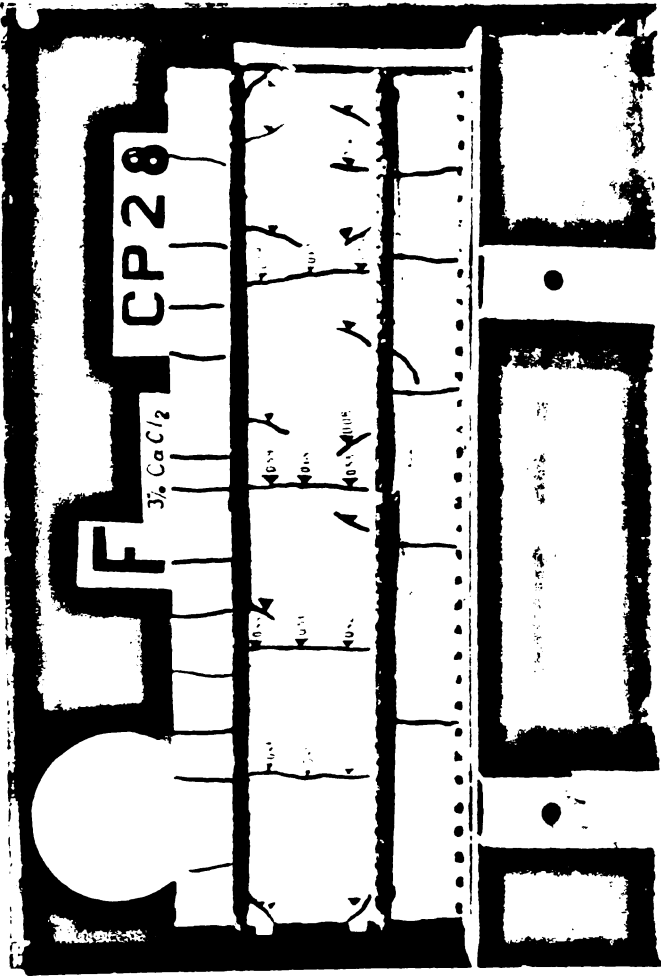
Fig. A70





F. 0. 01





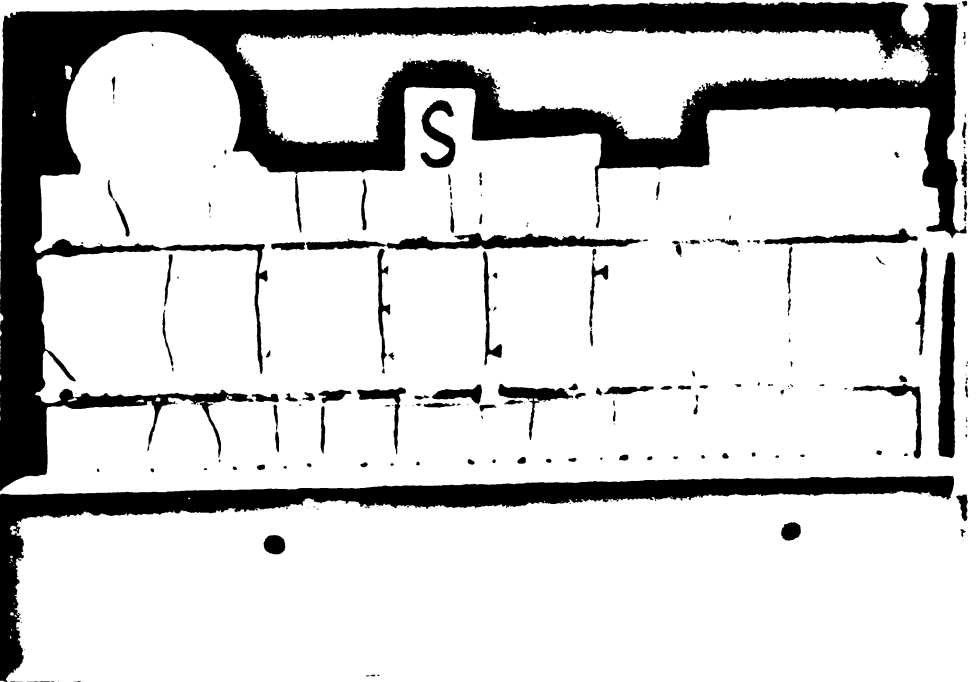
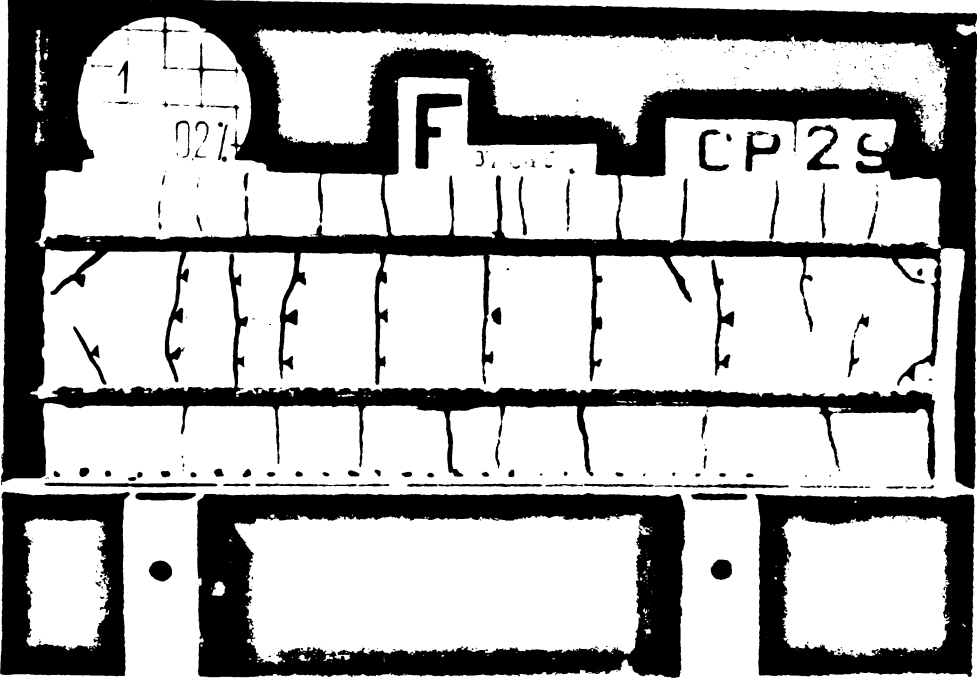
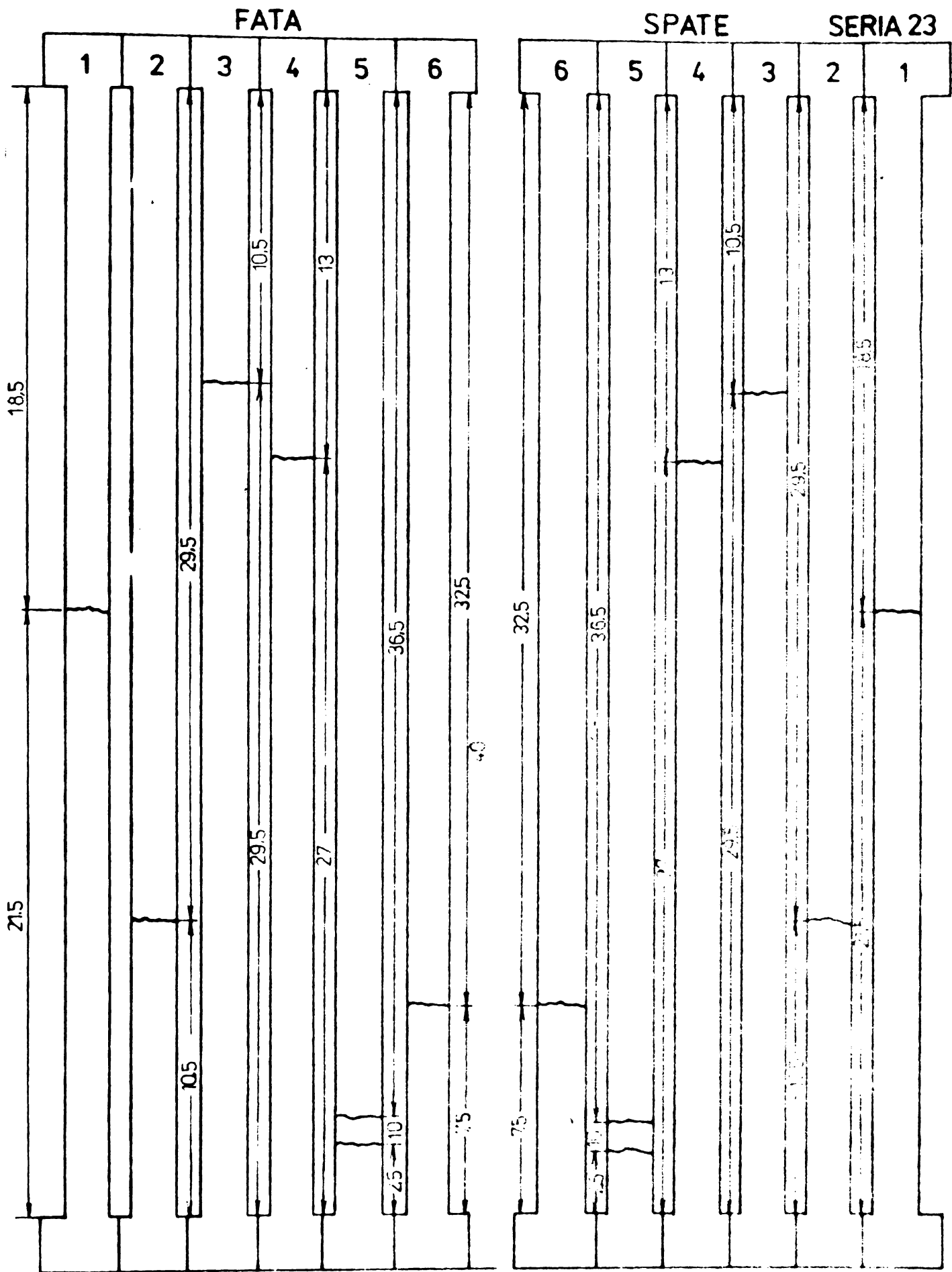


FIG. 2

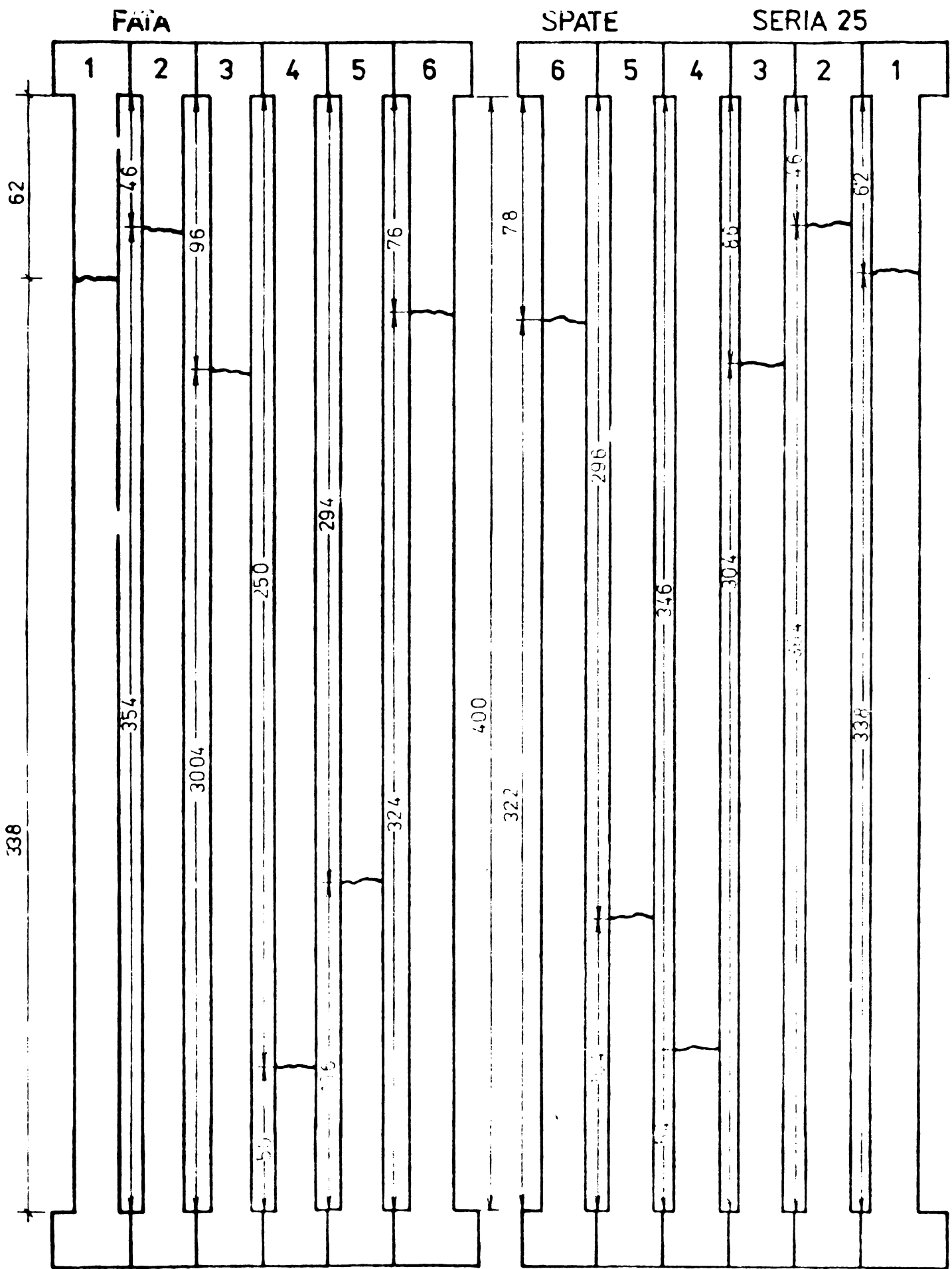


DESCHIDEREA FISURII mm

VIRSTA (ZILE)	F1	F2	F3	F4	F5	F6	S6	S5	S5	S4	S3	S2	S1
2	0.47	0.28	0.4	0.36	0.39	0.3	0.4	0.58	0.18	0.32	0.35	0.3	0.32
3	0.57	0.40	0.46	0.48	0.41	0.41	0.58	0.09	0.25	0.33	0.3	0.27	0.45
4	0.68	0.41	0.51	0.50	0.45	0.58	0.52	0.09	0.29	0.48	0.3	0.45	0.58
5	0.67	0.50	0.55	0.53	0.48	0.50	0.53	0.23	0.30	0.48	0.3	0.50	0.58
7	0.71	0.55	0.56	0.58	0.52	0.61	0.70	0.21	0.33	0.50	0.3	0.57	0.60
9	0.71	0.53	0.55	0.55	0.48	0.64	0.70	0.21	0.33	0.50	0.3	0.57	0.60

Fig A83

RELEVUL FISURILOR
SERIA 23 $\sigma = 0.2\%$



DESCHIDEREA FISURII mm

VIRSTA (ZILE)	F1	F2	F3	F4	F5	F6	S6	S5	S4	S3	S2	S1
2	0,35	0,3	0,29	0,25	0,27	0,32	0,29	0,3	0,25	0,24	0,25	0,28
3	0,52	0,43	0,41	0,37	0,35	0,50	0,40	0,34	0,35	0,33	0,37	0,42
5	0,5	0,42	0,4	0,42	0,47	0,52	0,43	0,35	0,40	0,37	0,35	0,39
7	0,63	0,41	0,47	0,45	0,42	0,52	0,45	0,38	0,45	0,44	0,45	0,51
8	0,7	0,3	0,47	0,45	0,3	0,50	0,47	0,3	0,43	0,4	0,45	0,53

Fig. A84.

RELEVÉUL FISURILOR

$p = 0,2\%$

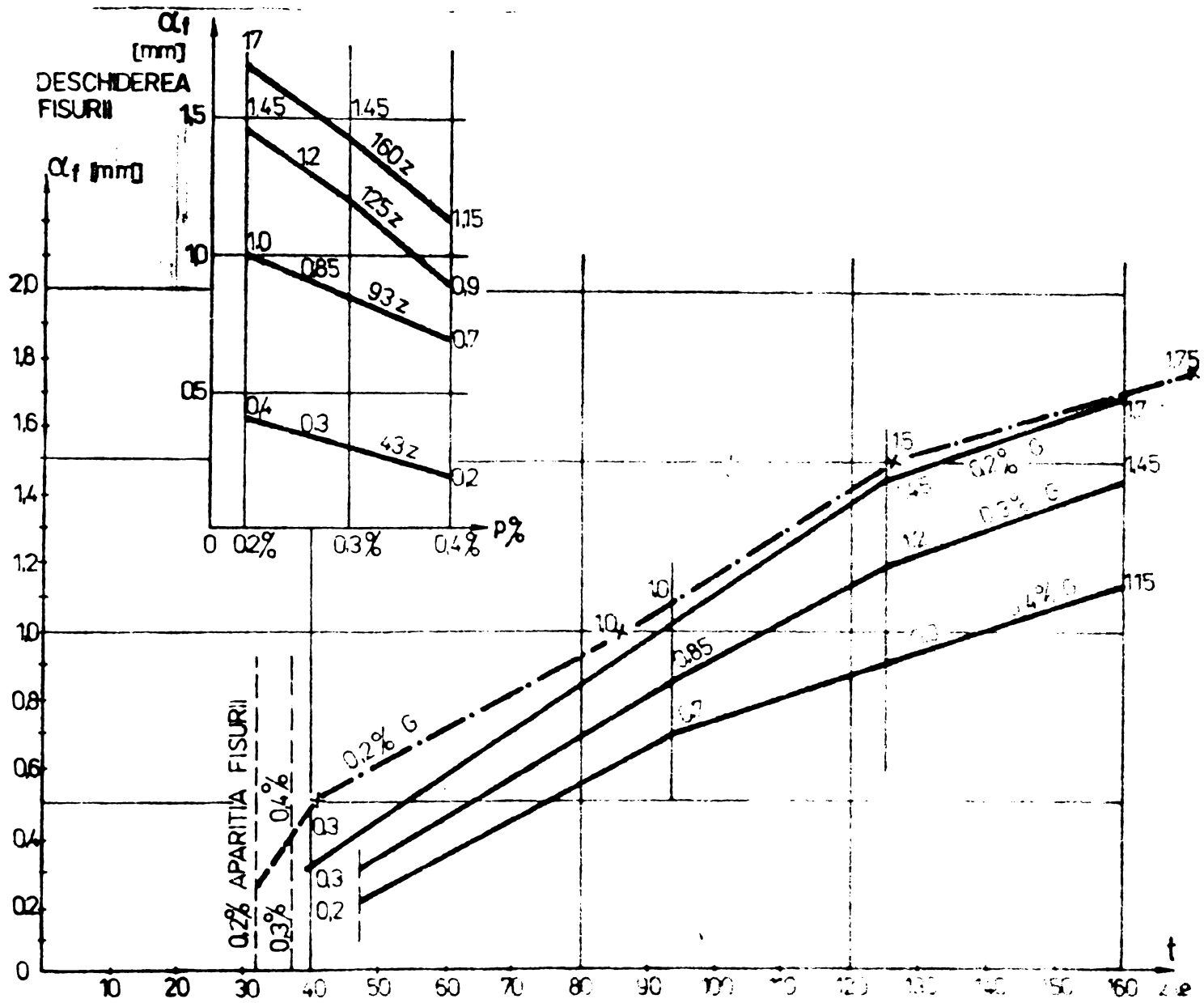
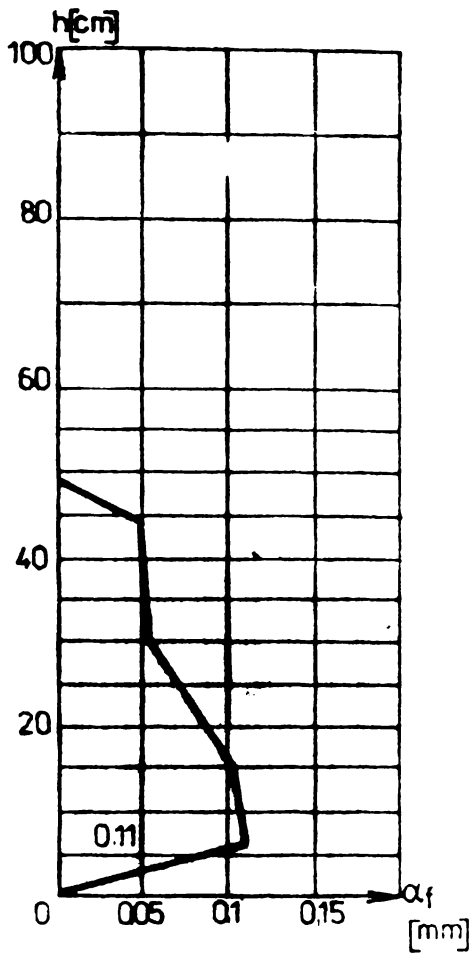


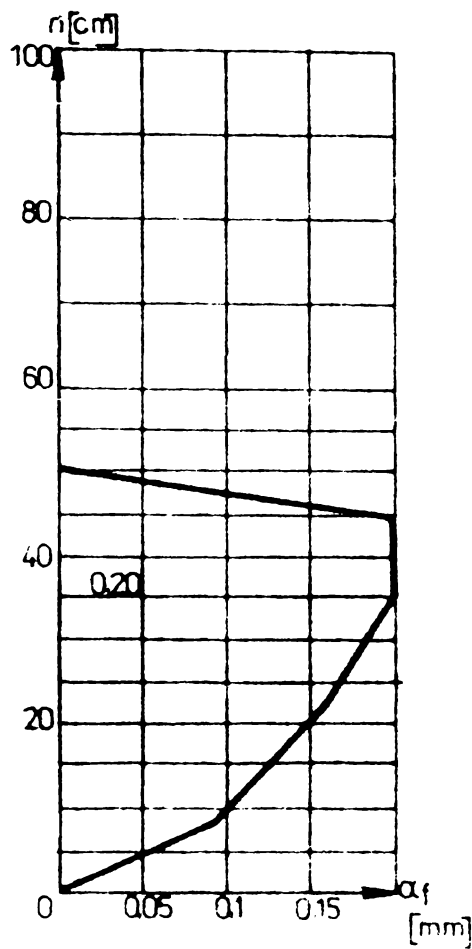
Fig. A85.

EVOLUTIA FISURILOR DIN CONTRACTIE LA ELEMENTE
IMPIEDECAE

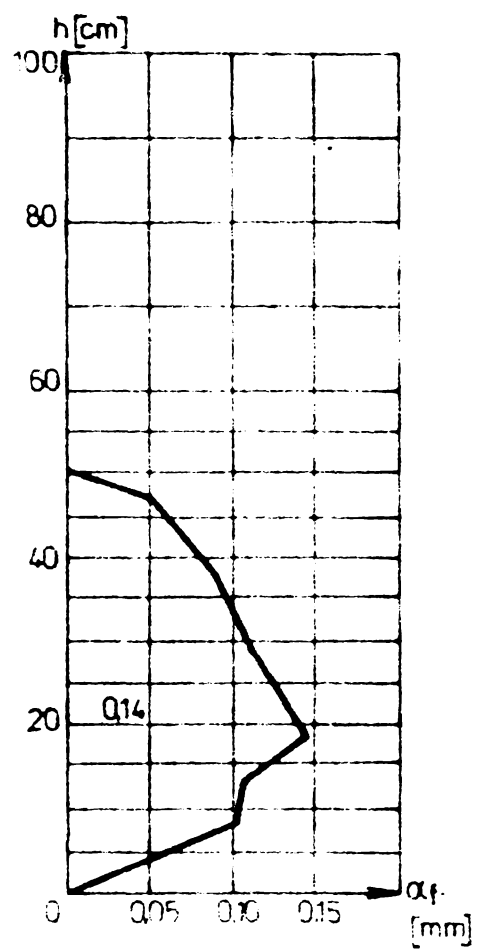
SCARA 1:1



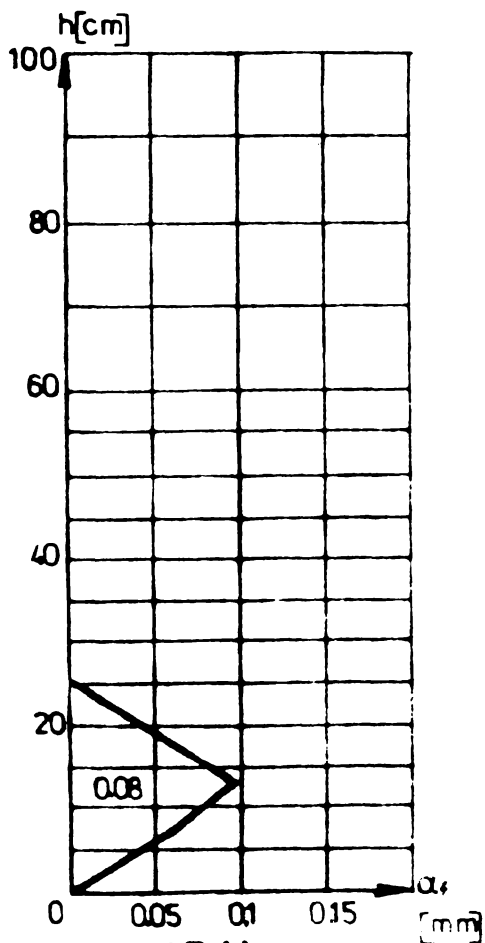
CP.11.
 $p = 0.1\%$



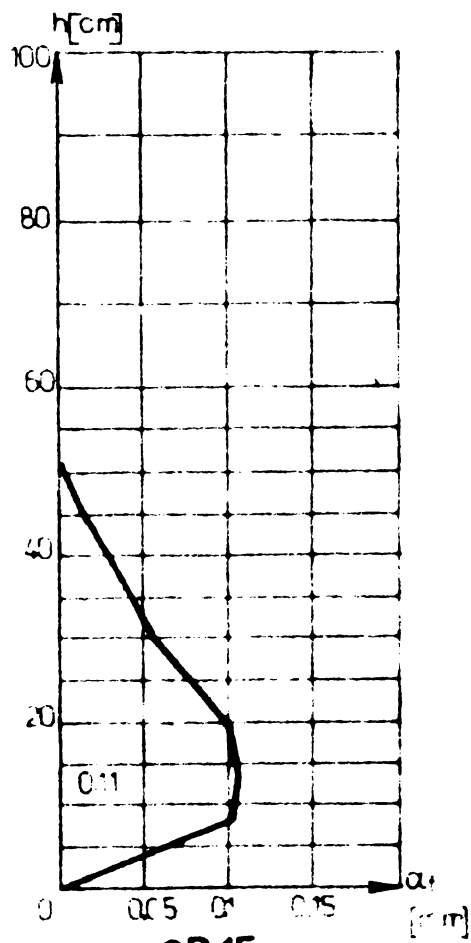
CP.12.
 $p = 0.1\%$



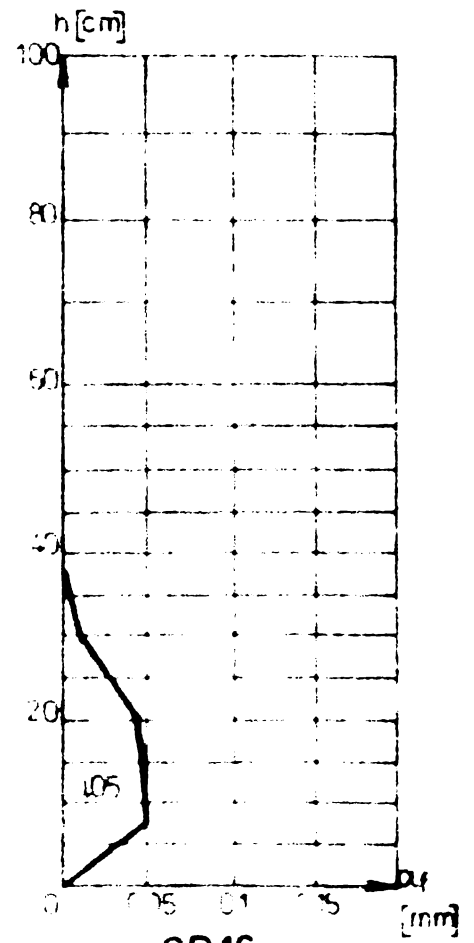
CP.13.
 $p = 0.1\%$



CP.14.
 $p = 0.2\%$



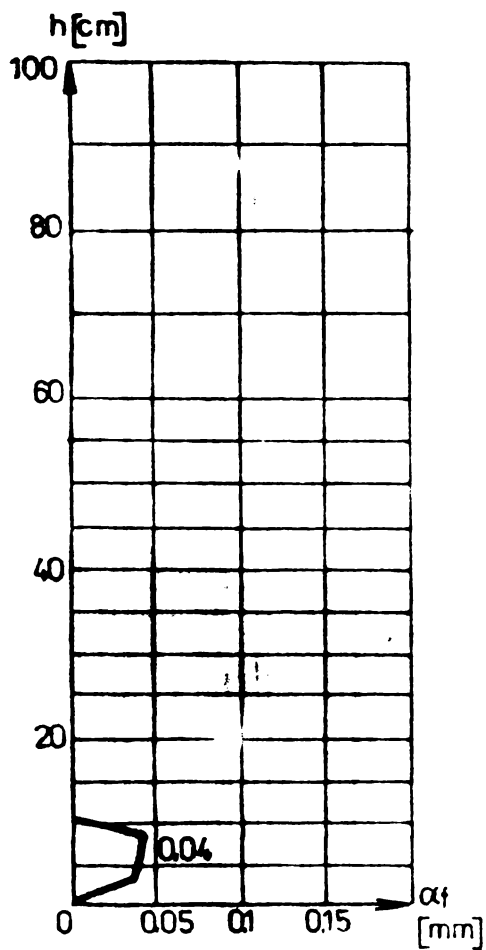
CP.15.
 $p = 0.2\%$



CP.16.
 $p = 0.2\%$

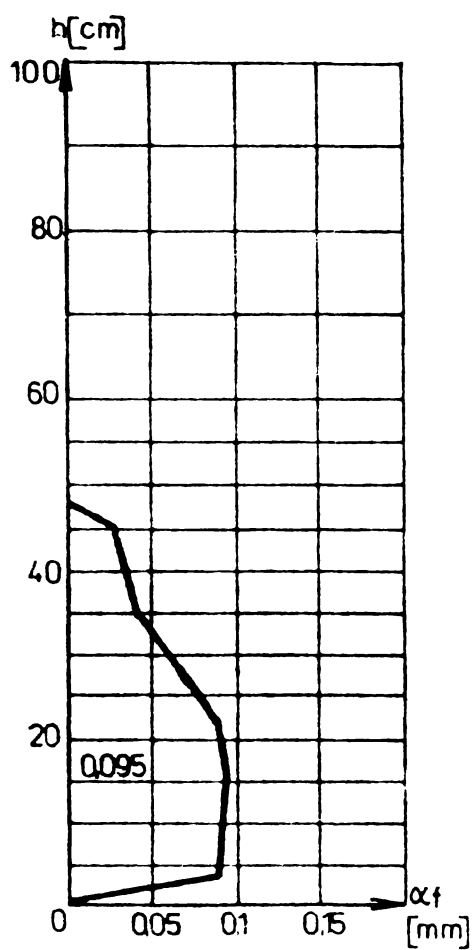
Fig. A 86.

DESCHIDEREA FISURII LA ELEMENTE CU TRASEU
DE FISURA PROVOCAT



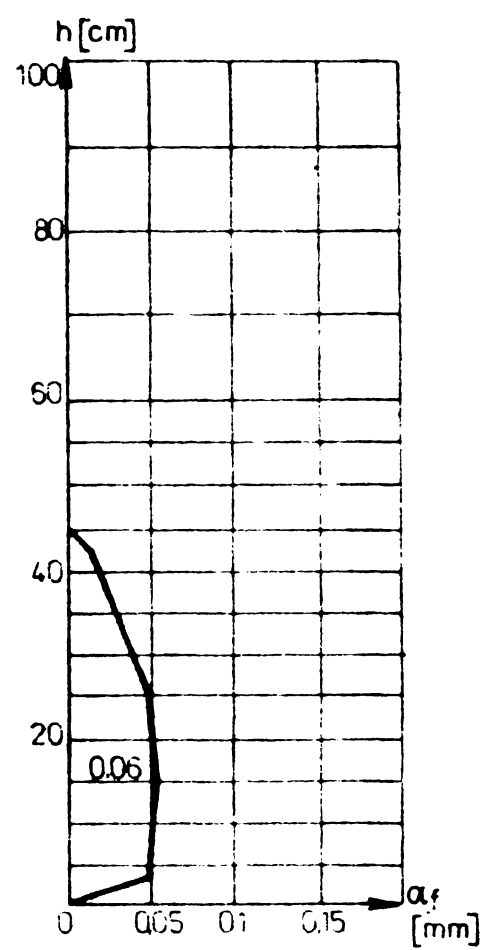
CP17

$p = 0.6\%$



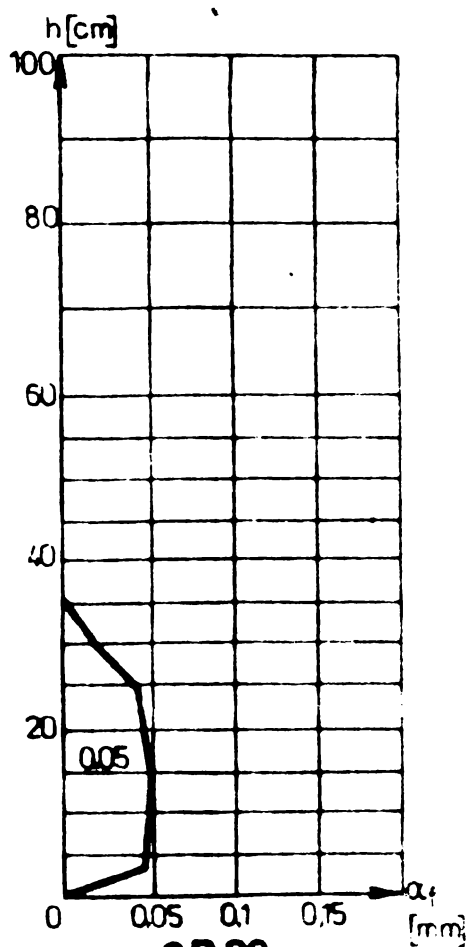
CP18

$p = 0.2\%$



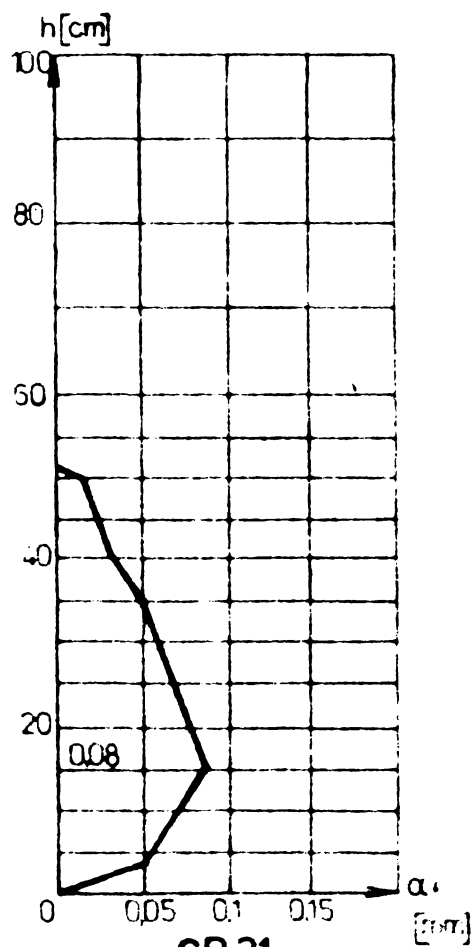
CP19

$p = 0.4\%$



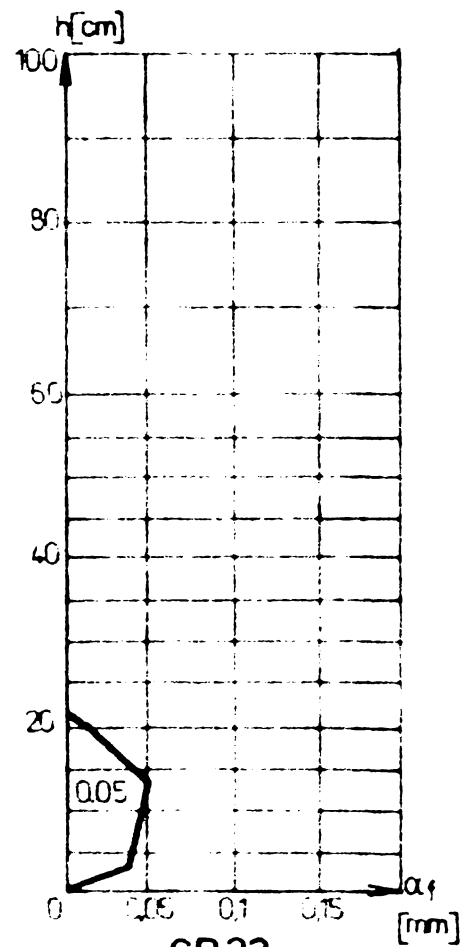
CP20

$p = 0.6\%$



CP21

$p = 0.2\%$

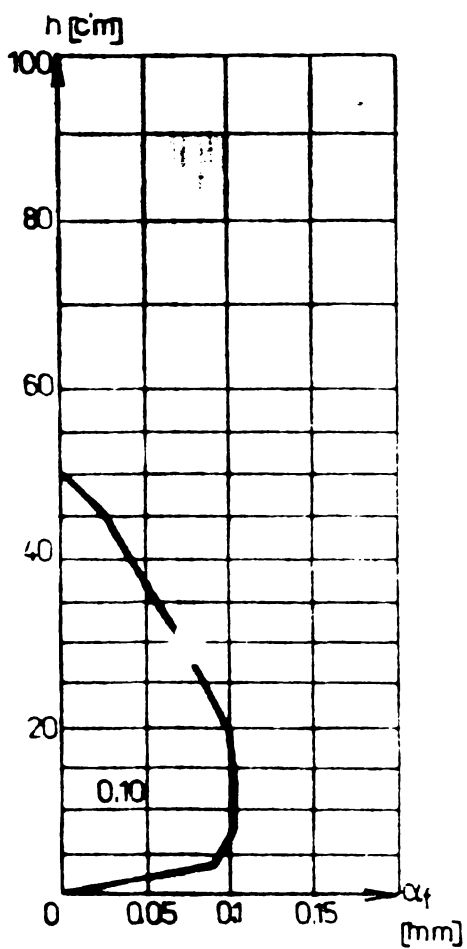


CP22

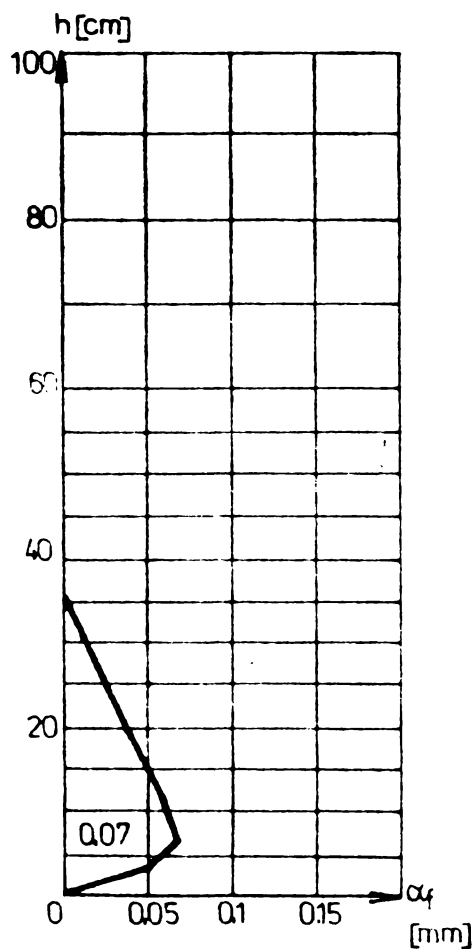
$p = 0.4\%$

Fig. A87.

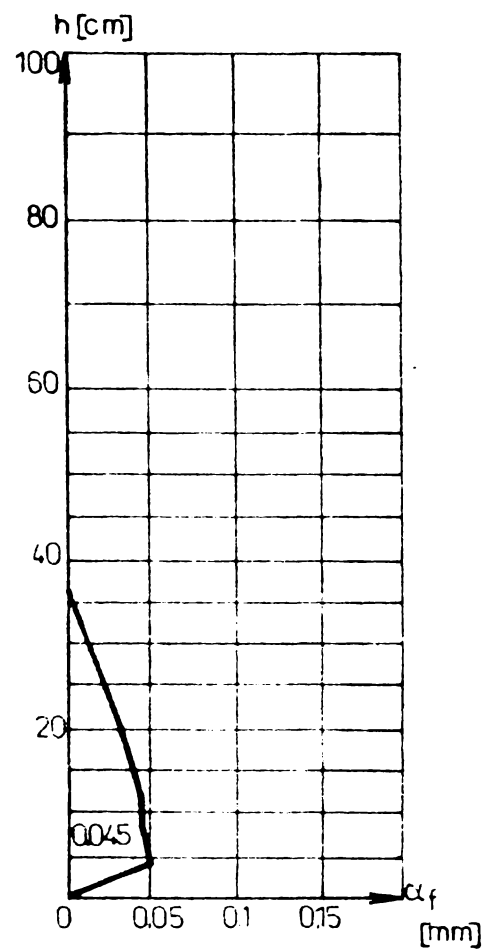
DESCHIDEREA FISURII LA ELEMENTE CU TRASEU DE FISURA PROVOCAT



CR 24
 $p = 0.2\%$



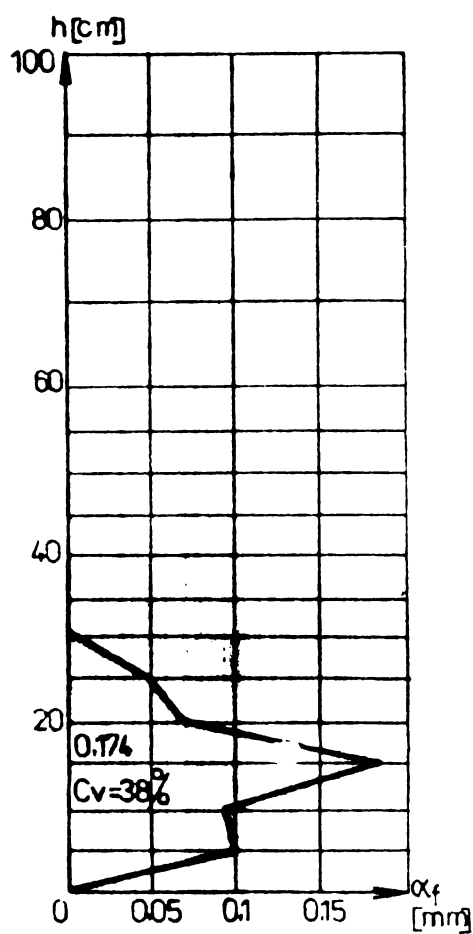
CP 25
 $p = 0.4\%$



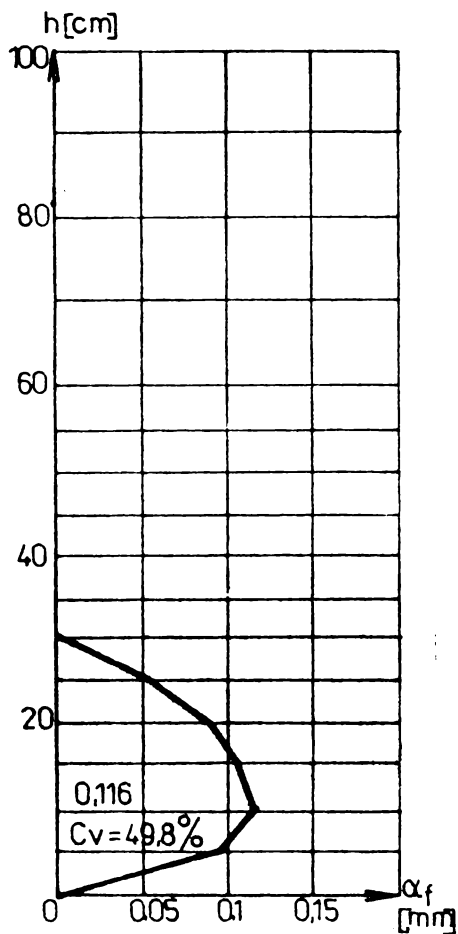
CP 26
 $p = 0.6\%$

Fig. A 88.

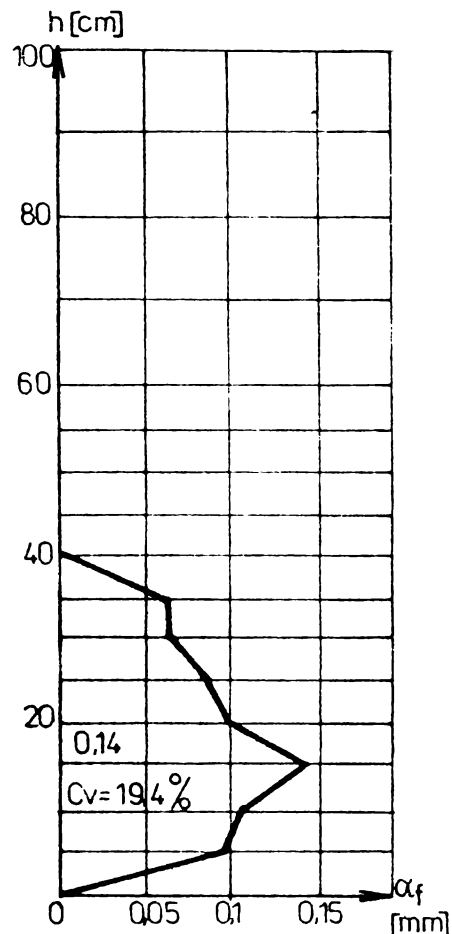
**DESCHIDEREA FISURII LA ELEMENTE CU TRASEU
 DE FISURA PROVOCAT**



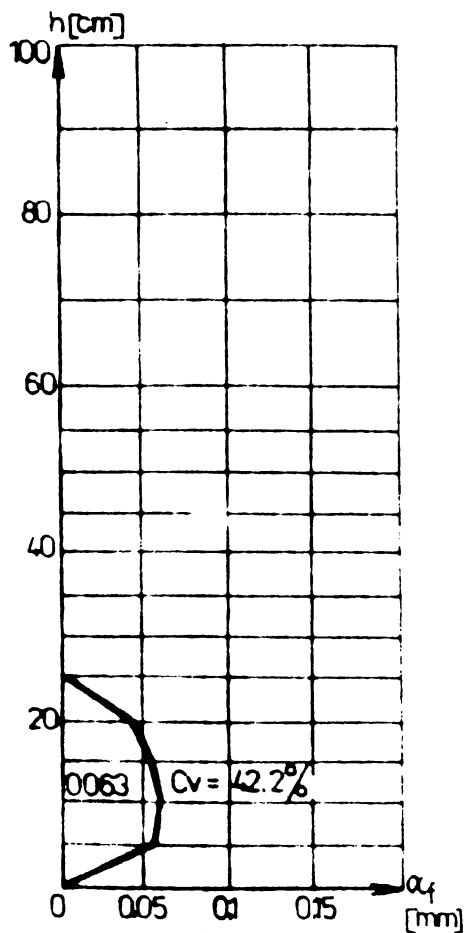
CP.30
 $p=0.2\%$



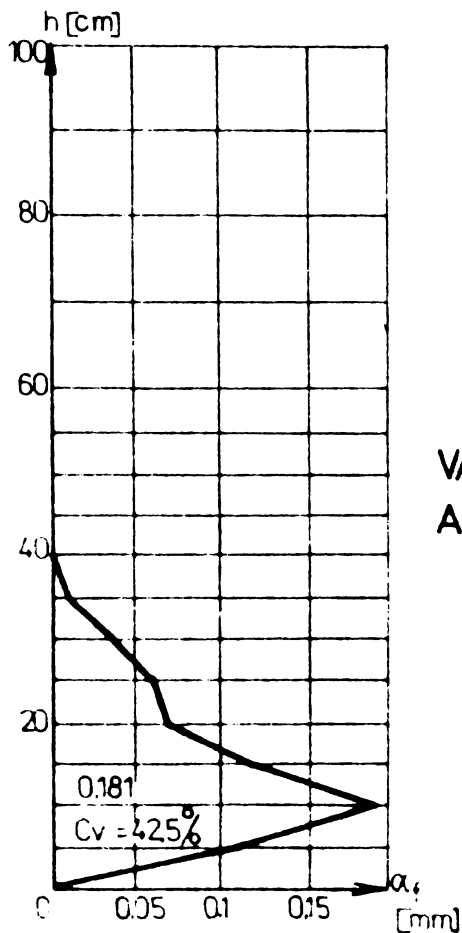
CP.30'
 $p=0.2\%$



CP.30''
 $p=0.2\%$

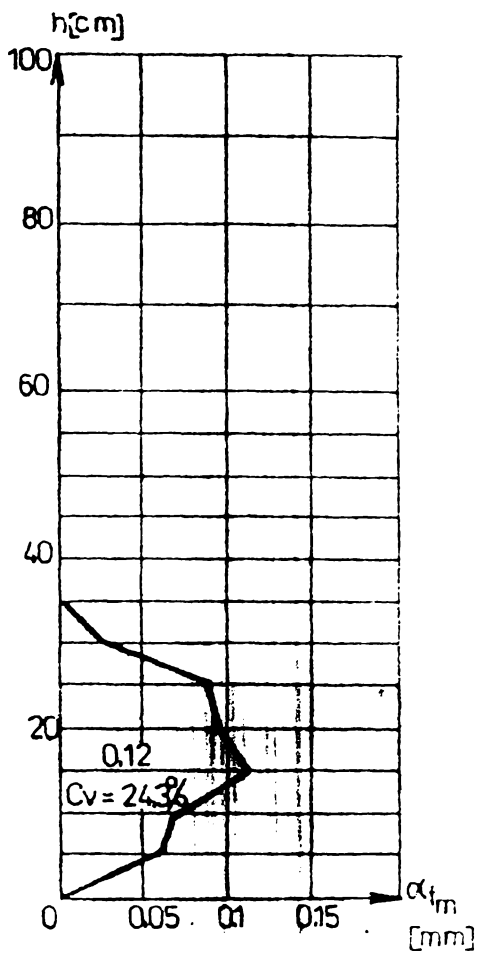


CP.32
 $p=0.4\%$



CP.34
 $p=0.1\%$

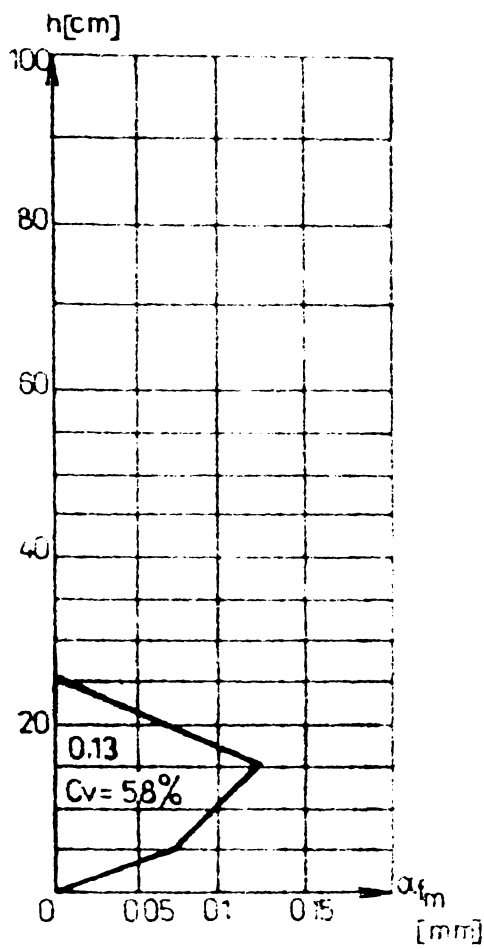
Fig. A 89.
 VARIATIA DESCHIDERII MEDII
 A FISURILOR LA ELEMENTE
 PLINE CU FUNDATIE



CPG.1

$p_p = 0.15\%$

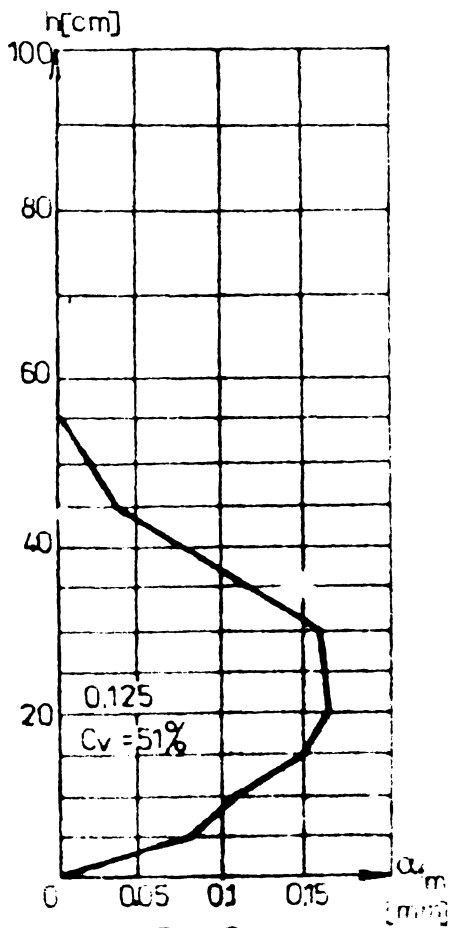
$p_b = 0.8\%$



CPG.2

$p_p = 0.15\%$

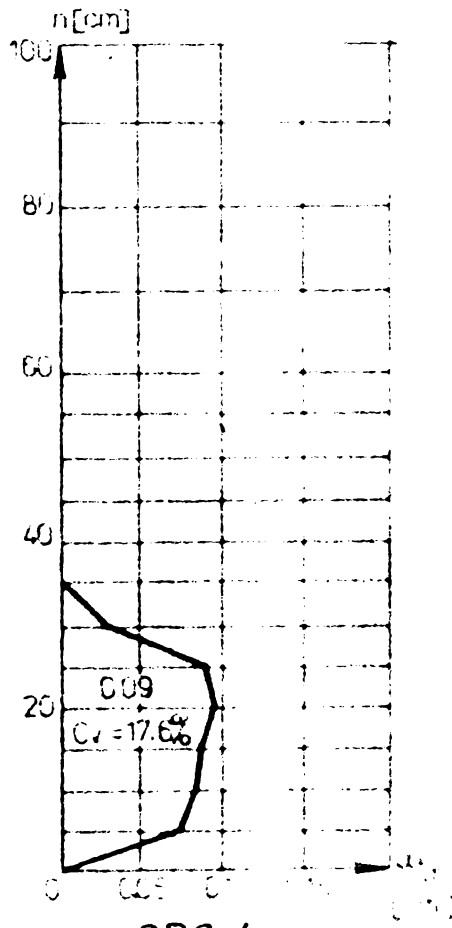
$p_b = 0.8\%$



CPG.3

$p_p = 0.2\%$

$p_b = 0.8\%$



CPG.4

$p_p = 0.15\%$

$p_b = 0.8\%$

Fig. A90.

VARIATIA DESCHIDERII MEDII A FISURILOR LA ELEMENTE CU GOLURI, CU FUNDATIE

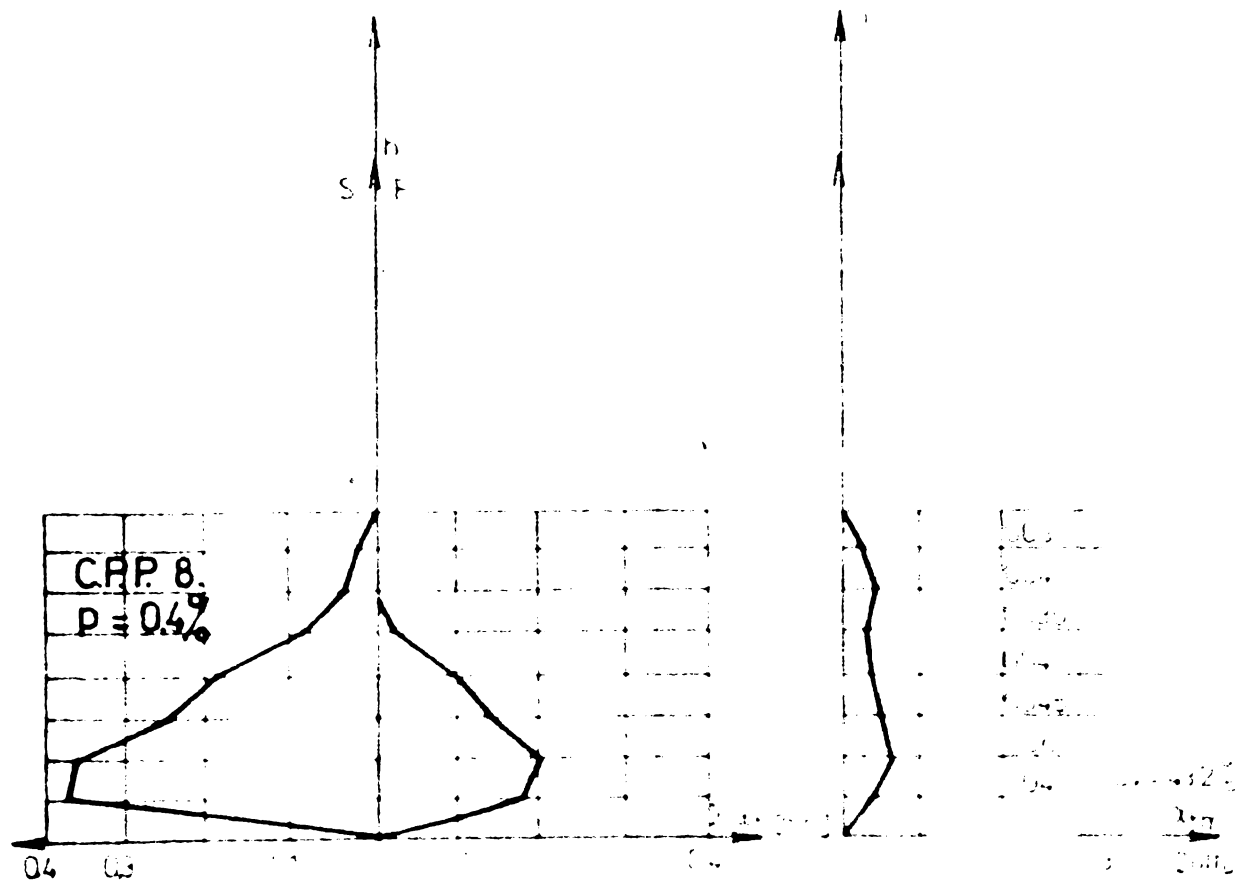
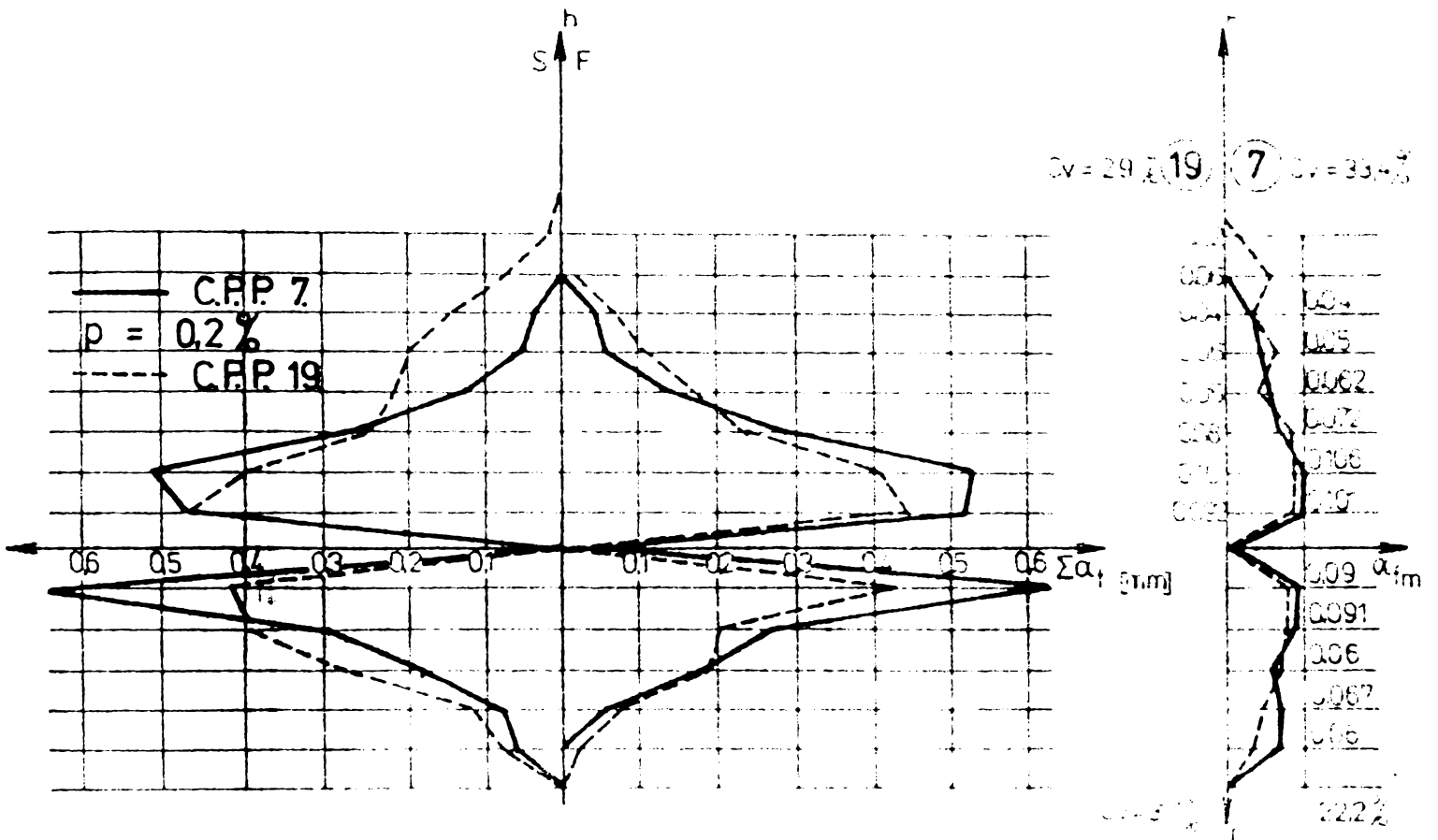


Fig. A 91.

VARIATIA DESCHIDERII MEDII A FISURILOR LA ELEMENTE CU UN PLANSEU

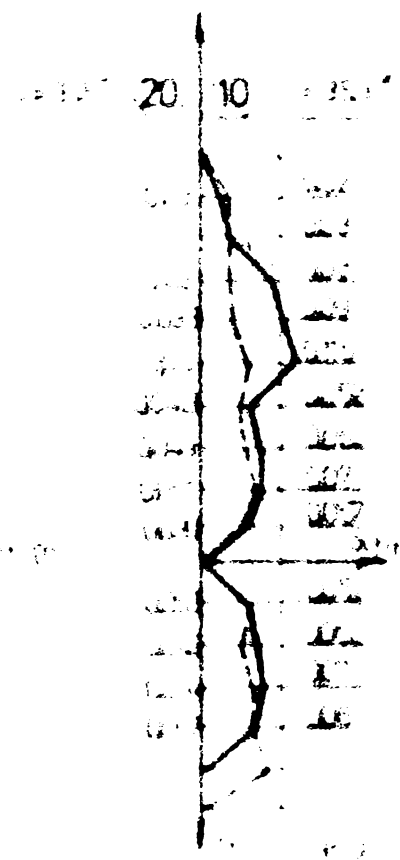
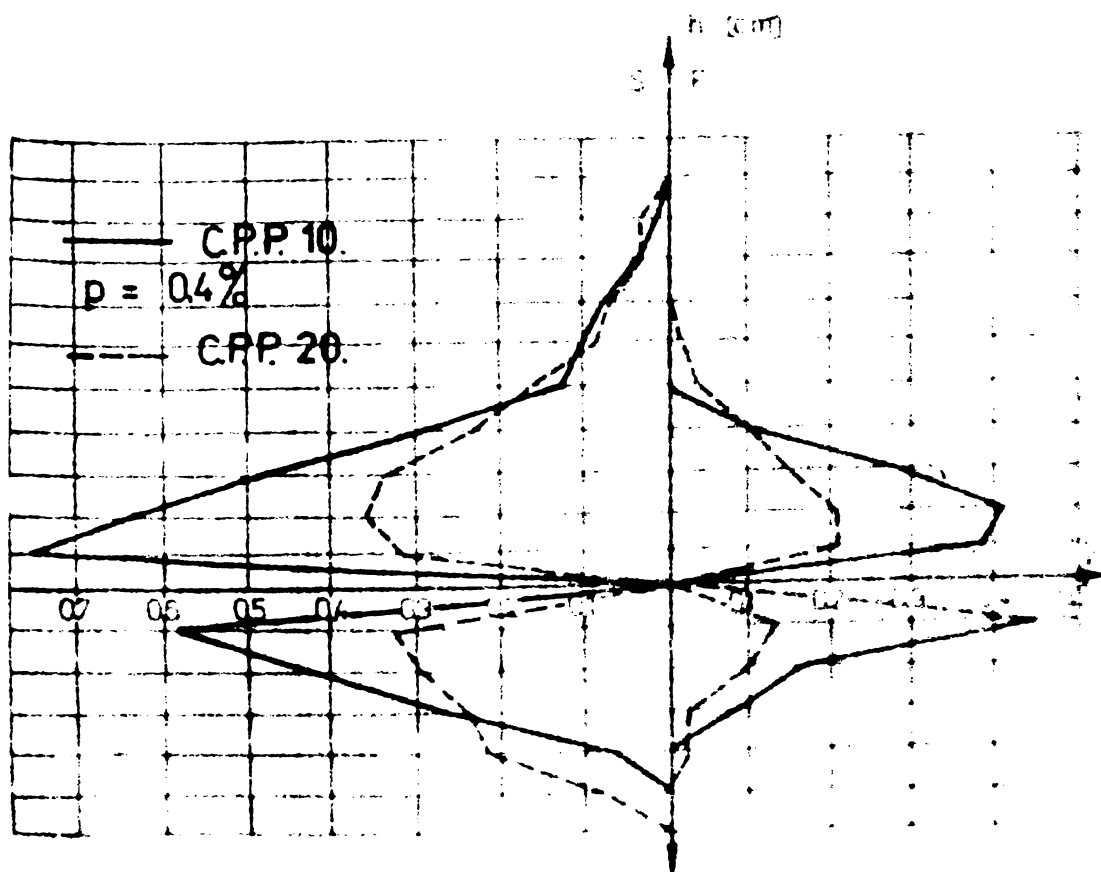
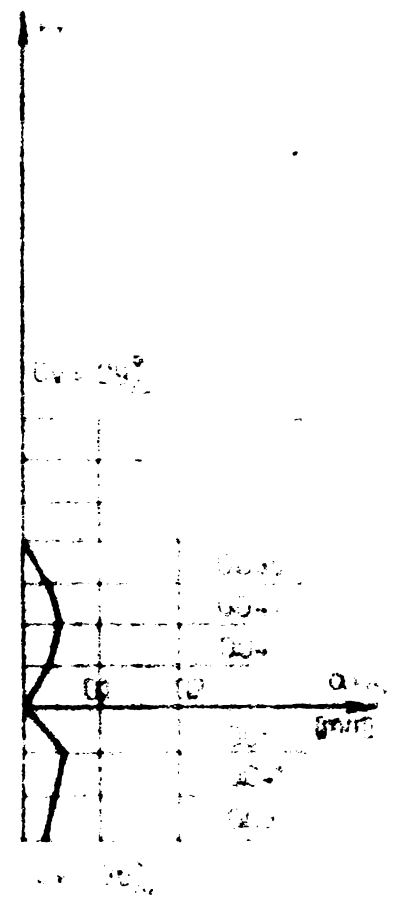
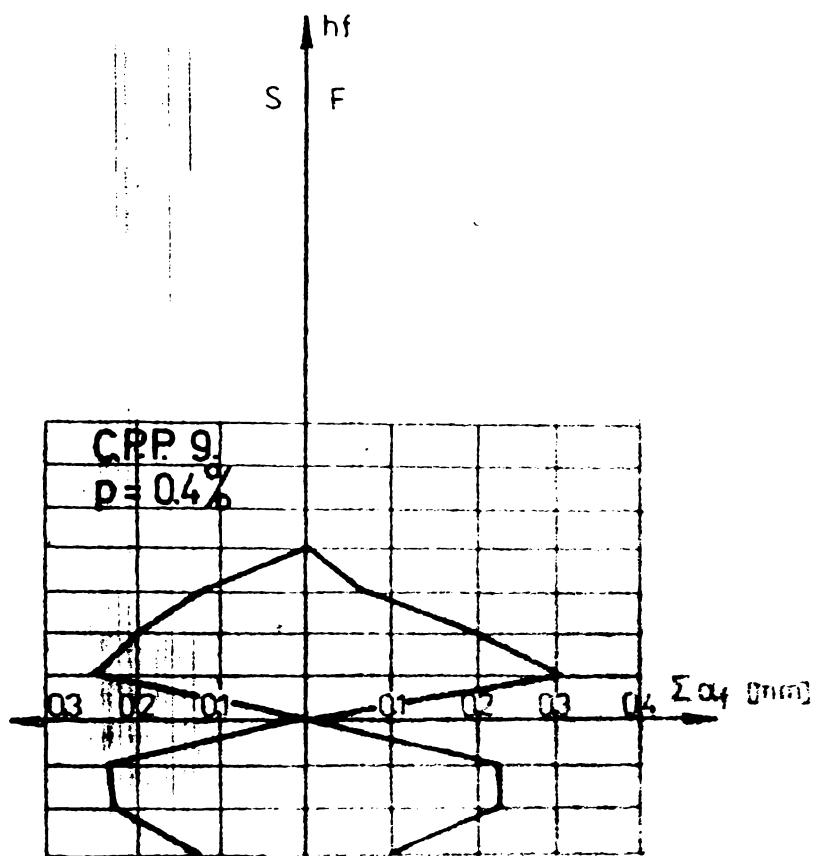


Fig A92

VARIATIA DESCHIDERII MEDII A FISURILOR
LA ELEMENTE CU UN PLANSEU

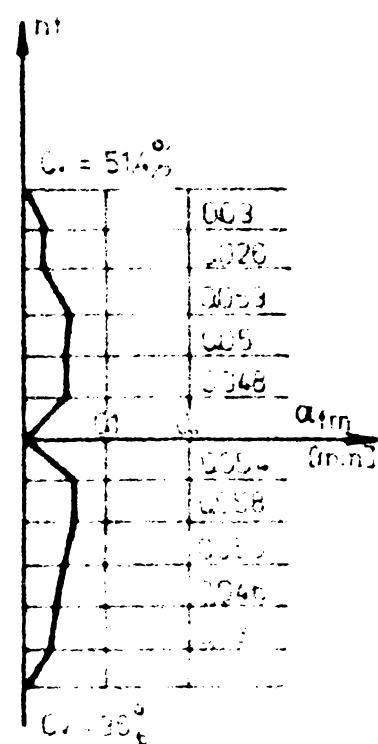
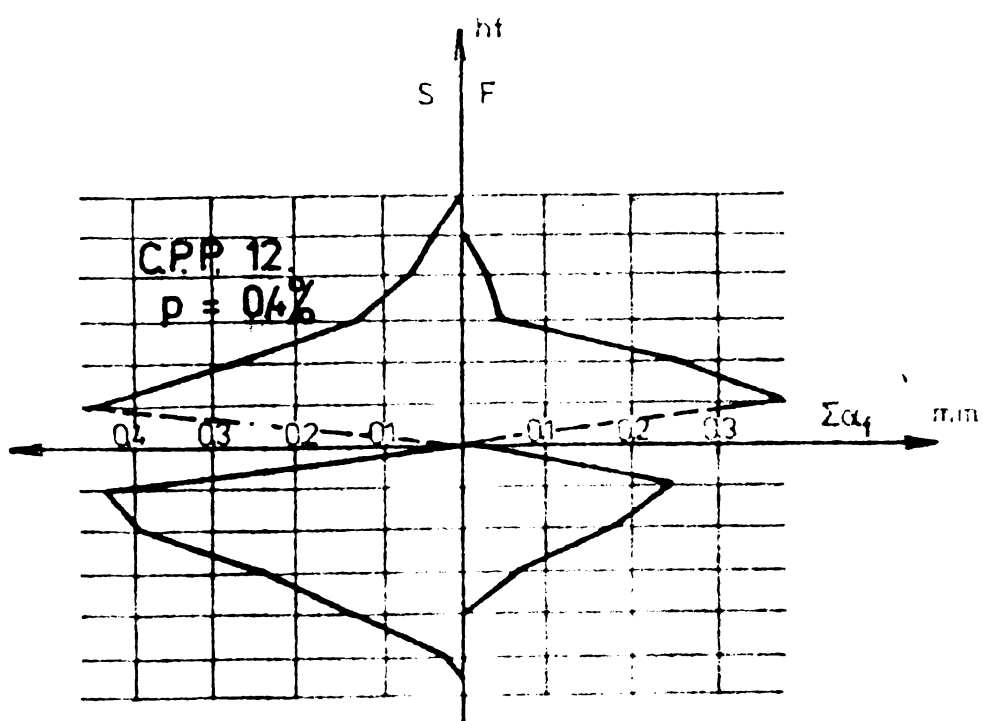
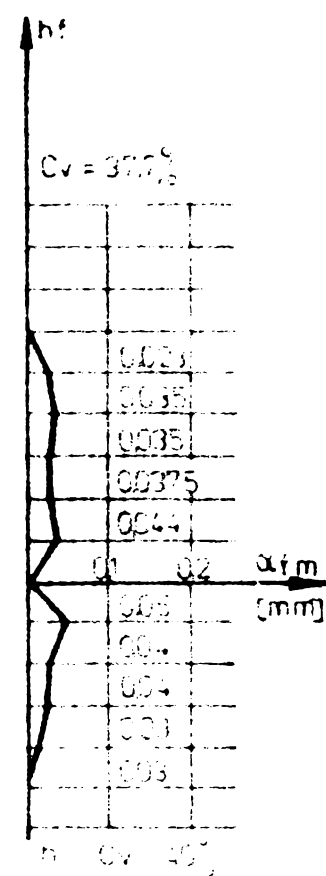
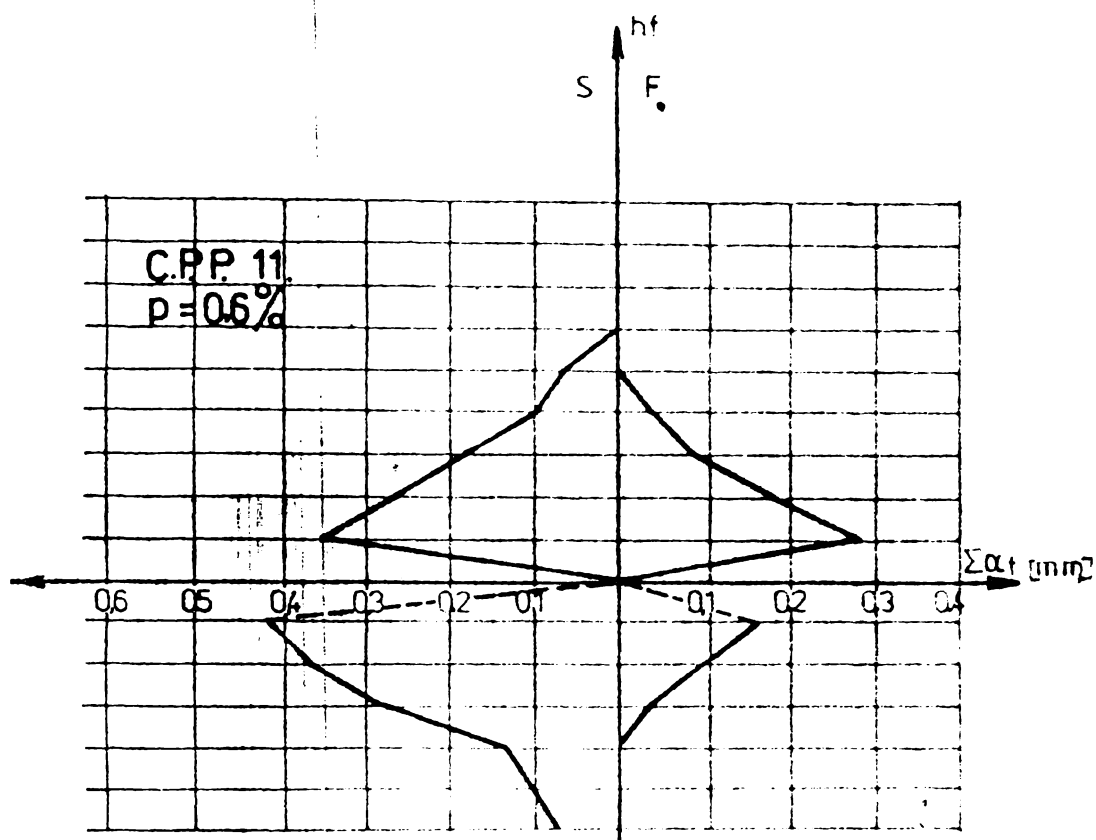


Fig A93

VARIATIA DESCHIDERII MEDII A FISURILOR
LA ELEMENTE CU UN PLANSEU

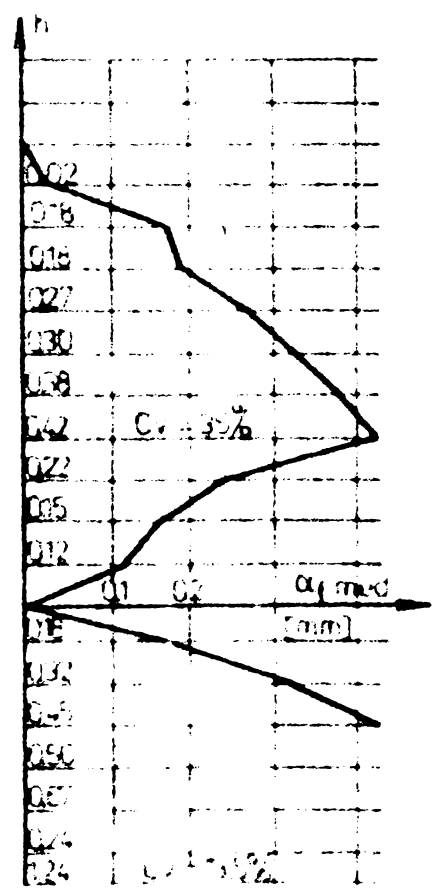
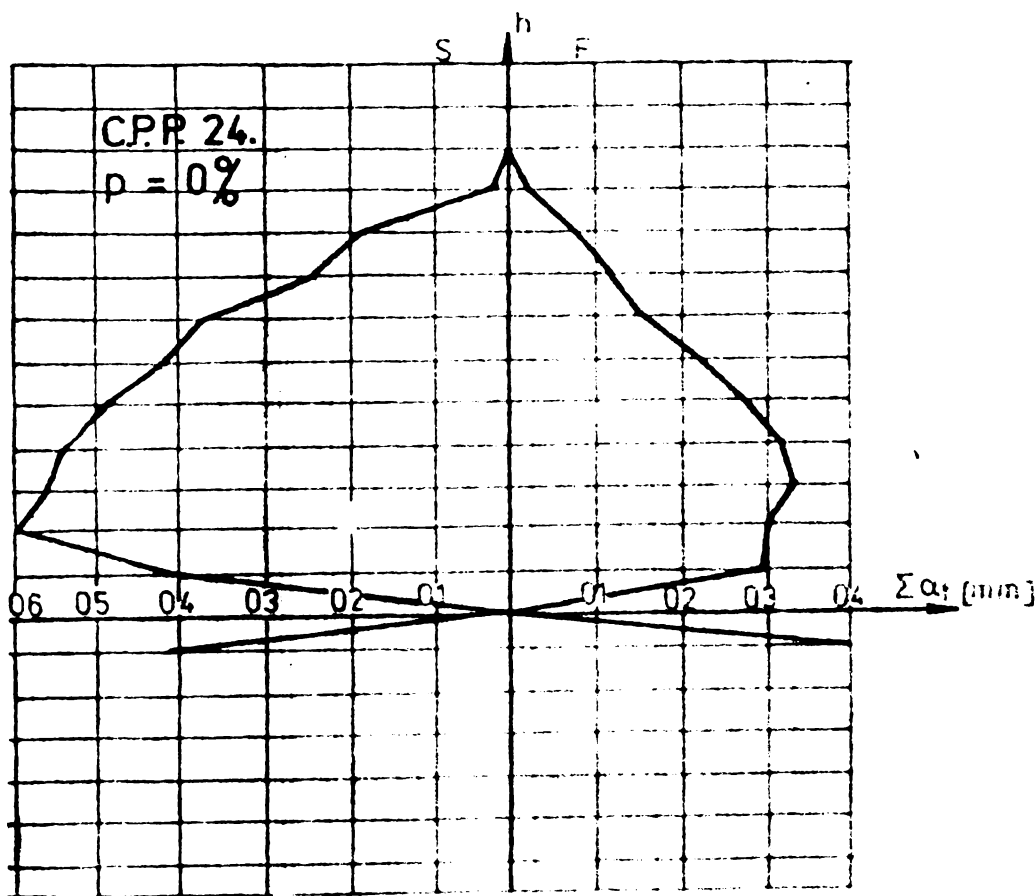
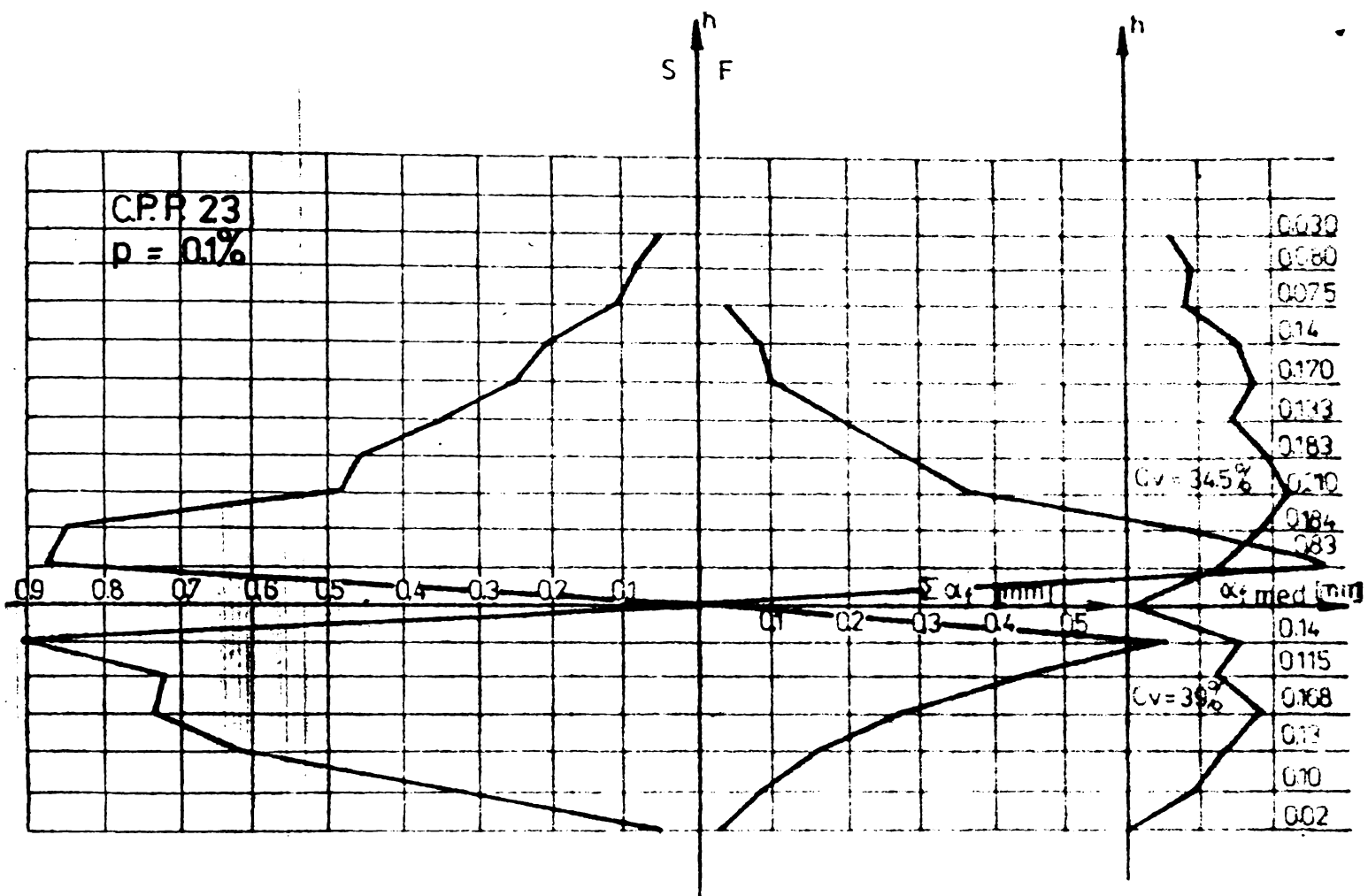
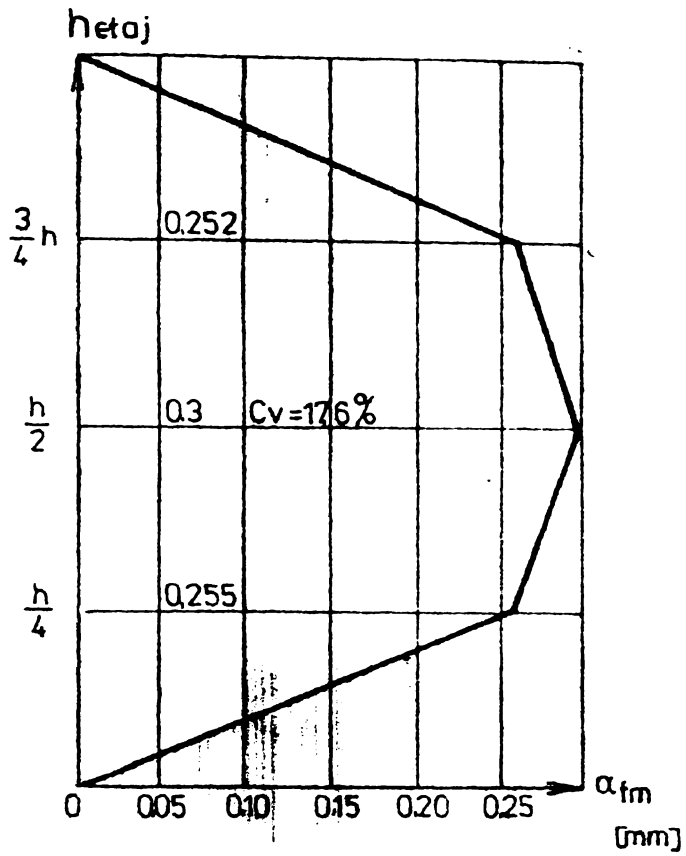
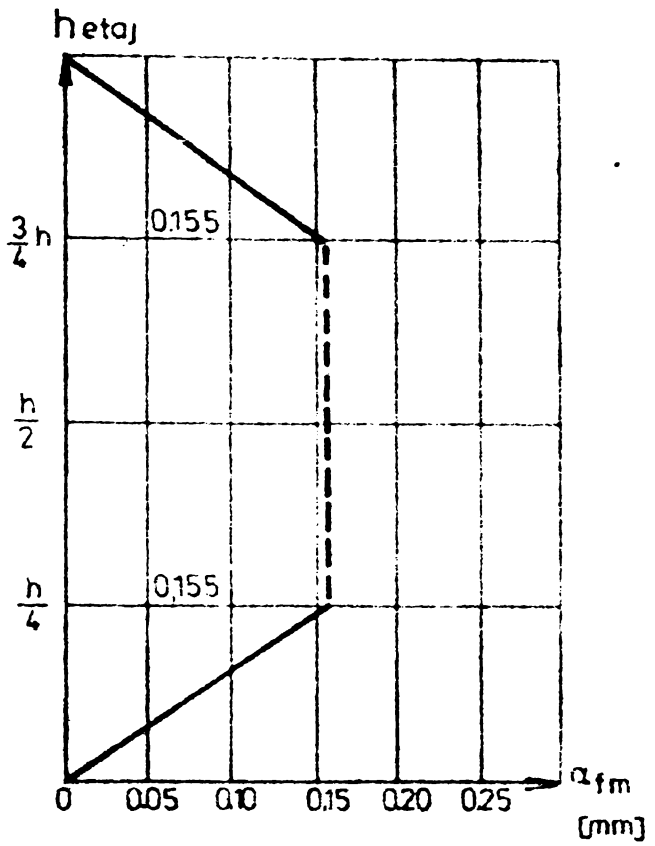


Fig. A94.

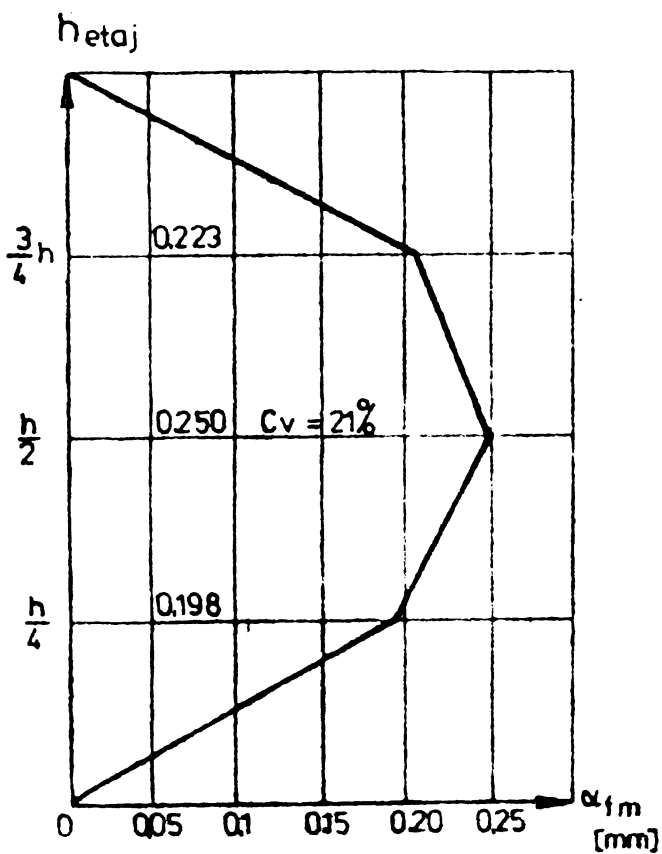
VARIATIA DESCHIDERII MEDII A FISURILOR
LA ELEMENTE CU UN PLANSEU



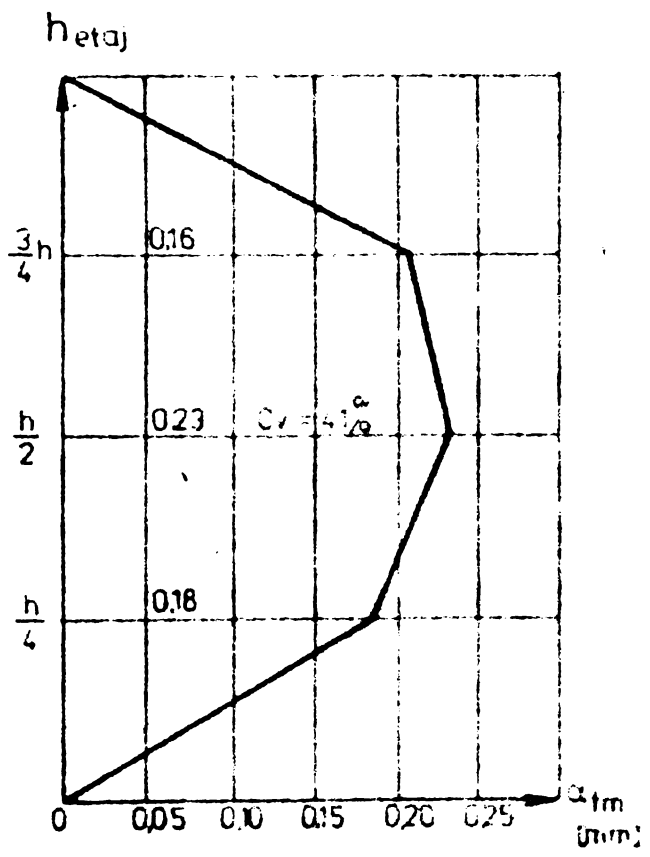
C₁
 $P_p = 0.15\%$
 $P_b = 0.8\%$
 $h_{etaj} = 20 \text{ cm}$



C₂
 $P_p = 0.15\%$
 $P_b = 0.8\%$
 $h_{etaj} = 10 \text{ cm}$

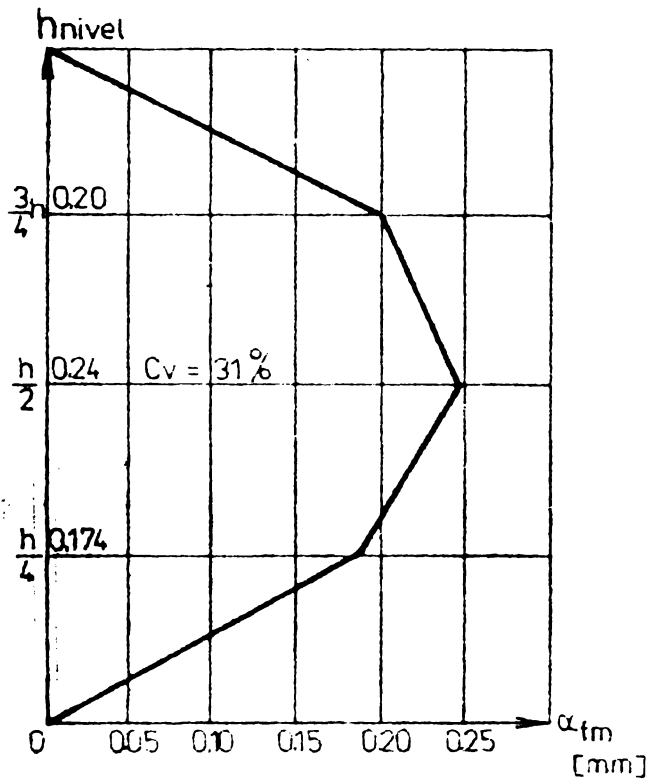


C₃
 $P_p = 0.15\%$
 $P_b = 0.8\%$

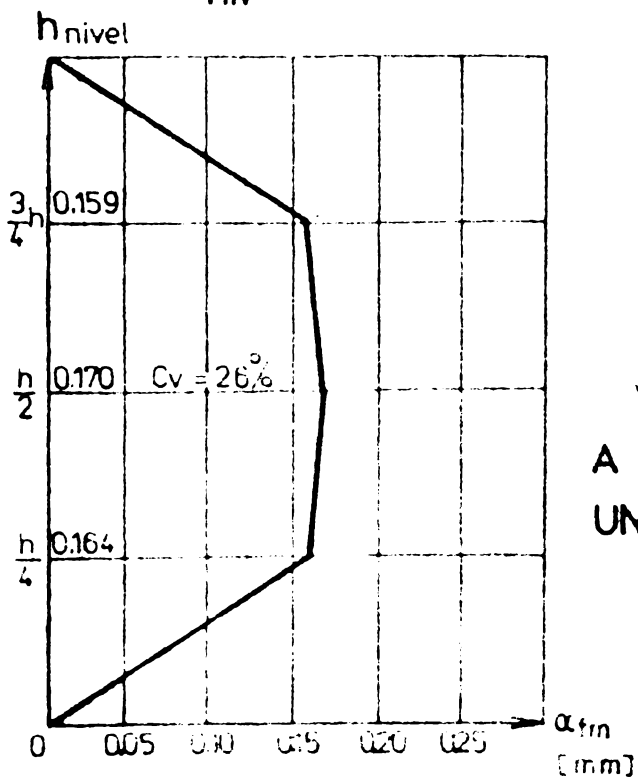


C₆
 $P_p = 0.15\%$
 $P_b = 0.8\%$

Fig. A95a
VARIATIA DESCHDERII MEDII A FISURILOR LA
ELEMENTE CU UN NIVEL



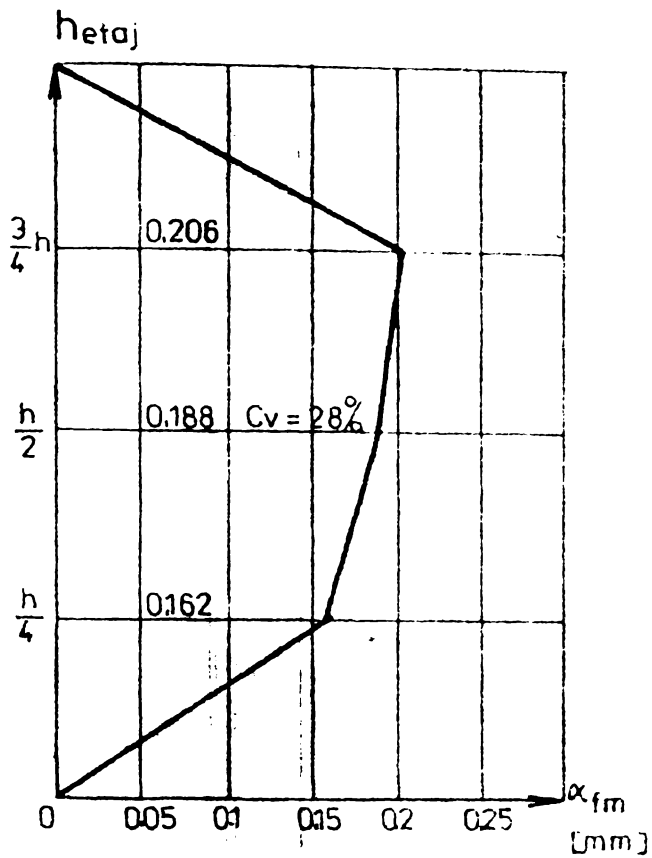
C 4
 $p_p = 0.15\%$
 $p_b = 0.8\%$
 $h_{niv} = 20\text{cm}$



C 5
 $p_p = 0.15\%$
 $p_b = 0.8\%$
 $h_{niv} = 10\text{cm}$

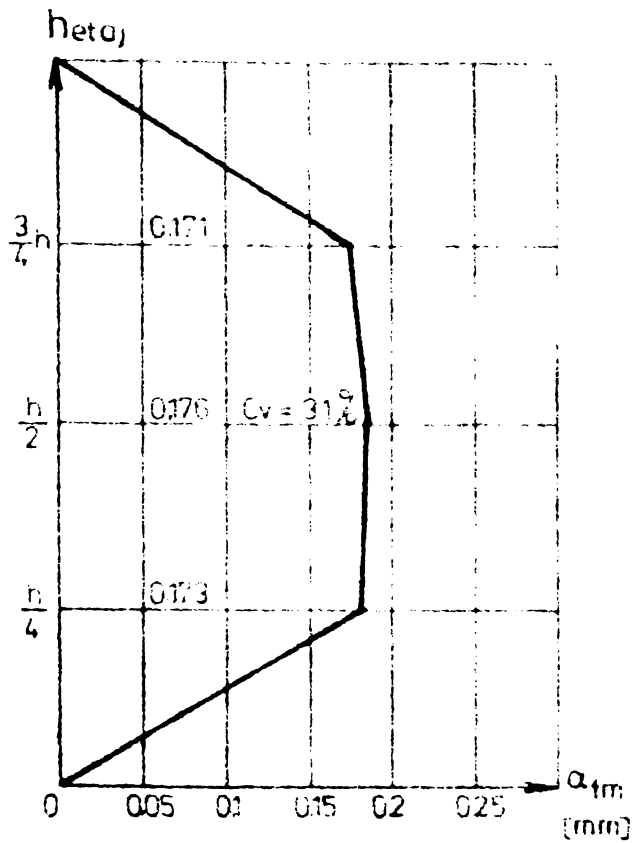
Fig. A95.b.

VARIATIA DESCHIDERII MEDII
 A FISURILOR LA ELEMENTE CU
 UN NIVEL DE INALTIME DIFERITA.



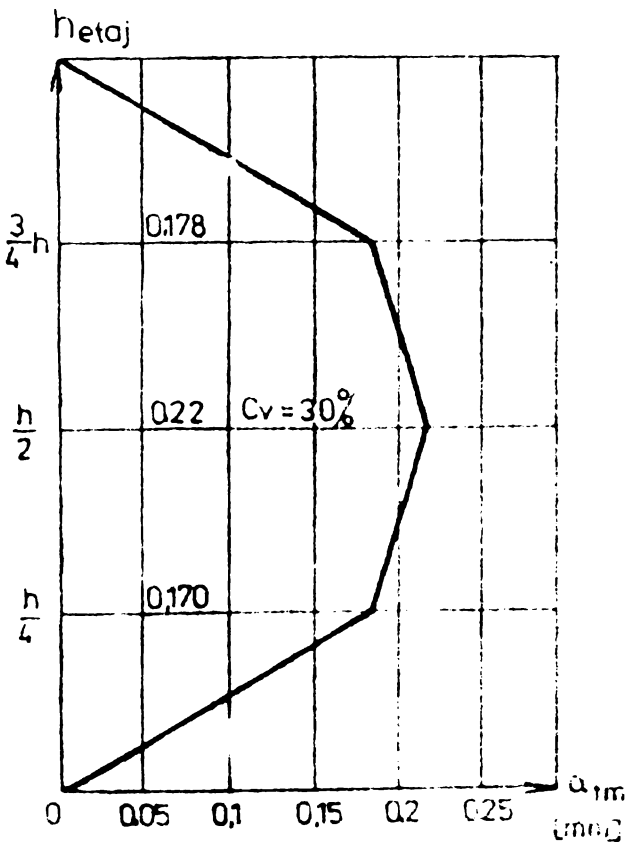
C7

$p_p = 0.15\%$
 $p_b = 0.8\%$
 $L_{pl} = 40\text{cm}$



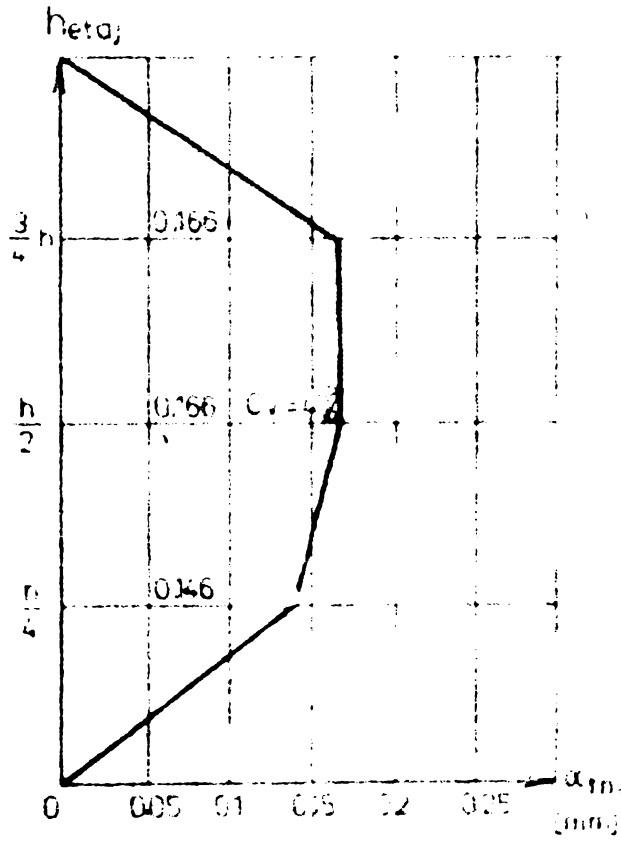
C8

$p_p = 0.15\%$
 $p_b = 0.8\%$
 $L_{pl} = 20\text{cm}$



C9

$p_p = 0.15\%$
 $p_b = 0.8\%$
 $L_{pl} = 60\text{cm}$

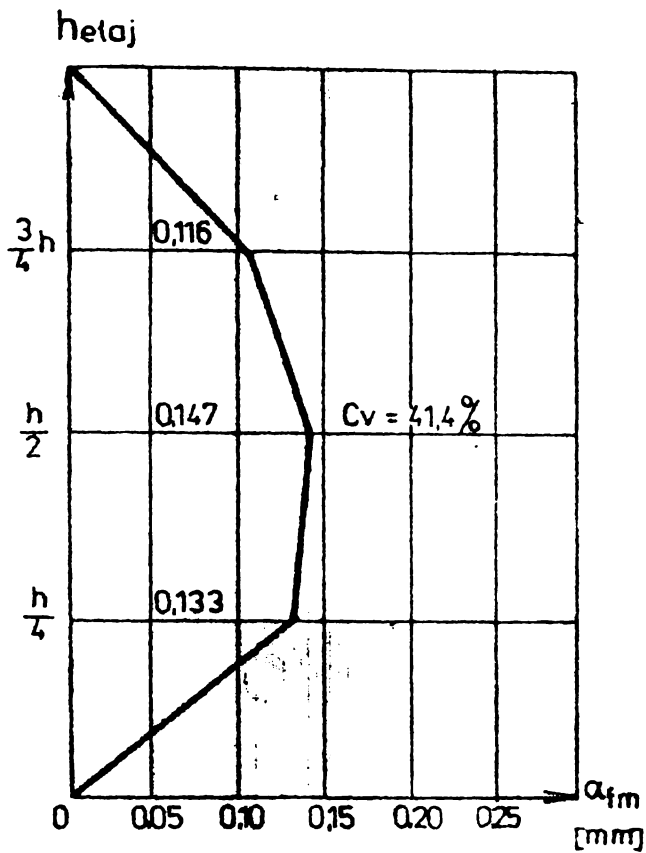


CP10

$p_p = 0.15\%$
 $p_b = 0.8\%$

Fig. A 96.

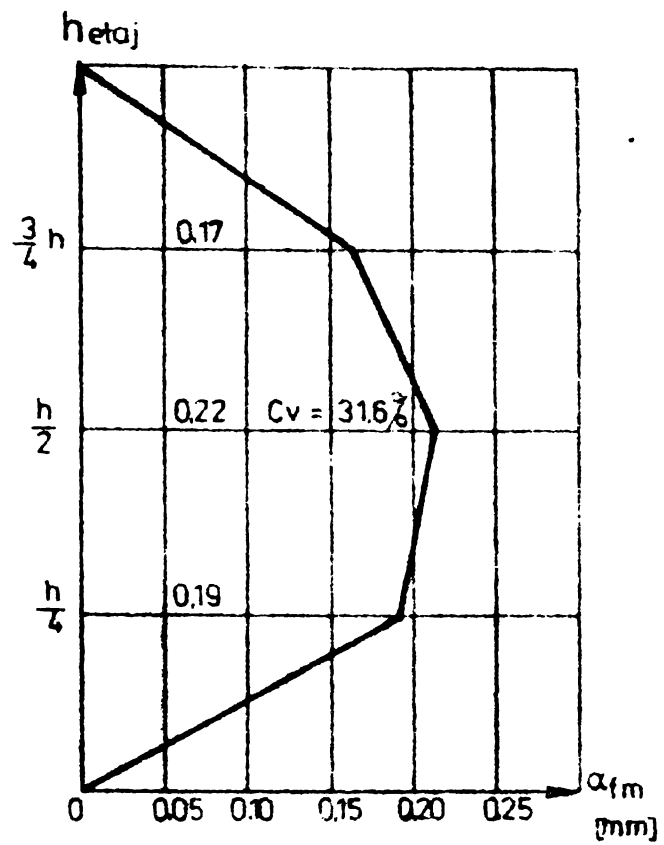
VARIATIA DESCHIDERII MEDII A FISURILOR
 LA ELEMENTE CU UN NIVEL



CP 11

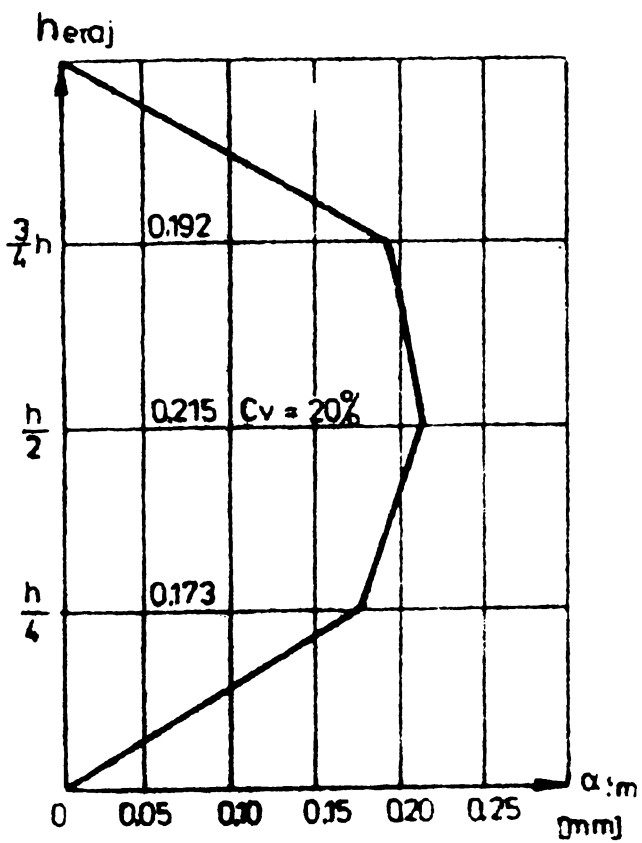
$P_p = 0.15\%$

$P_b = 0.8\%$



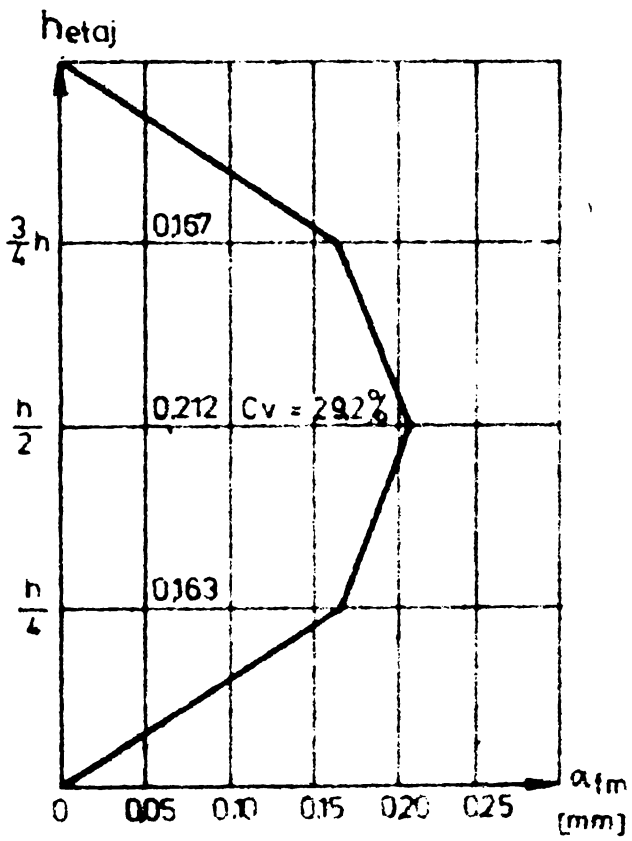
CP 12

$P_p = 0.15\%$



CP 13

$P_p = 0.15\%$

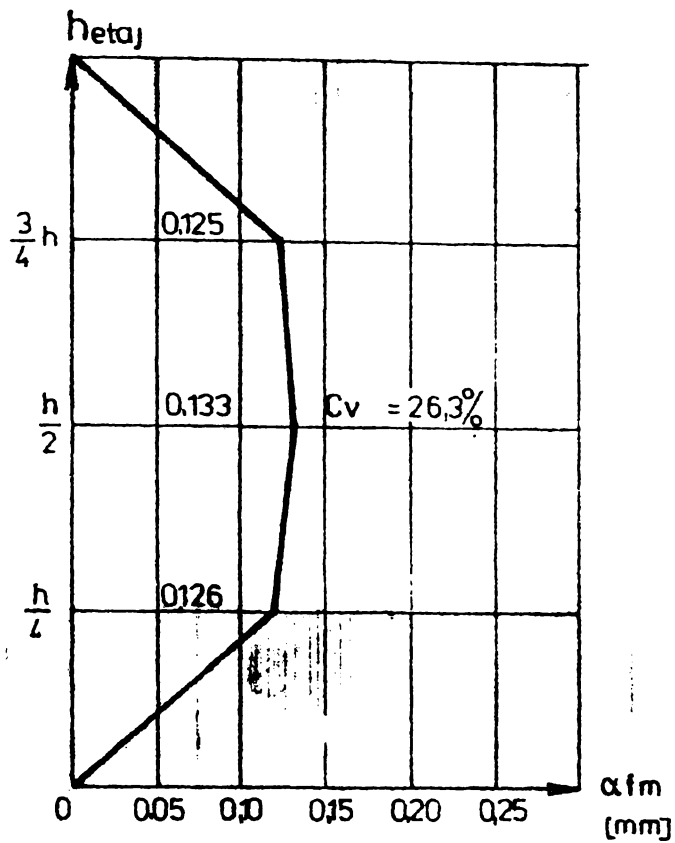


CP 14

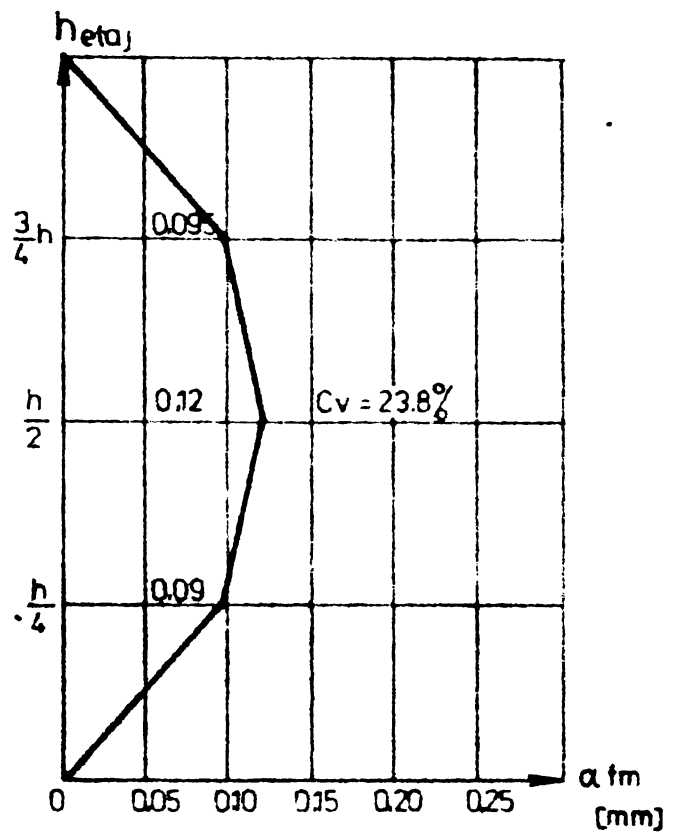
$P_p = 0.1\%$

Fig A97.

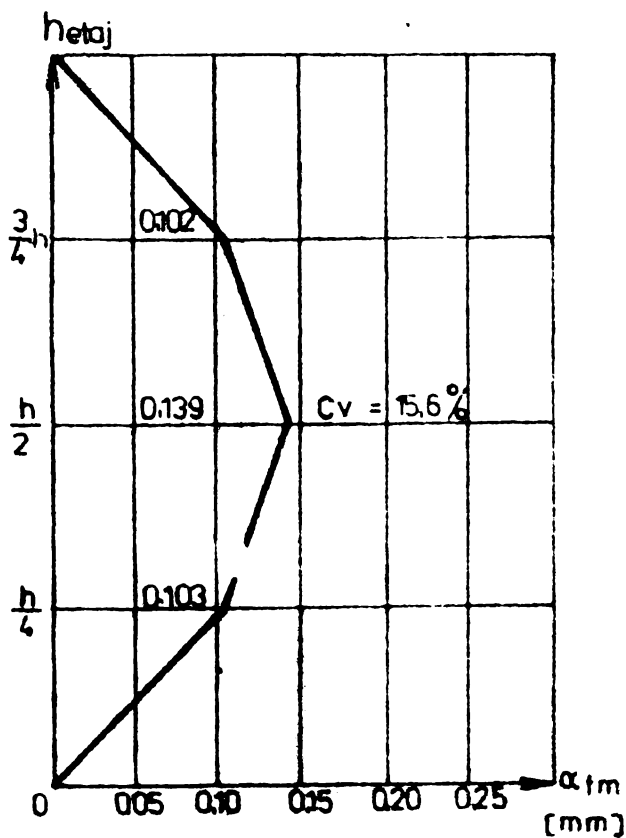
**VARIATIA DESCHIDERII MEDII A FISURILOR
LA ELEMENTE CU UN NIVEL**



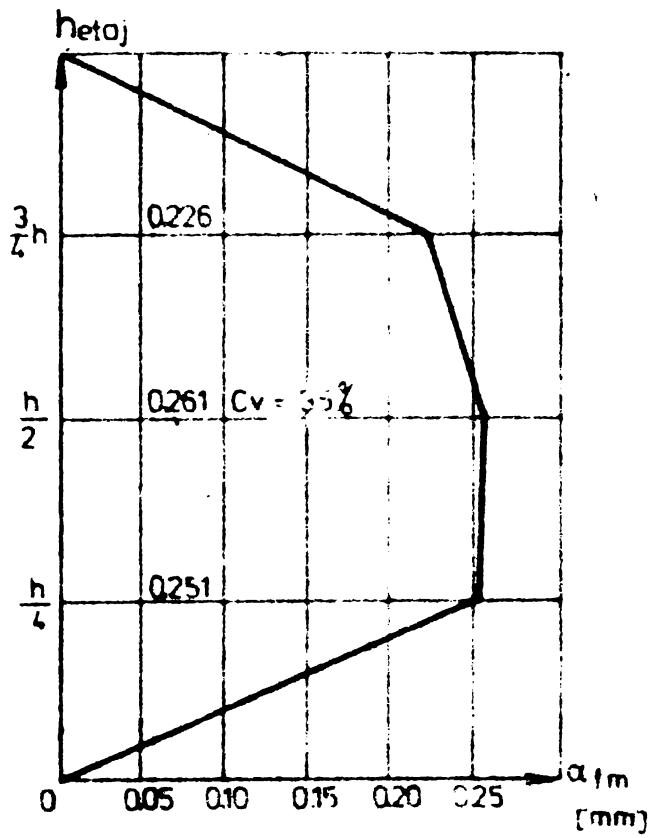
CP 15
 $P_p = 0.15\%$



CP 16
 $P_p = 0.15\%$
 $P_D = 0.8\%$
 $l_{gol} = 8\text{cm}$

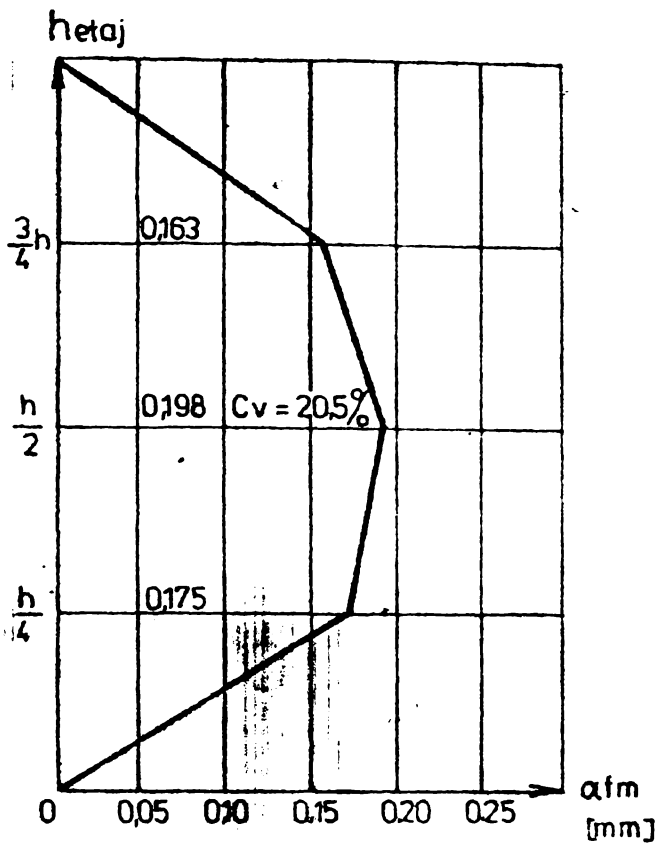


CP 17
 $P_p = 0.15\%$
 $h_{eta_j} = 11\text{cm}$

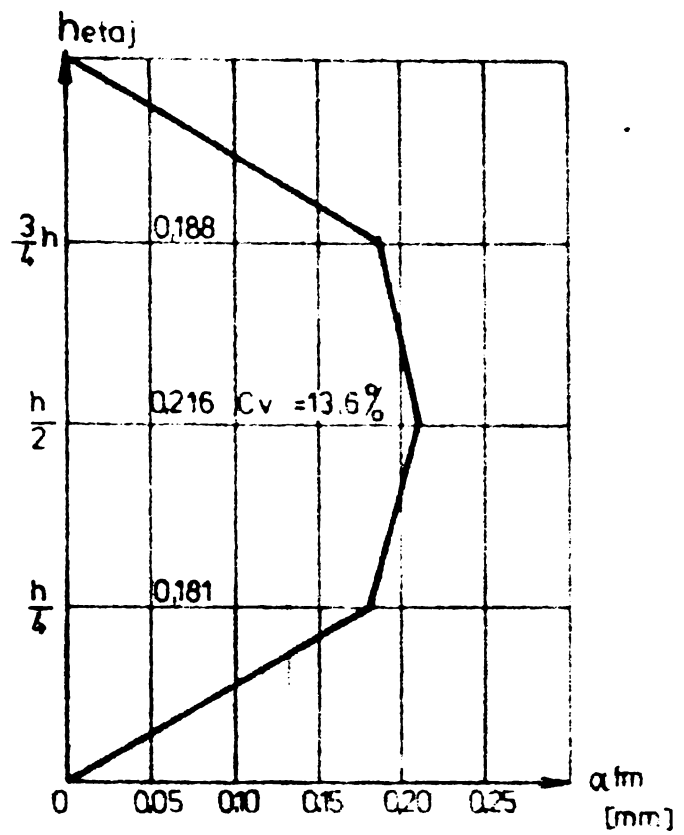


CP 18
 $P_p = 0.15\%$
 $h_{eta_j} = 33\text{cm}$

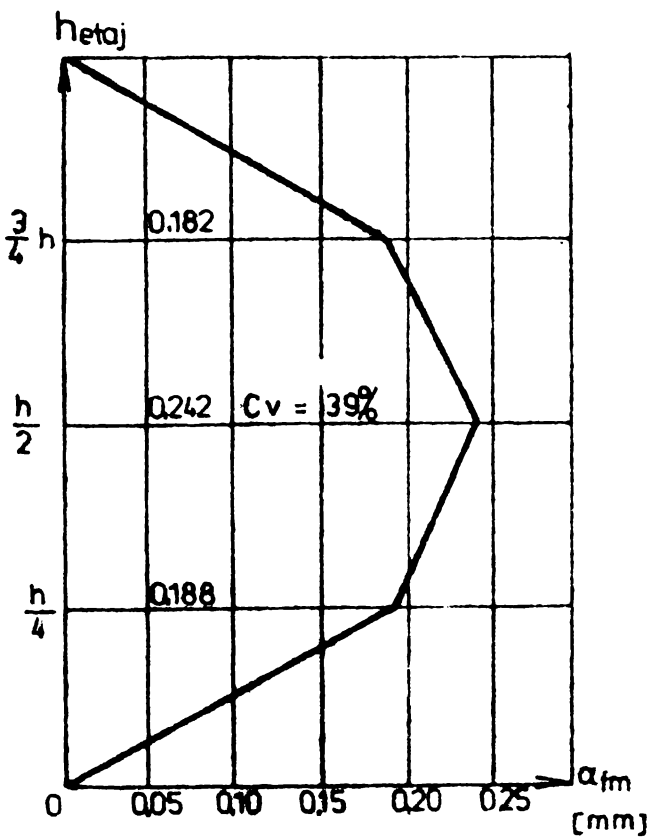
Fig. A 98.
 VARIATIA DESCHIDERII MEDII A FISURILOR
 LA ELEMENTE CU UN NIVEL



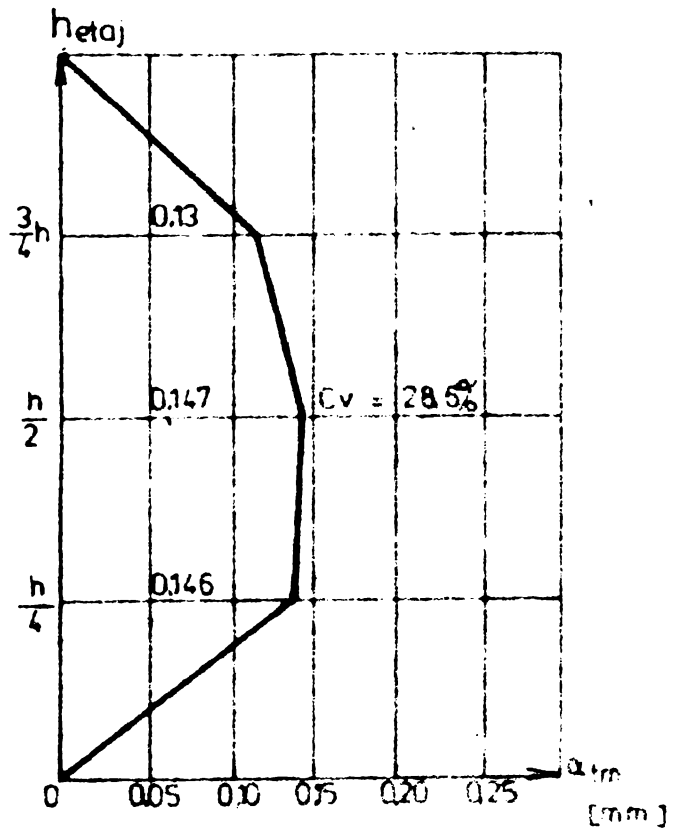
CP19
 $p_p = 0.15\%$
 $p_b = 1.2\%$



CP20
 $p_p = 0.15\%$
 $p_b = 12\%$
 $l_{ga} = 8\text{ cm}$



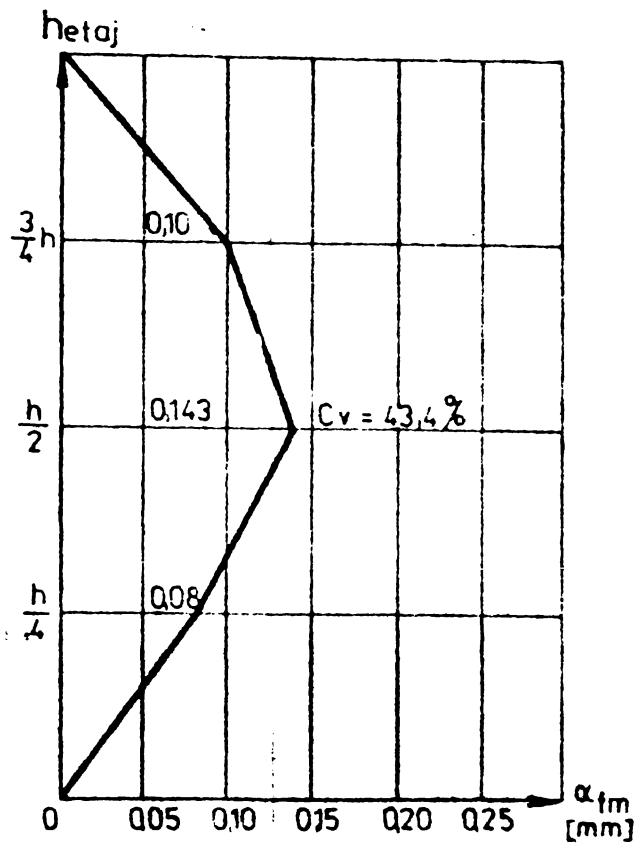
CP21
 $p_p = 0.1\%$



CP22
 $p_p = 0.2\%$

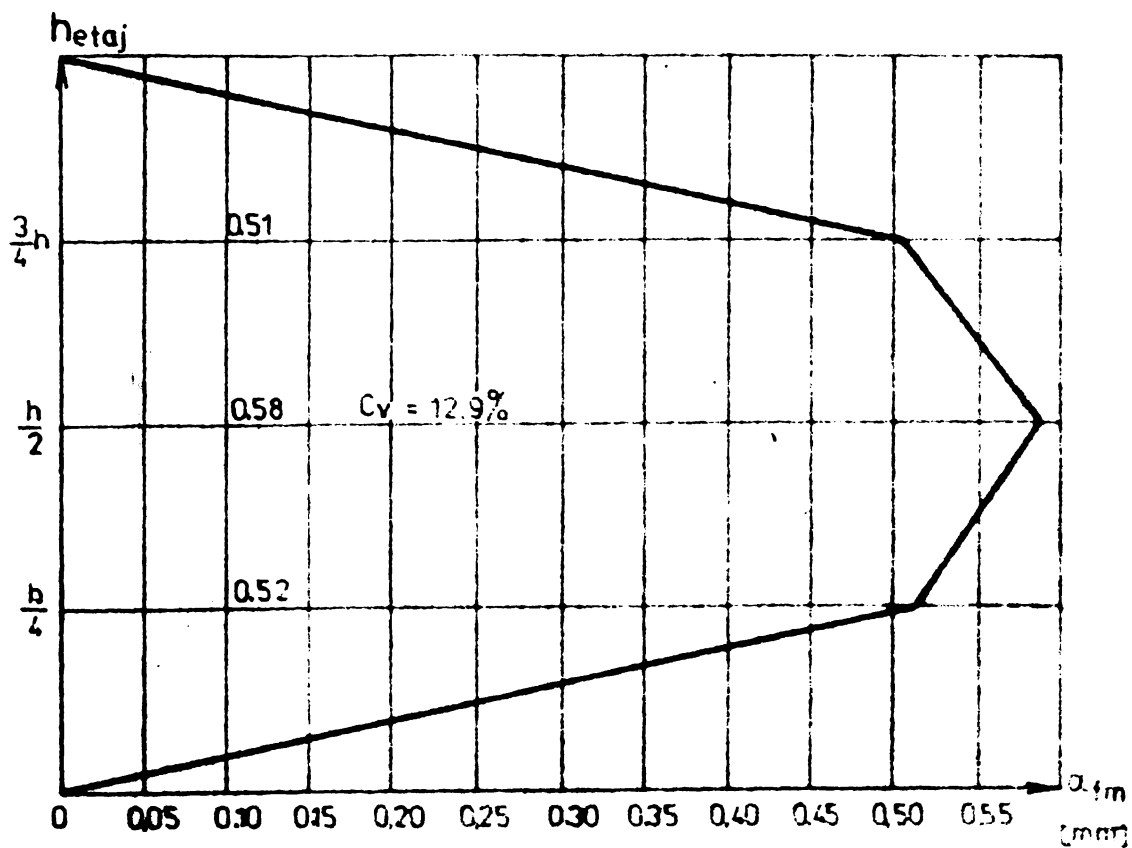
Fig. A99.

VARIATIA DESCRIERII MEDII A FISURILOR
 LA ELEMENTE CU UN NIVEL



CP 23

$p_p = 0.4\%$

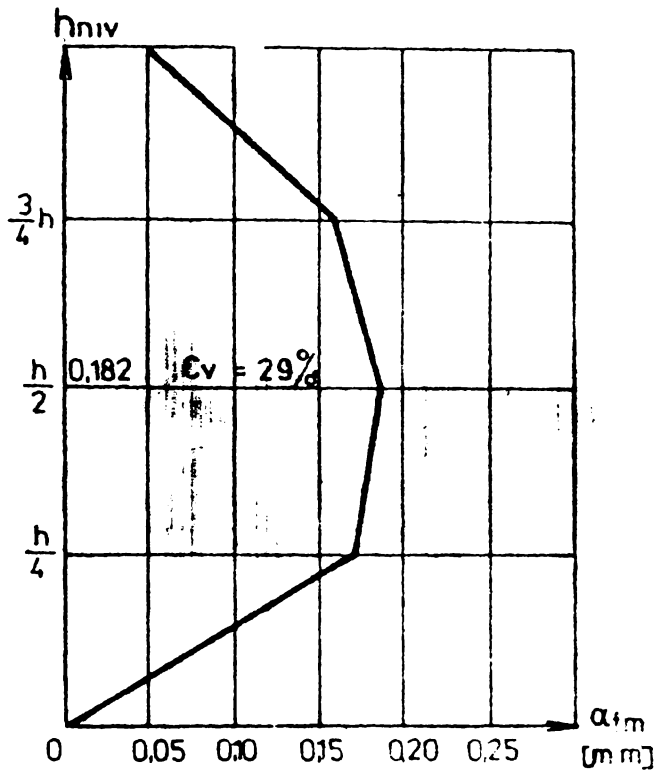


CP 26

$p_p = 0\%$

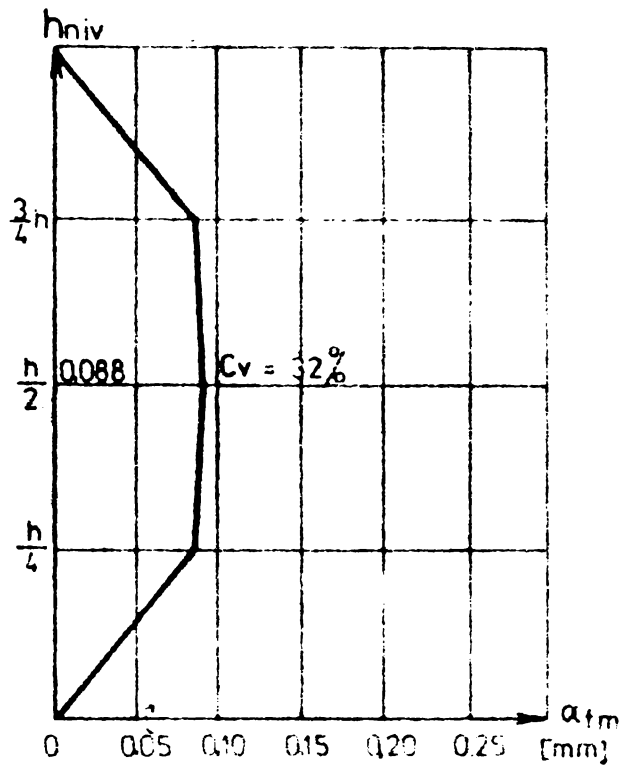
Fig A100

VARIATIA DESCHIDERII MEDII A FISURILOR LA
ELEMENTE CU UN NIVEL



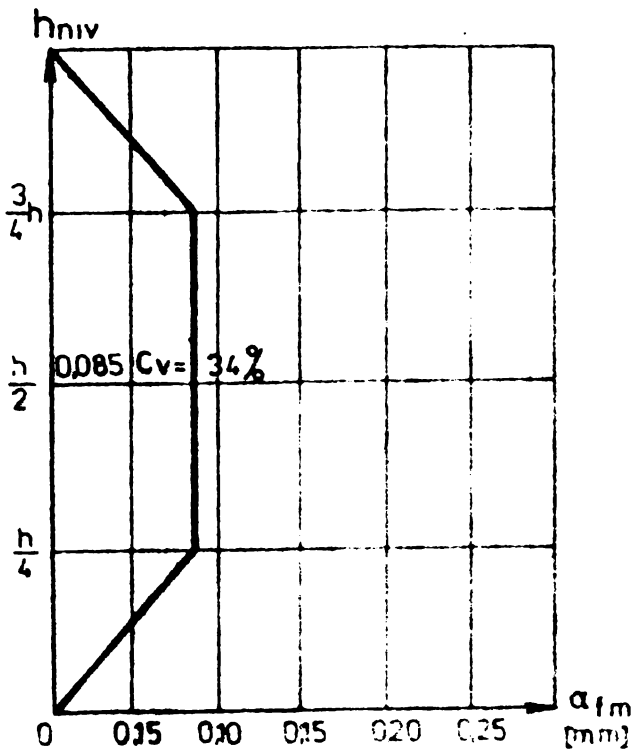
CP 30

$p = 0.2\%$



CP 31

$p = 0.6\%$

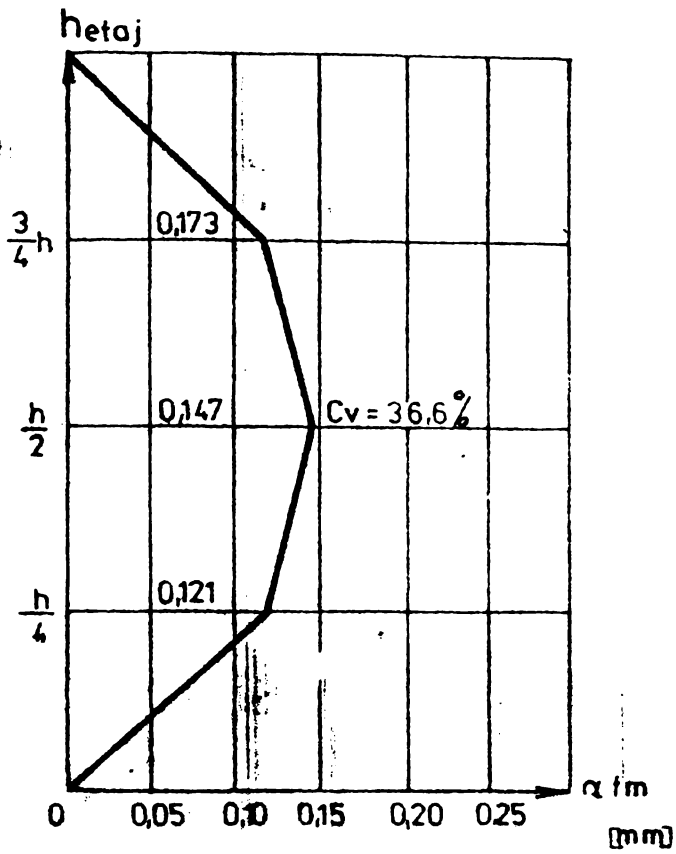


CP 32

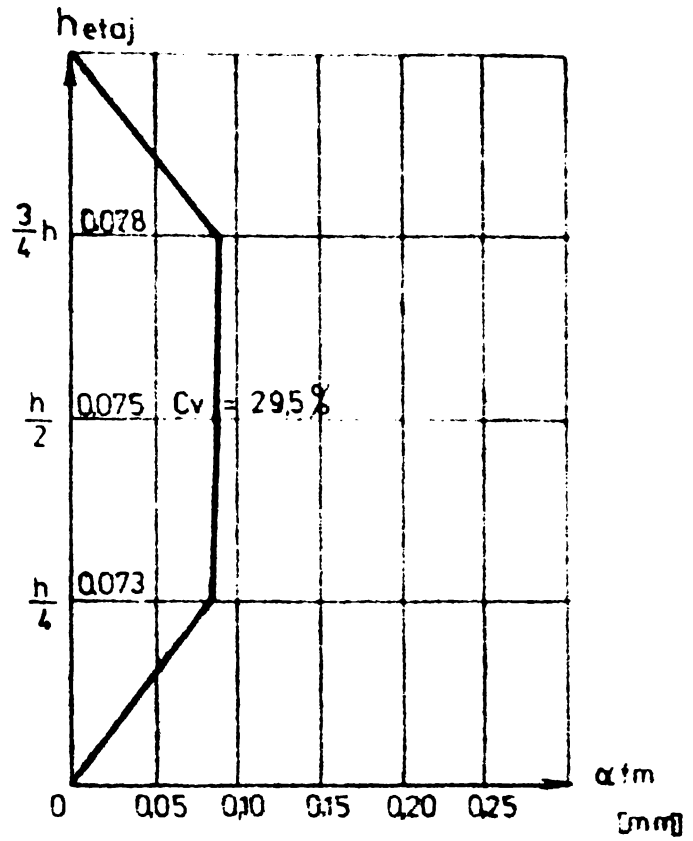
$p = 1\%$

Fig A101

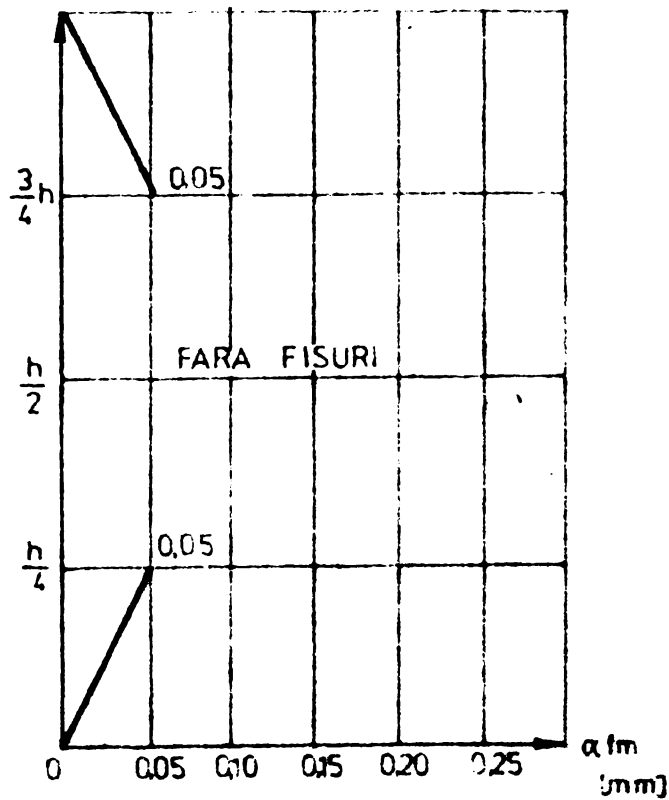
**VARIATIA DESCHIDERII MEDIU A
FISURILOR LA ELEMENTE CU
UN NIVEL**



CP56
 $P_p = 0.15\%$
 $P_b = 0.8\%$
 $L_m = 47\text{cm}$

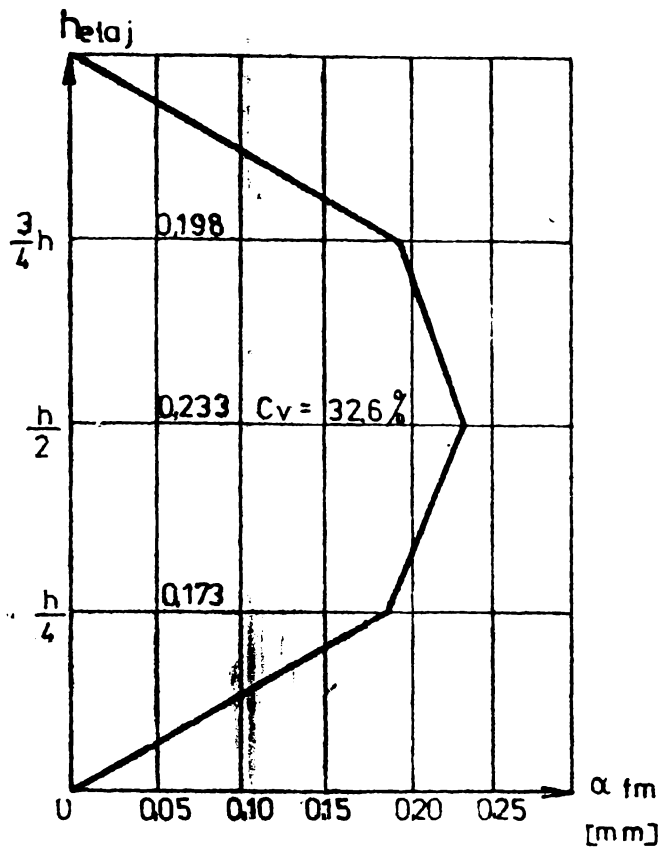


CP57
 $P_p = 0.15\%$
 $P_b = 0.8\%$
 $L_m = 34.5\text{cm}$

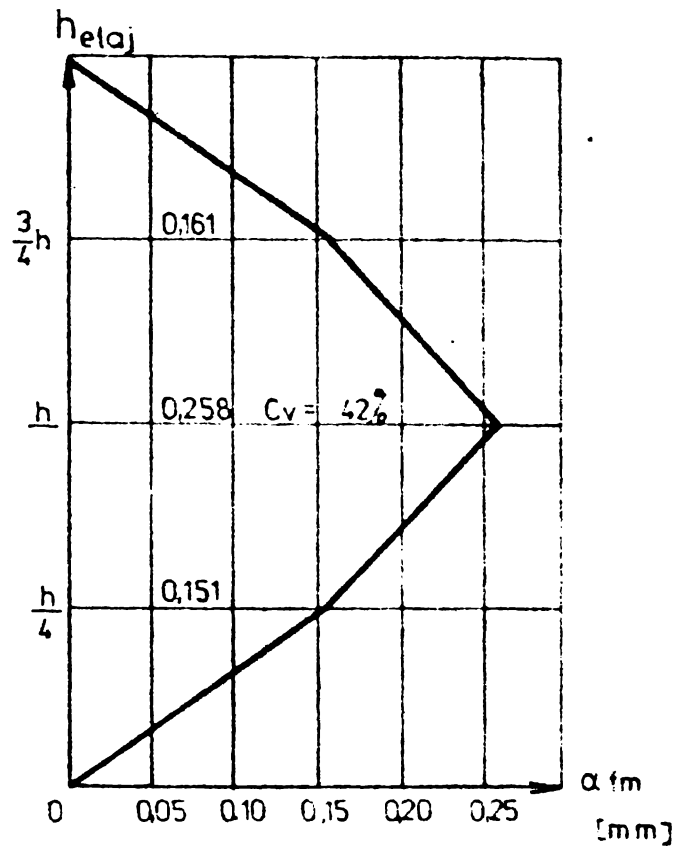


CP58
 $P_p = 0.15\%$
 $P_b = 0.8\%$
 $L_m = 22\text{cm}$
Fig. A102

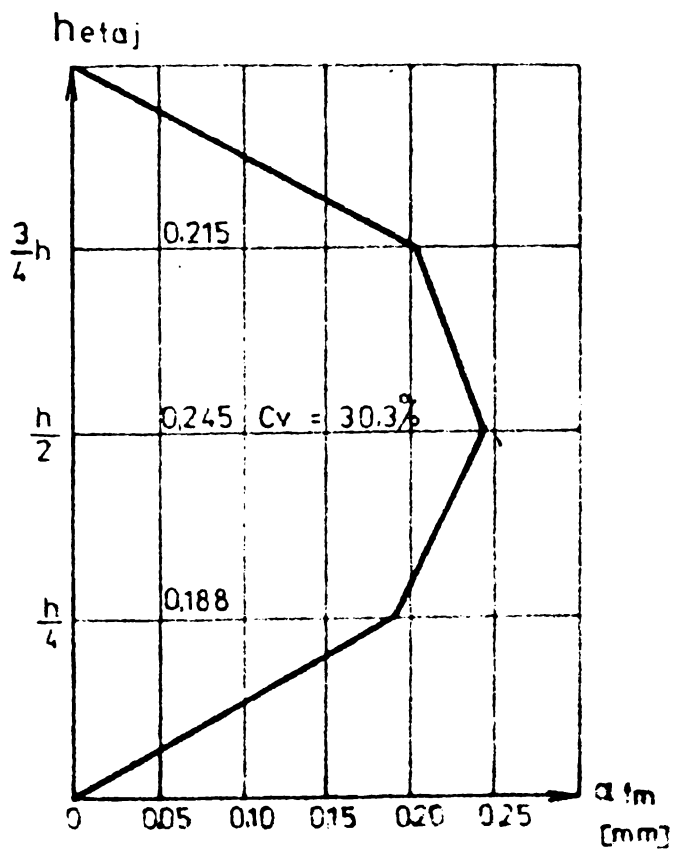
VARIATIA DESCHIDERII MEDII A FISURILOR LA ELEMENTE
 CU UN NIVEL SI LATIMI DIFERITE A MONTANTILOR



CP 59
 $P_p = 0.15\%$
 $P_b = 0.8\%$



CP 60
 $P_p = 0.15\%$
 $P_b = 0.8\%$



CP 61
 $P_p = 0.15\%$
 $P_b = 0.8\%$

Fig. A103

VARIATIA DESCHIDERII MEDII A FISURILOR LA
 ELEMENTE CU UN NIVEL

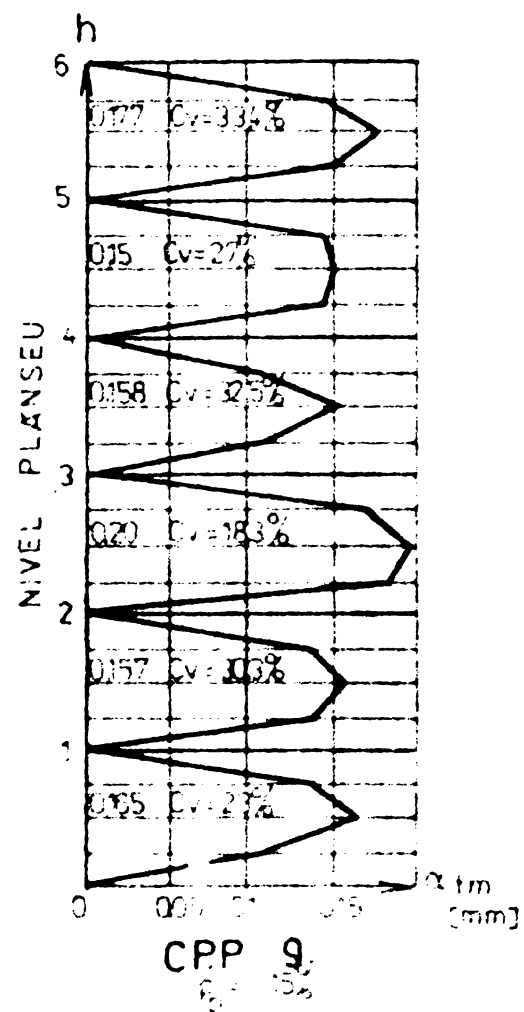
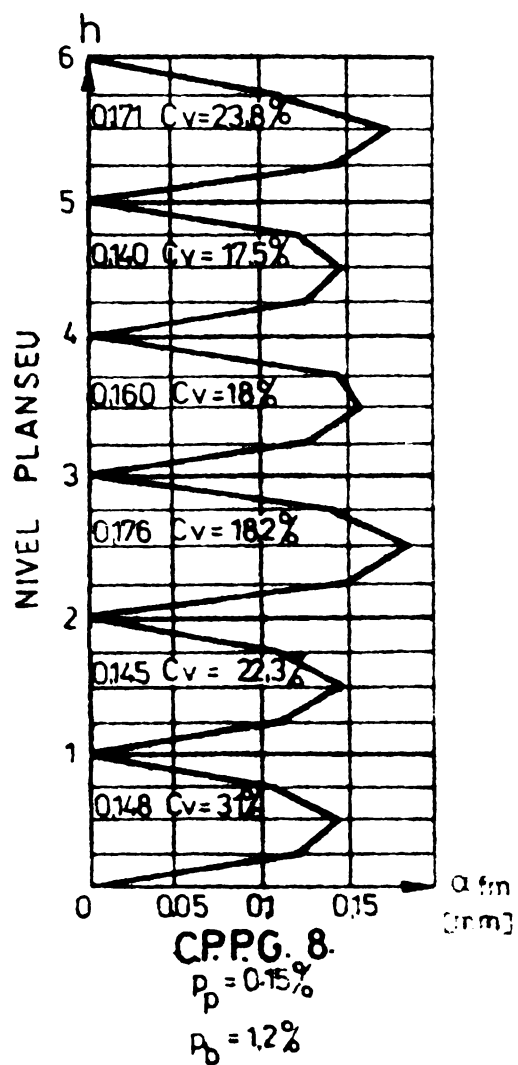
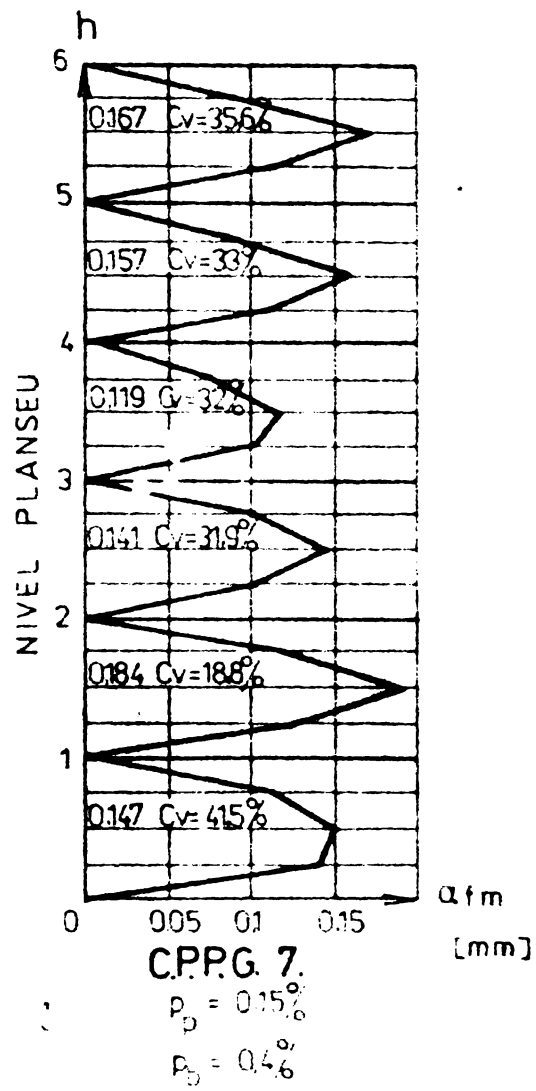
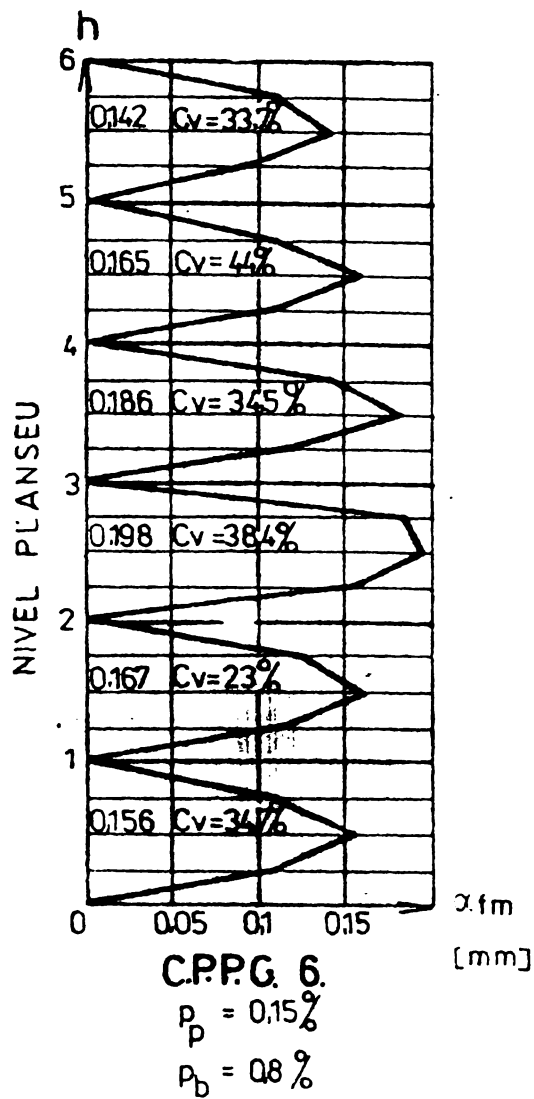


Fig. A104.
 VARIATIA DESCHIDERII MEDII A FISURILOR LA
 ELEMENTE CU FUNDATIE SI PLANSEE PREFABRICATE

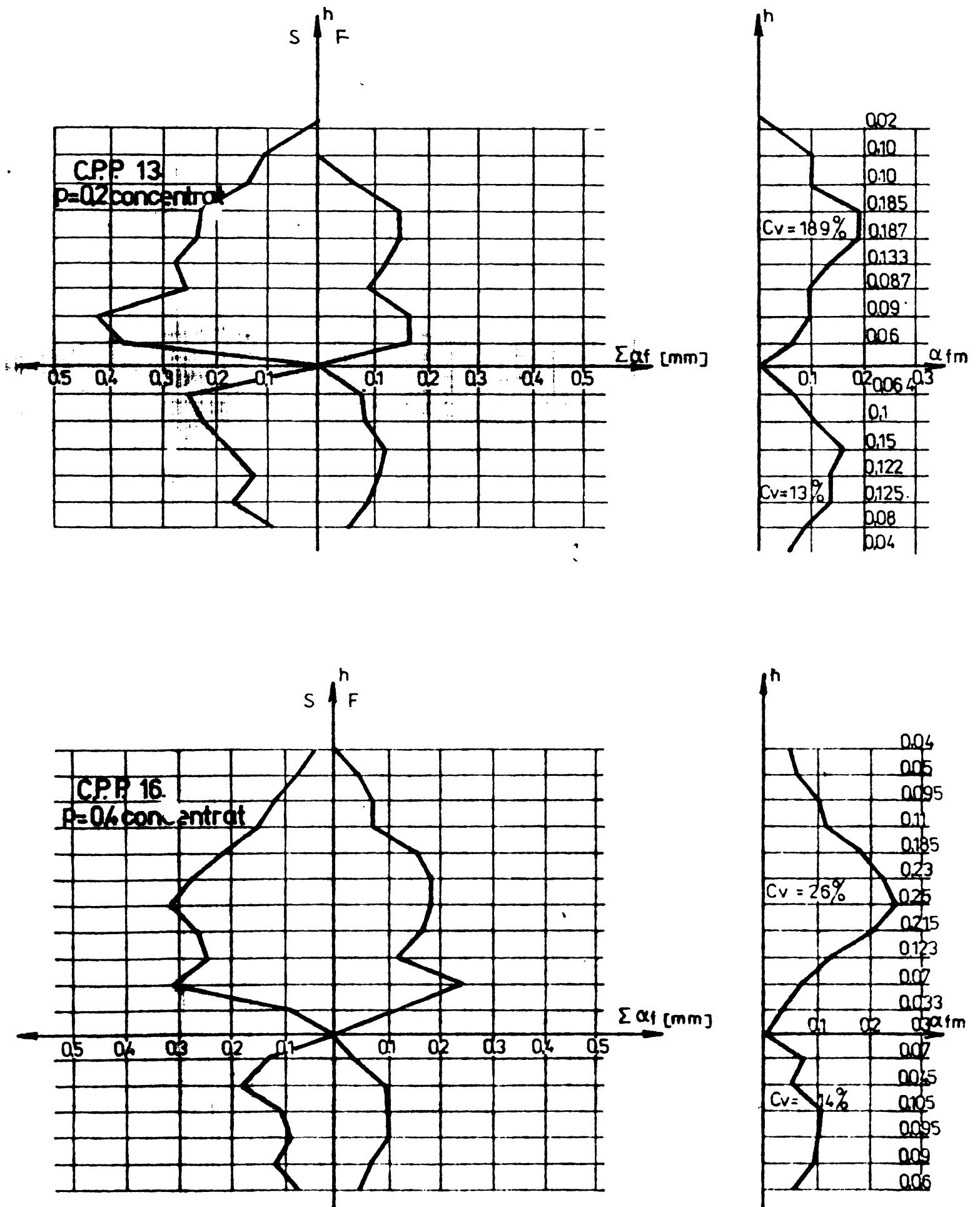


Fig. A105.

VARIATIA DESCHIDERII MEDII A FISURILOR
 LA ELEMENTE CU UN PLANSEU
 SI ARMARE CONCENTRATA

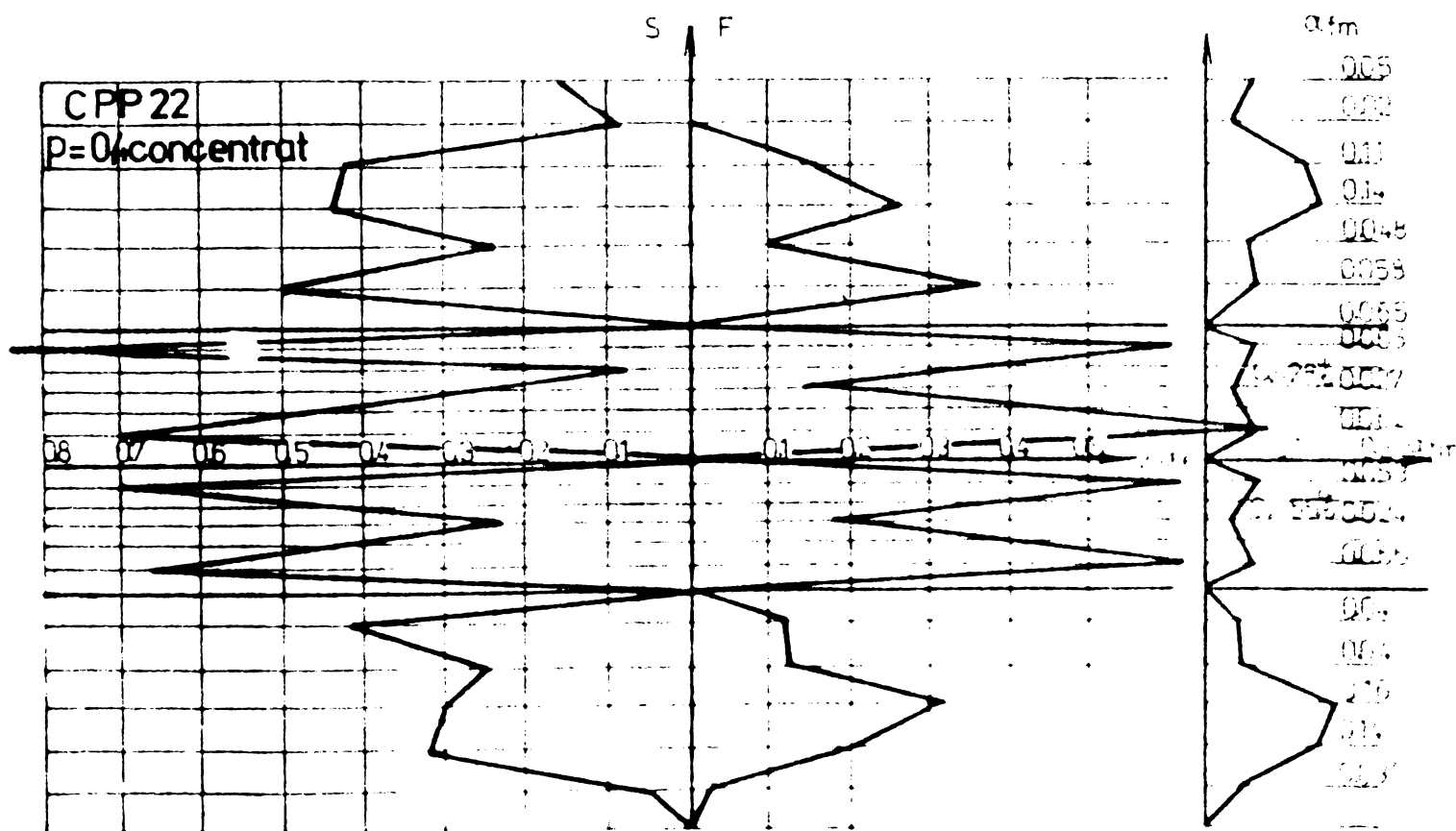
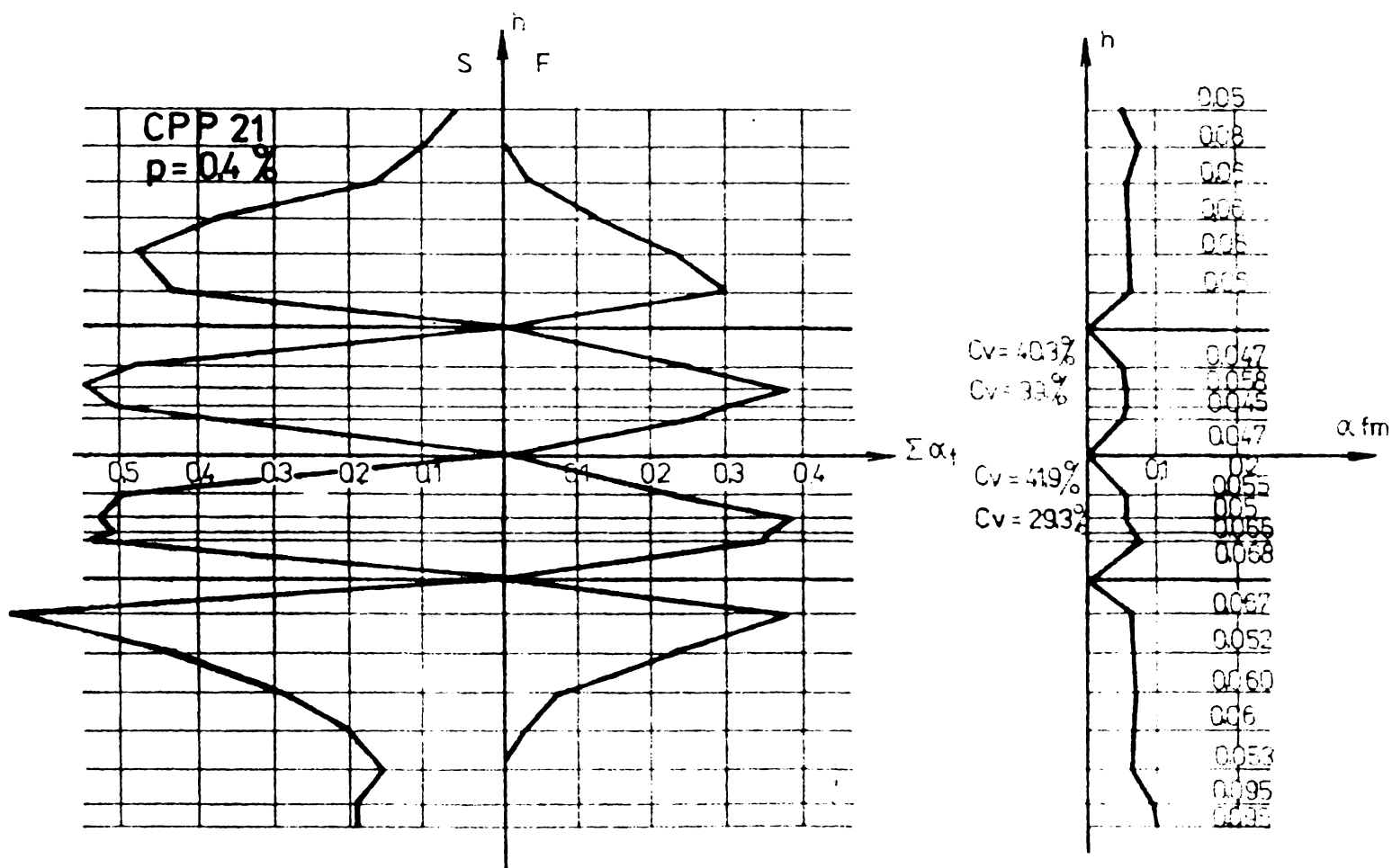


Fig. A106.

VARIATIA DESCHIDERII MEDII A FISURILOR LA ELEMENTE CU TREI PLANSEE SI ARMARE UNIFORMA SI CONCENTRATA

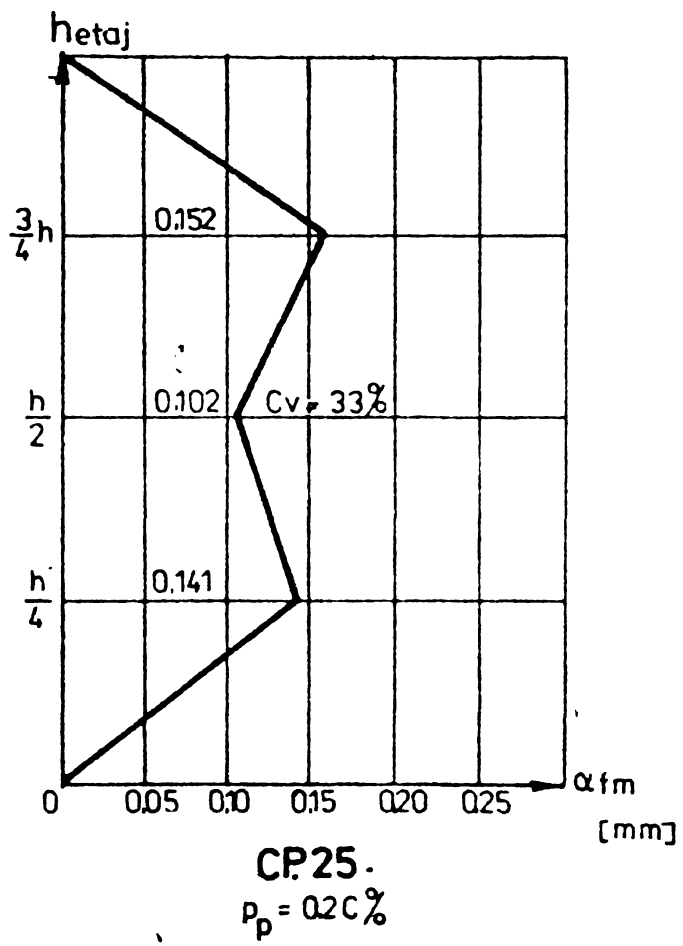
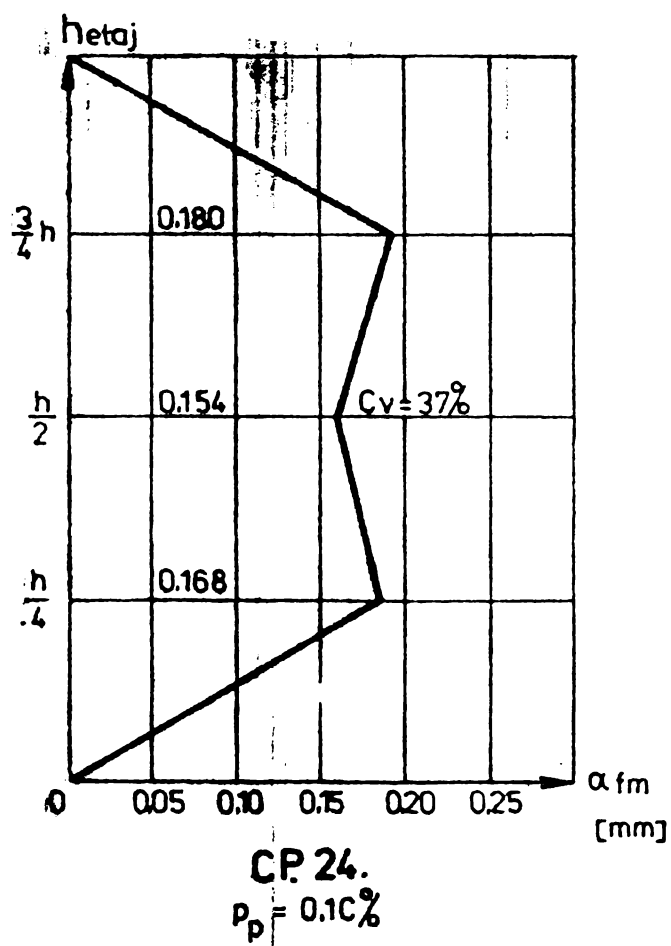
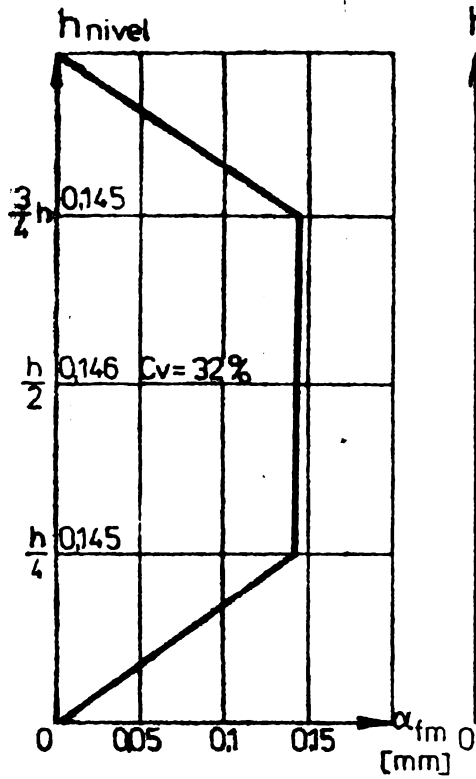
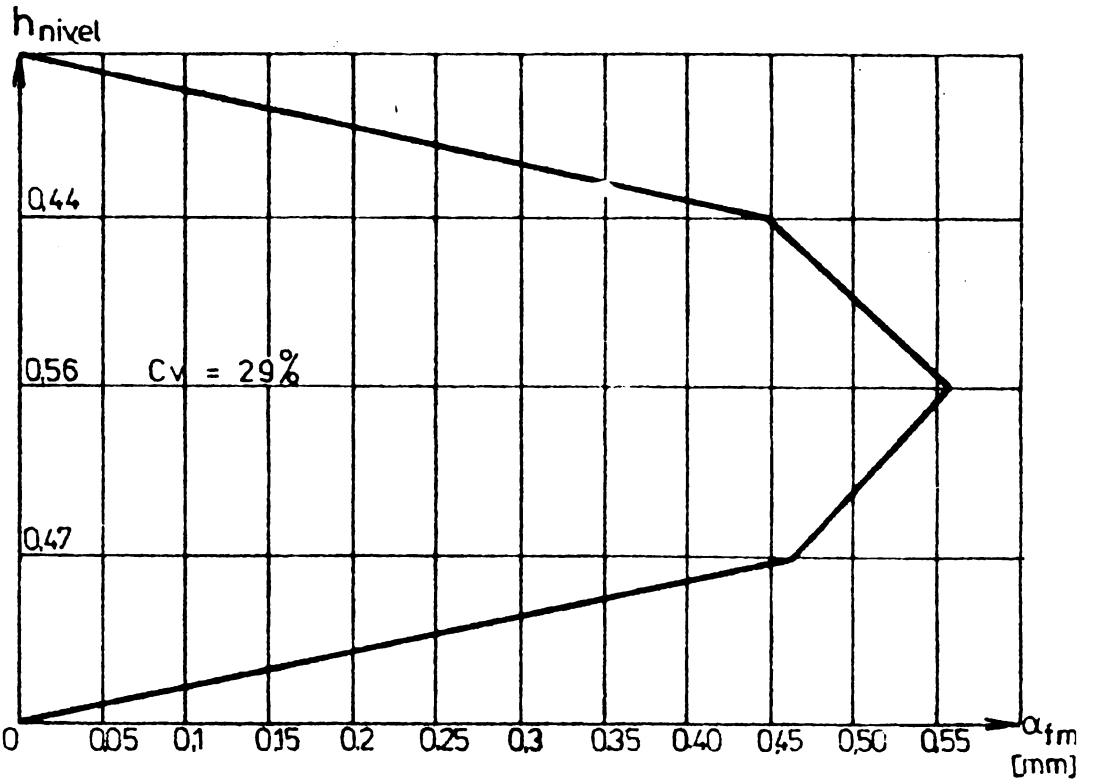


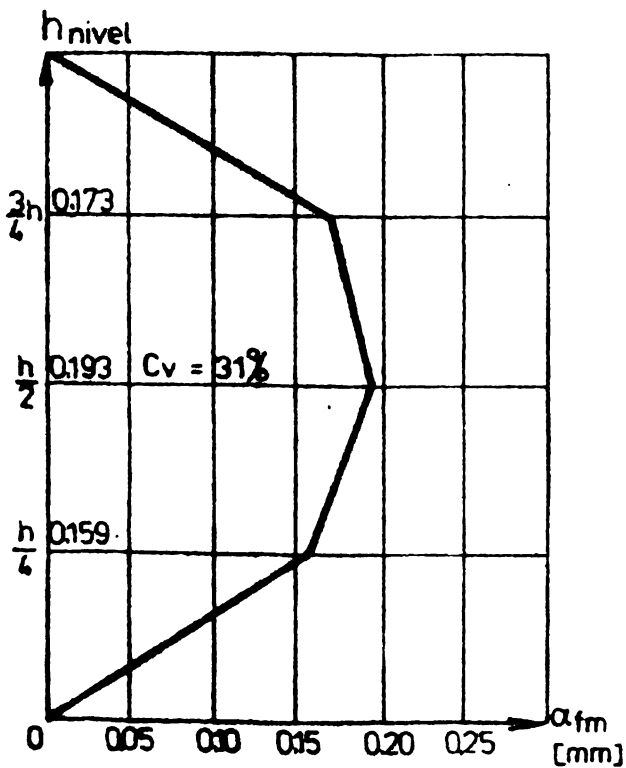
Fig. A 107.
VARIATIA DESCHIDERII MEDII A FISURILOR
LA ELEMENTE CU UN NIVEL SI ARMARE
CONCENTRATA



CP.27
 $\rho = 0.2C = 0.6\%$



CP.28
 $\rho = 0.0\%$



CP.29
 $\rho = 0.2\%$

Fig.A108.

VARIATIA DESCHIDERII MEDII A
 FISURILOR LA ELEMENTE CU UN NIVEL
 SI ARMARE CONCENTRATA.