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алфа

Възложител: ОДМВР - БУРГАС

ИНВЕСТИЦИОНЕН ПРОЕКТ

ОБЕКТ : Изграждане на нова сграда за нуждите на РУП Карнобат
при ОДМВР -Бургас

МЕСТОПОЛОЖЕНИЕ : гр. Карнобат, УПИ IX, кв. 91

ЧАСТ : СК - СТАТИЧЕСКИ ИЗЧИСЛЕНИЯ

ФАЗА : РП

ПРОЕКТАНТ НА ЧАСТТА :
Инж. Вл.Тодоров

УПРАВИТЕЛ :
инж. Зл. Байчева

IV.2014

Възложител: ОДМВР - БУРГАС

СТАТИЧЕСКИ ИЗЧИСЛЕНИЯ

I. ПЛОЧА - етажна

Натоварване поле

- собствено тегло мозайка = $0,02 * 22 * 1,35 = 0,594 \text{ kN} / \text{m}^2$

- собствено тегло цименто-пясъчна замазка = $0,03 * 22 * 1,35 = 0,891 \text{ kN} / \text{m}^2$

- собствено тегло плоча = $0,18 * 25 * 1,2 = 5,4 \text{ kN} / \text{m}^2$

- собствено тегло мазилка = $0,015 * 18 * 1,35 = 0,3645 \text{ kN} / \text{m}^2$

$$\Sigma = g = 7.25 \text{ kN} / \text{m}^2$$

Натоварване от тухлен зид $-1,2 \text{ kN} / \text{m}^2$

Временни товари $V_n = 3 \text{ kN} / \text{m}^2$

$$\gamma_f = 1,3 \quad V = 3.9$$

Пълно натоварване

$$q = g + V = 7.25 + 3.9 = 11.2 \text{ kN} / \text{m}$$

Нормативен товар - $8,6 \text{ kN} / \text{m}$

II. ГРЕДИ

Натоварване

Кота +10,80

- собствено тегло греди = $0.25 * 0.40 * 25 * 1.2 = 3.0 \text{ kN} / \text{m}'$

- собствено тегло тухлен зид = $0.25(2.8 - 0.4)16 * 1.2 = 11.52 \text{ kN} / \text{m}'$

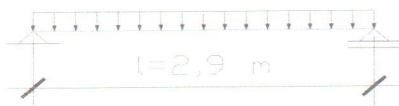
- собствено тегло мазилка = $2 * 0.02(3.0 - 0.1)18 * 1.35 = 2.82 \text{ kN} / \text{m}'$

- поле = $1.3 * 2.7 * 0.333 = 10.23 \text{ kN} / \text{m}'$

$$\Sigma = g_{gp} = 13.23 \text{ kN} / \text{m}'$$

ГРЕДА 1

Проста греди



$$\max M = \frac{q_{MIT} * l_0^2}{8} = \frac{13.23 * 2.9^2}{8} = 13.90 \text{ kNm}$$

$$\max V = \frac{q_Q * l_0}{2} = 19.2 \text{ kN}$$

Бетон C20/25

Стомана B420

$$f_{y,d} = 36,5 \text{ kN/cm}^2$$

$$f_{c,k} = 2 \text{ kN/cm}^2$$

$$f_{c,d} = \frac{\alpha_{cc} * f_{c,k}}{\gamma_c} \frac{0,85 * 2}{1,5} = 1,13 \text{ kN/cm}^2$$

Конструкция S4; сграда X1

$$c_{\min, dur} = 15 \text{ mm}$$

$$c_{\min, b} = 14 \text{ mm} - \text{диаметър на пръта}$$

$$c_{\min} = \max[c_{\min, dur}; c_{\min, b}] = 15 \text{ mm}$$

$$\Delta c = 10 \text{ mm}$$

$$c_{\min} = c_{\min} + \Delta c = 25 \text{ mm} \quad \text{покрытие до прътите } c = 25 + 6 = 31 \text{ mm}; d = 400 - 31 - 12/2 = 363 \text{ mm}$$

$$Bwd = 25 * 36.3 = 907.5 \text{ кв.см}$$

$$m = \frac{M_{\max} * 100}{f_{c,d} * b * d^2} = \frac{13.9 * 100}{1,13 * 25 * 37^2} = 0,035 \rightarrow \eta = 0,978$$

$$A_{s1} = \frac{M_{\max} * 100}{f_{y,d} * \eta * d} = \frac{13.9 * 100}{36,5 * 0,978 * 37} = 1.04 \text{ cm}^2 \rightarrow 3N12 - \text{конструктивно}$$

$$\text{Минимална армировка } 0,22 * 907,5/2 * 36,5 = 2,73 \text{ кв.см.}$$

стремена:

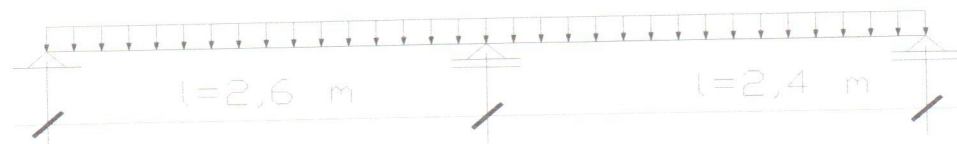
$$\rho = \frac{A_s}{b_w * d} = \frac{3.39}{25 * 37} = 0,0036 \rightarrow K_0 = 0,45$$

$$V_{Rd,c} = K_0 * b_w * d = 0,45 * 25 * 37 = 416 \text{ N} > V = 24.4 \text{ kN} \rightarrow \text{стремена конструктивно}$$

ГРЕДА 4

$$q = 0.45 * 8.3 * 3 + 3 = 14.2 \text{ kN}$$

Непрекъсната греда



$$M^{on} = -\frac{1}{8} * \frac{q * (l_{0,1}^3 + l_{0,2}^3)}{l_{0,1} + l_{0,2}} = -\frac{1}{8} * \frac{14.2 * (2.6^3 + 2.4^3)}{2.6 + 2.4} = -12 \text{ kNm}$$

$$n_r = \infty; n_l = \frac{q * l_{0,i}^2}{M^{on}} = \frac{14.2 * 2.6^2}{12} = 8 \rightarrow n = 13,9$$

$$M_{поле} = \frac{q * l_{0,i}^2}{n} = \frac{14,2 * 2,6^2}{13,9} = 6,91 \text{ kNm}$$

поле:

$$m = \frac{M_{\max} * 100}{f_{c,d} * b * d^2} = \frac{6.91 * 100}{1.13 * 25 * 37^2} = 0.018 \rightarrow \eta = 0.985$$

$$A_{s1} = \frac{M_{\max} * 100}{f_{y,d} * \eta * d} = \frac{6.91 * 100}{36.5 * 0.985 * 37} = 0.52 \text{ cm}^2 \rightarrow 3N12 - \text{конструктивно}$$

опора:

$$m = \frac{M_{\max} * 100}{f_{c,d} * b * d^2} = \frac{12 * 100}{1.13 * 25 * 37^2} = 0.031 \rightarrow \eta = 0.98$$

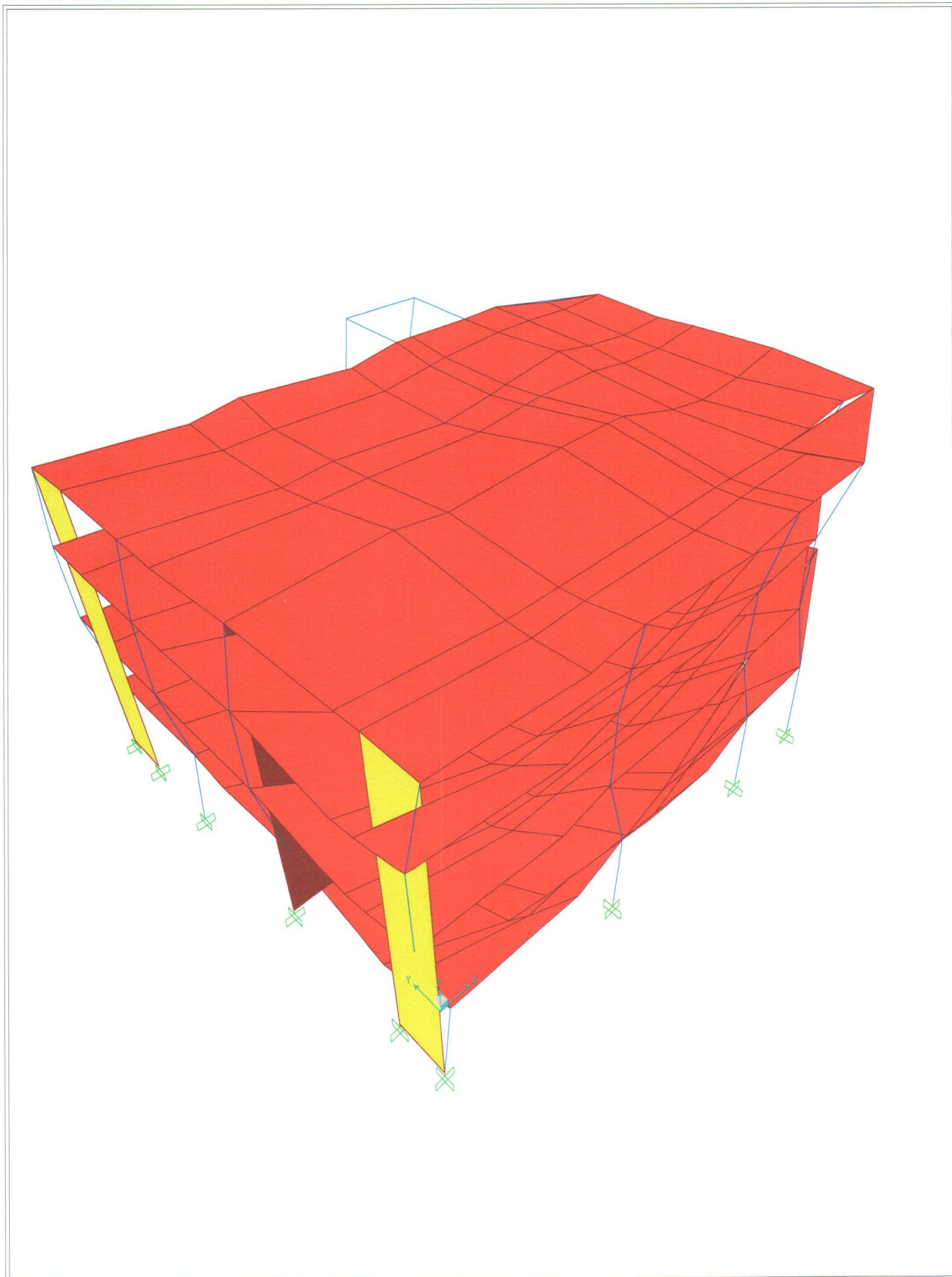
$$A_{s1} = \frac{M_{\max} * 100}{f_{y,d} * \eta * d} = \frac{12 * 100}{36.5 * 0.98 * 37} = 0.90 \text{ cm}^2 \rightarrow 2N12 - \text{конструктивно}$$

стремена:

$$\rho = \frac{A_s}{b_w * d} = \frac{3.39}{25 * 37} = 0.004 \rightarrow K_0 = 0.45$$

$$V_{Rd,c} = K_0 * b_w * d = 0.45 * 25 * 37 = 416.2 \text{ N} > V = 18.46 \text{ kN} \rightarrow \text{стремена конструктивно}$$

Дължина на закотвяне $40 * 1.2 = 48 \text{ cm}$.



SAP2000 v8.3.3 - File:KARNOBAT - Deformed Shape (ULS) - KN, m, C Units

SAP2000 Nonlinear Version 8.3.3.0 (Analysis Build 8310)
File: D:\HP620\New Folder\KARNOBAT.LOG

BEGIN ANALYSIS
2014/03/20 19:49:38

MAXIMUM MEMORY BLOCK SIZE (BYTES)	=	123.512 MB
NUMBER OF JOINTS IN THE MODEL	=	325

ELEMENT FORMATION
19:49:38

NUMBER OF FRAME ELEMENTS FORMED	=	92
NUMBER OF SHELL ELEMENTS FORMED	=	237
NUMBER OF CONSTRAINTS FORMED	=	4

REDUCTION OF CONSTRAINTS AND RESTRAINTS:
NUMBER OF

CONSTRAINT MASTER DOF BEFORE REDUCTION	=	9
COUPLED CONSTRAINT/RESTRAINT MASTER DOF	=	0
CONSTRAINT MASTER DOF AFTER REDUCTION	=	9

LINEAR EQUATION SOLUTION
19:49:39

FORMING STIFFNESS AT ZERO (UNSTRESSED) INITIAL CONDITIONS

TOTAL NUMBER OF EQUILIBRIUM EQUATIONS	=	1152
APPROXIMATE "EFFECTIVE" BAND WIDTH	=	87
NUMBER OF EQUATION STORAGE BLOCKS	=	1
MAXIMUM BLOCK SIZE (8-BYTE TERMS)	=	97677
SIZE OF STIFFNESS FILE(S) (BYTES)	=	767.617 KB
NUMBER OF EQUATIONS TO SOLVE	=	1152

LINEAR STATIC CASES
19:49:39

USING STIFFNESS AT ZERO (UNSTRESSED) INITIAL CONDITIONS

TOTAL NUMBER OF CASES TO SOLVE	=	2
NUMBER OF CASES TO SOLVE PER BLOCK	=	2

LINEAR STATIC CASES TO BE SOLVED:

CASE: DEAD
CASE: LL

EIGEN MODAL ANALYSIS
19:49:39

CASE: MODAL

USING STIFFNESS AT ZERO (UNSTRESSED) INITIAL CONDITIONS

NUMBER OF STIFFNESS DEGREES OF FREEDOM	=	1152
NUMBER OF MASS DEGREES OF FREEDOM	=	471
MAXIMUM NUMBER OF EIGEN MODES SOUGHT	=	12
MINIMUM NUMBER OF EIGEN MODES SOUGHT	=	1
NUMBER OF RESIDUAL-MASS MODES SOUGHT	=	0
NUMBER OF SUBSPACE VECTORS USED	=	24
RELATIVE CONVERGENCE TOLERANCE	=	1.00E-07
FREQUENCY SHIFT (CENTER) (CYC/TIME)	=	.000000
FREQUENCY CUTOFF (RADIUS) (CYC/TIME)	=	.000000
NUMBER OF EIGEN MODES FOUND	=	12
NUMBER OF ITERATIONS PERFORMED	=	9

MODAL PERIODS AND FREQUENCIES

CASE: MODAL

MODE MODAL MASS	PERIOD (T)	FREQUENCY (CYC/T)	FREQUENCY (RAD/T)	EIGENVALUE (RAD/T)^2	MODAL STIFFNESS
1 1.000000	0.365633	2.734985	17.184415	295.304114	295.304114
2 1.000000	0.353907	2.825603	17.753787	315.196965	315.196965
3 1.000000	0.295970	3.378720	21.229123	450.675658	450.675658
4 1.000000	0.229366	4.359839	27.393677	750.413521	750.413521
5 1.000000	0.189667	5.272409	33.127524	1097.433	1097.433
6 1.000000	0.179226	5.579545	35.057313	1229.015	1229.015
7 1.000000	0.178771	5.593748	35.146555	1235.280	1235.280
8 1.000000	0.178267	5.609565	35.245937	1242.276	1242.276
9 1.000000	0.168424	5.937380	37.305660	1391.712	1391.712
10 1.000000	0.147622	6.774058	42.562664	1811.580	1811.580
11 1.000000	0.138955	7.196575	45.217413	2044.614	2044.614
12 1.000000	0.137797	7.257062	45.597466	2079.129	2079.129

MODAL LOAD PARTICIPATION RATIOS

CASE: MODAL

LOAD, ACC, OR LINK/DEF EFFECTIVE PERIOD	(TYPE)	(NAME)	STATIC (PERCENT)	DYNAMIC (PERCENT)
0.323863	ACC	UX	99.3193	91.2295
0.354546	ACC	UY	99.3263	92.8939
0.180355	ACC	UZ	80.0663	28.5600
	ACC	RX	98.4633	71.6761

0.345001				
	ACC	RY	88.4972	36.6129
0.244161				
	ACC	RZ	99.6697	93.3149
0.347533				

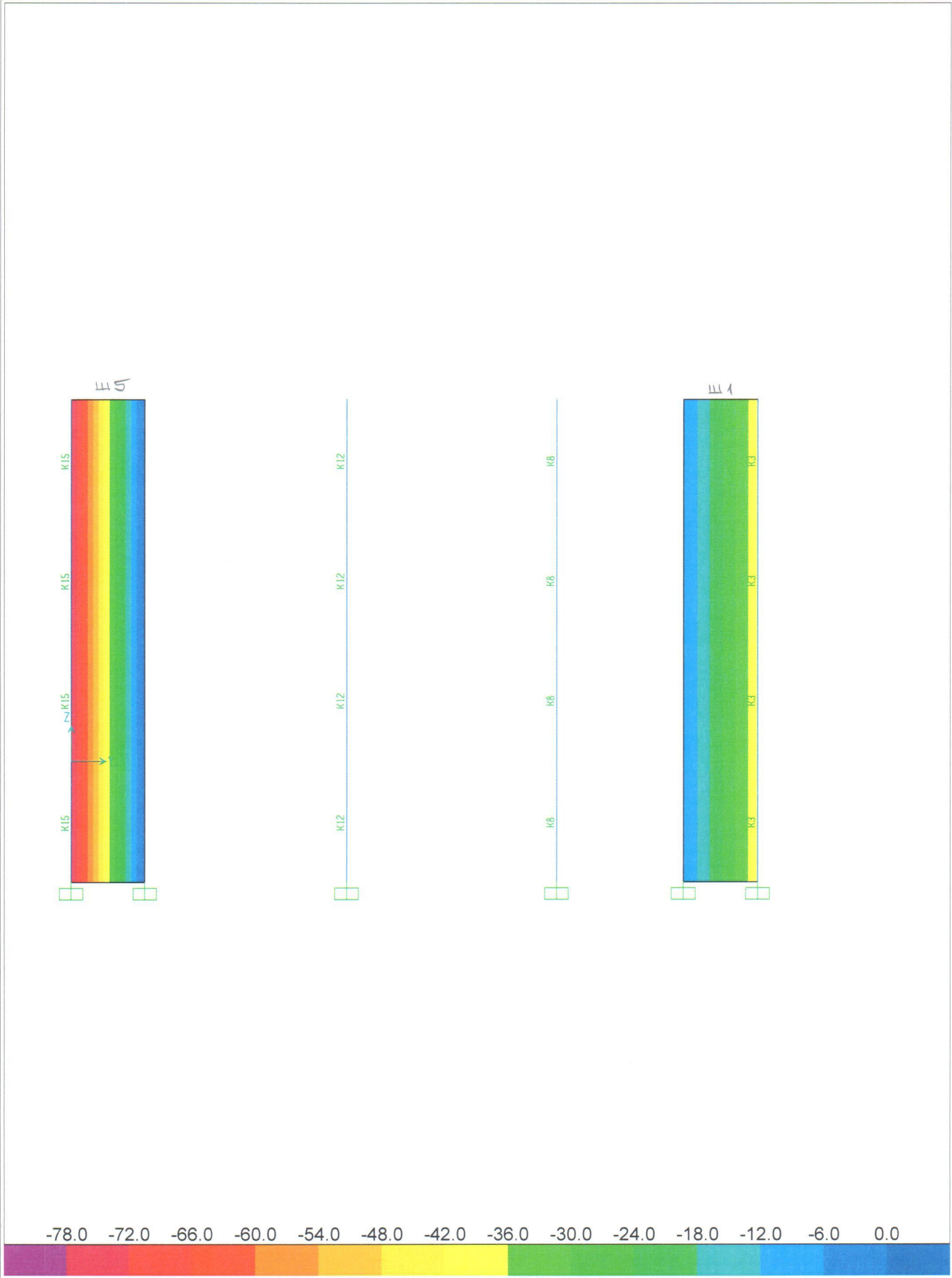
(*) NOTE: DYNAMIC LOAD PARTICIPATION RATIO EXCLUDES LOAD
APPLIED TO NON-MASS DEGREES OF FREEDOM

R E S P O N S E - S P E C T R U M A N A L Y S I S
19:49:40

CASE: ACASE1

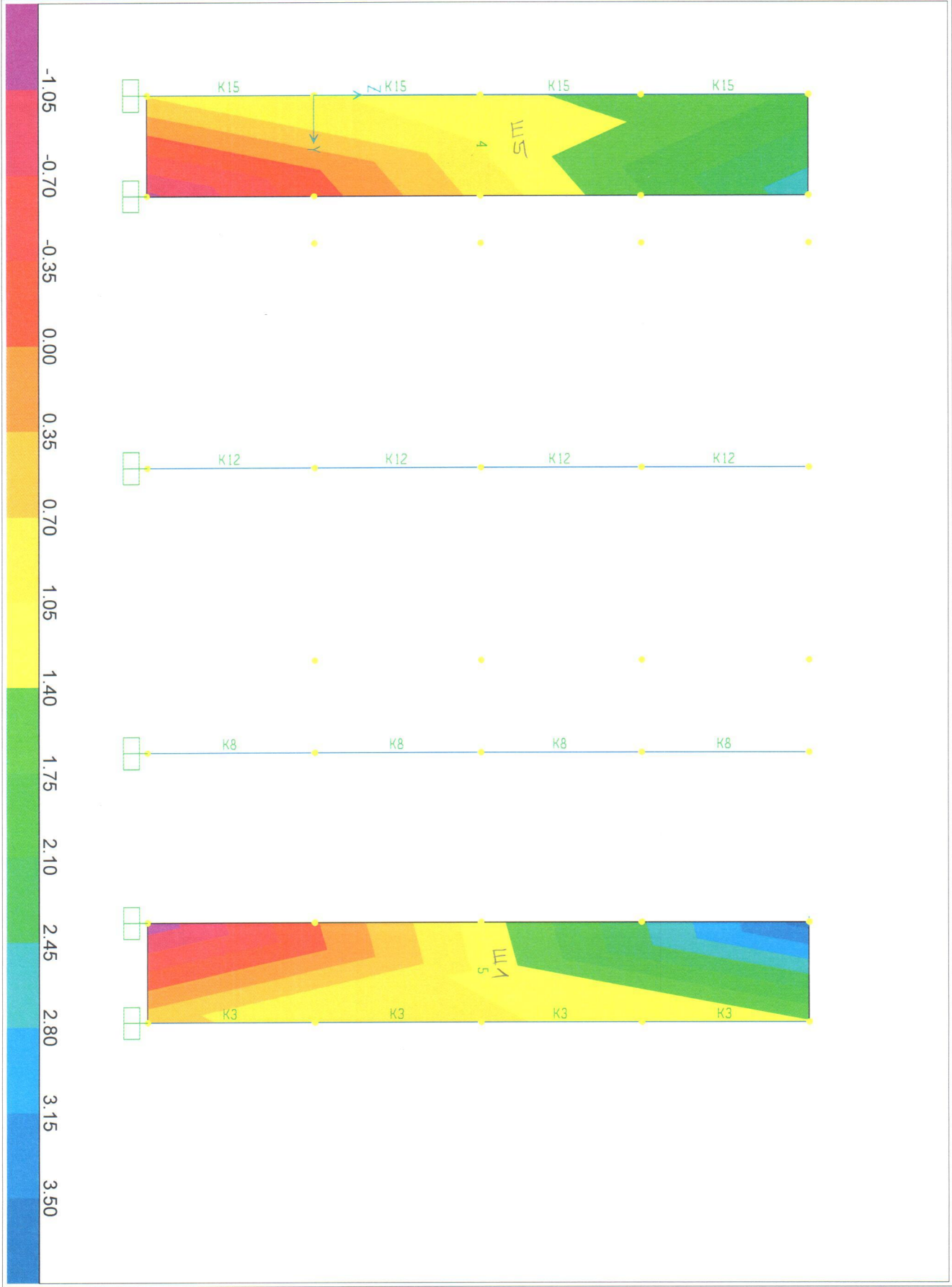
USING MODES FROM CASE: MODAL
NUMBER OF DYNAMIC MODES TO BE USED = 12

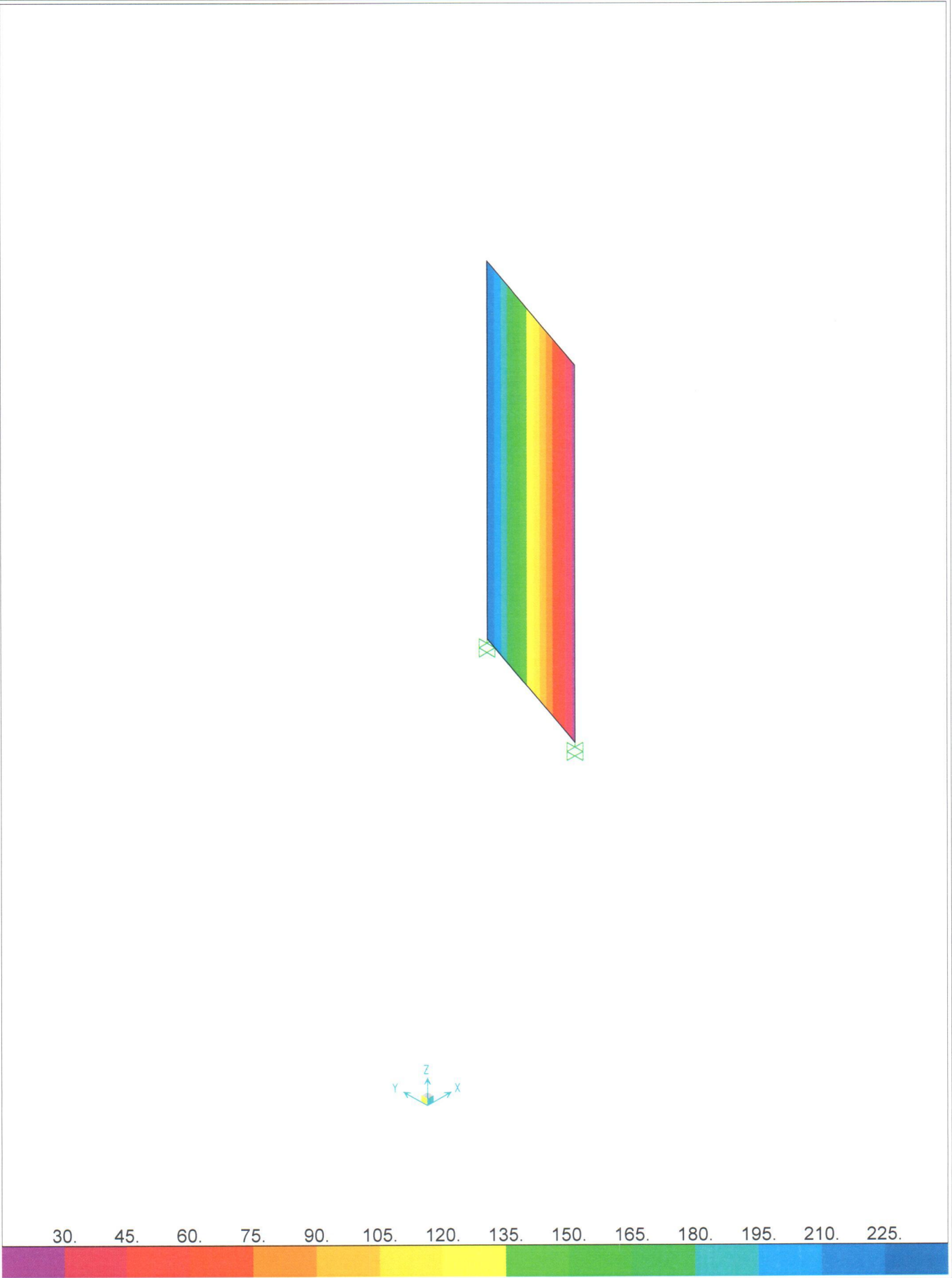
A N A L Y S I S C O M P L E T E
2014/03/20 19:49:40



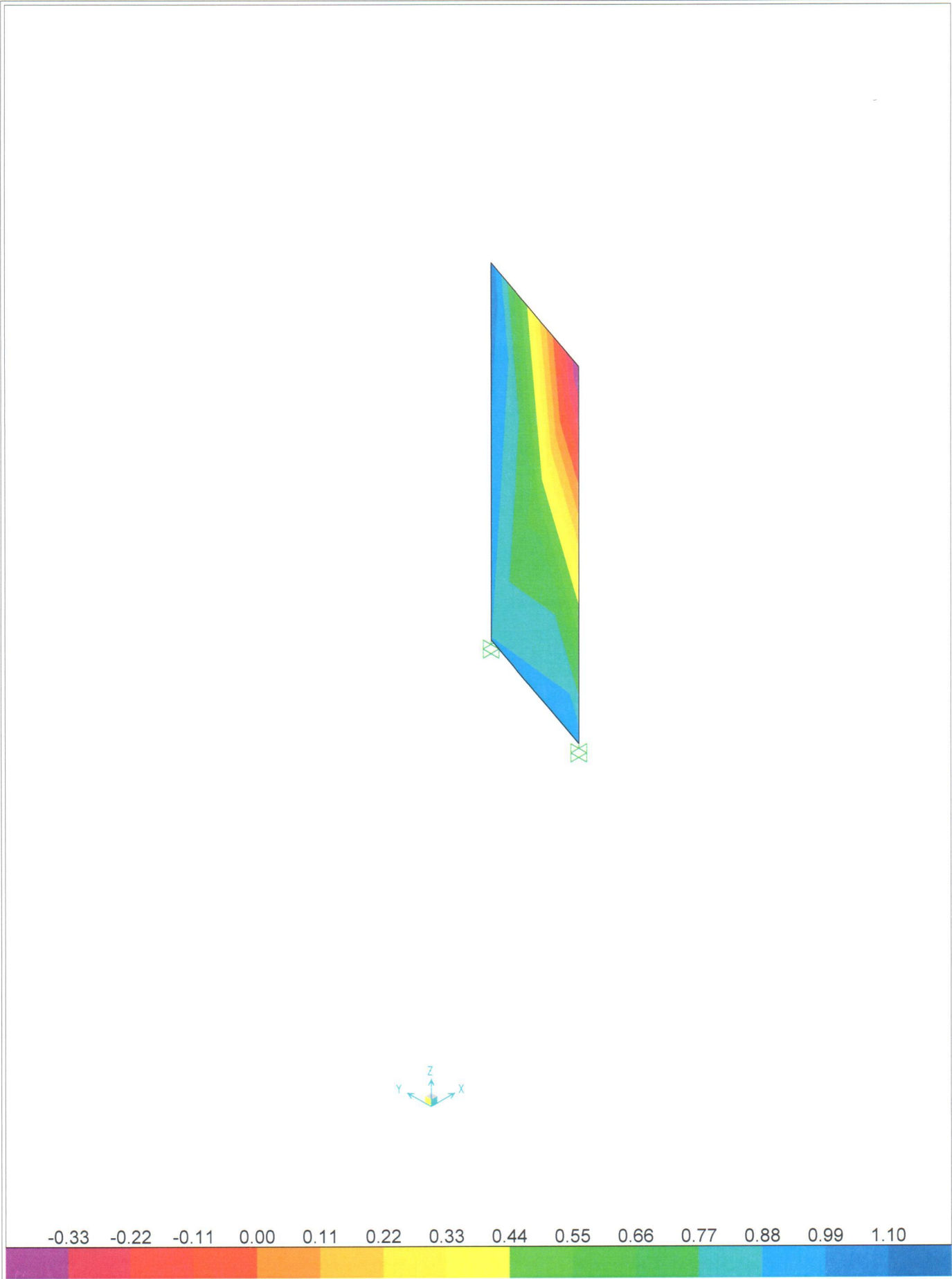
SAP2000 v8.3.3 - File:KARNOBAT - Resultant F22 Diagram (ULS) - KN, m, C Units



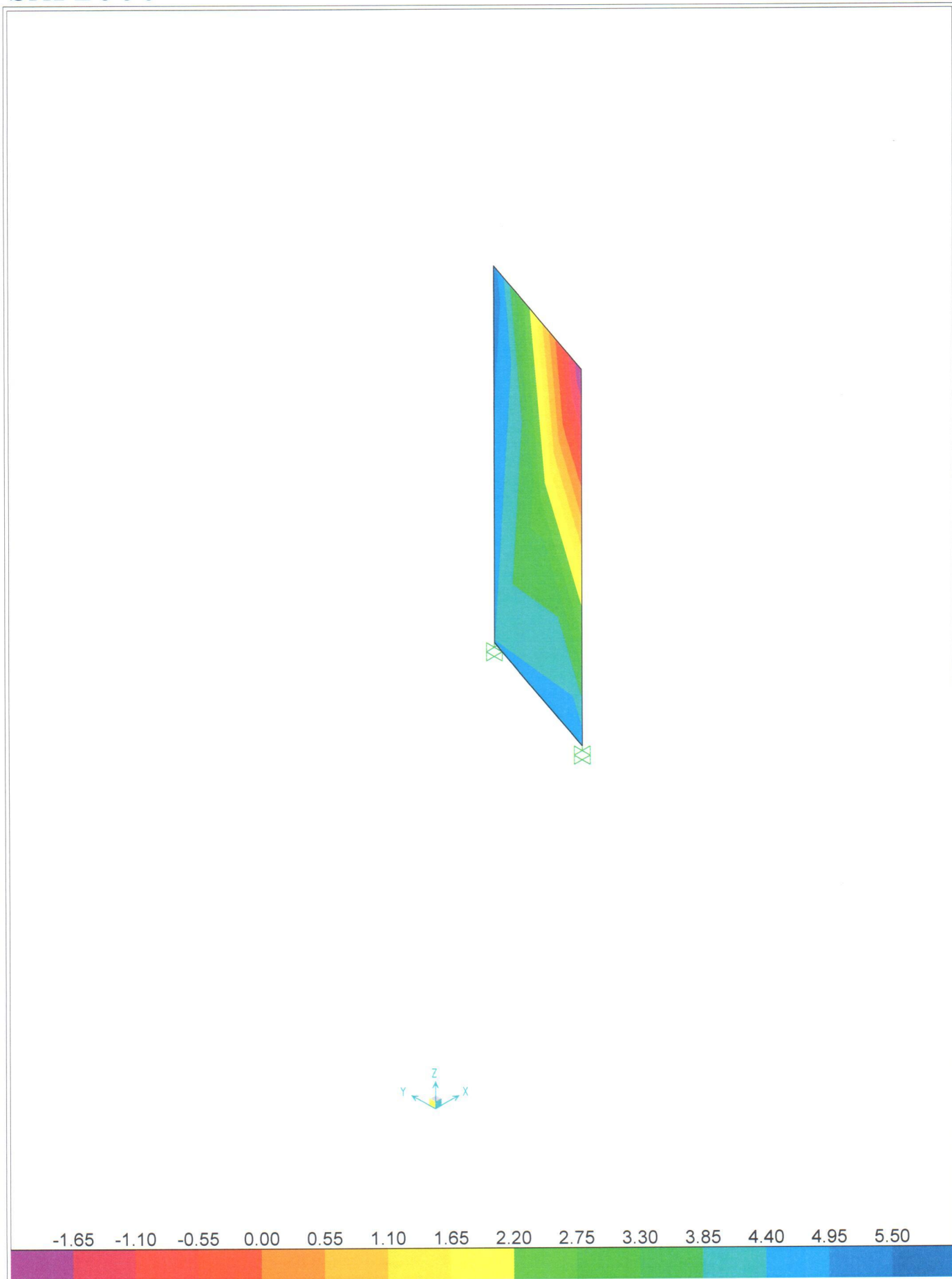




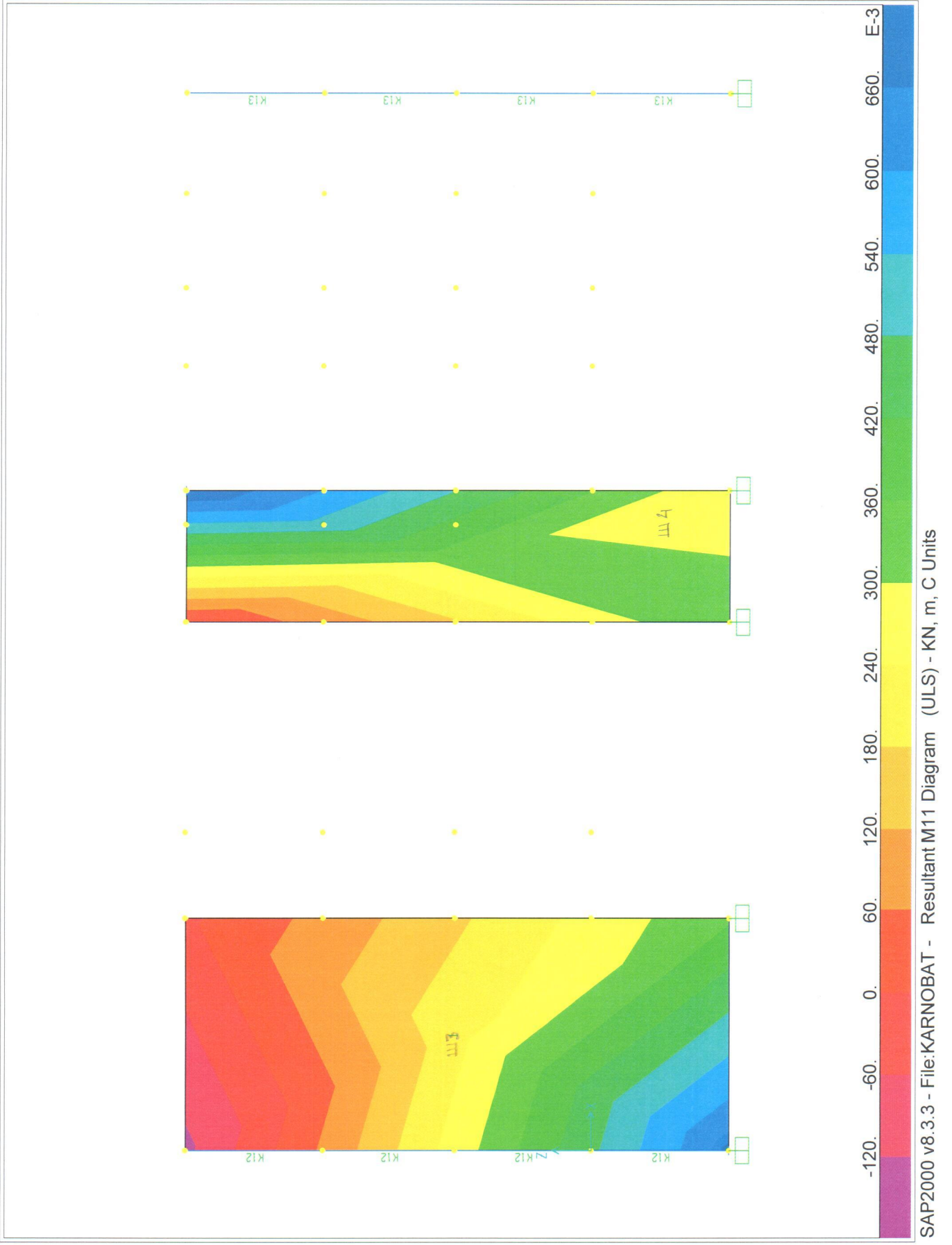
SAP2000 v8.3.3 - File:KARNOBAT - Resultant F22 Diagram (ULS) - KN, m, C Units

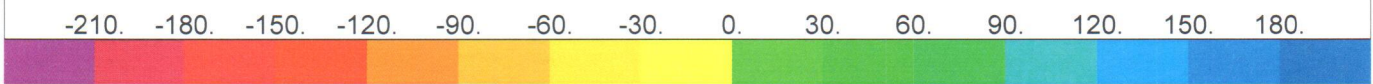
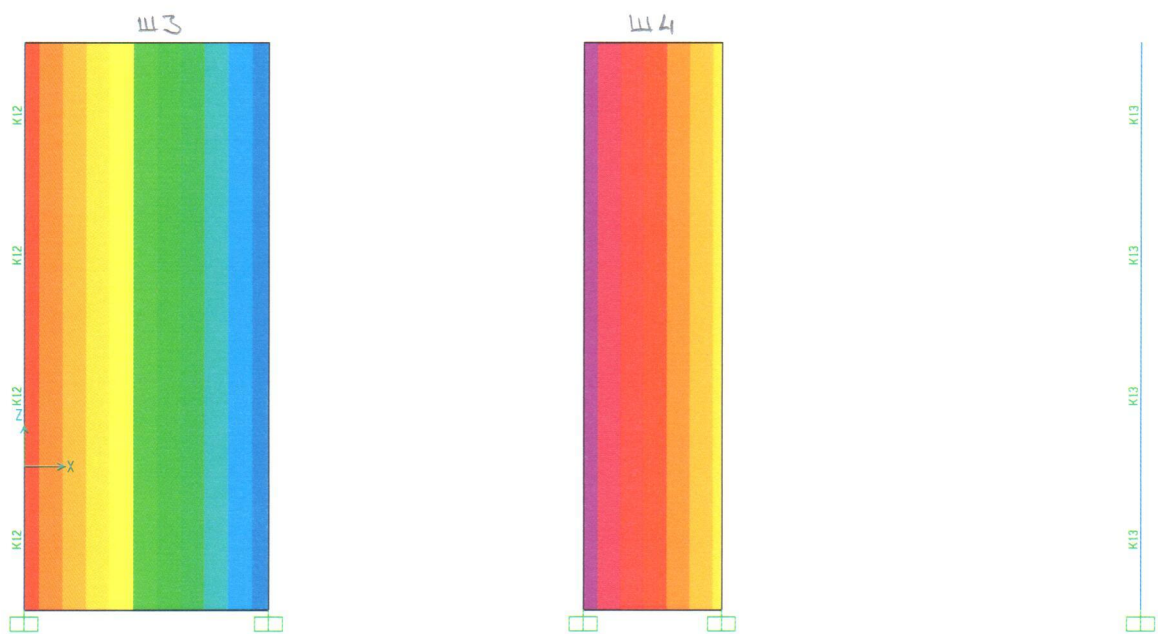


SAP2000 v8.3.3 - File:KARNOBAT - Resultant M11 Diagram (ULS) - KN, m, C Units



SAP2000 v8.3.3 - File:KARNOBAT - Resultant M22 Diagram (ULS) - KN, m, C Units





SAP2000 v8.3.3 - File:KARNOBAT - Resultant F22 Diagram (ULS) - KN, m, C Units



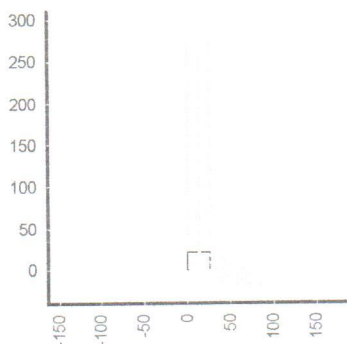
General

Design code: Eurocode 2
Analysis: Design section

Loads: N, Mx

N>0 is compression !

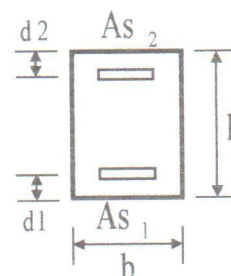
Section



Data [cm]

b = 25
h = 270

d1 = 2.5
d2 = 2.5



Materials

Concrete: C25/30
SSR: Parabolic - linear

fck = 2.50 kN/cm²
Ec = 2500.00 kN/cm²
ec2u = -3.500 o/oo
ec2 = -2.000 o/oo
n = 2.00

Reinforcing steel: S500
SSR: Standard

fyk = 50.00 kN/cm²
Es = 20000.00 kN/cm²
esu = 10.000 o/oo

Factors

Concrete: gama_c = 1.50
Steel: gama_s = 1.15

Reinforcement

Symmetric: As1=As2

Loads

Load	N [kN]	Mx [kNm]
L1	210	480

Solve data

II order moments - Yes Code Eurocode 2

Geometric length: Lo = 275.00 cm
Effective length: kx = 1.30 Lkx = 357.50 cm

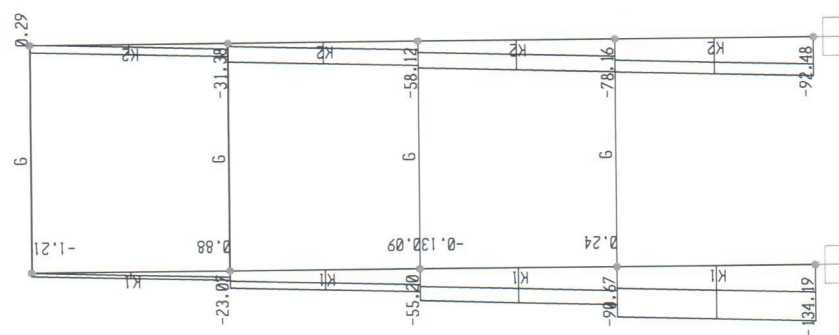


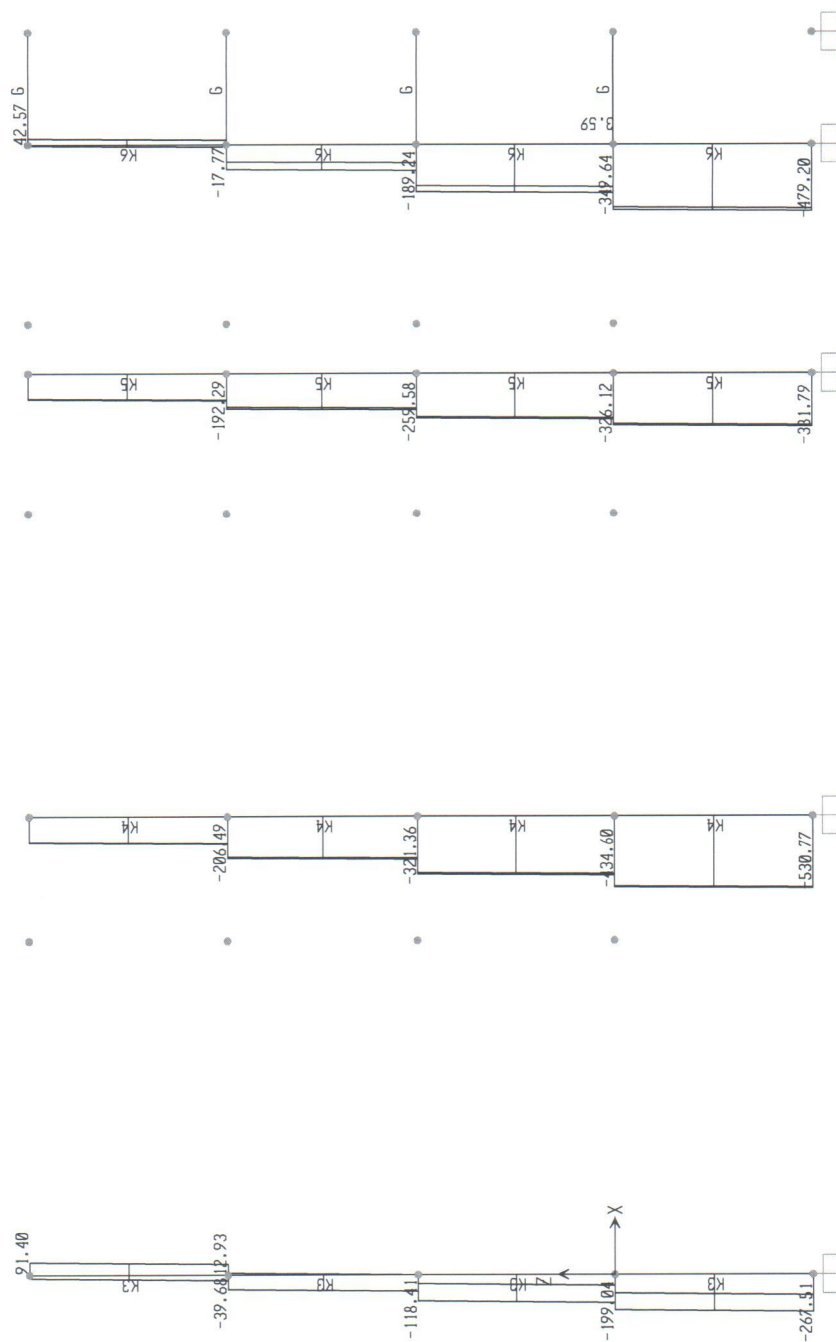
Results

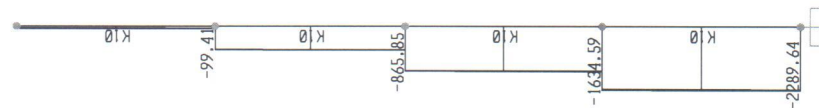
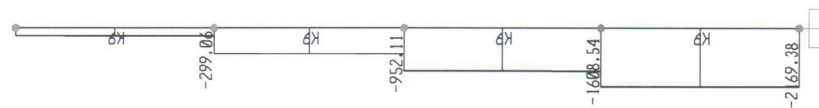
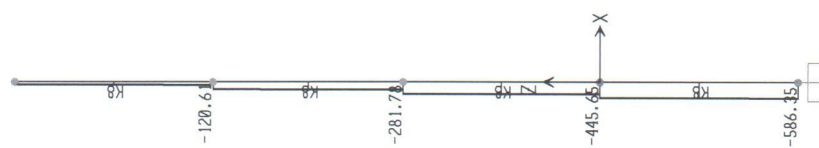
	Area [cm ²]	esi [o/oo]	Stress [kN/cm ²]
As2	2.11	10.000	43.48
As1	2.11	-0.751	-15.01

Concrete strain: $\epsilon_{c,min} = -0.852$ o/oo
Compressive zone depth: $x = 21.00$ cm

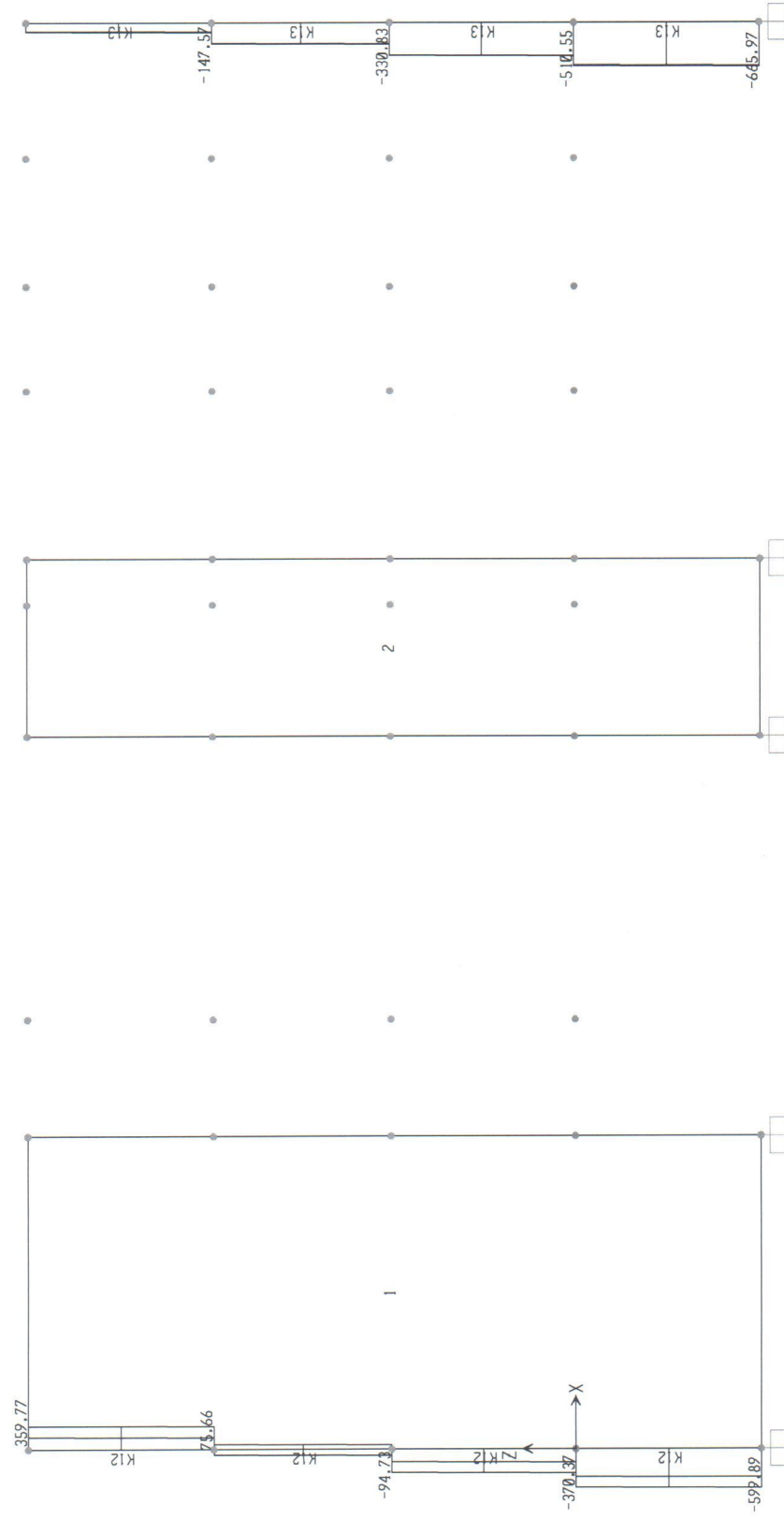
Total reinf. area: $A_{s,tot} = 4.22$ cm²
Reinf. ratio: 0.06 %
work





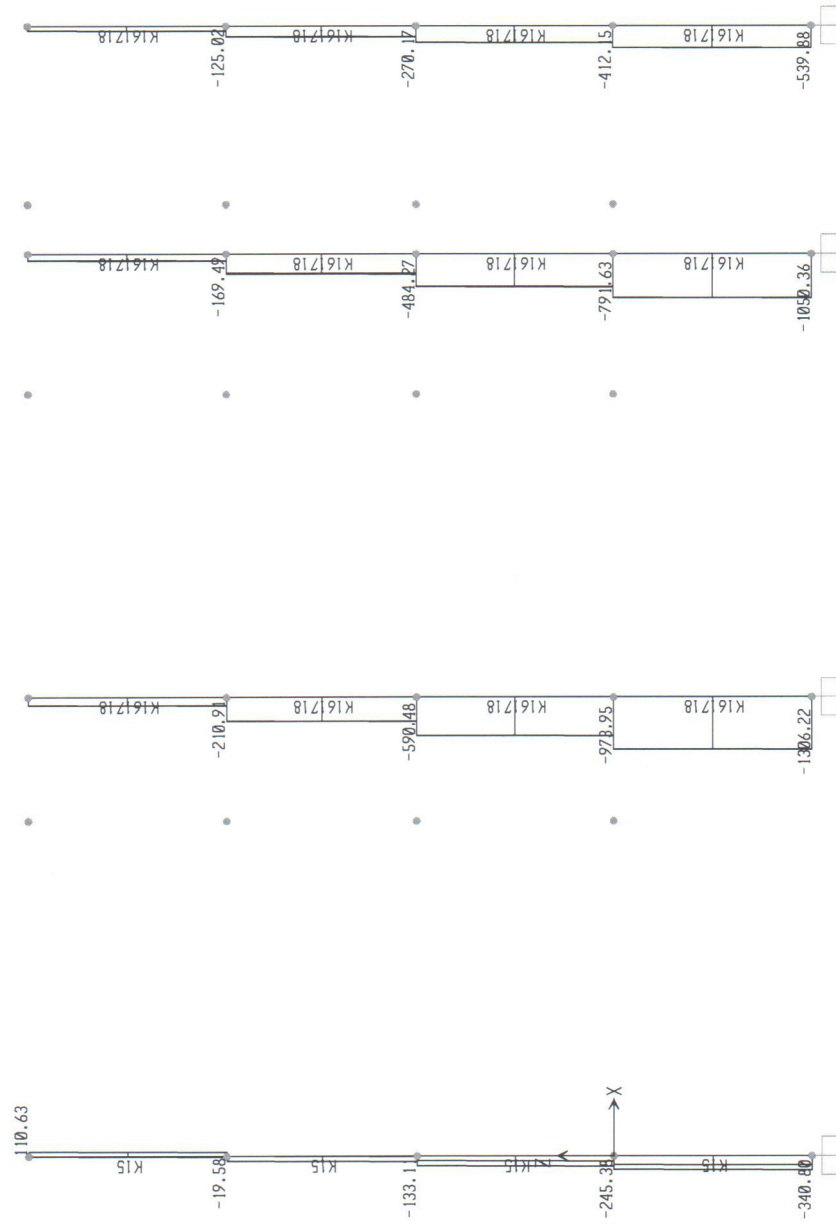


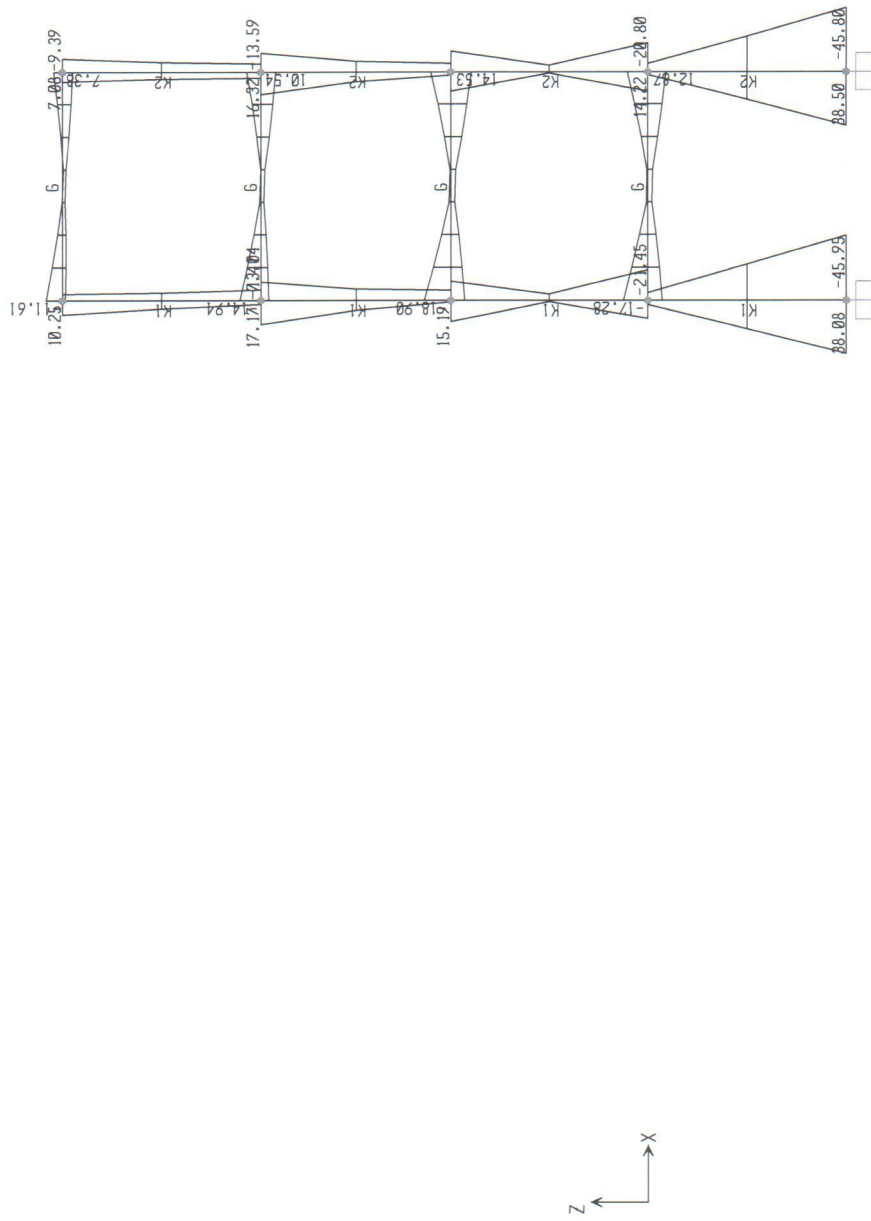


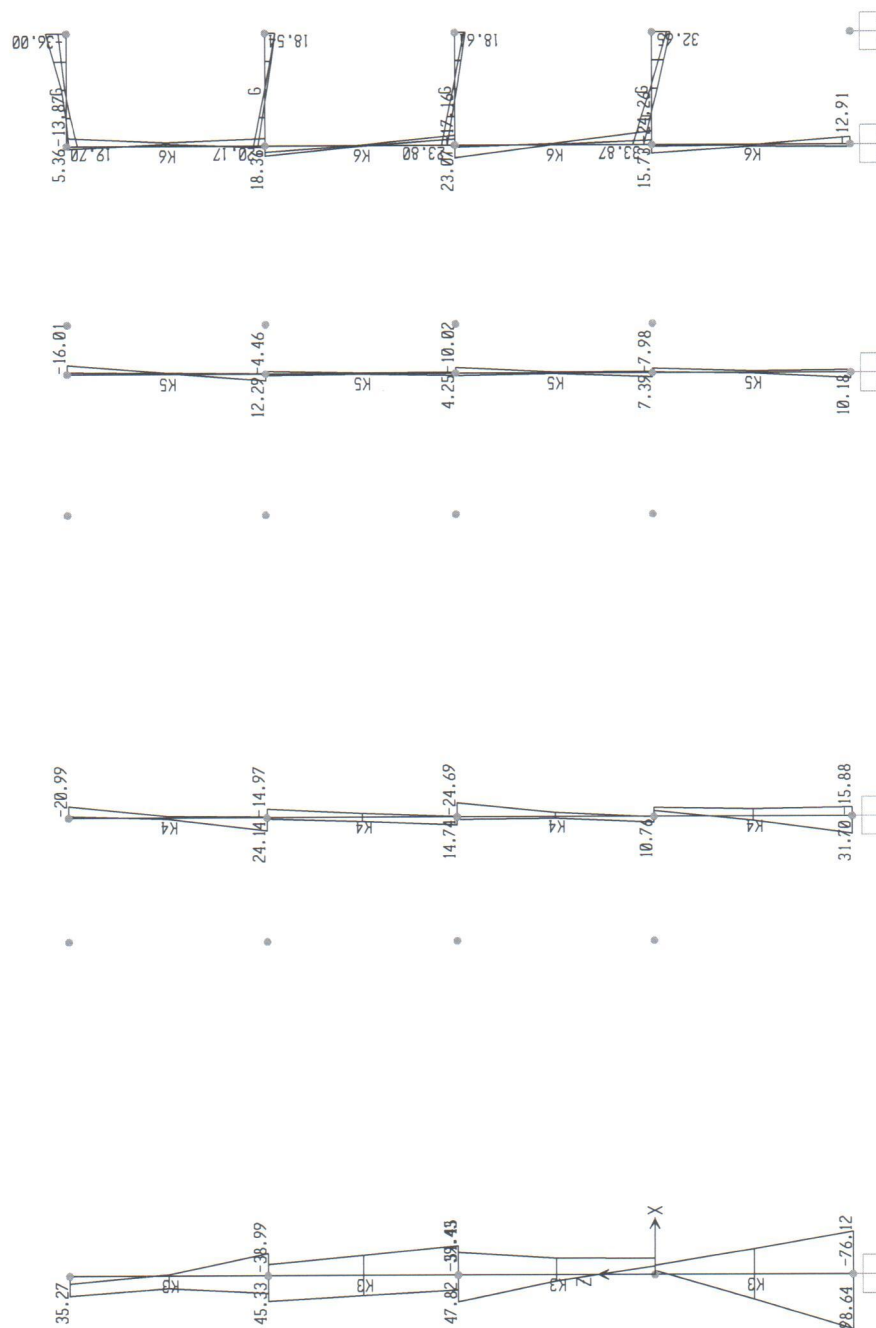




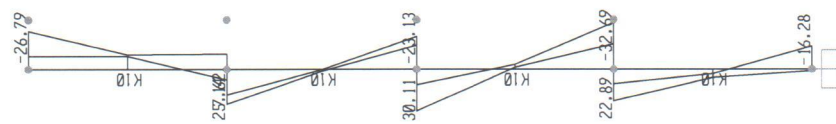
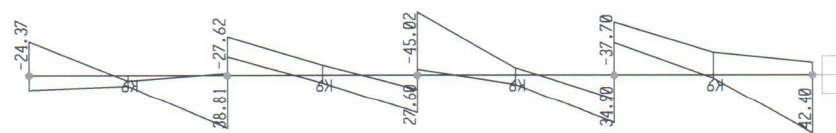
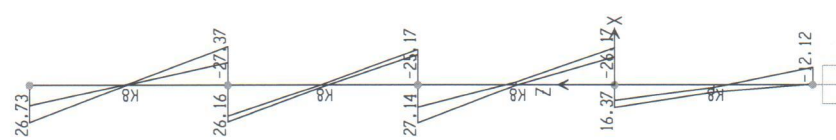




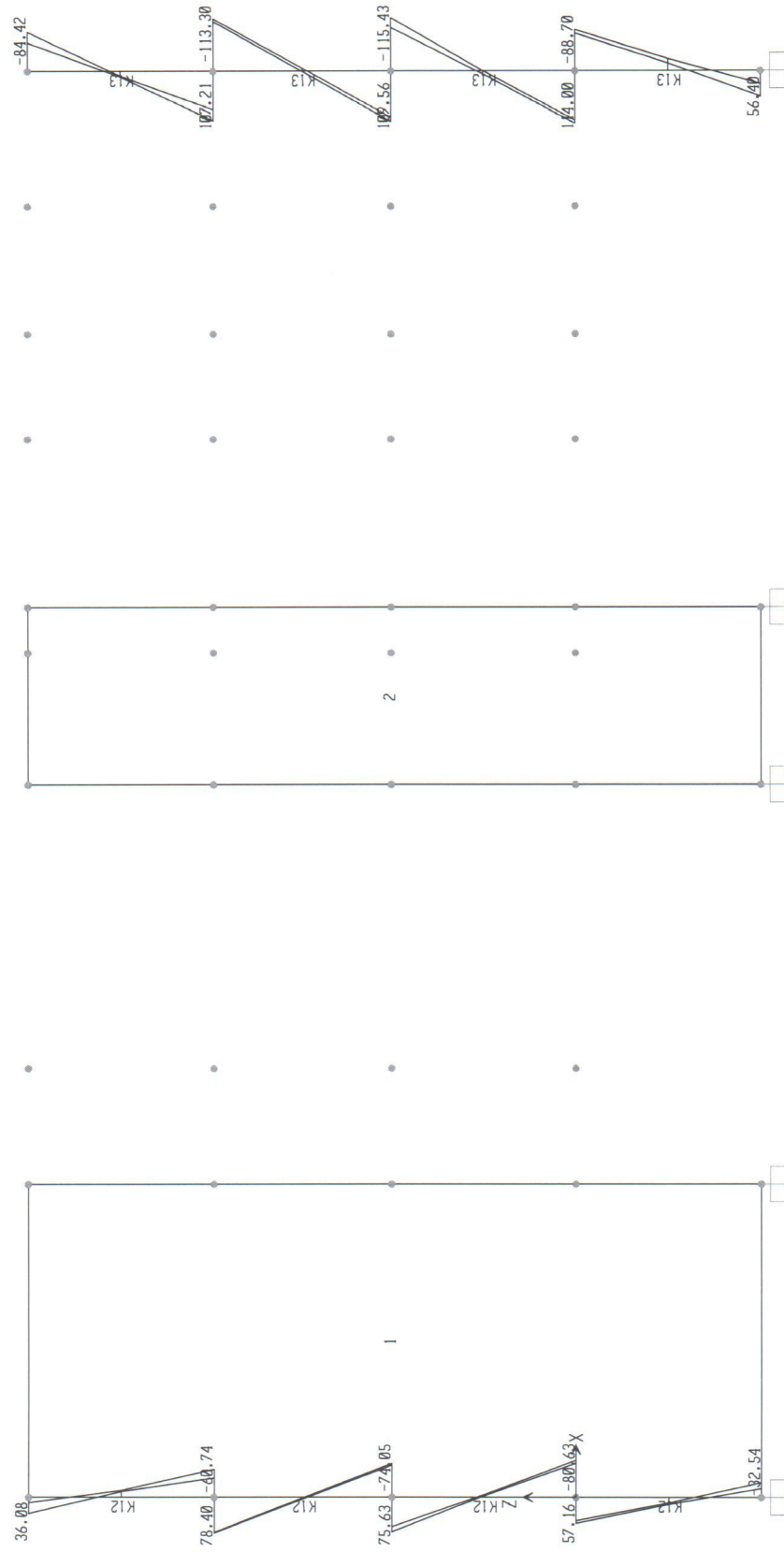




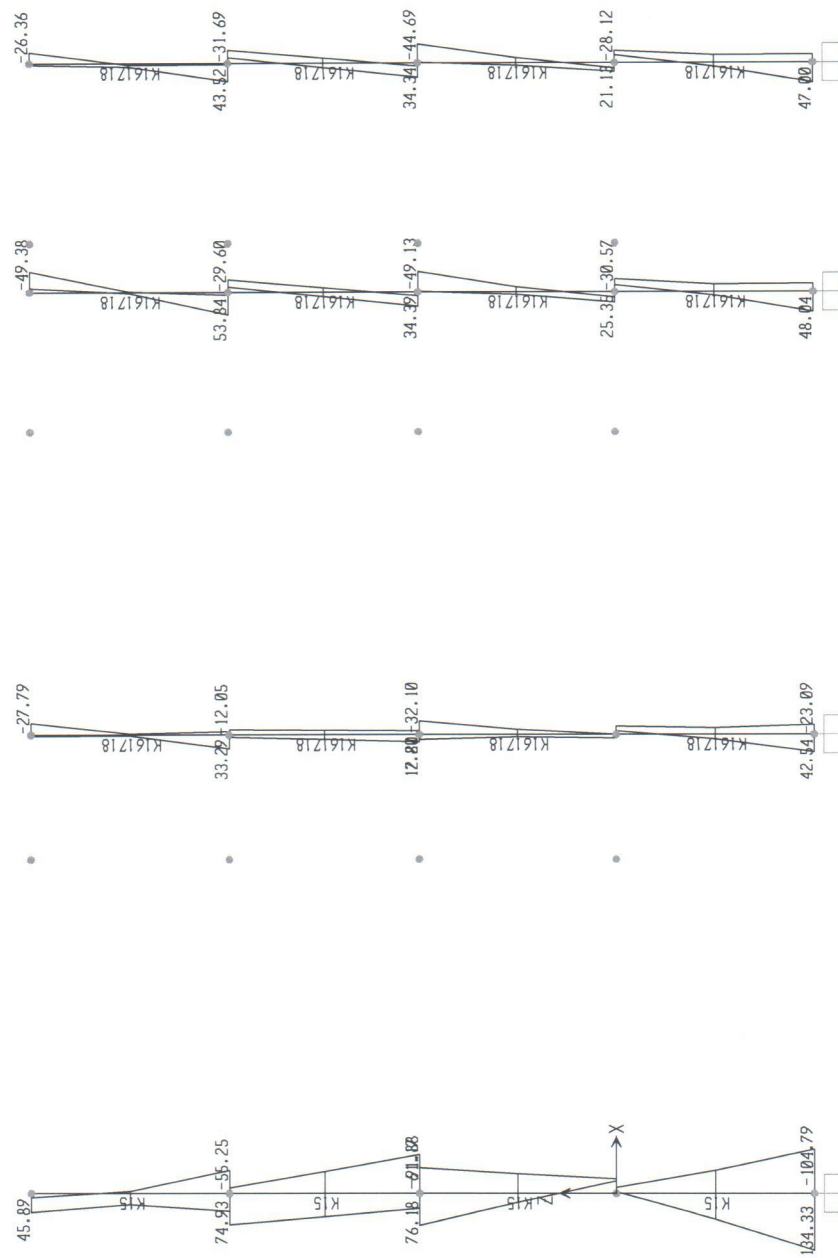


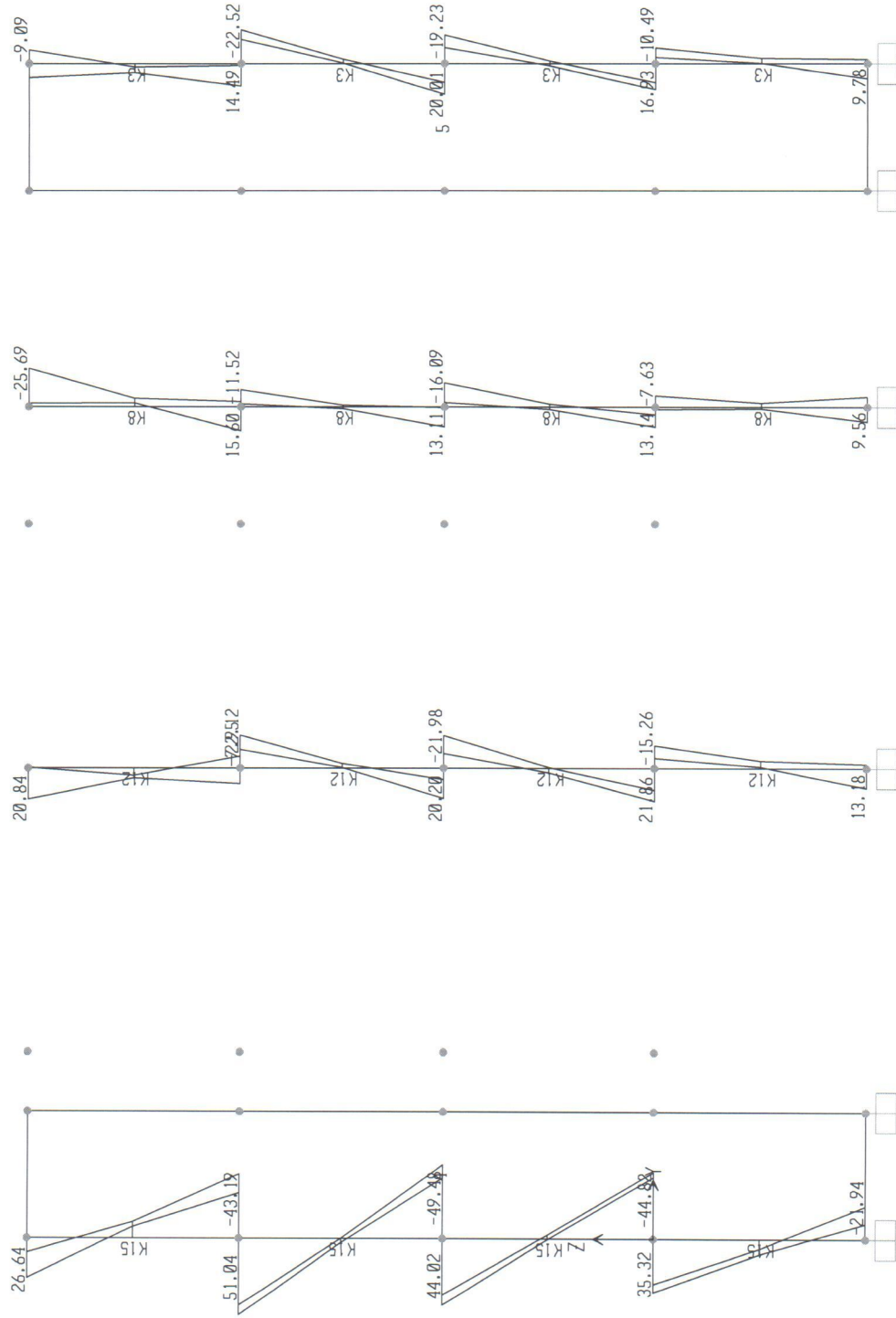


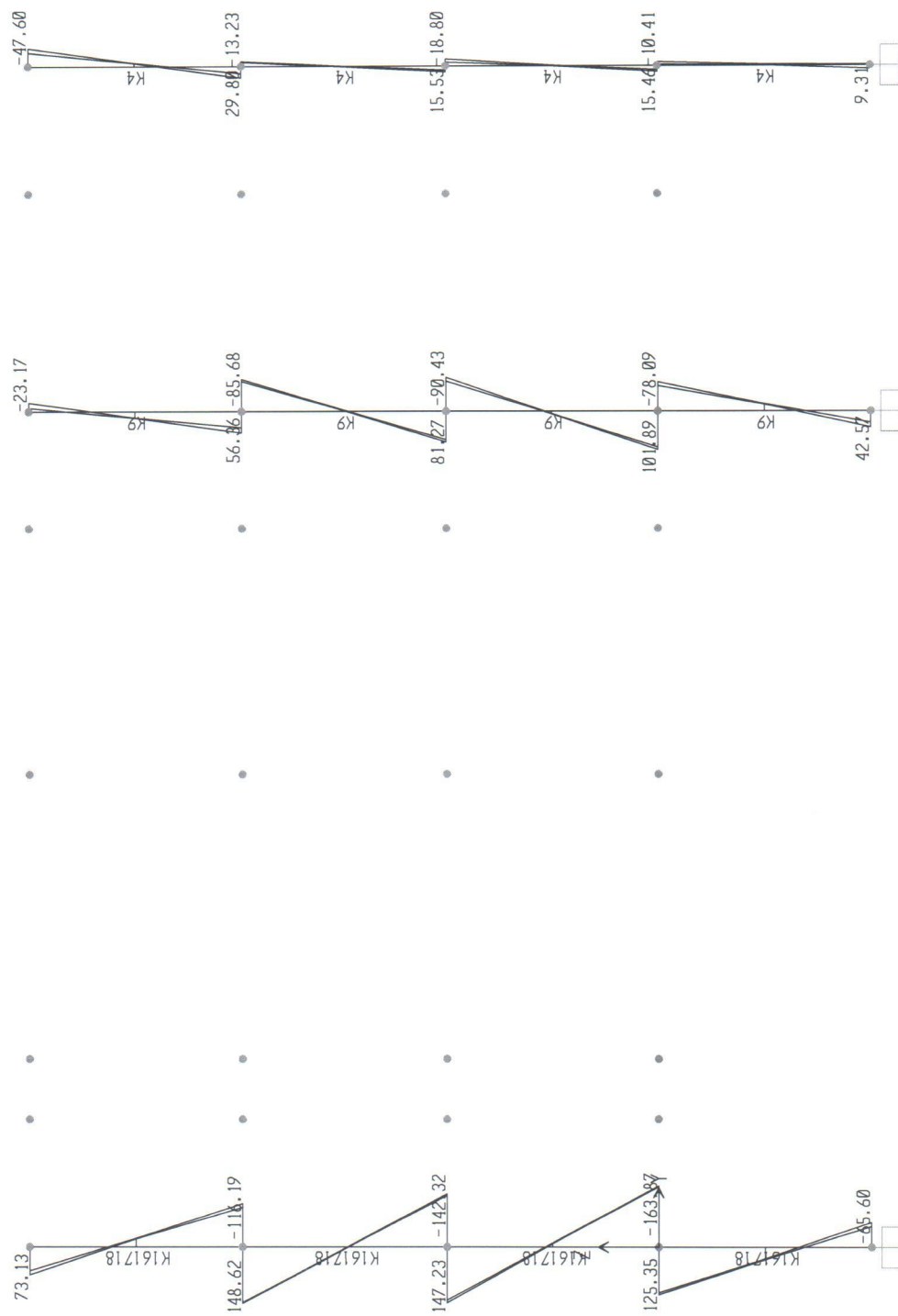


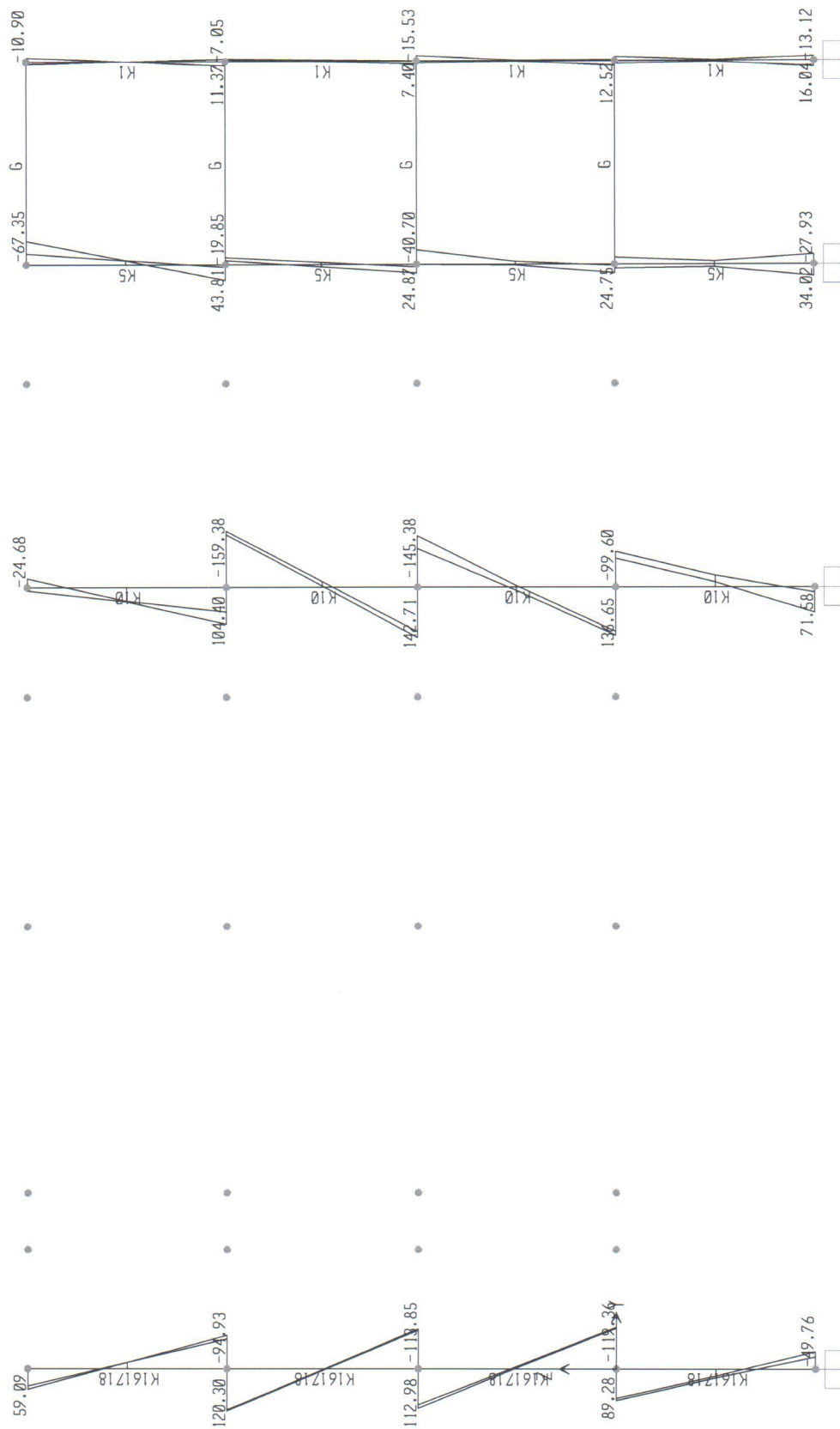




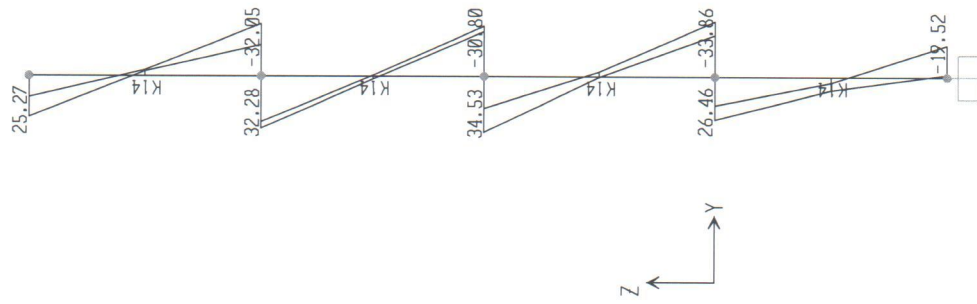


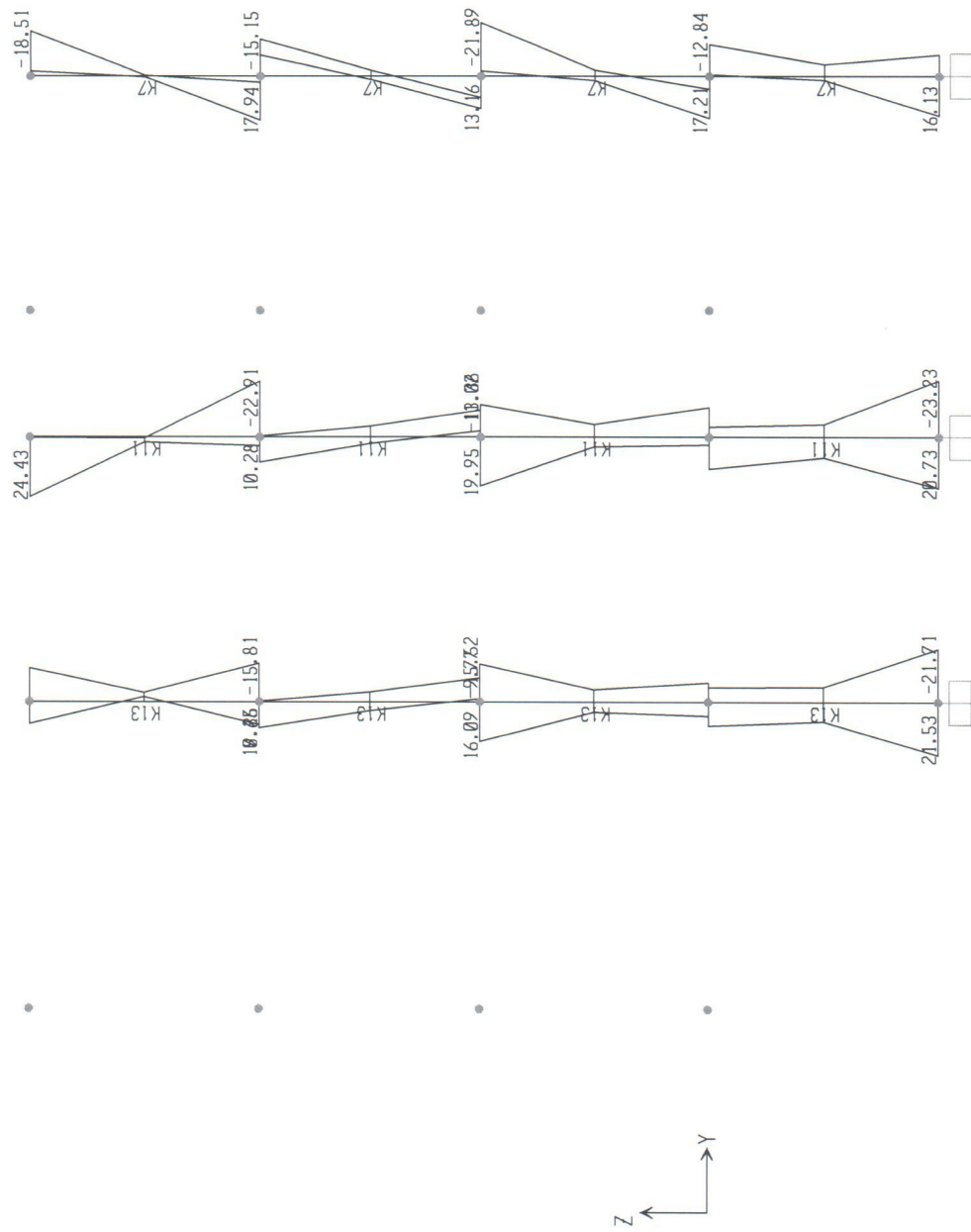














K01.8 u 12

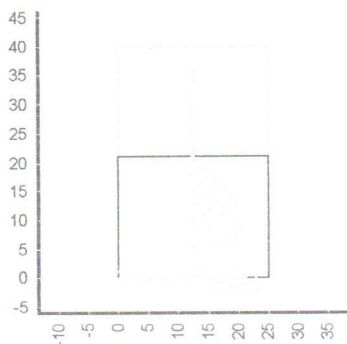
General

Design code: Eurocode 2
Analysis: Design section

Loads: N, Mx

N>0 is compression !

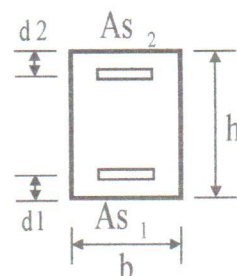
Section



Data [cm]

b = 25
h = 40

d1 = 2.5
d2 = 2.5



Materials

Concrete: C25/30
SSR: Parabolic - linear

fck = 2.50 kN/cm²
Ec = 2500.00 kN/cm²
ec2u = -3.500 o/oo
ec2 = -2.000 o/oo
n = 2.00

Reinforcing steel: S500
SSR: Standard

fyk = 50.00 kN/cm²
Es = 20000.00 kN/cm²
esu = 10.000 o/oo

Factors

Concrete: gama_c = 1.50
Steel: gama_s = 1.15

Reinforcement

Symmetric: As1=As2

Loads

Load	N [kN]	Mx [kNm]
L1	600	80.6

Solve data

II order moments - Yes Code Eurocode 2

Geometric length: Lo = 275.00 cm
Effective length: kx = 1.30 Lkx = 357.50 cm



Results

	Area [cm ²]	esi [o/oo]	Stress [kN/cm ²]
As2	1.88	2.744	43.48
As1	1.88	-3.084	-43.48

Concrete strain: $\epsilon_{c,min} = -3.500$ o/oo
Compressive zone depth: $x = 21.02$ cm

Total reinf. area: $A_{s,tot} = 3.77$ cm²
Reinf. ratio: 0.38 %



K 9

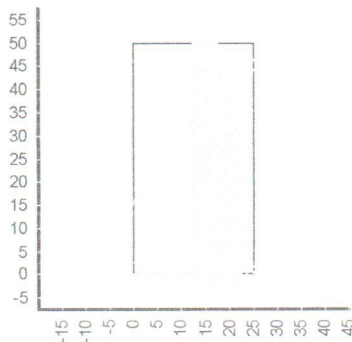
General

Design code: Eurocode 2
Analysis: Design section

Loads: N, M_x

$N > 0$ is compression !

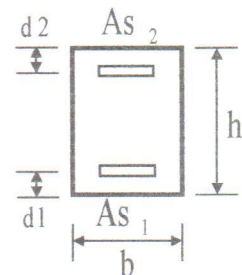
Section



Data [cm]

$b = 25$
 $h = 50$

$d1 = 2.5$
 $d2 = 2.5$



Materials

Concrete: C25/30
SSR: Parabolic - linear

$f_{ck} = 2.50 \text{ kN/cm}^2$
 $E_c = 2500.00 \text{ kN/cm}^2$
 $ec2u = -3.500 \text{ o/oo}$
 $ec2 = -2.000 \text{ o/oo}$
 $n = 2.00$

Reinforcing steel: S500
SSR: Standard

$f_{yk} = 50.00 \text{ kN/cm}^2$
 $E_s = 20000.00 \text{ kN/cm}^2$
 $esu = 10.000 \text{ o/oo}$

Factors

Concrete: $\gamma_{ac} = 1.50$
Steel: $\gamma_{as} = 1.15$

Reinforcement

Symmetric: $As1 = As2$

Loads

Load	N [kN]	M_x [kNm]
L1	2170	42.4

Solve data

II order moments - Yes Code Eurocode 2

Geometric length: $L_o = 275.00 \text{ cm}$
Effective length: $k_x = 1.30$ $L_{kx} = 357.50 \text{ cm}$



Results

	Area [cm ²]	esi [o/oo]	Stress [kN/cm ²]
As2	10.33	-0.720	-14.40
As1	10.33	-2.769	-43.48

Concrete strain: $\epsilon_{c,min} = -2.883$ o/oo
Compressive zone depth: $x = 50.00$ cm

Total reinf. area: $A_{s,tot} = 20.66$ cm²
Reinf. ratio: 1.65 %



K10

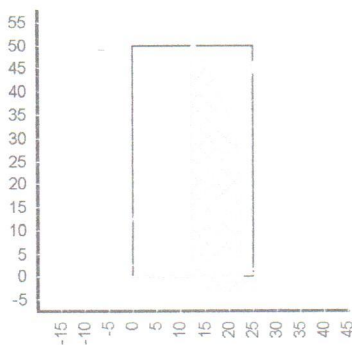
General

Design code: Eurocode 2
Analysis: Design section

Loads: N, Mx

N>0 is compression !

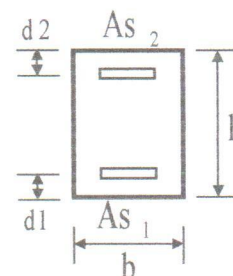
Section



Data [cm]

b = 25
h = 50

d1 = 2.5
d2 = 2.5



Materials

Concrete: C25/30
SSR: Parabolic - linear

$f_{ck} = 2.50 \text{ kN/cm}^2$
 $E_c = 2500.00 \text{ kN/cm}^2$
 $ec2u = -3.500 \text{ o/oo}$
 $ec2 = -2.000 \text{ o/oo}$
 $n = 2.00$

Reinforcing steel: S500
SSR: Standard

$f_{yk} = 50.00 \text{ kN/cm}^2$
 $E_s = 20000.00 \text{ kN/cm}^2$
 $esu = 10.000 \text{ o/oo}$

Factors

Concrete: $\gamma_{ac} = 1.50$
Steel: $\gamma_{as} = 1.15$

Reinforcement

Symmetric: $As1 = As2$

Loads

Load	N [kN]	Mx [kNm]
L1	2290	163

Solve data

II order moments - Yes Code Eurocode 2

Geometric length: $L_o = 275.00 \text{ cm}$
Effective length: $k_x = 1.30$ $L_{kx} = 357.50 \text{ cm}$



Results

	Area [cm2]	esi [o/oo]	Stress [kN/cm2]
As2	18.74	-0.211	-4.22
As1	18.74	-3.075	-43.48

Concrete strain: $\epsilon_{c,min} = -3.234$ o/oo
Compressive zone depth: $x = 50.00$ cm

Total reinf. area: $A_{s,tot} = 37.48$ cm2
Reinf. ratio: 3.00 %



K15

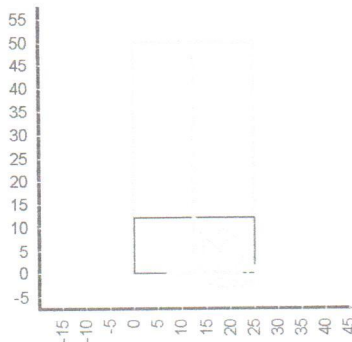
General

Design code: Eurocode 2
Analysis: Design section

Loads: N, M_x

$N > 0$ is compression !

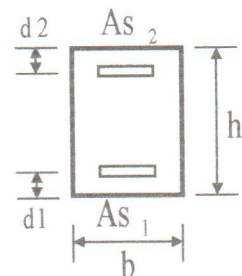
Section



Data [cm]

$b = 25$
 $h = 50$

$d1 = 2.5$
 $d2 = 2.5$



Materials

Concrete: C25/30
SSR: Parabolic - linear

$f_{ck} = 2.50 \text{ kN/cm}^2$
 $E_c = 2500.00 \text{ kN/cm}^2$
 $ec2u = -3.500 \text{ o/oo}$
 $ec2 = -2.000 \text{ o/oo}$
 $n = 2.00$

Reinforcing steel: S500
SSR: Standard

$f_{yk} = 50.00 \text{ kN/cm}^2$
 $E_s = 20000.00 \text{ kN/cm}^2$
 $esu = 10.000 \text{ o/oo}$

Factors

Concrete: $\gamma_{ac} = 1.50$
Steel: $\gamma_{as} = 1.15$

Reinforcement

Symmetric: $As1 = As2$

Loads

Load	N [kN]	M_x [kNm]
L1	340	184

Solve data

II order moments - Yes Code Eurocode 2

Geometric length: $L_o = 275.00 \text{ cm}$
Effective length: $k_x = 1.30$ $L_{kx} = 357.50 \text{ cm}$



Results

	Area [cm ²]	esi [o/oo]	Stress [kN/cm ²]
As2	6.39	10.000	43.48
As1	6.39	-2.751	-43.48

Concrete strain: $\epsilon_{c,min} = -3.459$ o/oo
Compressive zone depth: $x = 12.21$ cm

Total reinf. area: $A_{s,tot} = 12.77$ cm²
Reinf. ratio: 1.02 %



K 13

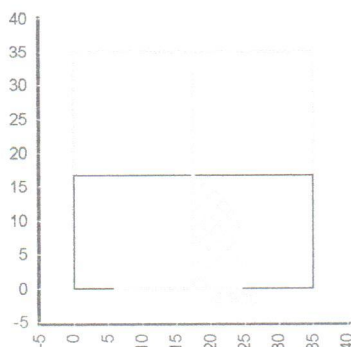
General

Design code: Eurocode 2
Analysis: Design section

Loads: N, Mx

N>0 is compression !

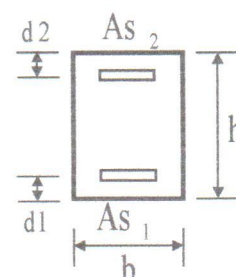
Section



Data [cm]

b = 35
h = 35

d1 = 2.5
d2 = 2.5



Materials

Concrete: C25/30
SSR: Parabolic - linear

Reinforcing steel: S500
SSR: Standard

fck = 2.50 kN/cm²
Ec = 2500.00 kN/cm²
ec2u = -3.500 o/oo
ec2 = -2.000 o/oo
n = 2.00

fyk = 50.00 kN/cm²
Es = 20000.00 kN/cm²
esu = 10.000 o/oo

Factors

Concrete: gama_c = 1.50
Steel: gama_s = 1.15

Reinforcement

Symmetric: As1=As2

Loads

Load	N [kN]	Mx [kNm]
L1	665	114

Solve data

II order moments - Yes Code Eurocode 2

Geometric length: Lo = 275.00 cm
Effective length: kx = 1.30 Lkx = 357.50 cm



Results

	Area [cm ²]	esi [o/oo]	Stress [kN/cm ²]
As2	4.96	3.294	43.48
As1	4.96	-2.977	-43.48

Concrete strain: $\epsilon_{c,min} = -3.500$ o/oo
Compressive zone depth: $x = 16.74$ cm

Total reinf. area: $A_{s,tot} = 9.92$ cm²
Reinf. ratio: 0.81 %



K 11

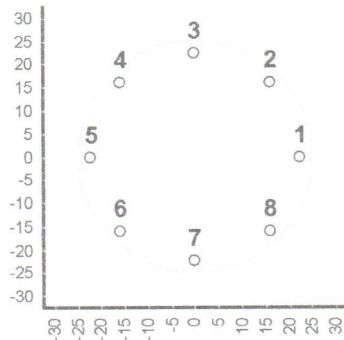
General

Design code: Eurocode 2
Analysis: Design section

Loads: N, Mx

N>0 is compression !

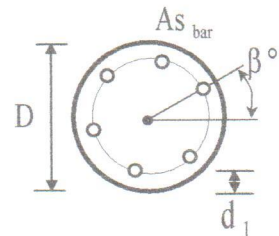
Section



Data [cm]

D = 50

d1 = 2.5



Materials

Concrete: C25/30
SSR: Parabolic - linear

Reinforcing steel: S500
SSR: Standard

fck = 2.50 kN/cm²
Ec = 2500.00 kN/cm²
ec2u = -3.500 o/oo
ec2 = -2.000 o/oo
n = 2.00

fyk = 50.00 kN/cm²
Es = 20000.00 kN/cm²
esu = 10.000 o/oo

Factors

Concrete: gama_c = 1.50
Steel: gama_s = 1.15

Reinforcement

Bars = 8
beta = 0.00 deg

Loads

Load	N [kN]	Mx [kNm]
L1	760	112

Solve data

II order moments - Yes Code Eurocode 2
Geometric length: Lo = 275.00 cm
Effective length: kx = 1.30 Lkx = 357.50 cm

Results

Bar	Asi [cm ²]	esi [o/oo]	Stress [kN/cm ²]
-----	------------------------	------------	------------------------------



1	0.00	-1.121	-22.42
2	0.00	0.393	7.86
3	0.00	1.020	20.41
4	0.00	0.393	7.86
5	0.00	-1.121	-22.42
6	0.00	-2.635	-43.48
7	0.00	-3.262	-43.48
8	0.00	-2.635	-43.48

Concrete strain: $\epsilon_{c,min} = -3.500 \text{ o/oo}$
Compressive zone depth: $x = 36.78 \text{ cm}$

Total reinf. area: $A_{s,tot} = 0.00 \text{ cm}^2$
Reinf. ratio: 0.00%

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* П Л О Ч И

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СТАТИЧЕСКОТО РЕШЕНИЕ НА ПЛОЧАТА СЕ ИЗВЪРШВА С П
✱
КРАЙНИ ЕЛЕМЕНТИ С 12 И 24 СТЕПЕНИ НА СВОБОДА.

ПРИ ФУНДАМЕНТНИ ПЛОЧИ МОДЕЛЪТ НА ЗЕМНАТА ОСН
*
ХИПОТЕЗАТА НА ВИНКЛЕР.

ЕТАЖНИТЕ ПЛОЧИ СЕ РЕШАВАТ ПРИ ПРОИЗВОЛНИ ПОДПОРИ

ОРАЗМЕРЯВАНЕТО НА ПЛОЧАТА СЕ ИЗВЪРШВА ЗА
*
ОГЪВАЩИТЕ И УСУКВАЩИ МОМЕНТИ.

ПРОГРАМАТА Е ПРЕДНАЗНАЧЕНА ЗА 16 БИТОВ ПЕ

СЪЗДАДЕНА Е В ЦЕССИ ПРЕЗ 1987

komat 1000

W1 ДАННИ ЗА ГЕОМЕТРИЯТА НА ПЛОЧАТА

РАЗМЕР НА ПЛОЧАТА ПО ОС X..... 22.63 m.
 РАЗМЕР НА ПЛОЧАТА ПО ОС Y..... 15.94 m.
 ДЕБЕЛИНА НА ПЛОЧАТА..... 0.18 m.
 НАЧАЛНА СЪПКА НА ДЕЛЕНЕ НА ПЛОЧАТА..... 0.05 m
 За статическото решение на плочата се използват крайни елементи с 12 степени на свобода

W1 чупки и отвори в плочата

правоъгълна област ограничена с линиите:			
абсциса ляв ръб (m)	абсциса десен ръб (m)	ордината долен ръб (m)	ордината горен ръб (m)
17.14	19.65	0.00	1.66
19.65	20.82	0.00	6.13
20.82	22.02	0.00	9.42
22.02	22.63	0.00	11.15
12.57	22.63	14.98	15.94

W1 ДАННИ ЗА ПОДПИРАНЕ НА ПЛОЧАТА

W1 данни за линейно подпирание по ос X

ордината на линията (m)	начална абсциса (m)	крайна абсциса (m)	вид подпирание	
			свободно	запъване
0.15	0.00	17.14	свободно	
1.60	17.14	19.65		
6.28	19.65	20.82		
9.57	20.82	22.02		
11.65	22.02	22.63		
14.82	12.57	22.63		
15.80	0.00	12.57		
6.42	0.00	4.32		
6.42	10.45	13.15		

W1 данни за линейно подпирание по ос Y

абсциса на линията (m)	начална ордината (m)	крайна ордината (m)	вид подпирание	
			свободно	запъване
0.15	0.00	15.94	свободно	
16.23	11.24	15.94		
17.00	0.00	1.66		
19.47	1.66	6.13		

20.88	8.13	9.42	свободно
21.88	9.42	11.50	свободно
22.48	11.50	14.98	свободно

W1 ДАННИ ЗА ПОДПРЕНИ ТОЧКИ

абсциса на точката (m)	ордината на точката (m)
6.00	11.23
12.45	11.23

W1 ДАННИ ЗА НАТОВАРВАНЕТО НА ПЛОЧАТА

Отместване по ос X на центъра O1 на коор.система O1x1y1 за товарите.... 0.00 m
Отместване по ос Y на центъра O1 на коор.система O1x1y1 за товарите.... 0.00 m
Общ брой на състоянията на натоварване..... 1
Състояния на натоварване от земетръс..... 0

W1 ЗОНИ С РАЗПРЕДЕЛЕН ТОВАР

правоъгълна област ограничена от линиите:				равном. разпр. товар	състо- яние
абсциса ляв ръб (m)	абсциса десен ръб (m)	ордината долен ръб (m)	ордината горен ръб (m)	(kN/m ²)	No.
0.00	22.63	0.00	15.94	11.20	1
0.00	22.63	0.00	15.94	8.60	2

W1 КОМБИНАЦИИ ОТ СЪСТОЯНИЯТА НА НАТОВАРВАНЕ

комб. NO.	номера на състоянията и коефициенти на участие									
	съст	коэф.	съст	коэф.	съст	коэф.	съст	коэф.	съст	коэф.
1	1	1.00								

W1 ДАННИ ЗА ОРАЗМЕРЯВАНЕ НА ПЛОЧАТА

КЛАС НА БЕТОНА ПО ЯКОСТ НА НАТИСК..... 20
РАЗСТОЯНИЕ ОТ Ц.Т. НА ДОЛНА (ГОРНА) АРМИРОВКА ДО ДОЛЕН (ГОРЕН) РЪБ ПЛОЧА 0.0 c
m
ИЗЧИСЛИТЕЛНО СЪПРОТИВЛЕНИЕ НА НАДЛЪЖНАТА АРМИРОВКА..... 420 M
Pa
МИНИМАЛЕН ПРОЦЕНТ НА АРМИРАНЕ НА ПЛОЧАТА..... 0.22 %

О Р А З М Е Р Я В А Н Е — *Koma ± 0.00*

БЕЛ	КОМБИ НАЦИЯ	М О М Е Н Т И		ПРЕМЕСТВАНЕ		ОРАЗМЕРИТЕЛНИ МОМЕ		
		А Р М И Р О В К А						
		KNM/M		MM		KNM/M		
		CM2/M						
		ОГЪВАЩИ		УСУКВАЩ				
		Д О Л Н А		Г О Р Н А				
		MX	MY	MXU	W	MX1	MY1	MX2
	MY2	ПО X	ПО Y	ПО X	ПО Y			
1								
	1	-3.817	-3.671	-4.071	.014	-7.888	-7.741	.
	.400	3.956	3.956	3.956	3.956			
2								
	1	18.987	3.797	-11.661	.000	7.326	-7.864	30.
	15.458	4.241	3.956	3.956	3.956			
3								
	1	-2.778	-.414	-14.088	-.223	-16.866	-14.501	11.
	13.674	3.956	3.956	3.956	3.956			
4								
	1	-.716	-.025	-11.748	-.408	-12.464	-11.774	11.

More --

(68)		$y = 1.66$						
051	33.304	3.956	<u>4.628</u>	3.956	3.956	$x = 4.32$		
69								
	1	8.682	28.855	-4.888	6.547	↓	3.794	23.966
571	33.743	3.956	<u>4.692</u>	3.956	3.956			13.
70								
	1	9.591	29.512	-3.534	7.049		6.057	25.978
126	33.046	3.956	<u>4.590</u>	3.956	3.956			13.
71								
	1	10.171	29.830	-1.606	7.373		8.565	28.224
776	31.435	3.956	<u>4.355</u>	3.956	3.956			11.
72								
	1	9.981	30.131	.588	7.457		10.569	30.719
393	29.543	3.956	<u>4.252</u>	3.956	3.956			9.
73								
	1	8.966	30.496	2.289	7.315		11.255	32.785
677	28.207	3.956	<u>4.552</u>	3.956	3.956			6.
74								
	1	7.568	30.727	3.276	7.006		10.845	34.003
292	27.451	3.956	<u>4.730</u>	3.956	3.956			4.
75								
	1	6.557	30.533	3.435	6.614		9.991	33.968
122	27.098	3.956	<u>4.725</u>	3.956	3.956			3.
76								
More --						$x = 11.45$		

044	26.216	1	3.956	<u>4.514</u>	3.956	3.956	6.135	9.353	32.525	3.
		1	7.078	26.760	2.975	5.614	10.053	29.735	4.	
103	23.785	1	3.956	<u>4.109</u>	3.956	3.956				
78		1	6.665	26.191	2.558	5.546	9.224	28.749	4.	
107	23.632	1	3.956	3.967	3.956	3.956				
79		1	8.050	23.906	2.924	5.188	10.974	26.829	5.	
26	20.982	1	3.956	3.956	3.956	3.956				
80		1	9.581	17.218	4.594	4.338	14.175	21.812	4.	
87	12.623	1	3.956	3.956	3.956	3.956				
81		1	9.485	6.270	7.055	3.020	16.540	13.325	2.	
30	-784	1	3.956	3.956	3.956	3.956				
82		1	-3.402	-15.900	20.306	1.193	16.904	4.405	-23.	
08	-36.206	1	3.956	3.956	3.956	5.054				
83		1	-57.901	-112.541	-38.416	.000	-96.318	-150.957	-19.	
85	-74.124		3.956	3.956	<u>15.057</u>	<u>27.890</u>				
- More -										

					$y = 1.66$					
84										
85	21.711	1	-32.805	-44.779	-66.490	-.099	-99.295	-111.269	33.	
			<u>4.683</u>	3.956	<u>15.630</u>	<u>18.040</u>	$x = 17.0$			
86		1	13.401	12.679	-3.441	-.149	9.960	9.237	16.	
87	16.120		3.956	3.956	3.956	3.956				
		1	7.368	1.474	6.954	.000	14.322	8.428	.	
88	-5.480		3.956	3.956	3.956	3.956				
89		1	-2.332	-1.728	2.748	.010	.416	1.020	-5.	
90	-4.475		3.956	3.956	3.956	3.956				
91		1	-1.186	-7.430	-6.660	-.298	-7.846	-14.091	5.	
92	-.770		3.956	3.956	3.956	3.956				
93		1	-2.140	-.428	-8.794	.000	-10.935	-9.222	6.	
94	8.366		3.956	3.956	3.956	3.956				
95		1	6.784	10.441	-8.410	2.048	-1.626	2.031	15.	
96	18.851		3.956	3.956	3.956	3.956				
97		1	8.460	18.622	-7.340	3.797	1.120	11.282	15.	
-- More --										

				$y = 1.80$						
300	25.962		3.956	3.956	3.956	3.956				
	<u>98</u>	1	8.285	24.212	-6.321	5.183	1.964	17.892	14.	
505	30.533		3.956	<u>4.225</u>	3.956	3.956	$x = 3.27$			
	99	1	8.384	27.553	-5.682	6.279	2.702	21.871	14.	
066	33.235		3.956	<u>4.618</u>	3.956	3.956	$\downarrow$			
	100	1	8.859	28.885	-4.893	6.989	3.967	23.992	13.	
752	33.778		3.956	<u>4.697</u>	3.956	3.956				
	101	1	9.895	29.519	-3.596	7.534	6.299	25.923	13.	
191	33.115		3.956	4.600	3.956	3.956				
										56.

102	1	10.582	29.809	-1.677	7.888	8.905	28.132	12.
59	31.485	3.956	4.363	3.956	3.956			
103								
57	1	10.376	30.108	.720	7.977	11.096	30.828	9.
104	29.389	3.956	4.267	3.956	3.956			
07	1	9.237	30.524	2.430	7.818	11.666	32.953	6.
105	28.094	3.956	4.576	3.956	3.956			
- More --								
42	1	7.662	30.820	3.420	7.479	11.082	34.240	4.
106	27.400	3.956	4.765	3.956	3.956			
11	1	6.503	30.670	3.493	7.049	9.996	34.163	3.
107	27.178	3.956	4.753	3.956	3.956			
30	1	6.126	29.496	2.946	6.532	9.072	32.442	3.
108	26.550	3.956	4.502	3.956	3.956	X=11.45		
98	1	6.991	26.827	2.093	5.980	9.084	28.921	4.
109	24.734	3.956	3.992	3.956	3.956			
31	1	6.593	26.281	2.262	5.908	8.855	28.542	4.
110	24.019	3.956	3.956	3.956	3.956			
37	1	8.064	23.881	2.627	5.534	10.690	26.508	5.
111	21.254	3.956	3.956	3.956	3.956			
23	1	9.832	16.971	3.509	4.647	13.341	20.480	6.
112	13.462	3.956	3.956	3.956	3.956			
2	1	9.704	5.985	5.742	3.275	15.447	11.728	3.
More --	.243	3.956	3.956	3.956	3.956			
113								
0	1	4.572	-19.158	8.122	1.371	12.694	-11.036	-3.
114	-27.279	3.956	3.956	3.956	3.956			
6	1	-72.735	-81.941	13.732	.066	-59.003	-68.209	-86.
115	-95.673	3.956	3.956	13.227	14.934	X=14.		
ЕДОСТАТЪЧНО СЕЧЕНИЕ								
116	1	-120.330	-69.222	-43.412	.000	-163.742	-112.634	-76.9
	-25.810							
2	1	1.551	7.754	8.163	.000	9.713	15.916	-6.
117	-.409	3.956	3.956	3.956	3.956			
2	1	.000	.000	10.602	.000	10.602	10.602	-10.
118	-10.602	3.956	3.956	3.956	3.956			
9	1	2.498	12.490	6.757	.000	9.255	19.247	-4.
125	5.733	3.956	3.956	3.956	3.956			
	1	-.172	-2.350	-1.976	-.360	-2.148	-4.326	1.
804	126	-.374	3.956	3.956	3.956	3.956		
-- More --								
570	127	1.566	-2.440					

716	13.730	3.956	3.956	3.956	3.956	2.482	5.544	9.358	9.
128	1	9.566	20.915	-2.248	4.623	7.318	18.668	11.	
313	23.163	3.956	3.956	3.956	3.956	6.037	24.784	11.	
129	1	8.917	27.663	-2.880	6.357	6.037	24.784	11.	
797	30.543	3.956	4.226	3.956	3.956	7.803	27.730	13.	
130	1	8.930	31.830	-4.101	7.803	4.830	27.730	13.	
31	35.931	3.956	5.013	3.956	3.956	5.717	28.853	14.	
131	1	10.220	33.355	-4.503	8.803	5.717	28.853	14.	
22	37.858	3.956	5.298	3.956	3.956	8.819	30.120	16.	
132	1	12.504	33.805	-3.685	9.610	8.819	30.120	16.	
39	37.490	3.956	5.244	3.956	3.956	12.446	32.119	15.	
133	1	14.201	33.874	-1.755	10.142	12.446	32.119	15.	
56	35.630	3.956	4.969	3.956	3.956				
More --									

$y = 2.66$

$x = 4.32$

V

134	1	13.980	34.176	1.374	10.255	15.354	35.550	12.	
605	32.801	3.956	4.957	3.956	3.956	15.118	38.200	8.	
135	1	11.771	34.853	3.347	9.965	15.118	38.200	8.	
424	31.505	3.956	5.349	3.956	3.956	12.775	39.554	4.	
136	1	8.681	35.461	4.094	9.402	9.688	38.657	3.	
588	31.367	3.956	5.551	3.956	3.956	7.066	35.440	4.	
137	1	6.402	35.371	3.286	8.739	5.619	30.078	7.	
115	32.084	3.956	5.417	3.956	3.956	5.212	29.328	7.	
138	1	5.610	33.985	1.455	8.027	5.674	25.475	10.	
155	32.530	3.956	4.941	3.956	3.956				
139	1	6.660	31.119	-1.041	7.377				
701	32.160	3.956	4.461	3.956	3.956				
140	1	6.454	30.570	-1.242	7.299				
696	31.812	3.956	4.410	3.956	3.956				
141	1	8.183	27.985	-2.509	6.913				
More --									
887	-11.656	3.956	3.956	3.956	3.956	8.835	7.066	-9.	
156	1	-1.109	-1.926	4.019	-3.346	3.910	2.093	-4.	
128	-5.945	3.956	3.956	3.956	3.956				
157	1	-2.239	-4.448	4.434	.000	2.196	3.986	-6.	
673	-4.882	3.956	3.956	3.956	3.956				
158	1	7.327	10.323	4.613	2.375	11.940			
713	5.740								

$x = 12.57$

58.

230	178	9.061	3.956	12.454	3.956	3.393	3.183	-4.44	15.847	-7.
-- More --										
250										
483	1	1.711	.342	9.194	.000	10.905	9.536	-7.		
251	-8.851	3.956	3.956	3.956	3.956					
780	1	-3.466	-14.618	6.514	.132	3.048	-8.104	-9.		
252	-21.132	3.956	3.956	3.956	3.956					
794	1	-4.843	-23.020	4.952	.252	.109	-18.068	-9.		
253	-27.972	3.956	3.956	3.956	3.956					
96	1	-6.045	-35.151	8.451	.352	2.406	-26.701	-14.		
254	-43.602	3.956	3.956	3.956	6.159					
20	1	-65.602	-46.571	26.918	.594	-38.684	-19.653	-92.		
255	-73.488	3.956	3.956	14.340	10.949					
46	1	-13.792	-35.626	-8.346	2.422	-22.137	-43.972	-5.		
256	-27.281	3.956	3.956	3.956	6.215					
26	1	15.556	-13.819	-3.270	4.754	12.286	-17.089	18.		
257	-10.549	3.956	3.956	3.956	3.956					
More	1	24.234	-4.754	-2.127	6.319	22.108	-6.881	26.		
361	-2.627	3.956	3.956	3.956	3.956					
258										
411	1	25.291	-5.252	-1.120	6.458	24.171	-6.373	26.		
259	-4.132	3.956	3.956	3.956	3.956					
099	1	18.374	-14.740	3.275	5.104	21.650	-11.465	15.		
260	-18.016	3.956	3.956	3.956	3.956					
706	1	-10.927	-38.464	10.779	2.660	-.149	-27.685	-21.		
261	-49.243	3.956	3.956	3.956	7.022					
647	1	-69.942	-50.498	-25.295	.656	-95.237	-75.793	-44.		
262	-25.203	3.956	3.956	14.852	11.343					
802	1	-6.782	-37.512	-4.979	.499	-11.761	-42.492	-1.		
263	-32.533	3.956	3.956	3.956	5.991					
349	1	-6.115	-32.515	1.733	.487	-4.382	-30.782	-7.		
264	-34.249	3.956	3.956	3.956	4.766					
791	1	-7.547	-38.003	5.444	.482	-2.103	-32.559	-12.		
265	-43.447	3.956	3.956	3.956	6.136					
-- More --										
093	1	-55.439	-37.824	15.454	.567	-39.985	-22.369	-70.		
266	-53.278	3.956	3.956	10.510	7.649					
15	1	-1.913	-23.181	-12.728	2.422	-14.642	-35.909	10.		
	-10.452	3.956	3.956	3.956	5.010					

$y = 6.13$

$x = 5.16$

$x = 10.45$

$x = 13.15$

60.

(265)

367	-16.907	3.956	3.956	3.956	3.956	19.379	-14.896	17.
291								
733	-50.688	3.956	3.956	3.956	7.245	3.704	-34.251	-12.
-- More --								
292								
850	-30.571	3.956	3.956	25.987	20.408	.271	-144.450	-122.172
293								
134	-36.394	3.956	3.956	-1.044	5.391	.213	-8.222	-38.481
294								
945	-32.268	3.956	3.956	-2.424	5.188	.209	-8.793	-37.116
295								
466	-35.808	3.956	3.956	-2.798	5.828	.205	-10.062	-41.404
296								
124	-93.188	3.956	3.956	33.891	17.801	.238	-42.342	-25.407
297								
870	-14.969	3.956	3.956	-9.635	4.764	2.212	-4.400	-34.238
298								
274	4.304	3.956	3.956	-5.504	3.956	4.373	12.265	-6.705
299								
-- More --								
022	10.974	3.956	3.956	3.956	3.956			
300								
130	10.321	3.956	3.956	-4.302	4.929	16.527	1.717	25.
301								
573	10.800	3.956	3.956	-4.127	4.775	15.318	2.545	23.
302								
237	-.403	3.956	3.956	-4.830	2.592	12.577	-10.063	22.
303								
868	-65.234	3.956	3.956	12.131	15.162	.072	-72.605	-40.971
304								
498	16.608	3.956	3.956	-26.011	12.166	.000	-80.521	-35.414
305								
191	-6.191	3.956	3.956	6.191	3.956	.000	6.191	6.191
306								
687	4.798	3.956	3.956	4.558	3.956	.000	6.429	13.914
311								
-- More --								
755	20.662	3.956	3.956	-7.778	3.956	.000	3.199	19.106
312								
898	-3.898	3.956	3.956	3.898	3.956	.000	3.898	3.898
313								

$$y = 6.28$$

$$x = 9.56$$

$$x = 10.45$$

$$x = 11.45$$

$$x = 13.15$$

$$x = 19.47$$

$$x = 19.65$$

388	-26.360	3.956	3.956	3.956	3.956	.000	-5.598	-18.570	-8.
314									
	1	-7.034	-35.170	4.666	.000	-2.368	-30.504	-11.	
700	-39.836	3.956	3.956	3.956	5.593				
315									
	1	-6.864	-34.322	9.226	.000	2.362	-25.096	-16.	
090	-43.548	3.956	3.956	3.956	6.151				
316									
НЕДОСТАТЪЧНО СЕЧЕНИЕ									
	1	-137.223	-106.218	47.319	.000	-89.904	-58.899	-184.5	
42	-153.537								
317									
	1	12.514	-42.078	5.635	1.865	18.149	-36.443	6.	
979	-47.713	3.956	3.956	3.956	6.786				
318									
	1	14.819	-15.903	3.377	4.221	18.196	-12.526	11.	
- More --									
142	-19.280	3.956	3.956	3.956	3.956				
319									
	1	23.767	-6.570	-1.897	5.796	21.868	-8.469	25.	
66	-4.671	3.956	3.956	3.956	3.956				
320									
	1	25.073	-7.040	-2.559	5.950	22.513	-9.599	27.	
32	-4.480	3.956	3.956	3.956	3.956				
321									
	1	18.361	-16.952	-3.055	4.602	15.305	-20.007	21.	
16	-13.896	3.956	3.956	3.956	3.956				
322									
	1	17.124	-44.234	-3.709	2.112	13.415	-47.943	20.	
32	-40.525	3.956	3.956	3.956	6.821				
323									
НЕДОСТАТЪЧНО СЕЧЕНИЕ									
	1	-142.171	-113.892	-46.135	.000	-188.307	-160.027	-96.0	
6	-67.757								
324									
	1	-7.158	-35.791	-6.390	.000	-13.548	-42.181	-.	
68	-29.401	3.956	3.956	3.956	5.945				
325									
	1	-7.339	-36.696	-2.896	.000	-10.235	-39.592	-4.	
43	-33.800	3.956	3.956	3.956	5.556				
- More --									
326									
	1	-7.334	-36.671	-6.107	.000	-13.441	-42.777	-1.	
27	-30.564	3.956	3.956	3.956	6.035				
327									
	1	-108.365	-94.111	34.177	.000	-74.187	-59.934	-142.	
42	-128.288	3.956	3.956	25.458	21.827	X = 13.15			
328									
	1	19.181	-24.586	-4.180	2.052	15.001	-28.766	23.	
61	-20.406	3.956	3.956	3.956	3.969				
329									
	1	17.635	-2.120	-5.626	4.270	12.009	-7.746	23.	
61	3.506	3.956	3.956	3.956	3.956				
330									
	1	21.580	6.282	-5.243	5.221	16.337	1.038	26.	
4	11.525	3.956	3.956	3.956	3.956				
331									
	1	20.508	6.895	-4.730	4.920	15.778	2.165	25.	
7	11.625	3.956	3.956	3.956	3.956				
332									
	1	21.085	7.950	-4.328	4.772	16.754			

$$y = 6.42$$

$$x = 4.32$$

$$x = 10.45$$

333	1	13.640	-11.461	-8.787	2.632	4.853	-20.248	22.
More --								
7	-2.674	3.956	3.956	3.956	3.956			
334								
1	-61.106	-17.495	10.126	.205	-50.980	-7.369	-71.	
2	-27.621	3.956	3.956	10.567	3.956			
335								
1	-25.362	-18.349	26.923	.106	1.561	8.575	-52.	
6	-45.272	3.956	3.956	7.494	6.413			
336								
1	4.509	.902	7.667	.000	12.175	8.568	-3.	
3	-6.765	3.956	3.956	3.956	3.956			
337								
1	.667	1.286	7.741	-.012	8.407	9.027	-7.	
1	-6.454	3.956	3.956	3.956	3.956			
342								
1	-.262	1.607	-5.864	-.059	-6.126	-4.257	5.	
603	7.471	3.956	3.956	3.956	3.956			
343								
1	2.407	.481	-7.942	.000	-5.535	-7.460	10.	
348	8.423	3.956	3.956	3.956	3.956			
344								
1	2.791	-3.708	-5.686	.297	-2.895	-9.394	8.	
476	1.977	3.956	3.956	3.956	3.956			
345								
-- More --								
1	1.658	-9.441	-2.190	.341	-.532	-11.631	3.	
848	-7.251	3.956	3.956	3.956	3.956			
346								
1	-4.910	-18.213	-3.785	.175	-8.695	-21.998	-1.	
125	-14.428	3.956	3.956	3.956	3.956			
347								
1	-31.771	-8.904	-9.779	.336	-41.550	-18.683	-21.	
992	.875	3.956	3.956	5.850	3.956			
348								
1	-20.720	-12.175	15.727	1.481	-4.993	3.552	-36	
447	-27.903	3.956	3.956	5.089	3.956			
349								
1	8.703	-8.427	9.382	3.162	18.085	.955	-	
679	-17.809	3.956	3.956	3.956	3.956			
350								
1	18.591	-4.368	2.396	4.489	20.987	-1.973	16	
195	-6.764	3.956	3.956	3.956	3.956			
351								
1	21.516	-5.722	-5.851	4.748	15.665	-11.573	27	
367	.129	3.956	3.956	3.956	3.956			
352								
1	15.844	-11.771	-11.185	3.771	4.659	-22.956	27	
029	-.586	3.956	3.956	3.956	3.956			
-- More --								
353								
1	-15.508	-16.973	-14.250	1.934	-29.758	-31.223	-1	
258	-2.723	3.956	3.956	4.112	4.325			
354								
1	-32.595	-12.277	15.407	.361	-17.187	3.130	-46	

$$y = 6.42$$

$$x = 19.47$$

$$y = 7.42$$

$$x = 4.32$$

$$x = 9.56$$

$$64.$$

355									
582	1	-8.673	-22.124	7.909	-.245	-.765	-14.216	-16	
356		3.956	3.956	3.956	4.152				
942	1	-11.113	-17.302	-2.171	-.276	-13.284	-19.473	-6	
357		3.956	3.956	3.956	3.956				
051	1	-13.441	-17.137	-4.390	-.249	-17.831	-21.527	-9	
358		3.956	3.956	3.956	3.956				
512	1	-31.427	-6.707	$y = 9.142$ -9.915	.098	-41.342	-16.622	-21	
359		3.956	3.956	5.818	3.956	$x = 13.15$			
056	1	-11.191	-7.016	9.865	1.718	-1.326	2.848	-21	
360		3.956	3.956	3.956	3.956				
-- More --	1	14.452	2.750	4.149	3.692	18.601	6.899	10	
069	1	3.046	6.469	7.115	2.079	10.162	13.584	-4	
423		3.956	3.956	3.956	3.956				
504	1	3.874	10.495	-1.630	2.715	2.244	8.865	5	
424		3.956	3.956	3.956	3.956				
956	1	6.459	7.447	-7.497	3.090	-1.038	-.050	13	
425		3.956	3.956	3.956	3.956				
534	1	9.189	7.137	-8.344	3.139	.845	-1.207	17	
426		3.956	3.956	3.956	3.956				
445	1	14.941	4.643	-7.504	3.012	7.437	-2.861	23	
427		3.956	3.956	3.956	3.956				
487	1	7.010	-3.409	-5.478	1.704	1.532	-8.887	12	
428		3.956	3.956	3.956	3.956				
145	1	10.893	12.805	-4.252	1.419	6.641	8.553	15	
429		3.956	3.956	3.956	3.956				
251	1	-54.578	-73.197	$y = 9.42$ -26.326	.000	-80.904	-99.523	-28	
-- More --		3.956	3.956	12.233	15.674	$x = 20.67$			
430									
620	1	-21.750	-15.524	-37.370	-.064	-59.120	-52.894	15	
431		3.956	3.956	8.576	7.589				
504	1	12.161	2.432	-.343	.000	11.819	2.090	12	
432		3.956	3.956	3.956	3.956				
180	1	-.063	-.184	.117	.000	.054	-.067	-	
435		3.956	3.956	3.956	3.956				
193	1	-.988	-5.477	-5.181	-.289	-6.169	-10.658	4	
436		3.956	3.956	3.956	3.956				
142	1	-.953	-.191	-7.095	.000	-8.048	-7.286	6	
437		3.956	3.956	3.956	3.956				
146	1	12.710	5.786	-6.436	1.854	6.274	-.650	19	
438		3.956	3.956	3.956	3.956				
...	1	15.385	8.179	-3.026	2.898	12.350	5.157	16	

439	11.203	3.956	3.956	3.956	3.956				
-- More --	1	11.269	7.881	4.314	2.915	15.583	12.194	6.	
455									
097	14.031	4.815	4.749	3.956	2.886	-4.468	-4.533	174.	
456	1	3.956	3.956	3.956	3.956	-1.669	-4.521		
942457	14.090	8.636	4.784	3.956	2.950				
	1	3.956	3.956	3.956	3.956				
635	12.548	15.390	4.303	-8.244	2.950	7.146	-3.941	23.	
458	1	3.956	3.956	3.956	3.956				
	1	7.944	-2.847	-4.711	1.720	3.233	-7.558	12.	
656	1.864	3.956	3.956	3.956	3.956				
459	1	9.469	-10.462	-5.689	1.440	3.780	-16.151	15.	
158	-4.774	3.956	3.956	3.956	3.956				
460	1	-51.290	-25.169	-8.328	.039	-59.618	-33.497	-42.	
963	-16.842	3.956	3.956	8.856	4.656				
461	1	-49.442	-14.164	-20.809	.000	-70.251	-34.972	-28.	
633	6.645	3.956	3.956	10.402	4.872				
462	1	.000	.000	2.005	.000	2.005	2.005	-2.	
-- More --									
415	-31.357	-8.918	-28.860	2.497	1.087	-6.421	-26.362	-11.	
473	1	3.956	3.956	3.956	4.344				
726	-106.777	-91.206	-94.257	12.520	.000	-78.686	-81.737	-103.	
474	1	3.956	3.956	16.501	17.114				
202	-32.383	-4.853	-28.035	4.349	1.548	-1.505	-23.686	-9.	
475	1	3.956	3.956	3.956	4.493				
995	-9.686	13.750	-7.931	1.755	3.544	15.505	-6.176	11.	
476	1	3.956	3.956	3.956	3.956				
469	5.971	20.530	4.032	-1.939	4.768	18.591	2.093	22.	
477	1	3.956	3.956	3.956	3.956				
270	9.269	20.379	7.378	-1.892	4.883	18.487	5.486	22.	
478	1	3.956	3.956	3.956	3.956				
350	3.168	15.233	5.051	1.883	3.917	17.115	6.934	13.	
479	1	3.956	3.956	3.956	3.956				
355	-10.871	6.649	-7.577	3.294	1.917	9.943	-4.283	3.	
-- More --		3.956	3.956	3.956	3.956				
480	1	-60.611	-54.356	5.488	.000	-55.123	-48.868	-66	
099	-59.844	3.956	3.956	9.711	8.692				
481	1	-41.244	-43.106	6.448	-.088	-34.796	-36.658	-47	
692	-49.554	3.956	3.956	6.783	7.070				
482	1	-9.035	-19.636	5.130	-.127	-3.905	-14.506	-14	
164	-24.765	3.956	3.956	3.956	3.956				
483	1	5.135	-8.951	5.297	.148	10.432	-3.655	-	

$$y = 9.57$$

$$x = 20.67$$

$$y = 11.15$$

$$x = 6.$$

$$x = 12.45$$

66.

162	-14.248	3.956	3.956	3.956	3.956				
484									
	1	6.668	-22.668	-6.023	.084	.645	-28.690	12	
690	-16.645	3.956	3.956	3.956	3.958				
485									
	1	-46.910	-58.789	14.356	.000	-32.554	-44.433	-61	
267	-73.145	3.956	3.956	8.921	10.891				
486									
	1	4.604	-26.668	8.072	.965	12.676	-18.596	-3	
468	-34.739	3.956	3.956	3.956	4.838				
487									
	1	4.435	-13.253	-2.739	1.163	1.695	-15.993		
-- More --									

$$y = 11.15$$

$$x = 16.23$$

174	-10.514	3.956	3.956	3.956	3.956				
488									
	1	16.017	1.237	-5.764	2.287	10.253	-4.527	21.	
780	7.000	3.956	3.956	3.956	3.956				
489									
	1	10.974	5.819	-5.470	2.091	5.504	.349	16.	
444	11.289	3.956	3.956	3.956	3.956				
490									
	1	7.675	6.602	-5.046	1.958	2.628	1.556	12.	
721	11.649	3.956	3.956	3.956	3.956				
491									
	1	6.439	9.617	4.710	.992	11.149	14.327	1.	
729	4.908	3.956	3.956	3.956	3.956				
492									
	1	9.748	6.988	6.800	.827	16.547	13.788	2.	
948	.188	3.956	3.956	3.956	3.956				
493									
	1	-12.913	-2.583	-2.229	.000	-15.141	-4.811	-10.	
684	-.354	3.956	3.956	3.956	3.956				
494									
	1	-35.116	-14.657	-11.812	-.047	-46.928	-26.469	-23.	
303	-2.845	3.956	3.956	6.666	3.956				
495									
-- More --									

$$x = 22.02$$

503									
	1	-9.985	-28.323	-4.959	1.142	-14.944	-33.282	-5.	
026	-23.364	3.956	3.956	3.956	4.624				
504									
	1	-83.606	-70.743	3.340	.081	-80.267	-67.403	-86.	
946	-74.083	3.956	3.956	13.314	11.050				
505									
	1	-6.147	-28.130	6.834	1.582	.687	-21.296	-12.	
982	-34.965	3.956	3.956	3.956	4.871				
506									
	1	13.454	-6.773	1.333	3.566	14.787	-5.440	12.	
120	-8.106	3.956	3.956	3.956	3.956				
507									
	1	20.280	3.043	-.579	4.792	19.701	2.463	20.	
859	3.622	3.956	3.956	3.956	3.956				
508									
	1	20.299	6.633	-.666	4.911	19.633	5.967	20.	
965	7.299	3.956	3.956	3.956	3.956				
509									
	1	15.276	4.649	.541	3.945	15.817	5.191	14.	
735	4.108	3.956	3.956	3.956	3.956				
510									
	1	4.894	-7.962	-2.110	1.943	2.784	-10.072	7.	
-- More --									

004	-5.853	3.956	3.956	3.956	3.956				
511									
838	-42.787	3.956	3.956	5.092	.034	-47.653	-32.602	-57.	
512				8.371	6.036				
463	-44.124	3.956	3.956	7.651	-.060	-33.161	-28.822	-48.	
513				6.901	6.238				
836	-25.474	3.956	3.956	6.472	-.128	-2.892	-12.529	-15.	
514				3.956	3.956				
021	-12.687	3.956	3.956	4.134	.114	9.289	-4.420	1.	
515				3.956	3.956				
709	-15.269	3.956	3.956	-3.904	.029	-2.098	-23.076	5.	
516				3.956	3.956				
823	-9.212	3.956	3.956	3.059	.000	-27.706	-3.094	-33.	
517				4.704	3.956				
985	-25.645	3.956	3.956	6.797	.910	1.610	-12.051	-11.	
518				3.956	3.956				
-- More --									
185	-.643	3.956	3.956	3.956	3.956				
534									
652	-13.326	3.956	3.956	-9.795	1.383	-23.242	-32.916	-3.	
535				3.956	4.571				
947	-32.470	3.956	3.956	1.883	.473	-60.180	-28.704	-63.	
536				9.357	4.506				
343	-34.843	3.956	3.956	11.325	1.768	1.306	-12.193	-21.	
537				3.956	4.853				
181	-9.356	3.956	3.956	4.153	3.661	17.487	-1.049	9.	
538				3.956	3.956				
710	2.709	3.956	3.956	1.384	4.862	21.477	5.476	18.	
539				3.956	3.956				
754	7.683	3.956	3.956	-.389	4.981	19.976	6.904	20.	
540				3.956	3.956				
945	6.521	3.956	3.956	-1.403	4.023	14.138	3.714	16.	
541				3.956	3.956				
-- More --									
181	-1.584	3.956	3.956	-4.601	2.044	-4.020	-10.786	-38.	
542				3.956	.210	-31.733	-10.867		
189	-17.303	3.956	3.956	3.218					
543				5.345	3.956				
684	-22.597	3.956	3.956	7.066	.101	-26.552	-8.465	-40.	
544				5.720	3.956				
329	-22.583	3.956	3.956	8.032	-.076	-2.264	-6.519	-18.	
545				3.956	3.956				
907	-13.260	3.956	3.956	3.870	.049	8.647	-5.520	.	
546				3.956	3.956				

$$y = 11.24$$

$$x = 12.45$$

$$y = 11.50$$

$$x = 6$$

$$x = 12.45$$

058	-9.568	3.956	3.956	3.956	3.956				
547									
	1	-22.251	-4.450	2.544	.000	-19.708	-1.906	-24.	
795	-6.994	3.956	3.956	3.956	3.956				
548									
	1	-4.571	-8.985	4.810	.807	.239	-4.176	-9.	
381	-13.795	3.956	3.956	3.956	3.956				
-- More --									
549									
	1	-1.820	-9.364	3.594	.990	1.774	-5.770	-5.	
414	-12.958	3.956	3.956	3.956	3.956				
550									
	1	14.882	.883	-2.730	2.170	12.152	-1.847	17.	
612	3.614	3.956	3.956	3.956	3.956				
551									
	1	11.447	5.948	-4.326	2.143	7.121	1.621	15.	
774	10.274	3.956	3.956	3.956	3.956				
552									
	1	9.285	6.324	-4.353	2.037	4.933	1.971	13.	
638	10.676	3.956	3.956	3.956	3.956				
553									
	1	4.729	3.656	-3.201	1.129	1.528	.456	7.	
929	6.857	3.956	3.956	3.956	3.956				
554									
	1	6.614	13.828	-2.551	.962	4.064	11.278	9.	
165	16.379	3.956	3.956	3.956	3.956				
555									
	1	-44.071	-45.301	-8.801	.000	-52.872	-54.101	-35.	
270	-36.500	3.956	3.956	7.586	7.779	$x = 21.88$			
556									
	1	-16.637	-14.299	-14.773	-.025	-31.409	-29.072	-1.	
-- More --									
	1	10.202	-3.330	-5.824	3.097	4.378	-9.154	16.	
026	2.494	3.956	3.956	3.956	3.956				
565									
	1	-14.444	-18.062	-11.132	1.570	-25.576	-29.194	-3.	
312	-6.931	3.956	3.956	3.956	4.031				
566									
	1	-52.257	-18.703	2.807	.754	-49.450	-15.896	-55.	
063	-21.509	3.956	3.956	7.930	3.956				
567									
	1	-11.238	-18.685	12.769	1.926	1.531	-5.916	-24.	
008	-31.454	3.956	3.956	3.956	4.358				
568									
	1	13.225	-3.859	5.942	3.734	19.167	2.083	7.	
283	-9.801	3.956	3.956	3.956	3.956				
569									
	1	19.971	5.453	2.449	4.903	22.420	7.902	17.	
522	3.004	3.956	3.956	3.956	3.956				
570									
	1	20.378	8.353	.650	5.014	21.028	9.003	19.	
728	7.703	3.956	3.956	3.956	3.956				
571									
	1	15.718	6.241	-2.006	4.063	13.712	4.235	17.	
724	8.247	3.956	3.956	3.956	3.956				
-- More --									
572									
	1	-.864	-3.897	-5.142	2.116	-6.006	-9.038	4.	
277	1.245	3.956	3.956	3.956	3.956				
573									

	1	-29.259	-7.536	2.518	.336	-26.741	-5.018	-31.
777	-10.054	3.956	3.956	4.405	3.956			
574						$y = 11.65$		
	1	-27.872	-8.010	4.846	.221	-23.026	-3.164	-32.
718	-12.856	3.956	3.956	4.542	3.956	$x = 12.57$		
575								
	1	-11.105	-11.345	7.961	-.015	-3.144	-3.384	-19.
066	-19.307	3.956	3.956	3.956	3.956			
576								
	1	4.333	-8.659	4.071	.034	8.404	-4.588	.
262	-12.730	3.956	3.956	3.956	3.956			
577								
	1	-3.453	-9.622	-1.842	-.098	-5.295	-11.464	-1.
612	-7.780	3.956	3.956	3.956	3.956			
578								
	1	-19.772	-3.954	2.441	.000	-17.331	-1.514	-22.
213	-6.395	3.956	3.956	3.956	3.956			
579								
	1	-5.062	-6.420	3.663	.769	-1.399	-2.757	-8.
-- More --								
725	-10.083	3.956	3.956	3.956	3.956			
580								
	1	-2.260	-6.609	3.492	.945	1.233	-3.117	-5.
752	-10.102	3.956	3.956	3.956	3.956			
581								
	1	14.799	2.371	-1.979	2.125	12.820	.392	16.
778	4.350	3.956	3.956	3.956	3.956			
582								
	1	11.867	6.969	-4.351	2.156	7.517	2.618	16.
218	11.320	3.956	3.956	3.956	3.956			
583								
	1	9.923	7.035	-3.710	2.059	6.213	3.326	13.
632	10.745	3.956	3.956	3.956	3.956			
584								
	1	5.092	4.161	-2.250	1.179	2.842	1.911	7.
341	6.410	3.956	3.956	3.956	3.956			
585								
	1	6.256	2.149	-1.552	1.014	4.705	.598	7.
808	3.701	3.956	3.956	3.956	3.956			
586								
	1	-34.744	-16.332	6.139	.023	-28.606	-10.193	-40.
883	-22.471	3.956	3.956	5.750	3.956			
587						$x = 21.88$		
-- More --								
	1	-34.448	-14.585	6.008	.000	-28.440	-8.578	-40.
455	-20.593	3.956	3.956	5.685	3.956			
588								
	1	.000	.000	6.329	.000	6.329	6.329	-6.
329	-6.329	3.956	3.956	3.956	3.956			
589								
	1	-.415	-2.075	4.989	.000	4.574	2.914	-5.
404	-7.064	3.956	3.956	3.956	3.956			
590								
	1	-.126	-1.502	3.131	-.393	3.005	1.629	-3.
257	-4.633	3.956	3.956	3.956	3.956			
591								
	1	-1.399	-.280	3.121	.000	1.722	2.841	-4.
520	-3.400	3.956	3.956	3.956	3.956			
592								
	1	14.316	7.832	2.123	2.579	16.440	9.955	12.
193	5.709	3.956	3.956	3.956	3.956			
593								

874	13.776	1	11.601	12.503	-1.273	4.245	18.329	11.230	20.
594			3.956	3.956	3.956	3.956			
		1	17.645	13.836	-4.524	4.619	13.121	9.311	22.
170	18.360		3.956	3.956	3.956	3.956			
-- More --									
664									
		1	7.151	8.022	-7.305	1.874	-.155	.716	14.
456	15.327		3.956	3.956	3.956	3.956			
665									
		1	7.807	-1.969	-8.093	.990	-.286	-10.062	15.
900	6.124		3.956	3.956	3.956	3.956			
666									
		1	-37.302	-38.530	$y = 14.82$ -8.269	.031	-45.571	-46.799	-29.
033	-30.261		3.956	3.956	6.458	6.646			
667									
		1	-78.387	-31.908	20.031	.000	-58.356	-11.877	-98.
417	-51.939		3.956	3.956	15.460	7.440	$x = 12.45$		
668									
		1	.336	1.678	-3.820	.000	-3.484	-2.142	4.
155	5.498		3.956	3.956	3.956	3.956			
669									
		1	.201	1.004	-2.503	.000	-2.302	-1.499	2.
704	3.507		3.956	3.956	3.956	3.956			
670									
		1	.280	1.400	-2.734	.000	-2.454	-1.334	3.
014	4.134		3.956	3.956	3.956	3.956			
671									
		1	.000	.000	3.388	.000	3.388	3.388	-3.
-- More --									
901	13.278		3.956	3.956	3.956	3.956			
695									
		1	6.250	6.933	-7.385	1.585	-1.135	-.452	13.
635	14.318		3.956	3.956	3.956	3.956			
696									
		1	5.503	-5.045	-10.835	.814	-5.332	-15.880	16.
339	5.791		3.956	3.956	3.956	3.956			
697									
		1	-25.845	-24.507	$y = 14.98$ 8.185	-.032	-17.740	-16.401	-33.
950	-32.612		3.956	3.956	4.722	4.527			
698									
		1	-28.821	-32.074	24.278	-.076	-4.543	-7.796	-53.
099	-56.351		3.956	3.956	7.621	8.134			
699									
		1	10.430	5.440	1.478	-.094	11.908	6.919	8.
952	3.962		3.956	3.956	3.956	3.956			
700									
		1	.963	-.956	-2.609	-.053	-1.645	-3.565	3.
572	1.652		3.956	3.956	3.956	3.956			
701									
		1	-.949	.317	-1.572	-.018	-2.521	-1.255	.
623	1.889		3.956	3.956	3.956	3.956			
702									
-- More --									
		1	-.988	.096	-1.412	-.378	-2.400	-1.316	.
-- More --									
423	1.507		3.956	3.956	3.956	3.956			
756									
		1	-1.101	.059	-4.732	-.348	-5.833	-4.673	3.
631	4.791		3.956	3.956	3.956	3.956			

757									
	1	-1.826	-.175	-8.927	-.274	-10.753	-9.102	7.	
100	8.751	3.956	3.956	3.956	3.956				
758									
	1	-1.336	.419	-10.781	-.132	-12.117	-10.362	9.	
445	11.200	3.956	3.956	3.956	3.956				
759									
	1	15.612	2.387	-8.513	.009	7.098	-6.126	24.	
125	10.900	3.956	3.956	3.956	3.956				
760									
	1	-1.874	-.409	-3.748	.016	-5.622	-4.157	1.	
874	3.339	3.956	3.956	3.956	3.956				

4.12 T СТОМАНА ЗА НАДЛЕЖНА АРМИРОВКА
71.25 КГ СТОМАНА ЗА 1 М3 БЕТОН
57.89 М3 БЕТОН

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НА Т Ъ Н К И Е Л А С Т И Ч
НИ П Л О Ч И

МОЩТА НА ПРАВОЪГЪЛНИ

СТАТИЧЕСКОТО РЕШЕНИЕ НА ПЛОЧАТА СЕ ИЗВЪРШВА С ПО
КРАЙНИ ЕЛЕМЕНТИ С 12 И 24 СТЕПЕНИ НА СВОБОДА.

ВА Е ПРИЕТ СЪГЛАСНО

ПРИ ФУНДАМЕНТНИ ПЛОЧИ МОДЕЛЪТ НА ЗЕМНАТА ОСНО
ХИПОТЕЗАТА НА ВИНКЛЕР.

И И ГРАНИЧНИ УСЛОВИЯ.

ЕТАЖНИТЕ ПЛОЧИ СЕ РЕШАВАТ ПРИ ПРОИЗВОЛНИ ПОДПОРН

УМАРНТО ДЕЙСТВИЕ НА

ОРАЗМЕРЯВАНЕТО НА ПЛОЧАТА СЕ ИЗВЪРШВА ЗА С
ОГЪВАЩИТЕ И УСУКВАЩИ МОМЕНТИ.

СОНАЛЕН КОМПЮТЪР.

ПРОГРАМАТА Е ПРЕДНАЗНАЧЕНА ЗА 16 БИТОВ ПЕР

ГОД.

СЪЗДАДЕНА Е В ЦЕССИ ПРЕЗ 1987

ОБЕКТ: РПУ- Карнобат-етажна плоча
 ПРОЕКТАНТ: Тодоров
 РЕШЕНИЕ: Гренди
 ШИФЪР: 3

W1 ДАННИ ЗА ГЕОМЕТРИЯТА НА ПЛОЧАТА

РАЗМЕР НА ПЛОЧАТА ПО ОС X..... 22.63 m.
 РАЗМЕР НА ПЛОЧАТА ПО ОС Y..... 15.94 m.
 ДЕБЕЛИНА НА ПЛОЧАТА..... 0.18 m.
 НАЧАЛНА СЪЛПКА НА ДЕЛЕНЕ НА ПЛОЧАТА..... 0.05 m
 за статическото решение на плочата се използват крайни елементи с 12 степени на свобода

W1 чупки и отвори в плочата

правоъгълна област ограничена с линиите:			
абсциса ляв ръб (m)	абсциса десен ръб (m)	ордината долен ръб (m)	ордината горен ръб (m)
17.14	19.65	0.00	1.66
19.65	20.82	0.00	6.13
20.82	22.02	0.00	9.42
22.02	22.63	9.42	11.15
12.57	22.63	14.98	15.94

W1 ДАННИ ЗА ПОДПИРАНЕ НА ПЛОЧАТА

W1 данни за линейно подпирание по ос X

ордината на линията (m)	начална абсциса (m)	крайна абсциса (m)	вид подпирание	
			свободно	запъване
14.82	16.34	22.63	свободно	
6.42	0.00	4.32	свободно	
6.42	10.45	13.15	свободно	

W1 данни за линейно подпирание по ос Y

абсциса на линията (m)	начална ордината (m)	крайна ордината (m)	вид подпиране	
			свободно	запъване
0.15	0.00	1.85	свободно свободно свободно	
0.15	14.06	15.94		
16.34	11.24	14.98		

W1 данни за подпрени точки

абсциса на точката (m)	ордината на точката (m)
6.00	0.15
12.32	0.15
15.70	0.15
19.43	2.50
20.62	6.33
21.80	9.60
22.40	14.60
6.00	11.23
12.45	11.23
0.15	11.23
6.00	15.74
12.15	15.74

W1 ДАННИ ЗА НАТОВАРВАНЕТО НА ПЛОЧАТА

Отместване по ос X на центъра O1 на коор.система 01x1y1 за товарите.... 0.00 m
Отместване по ос Y на центъра O1 на коор.система 01x1y1 за товарите.... 0.00 m
Общ брой на състоянията на натоварване..... 1
Състояния на натоварване от земетръс..... 0

W1 ТОВАРНИ ПЕЧАТИ

означение на товара (до 7 знака)	координати на центъра на печата		размер на печата	
	абсциса (m)	ордината (m)	по ос X (m)	по ос Y (m)
1	6.29	15.74	12.58	0.25
2	14.36	14.83	3.58	0.25
3	22.48	13.24	0.25	3.48
4	21.85	10.46	0.25	2.08
5	20.67	7.77	0.25	3.29
6	19.48	3.89	0.25	4.46
7	18.41	1.81	2.48	0.25
8	17.00	0.83	0.25	1.66
9	8.58	0.15	17.47	0.25

10	0.15	7.97	0.25	15.94
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W1

ВЕРТИКАЛНИ ТОВАРИ

ОЗНАЧЕНИЕ НА ТОВАРА	СТОЙНОСТ НА ТОВАРА (kN)	СЪСТОЯНИЕ НА НАТОВАРВАНЕ
1	189.00	1
2	54.00	1
3	53.00	1
4	32.00	1
5	50.00	1
6	67.00	1
7	38.00	1
8	25.00	1
9	258.00	1
10	239.00	1

W1

ЗОНИ С РАЗПРЕДЕЛЕН ТОВАР

Правоъгълна област ограничена от линиите:				РАВНОМ. РАЗПР. ТОВАР (kN/м²)	СЪСТО- ЯНИЕ No.
абсциса ляв ръб (m)	абсциса десен ръб (m)	ордината долен ръб (m)	ордината горен ръб (m)		
0.00	22.63	0.00	15.94	11.20	1

W1 КОМБИНАЦИИ ОТ СЪСТОЯНИЯТА НА НАТОВАРВАНЕ

КОМБ. NO.	НОМЕРА НА СЪСТОЯНИЯТА И КОЕФИЦИЕНТИ НА УЧАСТИЕ									
	съст	коэф.	съст	коэф.	съст	коэф.	съст	коэф.	съст	коэф.
1	1	1.00								

W1 ДАННИ ЗА ОРАЗМЕРЯВАНЕ НА ПЛОЧАТА

КЛАС НА БЕТОНА ПО ЯКОСТ НА НАТИСК..... 25
 РАЗСТОЯНИЕ ОТ Ц.Т. НА ДОЛНА (ГОРНА) АРМИРОВКА ДО ДОЛЕН (ГОРЕН) РЪБ ПЛОЧА 0.0 м
 ИЗЧИСЛИТЕЛНО СЪПРОТИВЛЕНИЕ НА НАДЛЪЖНАТА АРМИРОВКА..... 420 МПа
 МИНИМАЛЕН ПРОЦЕНТ НА АРМИРАНЕ НА ПЛОЧАТА..... 0.22 %

О Р А З М Е Р Я В А Н Е

ВЪЗЕЛ НТИ	КОМБИ НАЦИЯ	М О М Е Н Т И		ПРЕМЕСТВАНЕ		ОРАЗМЕРИТЕЛНИ МОМ		
		А Р М И Р О В К А				KNM/M		
		KNM/M		MM				
		CM2/M						
		ОГЪВАЩИ		УСЪКВАЩ				
		Д О Л Н А		Г О Р Н А				
		MX	MY	MXU	W	MX1	MY1	MX
		ПО X	ПО Y	ПО X	ПО Y			
		MY2						
1	1	1.100	1.825	2.183	-.826	3.284	4.008	-1
083	-.358	5.574	5.574	5.574	5.574			
2	1	-5.909	-1.182	3.698	.000	-2.211	2.517	-9
608	-4.880	5.574	5.574	5.574	5.574			
3								
-- More --								
930	1	43.294	.500	-1.636	6.754	41.658	-1.136	44
	2.136	5.574	5.574	5.574	5.574			
4	1	50.801	.975	-13.607	8.809	37.194	-12.632	64
408	14.582	<u>7.739</u>	5.574	5.574	5.574	$x = 2.93$		
5	1	43.373	-2.278	-22.053	5.099	21.320	-24.331	65
426	19.775	<u>7.872</u>	5.574	5.574	5.574	$x = 4.32$		
6	1	-122.565	-1.694	-5.293	-.935	-127.858	-6.986	-117
273	3.599	5.574	5.574	<u>16.990</u>	5.574	$x = 6$		
7	1	37.277	2.531	15.200	4.360	52.477	17.731	22
078	-12.668	6.207	5.574	5.574	5.574			
8	1	52.607	1.287	4.478	8.788	57.085	5.765	48
129	-3.191	<u>6.792</u>	5.574	5.574	5.574	$x = 8.96$		
9	1	47.089	-1.057	-12.973	6.795	34.116	-14.030	60
062	11.916	<u>7.175</u>	5.574	5.574	5.574	$x = 10.45$		
10	1	-79.755	-5.289	-17.834	-.422	-97.589	-23.123	-61
922	12.545	5.574	5.574	<u>12.308</u>	5.574	$x = 12.15$		
-- More --								
11	1	-86.585	1.612	-9.955	-.873	-96.540	-8.344	-76
630	11.567	5.574	5.574	<u>12.155</u>	5.574	$x = 12.32$	78.	
12	1	-74.692	-4.401	-4.137	-1.107	82.000	1.570	-77

555	12	5.735	5.574	5.574	10.214	5.574	$\gamma = 12'45$		
	13								
		1	-63.076	-1.318	.788	-1.245	-62.288	-.530	-63
864		-2.106	5.574	5.574	7.668	5.574	$\gamma = 12'57$		
	14								
		1	-8.454	.686	2.631	-1.301	-5.823	3.317	-11
085		-1.945	5.574	5.574	5.574	5.574			
	15								
		1	22.446	.631	-2.026	-.842	20.421	-1.394	24
472		2.657	5.574	5.574	5.574	5.574			
	16								
		1	-48.752	-1.301	.397	-.928	-48.354	-.904	-49
149		-1.699	5.574	5.574	5.788	5.574			
	17								
		1	-3.802	.505	8.445	.023	4.643	8.951	-12
248		-7.940	5.574	5.574	5.574	5.574			
	18								
		1	-6.107	1.965	9.221	1.281	3.114	11.186	-15
-- More --									
		1	41.233	6.571	-1.967	6.682	39.266	4.604	43
201		8.539	5.574	5.574	5.574	5.574			
	35								
		1	48.220	6.109	-14.804	8.845	33.416	-8.695	63
024		20.913	7.558	5.574	5.574	5.574	$\gamma = 2.93$		
	36								
		1	38.857	10.628	-27.968	5.508	10.890	-17.340	66
825		38.596	8.056	5.574	5.574	5.574	$\gamma = 4.32$		
	37								
		1	-114.408	-21.524	-5.582	.000	-119.991	-27.106	-108
826		-15.941	5.574	5.574	15.715	5.574	$\gamma = 6$		
	38								
		1	31.255	10.050	21.643	4.958	52.898	31.693	9
612		-11.593	6.260	5.574	5.574	5.574	$\gamma = 7.48$		
	39								
		1	48.275	7.796	7.344	9.105	55.619	15.140	40
930		.451	6.605	5.574	5.574	5.574	$\gamma = 8.92$		
	40								
		1	44.429	9.798	-15.511	7.209	28.918	-5.714	59
940		25.309	7.159	5.574	5.574	5.574	$\gamma = 10.45$		
	41								
		1	-58.691	-9.580	-17.248	.429	-75.939	-26.829	-41
443		7.668	5.574	5.574	9.271	5.574	$\gamma = 12.15$		
-- More --									
	42								
		1	-94.152	-22.551	-9.530	.000	-103.682	-32.081	-84
622		-13.022	5.574	5.574	13.205	5.574	$\gamma = 12.32$		
	43								
		1	-69.931	-12.128	-6.373	-.221	-76.303	-18.501	-63
558		-5.756	5.574	5.574	9.321	5.574	$\gamma = 12.45$		
	44								
		1	-53.817	-7.815	-2.191	-.354	-56.008	-10.006	-51
626		-5.624	5.574	5.574	6.655	5.574	$\gamma = 12.57$		
	45								
		1	-8.969	3.557	3.839	-.429	-5.131	7.395	-12
808		-.282	5.574	5.574	5.574	5.574			
	46								
		1	21.030	8.311	-4.228	.014	16.802	4.083	25
258		12.540	5.574	5.574	5.574	5.574			
	47								
		1	-44.641	-11.345	2.482	.000	-42.159	-8.629	-47
124		-13.827	5.574	5.574	5.574	5.574			
	48								
		1	-3.322						

832	90	3.601	5.574	5.574	5.574	5.574			
431	91	101.088	5.574	<u>12.821</u>	5.574	5.574	$y = 1.66$		
861	92	105.396	5.574	<u>13.461</u>	5.574	5.574	$X = 22.40$		
917	93	106.461	5.574	<u>13.621</u>	5.574	5.574	$X = 22.40$		
-- More --									
875	94	108.005	5.574	<u>13.855</u>	5.574	5.574	$y = 1.85$	$X = 22.63$	
113	95	-76.293	5.574	5.574	5.574	5.574	23.514	-7.13	24.915
101	96	-92.237	5.574	5.574	5.574	5.574	9.319	$X = 0$	
277	97	8.802	5.574	5.574	5.574	5.574	23.141	.000	3.181
522	98	26.463	5.574	5.574	5.574	5.574	11.536	$X = 0.15$	
560	99	44.530	5.574	5.574	5.574	5.574	6.636	6.034	37.550
532	100	48.214	5.574	5.672	5.574	5.574	6.034	37.550	22.075
691		12.832	5.574	5.574	5.574	5.574	6.636	9.100	22.241
-- More --									
789	109	36.807	5.574	5.574	5.574	5.574	9.100	22.241	11.183
524	110	32.663	5.574	5.574	5.574	5.574	9.188	-8.136	5.835
844	111	19.345	5.574	5.574	5.574	5.574	-5.834	8.773	-19.200
729	112	-6.931	5.574	5.574	5.574	5.574	8.773	-19.200	36.547
175	113	-9.135	5.574	5.574	5.574	5.574	10.586	25.410	42.933
692	114	-4.922	5.574	5.574	5.574	5.574	15.051	10.586	25.410
912	115	-8.343	5.574	5.574	5.574	5.574	15.051	10.586	25.410
443	121	-13.088	5.574	5.574	5.574	5.574	15.051	10.586	25.410
-- More --									
729	112	-6.931	5.574	5.574	5.574	5.574	21.463	9.178	55.656
175	113	-9.135	5.574	5.574	5.574	5.574	26.033	9.038	93.240
692	114	-4.922	5.574	5.574	5.574	5.574	-3.470	-1.562	-12.632
912	115	-8.343	5.574	5.574	5.574	5.574	-3.873	-1.890	-8.658
443	121	-13.088	5.574	5.574	5.574	5.574	-3.891	-3.003	-2.339
-- More --									

003	113.565	1	483	111.049	-2.520	473.852	-2.038	108.529	3.
122			5.574	14.707	5.574	5.574	X = 22		
266	117.552	1	1.769	112.055	-5.497	475.668	-3.728	106.558	7.
123			5.574	15.329	5.574	5.574	X = 22.40		
884	118.449	1	1.725	112.291	-6.159	476.119	-4.434	106.132	7.
124			5.574	15.471	5.574	5.574	X = 22.48		
369	122.344	1	-.595	115.380	-6.964	476.991	-7.559	108.416	6.
125			5.574	16.092	5.574	5.574	X = 22.63		
802	-25.754	1	-.702	-7.654	18.100	.017	17.399	10.446	-18.
126			5.574	5.574	5.574	5.574			
399	-17.033	1	.624	1.990	19.023	.620	19.647	21.013	-18.
127			5.574	5.574	5.574	5.574			
462	-2.730	1	21.960	9.768	12.498	5.754	34.458	22.265	9.
128			5.574	5.574	5.574	5.574			
931	25.441	1	22.510	22.019	-3.421	8.733	19.088	18.598	25.
-- More --			5.574	5.574	5.574	5.574			
283	49.293		5.574	5.806	5.574	5.574			
137									
742	49.761	1	-6.210	41.808	-7.953	9.332	-14.163	33.856	1.
138			5.574	5.865	5.574	5.574			
308	48.262	1	-5.543	41.411	-6.851	9.350	-12.394	34.560	1.
139			5.574	5.678	5.574	5.574			
965	44.744	1	5.702	38.481	-6.263	10.239	-.562	32.218	11.
140			5.574	5.574	5.574	5.574			
791	37.208	1	19.322	34.740	-2.468	11.287	16.854	32.272	21.
141			5.574	5.574	5.574	5.574			
211	27.690	1	26.519	30.998	3.307	11.401	29.826	34.305	23.
142			5.574	5.574	5.574	5.574			
031	18.007	1	41.985	24.961	6.954	10.887	48.940	31.915	35.
143			5.762	5.574	5.574	5.574			
835	15.574	1	55.606	24.345	8.770	10.653	64.376	33.115	46.
144			7.735	5.574	5.574	5.574	X = 17.14		
-- More --									
989	-32.956	1	-13.093	-44.060	-11.105	.000	-24.198	-55.165	-1.
145			5.574	5.574	5.574	6.547	X = 19.43		
689	-33.652	1	-9.740	-44.081	-10.429	-.311	-20.169	-54.510	.
146			5.574	5.574	5.574	6.464	X = 19.48		
728	-35.560	1	-1.740	-46.028	-10.468	-1.369	-12.208	-56.496	8.
152			5.574	5.574	5.574	6.717	X = 19.65		
330	144.367	1	.349	141.386	-2.981	440.789	-2.631	138.405	3.
153			5.574	19.829	5.574	5.574	X = 22		
018	144.404	1	4.258	142.737	-3.759	442.871	X = 22.499	138.978	8.
			5.574	5.574	5.574	5.574			

154	1	2.484	142.534	$y = 2.50$ -3.186	443.341	-7.702	139.348	5.
671	145.721	5.574	20.073	5.574	5.574	$x = 22.48$		
155								
	1	.737	143.375	-3.498	444.255	-2.760	139.877	4.
235	146.872	5.574	20.282	5.574	5.574	$x = 22.63$		
156								
	1	.308	27.897	15.826	1.567	16.133	43.722	-15.
518	12.071	5.574	5.574	5.574	5.574			
-- More --								

	1	31.620	26.131	$y = 3.81$ -8.231	13.290	23.388	17.899	39.
851	34.362	5.574	5.574	5.574	5.574			
173								
	1	34.472	21.453	-8.579	12.930	25.893	12.874	43.
051	30.032	5.574	5.574	5.574	5.574			
174								
	1	41.944	22.076	-13.061	12.743	28.883	9.015	55.
005	35.138	<u>6.527</u>	5.574	5.574	5.574	$x = 17.14$		
175								
	1	12.216	30.739	-14.713	4.502	-2.497	16.026	26.
930	45.452	5.574	5.574	5.574	5.574			
176								
	1	5.508	30.215	-10.652	4.257	-5.145	19.562	16.
160	40.867	5.574	5.574	5.574	5.574			
177								
	1	3.396	33.266	-10.577	3.426	-7.181	22.689	13.
973	43.844	5.574	5.574	5.574	5.574			
183								
	1	.263	125.416	-3.454	369.272	-3.191	121.962	3.
717	128.870	5.574	<u>17.158</u>	5.574	5.574	$x = 22$		
184								
	1	1.364	125.782	-1.512	371.433	-.147	124.271	2.
876	127.294	5.574	<u>16.897</u>	5.574	5.574	$x = 22.7$		
-- More --								

185								
	1	.466	125.937	-.752	371.919	-.285	125.185	1.
218	126.689	5.574	<u>16.798</u>	5.574	5.574	$x = 22.48$		
186								
	1	-.324	126.777	.693	372.859	.369	127.470	-1.
017	126.084	5.574	<u>16.926</u>	5.574	5.574	$x = 22.63$		
187								
	1	.290	12.785	10.037	1.167	10.327	22.822	-9.
747	2.748	5.574	5.574	5.574	5.574			
188								
	1	4.447	11.593	10.385	1.296	14.832	21.977	-5.
938	1.208	5.574	5.574	5.574	5.574			
189								
	1	2.110	3.971	10.209	2.386	12.320	14.180	-8.
099	-6.239	5.574	5.574	5.574	5.574			
190								
	1	.313	-1.219	9.143	3.332	9.456	7.924	-8.
830	-10.362	5.574	5.574	5.574	5.574			
191								
	1	-13.586	9.431	6.560	4.546	-7.026	15.991	-20.
146	2.871	5.574	5.574	5.574	5.574			
192								
	1	10.935	7.350	-7.954	7.396	2.981	-.604	18.
-- More --								

994	41.351	1	-8.481	45.865	$y = 4.923$	6.368	-3.968	50.378	-12.
214			5.574	5.942	5.574	5.574	$x = 19.65$		
590	61.234	1	.177	57.821	-3.413	286.038	-3.236	54.408	3.
215			5.574	7.326	5.574	5.574	$x = 22$		
471	56.889	1	.658	58.018	1.129	288.251	1.787	59.147	-.
216			5.574	7.057	5.574	5.574	$x = 22.7$		
761	56.477	1	.879	58.117	1.640	288.731	2.519	59.757	-.
217			5.574	7.135	5.574	5.574	$x = 22.78$		
923	55.444	1	.261	58.628	3.184	289.643	3.445	61.812	-2.
218			5.574	7.401	5.574	5.574	$x = 22.63$		
192	-48.497	1	-1.633	-38.938	9.559	.022	7.925	-29.380	-11.
219			5.574	5.574	5.574	5.707			
786	-37.730	1	-4.463	-29.407	8.323	.043	3.860	-21.083	-12.
220			5.574	5.574	5.574	5.574			
-- More --		1	-7.690	-34.931	4.960	.150	-2.730	-29.972	-12.
649	-39.891		5.574	5.574	5.574	5.574			
221									
861	-45.614	1	-7.201	-39.954	5.660	.250	-1.541	-34.294	-12.
222			5.574	5.574	5.574	5.574			
785	-97.516	1	-68.712	-60.443	37.073	.396	-31.639	-23.370	-105.
223			5.574	5.574	13.520	12.297	$x = 4.32$		
629	-13.629	1	22.554	-18.704	-5.075	4.211	17.479	-23.779	27.
224			5.574	5.574	5.574	5.574			
369	-9.788	1	26.861	-6.297	3.492	5.968	30.353	-2.805	23.
225			5.574	5.574	5.574	5.574			
856	-33.564	1	19.495	-26.925	6.639	3.904	26.134	-20.286	12.
226			5.574	5.574	5.574	5.574			
578	-27.112	1	-75.507	-64.041	-36.929	.488	-112.436	-100.970	-38.
227			5.574	5.574	14.532	12.803	$x = 10.45$		
943	-40.881	1	-7.273	-38.211	2.670	.446	-4.603	-35.541	-9.
228			5.574	5.574	5.574	5.574			
-- More --									
026	-41.110	1	-5.673	-38.757	2.353	.450	-3.320	-36.404	-8.
229			5.574	5.574	5.574	5.574			
563	-44.077	1	-4.261	-40.776	3.301	.451	-.960	-37.474	-7.
230			5.574	5.574	5.574	5.574			
053	-69.313	1	-6.353	-58.613	10.700	.447	4.347	-47.913	-17.
231			5.574	5.574	5.574	8.384			
843	-119.814	1	-105.329	-63.300	56.514	.548	-48.814	-6.786	-161.
232			5.574	5.574	23.135	15.687	$x = 13.15$		
072	-18.462	1	2.859	-30.421	-12.012	4.975	-9.153	-42.433	14.
233			5.574	5.574	5.574	5.574			

233	1	26.987	7.333	-6.966	10.195	20.021	.367	33.
953	14.299	5.574	5.574	5.574	5.574			
234	1	32.250	14.507	-7.279	11.938	24.971	7.227	39.
529	21.786	5.574	5.574	5.574	5.574			
235	1	38.862	20.976	-7.403	12.865	31.458	13.573	46.
265	28.380	5.574	5.574	5.574	5.574			
-- More --								

236	1	42.130	22.107	-10.103	12.933	32.026	12.004	52.
233	32.211	6.176	5.574	5.574	5.574	$x = 18.18$		
237	1	45.649	-5.306	5.775	7.609	51.424	.469	39.
873	-11.082	6.074	5.574	5.574	5.574	$x = 19.43$		
238	1	42.691	-6.997	-2.175	7.356	40.517	-9.172	44.
866	-4.822	5.574	5.574	5.574	5.574	$x = 19.48$		
239	1	88.828	-22.147	3.967	6.443	92.795	-18.180	84.
861	-26.114	11.616	5.574	5.574	5.574	$x = 19.65$		
240	1	-38.038	4.156	-23.496	-.513	-61.535	-19.340	-14.
542	27.653	5.574	5.574	7.365	5.574	$x = 20.62$		
241	1	-32.008	.541	-15.622	-.876	-47.630	-15.082	-16.
385	16.163	5.574	5.574	5.599	5.574			
242	1	2.564	2.706	-9.824	-1.942	-7.261	-7.119	12.
388	12.530	5.574	5.574	5.574	5.574			
245	1	-.163	-35.940	-3.231	197.431	-3.394	-39.171	3.
-- More --								

254	1	-96.464	-92.572	-41.413	.000	-137.877	-133.986	-55.
051	-51.159	5.574	5.574	18.684	18.016	$x = 4.32$		
255	1	35.257	-15.510	-5.088	3.817	30.169	-20.598	40.
345	-10.422	5.574	5.574	5.574	5.574			
256	1	26.823	-9.019	-.629	5.568	26.193	-9.648	27.
452	-8.390	5.574	5.574	5.574	5.574			
257	1	34.993	-24.723	6.647	3.488	41.639	-18.076	28.
346	-31.370	5.574	5.574	5.574	5.574			
258	1	-108.756	-99.327	50.441	.000	-58.315	-48.886	-159.
197	-149.768	5.574	5.574	22.611	20.813	$x = 10.45$		
259	1	-6.323	-31.617	3.556	.000	-2.767	-28.061	-9.
880	-35.174	5.574	5.574	5.574	5.574			
260	1	-7.182	-35.912	1.522	.000	-5.660	-34.390	-8.
705	-37.434	5.574	5.574	5.574	5.574			
261	1	-7.066	-35.331	4.551	.000	-2.515	-30.780	-11.
617	-39.882	5.574	5.574	5.574	5.574			
-- More --								

355	-26.094	5.574	5.574	5.574	5.574	12.788	4.247	-17.
$\eta = 6.33$								
НЕДОСТАТЪЧНО СЕЧЕНИЕ								
1	-165.497	-136.740	-80.227	$x = 13.15$	1.000	-245.724	-216.967	-85.2
69	-56.512							
263								
1	29.580	-22.011	-12.026	4.528	17.554	-34.037	41.	
606	-9.985	5.574	5.574	5.574	5.574			
264								
1	25.863	2.882	-5.125	9.834	20.738	-2.243	30.	
988	8.007	5.574	5.574	5.574	5.574			
265								
1	32.415	13.911	-5.294	11.635	27.120	8.617	37.	
709	19.206	5.574	5.574	5.574	5.574			
266								
1	37.957	18.484	-6.436	12.629	31.521	12.048	44.	
393	24.920	5.574	5.574	5.574	5.574			
267								
1	39.658	19.338	-8.101	12.714	31.556	11.237	47.	
759	27.439	5.615	5.574	5.574	5.574			
268								
-- More --								
1	42.674	.912	-7.950	7.647	34.723	-7.038	50.	
624	8.863	5.973	5.574	5.574	5.574			
269								
1	40.781	-.926	-8.560	7.398	32.220	-9.486	49.	
341	7.635	5.812	5.574	5.574	5.574			
270								
1	59.471	-4.649	-11.322	6.497	48.149	-15.971	70.	
792	6.672	<u>8.581</u>	5.574	5.574	5.574	$x = 19.65$		
271								
1	-29.386	-31.831	-22.594	.000	-51.980	-54.425	-6.	
791	-9.237	5.574	5.574	<u>6.144</u>	<u>6.453</u>	$x = 20.6$		
272								
1	-17.677	-26.787	-19.573	-.347	-37.250	-46.359	1.	
896	-7.214	5.574	5.574	5.574	5.574			
273								
1	-1.383	-28.014	-17.478	-1.377	-18.861	-45.492	16.	
095	-10.536	5.574	5.574	5.574	5.574			
276								
1	-.710	-53.042	-1.808	182.874	-2.518	-54.850	1.	
098	-51.234	5.574	5.574	5.574	<u>6.507</u>	$x = 22.02$		
277								
1	-2.719	-49.015	2.484	185.124	-.235	-46.532	-5.	
203	-51.499	5.574	5.574	5.574	<u>6.083</u>	$x = 22.40$		
-- More --								
278								
1	-3.862	-47.621	2.912	185.588	-.950	-44.709	-6.	
774	-50.532	5.574	5.574	5.574	<u>5.962</u>			
279								
1	-.415	-47.661	2.806	186.449	2.391	-44.855	-3.	
221	-50.467	5.574	5.574	5.574	5.954			
280								
1	-2.163	-42.571	-3.021	.014	-5.184	-45.592	.	
859	-39.550	5.574	5.574	5.574	5.574			
281								
1	-7.065	-34.500	3.541	.013	-3.523	-30.959	-10.	
606	-38.042	5.574	5.574	5.574	5.574			
282								
1	-8.430	-40.527	5.077	-.032	-3.353	-35.450	-13.	
507	-45.604	5.574	5.574	5.574	5.574			
287								

528	-46.730	1	-8.026	-41.228	5.502	-.079	-2.524	-35.727	-13.
284			5.574	5.574	5.574	5.574			
040	-35.045	1	-81.044	-76.049	$\mu = 6.42$	-41.004	-.120	-122.048	-117.053
285			5.574	5.574	<u>16.044</u>	<u>15.251</u>			-40.
							$\cdot X = 4.32$		
-- More --		1	26.770	-19.131	7.367	3.658	34.137	-11.763	19.

403	-26.498		5.574	5.574	5.574	5.574			
286									
		1	26.083	-7.628	-4.085	5.401	21.998	-11.714	30.
169	-3.543		5.574	5.574	5.574	5.574			
287									
		1	25.173	-28.100	5.109	3.327	30.282	-22.991	20.
063	-33.210		5.574	5.574	5.574	5.574			
288									
		1	-89.820	-81.241	50.081	-.158	-39.740	-31.161	-139.
901	-131.322		5.574	5.574	<u>19.037</u>	<u>17.567</u>			$X = 10.45$
289									
		1	-9.280	-39.153	-2.934	-.172	-12.214	-42.087	-6.
346	-36.219		5.574	5.574	5.574	5.574			
290									
		1	-7.186	-39.562	2.791	-.172	-4.394	-36.770	-9.
977	-42.353		5.574	5.574	5.574	5.574			
291									
		1	-4.267	-41.091	4.912	-.173	.645	-36.179	-9.
180	-46.004		5.574	5.574	5.574	5.574			
292									
		1	10.841	-52.884	8.431	-.179	19.272	-44.453	2.
410	-61.315		5.574	5.574	5.574	7.336			
293									
-- More --									

НЕДОСТАТЪЧНО СЕЧЕНИЕ			$X = 13.15$						
72	-8.286	1	-127.300	-89.114	-80.828	-.171	-208.128	-169.942	-46.4
294									
		1	10.271	-30.766	-9.286	4.348	.985	-40.051	19.
556	-21.480		5.574	5.574	5.574	5.574			
295									
		1	25.890	5.926	-5.355	9.672	20.534	.570	31.
245	11.281		5.574	5.574	5.574	5.574			
296									
		1	31.654	13.446	-5.604	11.492	26.050	7.841	37.
258	19.050		5.574	5.574	5.574	5.574			
297									
		1	37.733	18.178	-7.416	12.513	30.317	10.762	45.
149	25.593		5.574	5.574	5.574	5.574			
298									
		1	38.166	18.610	-7.482	12.605	30.684	11.128	45.
648	26.092		5.574	5.574	5.574	5.574			
299									
		1	39.570	4.135	-13.961	7.672	25.609	-9.825	53.
530	18.096		<u>6.340</u>	5.574	5.574	5.574			$X = 19.43$
300									
		1	41.303	3.389	-11.964	7.426	29.339	-8.575	53.
-- More --									

268	15.354		<u>6.307</u>	5.574	5.574	5.574	$X = 19.48$		
301									

677	8.114	51.266	-14.298	5.574	5.574	5.574	28.854	-36.710	73.
302		<u>8.966</u>							
	1	-14.262	-13.397	-29.048	.245	-43.311	-42.446	14.	
786	15.651	5.574	5.574	5.574	5.574				
303									
	1	-11.423	-17.110	-24.204	-.094	-35.627	-41.315	12.	
781	7.094	5.574	5.574	5.574	5.574				
304									
	1	-8.660	-35.714	-23.552	-1.105	-32.212	-59.266	14.	
891	-12.163	5.574	5.574	5.574	<u>7.072</u>				
307									
	1	-3.193	-64.467	-1.457	176.368	-4.650	-65.923	-1.	
737	-63.010	5.574	5.574	5.574	<u>7.937</u>				
308									
	1	-4.315	-60.127	5.762	178.616	1.447	-54.366	-10.	
077	-65.889	5.574	5.574	5.574	<u>7.933</u>				
309									
	1	-4.273	-59.688	5.351	179.079	1.078	-54.337	-9.	
623	-65.038	5.574	5.574	5.574	<u>7.821</u>				
310									
-- More --									

$$x = 19.65$$

$$x = 20.8$$

$$x = 22$$

$$x = 22.4$$

$$x = 22.48$$

	1	-3.693	-60.537	7.302	179.936	3.610	-53.234	-10.	
995	-67.839	5.574	5.574	5.574	<u>8.189</u>				
311									
	1	.364	15.085	-3.700	1.656	-3.336	11.385	4.	
064	18.785	5.574	5.574	5.574	5.574				
312									
	1	5.279	13.836	-3.900	1.646	1.379	9.936	9.	
179	17.736	5.574	5.574	5.574	5.574				
313									
	1	3.410	3.862	-2.919	1.402	.491	.942	6.	
329	6.781	5.574	5.574	5.574	5.574				
314									
	1	-.820	-4.745	4.785	.898	3.965	.040	-5.	
604	-9.529	5.574	5.574	5.574	5.574				
315									
	1	-17.928	6.711	11.887	.720	-6.041	18.598	-29.	
815	-5.176	5.574	5.574	5.574	5.574				
316									
	1	2.155	-2.077	10.416	2.308	12.571	8.339	-8.	
261	-12.493	5.574	5.574	5.574	5.574				
317									
	1	18.735	-4.888	-6.196	3.536	12.539	-11.083	24.	
930	1.308	5.574	5.574	5.574	5.574				
-- More --									

$$y = 4.92$$

333	1	10.360	38.242	-19.392	3.989	-9.032	18.850	29.	
752	57.634	5.574	<u>6.863</u>	5.574	5.574				
334									
	1	8.230	39.606	-15.886	3.811	-7.656	23.720	24.	
116	55.493	5.574	<u>6.589</u>	5.574	5.574				
335									
	1	11.639	46.565	-15.782	3.277	-4.143	30.783	27.	
421	62.347	5.574	<u>7.470</u>	5.574	5.574				
338									

$$x = 20.6$$

$$x = 20.67$$

$$x = 20.8$$

НЕДОСТАТЪЧНО СЕЧЕНИЕ									
	1	28.878	-197.249	31.002	75.241	59.880	-166.247	-2.1	
24	-228.250								
339									
НЕДОСТАТЪЧНО СЕЧЕНИЕ									
	1	19.081	-219.704	35.388	77.480	54.470	-184.315	-16.3	
07	-255.092								

340									
НЕДОСТАТЪЧНО СЕЧЕНИЕ									
1	16.801	-227.157	14.889	77.893	31.691	-212.268	1.9		
12	-242.047								
341									
НЕДОСТАТЪЧНО СЕЧЕНИЕ									
1	-7.936	-230.726	15.689	78.614	7.753	-215.037	-23.6		
-- More --									
721	9.666	5.574	5.574	5.574	5.574				
365									
1	-7.804	23.064	16.743	3.687	8.939	39.808	-24.		
547	6.321	5.574	5.574	5.574	5.574				
366									
1	-38.250	26.203	54.779	3.311	16.529	80.982	-93.		
028	-28.575	5.574	9.959	11.649	5.574	x → 20.82			
367									
НЕДОСТАТЪЧНО СЕЧЕНИЕ									
1	-568.698	-87.444	197.554	1.706	-371.145	110.110	-766.2		
52	-284.998								
368									
НЕДОСТАТЪЧНО СЕЧЕНИЕ									
1	-390.299	372.915	1216.397	1.753	826.098	1589.312	-1606.6		
96	-843.482								
369									
НЕДОСТАТЪЧНО СЕЧЕНИЕ									
1	-340.273	-2897.184	1328.789	2.241	988.516	-1568.395	-1669.0		
63	-4225.974								
370									
НЕДОСТАТЪЧНО СЕЧЕНИЕ									
1	-24.510	-226.956	311.697	3.044	287.187	84.740	-336.2		
07	-538.653								
-- More --									
371									
НЕДОСТАТЪЧНО СЕЧЕНИЕ									
1	-16.021	-204.386	119.229	3.173	103.208	-85.157	-135.2		
50	-323.615								
372									
НЕДОСТАТЪЧНО СЕЧЕНИЕ									
1	4.031	-187.611	60.730	3.381	64.762	-126.881	-56.6		
99	-248.341								
373									
1	-2.177	29.575	-16.317	1.863	-18.494	13.258	14.		
141	45.892	5.574	5.574	5.574	5.574				
374									
1	7.032	29.899	-15.933	2.026	-8.901	13.966	22.		
965	45.832	5.574	5.574	5.574	5.574				
375									
1	12.518	10.505	-10.768	3.279	1.750	-1.263	23.		
286	21.273	5.574	5.574	5.574	5.574				
376									
1	13.512	7.100	1.411	3.322	14.922	8.510	12.		
101	5.689	5.574	5.574	5.574	5.574				
377									
1	-2.116	1.936	11.915	2.101	9.798	13.851	-14.		
031	-9.979	5.574	5.574	5.574	5.574				
-- More --									
1	23.173	4.543	-6.397	6.083	16.776	-1.855	29.		
570	10.940	5.574	5.574	5.574	5.574				
394									
1	22.255	4.346	-4.868	5.806	17.387	-1.522	27.		

123	9.215	5.574	5.574	5.574	5.574				
395									
	1	13.047	19.071	21.068	3.554	34.115	40.139	-8.	
021	-1.996	5.574	5.574	5.574	5.574				
396									
	1	19.970	35.675	32.161	3.415	52.131	67.836	-12.	
190	3.514	6.163	8.189	5.574	5.574	$x = 20.67$			
397									
	1	52.319	45.705	77.733	2.981	130.052	123.438	-25.	
415	-32.029	17.354	16.268	5.574	5.574	$x = 20.8$			
398									
НЕДОСТАТЪЧНО СЕЧЕНИЕ									
	1	-72.140	-283.475	174.565	.000	102.425	-108.910	-246.	
05	-458.041								
399									
НЕДОСТАТЪЧНО СЕЧЕНИЕ									
	1	-82.979	-663.878	149.932	-.144	66.954	-513.946	-232.9	
11	-813.810								
400									
-- More --									
НЕДОСТАТЪЧНО СЕЧЕНИЕ									
	1	37.266	-286.980	87.787	-.711	125.053	-199.192	-50.5	
22	-374.767								
404									
	1	-4.814	-64.165	-14.787	-.488	-19.601	-78.952	9.	
972	-49.378	5.574	5.574	5.574	9.681	$x = 0$			
405									
	1	-11.780	-49.130	-14.257	.000	-26.037	-63.387	2.	
477	-34.872	5.574	5.574	5.574	7.605	$x = 0.15$			
406									
	1	27.424	3.150	-10.406	3.932	17.018	-7.256	37.	
830	13.555	5.574	5.574	5.574	5.574				
407									
	1	24.556	4.718	-4.919	5.017	19.637	-.201	29.	
475	9.637	5.574	5.574	5.574	5.574				
408									
	1	20.514	-8.714	5.585	3.114	26.099	-3.129	14.	
929	-14.299	5.574	5.574	5.574	5.574				
409									
	1	-81.451	-84.318	9.945	.000	-71.506	-74.373	-91.	
396	-94.263	5.574	5.574	11.416	11.827	$x = 6$			
410									
	1	17.172	-14.540	-5.406	2.981	11.766	-19.946	22.	
-- More --									
578	-9.135	5.574	5.574	5.574	5.574				
411									
	1	24.339	2.218	-4.592	5.290	19.747	-2.374	28.	
932	6.810	5.574	5.574	5.574	5.574				
412									
	1	22.202	.888	3.405	4.332	25.607	4.293	18.	
797	-2.517	5.574	5.574	5.574	5.574				
413									
	1	-26.679	-36.499	3.971	.497	-22.707	-32.528	-30.	
650	-40.470	5.574	5.574	5.574	5.574				
414									
	1	-45.190	-48.555	4.030	.188	-41.160	-44.524	-49.	
220	-52.585	5.574	5.574	5.797	6.220	$x = 12.57$			
415									
	1	-72.500	-73.713	7.749	.000	-64.751	-65.965	-80.	
249	-81.462	5.574	5.574	9.858	10.025	$x = 12.45$			
416									
	1	-47.128	-49.191	8.976	-.122	-38.152	-40.214	-54.	

103	-58.167	5.574	5.574	6.667	6.931	$x = 12.57$			
417									
	1	-12.917	-27.921	7.548	-.297	-5.369	-20.373	-20.	
464	-35.468	5.574	5.574	5.574	5.574				
418									
-- More --									
	1	4.764	-16.213	10.423	-.130	15.187	-5.790	-5.	
659	-26.637	5.574	5.574	5.574	5.574				
419									
	1	-15.539	-44.813	-12.287	-.255	-27.826	-57.100	-3	
252	-32.526	5.574	5.574	5.574	6.794	$x = 15.80$			
420									
	1	-74.621	-98.080	29.547	.000	-45.074	-68.532	-104.	
168	-127.627	5.574	5.574	13.278	16.952	$x = 16.37$			
421									
	1	-4.511	-47.989	21.274	1.307	16.764	-26.714	-25.	
785	-69.263	5.574	5.574	5.574	8.377	$x = 17$			
422									
	1	3.424	-28.267	5.930	1.624	9.354	-22.337	-2.	
506	-34.197	5.574	5.574	5.574	5.574				
423									
	1	29.806	-1.896	-7.176	4.104	22.629	-9.072	36.	
982	5.280	5.574	5.574	5.574	5.574				
424									
	1	29.184	-1.652	-8.011	4.069	21.173	-9.663	37.	
196	6.360	5.574	5.574	5.574	5.574				
425									
	1	27.052	-3.526	-13.972	3.916	13.080	-17.498	41.	
024	10.446	5.574	5.574	5.574	5.574				
-- More --									
426									
	1	16.805	-22.390	-19.760	2.145	-2.955	-42.149	36.	
565	-2.630	5.574	5.574	5.574	5.574				
427									
	1	15.015	-23.508	-21.387	2.019	-6.371	-44.895	36.	
402	-2.121	5.574	5.574	5.574	5.574				
428									
	1	9.750	-28.505	-22.542	1.630	-12.792	-51.047	32.	
293	-5.963	5.574	5.574	5.574	6.027	$x = 20.8$			
429									
	1	-39.671	40.510	-25.873	-1.117	-65.543	14.637	-13.	
798	66.382	5.574	7.997	7.887	5.574	$x = 21.8$			
430									
	1	-32.694	41.436	-14.139	-1.254	-46.833	27.298	-18.	
556	55.575	5.574	6.599	5.574	5.574	$x = 22$			
431									
	1	-46.533	61.947	-17.336	-1.684	-63.869	44.611	-29.	
197	79.283	5.574	9.726	7.668	5.574				
432									
	1	-12.184	13.239	-9.057	-2.453	-21.241	4.182	-3.	
127	22.296	5.574	5.574	5.574	5.574				
433									
	1	-8.312	-1.553	-3.842	-2.593	-12.154	-5.394	-4.	
-- More --									
470	2.289	5.574	5.574	5.574	5.574				
434									
	1	1.130	1.291	-3.583	-2.849	-2.452	-2.292	4.	
713	4.873	5.574	5.574	5.574	5.574				
435									
	1	-4.399	-55.676	-5.406	-.534	-9.805	-41.082		

436	1	-7.391	-37.156	-8.521	7.306	-15.911	-45.677	1.
130	-28.636	5.574	5.574	5.574	5.574			
437	1	26.747	.245	-7.251	3.973	19.496	-7.006	33.
998	7.495	5.574	5.574	5.574	5.574			
438	1	25.190	5.109	-4.323	5.110	20.867	.786	29.
513	9.432	5.574	5.574	5.574	5.574			
439	1	19.335	-10.530	-2.894	3.209	16.441	-13.424	22.
229	-7.637	5.574	5.574	5.574	5.574			
440	1	-77.403	-66.754	5.896	.100	-71.507	-60.859	-83.
298	-72.650	5.574	5.574	10.279	8.829			
441	-- More --							

$$x = 6$$

759	-18.909	15.867	-16.801	2.108	3.063	17.975	-14.694	13.
442	1	5.574	5.574	5.574	5.574			
770	6.940	24.698	2.868	-4.072	5.400	20.626	-1.204	28.
443	1	5.574	5.574	5.574	5.574			
773	2.965	22.495	.687	-2.278	4.454	20.216	-1.592	24.
444	1	5.574	5.574	5.574	5.574			
642	-38.404	-28.792	-35.554	2.850	.599	-25.943	-32.704	-31.
445	1	5.574	5.574	5.574	5.574			
272	-39.926	-45.012	-38.666	1.260	.290	-43.751	-37.405	-46.
446	1	5.574	5.574	5.574	5.574			
519	-42.266	-53.270	-36.017	6.249	.101	-47.020	-29.767	-59.
447	1	5.574	5.574	7.105	5.574			
889	-51.391	-48.588	-41.090	10.301	-.029	-38.287	-30.789	-58.
448	1	5.574	5.574	7.024	6.070			
267	-37.398	-12.714	-27.845	9.553	-.239	-3.161	-18.292	-22.
-- More --		5.574	5.574	5.574	5.574			

$$x = 12.45$$

$$x = 12.57$$

556	1	-32.073	-49.589	-14.521	.000	-46.594	-64.109	-17.
553	-35.068	5.574	5.574	5.574	7.700			
557	1	-11.482	-42.288	-8.783	-.010	-20.265	-51.071	-2.
699	-33.504	5.574	5.574	5.574	6.029			
558	1	-.473	-36.008	-7.997	-.025	-8.470	-44.005	7.
524	-28.011	5.574	5.574	5.574	5.574			
559	1	.517	.900	-7.007	-.741	-6.490	-6.107	7.
524	7.907	5.574	5.574	5.574	5.574			
560	1	2.756	.551	-6.729	.000	-3.973	-6.178	9.
485	7.280	5.574	5.574	5.574	5.574			
561	1	34.505	3.476	-3.544	6.009	30.961	-.067	38.
048	7.020	5.574	5.574	5.574	5.574			
562	1	38.474	7.557	5.163	8.185	43.637	12.720	33.
311	2.394	5.574	5.574	5.574	5.574			

583
 213 1 13.266 11.047 16.478 6.113 29.744 27.525 -3.
 -5.431 5.574 5.574 5.574 5.574
 -- More --

584 45.605 5.574 5.574 $y = 14.82$ 6.215 5.574 $x = 12.57$
 572
 309 1 -3.752 5.842 -23.060 1.793 -26.812 -17.219 19.
 28.902 5.574 5.574 5.574 5.574
 573
 935 1 12.649 3.203 -6.287 1.441 6.362 -3.084 18.
 9.489 5.574 5.574 5.574 5.574
 574
 524 1 -4.363 .986 3.161 .372 -1.202 4.147 -7.
 -2.175 5.574 5.574 5.574 5.574
 575
 781 1 -40.693 -8.139 11.088 .000 -29.605 2.950 -51.
 -19.227 5.574 5.574 6.119 5.574 $x = 16.34$
 576
 942 1 .969 4.846 9.911 .000 10.880 14.757 -8.
 -5.065 5.574 5.574 5.574 5.574
 577
 158 1 .016 .081 10.174 .000 10.190 10.255 -10.
 -10.093 5.574 5.574 5.574 5.574
 578
 071 1 -.548 -2.738 5.523 .000 4.975 2.785 -6.
 -8.261 5.574 5.574 5.574 5.574
 579
 -- More --

788 -8.368 5.574 5.574 $y = 14.98$ 5.574 5.574
 595
 136 1 -52.488 21.790 3.649 2.613 -48.839 25.438 -56.
 18.141 5.574 5.574 6.671 5.574 $x = 6$
 596
 974 1 7.408 11.129 -16.566 5.295 -9.157 -5.437 23.
 27.695 5.574 5.574 5.574 5.574
 597
 982 1 35.436 11.891 -3.546 8.217 31.891 8.346 38.
 15.437 5.574 5.574 5.574 5.574
 598
 299 1 28.724 10.364 12.426 7.085 41.150 22.789 16.
 -2.062 5.574 5.574 5.574 5.574
 599
 414 1 -23.826 36.341 11.588 2.473 -12.238 47.929 -35.
 24.753 5.574 5.636 5.574 5.574
 600
 308 1 -28.117 43.149 6.191 2.125 -21.926 49.340 -34.
 36.958 5.574 5.812 5.574 5.574
 601
 425 1 -30.056 55.214 -5.631 1.905 -35.687 49.583 -24.
 60.845 5.574 7.276 5.574 5.574
 602
 -- More --
 663 1 -78.235 76.257 -8.572 1.742 -86.806 67.685 -69.
 84.829 5.574 10.491 10.768 5.574 $x = 12.57$
 603
 442 1 23.415 -6.405 -23.027 1.613 .388 93. -29.432 46.
 16.622 5.574 5.574 5.574 5.574
 604

042	8.088	5.574	5.574	5.574	5.574	1.465	9.735	-4.220	22.
605									
277	-1.180	-5.541	.556	1.736	.391	-3.805	2.292	-7.	
606		5.574	5.574	5.574	5.574				
372	-17.144	-30.286	-6.057	11.086	.000	-19.199	5.029	-41.	
607		5.574	5.574	5.574	5.574				
348	-6.346	4.575	.576	6.923	-.049	11.497	7.499	-2.	
608		5.574	5.574	5.574	5.574				
810	-7.123	-5.835	-1.149	5.974	-.062	.139	4.825	-11.	
609		5.574	5.574	5.574	5.574				
939	-9.539	-15.217	-2.817	6.722	-.250	-8.495	3.905	-21.	
-- More --		5.574	5.574	5.574	5.574				

625	1	35.111	10.865	20.302	5.411	55.413	31.167	14.	
809	-9.437	<u>6.579</u>	5.574	5.574	5.574	$x = 4.32$			
626									
324	-27.562	-105.129	-25.366	2.196	.000	-102.933	-23.170	-107.	
627		5.574	5.574	<u>13.752</u>	5.574	$x = 6$			
866	28.937	25.099	10.170	-18.767	4.231	6.332	-8.597	43.	
628		5.574	5.574	5.574	5.574				
165	9.480	42.336	4.650	-4.830	8.108	37.506	-.179	47.	
629		5.574	5.574	5.574	5.574				
594	-4.278	43.950	10.078	14.356	6.577	58.306	24.434	29.	
630		<u>6.949</u>	5.574	5.574	5.574	$x = 10.45$			
156	-33.651	-51.906	-15.402	18.249	.000	-33.657	2.848	-70.	
631		5.574	5.574	<u>8.496</u>	5.574	$x = 12.15$			
705	-28.479	-23.937	-10.711	17.769	-.508	-6.168	7.058	-41.	
632		5.574	5.574	5.574	5.574				
636	-31.771	-6.885	-14.019	17.752	-.864	10.867	3.732	-24.	
-- More --		5.574	5.574	5.574	5.574				

633									
155	-42.967	10.829	-24.982	17.984	-1.188	28.814	-6.998	-7.	
652		5.574	5.574	5.574	5.574				
673	5.843	1.308	2.478	-3.365	-.833	-2.058	-.888	4.	
653		5.574	5.574	5.574	5.574				
860	3.869	-12.161	-2.432	-6.302	.000	-18.463	-8.734	-5.	
654		5.574	5.574	5.574	5.574				
223	3.928	45.995	.700	-3.228	6.876	42.767	-2.528	49.	
655		5.798	5.574	5.574	5.574				
679	-7.042	49.629	.907	7.950	8.900	57.578	8.857	41.	
656		<u>6.855</u>	5.574	5.574	5.574	$x = 2.93$			
682	-19.050	40.601	-2.131	16.920	5.227	57.521	14.789	23.	
		<u>16.848</u>	5.574	5.574	5.574	$x = 4.22$			

94.

823	1	-113.983	-1.648	2.840	-0.735	-111.142	1.192	-116.
658		5.574	5.574	15.214	5.574	$x=6$		
	1	32.102	2.497	-14.186	3.914	17.966	-11.689	46.

-- More --

337	16.683	5.574	5.574	5.574	5.574			
659								
733	1	47.331	1.204	-3.402	8.092	43.928	-2.199	50.
660		5.987	5.574	5.574	5.574			
014	1	47.045	.927	13.031	6.434	60.075	13.958	34.
661		<u>7.176</u>	5.574	5.574	5.574	$x=10.45$		
812	1	-49.481	-1.827	18.330	-0.707	-31.151	16.504	-67.
662		5.574	5.574	8.186	5.574			
211	1	-28.818	-0.282	14.393	-1.262	-14.425	14.111	-43.
663		5.574	5.574	5.574	5.574			
679	1	-12.294	-1.062	9.385	-1.646	-2.909	8.323	-21.
664		5.574	5.574	5.574	5.574			
796	1	-3.150	5.111	2.646	-1.987	-0.504	7.756	-5.
		5.574	5.574	5.574	5.574			

5.89 Т СТОМАНА ЗА НАДЛЪЖНА АРМИРОВКА
 100.02 КГ СТОМАНА ЗА 1 М3 БЕТОН
 58.93 М3 БЕТОН
 -- More --

Версия 1.1/януари 1987

Програма за статическо изчисление и изследване на непрекъснати греди натоварени с произволни товари.

Второй полета = 2
n = 1

```
=====
! ! ! ! ! Конц. ! Конц. ! Разпределен ! Триъгълник !
Триъгълник ! Кат. !
! ! ! ! ! моменти ! сили ! товар ! на дясно !
на ляво ! тов. !
Поле! L ! I ! Ръб! Ръб!-----
! ! ! ляво! дяс. ! Стой-! Абс-! Стой-! Абс-! Стой-! Нач! Край! Стой-! Нач! Край! С
ой-! Нач! Край! !
! ! ! ! ! ност ! циса! ност ! циса! ност ! ! ! ност ! ло ! ! н
ост ! ло ! ! ! ! ! ! ! ! ! ! ! ! ! ! ! ! !
! ! ! ! !
=====
1 ! 1.8! 1 ! 0 ! 0 ! ! ! ! ! 3.7 ! 0 ! 1.8! ! ! !
! ! ! 1 !
=====
2 ! 5.6! 1 ! 0 ! 0 ! ! ! ! ! 3.7 ! 0 ! 5.6! ! ! !
! ! ! 1 !
=====
```

Опорни моменти

M1 = -11.341

Опорни реакции

R1 = -2.970
R2 = +22.015
R3 = +8.335

Поле # 1

```
=====
М ляво = +0.000 М дяс. = -11.341
Q ляво = -2.970 Q дяс. = -9.630
3 полето няма положителен момент !
+M max = +0.000 X = +0.000
-M max = -11.341 X = +1.800
```


М левое =	-11.341	М дяс. =	+0.000
Q левое =	+12.385	Q дяс. =	-8.335
+M max =	<u>+9.384</u>	X =	+3.300
-M max =	-11.341	X =	+0.000

$$\max M = 93,8 \text{ кНм.}$$

покрытие го покрытие - $C = 31 \text{ мм.}$

$$d = 400 - 31 - \frac{14}{2} = 362 \text{ мм}$$

$$b_{wd} = 25 \cdot 36,2 = 905 \text{ см}^2$$

$$m = \frac{9380}{1,13 \cdot 25 \cdot 36,2^2} = 0,25 - \eta = 0,849$$

$$A_s = \frac{9380}{36,5 \cdot 0,849 \cdot 36,2} = 8,56 \text{ см}^2 - \frac{4 \times 48}{10,18 \text{ см}^2}$$

опора - $M = 113,4 \text{ кНм.}$

$$m = \frac{11340}{1,13 \cdot 25 \cdot 36,2^2} = 0,30 - \eta = 0,81$$

$$A_s = \frac{11340}{36,5 \cdot 0,81 \cdot 36,2} = 10,6 \text{ см}^2 \quad \begin{array}{l} \text{гал. } 2,26 \text{ см}^2 \text{ сег} \\ \text{гал. } 4 \times 20 \end{array}$$