

ΕΡΓΟ: ΧΩΡΟΣ ΠΡΟΣΩΡΙΝΟΥ ΣΤΑΒΛΙΣΜΟΥ ΖΩΩΝ ΝΕΟΥ ΣΦΑΓΕΙΟΥ
ΚΕΑΣ

ΕΡΓΟΔΟΤΗΣ: ΔΗΜΟΣ ΚΕΑΣ

ΤΕΧΝΙΚΗ ΠΕΡΙΓΡΑΦΗ

1. ΓΕΝΙΚΑ

Το έργο περιλαμβάνει την ανέγερση ενός μεταλλικού κτιρίου. Η χρήση του αφορά χώρο προσωρινού σταβλισμού ζώων νέου σφαγείου στην Κέα.

Ο φέρων οργανισμός της κατασκευής μορφώνεται από δίρριχτα μεταλλικά πλαίσια και πρότυπες ολόσωμες διατομές, ποιότητας Fe430 όσον αφορά τους στύλους και Fe360 όσον αφορά τα λοιπά μεταλλικά στοιχεία. Οι στύλοι είναι διατομής HEA140 και οι αμείβοντες διατομής IPE200. Κατασκευάζονται αντιανέμιοι σύνδεσμοι διατομής L50X50X5 που παραλαμβάνουν τα σεισμικά και τα φορτία του ανέμου και σταθεροποιούν εν γένει την κατασκευή.

3. ΠΑΡΑΔΟΧΕΣ ΥΠΟΛΟΓΙΣΜΟΥ

Κατά την σύνταξη της στατικής και αντισεισμικής μελέτης του φέροντα οργανισμού έγιναν οι ακόλουθες παραδοχές:

ΥΛΙΚΑ

Χάλυβας λοιπών μεταλλικών στοιχείων Fe360
Χάλυβας μεταλλικών στύλων..... Fe430

ΦΟΡΤΙΑ

Ίδιο Βάρος Χάλυβα..... 78,5 kN/m³
Επικάλυψη στέγης..... 0,07 kN/m²
Χιόνι ύψους..... 0,32 kN/m²
Άνεμος..... 0,87 kN/m²

ΣΕΙΣΜΙΚΟΤΗΤΑ

Σεισμικότητα Περιοχής.....(I)
Σεισμική Επιτάχυνση Εδάφους.....A=0.16g
Συντελεστής Συμπεριφοράς κατασκευής.....q=1.50

5. ΙΣΧΥΟΝΤΕΣ ΚΑΝΟΝΙΣΜΟΙ

Τόσο κατά την εκπόνηση των μελετών φέροντα οργανισμού, όσο και για την εκτέλεση των αντιστοιχων εργασιών ισχύουν οι παρακάτω Κανονισμοί - Διατάγματα

- Πρότυπα και όλες οι Εγκύκλιοι, Αποφάσεις, Παραρτήματα, Τροποποιήσεις, Αιτιολογικές Εκθέσεις και Σχόλια που τους συμπληρώνουν:

- ΕΥΡΩΚΩΔΙΚΑΣ 1
- ΕΥΡΩΚΩΔΙΚΑΣ 3
- Ελληνικός Αντισεισμικός Κανονισμός (ΕΑΚ2003)
(Δ 17α /115/9/ΦΝ 275/7/12-8-2003, Φ.Ε.Κ. 1154B')
- Κανονισμός Τεχνολογίας Χαλύβων Σκυροδέματος 2008
(Φ.Ε.Κ. 1416/B/17-07-2008 Φ.Ε.Κ. 2113/B/13-10-2008)

ΣΤΡΙΓΓΑΡΗΣ Α. ΧΡΗΣΤΟΣ
ΤΟΠΟΓΡΑΦΟΣ ΜΗΧΑΝΙΚΟΣ Τ Ε
ΑΡ ΤΕΕ 11630
ΚΙΝΙ ΣΥΡΟΥ - 84100
ΤΗΛ. & FAX 2281079158 - ΚΙΝ 6947309325
ΑΦΜ 031294610 ΔΟΥ ΣΥΡΟΥ



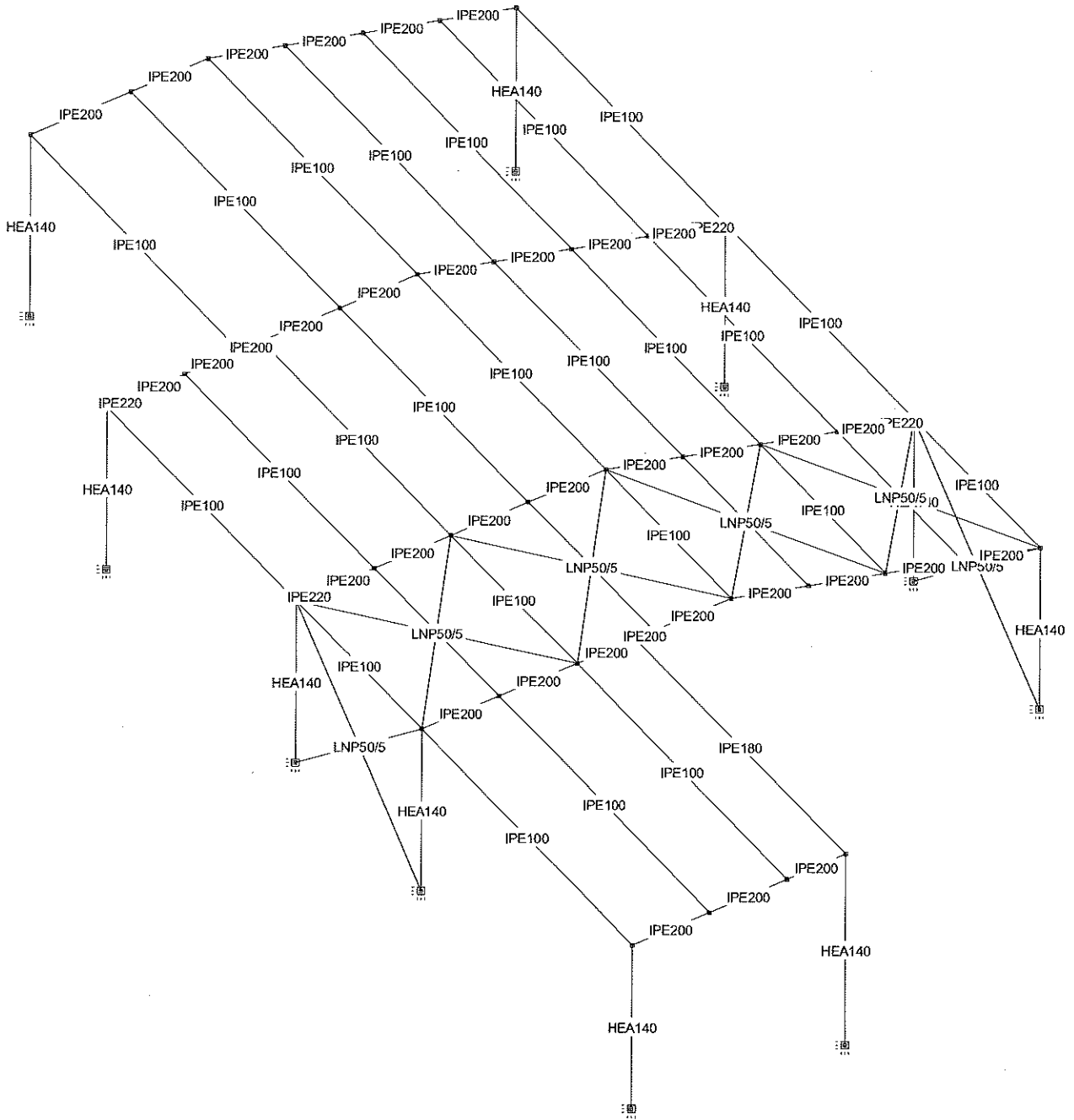
ΓΕΩΡΓΙΟΣ Ι. ΠΑΠΑΚΩΝΣΤΑΝΤΙΝΟΥ
ΔΙΠΛ. ΑΓΡ. ΤΟΠ/ΦΟΣ ΜΗΧ/ΚΟΣ ΑΠΘ
ΜΕΛΟΣ ΤΕΕ Α.Μ. 48097
ΑΦΜ 044654828 - ΔΟΥ ΣΥΡΟΥ
ΓΡΗΓ. ΛΑΜΠΡΑΚΗ 5 - 84100 ΣΥΡΟΣ
ΤΗΛ. 6972325789

ΛΟΥΚΑΣ ΚΑΡΑΔΗΜΑΣ
ΠΕ ΑΡΧΙΤΕΚΤΟΝ ΜΗΧΑΝΙΚΟΣ

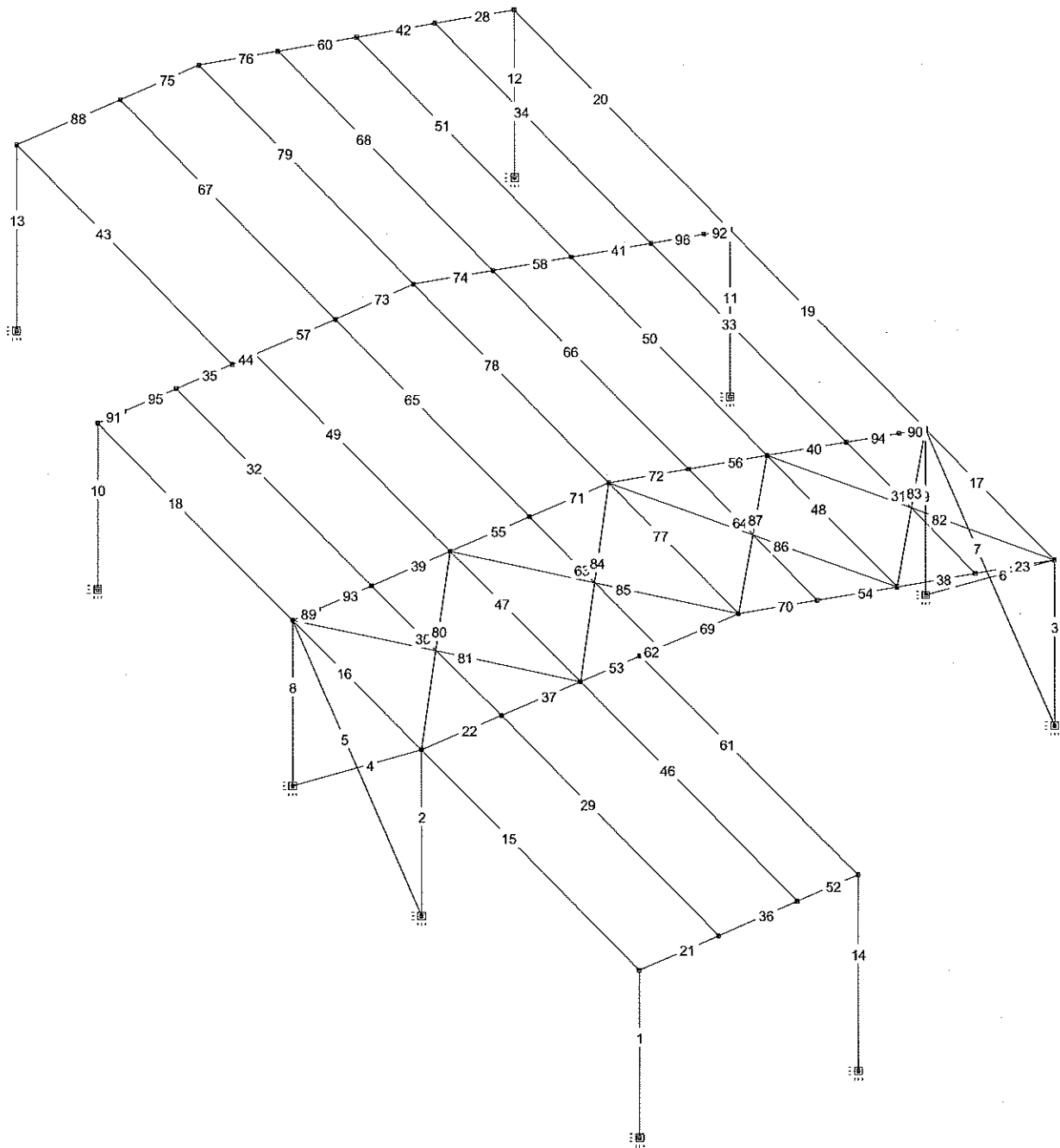
ΕΡΓΟ: ΧΩΡΟΣ ΠΡΟΣΩΡΙΝΟΥ ΣΤΑΒΛΙΣΜΟΥ ΖΩΩΝ ΝΕΟΥ ΣΦΑΓΕΙΟΥ ΚΕΑΣ

ΤΕΥΧΟΣ ΣΤΑΤΙΚΩΝ ΥΠΟΛΟΓΙΣΜΩΝ

Scale 1:81.9
Structure - FOREAS



Scale 1:81.9
Structure - FOREAS



 * STRUCTURAL - DATA *

Project title : metalliko ktirio

J O I N T D A T A : (54 Joints)				Supports		Specialities
Joints	X [M]	Y [M]	Z [M]	V XYZ	R XYZ	
1	0.00000	0.00000	0.00000	BBB	BBB	
2	9.40000	0.00000	0.00000	BBB	BBB	
3	0.00000	0.00000	2.60000			
4	9.40000	0.00000	2.60000			
5	4.70000	0.00000	3.25000			
6	0.00000	-5.95000	0.00000	BBB	BBB	
7	0.00000	3.55000	0.00000	BBB	BBB	
8	9.40000	3.55000	0.00000	BBB	BBB	
9	0.00000	8.90000	0.00000	BBB	BBB	
10	9.40000	8.90000	0.00000	BBB	BBB	
11	0.00000	-5.95000	2.60000			
12	0.00000	3.55000	2.60000			
13	9.40000	3.55000	2.60000			
14	0.00000	8.90000	2.60000			
15	9.40000	8.90000	2.60000			
16	1.17500	-5.95000	2.76250			
17	1.17500	0.00000	2.76250			
18	8.22500	0.00000	2.76250			
19	1.17500	3.55000	2.76250			
20	8.22500	3.55000	2.76250			
21	1.17500	8.90000	2.76250			
22	8.22500	8.90000	2.76250			
23	2.35000	-5.95000	2.92500			
24	2.35000	0.00000	2.92500			
25	7.05000	0.00000	2.92500			
26	2.35000	3.55000	2.92500			
27	7.05000	3.55000	2.92500			
28	2.35000	8.90000	2.92500			
29	7.05000	8.90000	2.92500			
30	3.52500	0.00000	3.08750			
31	5.87500	0.00000	3.08750			
32	3.52500	3.55000	3.08750			
33	5.87500	3.55000	3.08750			
34	3.52500	8.90000	3.08750			
35	5.87500	8.90000	3.08750			
36	4.70000	3.55000	3.25000			
37	4.70000	8.90000	3.25000			
38	3.24151	-5.95000	0.00000	BBB	BBB	
39	3.24151	-5.95000	3.04829			
40	3.24151	0.00000	3.04829			
42	9.40000	14.80000	0.00000	BBB	BBB	
44	9.40000	14.80000	2.60000			
46	8.22500	14.80000	2.76250			
48	7.05000	14.80000	2.92500			
49	3.52500	14.80000	3.08750			
50	5.87500	14.80000	3.08750			
51	4.70000	14.80000	3.25000			
52	2.00000	14.80000	0.00000	BBB	BBB	
53	2.00000	8.90000	2.87660			
54	2.00000	14.80000	2.87660			
55	0.38830	3.55000	2.65370			
56	9.01151	3.55000	2.65373			
57	0.38830	8.90000	2.65370			
58	9.01151	8.90000	2.65373			

B A R D A T A :		(90 bars)		CS-Name (haunched)	Hinges		Specialities
Bar	Incidences Start End	Length [M]			start	end	
1*	6 11	2.60000	HEA140			oS	
2*	1 3	2.60000	HEA140			oS	
3*	2 4	2.60000	HEA140			oS	
4	7 3	4.40028	LNP50/5	-----**	-----**	oS	
5	1 12	4.40028	LNP50/5	-----**	-----**	oS	
6	8 4	4.40028	LNP50/5	-----**	-----**	oS	
7	2 13	4.40028	LNP50/5	-----**	-----**	oS	
8*	7 12	2.60000	HEA140			oS	
9*	8 13	2.60000	HEA140			oS	
10*	9 14	2.60000	HEA140			oS	
11*	10 15	2.60000	HEA140			oS	
12*	42 44	2.60000	HEA140			oS	
13*	52 54	2.87660	HEA140			oS	
14*	38 39	3.04829	HEA140			oS	
15	11 3	5.95000	IPE100	-----**	-----**	O oS	
16	3 12	3.55000	IPE100	-----**	-----**	O oS	
17	4 13	3.55000	IPE100	-----**	-----**	O oS	
18	12 14	5.35000	IPE100	-----**	-----**	O oS	
19	13 15	5.35000	IPE100	-----**	-----**	O oS	
20	15 44	5.90000	IPE100	-----**	-----**	O oS	
21	11 16	1.18618	IPE200			oS	
22	3 17	1.18618	IPE200			oS	
23	18 4	1.18618	IPE200			oS	
28	46 44	1.18618	IPE200			oS	
29	16 17	5.95000	IPE100	-----**	-----**	O oS	
30	17 19	3.55000	IPE100	-----**	-----**	O oS	
31	18 20	3.55000	IPE100	-----**	-----**	O oS	
32	19 21	5.35000	IPE100	-----**	-----**	O oS	
33	20 22	5.35000	IPE100	-----**	-----**	O oS	
34	22 46	5.90000	IPE100	-----**	-----**	O oS	
35	21 53	0.83285	IPE200			oS	
36	16 23	1.18618	IPE200			oS	
37	17 24	1.18618	IPE200			oS	
38	25 18	1.18618	IPE200			oS	
39	19 26	1.18618	IPE200			oS	
40	27 20	1.18618	IPE200			oS	
41	29 22	1.18618	IPE200			oS	
42	48 46	1.18618	IPE200			oS	
43	53 54	5.90000	IPE100	-----**	-----**	O oS	
44	53 28	0.35333	IPE200			oS	
46	23 24	5.95000	IPE100	-----**	-----**	O oS	
47	24 26	3.55000	IPE100	-----**	-----**	O oS	
48	25 27	3.55000	IPE100	-----**	-----**	O oS	
49	26 28	5.35000	IPE100	-----**	-----**	O oS	
50	27 29	5.35000	IPE100	-----**	-----**	O oS	
51	29 48	5.90000	IPE100	-----**	-----**	O oS	
52	23 39	0.90000	IPE200			oS	
53	24 40	0.90000	IPE200			oS	
54	31 25	1.18618	IPE200			oS	
55	26 32	1.18618	IPE200			oS	
56	33 27	1.18618	IPE200			oS	
57	28 34	1.18618	IPE200			oS	
58	35 29	1.18618	IPE200			oS	
60	50 48	1.18618	IPE200			oS	
61	39 40	5.95000	IPE180	-----**	-----**	O oS	
62	40 30	0.28618	IPE200			oS	
63	30 32	3.55000	IPE100	-----**	-----**	O oS	
64	31 33	3.55000	IPE100	-----**	-----**	O oS	
65	32 34	5.35000	IPE100	-----**	-----**	O oS	
66	33 35	5.35000	IPE100	-----**	-----**	O oS	
67	34 49	5.90000	IPE100	-----**	-----**	O oS	
68	35 50	5.90000	IPE100	-----**	-----**	O oS	
69	30 5	1.18618	IPE200			oS	
70	5 31	1.18618	IPE200			oS	
71	32 36	1.18618	IPE200			oS	
72	36 33	1.18618	IPE200			oS	
73	34 37	1.18618	IPE200			oS	
74	37 35	1.18618	IPE200			oS	
75	49 51	1.18618	IPE200			oS	
76	51 50	1.18618	IPE200			oS	

Bar	Incidences		Length [M]	CS-Name (haunched)	Hinges		Specialities
	Start	End			start	end	
77	5	36	3.55000	IPE100	-----**	-----**	oS
78	36	37	5.35000	IPE100	-----**	-----**	oS
79	37	51	5.90000	IPE100	-----**	-----**	oS
80	3	26	4.26973	LNP50/5	-----**	-----**	oS
81	12	24	4.26973	LNP50/5	-----**	-----**	oS
82	27	4	4.26973	LNP50/5	-----**	-----**	oS
83	25	13	4.26973	LNP50/5	-----**	-----**	oS
84	24	36	4.26973	LNP50/5	-----**	-----**	oS
85	26	5	4.26973	LNP50/5	-----**	-----**	oS
86	36	25	4.26973	LNP50/5	-----**	-----**	oS
87	5	27	4.26973	LNP50/5	-----**	-----**	oS
88	54	49	1.53951	IPE200			oS
89	12	55	0.39200	IPE220			oS
90	56	13	0.39218	IPE220			oS
91	14	57	0.39200	IPE220			oS
92	58	15	0.39218	IPE220			oS
93	55	19	0.79418	IPE200			oS
94	20	56	0.79400	IPE200			oS
95	57	21	0.79418	IPE200			oS
96	22	58	0.79400	IPE200			oS

Bars marked with "*" are vertical (except any excentricities).
 The corresponding special definition for the default orientation
 of the local coordinate system applies.

Cross sections marked with "*" (i.e *HEB200) are rotated 90 degr.
 about the local x-axis.

O = Rotated bars (bar orientations)
 oS = Bars without shear deformation

HAUNCHED AND NON DEFAULT ORIENTED MEMBERS:

Bar	haunched bars		Bar orientation		
	CS-Start	CS-End	x/kl/angle Beta	y/k2	z
15			-1.1750	0.0000	-0.1625
			-7.8741		
16			-1.1750	0.0000	-0.1625
			-7.8741		
17			-1.1750	0.0000	0.1625
			7.8741		
18			-1.1750	0.0000	-0.1625
			-7.8741		
19			-1.1750	0.0000	0.1625
			7.8741		
20			-1.1750	0.0000	0.1625
			7.8741		
29			-1.1750	0.0000	-0.1625
			-7.8741		
30			-1.1750	0.0000	-0.1625
			-7.8741		
31			-1.1750	0.0000	0.1625
			7.8741		
32			-1.1750	0.0000	-0.1625
			-7.8741		
33			-1.1750	0.0000	0.1625
			7.8741		
34			-1.1750	0.0000	0.1625
			7.8741		
43			-1.1750	0.0000	-0.1625
			-7.8741		
46			-1.1750	0.0000	-0.1625
			-7.8741		
47			-1.1750	0.0000	-0.1625
			-7.8741		
48			-1.1750	0.0000	0.1625
			7.8741		
49			-1.1750	0.0000	-0.1625

Bar	haunched bars		Bar orientation		y/k2	z
	CS-Start	CS-End	x/k1/angle Beta			
50			-7.8741		0.0000	0.1625
51			-1.1750		0.0000	0.1625
61			7.8741		0.0000	-0.1625
63			-1.1750		0.0000	-0.1625
64			-7.8741		0.0000	0.1625
65			-1.1750		0.0000	-0.1625
66			-7.8741		0.0000	0.1625
67			7.8741		0.0000	-0.1625
68			-1.1750		0.0000	0.1625
			-7.8741			
			7.8741			

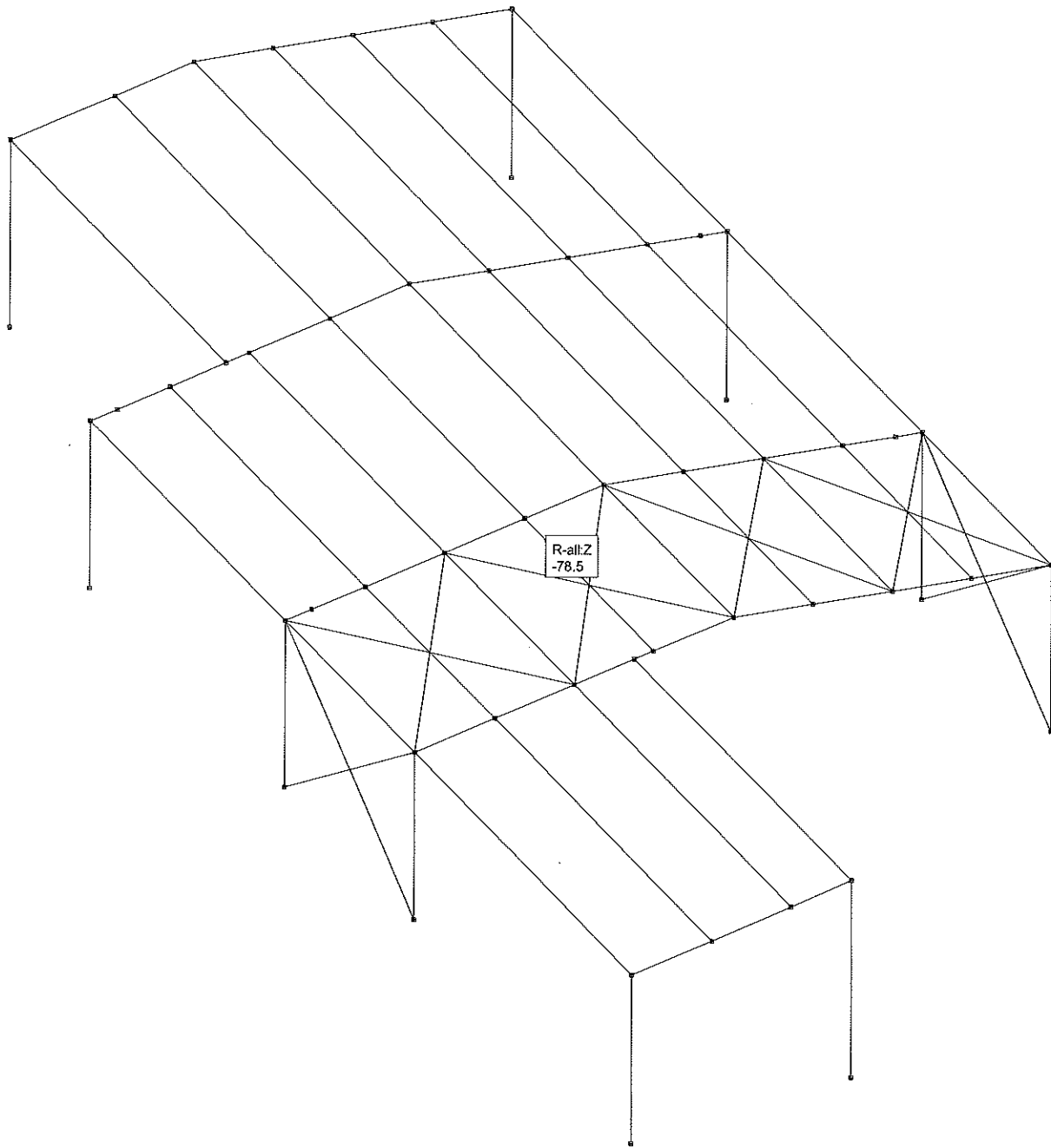
CROSS SECTION VALUES: CS-Name	Ax [M2]	Iy [M4]	Iz [M4]	Phi [Degr]
	Ix [M4]	Fy [M2]	Fz [M2]	
	z1 [M1]	zu [M1]	yl [M1]	yr [M1]
HEA140	3.1400E-03	1.0330E-05	3.8900E-06	0.00
	8.1300E-08	2.3800E-03	6.8500E-04	
	-0.0665	0.0665	-0.0700	0.0700
IPE100	1.0300E-03	1.7100E-06	1.5900E-07	0.00
	1.2000E-08	6.2700E-04	3.8700E-04	
	-0.0500	0.0500	-0.0275	0.0275
IPE180	2.3900E-03	1.3200E-05	1.0100E-06	0.00
	4.7900E-08	1.4560E-03	9.1200E-04	
	-0.0900	0.0900	-0.0455	0.0455
IPE200	2.8500E-03	1.9400E-05	1.4200E-06	0.00
	6.9800E-08	1.7000E-03	1.0720E-03	
	-0.1000	0.1000	-0.0500	0.0500
IPE220	3.3400E-03	2.7700E-05	2.0500E-06	0.00
	9.0700E-08	2.0240E-03	1.2440E-03	
	-0.1100	0.1100	-0.0550	0.0550
LNP50/5	4.8000E-04	1.1000E-07	1.0990E-07	44.98
	4.2000E-09	2.5000E-04	2.5000E-04	
	-0.0140	0.0360	-0.0140	0.0360

MATERIAL PROPERT. :

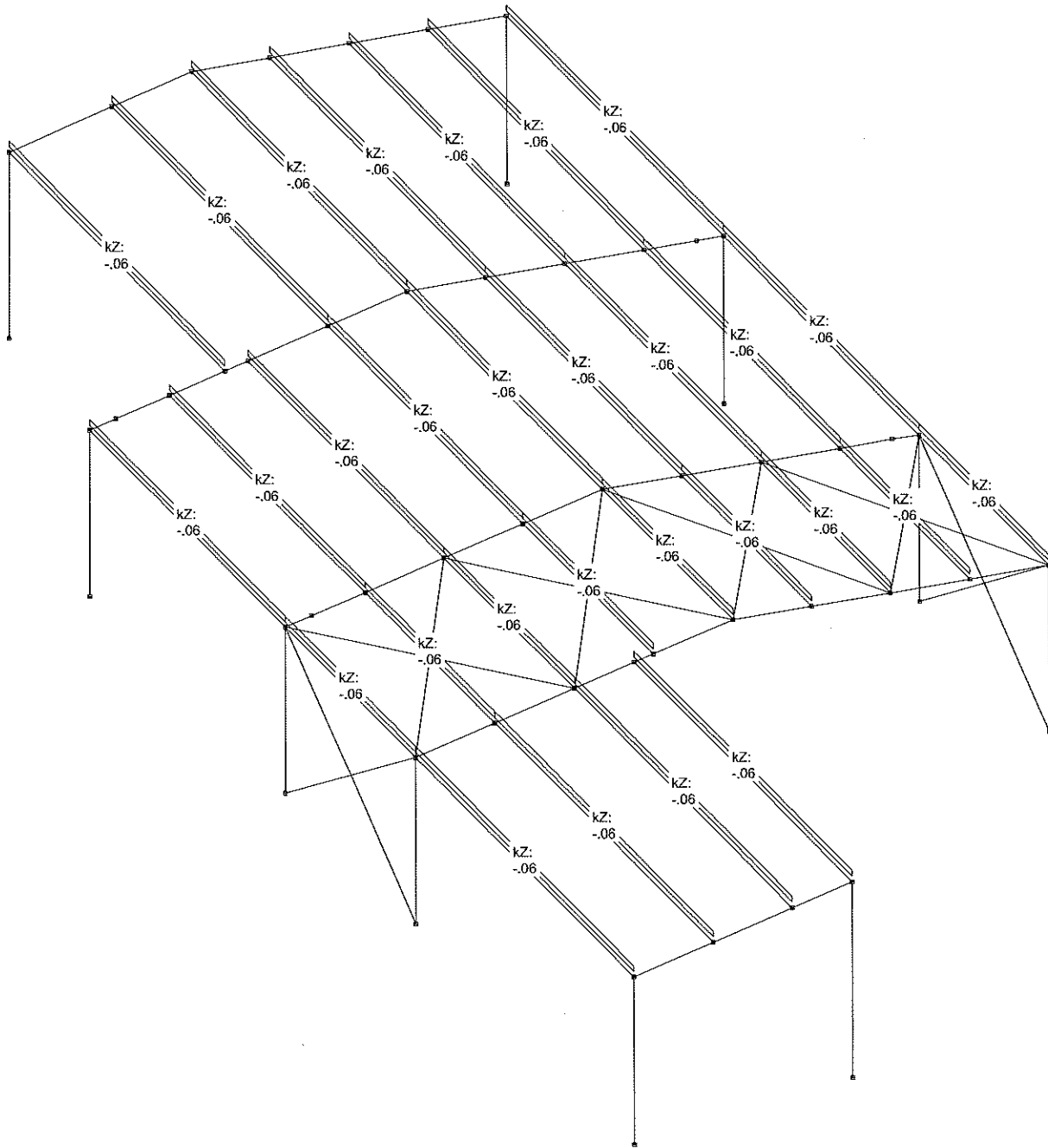
Bar (to bar)	E-Modulus	Shear-M
	[KN/ M2]	[KN/ M2]
1 .. 96	2.1000E+08	8.1000E+07

STS-Run ok

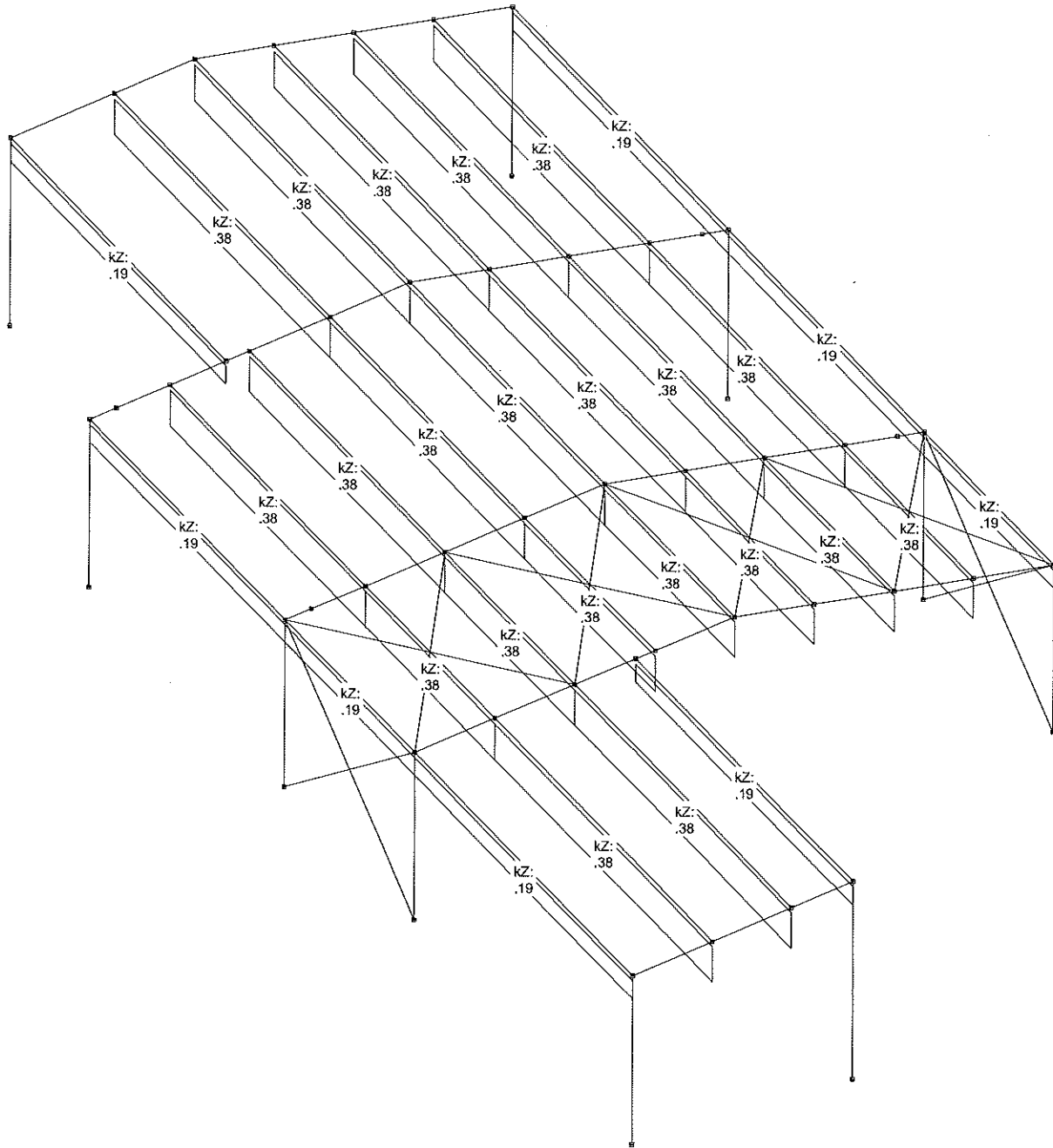
Scale 1:81.9
Load case 1 - IDIO BAROS



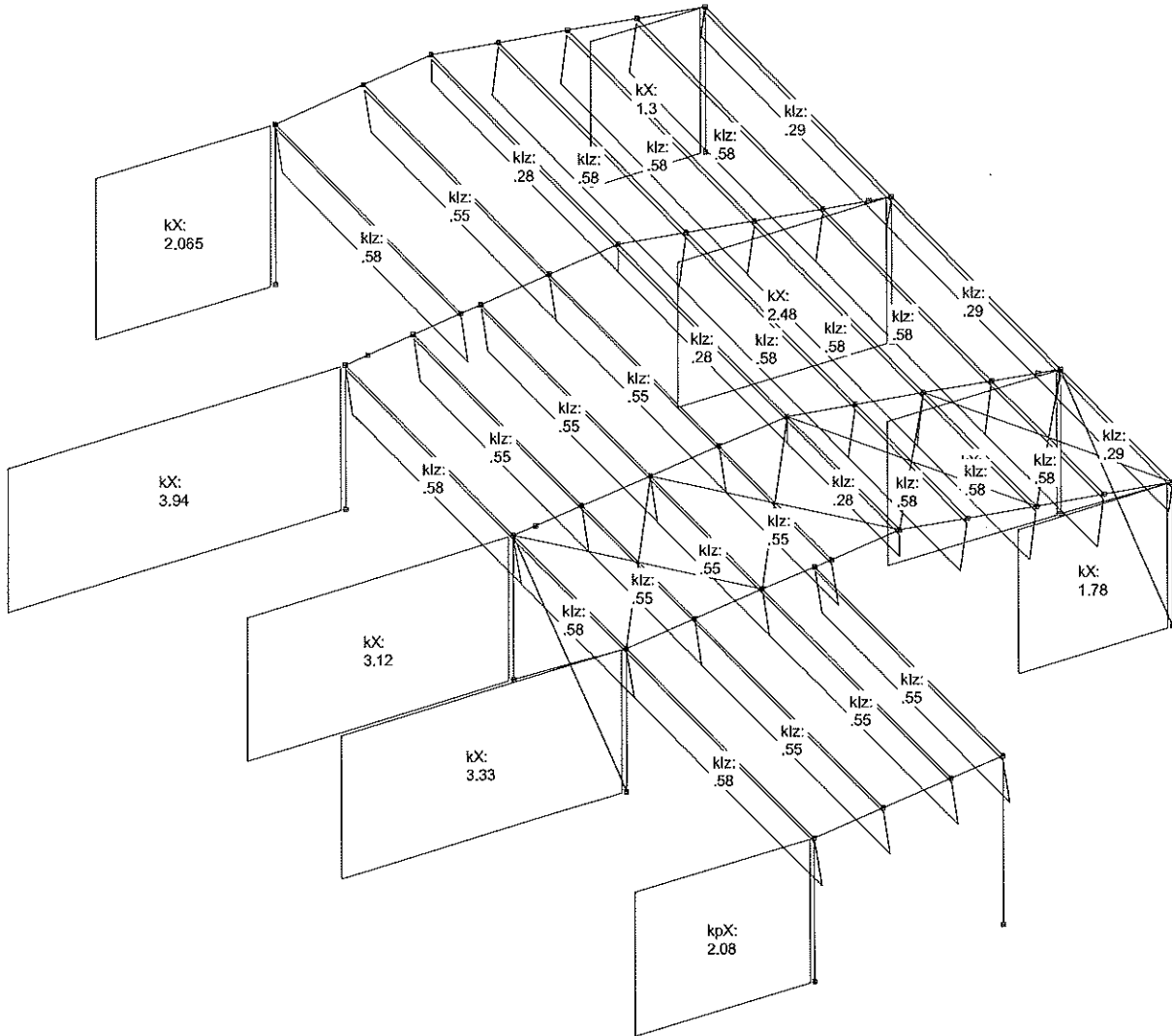
Scale 1:81.9
Load case 2 - MONIMA



Scale 1:81,9
Load case 3 - ΧΙΟΝΙ

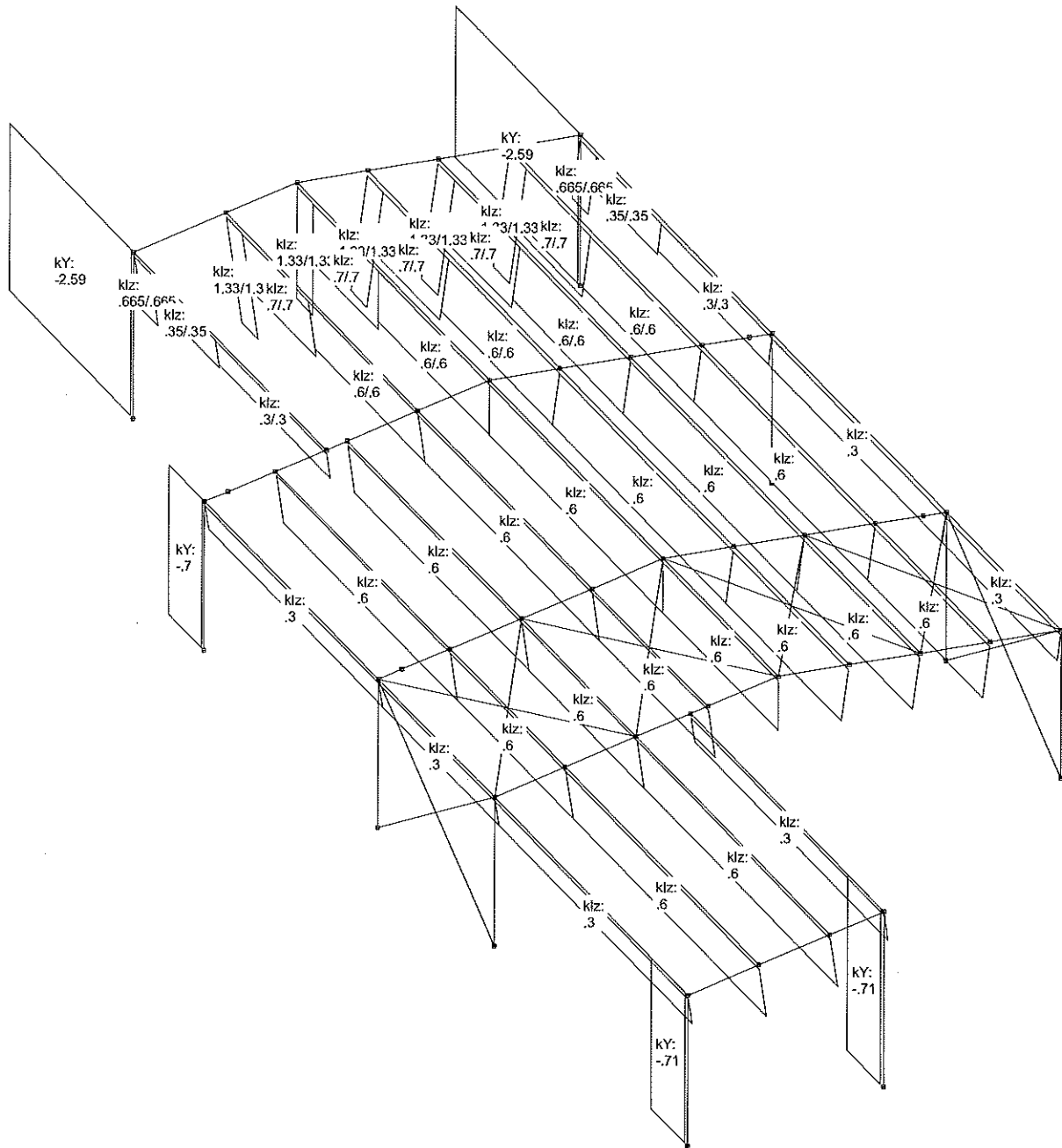


Scale 1:106.3
Load case 4 - ANEMOSX

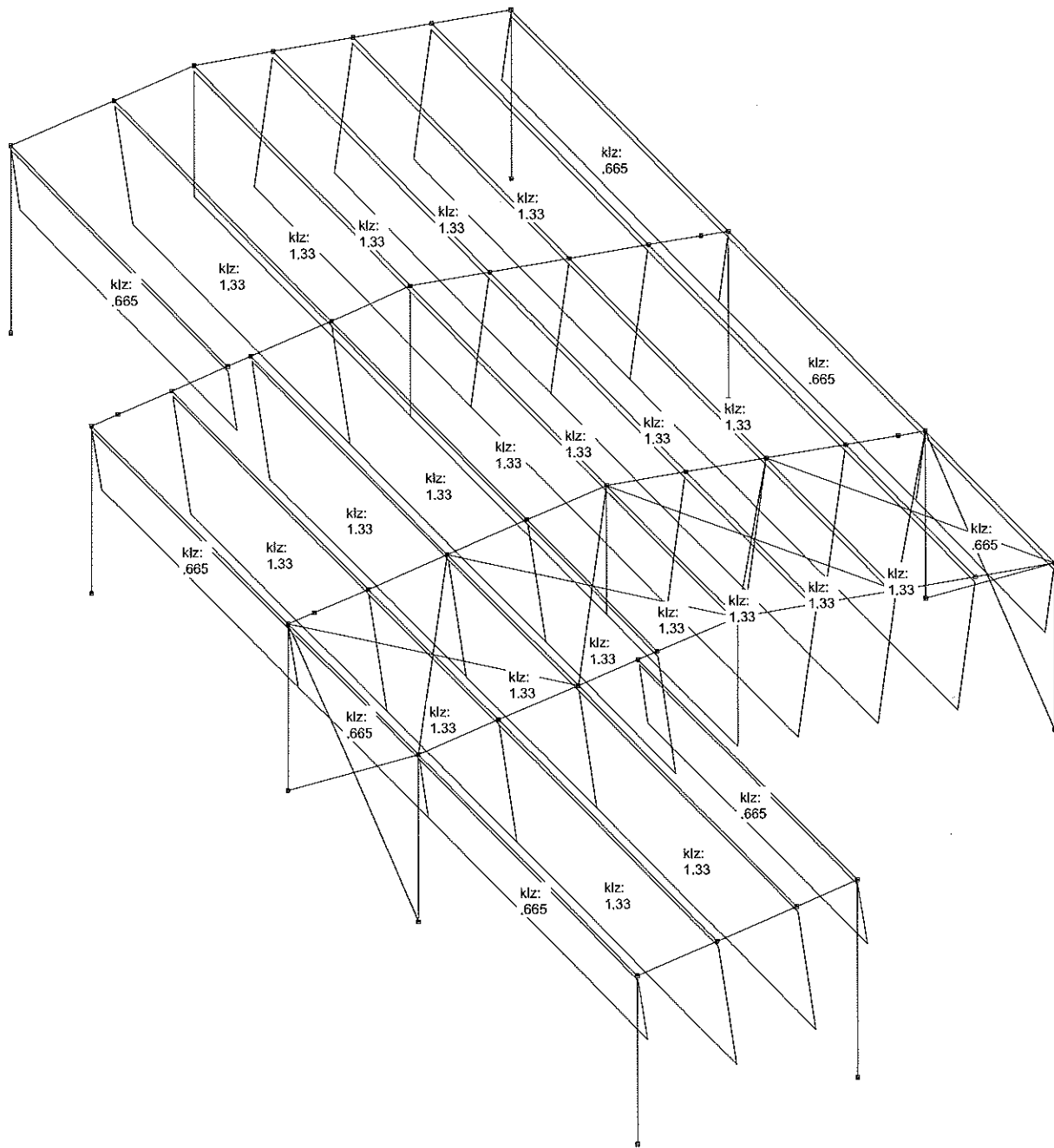


Scale 1:93.0

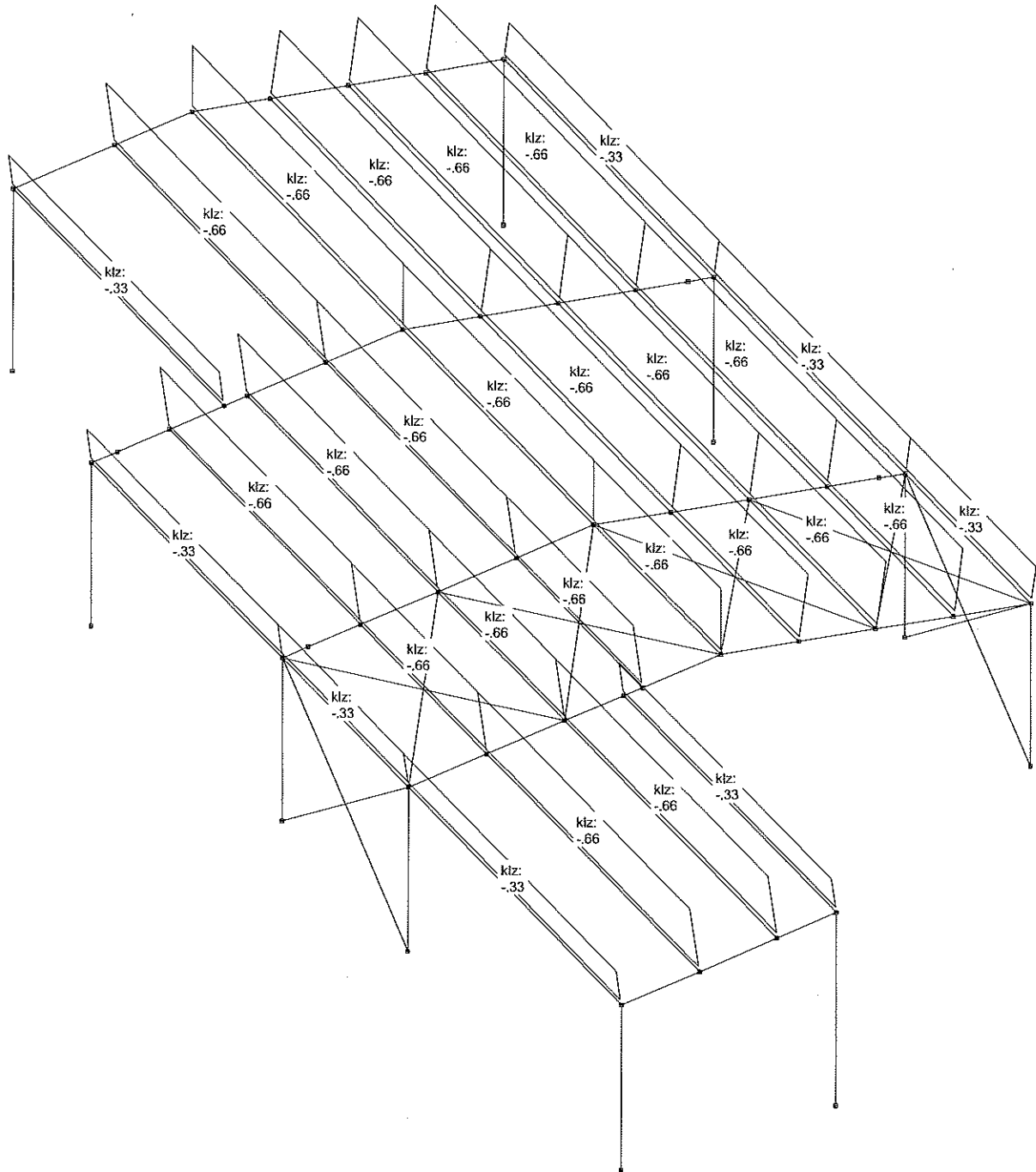
Load case 5 - ANEMOSY



Scale 1:81.9
Load case 6 - ANEMOS



Scale 1:82.7
Load case 7 - ANEMOS KATW



=====
 Load case 1: IDION BAROS
 =====

Loadtype		Value (a)	Distanc Value (b)	Joint	-/member	numb
Mas.forcZ	gl const.	-78.500		Stab	1 .. 23	28
				.. 44	46 .. 58	60
				.. 96		

=====
 Load case 2: monima
 =====

Loadtype		Value (a)	Distanc Value (b)	Joint	-/member	numb
Force Z	gl const.	-0.060000		Stab	15 .. 20	29
				.. 34	43 .. 46	51
				61	63 .. 68	77
				.. 79		

=====
 Load case 3: snow
 =====

Loadtype		Value (a)	Distanc Value (b)	Joint	-/member	numb
Force Z	gl const.	0.190000		Stab	15 .. 20	
Force Z	gl const.	0.380000		Stab	29 .. 34	
Force Z	gl const.	0.190000		Stab	43	
Force Z	gl const.	0.380000		Stab	46 .. 51	
Force Z	gl const.	0.190000		Stab	61	
Force Z	gl const.	0.380000		Stab	63 .. 68	77
				.. 79		

=====
 Load case 4: wind x-x
 =====

Loadtype			Value(a)	Distanc Value(b)	Joint	-/member numb	
Force	X	pj const.	2.080		Stab	1	
Force	X	gl const.	3.330		Stab	2	
Force	X	gl const.	1.780		Stab	3	
Force	X	gl const.	3.120		Stab	8	
Force	X	gl const.	2.000		Stab	9	
Force	X	gl const.	3.940		Stab	10	
Force	X	gl const.	2.480		Stab	11	
Force	X	gl const.	1.300		Stab	12	
Force	X	gl const.	2.065		Stab	13	
Force	Z	lo const.	0.580000		Stab	15 ..	16
Force	Z	lo const.	0.290000		Stab	17	
Force	Z	lo const.	0.580000		Stab	18	
Force	Z	lo const.	0.290000		Stab	19 ..	20
Force	Z	lo const.	0.550000		Stab	29 ..	30
Force	Z	lo const.	0.580000		Stab	31	
Force	Z	lo const.	0.550000		Stab	32	
Force	Z	lo const.	0.580000		Stab	33 ..	34
Force	Z	lo const.	0.550000		Stab	46 ..	47
Force	Z	lo const.	0.580000		Stab	48	
Force	Z	lo const.	0.550000		Stab	49	
Force	Z	lo const.	0.580000		Stab	50 ..	51
Force	Z	lo const.	0.550000		Stab	61	63
Force	Z	lo const.	0.580000		Stab	64	
Force	Z	lo const.	0.550000		Stab	65	
Force	Z	lo const.	0.580000		Stab	66	
Force	Z	lo const.	0.550000		Stab	67	
Force	Z	lo const.	0.580000		Stab	68	
Force	Z	lo const.	0.280000		Stab	77 ..	79

43

=====
 Load case 5: wind y-y
 =====

Loadtype			Value(a)	Distanc Value(b)	Joint	-/member numb	
Force	Y	gl const.	-0.710000		Stab	1	
Force	Y	gl const.	-0.700000		Stab	10	
Force	Y	gl const.	-2.590		Stab	12 ..	13
Force	Y	gl const.	-0.710000		Stab	14	
Force	Z	lo const.	0.300000		Stab	15 ..	19
Force	Z	lo const.	0.665000	0.665000			
		from...to	5.400	5.900	Stab	20	
Force	Z	lo const.	0.350000	0.350000			
		from...to	3.400	5.400	Stab	20	
Force	Z	lo const.	0.300000	0.300000			
		from...to	0	3.400	Stab	20	
Force	Z	lo const.	0.600000		Stab	29 ..	33
Force	Z	lo const.	1.330	1.330			
		from...to	5.400	5.900	Stab	34	
Force	Z	lo const.	0.700000	0.700000			
		from...to	3.400	5.400	Stab	34	
Force	Z	lo const.	0.600000	0.600000			
		from...to	0	3.400	Stab	34	
Force	Z	lo const.	0.665000	0.665000			
		from...to	5.400	5.900	Stab	43	
Force	Z	lo const.	0.350000	0.350000			
		from...to	3.400	5.400	Stab	43	
Force	Z	lo const.	0.300000	0.300000			
		from...to	0	3.400	Stab	43	

Loadtype			Distanc		Joint	-/member	numb
			Value (a)	Value (b)			
Force	Z	lo const.	0.600000		Stab	46 ..	50
Force	Z	lo const.	1.330	1.330			
		from...to	5.400	5.900	Stab	51	
Force	Z	lo const.	0.700000	0.700000			
		from...to	3.400	5.400	Stab	51	
Force	Z	lo const.	0.600000	0.600000			
		from...to	0	3.400	Stab	51	
Force	Z	lo const.	0.300000		Stab	61	
Force	Z	lo const.	0.600000		Stab	63 ..	66
Force	Z	lo const.	1.330	1.330			
		from...to	5.400	5.900	Stab	67	
Force	Z	lo const.	0.700000	0.700000			
		from...to	3.400	5.400	Stab	67	
Force	Z	lo const.	0.600000	0.600000			
		from...to	0	3.400	Stab	67	
Force	Z	lo const.	1.330	1.330			
		from...to	5.400	5.900	Stab	68	
Force	Z	lo const.	0.700000	0.700000			
		from...to	3.400	5.400	Stab	68	
Force	Z	lo const.	0.600000	0.600000			
		from...to	0	3.400	Stab	68	
Force	Z	lo const.	0.600000		Stab	77 ..	78
Force	Z	lo const.	1.330	1.330			
		from...to	5.400	5.900	Stab	79	
Force	Z	lo const.	0.700000	0.700000			
		from...to	3.400	5.400	Stab	79	
Force	Z	lo const.	0.600000	0.600000			
		from...to	0	3.400	Stab	79	

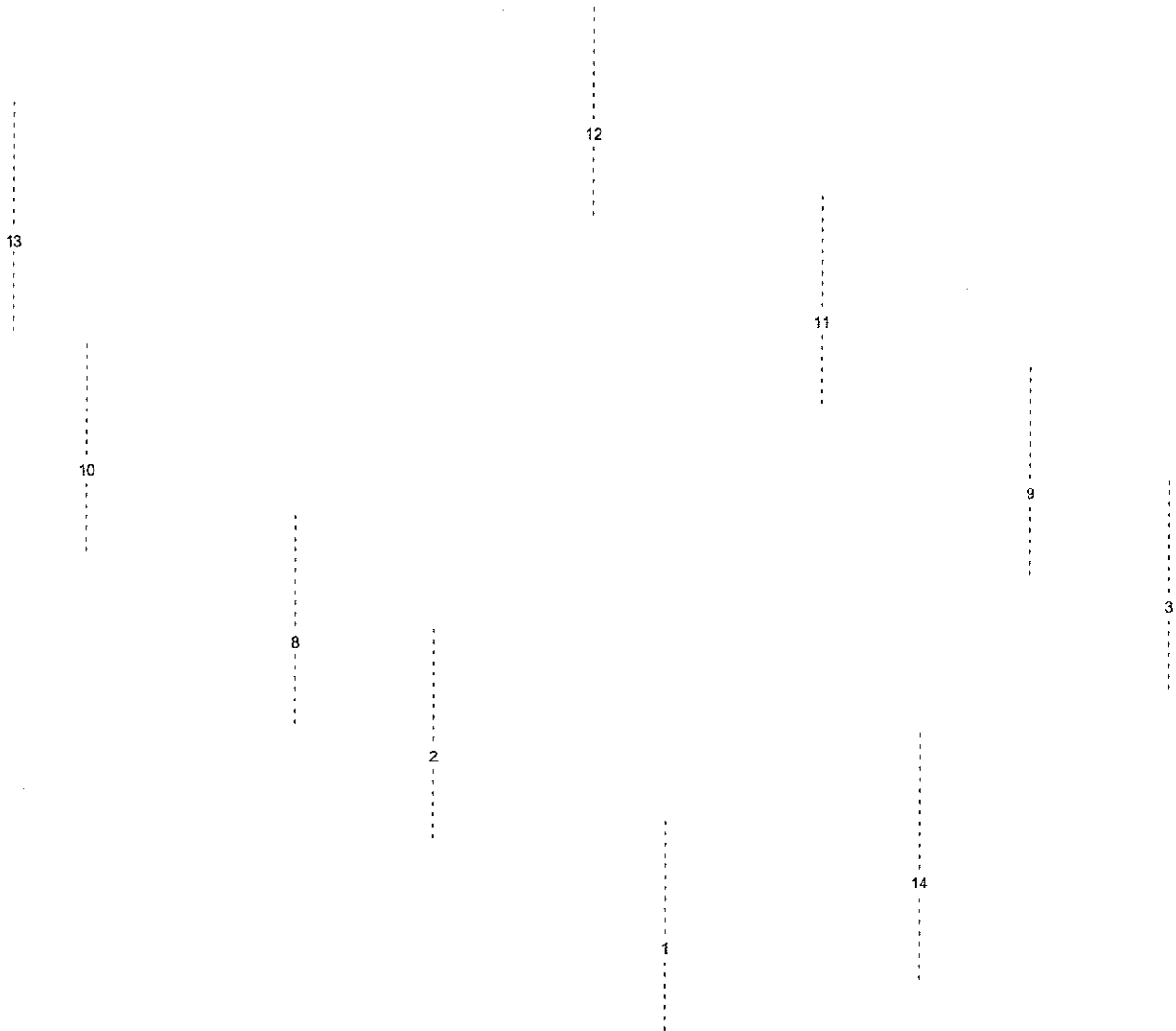
=====
 Load case 6: WINDANOIXPANW
 =====

Loadtype			Distanc		Joint	-/member	numb
			Value (a)	Value (b)			
Force	Z	lo const.	0.665000		Stab	15 ..	20
Force	Z	lo const.	1.330		Stab	29 ..	34
Force	Z	lo const.	0.665000		Stab	43	
Force	Z	lo const.	1.330		Stab	46 ..	51
Force	Z	lo const.	0.665000		Stab	61	
Force	Z	lo const.	1.330		Stab	63 ..	68
					..	79	77

=====
 Load case 7: WINDANOIXKATW
 =====

Loadtype			Value (a)	Distanc Value (b)	Joint	-/member	numb	
Force	Z	lo const.	-0.330000		Stab	15 ..	20	
Force	Z	lo const.	-0.660000		Stab	29 ..	34	
Force	Z	lo const.	-0.330000		Stab	43		
Force	Z	lo const.	-0.660000		Stab	46 ..	51	
Force	Z	lo const.	-0.330000		Stab	61		
Force	Z	lo const.	-0.660000		Stab	63 ..	68	77
						..	79	

Scale 1:80.0
 EC3 postprocessor results, IND,STATIK3,2.14, Subsys. "LIST"
 - Structure: Elmnts.



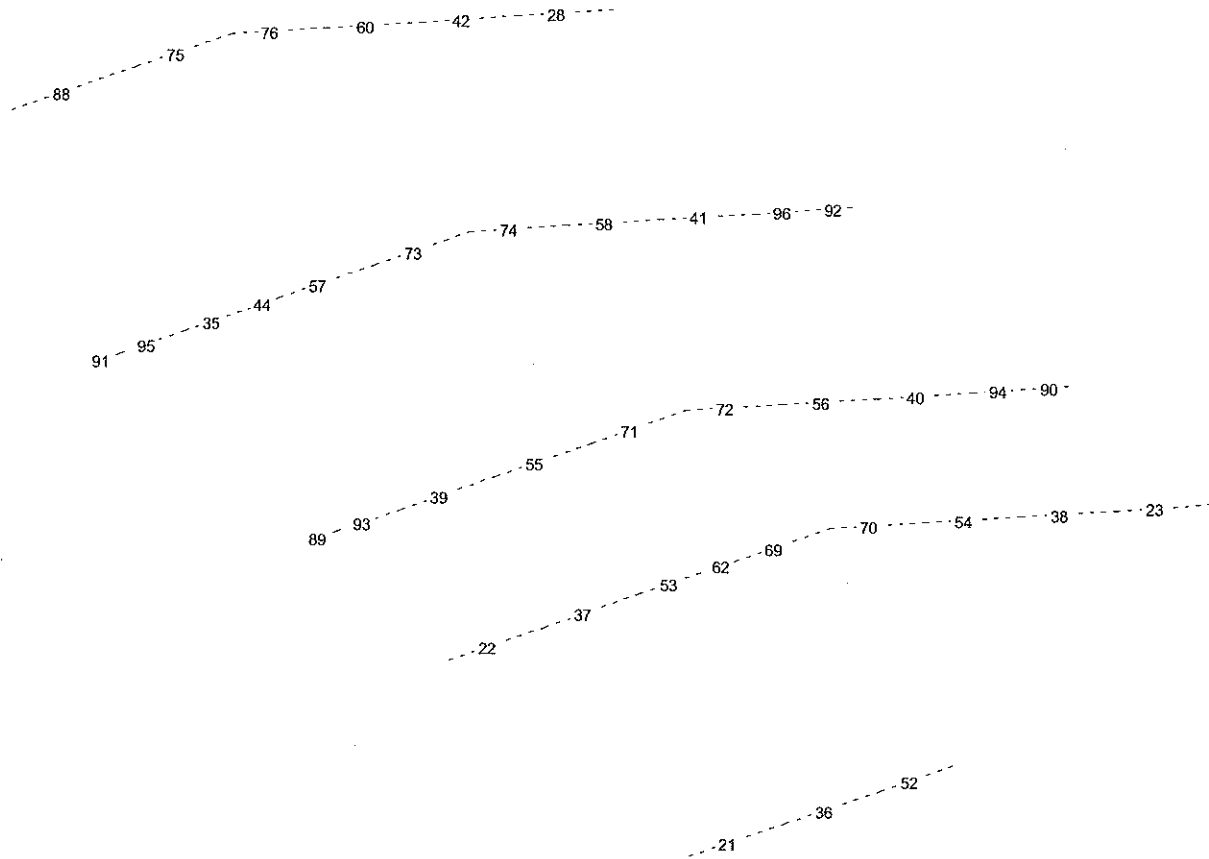
Διαστασιολόγηση μεταλλικών στοιχείων κατά EC3

Ποιότητα χάλυβα: Fe430

Μέλος Απόσταση Διατ-Υ Διατ-Ζ N-Mγ-Mz Λυγισμ. Πλ.Λυγισ. Δ.Κορμ Λυγ.Κορμ Ελεγχ-Τ

	Μέλος	Απόσταση	Διατ-Υ	Διατ-Ζ	N-Mγ-Mz	Λυγισμ.	Πλ.Λυγισ.	Δ.Κορμ	Λυγ.Κορμ	Ελεγχ-Τ
1	.000	.005	.057	.108	.026	.114	-	-	-	
1	1.300	.001	.020	.029	.024	.025	-	-	-	
1	2.600	.003	.017	.035	.025	.030	-	-	-	
2	.000	.000	.146	.348	.282	.372	-	-	-	
2	1.300	.000	.118	.140	.126	.138	-	-	-	
2	2.600	.000	.118	.528	.449	.543	-	-	-	
3	.000	.000	.113	.339	.286	.356	-	-	-	
3	1.300	.000	.113	.068	.072	.079	-	-	-	
3	2.600	.000	.113	.442	.378	.474	-	-	-	
8	.000	.000	.189	.511	.395	.513	-	-	-	
8	1.300	.000	.189	.188	.153	.169	-	-	-	
8	2.600	.000	.189	.813	.608	.857	-	-	-	
9	.000	.000	.216	.622	.462	.634	-	-	-	
9	1.300	.000	.216	.171	.143	.158	-	-	-	
9	2.600	.000	.216	.883	.650	.932	-	-	-	
10	.000	.005	.246	.711	.505	.738	-	-	-	
10	1.300	.001	.246	.177	.146	.161	-	-	-	
10	2.600	.003	.246	.909	.704	.955	-	-	-	
11	.000	.000	.231	.623	.465	.617	-	-	-	
11	1.300	.000	.231	.238	.185	.204	-	-	-	
11	2.600	.000	.231	.900	.718	.949	-	-	-	
12	.000	.019	.062	.236	.131	.146	-	-	-	
12	1.300	.004	.062	.125	.082	.090	-	-	-	
12	2.600	.011	.062	.304	.241	.308	-	-	-	
13	.000	.021	.095	.341	.203	.279	-	-	-	
13	1.438	.004	.077	.119	.069	.075	-	-	-	
13	2.877	.012	.077	.348	.265	.371	-	-	-	
14	.000	.006	.019	.107	.073	.080	-	-	-	
14	1.524	.002	.019	.033	.033	.034	-	-	-	
14	3.048	.003	.019	.093	.069	.087	-	-	-	

Scale 1:80.0
 EC3 postprocessor results, IND,STATIK3,2.14, Subsys. "LIST"
 - Structure: Elmnts.



Διαστασιολόγηση μεταλλικών στοιχείων κατά EC3

Ποιότητα χάλυβα: Fe360

Μέλος Απόσταση Διατ-Υ Διατ-Ζ Ν-Μy-Μz Λυγισμ. Πλ.Λυγισ. Δ.Κορμ Λυγ.Κορ Ελεγχ-Τ

Μέλος	Απόσταση	Διατ-Υ	Διατ-Ζ	Ν-Μy-Μz	Λυγισμ.	Πλ.Λυγισ.	Δ.Κορμ	Λυγ.Κορ	Ελεγχ-Τ
21	.000	.001	.026	.029	.029	.031	-	-	-
21	.593	.001	.027	.042	.027	.044	-	-	-
21	1.186	.001	.027	.091	.064	.096	-	-	-
22	.000	.001	.131	.480	.439	.469	-	-	-
22	.593	.001	.132	.243	.242	.229	-	-	-
22	1.186	.001	.133	.050	.047	.040	-	-	-
23	.000	.000	.076	.144	.140	.127	-	-	-
23	.593	.000	.075	.279	.259	.257	-	-	-
23	1.186	.000	.074	.413	.381	.401	-	-	-
28	.000	.000	.087	.069	.050	.068	-	-	-
28	.593	.000	.086	.121	.100	.102	-	-	-
28	1.186	.000	.085	.275	.219	.268	-	-	-
35	.000	.005	.136	.308	.256	.220	-	-	-
35	.416	.005	.137	.135	.120	.086	-	-	-
35	.833	.005	.138	.145	.153	.116	-	-	-
36	.000	.001	.011	.091	.064	.096	-	-	-
36	.593	.001	.010	.072	.054	.076	-	-	-

Διαστασιολόγηση μεταλλικών στοιχείων κατά EC3

Ποιότητα χάλυβα: Fe360

Μέλος	Απόσταση	Διατ-Υ	Διατ-Ζ	N-My-Mz	Λυγισμ.	Πλ.Λυγισμ.	Δ.Κορμ	Λυγ.Κορ	Ελεγχ-Τ
36	1.186	.001	.009	.055	.043	.057	-	-	-
37	.000	.001	.072	.050	.047	.040	-	-	-
37	.593	.001	.073	.179	.153	.145	-	-	-
37	1.186	.001	.074	.311	.269	.287	-	-	-
38	.000	.001	.055	.101	.114	.101	-	-	-
38	.593	.001	.054	.048	.050	.035	-	-	-
38	1.186	.001	.053	.144	.140	.127	-	-	-
39	.000	.001	.109	.157	.155	.131	-	-	-
39	.593	.001	.110	.124	.119	.096	-	-	-
39	1.186	.001	.111	.323	.275	.271	-	-	-
40	.000	.001	.115	.296	.260	.235	-	-	-
40	.593	.001	.114	.090	.099	.074	-	-	-
40	1.186	.001	.113	.206	.190	.164	-	-	-
41	.000	.001	.138	.423	.342	.362	-	-	-
41	.593	.001	.137	.176	.155	.127	-	-	-
41	1.186	.000	.136	.173	.171	.142	-	-	-
42	.000	.001	.051	.247	.187	.237	-	-	-
42	.593	.001	.050	.156	.120	.140	-	-	-
42	1.186	.000	.049	.069	.050	.068	-	-	-
44	.000	.015	.120	.145	.153	.113	-	-	-
44	.177	.015	.120	.207	.200	.156	-	-	-
44	.353	.015	.121	.273	.249	.201	-	-	-
52	.000	.001	.048	.056	.042	.053	-	-	-
52	.450	.001	.047	.024	.024	.024	-	-	-
52	.900	.001	.046	.076	.049	.074	-	-	-
53	.000	.002	.020	.310	.266	.268	-	-	-
53	.450	.002	.019	.330	.294	.287	-	-	-
53	.900	.002	.018	.351	.321	.306	-	-	-
54	.000	.001	.035	.224	.221	.211	-	-	-
54	.593	.001	.034	.160	.167	.155	-	-	-
54	1.186	.001	.033	.102	.115	.101	-	-	-
55	.000	.001	.054	.325	.276	.270	-	-	-
55	.593	.001	.055	.423	.355	.376	-	-	-
55	1.186	.001	.056	.524	.432	.483	-	-	-
56	.000	.001	.060	.510	.424	.466	-	-	-
56	.593	.001	.059	.401	.342	.350	-	-	-
56	1.186	.001	.058	.295	.257	.236	-	-	-
57	.000	.002	.086	.274	.249	.220	-	-	-
57	.593	.002	.087	.429	.365	.366	-	-	-
57	1.186	.002	.088	.587	.480	.536	-	-	-
58	.000	.000	.067	.662	.526	.618	-	-	-
58	.593	.001	.066	.541	.434	.489	-	-	-
58	1.186	.001	.065	.423	.341	.362	-	-	-
60	.000	.000	.015	.297	.226	.290	-	-	-
60	.593	.001	.014	.271	.207	.263	-	-	-
60	1.186	.001	.013	.247	.187	.237	-	-	-
62	.000	.003	.003	.351	.321	.306	-	-	-
62	.143	.003	.003	.348	.320	.306	-	-	-
62	.286	.003	.003	.350	.321	.306	-	-	-
69	.000	.000	.023	.350	.321	.328	-	-	-
69	.593	.001	.022	.310	.293	.285	-	-	-
69	1.186	.001	.021	.271	.263	.253	-	-	-

Διαστασιολόγηση μεταλλικών στοιχείων κατά EC3

Ποιότητα χάλυβα: Fe360

Μέλος	Απόσταση	Διατ-Υ	Διατ-Ζ	N-My-Mz	Λυγισμ.	Πλ.Λυγισ.	Δ.Κορμ	Λυγ.Κορ	Ελεγχ-Τ
70	.000	.001	.014	.271	.263	.254	-	-	-
70	.593	.000	.013	.247	.243	.233	-	-	-
70	1.186	.000	.012	.224	.221	.211	-	-	-
71	.000	.000	.004	.524	.432	.483	-	-	-
71	.593	.001	.003	.523	.436	.481	-	-	-
71	1.186	.001	.003	.525	.438	.481	-	-	-
72	.000	.001	.009	.527	.441	.480	-	-	-
72	.593	.000	.010	.517	.433	.472	-	-	-
72	1.186	.000	.011	.510	.424	.466	-	-	-
73	.000	.000	.015	.587	.479	.536	-	-	-
73	.593	.001	.016	.616	.501	.566	-	-	-
73	1.186	.001	.017	.649	.522	.598	-	-	-
74	.000	.001	.013	.648	.521	.599	-	-	-
74	.593	.000	.014	.655	.524	.607	-	-	-
74	1.186	.000	.016	.662	.525	.617	-	-	-
75	.000	.000	.039	.072	.062	.061	-	-	-
75	.593	.000	.040	.146	.118	.122	-	-	-
75	1.186	.000	.041	.221	.173	.201	-	-	-
76	.000	.000	.022	.219	.170	.202	-	-	-
76	.593	.000	.023	.257	.199	.245	-	-	-
76	1.186	.000	.024	.297	.226	.290	-	-	-
88	.000	.000	.075	.319	.244	.325	-	-	-
88	.770	.000	.076	.142	.107	.127	-	-	-
88	1.540	.000	.077	.072	.062	.065	-	-	-
89	.000	.000	.142	.586	.468	.526	-	-	-
89	.196	.000	.142	.510	.410	.450	-	-	-
89	.392	.000	.142	.434	.351	.374	-	-	-
90	.000	.000	.146	.481	.384	.415	-	-	-
90	.196	.000	.146	.559	.444	.494	-	-	-
90	.392	.000	.145	.637	.504	.572	-	-	-
91	.000	.000	.146	.718	.554	.683	-	-	-
91	.196	.000	.146	.640	.494	.600	-	-	-
91	.392	.000	.146	.562	.434	.517	-	-	-
92	.000	.000	.179	.527	.414	.454	-	-	-
92	.196	.000	.179	.623	.485	.550	-	-	-
92	.392	.000	.178	.719	.557	.645	-	-	-
93	.000	.001	.165	.556	.465	.486	-	-	-
93	.397	.001	.166	.357	.309	.286	-	-	-
93	.794	.001	.166	.157	.155	.122	-	-	-
94	.000	.000	.170	.206	.190	.153	-	-	-
94	.397	.000	.170	.411	.349	.334	-	-	-
94	.794	.000	.169	.616	.509	.539	-	-	-
95	.000	.000	.170	.719	.576	.679	-	-	-
95	.397	.000	.170	.514	.415	.458	-	-	-
95	.794	.000	.171	.308	.256	.237	-	-	-
96	.000	.000	.209	.173	.171	.132	-	-	-
96	.397	.000	.208	.424	.360	.338	-	-	-
96	.794	.000	.207	.675	.550	.589	-	-	-

Scale 1:60.4
 EC3 postprocessor results, IND,STATIK3,2.14, Subsys. "LIST"
 - Structure: Elmnts.



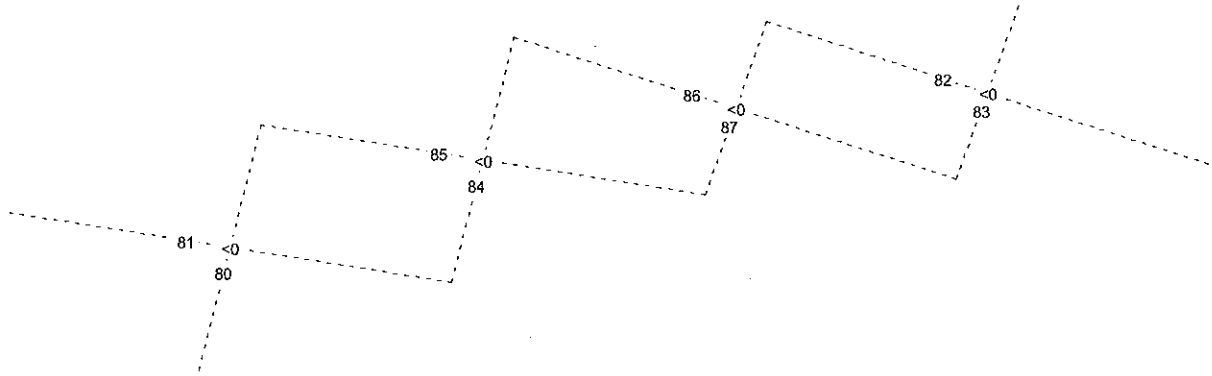
Διαστασιολόγηση μεταλλικών στοιχείων κατά EC3

Ποιότητα χάλυβα: Fe360

Μέλος Απόσταση Διατ-Υ Διατ-Z N-My-Mz Λυγισμ. Πλ.Λυγισ. Δ.Κορμ Λυγ.Κορ Ελεγχ-T

Μέλος	Απόσταση	Διατ-Υ	Διατ-Z	N	My	Mz	Λυγισμ.	Πλ.Λυγισ.	Δ.Κορμ	Λυγ.Κορ	Ελεγχ-T
4	.000	.001	.003	.065	.203	-	-	-	-	-	-
4	2.200	.000	.000	.179	.355	-	-	-	-	-	-
4	4.400	.001	.003	.067	.194	-	-	-	-	-	-
5	.000	.001	.003	.053	.207	-	-	-	-	-	-
5	2.200	.000	.000	.204	.431	-	-	-	-	-	-
5	4.400	.001	.003	.050	.198	-	-	-	-	-	-
6	.000	.001	.003	.059	.189	-	-	-	-	-	-
6	2.200	.000	.000	.172	.341	-	-	-	-	-	-
6	4.400	.001	.003	.060	.180	-	-	-	-	-	-
7	.000	.001	.003	.057	.224	-	-	-	-	-	-
7	2.200	.000	.000	.209	.448	-	-	-	-	-	-
7	4.400	.001	.003	.055	.215	-	-	-	-	-	-

Scale 1:60,4
 EC3 postprocessor results, IND,STATIK3,2.14, Subsys. "LIST"
 - Structure: Elmnts.
 - Text LT-Buckling check



Διαστασιολόγηση μεταλλικών στοιχείων κατά EC3
 Ποιότητα χάλυβα: Fe360

Μέλος	Απόσταση	Διατ-Y	Διατ-Z	N-My-Mz	Λυγισμ.	Πλ.Λυγισμ.	Δ.Κορμ	Λυγ.Κορ	Ελεγχ-T
80	.000	.001	.004	.038	.149	-	-	-	-
80	2.135	.000	.000	.181	.355	-	-	-	-
80	4.270	.001	.004	.037	.145	-	-	-	-
81	.000	.001	.004	.037	.144	-	-	-	-
81	2.135	.000	.000	.198	.381	-	-	-	-
81	4.270	.001	.004	.036	.141	-	-	-	-
82	.000	.001	.004	.035	.135	-	-	-	-
82	2.135	.000	.000	.180	.345	-	-	-	-
82	4.270	.001	.004	.036	.139	-	-	-	-
83	.000	.001	.004	.032	.125	-	-	-	-
83	2.135	.000	.000	.192	.365	-	-	-	-
83	4.270	.001	.004	.033	.128	-	-	-	-
84	.000	.001	.004	.024	.065	-	-	-	-
84	2.135	.000	.000	.194	.330	-	-	-	-
84	4.270	.001	.004	.025	.064	-	-	-	-
85	.000	.001	.004	.016	.063	-	-	-	-
85	2.135	.000	.000	.193	.329	-	-	-	-
85	4.270	.001	.004	.016	.062	-	-	-	-
86	.000	.001	.004	.013	.051	-	-	-	-
86	2.135	.000	.000	.179	.275	-	-	-	-
86	4.270	.001	.004	.014	.055	-	-	-	-
87	.000	.001	.004	.023	.059	-	-	-	-
87	2.135	.000	.000	.193	.325	-	-	-	-
87	4.270	.001	.004	.022	.060	-	-	-	-

LOAD COMBINATION AN: 'MONIMA+WIND+ANEMO'

Loadcase	Factor	Stage	Init.def	Title
1	1.0000			IDION BAROS
2	1.0000			monima
3	1.0000			snow
4	1.0000			wind x-x

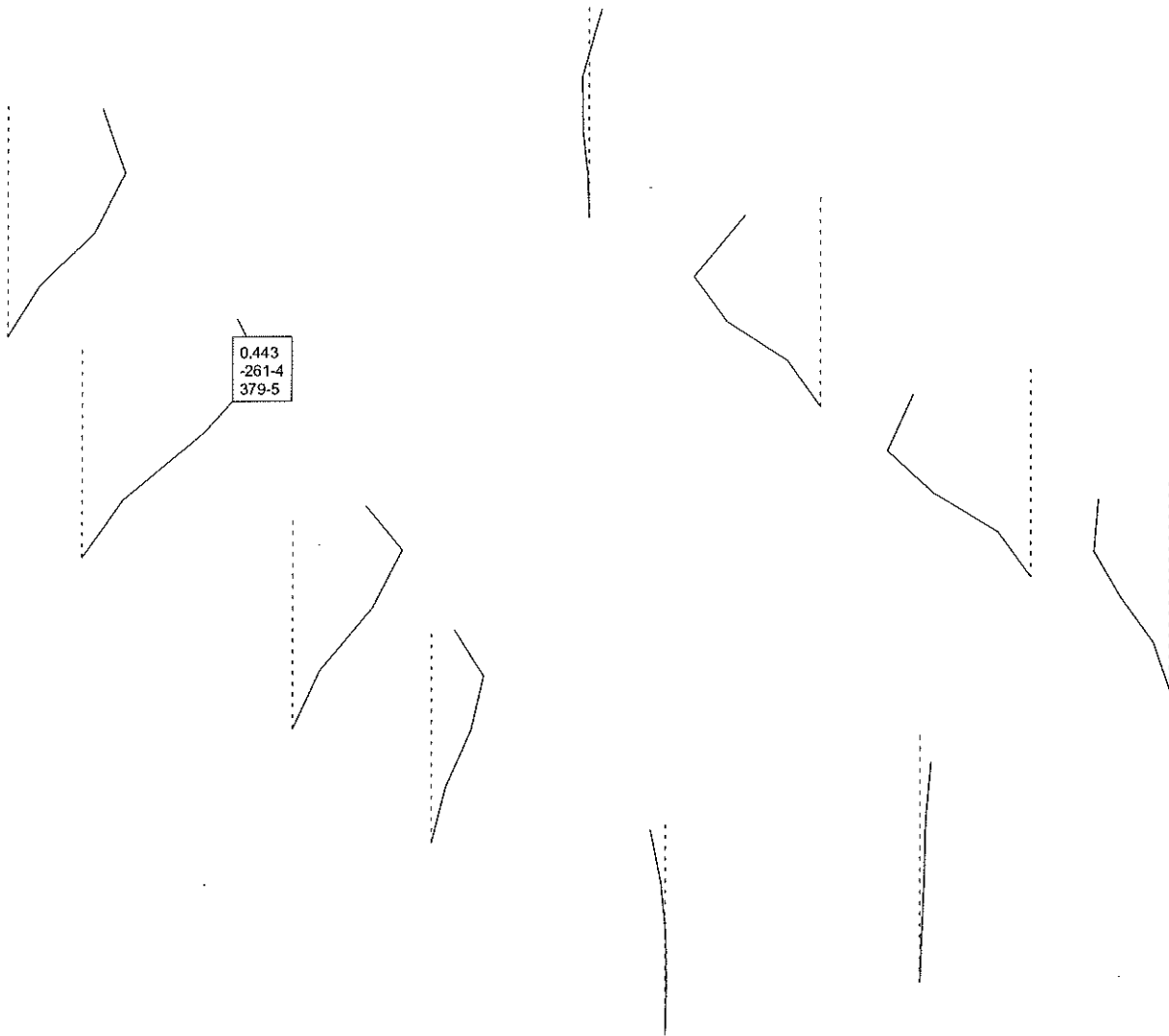
Scale 1 :81.4
Deformed structure, Loadcomb. AN (MONIMA+WIND+ANEMO), Subsys. "COLUMNS"
- Structure: Elmnts.
- Displacements, Scale: 2.0E2
- V-Max , Text: Vx,Vy,Vz [CM]



LOAD COMBINATION AO: 'METAKINHSEIS 2'

Loadcase	Factor	Stage	Init.def	Title
1	1.0000			IDION BAROS
2	1.0000			monima
3	1.0000			snow
5	1.0000			wind y-y

Scale 1:80.0
Deformed structure, Loadcomb. AO (METAKINHSEIS 2), Subsys. "COLUMNS"
- Structure: Elmnts.
- Displacements, Scale: 5.0E2
- V-Max , Text: Vx,Vy,Vz [CM]



LOAD COMBINATION AP: 'METAKINHSEIS 3'

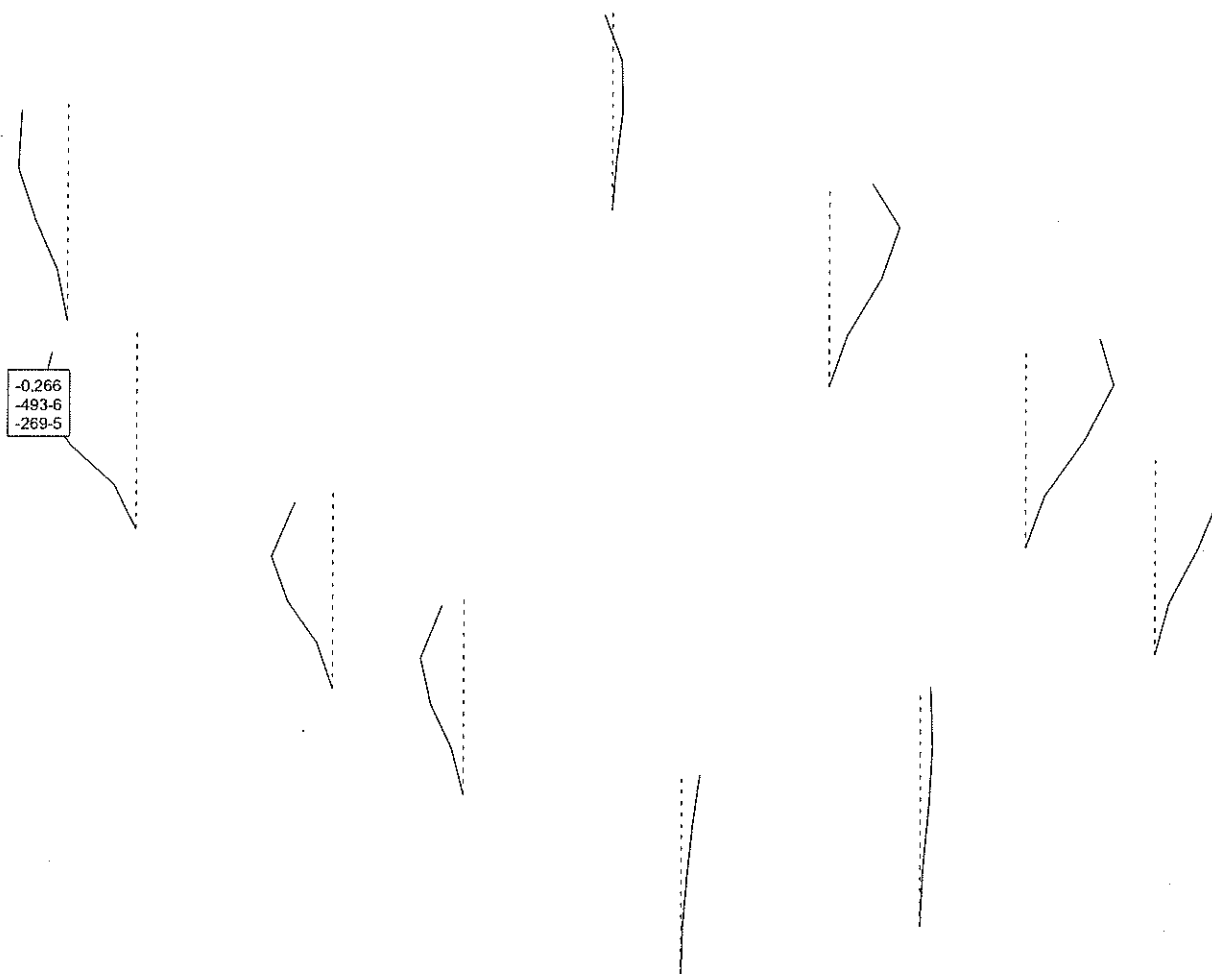
Loadcase	Factor	Stage	Init.def	Title
1	1.0000			IDION BAROS
2	1.0000			monima
3	1.0000			snow
6	1.0000			WINDANOIXPANW

Scale 1:80.0
Deformed structure, Loadcomb. AP (METAKINHSEIS 3), Subsys. "COLUMNS"
- Structure: Elmnts.
- Displacements, Scale: 2.0E2
- V-Max , Text: Vx,Vy,Vz [CM]



Loadcase	Factor	Stage	Init.def	Title
1	1.0000			IDION BAROS
2	1.0000			monima
3	1.0000			SNOW
7	1.0000			WINDANOIXKATW

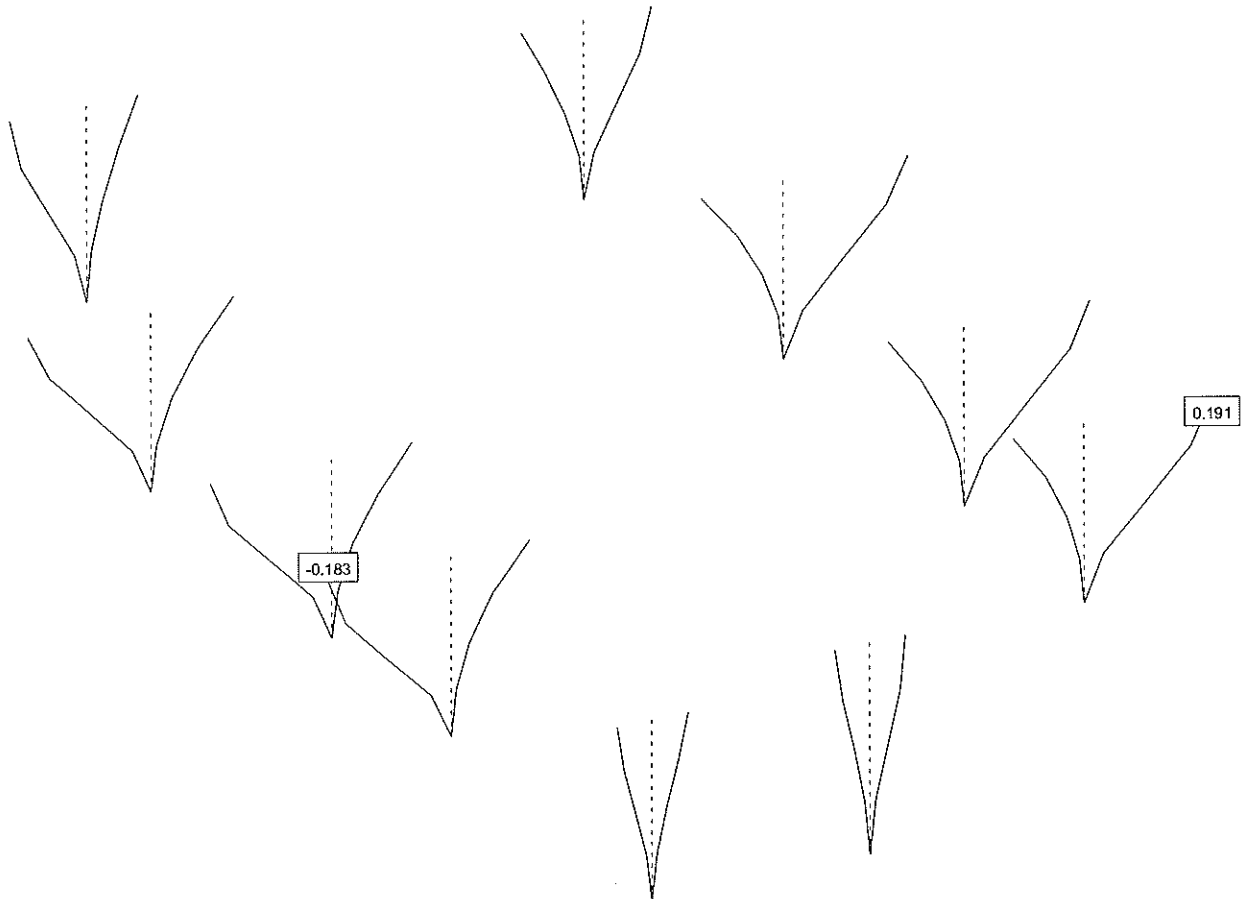
Scale 1:88.4
Deformed structure, Loadcomb. AQ (METAKINHSEIS 4), Subsys. "COLUMNS"
- Structure: Elmnts.
- Displacements, Scale: 5.0E2
- V-Max , Text: Vx,Vy,Vz [CM]



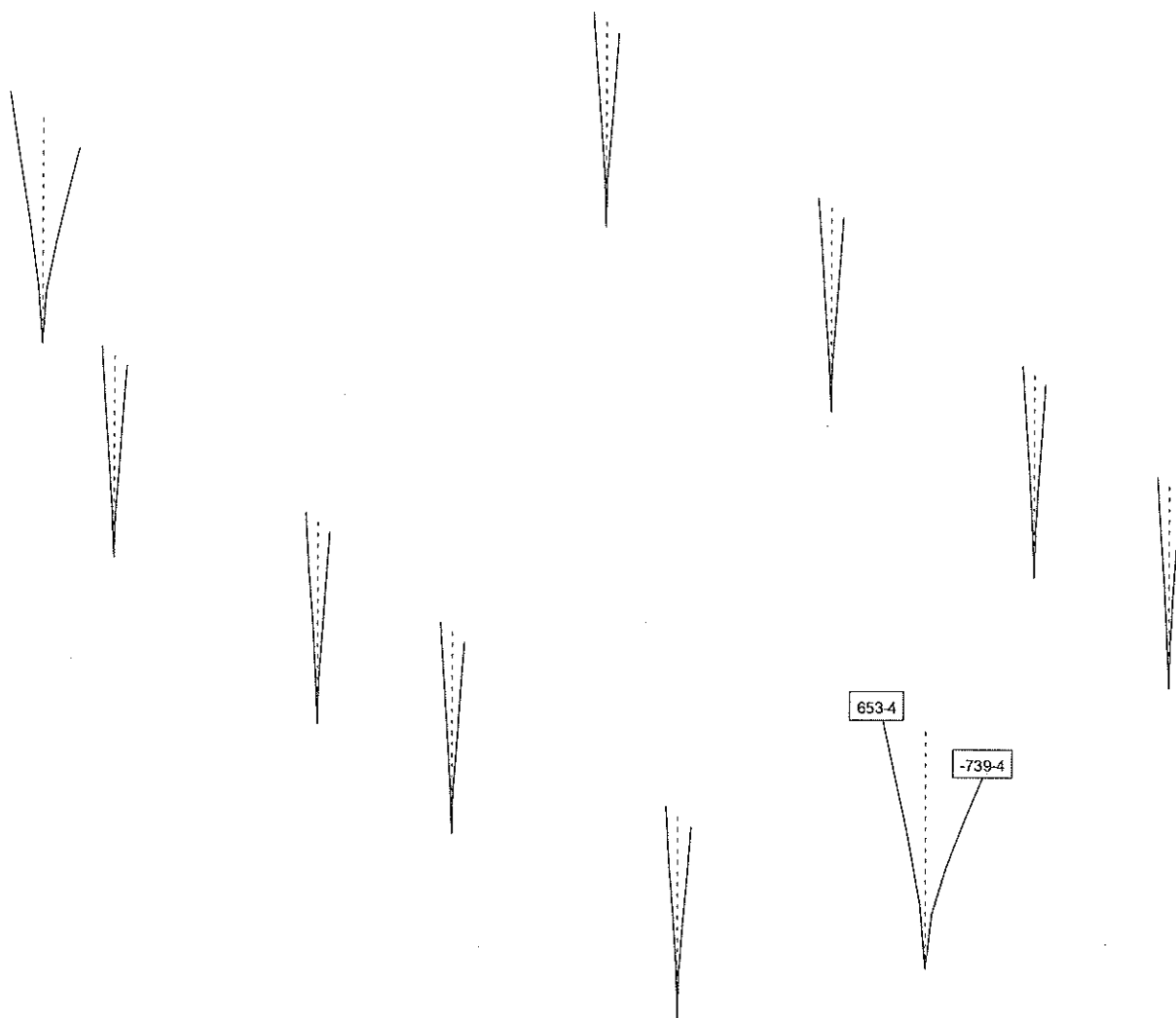
ENVELOPE SPECIFIC.: AR 'SEISMOS'

Group	Spec.	Loadcase	Factor	Stage	Title
A	PERM.	215	1.000		Gk + y2Qk + 1.00*Rd(Tx)*Fx + 0
B	OR	216	1.000		Gk + y2Qk + 1.00*Rd(Tx)*Fx - 0
C	OR	217	1.000		Gk + y2Qk - 1.00*Rd(Tx)*Fx + 0
D	OR	218	1.000		Gk + y2Qk - 1.00*Rd(Tx)*Fx - 0
E	OR	219	1.000		Gk + y2Qk + 1.00*Rd(Ty)*Fy + 0
F	OR	220	1.000		Gk + y2Qk + 1.00*Rd(Ty)*Fy - 0
G	OR	221	1.000		Gk + y2Qk - 1.00*Rd(Ty)*Fy + 0
H	OR	222	1.000		Gk + y2Qk - 1.00*Rd(Ty)*Fy - 0

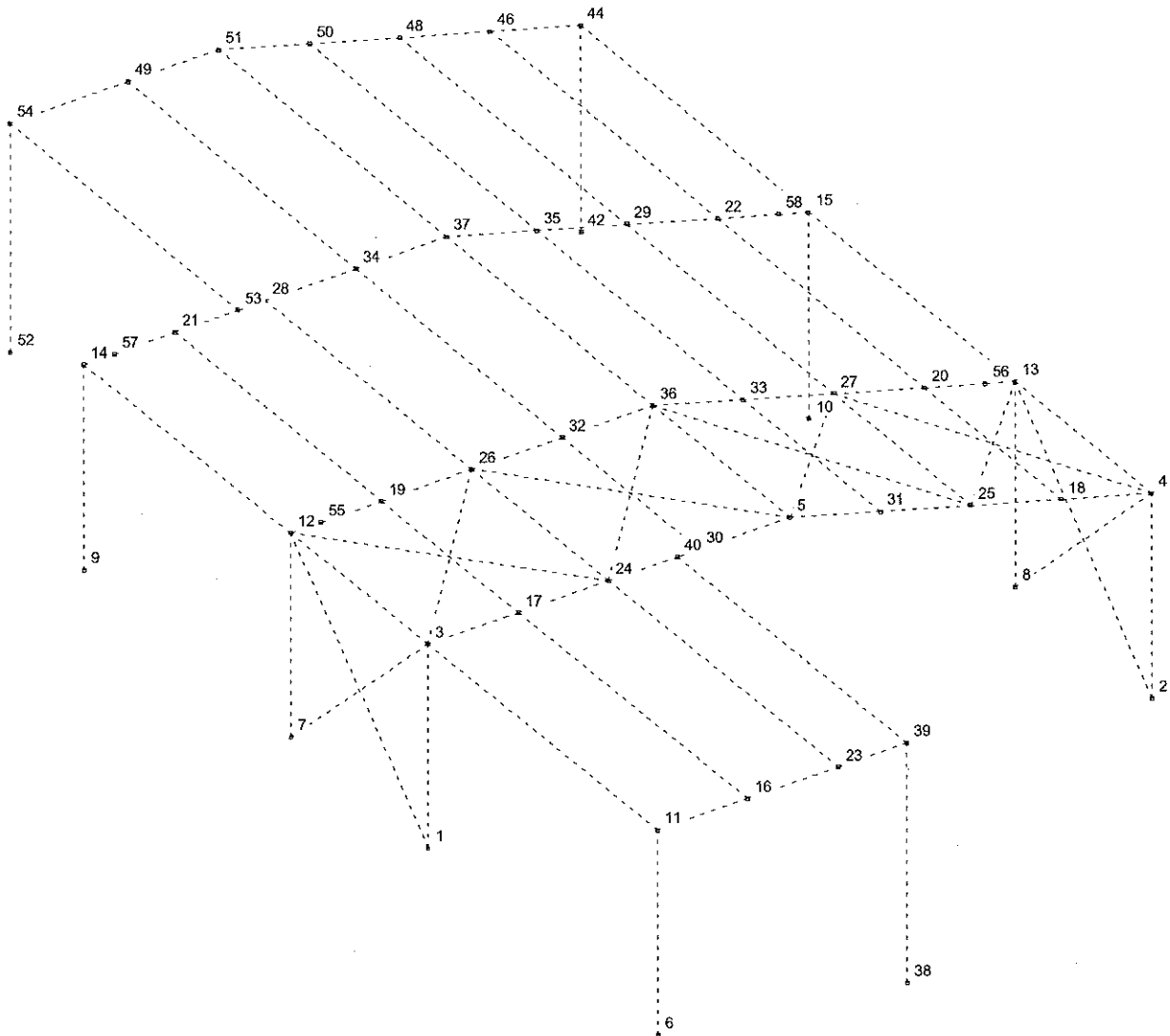
Scale 1:96.5
 Displacements envelope DX [CM], GWSP AR (SEISMOS), Subsys. "COLUMNS"
 - Structure: Elmnts.
 - Minimum displacements DX, Scale: 1.0E3
 - Maximum displacements DX, Scale: 1.0E3
 - Label minimum value DX-Min. [CM]
 - Label maximum value DX-Max. [CM]



Scale 1:83.1
Displacements envelope DY [CM], GWSP AR (SEISMOS), Subsys. "COLUMNS"
- Structure: Elmnts.
- Minimum displacements DY, Scale: 2.0E3
- Maximum displacements DY, Scale: 2.0E3
- Label minimum value DY-Min. [CM]
- Label maximum value DY-Max. [CM]



Scale 1:80.0
Reactions envelope FX, GWSP AU (PERIBALOUSSA)
- Structure: Elmnts.



SUPPORT REACTIONS: ENVELOPE for < FX > (and accomp. values)

(1. line : MIN., 2. line : MAX.)

Node	FX [kN]	FY [kN]	FZ [kN]	MX [kNm]	MY [kNm]	MZ [kNm]
1	-16.069 10.879	-0.679978 1.179	-10.782 21.676	0.008611 -0.013409	-14.470 10.457	0.000495 -0.001220
2	-10.302 12.439	0.338222 -0.281272	12.820 -12.379	0.008924 -0.014959	-11.348 13.938	0.001158 -0.001938
6	-6.260 0.727948	-0.003361 -0.034615	-3.333 1.714	0.008191 0.030822	-4.455 0.922094	0.000439 -0.000143
7	-20.788 15.312	0.308837 -0.381861	-28.711 23.358	0.011749 -0.006547	-20.501 15.209	0.001466 -0.000787
8	-17.100 23.694	-0.950833 1.272	25.005 -31.396	0.014944 -0.022506	-18.073 25.156	0.000824 -0.001514
9	-26.978 18.818	-0.006738 0.003795	-29.927 23.180	0.011753 -0.006561	-29.068 20.080	0.001669 -0.000948
10	-18.018 25.366	-0.004440 0.006386	28.359 -37.713	0.014806 -0.022297	-17.828 24.812	0.000907 -0.001599
38	-1.286 2.063	-0.108841 0.190338	8.171 -7.921	0.330763 -0.578438	-1.656 2.767	-0.000692 0.001200
42	-5.347 6.848	-0.004480 0.006462	13.120 -15.229	0.014780 -0.022273	-4.512 5.529	0.000907 -0.001598
52	-10.406 6.147	0.032086 -0.075437	-5.426 12.271	-0.094283 0.221566	-10.518 7.224	0.000350 -0.000799

SUPPORT REACTIONS: ENVELOPE for < FZ > (and accomp. values)

(1. line : MIN., 2. line : MAX.)

Node	FX [kN]	FY [kN]	FZ [kN]	MX [kNm]	MY [kNm]	MZ [kNm]
1	-12.905 10.879	-1.620 1.179	-25.007 21.676	0.020443 -0.013409	-12.083 10.457	0.002041 -0.001220
2	12.439 -10.302	-0.281272 0.338222	-12.379 12.820	-0.014959 0.008924	13.938 -11.348	-0.001938 0.001158
6	0.376580 0.075121	-0.008022 0.005248	-5.598 6.140	0.018681 -0.012395	1.250 -0.416101	0.001737 -0.001003
7	-20.788 15.312	0.308837 -0.381861	-28.711 23.358	0.011749 -0.006547	-20.501 15.209	0.001466 -0.000787
8	23.694 -17.100	1.272 -0.950833	-31.396 25.005	-0.022506 0.014944	25.156 -18.073	-0.001514 0.000824
9	-26.978 18.818	-0.006738 0.003795	-29.927 23.180	0.011753 -0.006561	-29.068 20.080	0.001669 -0.000948
10	25.366 -18.018	0.006386 -0.004440	-37.713 28.359	-0.022297 0.014806	24.812 -17.828	-0.001599 0.000907
38	2.063 -1.286	0.190338 -0.108841	-7.921 8.171	-0.578438 0.330763	2.767 -1.656	0.001200 -0.000692
42	6.848 -5.347	0.006462 -0.004480	-15.229 13.120	-0.022273 0.014780	5.529 -4.512	-0.001598 0.000907
52	-8.460 6.147	0.131911 -0.075437	-13.875 12.271	-0.387413 0.221566	-10.085 7.224	0.001397 -0.000799

SUPPORT REACTIONS: ENVELOPE for < FZ > (and accomp. values)
 (1. line : MIN., 2. line : MAX.)

Node	FX [kN]	FY [kN]	FZ [kN]	MX [kNm]	MY [kNm]	MZ [kNm]
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SUPPORT REACTIONS: ENVELOPE for < MY > (and accomp. values)
 (1. line : MIN., 2. line : MAX.)

Node	FX [kN]	FY [kN]	FZ [kN]	MX [kNm]	MY [kNm]	MZ [kNm]
1	-16.069 10.879	-0.679978 1.179	-10.782 21.676	0.008611 -0.013409	-14.470 10.457	0.000495 -0.001220
2	-10.302 12.439	0.338222 -0.281272	12.820 -12.379	0.008924 -0.014959	-11.348 13.938	0.001158 -0.001938
6	-6.260 0.426248	-0.003361 -0.007782	-3.333 -4.961	0.008191 0.018089	-4.455 1.288	0.000439 0.001710
7	-20.788 15.312	0.308837 -0.381861	-28.711 23.358	0.011749 -0.006547	-20.501 15.209	0.001466 -0.000787
8	-17.100 23.694	-0.950833 1.272	25.005 -31.396	0.014944 -0.022506	-18.073 25.156	0.000824 -0.001514
9	-26.978 18.818	-0.006738 0.003795	-29.927 23.180	0.011753 -0.006561	-29.068 20.080	0.001669 -0.000948
10	-18.018 25.366	-0.004440 0.006386	28.359 -37.713	0.014806 -0.022297	-17.828 24.812	0.000907 -0.001599
38	-1.286 2.063	-0.108841 0.190338	8.171 -7.921	0.330763 -0.578438	-1.656 2.767	-0.000692 0.001200
42	-4.490 6.848	0.002775 0.006462	-2.680 -15.229	-0.008486 -0.022273	-5.468 5.529	-0.000364 -0.001598
52	-10.406 6.147	0.032086 -0.075437	-5.426 12.271	-0.094283 0.221566	-10.518 7.224	0.000350 -0.000799

Ανεμομπύεση στις πλευρές του κτηρίου (κατακόρυφοι τοίχοι) - εξωτερικές πιέσεις

Δεδομένα κτηρίου

ύψος	$h=$ 2.5
μήκος	$a=$ 9.4
πλάτος (πλευρά παράλληλη ανέμου)	$b=$ 20.75

διάσταση κατά μήκος του ανέμου
διάσταση εγκάρσια στον άνεμο



θεμελιώδης τιμή βασικής ταχύτητας ανέμου

συντελεστής διευθύνσης
εποχιακός συντελεστής

$V_{b,0}$	= 33	m/sec
C_{dir}	= 1	
C_{season}	= 1	

βασική ταχύτητα ανέμου

V_b	= 33	m/sec
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κατηγορία εδάφους

ύψος κατασκευής

z	= 2.5	m
z_0	= 0.3	m
z_{min}	= 5	m

b	= 20.75
-----	---------

συντελεστής εδάφους

συντελεστής τραχύτητας
μέση ταχύτητα του ανέμου

ένταση στροβιλισμού

πίεση ταχύτητας αιχμής

K_r	= 0.215	
$C_r(z)$	= 0.606	
$V_m(z)$	= 20.00	m/sec
$lv(z)$	= 0.355	
$q_p(z)$	= 0.87	kN/m^2

$C_r(b)$	= 0.913
$V_m(b)$	= 30.11
$lv(b)$	= 0.236
$q_p(b)$	= 1.503

βασική πίεση

συντελεστής έκθεσης

ταχύτητα αιχμής

q_b	= 0.6806	kN/m^2
$C_e(z)$	= 1.28	
$V_p(z)$	= 37.3	m/sec

ελέγξε μόνο τις

A, B, C, D, E		
e	= 5	m

πλάτος ζώνης

ανεμομπύεση στις ζώνες

$q_p(h)$

kN/m^2

A	= 1	m
B	= 4	m
C	= 4.4	m
D	= 20.75	m
E	= 20.75	m

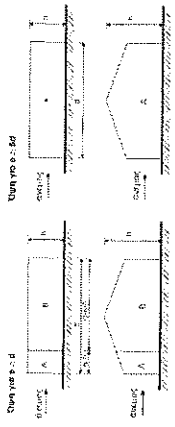
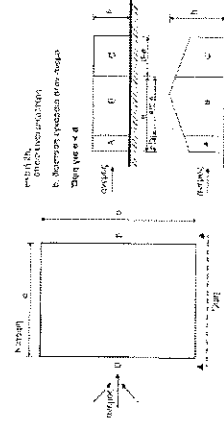
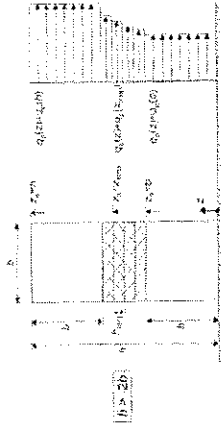
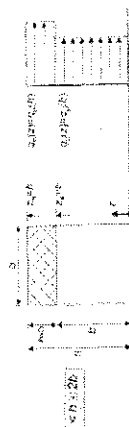
A	= -1.05	kN/m^2
B	= -0.70	kN/m^2
C	= -0.44	kN/m^2
D	= 0.70	kN/m^2
E	= -0.44	kN/m^2

ελέγγω
καθ' ύψος:

$$q_p(z) = q_p(h)$$

$$q_p(b) = 1.20 \text{ kN/m}^2$$

$$q_p(z_{strip}) = 0.95 \text{ kN/m}^2$$



Ανεμοπίεση σε δικλινή στέγη

κλίση στέγης %
 διεύθυνση ανέμου (0 ή 90)
 μεγάλη πλευρά της στέγης
 μικρή πλευρά της στέγης

c=	12.0
θ=	0
b'= b''=	20.75 9.4

γωνία κλίσης στέγης
 ελέγξε μόνο τις

a=	7.0
F, G, H, I, J	

θεωρείται ότι η στέγη κατασκευάζεται ώστε
 οι δύο ρίσεις να είναι κατά μήκος των
 μεγάλων πλευρών

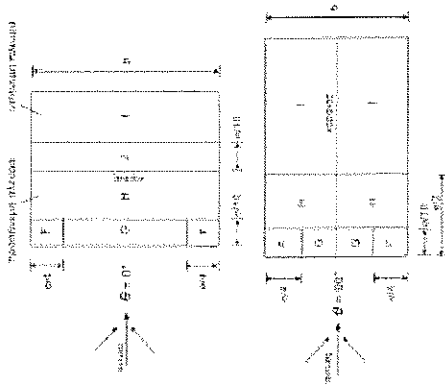
έντι για θ=	0
e=	5

ανεμοπίεση στις ζώνες

F=	-1.34	KN/m ²
G=	-0.98	KN/m ²
H=	-0.47	KN/m ²
I=	-0.49	KN/m ²
J=	-0.03	KN/m ²

q_p(h)

KN/m²



Ανεμοπίεση στις πλευρές του κτηρίου (κατακόρυφοι τοίχοι) - εξωτερικές πιέσεις

Δεδομένα κτηρίου

ύψος	h=	2.5
μήκος	d=	20.75
πλάτος (ελάττω προεξοχή ανέμου)	b=	9.4

διάσταση κατά μήκος του ανέμου
διάσταση εγκάρσια στον άνεμο

Θεμελιώδης τιμή βασικής ταχύτητας ανέμου

συντελεστής διεύθυνσης	$V_{b,0}$ =	33
εποχικός συντελεστής	C_{dir} =	1
	C_{season} =	1

βασική ταχύτητα ανέμου

V_b =	33
---------	----

κατηγορία εδάφους
ύψος κατασκευής

z =	2.5
z_0 =	0.3
z_{anem} =	5

συντελεστής εδάφους
συντελεστής τραχύτητας
μέση ταχύτητα του ανέμου
ένταση στροβιλισμού

K_r =	0.215
$C_r(z)$ =	0.606
$V_m(z)$ =	20.00
$I_v(z)$ =	0.355
$q_p(z)$ =	0.87

βασική πίεση
συντελεστής έκθεσης
ταχύτητα αιχμής

q_b =	0.6806
$C_e(z)$ =	1.28
$V_p(z)$ =	37.3

ελέγξε μόνο τις

A, B, C, D, E	
e=	5

πλάτος ζώνης

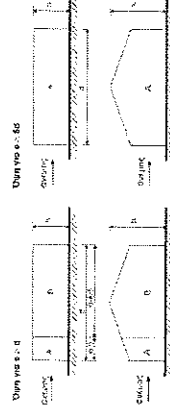
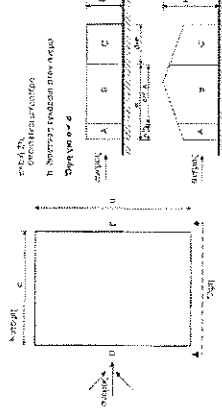
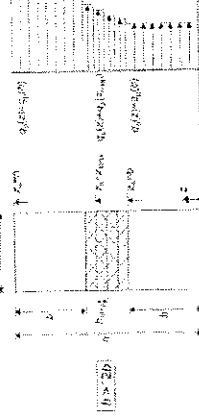
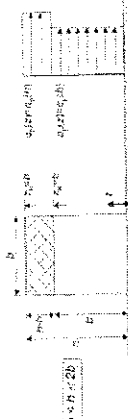
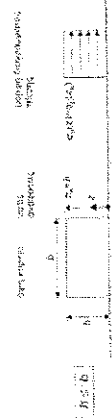
A=	1
B=	4
C=	15.75
D=	9.4
E=	9.4

ανεμοπίεση στις ζώνες

A=	-1.05
B=	-0.70
C=	-0.44
D=	0.70
E=	-0.44

$q_p(h)$

KN/m^2



ελάχιστο
καθ' ύψος: $q_p(z) = q_p(h)$

$q_p(b) = 0.91$ KN/m^2

$q_{e1}(z_{strip}) = 0.80$ KN/m^2

Ανεμοπίεση σε δικλινή στέγη

κλίση στέγης %
 διεύθυνση ανέμου (0 ή 90)
 μεγάλη πλευρά της στέγης
 μικρή πλευρά της στέγης

c=	12.0
θ=	90
b'=	20.75
b''=	9.4

γωνία κλίσης στέγης
 ελέγξτε μόνο τις

a=	7.0
F, G, H, I	

θεωρείται ότι η στέγη κατασκευάζεται ώστε
 οι δύο ρίσεις να είναι κατά μήκος των
 μεγάλων πλευρών

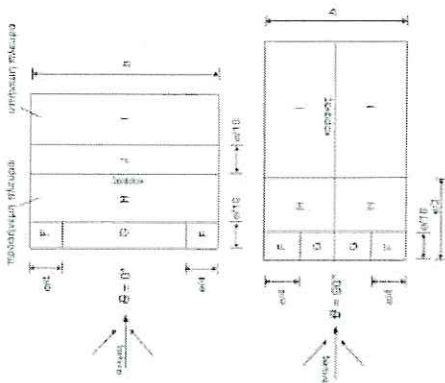
έτσι για θ=	90
e=	5

ανεμοπίεση στις ζώνες

F=	-1.34	KN/m ²
G=	-1.13	KN/m ²
H=	-0.59	KN/m ²
I=	-0.51	KN/m ²

q_w(h)

KN/m²



ΕΛΛΗΝΙΚΗ ΔΗΜΟΚΡΑΤΙΑ
 ΠΕΡΙΦΕΡΕΙΑ ΝΟΤΙΟΥ ΑΙΓΑΙΟΥ
 ΕΡΜΟΥΠΟΛΗ 30-6-2016
 Γ/Ν ΠΡΟΪΣΤΑΜΕΝΟΥ
 ΤΟΥ ΤΜΗΜΑΤΟΣ ΜΕΛΕΤΩΝ ΚΥΚΛΑΔΩΝ
 ΛΟΥΚΑΣ ΚΑΡΑΔΗΜΑΣ
 ΠΕ ΑΡΧΙΤΕΚΤΟΝ ΜΗΧΑΝΙΚΟΣ

ΣΤΡΙΓΓΑΡΗΣ Α. ΧΡΗΣΤΟΣ
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 ΔΙΠΛ. ΑΓΡ. ΤΟΠ/ΦΩΣ ΜΗΧ/ΚΟΣ ΑΠΘ
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 ΤΗΛ. 6972325789

