

## BAB V

### KESIMPULAN DAN SARAN

#### V.1 Kesimpulan

Perhitungan jembatan dengan komposit parsial mempunyai kelebihan dibandingkan apabila menggunakan komposit penuh, dimana gaya geser direduksi sehingga *shear conector* yang dipakai jumlahnya relatif lebih sedikit, tetapi pemakaian *shear conector* ini masih dalam batas aman. Dengan pemakaian *shear conector* yang lebih sedikit ini, akan lebih menghemat biaya dari konstruksi jembatan dan akan lebih mempermudah serta mempercepat pekerjaan pemasangan gelagar jembatan.

Perhitungan jembatan komposit dengan cara *unshored* atau tanpa dukungan sementara selama pengecoran beton, menyebabkan tegangan dan lendutan yang terjadi menjadi relatif besar dibandingkan dengan cara *shored* atau menggunakan penyangga sementara selama pengecoran beton.

#### V.2 Saran

Untuk mereduksi lendutan dan tegangan yang terjadi dapat digunakan penyangga sementara selama pelaksanaan pengecoran. Hal ini sering digunakan oleh karena lendutan dan tegangan yang terjadi relatif lebih kecil dibandingkan apabila pelaksanaan pengecoran tanpa penyangga sementara.

untuk pembangunan jembatan jalan raya yang melintas di tengah-tengah keramaian sebaiknya digunakan teknik *unshored* atau tanpa penyangga sementara selama pengecoran, agar arus lalu lintas di bawah jembatan yang sedang dibangun dapat berlangsung seperti biasa tanpa menyebabkan kemacetan lalu lintas.

## DAFTAR PUSTAKA

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16. Diktat Kuliah Jembatan. ?





**LAMPIRAN**

**A**

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STRUCTURAL ANALYSIS PROGRAMS

VERSION 5.20

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KONSTRUKSI 3D (DL)  
SYSTEM

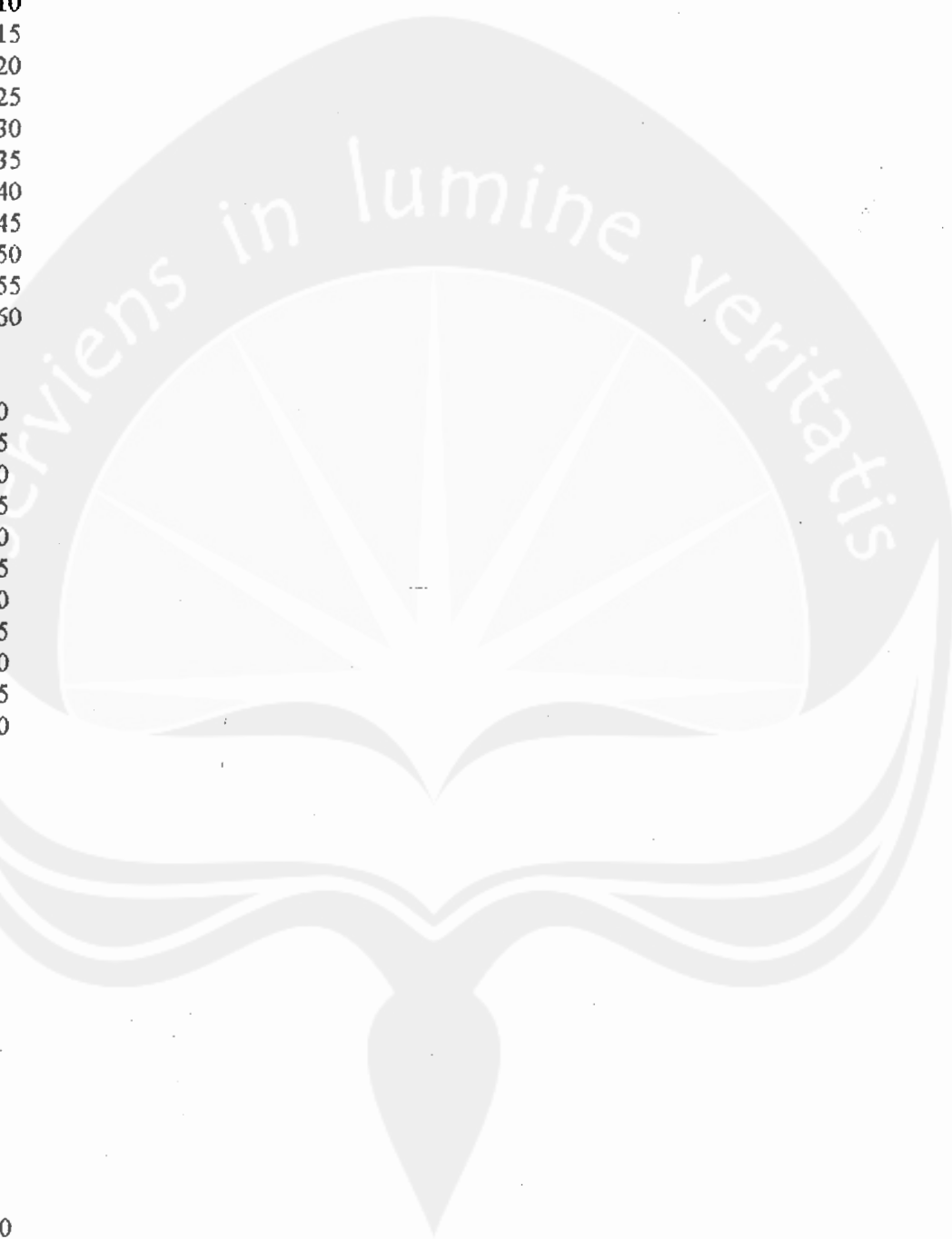
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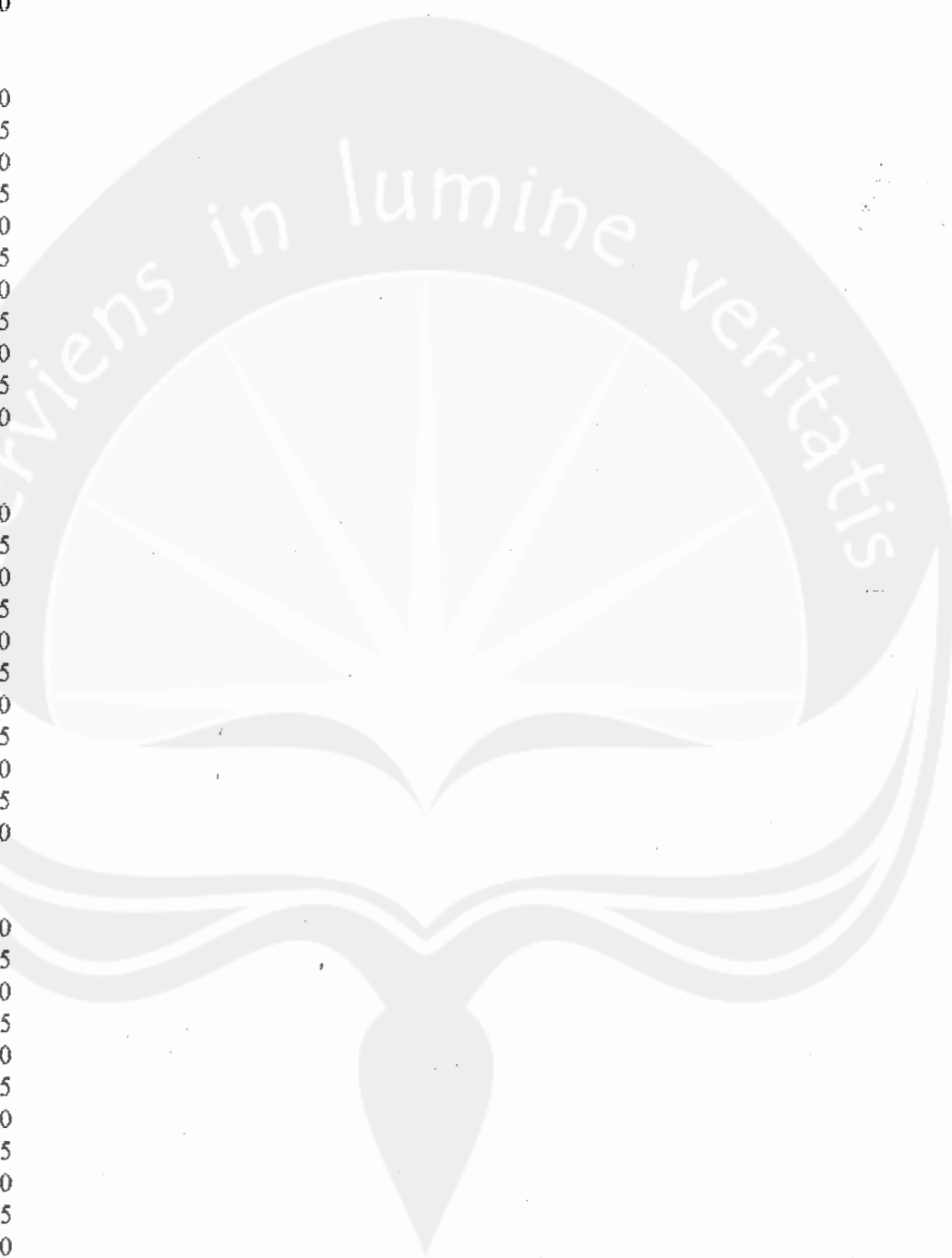


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118 R=1,1,1,0,1,1  
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7 R=1,1,0,0,1,1  
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33 R=1,1,0,0,1,1  
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124 R=1,1,0,0,1,1  
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52 R=1,1,0,0,1,1  
65 R=1,1,0,0,1,1  
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143 R=1,1,0,0,1,1  
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12 142 13 C=155,0,155,0,0,0

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AS=0.33333E-1,0.32E-1 E=2.1E10

2 SH=I T=0.529,0.166,0.1351E-1,0.935E-2 E=2.1E10

1 WG=0,-1644,0 :DL GELAGAR PINGGIR

2 WG=0,-1428,0 :DL GELAGAR TENGAH

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236 92 105	LR=1,1,0,1,1,0 G=12,1,1,1
249 105 118	LR=1,1,0,1,1,0 G=12,1,1,1
262 118 131	LR=1,1,0,1,1,0 G=12,1,1,1
275 131 144	LR=1,1,0,1,1,0 G=12,1,1,1

COMBO  
1 C=1.2 :DL



KONSTRUKSI 3D (DL)

JOINT DISPLACEMENTS

LOAD COMBINATION 1 - DISPLACEMENTS "U" AND ROTATIONS "R"

JOINT	U(X)	U(Y)	U(Z)	R(X)	R(Y)	R(Z)
1	.000000	.000000	.000000	-.063365	.000000	.000000
2	.000000	-.00293710	.000000	-.049880	.000000	.000000
3	.000000	-.00469956	.000000	-.018802	.000000	-.000000
4	.000000	-.00475954	.000000	.015798	.000000	-.000000
5	.000000	-.00329276	.000000	.039846	.000000	-.000000
6	.000000	-.00117857	.000000	.039272	.000000	.000000
7	.000000	.000000	.000000	.000000	.000000	.000000
8	.000000	-.00117857	.000000	-.039272	.000000	.000000
9	.000000	-.00329276	.000000	-.039846	.000000	-.000000
10	.000000	-.00475954	.000000	-.015798	.000000	-.000000
11	.000000	-.00469956	.000000	.018802	.000000	-.000000
12	.000000	-.00293710	.000000	.049880	.000000	.000000
13	.000000	.000000	.000000	.063365	.000000	.000000
14	.000000	.000000	.000000	-.055063	.000000	.000000
15	.000000	-.00255217	.000000	-.043342	.000000	.000000
16	.000000	-.00408356	.000000	-.016336	.000000	-.000000
17	.000000	-.00413558	.000000	.013729	.000000	-.000000
18	.000000	-.00286101	.000000	.034624	.000000	-.000000
19	.000000	-.00102400	.000000	.034123	.000000	.000000
20	.000000	.000000	.000000	.000000	.000000	.000000
21	.000000	-.00102400	.000000	-.034123	.000000	.000000
22	.000000	-.00286101	.000000	-.034624	.000000	-.000000
23	.000000	-.00413558	.000000	-.013729	.000000	-.000000
24	.000000	-.00408356	.000000	.016336	.000000	-.000000
25	.000000	-.00255217	.000000	.043342	.000000	.000000
26	.000000	.000000	.000000	.055063	.000000	.000000
27	.000000	.000000	.000000	-.055050	.000000	.000000
28	.000000	-.00255165	.000000	-.043334	.000000	.000000
29	.000000	-.00408278	.000000	-.016333	.000000	.000000
30	.000000	-.00413484	.000000	.013725	.000000	.000000
31	.000000	-.00286054	.000000	.034617	.000000	.000000
32	.000000	-.00102385	.000000	.034117	.000000	.000000
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35	.000000	-.00286054	.000000	-.034617	.000000	.000000
36	.000000	-.00413484	.000000	-.013725	.000000	.000000
37	.000000	-.00408278	.000000	.016333	.000000	.000000
38	.000000	-.00255165	.000000	.043334	.000000	.000000
39	.000000	.000000	.000000	.055050	.000000	.000000
40	.000000	.000000	.000000	-.055050	.000000	.000000

KONSTRUKSI 3D (DL)

FRAME ELEMENT FORCES

ELT	LOAD	AXIAL	DIST	1-2 PLANE		1-3 PLANE		AXIAL
ID	COMB	FORCE	ENDI	SHEAR	MOMENT	SHEAR	MOMENT	TORQ
1 -----								
1	.00	.0	.00	.00	.00	22196.74	-16.52	.00
		5.0	.00	.00	.00	12332.74	86307.21	
2 -----								
1	.00	.0	.00	.00	.00	12332.75	86294.20	.00
		5.0	.00	.00	.00	2468.75	123297.93	
3 -----								
1	.00	.0	.00	.00	.00	2468.75	123293.03	.00
		1.3	.00	.00	.00	-.02	124837.71	
		5.0	.00	.00	.00	-7395.25	110976.77	
4 -----								
1	.00	.0	.00	.00	.00	-7395.25	110980.88	-0.00
		5.0	.00	.00	.00	-17259.25	49344.63	
5 -----								
1	.00	.0	.00	.00	.00	-17259.25	49355.02	-0.00
		5.0	.00	.00	.00	-27123.25	-61601.22	
6 -----								
1	.00	.0	.00	.00	.00	-27123.25	-61590.97	-0.00
		5.0	.00	.00	.00	-36987.25	-221867.21	
7 -----								
1	.00	.0	.00	.00	.00	36987.25	-221867.21	.00
		5.0	.00	.00	.00	27123.25	-61590.97	
8 -----								
1	.00	.0	.00	.00	.00	27123.25	-61601.22	.00
		5.0	.00	.00	.00	17259.25	49355.02	
9 -----								
1	.00	.0	.00	.00	.00	17259.25	49344.63	.00
		5.0	.00	.00	.00	7395.25	110980.88	
10 -----								
1	.00	.0	.00	.00	.00	7395.25	110976.77	.00
		3.7	.00	.00	.00	-.02	124837.71	
		5.0	.00	.00	.00	-2468.75	123293.03	
11 -----								
1	.00	.0	.00	.00	.00	-2468.75	123297.93	-0.00
		5.0	.00	.00	.00	-12332.75	86294.20	
12 -----								

KONSTRUKSI 3D (DL)

FRAME ELEMENT FORCES

ELT ID	LOAD COMB	AXIAL FORCE	DIST ENDI	1-2 PLANE		1-3 PLANE		AXIAL TORQ
				SHEAR	MOMENT	SHEAR	MOMENT	
1	.00	.0	5.0	.00	.00	-12332.74	86307.21	-16.52
-----								
13	.00	.0	5.0	.00	.00	19278.38	16.49	.00
-----								
14	.00	.0	5.0	.00	.00	10710.38	75001.38	.00
-----								
15	.00	.0	5.0	.00	.00	2142.38	107133.27	.00
-----								
16	.00	.0	1.3	.00	.00	2142.38	107138.17	.00
-----								
17	.00	.0	5.0	.00	.00	-6425.62	96430.05	.00
-----								
18	.00	.0	5.0	.00	.00	-6425.63	96425.95	.00
-----								
19	.00	.0	5.0	.00	.00	-14993.63	42877.82	.00
-----								
20	.00	.0	5.0	.00	.00	-14993.63	42867.44	.00
-----								
21	.00	.0	5.0	.00	.00	-23561.63	-53520.70	.00
-----								
22	.00	.0	5.0	.00	.00	-23561.63	-53530.93	.00
-----								
23	.00	.0	5.0	.00	.00	32129.63	-192759.07	.00
-----								
24	.00	.0	5.0	.00	.00	23561.63	-53530.93	.00
-----								
25	.00	.0	5.0	.00	.00	14993.63	42867.44	.00
-----								
26	.00	.0	5.0	.00	.00	14993.63	42877.82	.00
-----								
27	.00	.0	5.0	.00	.00	6425.63	96425.95	.00
-----								
28	.00	.0	3.7	.00	.00	6425.62	96430.05	.00
-----								
29	.00	.0	5.0	.00	.00	-.02	108477.39	.00
-----								
30	.00	.0	5.0	.00	.00	-2142.38	107138.17	.00

KONSTRUKSI 3D (DL)

FRAME ELEMENT FORCES

ELT ID	LOAD COMB	AXIAL FORCE	DIST ENDI	1-2 PLANE		1-3 PLANE		AXIAL TORQ
				SHEAR	MOMENT	SHEAR	MOMENT	
23 -----								
1	.00							
		.0		.00	.00	-2142.38	107133.27	-0.00
		5.0		.00	.00	-10710.38	75001.38	
24 -----								
1	.00							
		.0		.00	.00	10710.38	74988.39	-0.00
		5.0		.00	.00	-19278.38	16.49	
25 -----								
1	.00							
		.0		.00	.00	19279.45	.02	.00
		5.0		.00	.00	10711.45	74977.28	
26 -----								
1	.00							
		.0		.00	.00	10711.45	74977.29	.00
		5.0		.00	.00	2143.45	107114.54	
27 -----								
1	.00							
		.0		.00	.00	2143.45	107114.55	.00
		1.3		.00	.00	-.02	108455.11	
		5.0		.00	.00	-6424.55	96411.80	
28 -----								
1	.00							
		.0		.00	.00	-6424.55	96411.79	.00
		5.0		.00	.00	-14992.55	42869.05	
29 -----								
1	.00							
		.0		.00	.00	-14992.55	42869.03	.00
		5.0		.00	.00	-23560.55	-53513.72	
30 -----								
1	.00							
		.0		.00	.00	-23560.55	-53513.73	.00
		5.0		.00	.00	-32128.55	-192736.48	
31 -----								
1	.00							
		.0		.00	.00	32128.55	-192736.48	.00
		5.0		.00	.00	23560.55	-53513.73	
32 -----								
1	.00							
		.0		.00	.00	23560.55	-53513.72	.00
		5.0		.00	.00	14992.55	42869.03	
33 -----								
1	.00							
		.0		.00	.00	14992.55	42869.05	.00
		5.0		.00	.00	6424.55	96411.79	



KONSTRUKSI 3D (DL)

FRAME ELEMENT FORCES

ELT ID	LOAD COMB	AXIAL FORCE	DIST ENDI	1-2 PLANE SHEAR	MOMENT	1-3 PLANE SHEAR	MOMENT	AXIAL TORQ
34 -----								
1	.00							.00
		.0		.00	.00	6424.55	96411.80	
		3.7		.00	.00	-.02	108455.11	
		5.0		.00	.00	-2143.45	107114.55	
35 -----								
1	.00							.00
		.0		.00	.00	-2143.45	107114.54	
		5.0		.00	.00	-10711.45	74977.29	
36 -----								
1	.00							.00
		.0		.00	.00	-10711.45	74977.28	
		5.0		.00	.00	-19279.45	.02	
37 -----								
1	.00							.00
		.0		.00	.00	19279.45	.00	
		5.0		.00	.00	10711.45	74977.26	
38 -----								
1	.00							.00
		.0		.00	.00	10711.45	74977.26	
		5.0		.00	.00	2143.45	107114.52	
39 -----								
1	.00							.00
		.0		.00	.00	2143.45	107114.52	
		1.3		.00	.00	-.02	108455.08	
		5.0		.00	.00	-6424.55	96411.78	
40 -----								
1	.00							.00
		.0		.00	.00	-6424.55	96411.78	
		5.0		.00	.00	-14992.55	42869.03	
41 -----								
1	.00							.00
		.0		.00	.00	-14992.55	42869.03	
		5.0		.00	.00	-23560.55	-53513.71	
42 -----								
1	.00							.00
		.0		.00	.00	-23560.55	-53513.71	
		5.0		.00	.00	-32128.55	-192736.45	
43 -----								
1	.00							.00
		.0		.00	.00	32128.55	-192736.45	
		5.0		.00	.00	23560.55	-53513.71	
44 -----								
1	.00							.00
		.0		.00	.00	23560.55	-53513.71	
		5.0		.00	.00	14992.55	42869.03	

KONSTRUKSI 3D (DL)

FRAME ELEMENT FORCES

ELT ID	LOAD COMB	AXIAL FORCE	DIST ENDI	1-2 PLANE		1-3 PLANE		AXIAL TORQ
				SHEAR	MOMENT	SHEAR	MOMENT	
45 -----								
1	.00							.00
		.0		.00	.00	14992.55	42869.03	
		5.0		.00	.00	6424.55	96411.78	
46 -----								
1	.00							.00
		.0		.00	.00	6424.55	96411.78	
		3.7		.00	.00	-.02	108455.08	
		5.0		.00	.00	-2143.45	107114.52	
47 -----								
1	.00							.00
		.0		.00	.00	-2143.45	107114.52	
		5.0		.00	.00	-10711.45	74977.26	
48 -----								
1	.00							.00
		.0		.00	.00	-10711.45	74977.26	
		5.0		.00	.00	-19279.45	.00	
49 -----								
1	.00							.00
		.0		.00	.00	19279.45	.00	
		5.0		.00	.00	10711.45	74977.26	
50 -----								
1	.00							.00
		.0		.00	.00	10711.45	74977.26	
		5.0		.00	.00	2143.45	107114.52	
51 -----								
1	.00							.00
		.0		.00	.00	2143.45	107114.52	
		1.3		.00	.00	-.02	108455.08	
		5.0		.00	.00	-6424.55	96411.78	
52 -----								
1	.00							.00
		.0		.00	.00	-6424.55	96411.78	
		5.0		.00	.00	-14992.55	42869.03	
53 -----								
1	.00							.00
		.0		.00	.00	-14992.55	42869.03	
		5.0		.00	.00	-23560.55	-53513.71	
54 -----								
1	.00							.00
		.0		.00	.00	-23560.55	-53513.71	
		5.0		.00	.00	-32128.55	-192736.45	
55 -----								
1	.00							.00
		.0		.00	.00	32128.55	-192736.45	
		5.0		.00	.00	23560.55	-53513.71	

KONSTRUKSI 3D (DL)

FRAME ELEMENT FORCES

ELT ID	LOAD COMB	AXIAL FORCE	DIST ENDI	1-2 PLANE		1-3 PLANE		AXIAL TORQ
				SHEAR	MOMENT	SHEAR	MOMENT	
56 -----								
1	.00							.00
		.0		.00	.00	23560.55	-53513.71	
		5.0		.00	.00	14992.55	42869.03	
57 -----								
1	.00							.00
		.0		.00	.00	14992.55	42869.03	
		5.0		.00	.00	6424.55	96411.78	
58 -----								
1	.00							.00
		.0		.00	.00	6424.55	96411.78	
		3.7		.00	.00	-.02	108455.08	
		5.0		.00	.00	-2143.45	107114.52	
59 -----								
1	.00							.00
		.0		.00	.00	-2143.45	107114.52	
		5.0		.00	.00	-10711.45	74977.26	
60 -----								
1	.00							.00
		.0		.00	.00	-10711.45	74977.26	
		5.0		.00	.00	-19279.45	.00	
61 -----								
1	.00							.00
		.0		.00	.00	19279.45	.00	
		5.0		.00	.00	10711.45	74977.26	
62 -----								
1	.00							.00
		.0		.00	.00	10711.45	74977.26	
		5.0		.00	.00	2143.45	107114.52	
63 -----								
1	.00							.00
		.0		.00	.00	2143.45	107114.52	
		1.3		.00	.00	-.02	108455.08	
		5.0		.00	.00	-6424.55	96411.78	
64 -----								
1	.00							.00
		.0		.00	.00	-6424.55	96411.78	
		5.0		.00	.00	-14992.55	42869.03	
65 -----								
1	.00							.00
		.0		.00	.00	-14992.55	42869.03	
		5.0		.00	.00	-23560.55	-53513.71	
66 -----								
1	.00							.00
		.0		.00	.00	-23560.55	-53513.71	
		5.0		.00	.00	-32128.55	-192736.45	

KONSTRUKSI 3D (DL)

FRAME ELEMENT FORCES

ELT ID	LOAD COMB	AXIAL DIST	1-2 PLANE		1-3 PLANE		AXIAL TORQ	
			FORCE ENDI	SHEAR	MOMENT	SHEAR		MOMENT
67 -----								
1	.00		.0	.00	.00	32128.55	-192736.45	.00
			5.0	.00	.00	23560.55	-53513.71	
68 -----								
1	.00		.0	.00	.00	23560.55	-53513.71	.00
			5.0	.00	.00	14992.55	42869.03	
69 -----								
1	.00		.0	.00	.00	14992.55	42869.03	.00
			5.0	.00	.00	6424.55	96411.78	
70 -----								
1	.00		.0	.00	.00	6424.55	96411.78	.00
			3.7	.00	.00	-.02	108455.08	
			5.0	.00	.00	-2143.45	107114.52	
71 -----								
1	.00		.0	.00	.00	-2143.45	107114.52	.00
			5.0	.00	.00	-10711.45	74977.26	
72 -----								
1	.00		.0	.00	.00	-10711.45	74977.26	.00
			5.0	.00	.00	-19279.45	.00	
73 -----								
1	.00		.0	.00	.00	19279.45	.00	.00
			5.0	.00	.00	10711.45	74977.26	
74 -----								
1	.00		.0	.00	.00	10711.45	74977.26	.00
			5.0	.00	.00	2143.45	107114.52	
75 -----								
1	.00		.0	.00	.00	2143.45	107114.52	.00
			1.3	.00	.00	-.02	108455.08	

KONSTRUKSI 3D (DL)

FRAME ELEMENT FORCES

ELT ID	LOAD COMB	AXIAL FORCE	DIST ENDI	1-2 PLANE		1-3 PLANE		AXIAL TORQ
				SHEAR	MOMENT	SHEAR	MOMENT	
76	1	.00	5.0	.00	.00	-6424.55	96411.78	.00
			.0	.00	.00	-6424.55	96411.78	.00
			5.0	.00	.00	-14992.55	42869.03	.00
77	1	.00	5.0	.00	.00	-14992.55	42869.03	.00
			.0	.00	.00	-14992.55	42869.03	.00
			5.0	.00	.00	-23560.55	-53513.71	.00
78	1	.00	5.0	.00	.00	-23560.55	-53513.71	.00
			.0	.00	.00	-23560.55	-53513.71	.00
			5.0	.00	.00	-32128.55	-192736.45	.00
79	1	.00	5.0	.00	.00	32128.55	-192736.45	.00
			.0	.00	.00	32128.55	-192736.45	.00
			5.0	.00	.00	23560.55	-53513.71	.00
80	1	.00	5.0	.00	.00	23560.55	-53513.71	.00
			.0	.00	.00	23560.55	-53513.71	.00
			5.0	.00	.00	14992.55	42869.03	.00
81	1	.00	5.0	.00	.00	14992.55	42869.03	.00
			.0	.00	.00	14992.55	42869.03	.00
			5.0	.00	.00	6424.55	96411.78	.00
82	1	.00	5.0	.00	.00	6424.55	96411.78	.00
			.0	.00	.00	6424.55	96411.78	.00
			3.7	.00	.00	-.02	108455.08	.00
			5.0	.00	.00	-2143.45	107114.52	.00
83	1	.00	5.0	.00	.00	-2143.45	107114.52	.00
			.0	.00	.00	-2143.45	107114.52	.00
			5.0	.00	.00	-10711.45	74977.26	.00
84	1	.00	5.0	.00	.00	-10711.45	74977.26	.00
			.0	.00	.00	-10711.45	74977.26	.00
			5.0	.00	.00	-19279.45	.00	.00
85	1	.00	5.0	.00	.00	19279.45	.00	.00
			.0	.00	.00	19279.45	.00	.00
			5.0	.00	.00	10711.45	74977.26	.00
86	1	.00	5.0	.00	.00	10711.45	74977.26	.00
			.0	.00	.00	10711.45	74977.26	.00
			5.0	.00	.00	2143.45	107114.52	.00

KONSTRUKSI 3D (DL)

FRAME ELEMENT FORCES

ELT LOAD	AXIAL DIST	1-2 PLANE		1-3 PLANE		AXIAL
ID COMB	FORCE ENDI	SHEAR	MOMENT	SHEAR	MOMENT	TORQ
87 -----						
1	.00					.00
	.0	.00	.00	2143.45	107114.52	
	1.3	.00	.00	-.02	108455.08	
	5.0	.00	.00	-6424.55	96411.78	
88 -----						
1	.00					.00
	.0	.00	.00	-6424.55	96411.78	
	5.0	.00	.00	-14992.55	42869.03	
89 -----						
1	.00					.00
	.0	.00	.00	-14992.55	42869.03	
	5.0	.00	.00	-23560.55	-53513.71	
90 -----						
1	.00					.00
	.0	.00	.00	-23560.55	-53513.71	
	5.0	.00	.00	-32128.55	-192736.45	
91 -----						
1	.00					.00
	.0	.00	.00	32128.55	-192736.45	
	5.0	.00	.00	23560.55	-53513.71	
92 -----						
1	.00					.00
	.0	.00	.00	23560.55	-53513.71	
	5.0	.00	.00	14992.55	42869.03	
93 -----						
1	.00					.00
	.0	.00	.00	14992.55	42869.03	
	5.0	.00	.00	6424.55	96411.78	
94 -----						
1	.00					.00
	.0	.00	.00	6424.55	96411.78	
	3.7	.00	.00	-.02	108455.08	
	5.0	.00	.00	-2143.45	107114.52	
95 -----						
1	.00					.00
	.0	.00	.00	-2143.45	107114.52	
	5.0	.00	.00	-10711.45	74977.26	
96 -----						
1	.00					.00
	.0	.00	.00	-10711.45	74977.26	
	5.0	.00	.00	-19279.45	.00	
97 -----						
1	.00					.00
	.0	.00	.00	19279.45	.00	
	5.0	.00	.00	10711.45	74977.26	

KONSTRUKSI 3D (DL)

FRAME ELEMENT FORCES

ELT ID	LOAD COMB	AXIAL FORCE	DIST ENDI	1-2 PLANE		1-3 PLANE		AXIAL TORQ
				SHEAR	MOMENT	SHEAR	MOMENT	
98 -----								
1	.00							.00
		.0		.00	.00	10711.45	74977.26	
		5.0		.00	.00	2143.45	107114.52	
99 -----								
1	.00							.00
		.0		.00	.00	2143.45	107114.52	
		1.3		.00	.00	-.02	108455.08	
		5.0		.00	.00	-6424.55	96411.78	
100 -----								
1	.00							.00
		.0		.00	.00	-6424.55	96411.78	
		5.0		.00	.00	-14992.55	42869.03	
101 -----								
1	.00							.00
		.0		.00	.00	-14992.55	42869.03	
		5.0		.00	.00	-23560.55	-53513.71	
102 -----								
1	.00							.00
		.0		.00	.00	-23560.55	-53513.71	
		5.0		.00	.00	-32128.55	-192736.45	
103 -----								
1	.00							.00
		.0		.00	.00	32128.55	-192736.45	
		5.0		.00	.00	23560.55	-53513.71	
104 -----								
1	.00							.00
		.0		.00	.00	23560.55	-53513.71	
		5.0		.00	.00	14992.55	42869.03	
105 -----								
1	.00							.00
		.0		.00	.00	14992.55	42869.03	
		5.0		.00	.00	6424.55	96411.78	
106 -----								
1	.00							.00
		.0		.00	.00	6424.55	96411.78	
		3.7		.00	.00	-.02	108455.08	
		5.0		.00	.00	-2143.45	107114.52	
107 -----								
1	.00							.00
		.0		.00	.00	-2143.45	107114.52	
		5.0		.00	.00	-10711.45	74977.26	
108 -----								
1	.00							.00
		.0		.00	.00	-10711.45	74977.26	
		5.0		.00	.00	-19279.45	.00	

KONSTRUKSI 3D (DL)

FRAME ELEMENT FORCES

ELT ID	LOAD COMB	AXIAL FORCE	DIST ENDI	1-2 PLANE		1-3 PLANE		AXIAL TORQ
				SHEAR	MOMENT	SHEAR	MOMENT	
109 -----								
1	.00							.00
		.0		.00	.00	19279.45	.02	
		5.0		.00	.00	10711.45	74977.28	
110 -----								
1	.00							.00
		.0		.00	.00	10711.45	74977.29	
		5.0		.00	.00	2143.45	107114.54	
111 -----								
1	.00							.00
		.0		.00	.00	2143.45	107114.55	
		1.3		.00	.00	-.02	108455.11	
		5.0		.00	.00	-6424.55	96411.80	
112 -----								
1	.00							.00
		.0		.00	.00	-6424.55	96411.79	
		5.0		.00	.00	-14992.55	42869.05	
113 -----								
1	.00							.00
		.0		.00	.00	-14992.55	42869.03	
		5.0		.00	.00	-23560.55	-53513.72	
114 -----								
1	.00							.00
		.0		.00	.00	-23560.55	-53513.73	
		5.0		.00	.00	-32128.55	-192736.48	
115 -----								
1	.00							.00
		.0		.00	.00	32128.55	-192736.48	
		5.0		.00	.00	23560.55	-53513.73	
116 -----								
1	.00							.00
		.0		.00	.00	23560.55	-53513.72	
		5.0		.00	.00	14992.55	42869.03	
117 -----								
1	.00							.00
		.0		.00	.00	14992.55	42869.05	
		5.0		.00	.00	6424.55	96411.79	
118 -----								
1	.00							.00
		.0		.00	.00	6424.55	96411.80	
		3.7		.00	.00	-.02	108455.11	
		5.0		.00	.00	-2143.45	107114.55	
119 -----								
1	.00							.00
		.0		.00	.00	-2143.45	107114.54	
		5.0		.00	.00	-10711.45	74977.29	



KONSTRUKSI 3D (DL)

FRAME ELEMENT FORCES

ELT ID	LOAD COMB	AXIAL FORCE	DIST ENDI	1-2 PLANE		1-3 PLANE		AXIAL TORQ
				SHEAR	MOMENT	SHEAR	MOMENT	
120 -----								
1	.00							.00
		.0		.00	.00	-10711.45	74977.28	
		5.0		.00	.00	-19279.45	.02	
121 -----								
1	.00							-.00
		.0		.00	.00	19278.38	16.49	
		5.0		.00	.00	10710.38	74988.39	
122 -----								
1	.00							-.00
		.0		.00	.00	10710.38	75001.38	
		5.0		.00	.00	2142.38	107133.27	
123 -----								
1	.00							.00
		.0		.00	.00	2142.38	107138.17	
		1.3		.00	.00	-.02	108477.39	
		5.0		.00	.00	-6425.62	96430.05	
124 -----								
1	.00							.00
		.0		.00	.00	-6425.63	96425.95	
		5.0		.00	.00	-14993.63	42877.82	
125 -----								
1	.00							.00
		.0		.00	.00	-14993.63	42867.44	
		5.0		.00	.00	-23561.63	-53520.70	
126 -----								
1	.00							.00
		.0		.00	.00	-23561.63	-53530.93	
		5.0		.00	.00	-32129.63	-192759.07	
127 -----								
1	.00							-.00
		.0		.00	.00	32129.63	-192759.07	
		5.0		.00	.00	23561.63	-53530.93	
128 -----								
1	.00							-.00
		.0		.00	.00	23561.63	-53520.70	
		5.0		.00	.00	14993.63	42867.44	
129 -----								
1	.00							-.00
		.0		.00	.00	14993.63	42877.82	
		5.0		.00	.00	6425.63	96425.95	
130 -----								
1	.00							.00
		.0		.00	.00	6425.62	96430.05	
		3.7		.00	.00	-.02	108477.39	
		5.0		.00	.00	-2142.38	107138.17	

KONSTRUKSI 3D (DL)

FRAME ELEMENT FORCES

ELT LOAD	AXIAL DIST	1-2 PLANE		1-3 PLANE		AXIAL
ID COMB	FORCE ENDI	SHEAR	MOMENT	SHEAR	MOMENT	TORQ
131 -----						
1	.00					.00
	.0	.00	.00	-2142.38	107133.27	
	5.0	.00	.00	-10710.38	75001.38	
132 -----						
1	.00					.00
	.0	.00	.00	-10710.38	74988.39	
	5.0	.00	.00	-19278.38	16.49	
133 -----						
1	.00					-0.00
	.0	.00	.00	22196.74	-16.52	
	5.0	.00	.00	12332.74	86307.21	
134 -----						
1	.00					-0.00
	.0	.00	.00	12332.75	86294.20	
	5.0	.00	.00	2468.75	123297.93	
135 -----						
1	.00					.00
	.0	.00	.00	2468.75	123293.03	
	1.3	.00	.00	-.02	124837.71	
	5.0	.00	.00	-7395.25	110976.77	
136 -----						
1	.00					.00
	.0	.00	.00	-7395.25	110980.88	
	5.0	.00	.00	-17259.25	49344.63	
137 -----						
1	.00					.00
	.0	.00	.00	-17259.25	49355.02	
	5.0	.00	.00	-27123.25	-61601.22	
138 -----						
1	.00					.00
	.0	.00	.00	-27123.25	-61590.97	
	5.0	.00	.00	-36987.25	-221867.21	
139 -----						
1	.00					-0.00
	.0	.00	.00	36987.25	-221867.21	
	5.0	.00	.00	27123.25	-61590.97	
140 -----						
1	.00					-0.00
	.0	.00	.00	27123.25	-61601.22	
	5.0	.00	.00	17259.25	49355.02	
141 -----						
1	.00					-0.00
	.0	.00	.00	17259.25	49344.63	
	5.0	.00	.00	7395.25	110980.88	

142	-----					
1	.00					.00
		.0	.00	.00	7395.25	110976.77
		3.7	.00	.00	-.02	124837.71
		5.0	.00	.00	-2468.75	123293.03
143	-----					
1	.00					.00
		.0	.00	.00	-2468.75	123297.93
		5.0	.00	.00	-12332.75	86294.20
144	-----					
1	.00					.00
		.0	.00	.00	-12332.74	86307.21
		5.0	.00	.00	-22196.74	-16.52





KONSTRUKSI 3D (SDL)  
SYSTEM

L=1

JOINTS

- 1 X=17.6 Y=0 Z=0
- 2 X=17.6 Y=0 Z=-5
- 3 X=17.6 Y=0 Z=-10
- 4 X=17.6 Y=0 Z=-15
- 5 X=17.6 Y=0 Z=-20
- 6 X=17.6 Y=0 Z=-25
- 7 X=17.6 Y=0 Z=-30
- 8 X=17.6 Y=0 Z=-35
- 9 X=17.6 Y=0 Z=-40
- 10 X=17.6 Y=0 Z=-45
- 11 X=17.6 Y=0 Z=-50
- 12 X=17.6 Y=0 Z=-55
- 13 X=17.6 Y=0 Z=-60
- 14 X=16 Y=0 Z=0
- 15 X=16 Y=0 Z=-5
- 16 X=16 Y=0 Z=-10
- 17 X=16 Y=0 Z=-15
- 18 X=16 Y=0 Z=-20
- 19 X=16 Y=0 Z=-25
- 20 X=16 Y=0 Z=-30
- 21 X=16 Y=0 Z=-35
- 22 X=16 Y=0 Z=-40
- 23 X=16 Y=0 Z=-45
- 24 X=16 Y=0 Z=-50
- 25 X=16 Y=0 Z=-55
- 26 X=16 Y=0 Z=-60
- 27 X=14.4 Y=0 Z=0
- 28 X=14.4 Y=0 Z=-5
- 29 X=14.4 Y=0 Z=-10
- 30 X=14.4 Y=0 Z=-15
- 31 X=14.4 Y=0 Z=-20
- 32 X=14.4 Y=0 Z=-25
- 33 X=14.4 Y=0 Z=-30
- 34 X=14.4 Y=0 Z=-35
- 35 X=14.4 Y=0 Z=-40
- 36 X=14.4 Y=0 Z=-45
- 37 X=14.4 Y=0 Z=-50
- 38 X=14.4 Y=0 Z=-55
- 39 X=14.4 Y=0 Z=-60
- 40 X=12.8 Y=0 Z=0
- 41 X=12.8 Y=0 Z=-5
- 42 X=12.8 Y=0 Z=-10
- 43 X=12.8 Y=0 Z=-15
- 44 X=12.8 Y=0 Z=-20
- 45 X=12.8 Y=0 Z=-25



46 X=12.8 Y=0 Z=-30  
47 X=12.8 Y=0 Z=-35  
48 X=12.8 Y=0 Z=-40  
49 X=12.8 Y=0 Z=-45  
50 X=12.8 Y=0 Z=-50  
51 X=12.8 Y=0 Z=-55  
52 X=12.8 Y=0 Z=-60  
53 X=11.2 Y=0 Z=0  
54 X=11.2 Y=0 Z=-5  
55 X=11.2 Y=0 Z=-10  
56 X=11.2 Y=0 Z=-15  
57 X=11.2 Y=0 Z=-20  
58 X=11.2 Y=0 Z=-25  
59 X=11.2 Y=0 Z=-30  
60 X=11.2 Y=0 Z=-35  
61 X=11.2 Y=0 Z=-40  
62 X=11.2 Y=0 Z=-45  
63 X=11.2 Y=0 Z=-50  
64 X=11.2 Y=0 Z=-55  
65 X=11.2 Y=0 Z=-60  
66 X=9.6 Y=0 Z=0  
67 X=9.6 Y=0 Z=-5  
68 X=9.6 Y=0 Z=-10  
69 X=9.6 Y=0 Z=-15  
70 X=9.6 Y=0 Z=-20  
71 X=9.6 Y=0 Z=-25  
72 X=9.6 Y=0 Z=-30  
73 X=9.6 Y=0 Z=-35  
74 X=9.6 Y=0 Z=-40  
75 X=9.6 Y=0 Z=-45  
76 X=9.6 Y=0 Z=-50  
77 X=9.6 Y=0 Z=-55  
78 X=9.6 Y=0 Z=-60  
79 X=8 Y=0 Z=0  
80 X=8 Y=0 Z=-5  
81 X=8 Y=0 Z=-10  
82 X=8 Y=0 Z=-15  
83 X=8 Y=0 Z=-20  
84 X=8 Y=0 Z=-25  
85 X=8 Y=0 Z=-30  
86 X=8 Y=0 Z=-35  
87 X=8 Y=0 Z=-40  
88 X=8 Y=0 Z=-45  
89 X=8 Y=0 Z=-50  
90 X=8 Y=0 Z=-55  
91 X=8 Y=0 Z=-60  
92 X=6.4 Y=0 Z=0  
93 X=6.4 Y=0 Z=-5  
94 X=6.4 Y=0 Z=-10



95 X=6.4 Y=0 Z=-15  
96 X=6.4 Y=0 Z=-20  
97 X=6.4 Y=0 Z=-25  
98 X=6.4 Y=0 Z=-30  
99 X=6.4 Y=0 Z=-35  
100 X=6.4 Y=0 Z=-40  
101 X=6.4 Y=0 Z=-45  
102 X=6.4 Y=0 Z=-50  
103 X=6.4 Y=0 Z=-55  
104 X=6.4 Y=0 Z=-60  
105 X=4.8 Y=0 Z=0  
106 X=4.8 Y=0 Z=-5  
107 X=4.8 Y=0 Z=-10  
108 X=4.8 Y=0 Z=-15  
109 X=4.8 Y=0 Z=-20  
110 X=4.8 Y=0 Z=-25  
111 X=4.8 Y=0 Z=-30  
112 X=4.8 Y=0 Z=-35  
113 X=4.8 Y=0 Z=-40  
114 X=4.8 Y=0 Z=-45  
115 X=4.8 Y=0 Z=-50  
116 X=4.8 Y=0 Z=-55  
117 X=4.8 Y=0 Z=-60  
118 X=3.2 Y=0 Z=0  
119 X=3.2 Y=0 Z=-5  
120 X=3.2 Y=0 Z=-10  
121 X=3.2 Y=0 Z=-15  
122 X=3.2 Y=0 Z=-20  
123 X=3.2 Y=0 Z=-25  
124 X=3.2 Y=0 Z=-30  
125 X=3.2 Y=0 Z=-35  
126 X=3.2 Y=0 Z=-40  
127 X=3.2 Y=0 Z=-45  
128 X=3.2 Y=0 Z=-50  
129 X=3.2 Y=0 Z=-55  
130 X=3.2 Y=0 Z=-60  
131 X=1.6 Y=0 Z=0  
132 X=1.6 Y=0 Z=-5  
133 X=1.6 Y=0 Z=-10  
134 X=1.6 Y=0 Z=-15  
135 X=1.6 Y=0 Z=-20  
136 X=1.6 Y=0 Z=-25  
137 X=1.6 Y=0 Z=-30  
138 X=1.6 Y=0 Z=-35  
139 X=1.6 Y=0 Z=-40  
140 X=1.6 Y=0 Z=-45  
141 X=1.6 Y=0 Z=-50  
142 X=1.6 Y=0 Z=-55  
143 X=1.6 Y=0 Z=-60



144 X=0 Y=0 Z=0  
145 X=0 Y=0 Z=-5  
146 X=0 Y=0 Z=-10  
147 X=0 Y=0 Z=-15  
148 X=0 Y=0 Z=-20  
149 X=0 Y=0 Z=-25  
150 X=0 Y=0 Z=-30  
151 X=0 Y=0 Z=-35  
152 X=0 Y=0 Z=-40  
153 X=0 Y=0 Z=-45  
154 X=0 Y=0 Z=-50  
155 X=0 Y=0 Z=-55  
156 X=0 Y=0 Z=-60

RESTRAINTS

1 R=1,1,1,0,1,1  
14 R=1,1,1,0,1,1  
27 R=1,1,1,0,1,1  
40 R=1,1,1,0,1,1  
53 R=1,1,1,0,1,1  
66 R=1,1,1,0,1,1  
79 R=1,1,1,0,1,1  
92 R=1,1,1,0,1,1  
105 R=1,1,1,0,1,1  
118 R=1,1,1,0,1,1  
131 R=1,1,1,0,1,1  
144 R=1,1,1,0,1,1  
7 R=1,1,0,0,1,1  
20 R=1,1,0,0,1,1  
33 R=1,1,0,0,1,1  
46 R=1,1,0,0,1,1  
59 R=1,1,0,0,1,1  
72 R=1,1,0,0,1,1  
85 R=1,1,0,0,1,1  
98 R=1,1,0,0,1,1  
111 R=1,1,0,0,1,1  
124 R=1,1,0,0,1,1  
137 R=1,1,0,0,1,1  
150 R=1,1,0,0,1,1  
13 R=1,1,0,0,1,1  
26 R=1,1,0,0,1,1  
39 R=1,1,0,0,1,1  
52 R=1,1,0,0,1,1  
65 R=1,1,0,0,1,1  
78 R=1,1,0,0,1,1  
91 R=1,1,0,0,1,1  
104 R=1,1,0,0,1,1  
117 R=1,1,0,0,1,1  
130 R=1,1,0,0,1,1





143 R=1,1,0,0,1,1  
156 R=1,1,0,0,1,1

#### CONSTRAINTS

2 132 13 C=145,0,145,0,0,0  
3 133 13 C=146,0,146,0,0,0  
4 134 13 C=147,0,147,0,0,0  
5 135 13 C=148,0,148,0,0,0  
6 136 13 C=149,0,149,0,0,0  
8 138 13 C=151,0,151,0,0,0  
9 139 13 C=152,0,152,0,0,0  
10 140 13 C=153,0,153,0,0,0  
11 141 13 C=154,0,154,0,0,0  
12 142 13 C=155,0,155,0,0,0

#### FRAME

NM=2 NL=1

1 A=0.822E-1 J=0.3918526666E-4 I=0.3935441966E-1,0.83776965E-3 \

AS=0.4316666633E-1,0.41833E-1 E=2.1E10

2 SH=I T=0.529,0.166,0.1351E-1,0.935E-2 E=2.1E10

1 WG=0,-587,0 :SDL SEMUA GELAGAR

1 1 2 M=1 LP=2,0 G=5,1,1,1 NSL=1

7 7 8 G=5,1,1,1 NSL=1

13 14 15 M=1 G=5,1,1,1 NSL=1

19 20 21 G=5,1,1,1 NSL=1

25 27 28 M=1 G=5,1,1,1 NSL=1

31 33 34 G=5,1,1,1 NSL=1

37 40 41 M=1 G=5,1,1,1 NSL=1

43 46 47 G=5,1,1,1 NSL=1

49 53 54 M=1 G=5,1,1,1 NSL=1

55 59 60 G=5,1,1,1 NSL=1

61 66 67 M=1 G=5,1,1,1 NSL=1

67 72 73 G=5,1,1,1 NSL=1

73 79 80 M=1 G=5,1,1,1 NSL=1

79 85 86 G=5,1,1,1 NSL=1

85 92 93 M=1 G=5,1,1,1 NSL=1

91 98 99 G=5,1,1,1 NSL=1

97 105 106 M=1 G=5,1,1,1 NSL=1

103 111 112 G=5,1,1,1 NSL=1

109 118 119 M=1 G=5,1,1,1 NSL=1

115 124 125 G=5,1,1,1 NSL=1

121 131 132 M=1 G=5,1,1,1 NSL=1

127 137 138 G=5,1,1,1 NSL=1

133 144 145 M=1 G=5,1,1,1 NSL=1

139 150 151 G=5,1,1,1 NSL=1

145 1 14 M=2 LR=1,1,0,1,1,0 G=12,1,1,1

158 14 27 LR=1,1,0,1,1,0 G=12,1,1,1

171 27 40 LR=1,1,0,1,1,0 G=12,1,1,1

184 40 53 LR=1,1,0,1,1,0 G=12,1,1,1

197 53 66 LR=1,1,0,1,1,0 G=12,1,1,1  
210 66 79 LR=1,1,0,1,1,0 G=12,1,1,1  
223 79 92 LR=1,1,0,1,1,0 G=12,1,1,1  
236 92 105 LR=1,1,0,1,1,0 G=12,1,1,1  
249 105 118 LR=1,1,0,1,1,0 G=12,1,1,1  
262 118 131 LR=1,1,0,1,1,0 G=12,1,1,1  
275 131 144 LR=1,1,0,1,1,0 G=12,1,1,1

COMBO  
1 C=1.2 :SDL



KONSTRUKSI 3D (SDL)

JOINT DISPLACEMENTS

LOAD COMBINATION 1 - DISPLACEMENTS "U" AND ROTATIONS "R"

JOINT	U(X)	U(Y)	U(Z)	R(X)	R(Y)	R(Z)
1	.000000	.000000	.000000	-.022533	.000000	.000000
2	.000000	-.00104416	.000000	-.017737	.000000	.000000
3	.000000	-.00167069	.000000	-.006683	.000000	.000000
4	.000000	-.00169190	.000000	.005622	.000000	.000000
5	.000000	-.00117030	.000000	.014174	.000000	.000000
6	.000000	-.00041867	.000000	.013968	.000000	.000000
7	.000000	.000000	.000000	.000000	.000000	.000000
8	.000000	-.00041867	.000000	-.013968	.000000	.000000
9	.000000	-.00117030	.000000	-.014174	.000000	.000000
10	.000000	-.00169190	.000000	-.005622	.000000	.000000
11	.000000	-.00167069	.000000	.006683	.000000	.000000
12	.000000	-.00104416	.000000	.017737	.000000	.000000
13	.000000	.000000	.000000	.022533	.000000	.000000
14	.000000	.000000	.000000	-.022533	.000000	.000000
15	.000000	-.00104416	.000000	-.017737	.000000	.000000
16	.000000	-.00167069	.000000	-.006683	.000000	.000000
17	.000000	-.00169190	.000000	.005622	.000000	.000000
18	.000000	-.00117030	.000000	.014174	.000000	.000000
19	.000000	-.00041867	.000000	.013968	.000000	.000000
20	.000000	.000000	.000000	.000000	.000000	.000000
21	.000000	-.00041867	.000000	-.013968	.000000	.000000
22	.000000	-.00117030	.000000	-.014174	.000000	.000000
23	.000000	-.00169190	.000000	-.005622	.000000	.000000
24	.000000	-.00167069	.000000	.006683	.000000	.000000
25	.000000	-.00104416	.000000	.017737	.000000	.000000
26	.000000	.000000	.000000	.022533	.000000	.000000
27	.000000	.000000	.000000	-.022533	.000000	.000000
28	.000000	-.00104416	.000000	-.017737	.000000	.000000
29	.000000	-.00167069	.000000	-.006683	.000000	.000000
30	.000000	-.00169190	.000000	.005622	.000000	.000000
31	.000000	-.00117030	.000000	.014174	.000000	.000000
32	.000000	-.00041867	.000000	.013968	.000000	.000000
33	.000000	.000000	.000000	.000000	.000000	.000000
34	.000000	-.00041867	.000000	-.013968	.000000	.000000
35	.000000	-.00117030	.000000	-.014174	.000000	.000000
36	.000000	-.00169190	.000000	-.005622	.000000	.000000
37	.000000	-.00167069	.000000	.006683	.000000	.000000
38	.000000	-.00104416	.000000	.017737	.000000	.000000
39	.000000	.000000	.000000	.022533	.000000	.000000
40	.000000	.000000	.000000	-.022533	.000000	.000000

KONSTRUKSI 3D (SDL)

FRAME ELEMENT FORCES

ELT ID	LOAD COMB	AXIAL DIST	AXIAL FORCE ENDI	1-2 PLANE		1-3 PLANE		AXIAL TORQ
				SHEAR	MOMENT	SHEAR	MOMENT	
1 -----								
1	.00		.0	.00	.00	7924.96	.00	.00
			5.0	.00	.00	4402.96	30819.79	
2 -----								
1	.00		.0	.00	.00	4402.96	30819.79	.00
			5.0	.00	.00	880.96	44029.58	
3 -----								
1	.00		.0	.00	.00	880.96	44029.58	.00
			1.3	.00	.00	-.01	44580.47	
			5.0	.00	.00	-2641.04	39629.38	
4 -----								
1	.00		.0	.00	.00	-2641.04	39629.38	.00
			5.0	.00	.00	-6163.04	17619.17	
5 -----								
1	.00		.0	.00	.00	-6163.04	17619.17	.00
			5.0	.00	.00	-9685.04	-22001.04	
6 -----								
1	.00		.0	.00	.00	-9685.04	-22001.04	.00
			5.0	.00	.00	-13207.04	-79231.25	
7 -----								
1	.00		.0	.00	.00	13207.04	-79231.25	.00
			5.0	.00	.00	9685.04	-22001.04	
8 -----								
1	.00		.0	.00	.00	9685.04	-22001.04	.00
			5.0	.00	.00	6163.04	17619.17	
9 -----								
1	.00		.0	.00	.00	6163.04	17619.17	.00
			5.0	.00	.00	2641.04	39629.38	
10 -----								
1	.00		.0	.00	.00	2641.04	39629.38	.00
			3.7	.00	.00	-.01	44580.47	

KONSTRUKSI 3D (SDL)

FRAME ELEMENT FORCES

ELT ID	LOAD COMB	AXIAL FORCE	DIST ENDI	1-2 PLANE		1-3 PLANE		AXIAL TORQ
				SHEAR	MOMENT	SHEAR	MOMENT	
11	1	.00	5.0	.00	.00	-880.96	44029.58	.00
			.0	.00	.00	-880.96	44029.58	
			5.0	.00	.00	-4402.96	30819.79	
12	1	.00	5.0	.00	.00	-4402.96	30819.79	.00
			.0	.00	.00	-4402.96	30819.79	
			5.0	.00	.00	-7924.96	.00	
13	1	.00	5.0	.00	.00	7924.96	.00	.00
			.0	.00	.00	7924.96	.00	
			5.0	.00	.00	4402.96	30819.79	
14	1	.00	5.0	.00	.00	4402.96	30819.79	.00
			.0	.00	.00	4402.96	30819.79	
			5.0	.00	.00	880.96	44029.58	
15	1	.00	5.0	.00	.00	880.96	44029.58	.00
			.0	.00	.00	880.96	44029.58	
			1.3	.00	.00	-.01	44580.47	
			5.0	.00	.00	-2641.04	39629.38	
16	1	.00	5.0	.00	.00	-2641.04	39629.38	.00
			.0	.00	.00	-2641.04	39629.38	
			5.0	.00	.00	-6163.04	17619.17	
17	1	.00	5.0	.00	.00	-6163.04	17619.17	.00
			.0	.00	.00	-6163.04	17619.17	
			5.0	.00	.00	-9685.04	-22001.04	
18	1	.00	5.0	.00	.00	-9685.04	-22001.04	.00
			.0	.00	.00	-9685.04	-22001.04	
			5.0	.00	.00	-13207.04	-79231.25	
19	1	.00	5.0	.00	.00	13207.04	-79231.25	.00
			.0	.00	.00	13207.04	-79231.25	
			5.0	.00	.00	9685.04	-22001.04	
20	1	.00	5.0	.00	.00	9685.04	-22001.04	.00
			.0	.00	.00	9685.04	-22001.04	

KONSTRUKSI 3D (SDL)

FRAME ELEMENT FORCES

ELT ID	LOAD COMB	AXIAL FORCE	DIST ENDI	1-2 PLANE		1-3 PLANE		AXIAL TORQ
				SHEAR	MOMENT	SHEAR	MOMENT	
21 -----								
1	.00		5.0	.00	.00	6163.04	17619.17	
		.0		.00	.00	6163.04	17619.17	.00
		5.0		.00	.00	2641.04	39629.38	
22 -----								
1	.00		.0	.00	.00	2641.04	39629.38	.00
		3.7		.00	.00	-.01	44580.47	
		5.0		.00	.00	-880.96	44029.58	
23 -----								
1	.00		.0	.00	.00	-880.96	44029.58	.00
		5.0		.00	.00	-4402.96	30819.79	
24 -----								
1	.00		.0	.00	.00	-4402.96	30819.79	.00
		5.0		.00	.00	-7924.96	.00	
25 -----								
1	.00		.0	.00	.00	7924.96	.00	.00
		5.0		.00	.00	4402.96	30819.79	
26 -----								
1	.00		.0	.00	.00	4402.96	30819.79	.00
		5.0		.00	.00	880.96	44029.58	
27 -----								
1	.00		.0	.00	.00	880.96	44029.58	.00
		1.3		.00	.00	-.01	44580.47	
		5.0		.00	.00	-2641.04	39629.38	
28 -----								
1	.00		.0	.00	.00	-2641.04	39629.38	.00
		5.0		.00	.00	-6163.04	17619.17	
29 -----								
1	.00		.0	.00	.00	-6163.04	17619.17	.00
		5.0		.00	.00	-9685.04	-22001.04	

KONSTRUKSI 3D (SDL)

FRAME ELEMENT FORCES

ELT	LOAD	AXIAL	DIST	1-2 PLANE		1-3 PLANE		AXIAL
ID	COMB	FORCE	ENDI	SHEAR	MOMENT	SHEAR	MOMENT	TORQ
30	1	.00						.00
			.0	.00	.00	-9685.04	-22001.04	
			5.0	.00	.00	-13207.04	-79231.25	
31	1	.00						.00
			.0	.00	.00	13207.04	-79231.25	
			5.0	.00	.00	9685.04	-22001.04	
32	1	.00						.00
			.0	.00	.00	9685.04	-22001.04	
			5.0	.00	.00	6163.04	17619.17	
33	1	.00						.00
			.0	.00	.00	6163.04	17619.17	
			5.0	.00	.00	2641.04	39629.38	
34	1	.00						.00
			.0	.00	.00	2641.04	39629.38	
			3.7	.00	.00	-.01	44580.47	
			5.0	.00	.00	-880.96	44029.58	
35	1	.00						.00
			.0	.00	.00	-880.96	44029.58	
			5.0	.00	.00	-4402.96	30819.79	
36	1	.00						.00
			.0	.00	.00	-4402.96	30819.79	
			5.0	.00	.00	-7924.96	.00	
37	1	.00						.00
			.0	.00	.00	7924.96	.00	
			5.0	.00	.00	4402.96	30819.79	
38	1	.00						.00
			.0	.00	.00	4402.96	30819.79	
			5.0	.00	.00	880.96	44029.58	
39	1	.00						.00
			.0	.00	.00	880.96	44029.58	
			1.3	.00	.00	-.01	44580.47	

KONSTRUKSI 3D (SDL)

FRAME ELEMENT FORCES

ELT ID	LOAD COMB	AXIAL FORCE	DIST ENDI	1-2 PLANE		1-3 PLANE		AXIAL TORQ
				SHEAR	MOMENT	SHEAR	MOMENT	
40	1	.00	5.0	.00	.00	-2641.04	39629.38	.00
-----								
1	.00	.0	.00	.00	.00	-2641.04	39629.38	.00
		5.0	.00	.00	.00	-6163.04	17619.17	
41	1	.00	5.0	.00	.00	-6163.04	17619.17	.00
-----								
		.0	.00	.00	.00	-6163.04	17619.17	
		5.0	.00	.00	.00	-9685.04	-22001.04	
42	1	.00	5.0	.00	.00	-9685.04	-22001.04	.00
-----								
		.0	.00	.00	.00	-9685.04	-22001.04	
		5.0	.00	.00	.00	-13207.04	-79231.25	
43	1	.00	5.0	.00	.00	13207.04	-79231.25	.00
-----								
		.0	.00	.00	.00	13207.04	-79231.25	
		5.0	.00	.00	.00	9685.04	-22001.04	
44	1	.00	5.0	.00	.00	9685.04	-22001.04	.00
-----								
		.0	.00	.00	.00	9685.04	-22001.04	
		5.0	.00	.00	.00	6163.04	17619.17	
45	1	.00	5.0	.00	.00	6163.04	17619.17	.00
-----								
		.0	.00	.00	.00	6163.04	17619.17	
		5.0	.00	.00	.00	2641.04	39629.38	
46	1	.00	5.0	.00	.00	2641.04	39629.38	.00
-----								
		.0	.00	.00	.00	2641.04	39629.38	
		3.7	.00	.00	.00	-.01	44580.47	
		5.0	.00	.00	.00	-880.96	44029.58	
47	1	.00	5.0	.00	.00	-880.96	44029.58	.00
-----								
		.0	.00	.00	.00	-880.96	44029.58	
		5.0	.00	.00	.00	-4402.96	30819.79	
48	1	.00	5.0	.00	.00	-4402.96	30819.79	.00
-----								
		.0	.00	.00	.00	-4402.96	30819.79	
		5.0	.00	.00	.00	-7924.96	.00	
49	1	.00	5.0	.00	.00	7924.96	.00	.00
-----								
		.0	.00	.00	.00	7924.96	.00	



KONSTRUKSI 3D (SDL)

FRAME ELEMENT FORCES

ELT LOAD	AXIAL DIST	1-2 PLANE		1-3 PLANE		AXIAL
ID	COMB	FORCE ENDI	SHEAR	MOMENT	SHEAR	MOMENT TORQ
50		5.0	.00	.00	4402.96	30819.79
1	.00					.00
		.0	.00	.00	4402.96	30819.79
		5.0	.00	.00	880.96	44029.58
51						
1	.00					.00
		.0	.00	.00	880.96	44029.58
		1.3	.00	.00	-.01	44580.47
		5.0	.00	.00	-2641.04	39629.38
52						
1	.00					.00
		.0	.00	.00	-2641.04	39629.38
		5.0	.00	.00	-6163.04	17619.17
53						
1	.00					.00
		.0	.00	.00	-6163.04	17619.17
		5.0	.00	.00	-9685.04	-22001.04
54						
1	.00					.00
		.0	.00	.00	-9685.04	-22001.04
		5.0	.00	.00	-13207.04	-79231.25
55						
1	.00					.00
		.0	.00	.00	13207.04	-79231.25
		5.0	.00	.00	9685.04	-22001.04
56						
1	.00					.00
		.0	.00	.00	9685.04	-22001.04
		5.0	.00	.00	6163.04	17619.17
57						
1	.00					.00
		.0	.00	.00	6163.04	17619.17
		5.0	.00	.00	2641.04	39629.38
58						
1	.00					.00
		.0	.00	.00	2641.04	39629.38
		3.7	.00	.00	-.01	44580.47
		5.0	.00	.00	-880.96	44029.58
59						
1	.00					.00

KONSTRUKSI 3D (SDL)

FRAME ELEMENT FORCES

ELT ID	LOAD COMB	AXIAL FORCE	DIST ENDI	1-2 PLANE		1-3 PLANE		AXIAL TORQ
				SHEAR	MOMENT	SHEAR	MOMENT	
60	1	.00	.0	.00	.00	-880.96	44029.58	.00
			5.0	.00	.00	-4402.96	30819.79	
61	1	.00	.0	.00	.00	-4402.96	30819.79	.00
			5.0	.00	.00	-7924.96	.00	
62	1	.00	.0	.00	.00	7924.96	.00	.00
			5.0	.00	.00	4402.96	30819.79	
63	1	.00	.0	.00	.00	4402.96	30819.79	.00
			5.0	.00	.00	880.96	44029.58	
64	1	.00	.0	.00	.00	880.96	44029.58	.00
			1.3	.00	.00	-.01	44580.47	
			5.0	.00	.00	-2641.04	39629.38	
65	1	.00	.0	.00	.00	-2641.04	39629.38	.00
			5.0	.00	.00	-6163.04	17619.17	
66	1	.00	.0	.00	.00	-6163.04	17619.17	.00
			5.0	.00	.00	-9685.04	-22001.04	
67	1	.00	.0	.00	.00	-9685.04	-22001.04	.00
			5.0	.00	.00	-13207.04	-79231.25	
68	1	.00	.0	.00	.00	13207.04	-79231.25	.00
			5.0	.00	.00	9685.04	-22001.04	
69	1	.00	.0	.00	.00	9685.04	-22001.04	.00
			5.0	.00	.00	6163.04	17619.17	
69	1	.00						.00

KONSTRUKSI 3D (SDL)

FRAME ELEMENT FORCES

ELT ID	LOAD COMB	AXIAL FORCE	DIST ENDI	1-2 PLANE		1-3 PLANE		AXIAL TORQ
				SHEAR	MOMENT	SHEAR	MOMENT	
70	1	.00	.0	.00	.00	6163.04	17619.17	.00
			5.0	.00	.00	2641.04	39629.38	
			-----					
71	1	.00	.0	.00	.00	2641.04	39629.38	.00
			3.7	.00	.00	-.01	44580.47	
			5.0	.00	.00	-880.96	44029.58	
72	1	.00	.0	.00	.00	-880.96	44029.58	.00
			5.0	.00	.00	-4402.96	30819.79	
			-----					
73	1	.00	.0	.00	.00	-4402.96	30819.79	.00
			5.0	.00	.00	-7924.96	.00	
			-----					
74	1	.00	.0	.00	.00	7924.96	.00	.00
			5.0	.00	.00	4402.96	30819.79	
			-----					
75	1	.00	.0	.00	.00	4402.96	30819.79	.00
			5.0	.00	.00	880.96	44029.58	
			-----					
76	1	.00	.0	.00	.00	880.96	44029.58	.00
			1.3	.00	.00	-.01	44580.47	
			5.0	.00	.00	-2641.04	39629.38	
77	1	.00	.0	.00	.00	-2641.04	39629.38	.00
			5.0	.00	.00	-6163.04	17619.17	
			-----					
78	1	.00	.0	.00	.00	-6163.04	17619.17	.00
			5.0	.00	.00	-9685.04	-22001.04	
			-----					
79	1	.00	.0	.00	.00	-9685.04	-22001.04	.00
			5.0	.00	.00	-13207.04	-79231.25	
			-----					

KONSTRUKSI 3D (SDL)

FRAME ELEMENT FORCES

ELT	LOAD	AXIAL	DIST	1-2 PLANE		1-3 PLANE		AXIAL
ID	COMB	FORCE	ENDI	SHEAR	MOMENT	SHEAR	MOMENT	TORQ
79	-----							
1	.00							.00
		.0		.00	.00	13207.04	-79231.25	
		5.0		.00	.00	9685.04	-22001.04	
80	-----							
1	.00							.00
		.0		.00	.00	9685.04	-22001.04	
		5.0		.00	.00	6163.04	17619.17	
81	-----							
1	.00							.00
		.0		.00	.00	6163.04	17619.17	
		5.0		.00	.00	2641.04	39629.38	
82	-----							
1	.00							.00
		.0		.00	.00	2641.04	39629.38	
		3.7		.00	.00	-.01	44580.47	
		5.0		.00	.00	-880.96	44029.58	
83	-----							
1	.00							.00
		.0		.00	.00	-880.96	44029.58	
		5.0		.00	.00	-4402.96	30819.79	
84	-----							
1	.00							.00
		.0		.00	.00	-4402.96	30819.79	
		5.0		.00	.00	-7924.96	.00	
85	-----							
1	.00							.00
		.0		.00	.00	7924.96	.00	
		5.0		.00	.00	4402.96	30819.79	
86	-----							
1	.00							.00
		.0		.00	.00	4402.96	30819.79	
		5.0		.00	.00	880.96	44029.58	
87	-----							
1	.00							.00
		.0		.00	.00	880.96	44029.58	
		1.3		.00	.00	-.01	44580.47	
		5.0		.00	.00	-2641.04	39629.38	

KONSTRUKSI 3D (SDL)

FRAME ELEMENT FORCES

ELT LOAD	AXIAL DIST	1-2 PLANE		1-3 PLANE		AXIAL
ID COMB	FORCE ENDI	SHEAR	MOMENT	SHEAR	MOMENT	TORQ
88 -----						
1	.00					.00
	.0	.00	.00	-2641.04	39629.38	
	5.0	.00	.00	-6163.04	17619.17	
89 -----						
1	.00					.00
	.0	.00	.00	-6163.04	17619.17	
	5.0	.00	.00	-9685.04	-22001.04	
90 -----						
1	.00					.00
	.0	.00	.00	-9685.04	-22001.04	
	5.0	.00	.00	-13207.04	-79231.25	
91 -----						
1	.00					.00
	.0	.00	.00	13207.04	-79231.25	
	5.0	.00	.00	9685.04	-22001.04	
92 -----						
1	.00					.00
	.0	.00	.00	9685.04	-22001.04	
	5.0	.00	.00	6163.04	17619.17	
93 -----						
1	.00					.00
	.0	.00	.00	6163.04	17619.17	
	5.0	.00	.00	2641.04	39629.38	
94 -----						
1	.00					.00
	.0	.00	.00	2641.04	39629.38	
	3.7	.00	.00	-.01	44580.47	
	5.0	.00	.00	-880.96	44029.58	
95 -----						
1	.00					.00
	.0	.00	.00	-880.96	44029.58	
	5.0	.00	.00	-4402.96	30819.79	
96 -----						
1	.00					.00
	.0	.00	.00	-4402.96	30819.79	
	5.0	.00	.00	-7924.96	.00	
97 -----						
1	.00					.00
	.0	.00	.00	7924.96	.00	
	5.0	.00	.00	4402.96	30819.79	

KONSTRUKSI 3D (SDL)

FRAME ELEMENT FORCES

ELT LOAD	AXIAL DIST	1-2 PLANE		1-3 PLANE		AXIAL
ID COMB	FORCE ENDI	SHEAR	MOMENT	SHEAR	MOMENT	TORQ
98 -----						
1	.00					.00
	.0	.00	.00	4402.96	30819.79	
	5.0	.00	.00	880.96	44029.58	
99 -----						
1	.00					.00
	.0	.00	.00	880.96	44029.58	
	1.3	.00	.00	-.01	44580.47	
	5.0	.00	.00	-2641.04	39629.38	
100 -----						
1	.00					.00
	.0	.00	.00	-2641.04	39629.38	
	5.0	.00	.00	-6163.04	17619.17	
101 -----						
1	.00					.00
	.0	.00	.00	-6163.04	17619.17	
	5.0	.00	.00	-9685.04	-22001.04	
102 -----						
1	.00					.00
	.0	.00	.00	-9685.04	-22001.04	
	5.0	.00	.00	-13207.04	-79231.25	
103 -----						
1	.00					.00
	.0	.00	.00	13207.04	-79231.25	
	5.0	.00	.00	9685.04	-22001.04	
104 -----						
1	.00					.00
	.0	.00	.00	9685.04	-22001.04	
	5.0	.00	.00	6163.04	17619.17	
105 -----						
1	.00					.00
	.0	.00	.00	6163.04	17619.17	
	5.0	.00	.00	2641.04	39629.38	
106 -----						
1	.00					.00
	.0	.00	.00	2641.04	39629.38	
	3.7	.00	.00	-.01	44580.47	
	5.0	.00	.00	-880.96	44029.58	
107 -----						
1	.00					.00
	.0	.00	.00	-880.96	44029.58	

KONSTRUKSI 3D (SDL)

FRAME ELEMENT FORCES

ELT ID	LOAD COMB	AXIAL FORCE	DIST ENDI	1-2 PLANE		1-3 PLANE		AXIAL TORQ
				SHEAR	MOMENT	SHEAR	MOMENT	
108	1	.00	5.0	.00	.00	-4402.96	30819.79	.00
			.0	.00	.00	-4402.96	30819.79	.00
109	1	.00	5.0	.00	.00	-7924.96	.00	.00
			.0	.00	.00	7924.96	.00	.00
			5.0	.00	.00	4402.96	30819.79	.00
110	1	.00	5.0	.00	.00	4402.96	30819.79	.00
			.0	.00	.00	4402.96	30819.79	.00
			5.0	.00	.00	880.96	44029.58	.00
111	1	.00	5.0	.00	.00	880.96	44029.58	.00
			.0	.00	.00	880.96	44029.58	.00
			1.3	.00	.00	-.01	44580.47	.00
			5.0	.00	.00	-2641.04	39629.38	.00
112	1	.00	5.0	.00	.00	-2641.04	39629.38	.00
			.0	.00	.00	-2641.04	39629.38	.00
			5.0	.00	.00	-6163.04	17619.17	.00
113	1	.00	5.0	.00	.00	-6163.04	17619.17	.00
			.0	.00	.00	-6163.04	17619.17	.00
			5.0	.00	.00	-9685.04	-22001.04	.00
114	1	.00	5.0	.00	.00	-9685.04	-22001.04	.00
			.0	.00	.00	-9685.04	-22001.04	.00
			5.0	.00	.00	-13207.04	-79231.25	.00
115	1	.00	5.0	.00	.00	-13207.04	-79231.25	.00
			.0	.00	.00	13207.04	-79231.25	.00
			5.0	.00	.00	9685.04	-22001.04	.00
116	1	.00	5.0	.00	.00	9685.04	-22001.04	.00
			.0	.00	.00	9685.04	-22001.04	.00
			5.0	.00	.00	6163.04	17619.17	.00
117	1	.00	5.0	.00	.00	6163.04	17619.17	.00
			.0	.00	.00	6163.04	17619.17	.00

KONSTRUKSI 3D (SDL)

FRAME ELEMENT FORCES

ELT LOAD	AXIAL DIST	1-2 PLANE		1-3 PLANE		AXIAL
ID COMB	FORCE ENDI	SHEAR	MOMENT	SHEAR	MOMENT	TORQ
	5.0	.00	.00	2641.04	39629.38	
118 -----						
1	.00					.00
	.0	.00	.00	2641.04	39629.38	
	3.7	.00	.00	-.01	44580.47	
	5.0	.00	.00	-880.96	44029.58	
119 -----						
1	.00					.00
	.0	.00	.00	-880.96	44029.58	
	5.0	.00	.00	-4402.96	30819.79	
120 -----						
1	.00					.00
	.0	.00	.00	-4402.96	30819.79	
	5.0	.00	.00	-7924.96	.00	
121 -----						
1	.00					.00
	.0	.00	.00	7924.96	.00	
	5.0	.00	.00	4402.96	30819.79	
122 -----						
1	.00					.00
	.0	.00	.00	4402.96	30819.79	
	5.0	.00	.00	880.96	44029.58	
123 -----						
1	.00					.00
	.0	.00	.00	880.96	44029.58	
	1.3	.00	.00	-.01	44580.47	
	5.0	.00	.00	-2641.04	39629.38	
124 -----						
1	.00					.00
	.0	.00	.00	-2641.04	39629.38	
	5.0	.00	.00	-6163.04	17619.17	
125 -----						
1	.00					.00



KONSTRUKSI 3D (SDL)

FRAME ELEMENT FORCES

ELT ID	LOAD COMB	AXIAL DIST	1-2 PLANE		1-3 PLANE		AXIAL TORQ
			FORCE ENDI	SHEAR	MOMENT	SHEAR	
		.0	.00	.00	-6163.04	17619.17	
		5.0	.00	.00	-9685.04	-22001.04	
126	1	.00					.00
		.0	.00	.00	-9685.04	-22001.04	
		5.0	.00	.00	-13207.04	-79231.25	
127	1	.00					.00
		.0	.00	.00	13207.04	-79231.25	
		5.0	.00	.00	9685.04	-22001.04	
128	1	.00					.00
		.0	.00	.00	9685.04	-22001.04	
		5.0	.00	.00	6163.04	17619.17	
129	1	.00					.00
		.0	.00	.00	6163.04	17619.17	
		5.0	.00	.00	2641.04	39629.38	
130	1	.00					.00
		.0	.00	.00	2641.04	39629.38	
		3.7	.00	.00	-.01	44580.47	
		5.0	.00	.00	-880.96	44029.58	
131	1	.00					.00
		.0	.00	.00	-880.96	44029.58	
		5.0	.00	.00	-4402.96	30819.79	
132	1	.00					.00
		.0	.00	.00	-4402.96	30819.79	
		5.0	.00	.00	-7924.96	.00	
133	1	.00					.00
		.0	.00	.00	7924.96	.00	
		5.0	.00	.00	4402.96	30819.79	
134	1	.00					.00
		.0	.00	.00	4402.96	30819.79	
		5.0	.00	.00	880.96	44029.58	
135	1	.00					.00

KONSTRUKSI 3D (SDL)

FRAME ELEMENT FORCES

ELT ID	LOAD COMB	AXIAL DIST	1-2 PLANE		1-3 PLANE		AXIAL TORQ	
			FORCE ENDI	SHEAR	MOMENT	SHEAR		MOMENT
136 -----								
1	.00		.0	.00	.00	880.96	44029.58	.00
			1.3	.00	.00	-.01	44580.47	
			5.0	.00	.00	-2641.04	39629.38	
137 -----								
1	.00		.0	.00	.00	-2641.04	39629.38	.00
			5.0	.00	.00	-6163.04	17619.17	
138 -----								
1	.00		.0	.00	.00	-6163.04	17619.17	.00
			5.0	.00	.00	-9685.04	-22001.04	
139 -----								
1	.00		.0	.00	.00	13207.04	-79231.25	.00
			5.0	.00	.00	9685.04	-22001.04	
140 -----								
1	.00		.0	.00	.00	9685.04	-22001.04	.00
			5.0	.00	.00	6163.04	17619.17	
141 -----								
1	.00		.0	.00	.00	6163.04	17619.17	.00
			5.0	.00	.00	2641.04	39629.38	
142 -----								
1	.00		.0	.00	.00	2641.04	39629.38	.00
			3.7	.00	.00	-.01	44580.47	
			5.0	.00	.00	-880.96	44029.58	
143 -----								
1	.00		.0	.00	.00	-880.96	44029.58	.00
			5.0	.00	.00	-4402.96	30819.79	
144 -----								
1	.00		.0	.00	.00	-4402.96	30819.79	.00
			5.0	.00	.00	-7924.96	.00	



KONSTRUKSI 3D (LL)  
SYSTEM

L=5

JOINTS

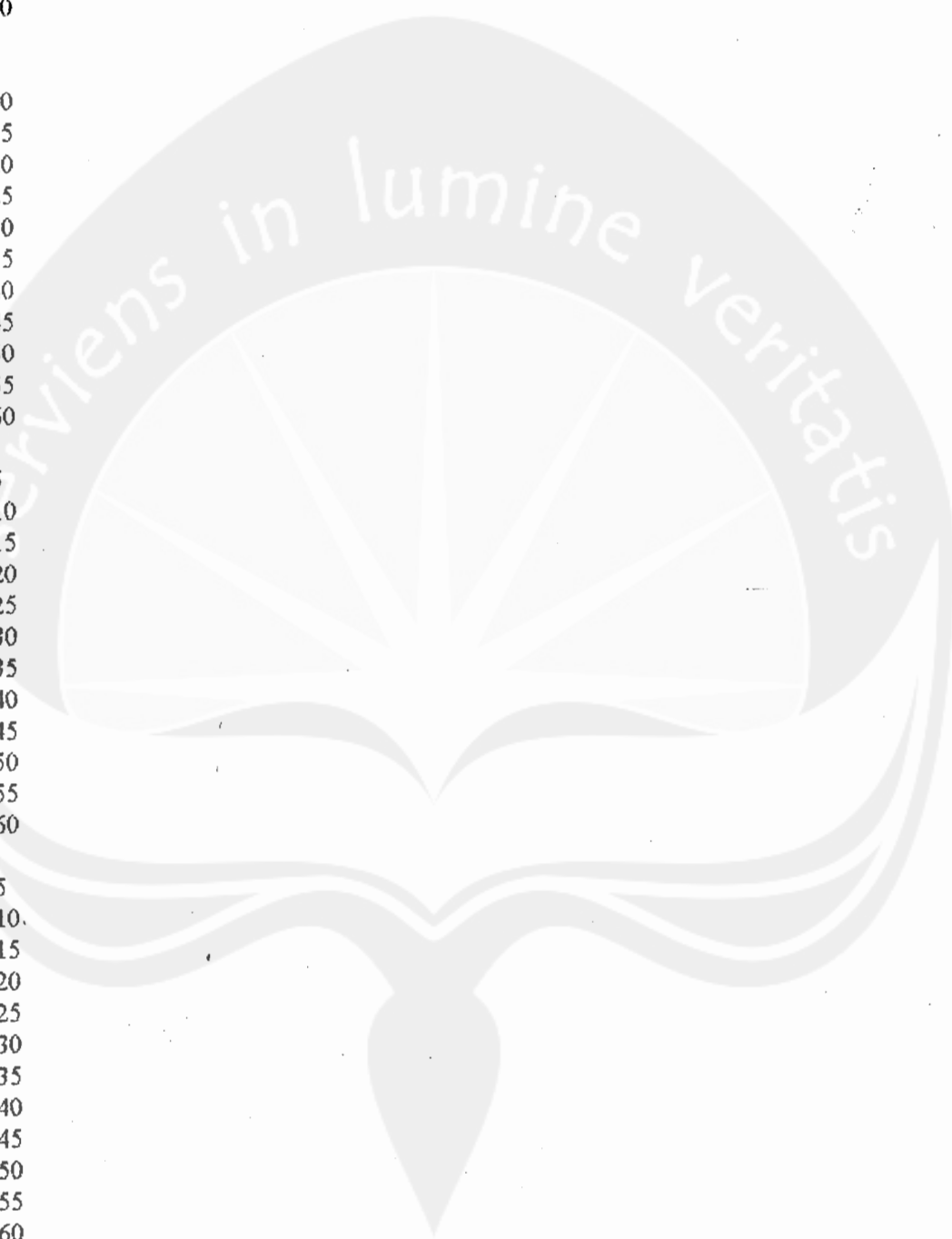
- 1 X=17.6 Y=0 Z=0
- 2 X=17.6 Y=0 Z=-5
- 3 X=17.6 Y=0 Z=-10
- 4 X=17.6 Y=0 Z=-15
- 5 X=17.6 Y=0 Z=-20
- 6 X=17.6 Y=0 Z=-25
- 7 X=17.6 Y=0 Z=-30
- 8 X=17.6 Y=0 Z=-35
- 9 X=17.6 Y=0 Z=-40
- 10 X=17.6 Y=0 Z=-45
- 11 X=17.6 Y=0 Z=-50
- 12 X=17.6 Y=0 Z=-55
- 13 X=17.6 Y=0 Z=-60
- 14 X=16 Y=0 Z=0
- 15 X=16 Y=0 Z=-5
- 16 X=16 Y=0 Z=-10
- 17 X=16 Y=0 Z=-15
- 18 X=16 Y=0 Z=-20
- 19 X=16 Y=0 Z=-25
- 20 X=16 Y=0 Z=-30
- 21 X=16 Y=0 Z=-35
- 22 X=16 Y=0 Z=-40
- 23 X=16 Y=0 Z=-45
- 24 X=16 Y=0 Z=-50
- 25 X=16 Y=0 Z=-55
- 26 X=16 Y=0 Z=-60
- 27 X=14.4 Y=0 Z=0
- 28 X=14.4 Y=0 Z=-5
- 29 X=14.4 Y=0 Z=-10
- 30 X=14.4 Y=0 Z=-15
- 31 X=14.4 Y=0 Z=-20
- 32 X=14.4 Y=0 Z=-25
- 33 X=14.4 Y=0 Z=-30
- 34 X=14.4 Y=0 Z=-35
- 35 X=14.4 Y=0 Z=-40
- 36 X=14.4 Y=0 Z=-45
- 37 X=14.4 Y=0 Z=-50
- 38 X=14.4 Y=0 Z=-55
- 39 X=14.4 Y=0 Z=-60
- 40 X=12.8 Y=0 Z=0
- 41 X=12.8 Y=0 Z=-5
- 42 X=12.8 Y=0 Z=-10
- 43 X=12.8 Y=0 Z=-15
- 44 X=12.8 Y=0 Z=-20
- 45 X=12.8 Y=0 Z=-25



46 X=12.8 Y=0 Z=-30  
47 X=12.8 Y=0 Z=-35  
48 X=12.8 Y=0 Z=-40  
49 X=12.8 Y=0 Z=-45  
50 X=12.8 Y=0 Z=-50  
51 X=12.8 Y=0 Z=-55  
52 X=12.8 Y=0 Z=-60  
53 X=11.2 Y=0 Z=0  
54 X=11.2 Y=0 Z=-5  
55 X=11.2 Y=0 Z=-10  
56 X=11.2 Y=0 Z=-15  
57 X=11.2 Y=0 Z=-20  
58 X=11.2 Y=0 Z=-25  
59 X=11.2 Y=0 Z=-30  
60 X=11.2 Y=0 Z=-35  
61 X=11.2 Y=0 Z=-40  
62 X=11.2 Y=0 Z=-45  
63 X=11.2 Y=0 Z=-50  
64 X=11.2 Y=0 Z=-55  
65 X=11.2 Y=0 Z=-60  
66 X=9.6 Y=0 Z=0  
67 X=9.6 Y=0 Z=-5  
68 X=9.6 Y=0 Z=-10  
69 X=9.6 Y=0 Z=-15  
70 X=9.6 Y=0 Z=-20  
71 X=9.6 Y=0 Z=-25  
72 X=9.6 Y=0 Z=-30  
73 X=9.6 Y=0 Z=-35  
74 X=9.6 Y=0 Z=-40  
75 X=9.6 Y=0 Z=-45  
76 X=9.6 Y=0 Z=-50  
77 X=9.6 Y=0 Z=-55  
78 X=9.6 Y=0 Z=-60  
79 X=8 Y=0 Z=0  
80 X=8 Y=0 Z=-5  
81 X=8 Y=0 Z=-10  
82 X=8 Y=0 Z=-15  
83 X=8 Y=0 Z=-20  
84 X=8 Y=0 Z=-25  
85 X=8 Y=0 Z=-30  
86 X=8 Y=0 Z=-35  
87 X=8 Y=0 Z=-40  
88 X=8 Y=0 Z=-45  
89 X=8 Y=0 Z=-50  
90 X=8 Y=0 Z=-55  
91 X=8 Y=0 Z=-60  
92 X=6.4 Y=0 Z=0  
93 X=6.4 Y=0 Z=-5  
94 X=6.4 Y=0 Z=-10



95 X=6.4 Y=0 Z=-15  
96 X=6.4 Y=0 Z=-20  
97 X=6.4 Y=0 Z=-25  
98 X=6.4 Y=0 Z=-30  
99 X=6.4 Y=0 Z=-35  
100 X=6.4 Y=0 Z=-40  
101 X=6.4 Y=0 Z=-45  
102 X=6.4 Y=0 Z=-50  
103 X=6.4 Y=0 Z=-55  
104 X=6.4 Y=0 Z=-60  
105 X=4.8 Y=0 Z=0  
106 X=4.8 Y=0 Z=-5  
107 X=4.8 Y=0 Z=-10  
108 X=4.8 Y=0 Z=-15  
109 X=4.8 Y=0 Z=-20  
110 X=4.8 Y=0 Z=-25  
111 X=4.8 Y=0 Z=-30  
112 X=4.8 Y=0 Z=-35  
113 X=4.8 Y=0 Z=-40  
114 X=4.8 Y=0 Z=-45  
115 X=4.8 Y=0 Z=-50  
116 X=4.8 Y=0 Z=-55  
117 X=4.8 Y=0 Z=-60  
118 X=3.2 Y=0 Z=0  
119 X=3.2 Y=0 Z=-5  
120 X=3.2 Y=0 Z=-10  
121 X=3.2 Y=0 Z=-15  
122 X=3.2 Y=0 Z=-20  
123 X=3.2 Y=0 Z=-25  
124 X=3.2 Y=0 Z=-30  
125 X=3.2 Y=0 Z=-35  
126 X=3.2 Y=0 Z=-40  
127 X=3.2 Y=0 Z=-45  
128 X=3.2 Y=0 Z=-50  
129 X=3.2 Y=0 Z=-55  
130 X=3.2 Y=0 Z=-60  
131 X=1.6 Y=0 Z=0  
132 X=1.6 Y=0 Z=-5  
133 X=1.6 Y=0 Z=-10  
134 X=1.6 Y=0 Z=-15  
135 X=1.6 Y=0 Z=-20  
136 X=1.6 Y=0 Z=-25  
137 X=1.6 Y=0 Z=-30  
138 X=1.6 Y=0 Z=-35  
139 X=1.6 Y=0 Z=-40  
140 X=1.6 Y=0 Z=-45  
141 X=1.6 Y=0 Z=-50  
142 X=1.6 Y=0 Z=-55  
143 X=1.6 Y=0 Z=-60



144 X=0 Y=0 Z=0  
145 X=0 Y=0 Z=-5  
146 X=0 Y=0 Z=-10  
147 X=0 Y=0 Z=-15  
148 X=0 Y=0 Z=-20  
149 X=0 Y=0 Z=-25  
150 X=0 Y=0 Z=-30  
151 X=0 Y=0 Z=-35  
152 X=0 Y=0 Z=-40  
153 X=0 Y=0 Z=-45  
154 X=0 Y=0 Z=-50  
155 X=0 Y=0 Z=-55  
156 X=0 Y=0 Z=-60

RESTRAINTS

1 R=1,1,1,0,1,1  
14 R=1,1,1,0,1,1  
27 R=1,1,1,0,1,1  
40 R=1,1,1,0,1,1  
53 R=1,1,1,0,1,1  
66 R=1,1,1,0,1,1  
79 R=1,1,1,0,1,1  
92 R=1,1,1,0,1,1  
105 R=1,1,1,0,1,1  
118 R=1,1,1,0,1,1  
131 R=1,1,1,0,1,1  
144 R=1,1,1,0,1,1  
7 R=1,1,0,0,1,1  
20 R=1,1,0,0,1,1  
33 R=1,1,0,0,1,1  
46 R=1,1,0,0,1,1  
59 R=1,1,0,0,1,1  
72 R=1,1,0,0,1,1  
85 R=1,1,0,0,1,1  
98 R=1,1,0,0,1,1  
111 R=1,1,0,0,1,1  
124 R=1,1,0,0,1,1  
137 R=1,1,0,0,1,1  
150 R=1,1,0,0,1,1  
13 R=1,1,0,0,1,1  
26 R=1,1,0,0,1,1  
39 R=1,1,0,0,1,1  
52 R=1,1,0,0,1,1  
65 R=1,1,0,0,1,1  
78 R=1,1,0,0,1,1  
91 R=1,1,0,0,1,1  
104 R=1,1,0,0,1,1  
117 R=1,1,0,0,1,1  
130 R=1,1,0,0,1,1



143 R=1,1,0,0,1,1

156 R=1,1,0,0,1,1

#### CONSTRAINTS

2 132 13 C=145,0,145,0,0,0

3 133 13 C=146,0,146,0,0,0

4 134 13 C=147,0,147,0,0,0

5 135 13 C=148,0,148,0,0,0

6 136 13 C=149,0,149,0,0,0

8 138 13 C=151,0,151,0,0,0

9 139 13 C=152,0,152,0,0,0

10 140 13 C=153,0,153,0,0,0

11 141 13 C=154,0,154,0,0,0

12 142 13 C=155,0,155,0,0,0

#### FRAME

NM=2 NL=2

1 A=0.1064E-1 J=0.4142933333E-3 I=0.05181148953,0.9315466667E-3 \

AS=0.0633333,0.062 E=2.1E10

2 SH=I T=0.529,0.166,0.1351E-1,0.935E-2 E=2.1E10

1 WG=0,-695,0 :LL GELAGAR PINGGIR

2 WG=0,-1655,0 :LL GELAGAR TENGAH

1 1 2 M=1 LP=2,0 G=5,1,1,1 NSL=1

7 7 8 G=5,1,1,1 NSL=1

13 14 15 M=1 G=5,1,1,1 NSL=2

19 20 21 G=5,1,1,1 NSL=2

25 27 28 M=1 G=5,1,1,1 NSL=2

31 33 34 G=5,1,1,1 NSL=2

37 40 41 M=1 G=5,1,1,1 NSL=2

43 46 47 G=5,1,1,1 NSL=2

49 53 54 M=1 G=5,1,1,1 NSL=2

55 59 60 G=5,1,1,1 NSL=2

61 66 67 M=1 G=5,1,1,1 NSL=2

67 72 73 G=5,1,1,1 NSL=2

73 79 80 M=1 G=5,1,1,1 NSL=2

79 85 86 G=5,1,1,1 NSL=2

85 92 93 M=1 G=5,1,1,1 NSL=2

91 98 99 G=5,1,1,1 NSL=2

97 105 106 M=1 G=5,1,1,1 NSL=2

103 111 112 G=5,1,1,1 NSL=2

109 118 119 M=1 G=5,1,1,1 NSL=2

115 124 125 G=5,1,1,1 NSL=2

121 131 132 M=1 G=5,1,1,1 NSL=2

127 137 138 G=5,1,1,1 NSL=2

133 144 145 M=1 G=5,1,1,1 NSL=1

139 150 151 G=5,1,1,1 NSL=1

145 1 14 M=2 LR=1,1,0,1,1,0 G=12,1,1,1

158 14 27 LR=1,1,0,1,1,0 G=12,1,1,1

171 27 40 LR=1,1,0,1,1,0 G=12,1,1,1



184 40 53 LR=1,1,0,1,1,0 G=12,1,1,1  
197 53 66 LR=1,1,0,1,1,0 G=12,1,1,1  
210 66 79 LR=1,1,0,1,1,0 G=12,1,1,1  
223 79 92 LR=1,1,0,1,1,0 G=12,1,1,1  
236 92 105 LR=1,1,0,1,1,0 G=12,1,1,1  
249 105 118 LR=1,1,0,1,1,0 G=12,1,1,1  
262 118 131 LR=1,1,0,1,1,0 G=12,1,1,1  
275 131 144 LR=1,1,0,1,1,0 G=12,1,1,1

LOADS

17 134 13 L=2 F=0,-8727.27,0 :LL GELAGAR TENGAH  
23 140 13 L=3 F=0,-8727.27,0 :LL GELAGAR TENGAH  
4 147 143 L=4 F=0,-2181.818182,0 :LL GELAGAR PINGGIR  
10 153 143 L=5 F=0,-2181.818182,0 :LL GELAGAR PINGGIR

COMBO

1 C=1.6,1.6,1.6,1.6,1.6 :LL



KONSTRUKSI 3D (LL)

JOINT DISPLACEMENTS

LOAD COMBINATION 1 - DISPLACEMENTS "U" AND ROTATIONS "R"

JOINT	U(X)	U(Y)	U(Z)	R(X)	R(Y)	R(Z)
1	.000000	.000000	.000000	-.037088	.000000	.000000
2	.000000	-.00172477	.000000	-.029556	.000000	.000000
3	.000000	-.00278551	.000000	-.011733	.000000	.000000
4	.000000	-.00284565	.000000	.009261	.000000	.000000
5	.000000	-.00196154	.000000	.024073	.000000	.000000
6	.000000	-.00069494	.000000	.023354	.000000	.000000
7	.000000	.000000	.000000	.000000	.000000	.000000
8	.000000	-.00069494	.000000	-.023354	.000000	.000000
9	.000000	-.00196154	.000000	-.024073	.000000	.000000
10	.000000	-.00284565	.000000	-.009261	.000000	.000000
11	.000000	-.00278551	.000000	.011733	.000000	.000000
12	.000000	-.00172477	.000000	.029556	.000000	.000000
13	.000000	.000000	.000000	.037088	.000000	.000000
14	.000000	.000000	.000000	-.096174	.000000	.000000
15	.000000	-.00448360	.000000	-.077194	.000000	.000000
16	.000000	-.00727855	.000000	-.031500	.000000	.000000
17	.000000	-.00747176	.000000	.024002	.000000	.000000
18	.000000	-.00514268	.000000	.063488	.000000	.000000
19	.000000	-.00181365	.000000	.061128	.000000	.000000
20	.000000	.000000	.000000	.000000	.000000	.000000
21	.000000	-.00181365	.000000	-.061128	.000000	.000000
22	.000000	-.00514268	.000000	-.063488	.000000	.000000
23	.000000	-.00747176	.000000	-.024002	.000000	.000000
24	.000000	-.00727855	.000000	.031500	.000000	.000000
25	.000000	-.00448360	.000000	.077194	.000000	.000000
26	.000000	.000000	.000000	.096174	.000000	.000000
27	.000000	.000000	.000000	-.096254	.000000	.000000
28	.000000	-.00448694	.000000	-.077249	.000000	.000000
29	.000000	-.00728362	.000000	-.031516	.000000	.000000
30	.000000	-.00747660	.000000	.024026	.000000	.000000
31	.000000	-.00514577	.000000	.063534	.000000	.000000
32	.000000	-.00181462	.000000	.061165	.000000	.000000
33	.000000	.000000	.000000	.000000	.000000	.000000
34	.000000	-.00181462	.000000	-.061165	.000000	.000000
35	.000000	-.00514577	.000000	-.063534	.000000	.000000
36	.000000	-.00747660	.000000	-.024026	.000000	.000000
37	.000000	-.00728362	.000000	.031516	.000000	.000000
38	.000000	-.00448694	.000000	.077249	.000000	.000000
39	.000000	.000000	.000000	.096254	.000000	.000000
40	.000000	.000000	.000000	-.096254	.000000	.000000

41	.000000	-.00448695	.000000	-.077249	.000000	.000000
42	.000000	-.00728363	.000000	-.031516	.000000	.000000
43	.000000	-.00747661	.000000	.024026	.000000	.000000
44	.000000	-.00514577	.000000	.063534	.000000	.000000
45	.000000	-.00181462	.000000	.061165	.000000	.000000
46	.000000	.000000	.000000	.000000	.000000	.000000
47	.000000	-.00181462	.000000	-.061165	.000000	.000000
48	.000000	-.00514577	.000000	-.063534	.000000	.000000
49	.000000	-.00747661	.000000	-.024026	.000000	.000000
50	.000000	-.00728363	.000000	.031516	.000000	.000000
51	.000000	-.00448695	.000000	.077249	.000000	.000000



KONSTRUKSI 3D (LL)

FRAME ELEMENT FORCES

ELT ID	LOAD COMB	AXIAL FORCE	DIST ENDI	1-2 PLANE		1-3 PLANE		AXIAL TORQ
				SHEAR	MOMENT	SHEAR	MOMENT	
1 -----								
1	.00							
		.0		.00	.00	13593.76	117.54	-.03
		5.0		.00	.00	8033.76	54186.32	
2 -----								
1	.00							
		.0		.00	.00	8033.75	54281.08	-.02
		5.0		.00	.00	2473.75	80549.81	
3 -----								
1	.00							
		.0		.00	.00	2473.73	80589.13	-.01
		2.2		.00	.00	-.01	83340.63	
		5.0		.00	.00	-3086.27	79057.78	
4 -----								
1	.00							
		.0		.00	.00	-6577.20	79028.46	.01
		5.0		.00	.00	-12137.20	32242.47	
5 -----								
1	.00							
		.0		.00	.00	-12137.21	32164.07	.02
		5.0		.00	.00	-17697.21	-42421.97	
6 -----								
1	.00							
		.0		.00	.00	-17697.21	-42497.11	.02
		5.0		.00	.00	-23257.21	-144883.17	
7 -----								
1	.00							
		.0		.00	.00	23257.21	-144883.17	-.02
		5.0		.00	.00	17697.21	-42497.11	
8 -----								
1	.00							
		.0		.00	.00	17697.21	-42421.97	-.02
		5.0		.00	.00	12137.21	32164.07	
9 -----								
1	.00							
		.0		.00	.00	12137.20	32242.47	-.01
		5.0		.00	.00	6577.20	79028.46	
10 -----								
1	.00							
		.0		.00	.00	3086.27	79057.78	.01
		2.8		.00	.00	-.01	83340.63	

KONSTRUKSI 3D (LL)

FRAME ELEMENT FORCES

ELT	LOAD	AXIAL	DIST	1-2 PLANE	1-3 PLANE	AXIAL		
ID	COMB	FORCE	ENDI	SHEAR	MOMENT	SHEAR	MOMENT	TORQ
11			5.0	.00	.00	-2473.73	80589.13	
1	.00							.02
		.0		.00	.00	-2473.75	80549.81	
		5.0		.00	.00	-8033.75	54281.08	
12								
1	.00							.03
		.0		.00	.00	-8033.76	54186.32	
		5.0		.00	.00	-13593.76	117.54	
13								
1	.00							-.02
		.0		.00	.00	34163.04	-117.38	
		5.0		.00	.00	20923.04	137597.83	
14								
1	.00							-.02
		.0		.00	.00	20923.05	137503.17	
		5.0		.00	.00	7683.05	209018.43	
15								
1	.00							-.00
		.0		.00	.00	7683.07	208979.14	
		2.9		.00	.00	-.03	220125.19	
		5.0		.00	.00	-5556.93	214294.47	
16								
1	.00							.01
		.0		.00	.00	-19520.55	214323.75	
		5.0		.00	.00	-32760.55	83621.01	
17								
1	.00							.02
		.0		.00	.00	-32760.54	83699.32	
		5.0		.00	.00	-46000.54	-113203.36	
18								
1	.00							.02
		.0		.00	.00	-46000.53	-113128.29	
		5.0		.00	.00	-59240.53	-376230.95	
19								
1	.00							-.02
		.0		.00	.00	59240.53	-376230.95	
		5.0		.00	.00	46000.53	-113128.29	
20								
1	.00							-.02
		.0		.00	.00	46000.54	-113203.36	

KONSTRUKSI 3D (LL)

FRAME ELEMENT FORCES

ELT ID	LOAD COMB	AXIAL FORCE	DIST ENDI	1-2 PLANE		1-3 PLANE		AXIAL TORQ
				SHEAR	MOMENT	SHEAR	MOMENT	
21			5.0	.00	.00	32760.54	83699.32	
1	.00							-.01
		.0		.00	.00	32760.55	83621.01	
		5.0		.00	.00	19520.55	214323.75	
22								
1	.00							.00
		.0		.00	.00	5556.93	214294.47	
		2.1		.00	.00	-.03	220125.19	
		5.0		.00	.00	-7683.07	208979.14	
23								
1	.00							.02
		.0		.00	.00	-7683.05	209018.43	
		5.0		.00	.00	-20923.05	137503.17	
24								
1	.00							.02
		.0		.00	.00	-20923.04	137597.83	
		5.0		.00	.00	-34163.04	-117.38	
25								
1	.00							.00
		.0		.00	.00	34155.28	-.16	
		5.0		.00	.00	20915.28	137676.23	
26								
1	.00							.00
		.0		.00	.00	20915.28	137676.12	
		5.0		.00	.00	7675.28	209152.51	
27								
1	.00							.00
		.0		.00	.00	7675.28	209152.48	
		2.9		.00	.00	-.03	220275.95	
		5.0		.00	.00	-5564.72	214428.87	
28								
1	.00							.00
		.0		.00	.00	-19528.35	214428.92	
		5.0		.00	.00	-32768.35	83687.15	
29								
1	.00							.00
		.0		.00	.00	-32768.35	83687.24	
		5.0		.00	.00	-46008.35	-113254.53	
30								
1	.00							.00

KONSTRUKSI 3D (LL)

FRAME ELEMENT FORCES

ELT LOAD	AXIAL DIST	1-2 PLANE		1-3 PLANE		AXIAL
ID COMB	FORCE ENDI	SHEAR	MOMENT	SHEAR	MOMENT	TORQ
	.0	.00	.00	-46008.35	-113254.46	
	5.0	.00	.00	-59248.35	-376396.23	
31 -----						
1 .00						.00
	.0	.00	.00	59248.35	-376396.23	
	5.0	.00	.00	46008.35	-113254.46	
32 -----						
1 .00						.00
	.0	.00	.00	46008.35	-113254.53	
	5.0	.00	.00	32768.35	83687.24	
33 -----						
1 .00						.00
	.0	.00	.00	32768.35	83687.15	
	5.0	.00	.00	19528.35	214428.92	
34 -----						
1 .00						.00
	.0	.00	.00	5564.72	214428.87	
	2.1	.00	.00	-.03	220275.95	
	5.0	.00	.00	-7675.28	209152.48	
35 -----						
1 .00						.00
	.0	.00	.00	-7675.28	209152.51	
	5.0	.00	.00	-20915.28	137676.12	
36 -----						
1 .00						.00
	.0	.00	.00	-20915.28	137676.23	
	5.0	.00	.00	-34155.28	-.16	
37 -----						
1 .00						.00
	.0	.00	.00	34155.27	.00	
	5.0	.00	.00	20915.27	137676.34	
38 -----						
1 .00						.00
	.0	.00	.00	20915.27	137676.34	
	5.0	.00	.00	7675.27	209152.69	
39 -----						
1 .00						.00
	.0	.00	.00	7675.27	209152.69	
	2.9	.00	.00	-.03	220276.13	
	5.0	.00	.00	-5564.73	214429.03	

KONSTRUKSI 3D (LL)

FRAME ELEMENT FORCES

ELT	LOAD	AXIAL	DIST	1-2 PLANE		1-3 PLANE		AXIAL
ID	COMB	FORCE	ENDI	SHEAR	MOMENT	SHEAR	MOMENT	TORQ
40 -----								
1	.00							.00
		.0		.00	.00	-19528.36	214429.03	
		5.0		.00	.00	-32768.36	83687.22	
41 -----								
1	.00							.00
		.0		.00	.00	-32768.36	83687.22	
		5.0		.00	.00	-46008.36	-113254.60	
42 -----								
1	.00							.00
		.0		.00	.00	-46008.36	-113254.60	
		5.0		.00	.00	-59248.36	-376396.42	
43 -----								
1	.00							.00
		.0		.00	.00	59248.36	-376396.42	
		5.0		.00	.00	46008.36	-113254.60	
44 -----								
1	.00							.00
		.0		.00	.00	46008.36	-113254.60	
		5.0		.00	.00	32768.36	83687.22	
45 -----								
1	.00							.00
		.0		.00	.00	32768.36	83687.22	
		5.0		.00	.00	19528.36	214429.03	
46 -----								
1	.00							.00
		.0		.00	.00	5564.73	214429.03	
		2.1		.00	.00	-.03	220276.13	
		5.0		.00	.00	-7675.27	209152.69	
47 -----								
1	.00							.00
		.0		.00	.00	-7675.27	209152.69	
		5.0		.00	.00	-20915.27	137676.34	
48 -----								
1	.00							.00
		.0		.00	.00	-20915.27	137676.34	
		5.0		.00	.00	-34155.27	.00	
49 -----								
1	.00							.00
		.0		.00	.00	34155.27	.00	
		5.0		.00	.00	20915.27	137676.34	



KONSTRUKSI 3D (LL)

FRAME ELEMENT FORCES

ELT ID	LOAD COMB	AXIAL FORCE	DIST ENDI	1-2 PLANE		1-3 PLANE		AXIAL TORQ
				SHEAR	MOMENT	SHEAR	MOMENT	
50 -----								
1	.00							.00
		.0		.00	.00	20915.27	137676.34	
		5.0		.00	.00	7675.27	209152.69	
51 -----								
1	.00							.00
		.0		.00	.00	7675.27	209152.69	
		2.9		.00	.00	-.03	220276.13	
		5.0		.00	.00	-5564.73	214429.03	
52 -----								
1	.00							.00
		.0		.00	.00	-19528.36	214429.03	
		5.0		.00	.00	-32768.36	83687.22	
53 -----								
1	.00							.00
		.0		.00	.00	-32768.36	83687.22	
		5.0		.00	.00	-46008.36	-113254.60	
54 -----								
1	.00							.00
		.0		.00	.00	-46008.36	-113254.60	
		5.0		.00	.00	-59248.36	-376396.42	
55 -----								
1	.00							.00
		.0		.00	.00	59248.36	-376396.42	
		5.0		.00	.00	46008.36	-113254.60	
56 -----								
1	.00							.00
		.0		.00	.00	46008.36	-113254.60	
		5.0		.00	.00	32768.36	83687.22	
57 -----								
1	.00							.00
		.0		.00	.00	32768.36	83687.22	
		5.0		.00	.00	19528.36	214429.03	
58 -----								
1	.00							.00
		.0		.00	.00	5564.73	214429.03	
		2.1		.00	.00	-.03	220276.13	
		5.0		.00	.00	-7675.27	209152.69	
59 -----								
1	.00							.00
		.0		.00	.00	-7675.27	209152.69	

KONSTRUKSI 3D (LL)

FRAME ELEMENT FORCES

ELT ID	LOAD COMB	AXIAL FORCE	DIST ENDI	1-2 PLANE		1-3 PLANE		AXIAL TORQ
				SHEAR	MOMENT	SHEAR	MOMENT	
60	1	.00	5.0	.00	.00	-20915.27	137676.34	.00
		.0		.00	.00	-20915.27	137676.34	
		5.0		.00	.00	-34155.27	.00	
61	1	.00	5.0	.00	.00	34155.27	.00	.00
		.0		.00	.00	34155.27	.00	
		5.0		.00	.00	20915.27	137676.34	
62	1	.00	5.0	.00	.00	20915.27	137676.34	.00
		.0		.00	.00	20915.27	137676.34	
		5.0		.00	.00	7675.27	209152.69	
63	1	.00	5.0	.00	.00	7675.27	209152.69	.00
		.0		.00	.00	7675.27	209152.69	
		2.9		.00	.00	-.03	220276.13	
		5.0		.00	.00	-5564.73	214429.03	
64	1	.00	5.0	.00	.00	-19528.36	214429.03	.00
		.0		.00	.00	-19528.36	214429.03	
		5.0		.00	.00	-32768.36	83687.22	
65	1	.00	5.0	.00	.00	-32768.36	83687.22	.00
		.0		.00	.00	-32768.36	83687.22	
		5.0		.00	.00	-46008.36	-113254.60	
66	1	.00	5.0	.00	.00	-46008.36	-113254.60	.00
		.0		.00	.00	-46008.36	-113254.60	
		5.0		.00	.00	-59248.36	-376396.42	
67	1	.00	5.0	.00	.00	59248.36	-376396.42	.00
		.0		.00	.00	59248.36	-376396.42	
		5.0		.00	.00	46008.36	-113254.60	
68	1	.00	5.0	.00	.00	46008.36	-113254.60	.00
		.0		.00	.00	46008.36	-113254.60	
		5.0		.00	.00	32768.36	83687.22	
69	1	.00	5.0	.00	.00	32768.36	83687.22	.00
		.0		.00	.00	32768.36	83687.22	

KONSTRUKSI 3D (LL)

FRAME ELEMENT FORCES

ELT	LOAD	AXIAL	DIST	1-2 PLANE		1-3 PLANE		AXIAL
ID	COMB	FORCE	ENDI	SHEAR	MOMENT	SHEAR	MOMENT	TORQ
70		5.0		.00	.00	19528.36	214429.03	
1	.00							.00
		.0		.00	.00	5564.73	214429.03	
		2.1		.00	.00	-.03	220276.13	
		5.0		.00	.00	-7675.27	209152.69	
71								
1	.00							.00
		.0		.00	.00	-7675.27	209152.69	
		5.0		.00	.00	-20915.27	137676.34	
72								
1	.00							.00
		.0		.00	.00	-20915.27	137676.34	
		5.0		.00	.00	-34155.27	.00	
73								
1	.00							.00
		.0		.00	.00	34155.27	.00	
		5.0		.00	.00	20915.27	137676.34	
74								
1	.00							.00
		.0		.00	.00	20915.27	137676.34	
		5.0		.00	.00	7675.27	209152.69	
75								
1	.00							.00
		.0		.00	.00	7675.27	209152.69	
		2.9		.00	.00	-.03	220276.13	
		5.0		.00	.00	-5564.73	214429.03	
76								
1	.00							.00
		.0		.00	.00	-19528.36	214429.03	
		5.0		.00	.00	-32768.36	83687.22	
77								
1	.00							.00
		.0		.00	.00	-32768.36	83687.22	
		5.0		.00	.00	-46008.36	-113254.60	
78								
1	.00							.00
		.0		.00	.00	-46008.36	-113254.60	
		5.0		.00	.00	-59248.36	-376396.42	
79								
1	.00							.00

KONSTRUKSI 3D (LL)

FRAME ELEMENT FORCES

ELT LOAD	AXIAL DIST	1-2 PLANE		1-3 PLANE		AXIAL		
ID	COMB	FORCE	ENDI	SHEAR	MOMENT	SHEAR	MOMENT	TORQ
		.0		.00	.00	59248.36	-376396.42	
		5.0		.00	.00	46008.36	-113254.60	
80		-----						
1	.00							.00
		.0		.00	.00	46008.36	-113254.60	
		5.0		.00	.00	32768.36	83687.22	
81		-----						
1	.00							.00
		.0		.00	.00	32768.36	83687.22	
		5.0		.00	.00	19528.36	214429.03	
82		-----						
1	.00							.00
		.0		.00	.00	5564.73	214429.03	
		2.1		.00	.00	-.03	220276.13	
		5.0		.00	.00	-7675.27	209152.69	
83		-----						
1	.00							.00
		.0		.00	.00	-7675.27	209152.69	
		5.0		.00	.00	-20915.27	137676.34	
84		-----						
1	.00							.00
		.0		.00	.00	-20915.27	137676.34	
		5.0		.00	.00	-34155.27	.00	
85		-----						
1	.00							.00
		.0		.00	.00	34155.27	.00	
		5.0		.00	.00	20915.27	137676.34	
86		-----						
1	.00							.00
		.0		.00	.00	20915.27	137676.34	
		5.0		.00	.00	7675.27	209152.69	
87		-----						
1	.00							.00
		.0		.00	.00	7675.27	209152.69	
		2.9		.00	.00	-.03	220276.13	
		5.0		.00	.00	-5564.73	214429.03	

KONSTRUKSI 3D (LL)

FRAME ELEMENT FORCES

ELT ID	LOAD COMB	AXIAL DIST	AXIAL FORCE ENDI	1-2 PLANE SHEAR	1-2 PLANE MOMENT	1-3 PLANE SHEAR	1-3 PLANE MOMENT	AXIAL TORQ
88 -----								
1	.00							.00
		.0		.00	.00	-19528.36	214429.03	
		5.0		.00	.00	-32768.36	83687.22	
89 -----								
1	.00							.00
		.0		.00	.00	-32768.36	83687.22	
		5.0		.00	.00	-46008.36	-113254.60	
90 -----								
1	.00							.00
		.0		.00	.00	-46008.36	-113254.60	
		5.0		.00	.00	-59248.36	-376396.42	
91 -----								
1	.00							.00
		.0		.00	.00	59248.36	-376396.42	
		5.0		.00	.00	46008.36	-113254.60	
92 -----								
1	.00							.00
		.0		.00	.00	46008.36	-113254.60	
		5.0		.00	.00	32768.36	83687.22	
93 -----								
1	.00							.00
		.0		.00	.00	32768.36	83687.22	
		5.0		.00	.00	19528.36	214429.03	
94 -----								
1	.00							.00
		.0		.00	.00	5564.73	214429.03	
		2.1		.00	.00	-.03	220276.13	
		5.0		.00	.00	-7675.27	209152.69	
95 -----								
1	.00							.00
		.0		.00	.00	-7675.27	209152.69	
		5.0		.00	.00	-20915.27	137676.34	
96 -----								
1	.00							.00
		.0		.00	.00	-20915.27	137676.34	
		5.0		.00	.00	-34155.27	.00	
97 -----								
1	.00							.00
		.0		.00	.00	34155.27	.00	
		5.0		.00	.00	20915.27	137676.34	

KONSTRUKSI 3D (LL)

FRAME ELEMENT FORCES

ELT	LOAD	AXIAL	DIST	1-2 PLANE		1-3 PLANE		AXIAL
ID	COMB	FORCE	ENDI	SHEAR	MOMENT	SHEAR	MOMENT	TORQ
98 -----								
1	.00							.00
		.0		.00	.00	20915.27	137676.34	
		5.0		.00	.00	7675.27	209152.69	
99 -----								
1	.00							.00
		.0		.00	.00	7675.27	209152.69	
		2.9		.00	.00	-.03	220276.13	
		5.0		.00	.00	-5564.73	214429.03	
100 -----								
1	.00							.00
		.0		.00	.00	-19528.36	214429.03	
		5.0		.00	.00	-32768.36	83687.22	
101 -----								
1	.00							.00
		.0		.00	.00	-32768.36	83687.22	
		5.0		.00	.00	-46008.36	-113254.60	
102 -----								
1	.00							.00
		.0		.00	.00	-46008.36	-113254.60	
		5.0		.00	.00	-59248.36	-376396.42	
103 -----								
1	.00							.00
		.0		.00	.00	59248.36	-376396.42	
		5.0		.00	.00	46008.36	-113254.60	
104 -----								
1	.00							.00
		.0		.00	.00	46008.36	-113254.60	
		5.0		.00	.00	32768.36	83687.22	
105 -----								
1	.00							.00
		.0		.00	.00	32768.36	83687.22	
		5.0		.00	.00	19528.36	214429.03	
106 -----								
1	.00							.00
		.0		.00	.00	5564.73	214429.03	
		2.1		.00	.00	-.03	220276.13	
		5.0		.00	.00	-7675.27	209152.69	
107 -----								
1	.00							.00
		.0		.00	.00	-7675.27	209152.69	

KONSTRUKSI 3D (LL)

FRAME ELEMENT FORCES

ELT ID	LOAD COMB	AXIAL DIST	1-2 PLANE		1-3 PLANE		AXIAL TORQ
			FORCE ENDI	SHEAR	MOMENT	SHEAR	
108		5.0	.00	.00	-20915.27	137676.34	
1	.00						.00
		.0	.00	.00	-20915.27	137676.34	
		5.0	.00	.00	-34155.27	.00	
109							
1	.00						.00
		.0	.00	.00	34155.28	-16	
		5.0	.00	.00	20915.28	137676.23	
110							
1	.00						.00
		.0	.00	.00	20915.28	137676.12	
		5.0	.00	.00	7675.28	209152.51	
111							
1	.00						.00
		.0	.00	.00	7675.28	209152.48	
		2.9	.00	.00	-.03	220275.95	
		5.0	.00	.00	-5564.72	214428.87	
112							
1	.00						.00
		.0	.00	.00	-19528.35	214428.92	
		5.0	.00	.00	-32768.35	83687.15	
113							
1	.00						.00
		.0	.00	.00	-32768.35	83687.24	
		5.0	.00	.00	-46008.35	-113254.53	
114							
1	.00						.00
		.0	.00	.00	-46008.35	-113254.46	
		5.0	.00	.00	-59248.35	-376396.23	
115							
1	.00						.00
		.0	.00	.00	59248.35	-376396.23	
		5.0	.00	.00	46008.35	-113254.46	
116							
1	.00						.00
		.0	.00	.00	46008.35	-113254.53	
		5.0	.00	.00	32768.35	83687.24	
117							
1	.00						.00
		.0	.00	.00	32768.35	83687.15	

KONSTRUKSI 3D (LL)

FRAME ELEMENT FORCES

ELT LOAD	AXIAL DIST	1-2 PLANE		1-3 PLANE		AXIAL		
ID	COMB	FORCE	ENDI	SHEAR	MOMENT	SHEAR	MOMENT	TORQ
118		5.0		.00	.00	19528.35	214428.92	
1	.00							.00
		.0		.00	.00	5564.72	214428.87	
		2.1		.00	.00	-.03	220275.95	
		5.0		.00	.00	-7675.28	209152.48	
119								
1	.00							.00
		.0		.00	.00	-7675.28	209152.51	
		5.0		.00	.00	-20915.28	137676.12	
120								
1	.00							.00
		.0		.00	.00	-20915.28	137676.23	
		5.0		.00	.00	-34155.28	-.16	
121								
1	.00							.03
		.0		.00	.00	34163.04	-117.38	
		5.0		.00	.00	20923.04	137597.83	
122								
1	.00							.02
		.0		.00	.00	20923.05	137503.17	
		5.0		.00	.00	7683.05	209018.43	
123								
1	.00							.01
		.0		.00	.00	7683.07	208979.14	
		2.9		.00	.00	-.03	220125.19	
		5.0		.00	.00	-5556.93	214294.47	
124								
1	.00							-.01
		.0		.00	.00	-19520.55	214323.75	
		5.0		.00	.00	-32760.55	83621.01	
125								
1	.00							-.02
		.0		.00	.00	-32760.54	83699.32	
		5.0		.00	.00	-46000.54	-113203.36	
126								
1	.00							-.02
		.0		.00	.00	-46000.53	-113128.29	
		5.0		.00	.00	-59240.53	-376230.95	
127								
1	.00							.02



KONSTRUKSI 3D (LL)

FRAME ELEMENT FORCES

ELT ID	LOAD COMB	AXIAL FORCE	DIST ENDI	1-2 PLANE		1-3 PLANE		AXIAL TORQ
				SHEAR	MOMENT	SHEAR	MOMENT	
128	1	.00	.0	.00	.00	59240.53	-376230.95	.02
			5.0	.00	.00	46000.53	-113128.29	
129	1	.00	.0	.00	.00	46000.54	-113203.36	.01
			5.0	.00	.00	32760.54	83699.32	
130	1	.00	.0	.00	.00	32760.55	83621.01	-.01
			5.0	.00	.00	19520.55	214323.75	
131	1	.00	.0	.00	.00	5556.93	214294.47	-.02
			2.1	.00	.00	-.03	220125.19	
			5.0	.00	.00	-7683.07	208979.14	
132	1	.00	.0	.00	.00	-7683.05	209018.43	-.03
			5.0	.00	.00	-20923.05	137503.17	
133	1	.00	.0	.00	.00	-20923.04	137597.83	.02
			5.0	.00	.00	-34163.04	-117.38	
134	1	.00	.0	.00	.00	13593.76	117.54	.02
			5.0	.00	.00	8033.76	54186.32	
135	1	.00	.0	.00	.00	8033.75	54281.08	.00
			5.0	.00	.00	2473.75	80549.81	
136	1	.00	.0	.00	.00	2473.73	80589.13	-.01
			2.2	.00	.00	-.01	83340.63	
			5.0	.00	.00	-3086.27	79057.78	
137	1	.00	.0	.00	.00	-6577.20	79028.46	.00
			5.0	.00	.00	-12137.20	32242.47	

KONSTRUKSI 3D (LL)

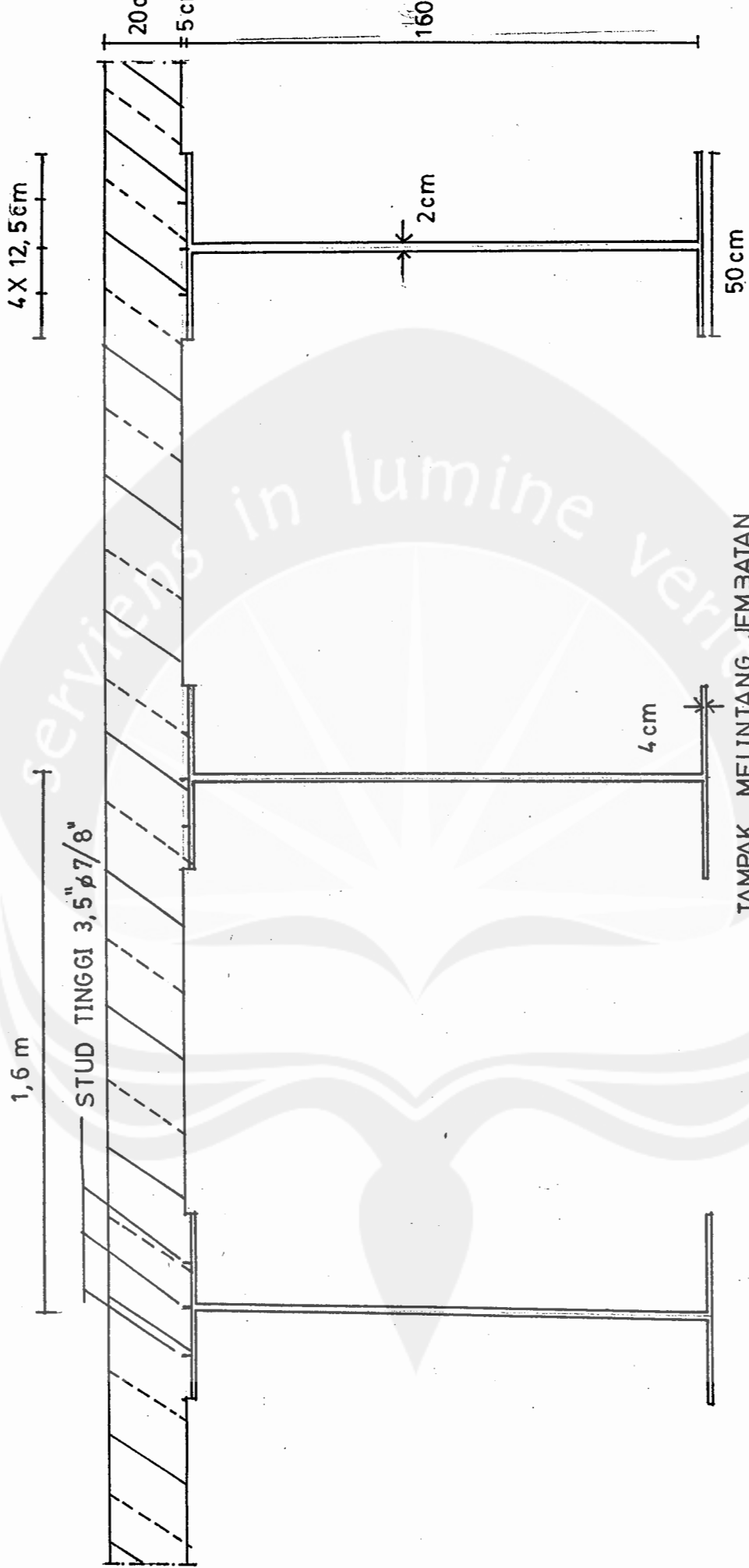
FRAME ELEMENT FORCES

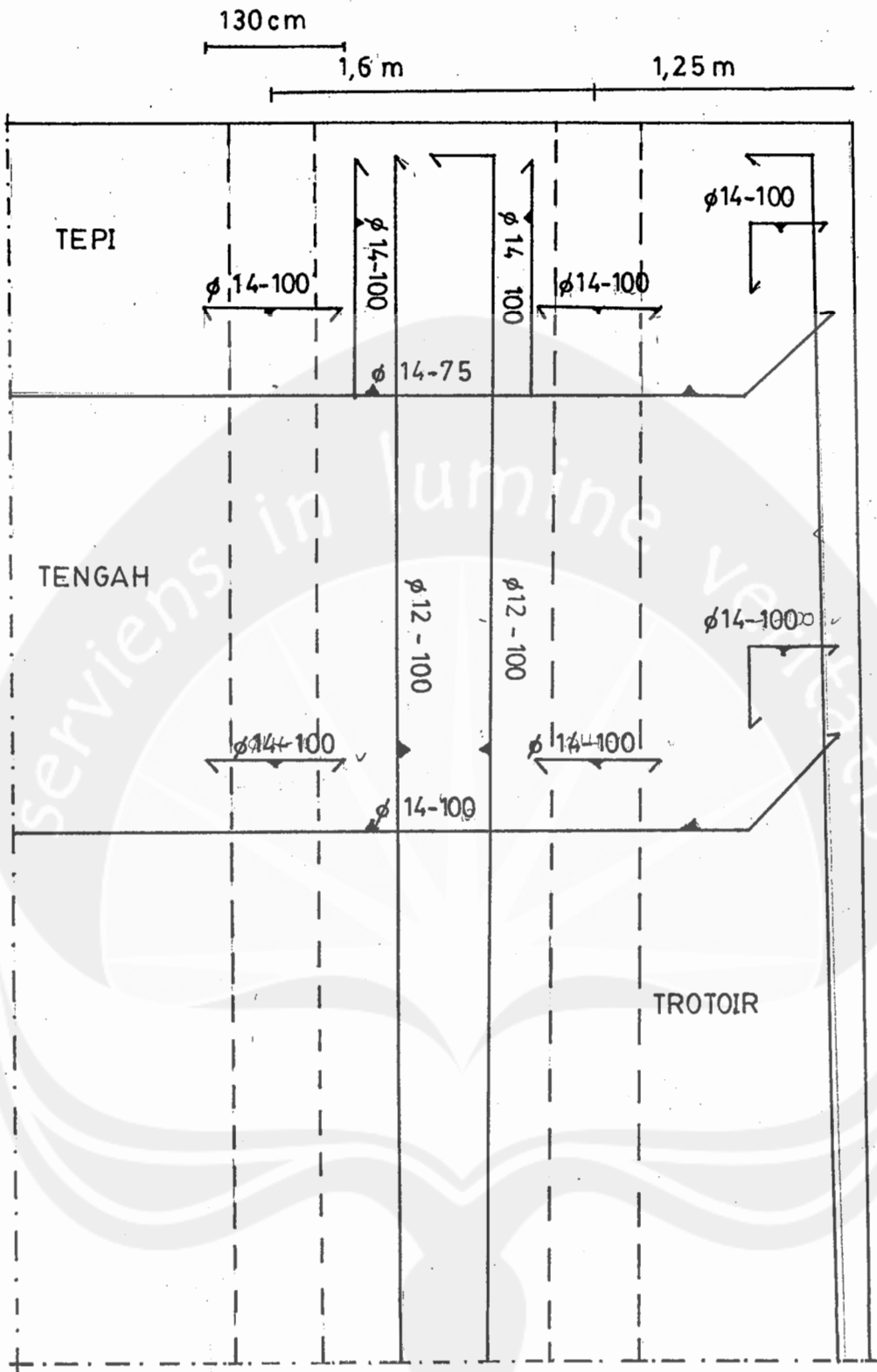
ELT LOAD	AXIAL DIST	1-2 PLANE		1-3 PLANE		AXIAL
ID COMB	FORCE ENDI	SHEAR	MOMENT	SHEAR	MOMENT	TORQ
137 -----						
1	.00					-.02
	.0	.00	.00	-12137.21	32164.07	
	5.0	.00	.00	-17697.21	-42421.97	
138 -----						
1	.00					-.02
	.0	.00	.00	-17697.21	-42497.11	
	5.0	.00	.00	-23257.21	-144883.17	
139 -----						
1	.00					.02
	.0	.00	.00	23257.21	-144883.17	
	5.0	.00	.00	17697.21	-42497.11	
140 -----						
1	.00					.02
	.0	.00	.00	17697.21	-42421.97	
	5.0	.00	.00	12137.21	32164.07	
141 -----						
1	.00					.01
	.0	.00	.00	12137.20	32242.47	
	5.0	.00	.00	6577.20	79028.46	
142 -----						
1	.00					-.00
	.0	.00	.00	3086.27	79057.78	
	2.8	.00	.00	-.01	83340.63	
	5.0	.00	.00	-2473.73	80589.13	
143 -----						
1	.00					-.02
	.0	.00	.00	-2473.75	80549.81	
	5.0	.00	.00	-8033.75	54281.08	
144 -----						
1	.00					-.02
	.0	.00	.00	-8033.76	54186.32	
	5.0	.00	.00	-13593.76	117.54	



**LAMPIRAN**

**B**





PENULANGAN PLAT LANTAI  
SKALA 1:32

20 X 25 cm

25 X 20 cm

50 X 10 cm

5 m

5 m

5 m



PERPUSTAKAAN  
FAK. TEKNIK-SIPIL  
UNIVERSITAS ATMA JAYA  
YOGYAKARTA