

Prog.: HTB REV. 6.00
 Autor:** TDV-Graz-AUSTRIA **
 Ed.Ast & Co., Baug.m.b.H. **KONSTRUKTIONSBUERO** 8073-Feldkirchen/Graz

Datum:97/02/21 Zeit:09:11 Seite: 1

Sko Energo Stiegenhausturm
 Fertigteil SL07

KB 2467

SYSTEMGEOMETRIE

FELD	LAENGE	AUFLAGER	EINSPANNG.	AUSR.BR.	AUFL.BR.	TEILG.	ERGEBNISPUNKTE
1	1.025	frei					4
2	4.505	starr D		0.300	0.300		10
		starr D					

QUERSCHNITTE

FELD	X-VON	Q-NR	I	X-BIS	Q-NR	I
1	0.000	1	0.000486	1.025	1	0.000486
2	0.000	1	0.000486	4.505	1	0.000486

LASTANGABEN

STAENDIGE LAST

FELD	LASTART	LASTWERTE
1	1 GLEICHL.	4.500 (Q)
2	2 TRAPEZL.	0.000 (XA) 0.595 (XE) 4.500 (QA) 4.500 (QE)
	2 TRAPEZL.	0.595 (XA) 2.860 (XE) 7.107 (QA) 7.107 (QE)
	2 TRAPEZL.	2.860 (XA) 4.505 (XE) 4.500 (QA) 4.500 (QE)

LASTANGABEN

NUTZLAST

FELD	LASTART	LASTWERTE
1	1 GLEICHL.	10.000 (Q)
2	2 TRAPEZL.	0.000 (XA) 0.595 (XE) 10.000 (QA) 10.000 (QE)

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LASTANGABEN

NUTZLAST

FELD	LASTART	LASTWERTE			
2	TRAPEZL.	0.595 (XA)	2.860 (XE)	6.159 (QA)	6.159 (QE)
2	TRAPEZL.	2.860 (XA)	4.505 (XE)	5.000 (QA)	5.000 (QE)

VERWENDETE QUERSCHNITTE

RECHTECK-QUERSCHNITTE

NR.	ART	B0	D0	RA-O	RA-U	J
1	1	1.00	0.18	0.040	0.040	0.00048

VERWENDETE MATERIALIEN

STRUKTUR:

BEZ.	SIGMA-P	SIGMA-Z	TAU-1	E	GAMMA	EPS*
2 B25	-17500.	0.	750.	0.300E+08	25.000	-0.003

BIEGEBEWEHRUNG

BEZ.	SIG-PROP	SIG-STRECK	E	GAMMA	EPS*
13 ST3	420000.	420000.	0.210E+09	78.500	0.0050

MINDESTBEWEHRUNG (PROMILLE)
 1.400

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 Fertigteil SL07

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SCHUBBEWEHRUNG

BEZ.	SIG-PROP	SIG-STRECK	E	GAMMA	EPS*
13 ST3	420000.	420000.	0.210E+09	78.500	0.0050

Bemessung erfolgt nach D I N 1045

SCHNITTKRAEFTE FUER MAX/MIN M

STAENDIGE LAST G		G+NUTZLAST-MAX		G+NUTZLAST-MIN		
X	M	Q	M	Q	M	Q
FELD 1						
0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.256	-0.148	1.153	-0.148	1.153	-0.476	3.716
0.512	-0.591	2.306	-0.591	2.306	-1.904	7.431
0.769	-1.330	3.459	-1.330	3.459	-4.285	11.147
0.805	-1.458	3.622	-1.458	3.622	-4.698	11.673
0.875	-1.723	3.938	-1.723	3.938	-5.551	12.688
1.025	-1.655	-4.845	-1.067	-12.674	-6.480	-0.303

SCHNITTKRAEFTE FUER MAX/MIN Q

STAENDIGE LAST G		G+NUTZLAST-MAX		G+NUTZLAST-MIN		
X	M	Q	M	Q	M	Q
FELD 1						
0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.256	-0.148	1.153	-0.476	3.716	-0.148	1.153
0.512	-0.591	2.306	-1.904	7.431	-0.591	2.306
0.769	-1.330	3.459	-4.285	11.147	-1.330	3.459
0.805	-1.458	3.622	-4.698	11.673	-1.458	3.622
0.875	-1.723	3.938	-5.551	12.688	-1.723	3.938
1.025	-1.655	-4.845	-6.480	-0.303	-1.067	-12.674

Sko Energo Stiegenhausturm
Fertigteil SL07

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SCHNITTKRAEFTE FUER MAX/MIN M

		STAENDIGE LAST G		G+NUTZLAST-MAX		G+NUTZLAST-MIN	
X		M	Q	M	Q	M	Q
FELD	2						
	0.000	-1.655	-4.845	-1.067	-12.674	-6.480	-0.303
	0.150	-0.269	-13.627	1.967	-27.786	-5.348	-14.793
	0.220	0.674	-13.312	3.877	-26.771	-4.323	-14.478
	0.451	3.622	-12.274	9.662	-23.429	-1.106	-13.440
	0.595	5.349	-11.624	12.896	-21.334	0.790	-12.790
	0.901	8.573	-9.449	18.803	-17.274	4.371	-10.615
	1.352	12.109	-6.248	25.239	-11.298	8.432	-7.414
	1.802	14.202	-3.046	28.983	-5.322	11.050	-4.212
	2.203			30.050	0.000		
	2.253	14.853	0.156	30.034	0.655	12.227	-1.010
	2.703	14.062	3.358	28.393	6.631	11.961	2.191
	2.860	13.447	4.473	27.188	8.714	11.529	3.307
	3.154	11.940	5.794	24.221	11.502	10.364	4.628
	3.604	8.874	7.821	18.076	15.782	7.823	6.655
	4.055	4.893	9.849	10.002	20.062	4.368	8.682
	4.435	0.820	11.561	1.681	23.676	0.739	10.395
	4.505	0.000	11.876	0.000	24.341	0.000	10.710

SCHNITTKRAEFTE FUER MAX/MIN Q

		STAENDIGE LAST G		G+NUTZLAST-MAX		G+NUTZLAST-MIN	
X		M	Q	M	Q	M	Q
FELD	2						
	0.000	-1.655	-4.845	-6.480	-0.303	-1.067	-12.674
	0.150	-0.269	-13.627	-0.269	-13.627	-3.111	-28.952
	0.220	0.674	-13.312	0.674	-13.312	-1.120	-27.937
	0.451	3.622	-12.274	3.622	-12.274	4.934	-24.595
	0.595	5.349	-11.624	5.349	-11.624	8.337	-22.500
	0.901	8.573	-9.449	8.573	-9.449	14.601	-18.440
	1.352	12.109	-6.248	12.109	-6.248	21.562	-12.464
	1.802	14.202	-3.046	14.202	-3.046	25.831	-6.488
	2.253	14.853	0.156	30.034	0.655	12.227	-1.010
	2.703	14.062	3.358	28.393	6.631	11.961	2.191
	2.860	13.447	4.473	27.188	8.714	11.529	3.307
	3.154	11.940	5.794	24.221	11.502	10.364	4.628
	3.604	8.874	7.821	18.076	15.782	7.823	6.655
	4.055	4.893	9.849	10.002	20.062	4.368	8.682

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Fertigteil SL07

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SCHNITTKRAEFTE FUER MAX/MIN Q

STAENDIGE LAST G			G+NUTZLAST-MAX		G+NUTZLAST-MIN	
X	M	Q	M	Q	M	Q
4.435	0.820	11.561	1.681	23.676	0.739	10.395
4.505	0.000	11.876	0.000	24.341	0.000	10.710

AUFLAGER-REAKTIONEN

NR	STAENDIGE LAST G		G+NUTZLAST-MAX		G+NUTZLAST-MIN	
	A	M	A	M	A	M
1	0.000	0.000	0.000	0.000	0.000	0.000
2	-18.914	0.000	-18.914	0.000	-45.990	0.000
3	-11.876	0.000	-10.710	0.000	-24.341	0.000

BIEGE-BEMESSUNG

X	M-MAX	M-MIN	Q-NR	AS-U	W/WG	AS-O	W/WG
FELD 1							
0.000	0.00	0.00	1	0.00	0.00	0.00	0.00
0.256	-0.15	-0.48	1	0.00	0.00	0.14	0.01
0.512	-0.59	-1.90	1	0.00	0.00	0.58	0.03
0.769	-1.33	-4.28	1	0.00	0.00	1.32	0.07
0.805	-1.46	-4.70	1	0.00	0.00	1.45	0.08
0.875	-1.72	-5.55	1	0.00	0.00	1.72	0.09
1.025	-1.07	-6.48	1	0.00	0.00	2.01	0.10

Sko Energo Stiegenhausturm
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BIEGE-BEMESSUNG

X	M-MAX	M-MIN	Q-NR	AS-U	W/WG	AS-O	W/WG	
FELD 2								
0.000	-1.07	-23.64	* 1	0.00	0.00	7.68	0.40	
0.150	1.97	-20.93	* 1	0.60	0.03	6.73	0.35	
0.220	3.88	-19.04	* 1	1.19	0.06	6.06	0.31	
0.451	9.66	-13.22	* 1	3.02	0.16	3.98	0.21	
0.595	12.90	-9.89	* 1	4.08	0.21	2.79	0.14	
0.901	18.80	-3.58	* 1	6.04	0.31	0.50	0.03	
1.352	25.24	3.89	* 1	8.23	0.43	0.00	0.00	
1.802	28.98	9.22	* 1	9.55	0.50	0.00	0.00	
2.203	30.05	9.22	* 1	9.93	0.52	0.00	0.00	MAX
2.253	30.03	12.23	1	9.92	0.52	0.00	0.00	
2.703	28.39	11.96	1	9.34	0.49	0.00	0.00	
2.860	27.19	11.53	1	8.92	0.46	0.00	0.00	
3.154	24.22	10.36	1	7.88	0.41	0.00	0.00	
3.604	18.08	7.82	1	5.79	0.30	0.00	0.00	
4.055	10.00	4.37	1	3.13	0.16	0.00	0.00	
4.435	1.68	0.74	1	0.51	0.03	0.00	0.00	
4.505	0.00 *	0.00	1	0.00	0.00	0.00	0.00	

SCHUB-BEMESSUNG

	Q-MAX/MIN	Q-RED	Q-NR	TAU0	TAU	ASMIN	AS-S	BER.
FELD 1								
0.000	0.000	0.000	1	0.	0.	0.00	0.00	1
0.256	3.716	3.716	1	27.	0.	0.14	0.00	1
0.512	7.431	7.431	1	54.	0.	0.28	0.00	1
0.769	11.147	11.147	1	82.	0.	0.43	0.00	1
0.805	11.673	11.673	1	86.	0.	0.45	0.00	1
1.025	-12.674	-12.674	1	92.	0.	0.00	0.00	1

Sko Energo Stiegenhausturm
Fertigteil SL07

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SCHUB-BEMESSUNG

	Q-MAX/MIN	Q-RED	Q-NR	TAU0	TAU	ASMIN	AS-S	BER.
FELD 2								
0.000	-12.674	-12.674	1	92.	0.	0.00	0.00	1
0.220	-27.937	-27.937	1	203.	0.	1.06	0.00	1
0.451	-24.595	-24.595	1	182.	0.	0.95	0.00	1
0.595	-22.500	-22.500	1	168.	0.	0.88	0.00	1
0.901	-18.440	-18.440	1	141.	0.	0.73	0.00	1
1.352	-12.464	-12.464	1	97.	0.	0.50	0.00	1
1.802	-6.488	-6.488	1	51.	0.	0.26	0.00	1
2.253	-1.010	-1.010	1	8.	0.	0.04	0.00	1
2.703	6.631	6.631	1	52.	0.	0.27	0.00	1
2.860	8.714	8.714	1	69.	0.	0.36	0.00	1
3.154	11.502	11.502	1	90.	0.	0.47	0.00	1
3.604	15.782	15.782	1	121.	0.	0.63	0.00	1
4.055	20.062	20.062	1	151.	0.	0.79	0.00	1
4.435	23.676	23.676	1	173.	0.	0.90	0.00	1
4.505	24.341	24.341	1	174.	0.	0.00	0.00	1

D U R C H B I E G U N G E N (MM)

KRIECHAKTIVER VERKEHRSLASTANTEIL 50.00 PROZENT

FELD 1	0.00	0.26	0.51	0.77	0.81	0.88	1.02
F I (G+)	1.3	1.0	0.7	0.3	0.3	0.2	0.0
F KZ (G+)	5.1	3.8	2.5	1.3	1.1	0.7	0.0
F I (MAX)	1.1	0.8	0.6	0.3	0.3	0.2	0.0
F KZ (MAX)	4.1	3.0	2.0	1.0	0.9	0.6	0.0
F LZ (G+)	9.5	7.2	4.8	2.4	2.1	1.4	0.0
F LZ (MAX)	8.5	6.4	4.3	2.2	1.9	1.3	0.0
AS-U	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AS-O	0.0	0.1	0.6	1.3	1.4	1.7	2.0

Sko Energo Stiegenhausturm
Fertigteil SL07

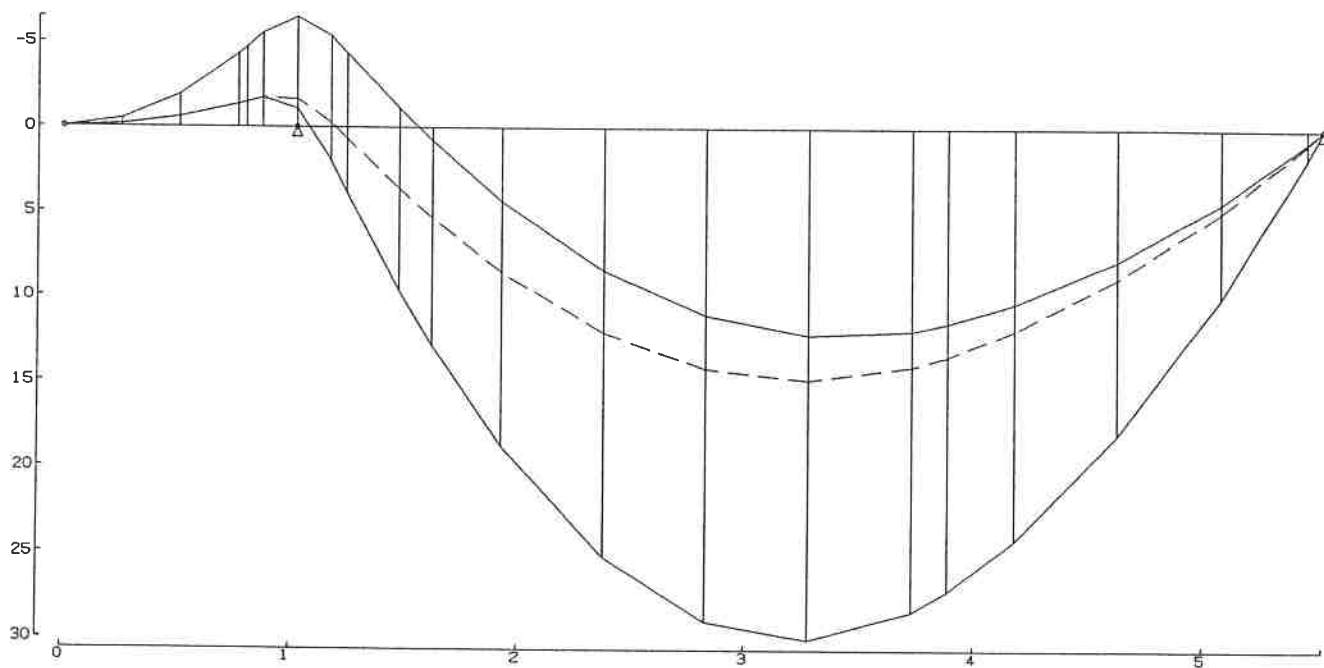
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D U R C H B I E G U N G E N (MM)

FELD 2	0.00	0.15	0.22	0.45	0.59	0.90	1.35	1.80	2.25	2.7
F I (G+)	0.0	-0.2	-0.3	-0.6	-0.8	-1.2	-1.6	-1.9	-2.0	-1.
F KZ (G+)	0.0	-0.8	-1.1	-2.3	-3.0	-4.5	-6.5	-7.9	-8.4	-8.
F I (MAX)	0.0	-0.2	-0.3	-0.7	-0.9	-1.3	-1.7	-1.9	-2.0	-1.
F KZ (MAX)	0.0	-1.5	-2.3	-4.6	-6.1	-9.1	-12.9	-15.3	-16.2	-15.
F LZ (G+)	0.0	-1.4	-2.1	-4.4	-5.7	-8.5	-12.2	-14.6	-15.6	-14.
F LZ (MAX)	0.0	-2.2	-3.3	-6.7	-8.8	-13.2	-18.5	-22.1	-23.4	-22.
AS-U	0.0	0.6	1.2	3.0	4.1	6.0	8.2	9.6	9.9	9.
AS-O	2.0	6.7	6.1	4.0	2.8	0.5	0.0	0.0	0.0	0.
FELD 2	2.86	3.15	3.60	4.05	4.43	4.51				
F I (G+)	-1.8	-1.6	-1.2	-0.7	-0.1	0.0				
F KZ (G+)	-7.7	-6.7	-4.8	-2.4	-0.4	0.0				
F I (MAX)	-1.9	-1.7	-1.3	-0.7	-0.1	0.0				
F KZ (MAX)	-14.8	-13.1	-9.4	-4.8	-0.8	0.0				
F LZ (G+)	-14.2	-12.6	-9.0	-4.6	-0.7	0.0				
F LZ (MAX)	-21.4	-19.0	-13.6	-7.0	-1.1	0.0				
AS-U	8.9	7.9	5.8	3.1	0.5	0.0				
AS-O	0.0	0.0	0.0	0.0	0.0	0.0				

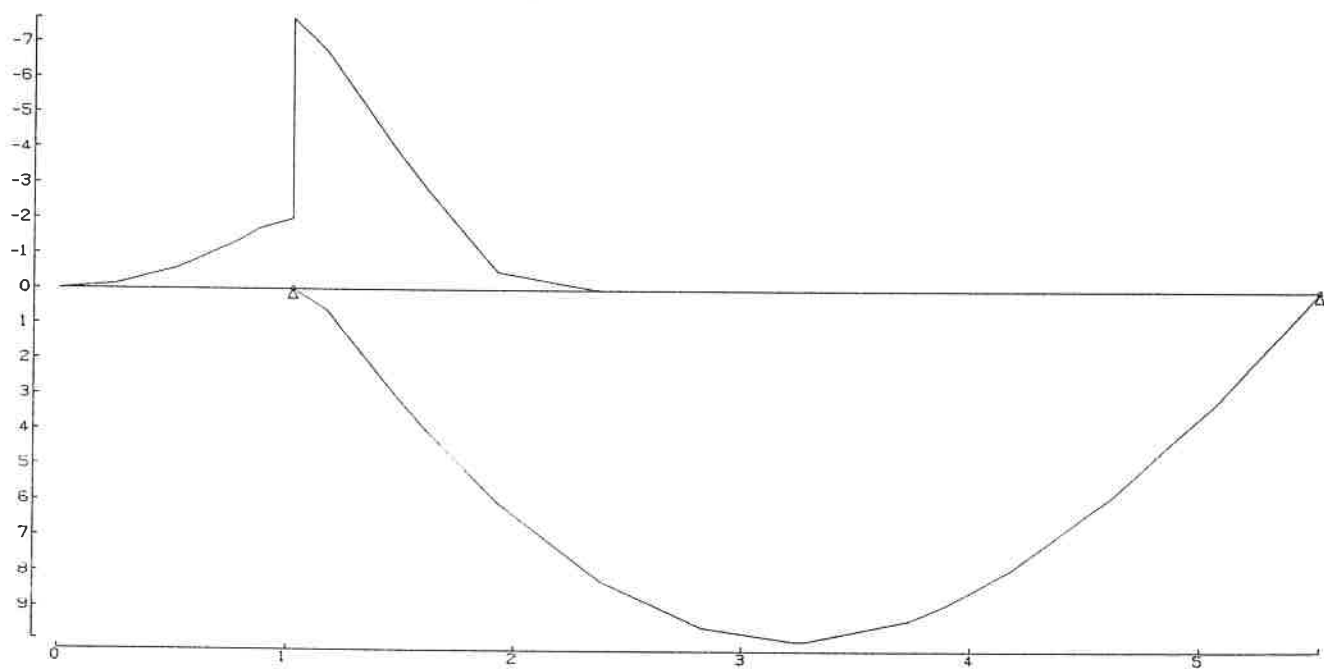
Sko Energo Stiegenhausturm
Fertigteil SL07

MOMENTE



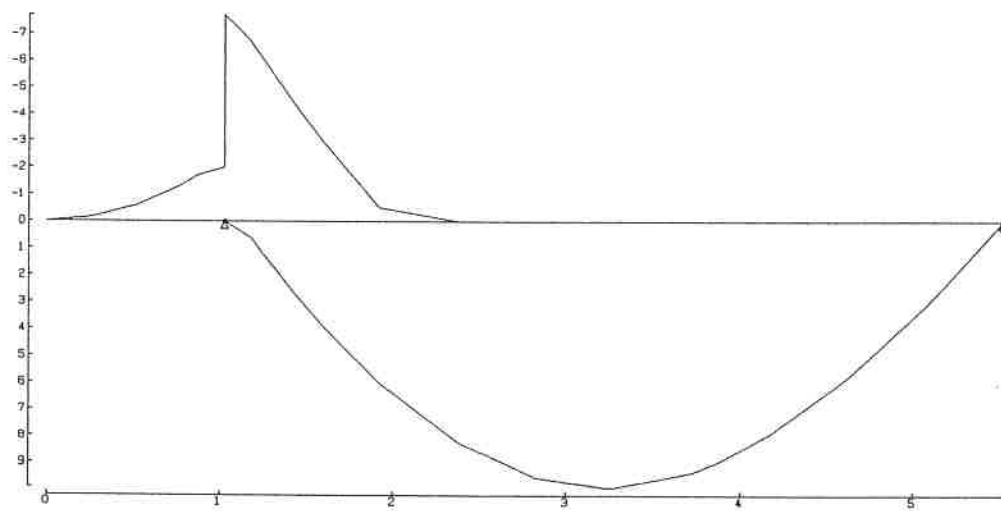
Sko Energo Stiegenhausturm
Fertigteil SL07

BIEGEBEMESSUNG



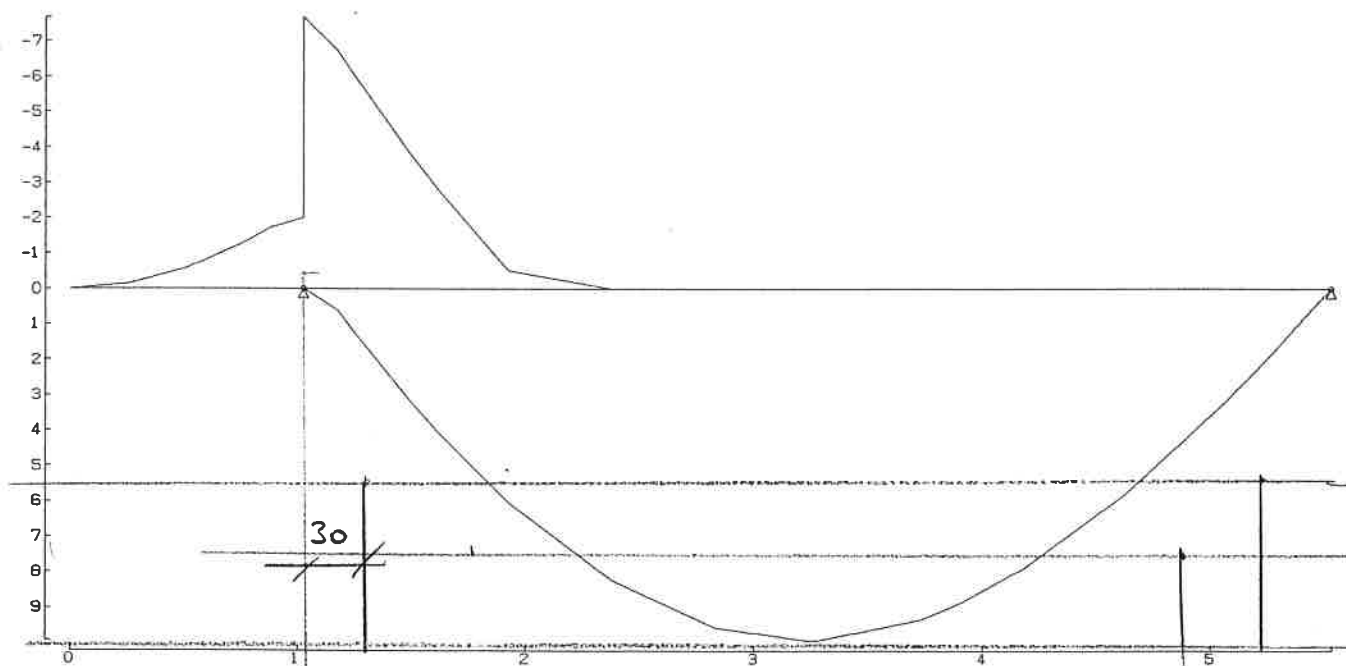
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Fertigteil SL07

BIEGEBEMESSUNG



Sko Energo Stiegenhausturm
Fertigteil SL07

BIEGEBEMESSUNG



ly 3,90

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Ed.Ast & Co., Baug.m.b.H. **KONSTRUKTIONSBUERO** 8073-Feldkirchen/Graz

sko energo stiegenhausturm
traegr tr01

kb2467

3.21

SYSTEMGEOMETRIE

FELD LAENGE AUFLAGER EINSpanNG. AUSTR.BR. AUFL.BR. TEILG. ERGEBNISPUNKTE

1	2.600	starr D	8
		starr D	

QUERSCHNITTE

FELD	X-VON	Q-NR	I	X-BIS	Q-NR	I
1	0.000	1	0.001146	1.450	1	0.001146
	1.450	2	0.000874	1.740	2	0.000874
	1.740	1	0.001146	2.600	1	0.001146

LASTANGABEN

STAENDIGE LAST

FELD	LASTART	LASTWERTE
1	EINZELL.	1.595 (X) 56.300 (P) 0.000 (M)
	1 GLEICHL.	21.100 (Q)

VERWENDETE QUERSCHNITTE

RECHTECK-QUERSCHNITTE

NR.	ART	B0	D0	RA-O	RA-U	J
1	1	0.35	0.34	0.040	0.040	0.00114

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Ed.Ast & Co., Baug.m.b.H. **KONSTRUKTIONSBUERO** 8073-Feldkirchen/Graz

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sko energo stiegenhausturm
traegr tr01

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EINSEITIGE PLATTENBALKEN UNTEN

NR.	ART	B0	D0	B	D	D1	RA-O	RA-U	J
2	6	0.21	0.34	0.35	0.15	0.00	0.040	0.040	0.00087

VERWENDETE MATERIALIEN

STRUKTUR:

BEZ.	SIGMA-P	SIGMA-Z	TAU-1	E	GAMMA	EPS*
2 B25	-17500.	0.	750.	0.300E+08	25.000	-0.003

BIEGEBEWEHRUNG

BEZ.	SIG-PROP	SIG-STRECK	E	GAMMA	EPS*
13 ST3	420000.	420000.	0.210E+09	78.500	0.0050

MINDESTBEWEHRUNG (PROMILLE)
1.400

SCHUBBEWEHRUNG

BEZ.	SIG-PROP	SIG-STRECK	E	GAMMA	EPS*
13 ST3	420000.	420000.	0.210E+09	78.500	0.0050

Bemessung erfolgt nach D I N 1045

sko energo stiegenhausturm
 traegr tr01

kb2467

SCHNITTKRAEFTE FUER MAX/MIN M

		STAENDIGE LAST G		G+NUTZLAST-MAX		G+NUTZLAST-MIN	
X		M	Q	M	Q	M	Q
FELD	1						
	0.000	0.000	-49.192	0.000	-49.192	0.000	-49.192
	0.150	7.141	-46.027	7.141	-46.027	7.141	-46.027
	0.325	14.873	-42.335	14.873	-42.335	14.873	-42.335
	0.650	27.517	-35.477	27.517	-35.477	27.517	-35.477
	0.975	37.933	-28.620	37.933	-28.620	37.933	-28.620
	1.300	46.120	-21.762	46.120	-21.762	46.120	-21.762
	1.450	49.147	-18.597	49.147	-18.597	49.147	-18.597
	1.595	51.622	-15.538	51.622	-15.538	51.622	-15.538
	1.595	51.622	40.762	51.622	40.762	51.622	40.762
	1.625	50.390	41.395	50.390	41.395	50.390	41.395
	1.740	45.490	43.822	45.490	43.822	45.490	43.822
	1.950	35.822	48.253	35.822	48.253	35.822	48.253
	2.275	19.025	55.110	19.025	55.110	19.025	55.110
	2.450	9.058	58.803	9.058	58.803	9.058	58.803
	2.600	0.000	61.968	0.000	61.968	0.000	61.968

SCHNITTKRAEFTE FUER MAX/MIN Q

		STAENDIGE LAST G		G+NUTZLAST-MAX		G+NUTZLAST-MIN	
X		M	Q	M	Q	M	Q
FELD	1						
	0.000	0.000	-49.192	0.000	-49.192	0.000	-49.192
	0.150	7.141	-46.027	7.141	-46.027	7.141	-46.027
	0.325	14.873	-42.335	14.873	-42.335	14.873	-42.335
	0.650	27.517	-35.477	27.517	-35.477	27.517	-35.477
	0.975	37.933	-28.620	37.933	-28.620	37.933	-28.620
	1.300	46.120	-21.762	46.120	-21.762	46.120	-21.762
	1.450	49.147	-18.597	49.147	-18.597	49.147	-18.597
	1.595	51.622	-15.538	51.622	-15.538	51.622	-15.538
	1.595	51.622	40.762	51.622	40.762	51.622	40.762
	1.625	50.390	41.395	50.390	41.395	50.390	41.395
	1.740	45.490	43.822	45.490	43.822	45.490	43.822
	1.950	35.822	48.253	35.822	48.253	35.822	48.253
	2.275	19.025	55.110	19.025	55.110	19.025	55.110
	2.450	9.058	58.803	9.058	58.803	9.058	58.803
	2.600	0.000	61.968	0.000	61.968	0.000	61.968

Prog.: HTB REV. 6.00
 Autor:** TDV-Graz-AUSTRIA **
 Ed.Ast & Co., Baug.m.b.H. **KONSTRUKTIONSBUERO**

Datum:97/02/25 Zeit:11:50 Seite: 4

sko energo stiegenhausturm
 traegr tr01

kb2467

AUFLAGER-REAKTIONEN

NR	STAENDIGE LAST G		G+NUTZLAST-MAX		G+NUTZLAST-MIN	
	A	M	A	M	A	M
1	-49.192	0.000	-49.192	0.000	-49.192	0.000
2	-61.968	0.000	-61.968	0.000	-61.968	0.000

BIEGE-BEMESSUNG

X	M-MAX	M-MIN	Q-NR	AS-U	W/WG	AS-O	W/WG
FELD 1							
0.000	0.00	0.00	1	0.00	0.00	0.00	0.00
0.150	7.14	0.00	* 1	1.03	0.07	0.00	0.00
0.325	14.87	0.00	* 1	2.17	0.15	0.00	0.00
0.650	27.52	0.00	* 1	4.10	0.28	0.00	0.00
0.975	37.93	0.00	* 1	5.75	0.40	0.00	0.00
1.300	46.12	0.00	* 1	7.09	0.49	0.00	0.00
1.450	49.15	0.00	* 1	7.59	0.53	0.00	0.00
1.450	49.15	0.00	* 2	8.19	1.00	0.00	0.00
1.595	51.62	0.00	* 2	8.71	1.06	0.00	0.00
1.625	50.39	0.00	* 2	8.46	1.04	0.00	0.00
1.740	45.49	0.00	* 2	7.43	0.91	0.00	0.00
1.740	45.49	0.00	* 1	6.98	0.48	0.00	0.00
1.950	35.82	0.00	* 1	5.41	0.37	0.00	0.00
2.275	19.03	0.00	* 1	2.80	0.19	0.00	0.00
2.450	9.06	0.00	* 1	1.31	0.09	0.00	0.00
2.600	0.00 *	0.00	1	0.00	0.00	0.00	0.00

sko energo stiegenhausturm
 traegr tr01

kb2467

SCHUB-BEMESSUNG

	Q-MAX/MIN	Q-RED	Q-NR	TAU0	TAU	ASMIN	AS-S	BER.
FELD 1								
0.000	-49.192	-49.192	1	468.	187.	0.00	0.00	1
0.150	-46.027	-46.027	1	453.	181.	0.83	1.32	1
0.325	-42.335	-42.335	1	424.	170.	0.77	1.24	1
0.650	-35.477	-35.477	1	363.	145.	0.66	1.06	1
0.975	-28.620	-28.620	1	298.	119.	0.54	0.87	1
1.300	-21.762	-21.762	1	229.	92.	0.42	0.67	1
1.450	-18.597	-18.597	1	197.	79.	0.36	0.57	1
1.450	-18.597	-18.597	2	354.	142.	0.39	0.62	1
1.595	-15.538	-15.538	2	300.	120.	0.33	0.52	1
1.595	40.762	40.762	2	786.	343.	0.86	1.50	2
1.625	41.395	41.395	2	793.	350.	0.87	1.53	2
1.740	43.822	43.822	2	819.	372.	0.90	1.63	2
1.740	43.822	43.822	1	461.	184.	0.84	1.34	2
1.950	48.253	48.253	1	500.	200.	0.91	1.46	2
2.275	55.110	55.110	1	556.	222.	1.01	1.62	2
2.450	58.803	58.803	1	582.	233.	1.06	1.70	2
2.600	61.968	61.968	1	590.	236.	0.00	0.00	2

FELD	BEREICH	X-A	X-E	AS-BUE	X-S	AS-AUFBIEGUNG
1	1	0.00	2.60	3.93		

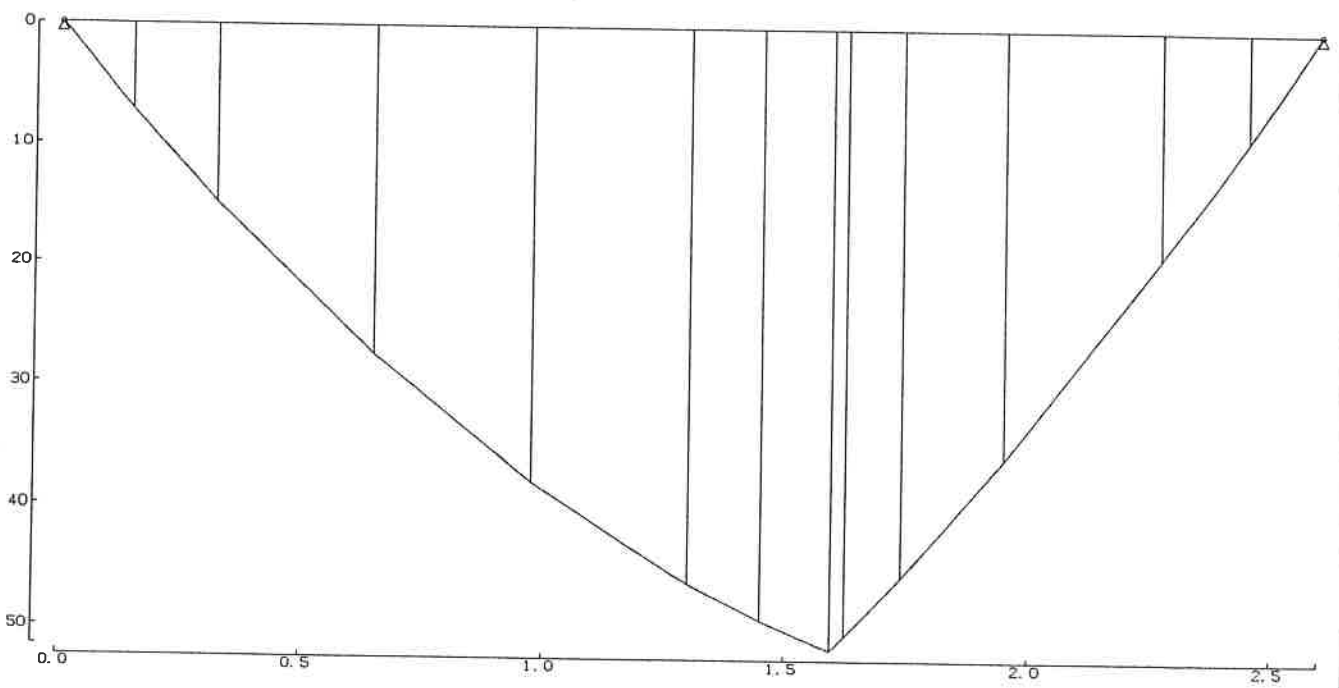
D U R C H B I E G U N G E N (MM)

FELD 1	0.00	0.15	0.32	0.65	0.97	1.30	1.45	1.60	1.63	1.7
F I (G+)	0.0	-0.1	-0.2	-0.3	-0.3	-0.4	-0.4	-0.4	-0.4	-0.
F KZ (G+)	0.0	-0.5	-1.1	-2.1	-2.8	-3.1	-3.1	-3.0	-3.0	-2.
F LZ (G+)	0.0	-0.9	-1.9	-3.6	-4.8	-5.3	-5.2	-5.0	-5.0	-4.
AS-U	0.0	1.0	2.2	4.1	5.8	7.1	7.6	8.7	8.5	7.
AS-O	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.
FELD 1	1.95	2.28	2.45	2.60						
F I (G+)	-0.3	-0.2	-0.1	0.0						
F KZ (G+)	-2.3	-1.2	-0.6	0.0						
F LZ (G+)	-3.9	-2.1	-1.0	0.0						
AS-U	5.4	2.8	1.3	0.0						
AS-O	0.0	0.0	0.0	0.0						

SYSTEM ZU KOMPLIZIERT FUER KURZAUSDRUCK

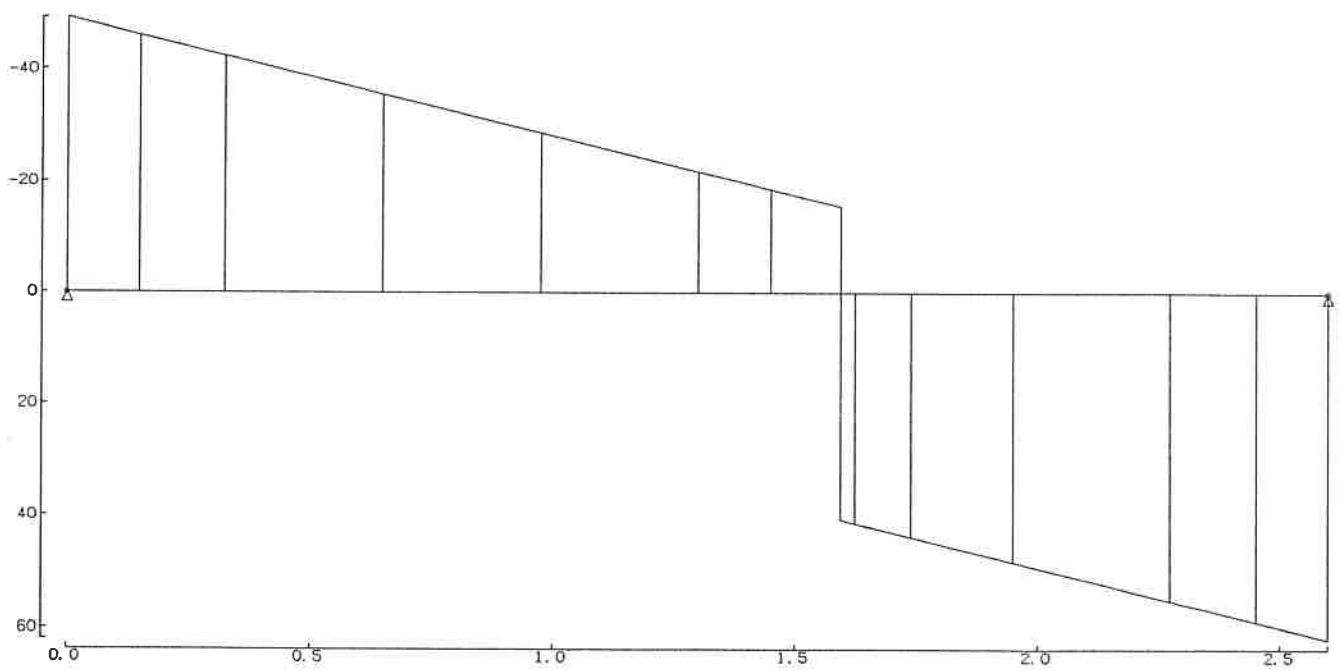
ska energo stlegenhausturm
traegr tr01

MOMENTE



sko energo stiegenhausturm
trægr tr01

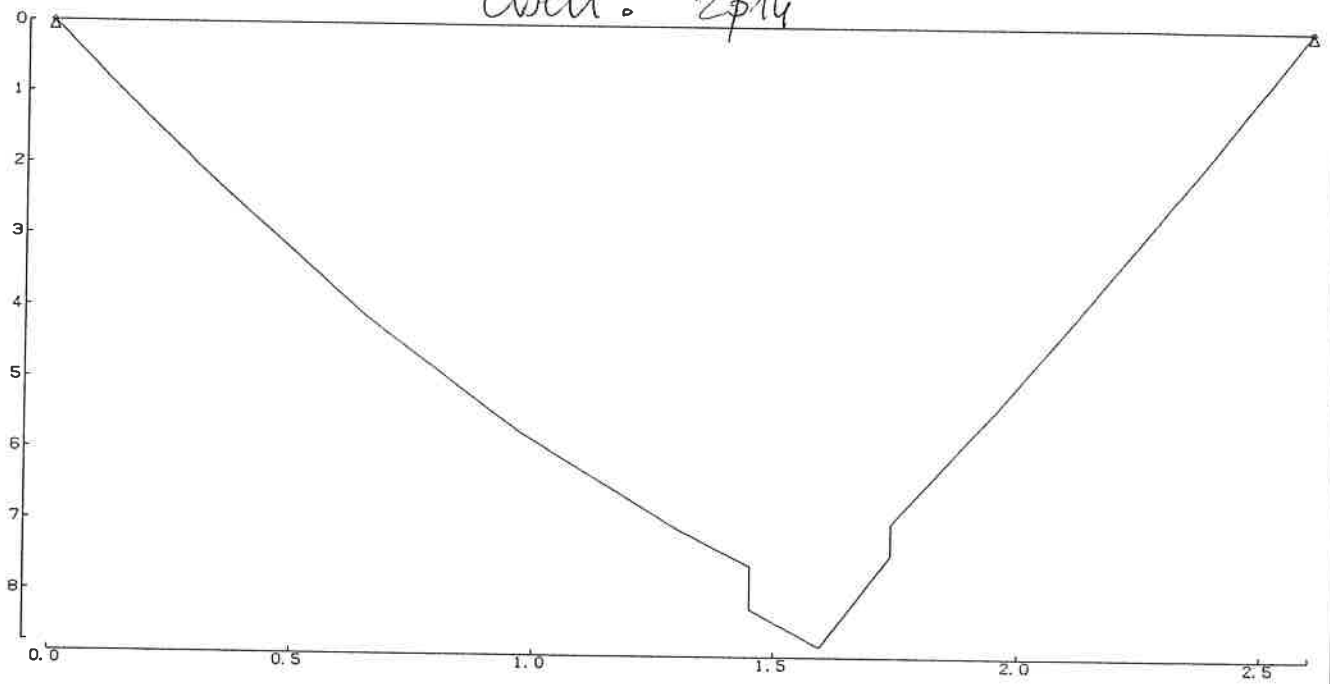
QUERKRAEFTE



eko energo stiegenhausturm
tragr tr01

BIEGEBEMESSUNG

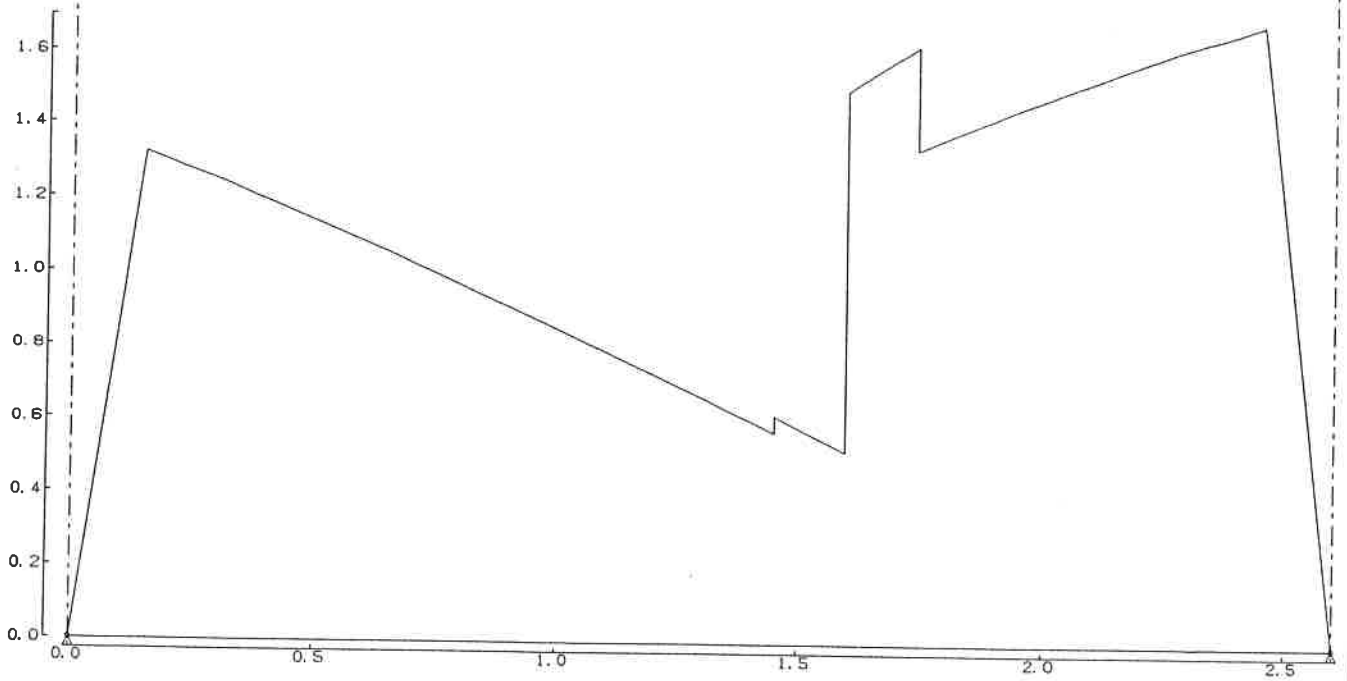
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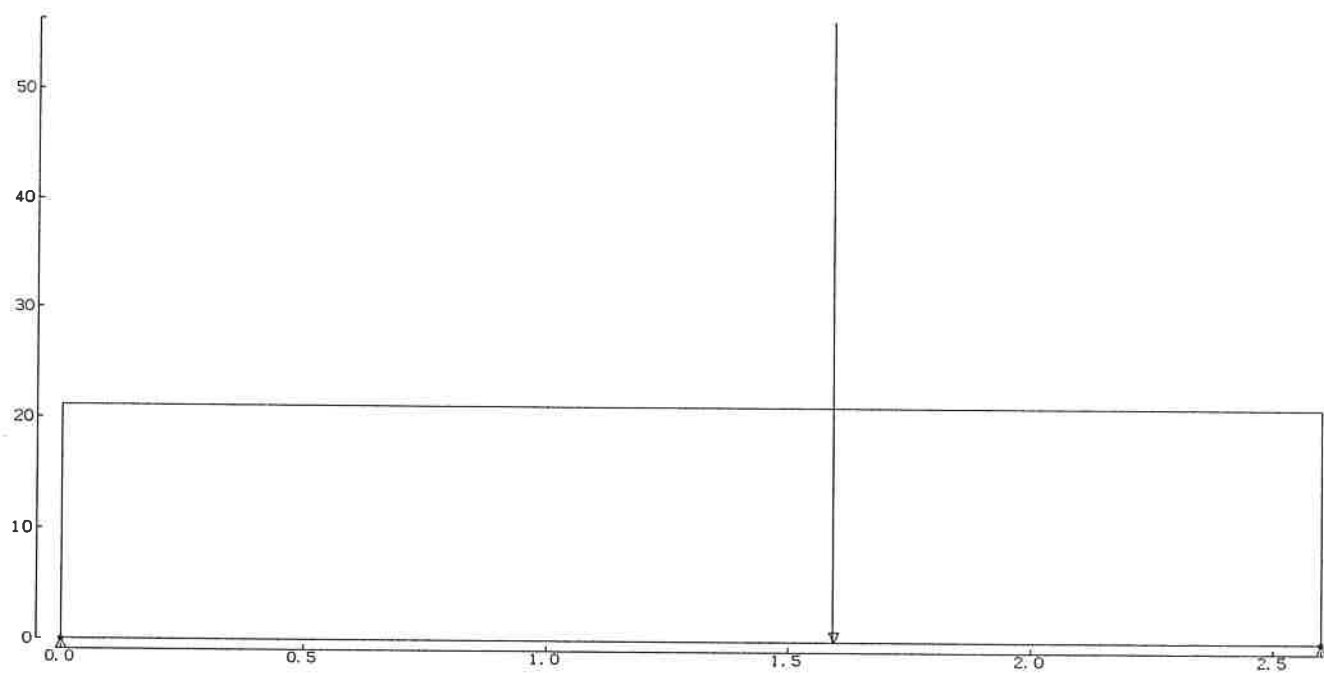
sko energo stiegenhausturm
traegr tr01

SCHUBBEMESSUNG

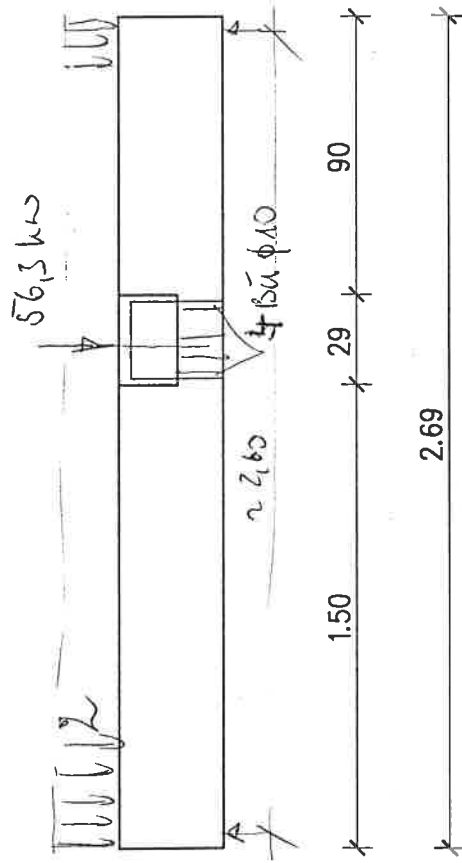


eko energo stiegenhausturm
traeger tr01

LASTEINGABEN

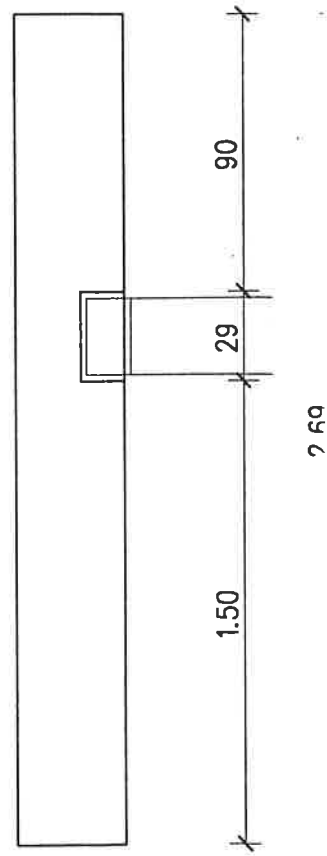


ANSICHT

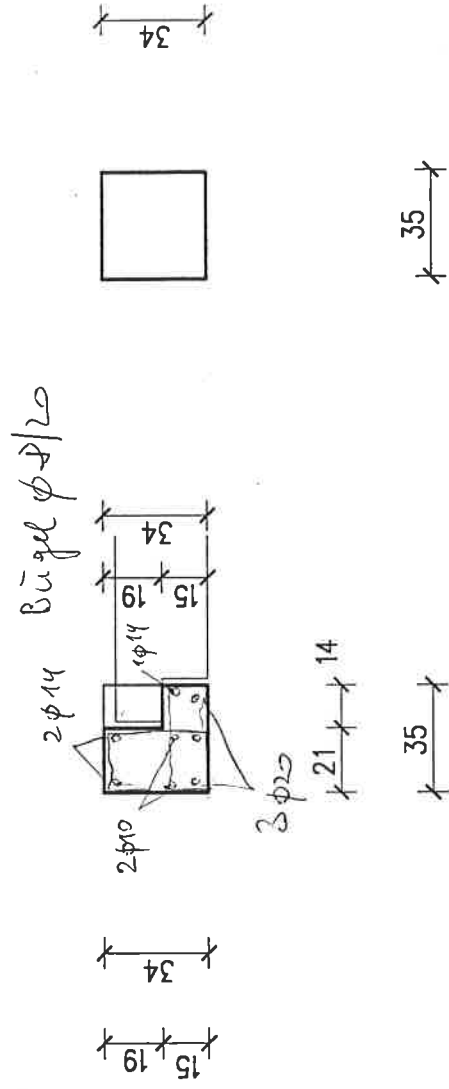


$$\begin{aligned} & (0.18 \cdot 25 + 10.0) \cdot 25 \cdot \frac{1}{2} = 18.13 \text{ km} \\ & 0.35 \cdot 0.34 \cdot 25.0 = 2.98 \text{ km} \\ & \underline{18.13 \text{ km} + 2.98 \text{ km} = 21.11 \text{ km}} \end{aligned}$$

GRUNDRISS



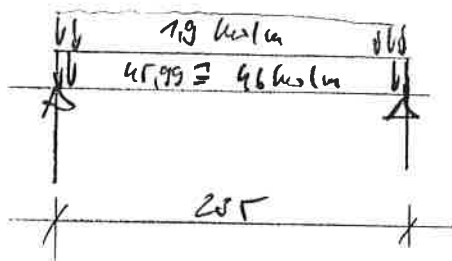
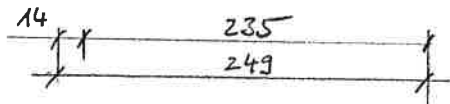
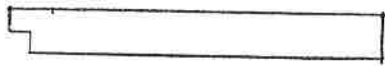
QUERSCHNITTE



$$\begin{aligned} \text{max } M &= 27.10 \cdot 2.60 \cdot \frac{1}{8} = 17.8 \text{ km} \\ & 56.3 \cdot 2.60 \cdot \frac{1}{4} = 36.6 \text{ km} \\ & \underline{17.8 \text{ km} + 36.6 \text{ km} = 54.4 \text{ km}} \end{aligned}$$

$$\begin{aligned} \text{max } Q &= 27.10 \cdot 2.60 \cdot \frac{1}{2} = 27.4 \text{ km} \\ & 56.3 \cdot 2.60 \cdot \frac{1}{2} = 28.2 \text{ km} \\ & \underline{27.4 \text{ km} + 28.2 \text{ km} = 55.6 \text{ km}} \end{aligned}$$

3.3)

FERTIGTEILTÄGER TR03SYSTEM

$$g_1 = 0,25 \cdot 0,30 \cdot 25,0 = 1,9 \text{ kN/m}$$

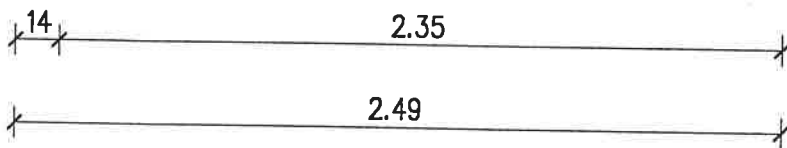
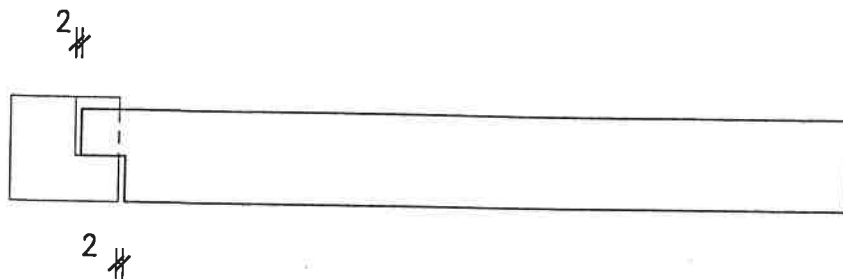
$$\text{max } M = (1,9 + 46) \cdot 2,35^2 / 8 = 33,1 \text{ kNm}$$

$$\bar{p} = 25 \sqrt{\frac{0,25}{33,1}} = 2,173 \rightarrow f < 0,89$$

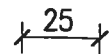
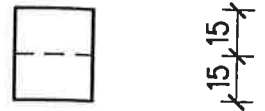
$$A_{0.1} = 0,034 \cdot 33,1 / (0,89 \cdot 0,25) = 5,1 \text{ cm}^2$$

TRÄGER TR 03 13STK.

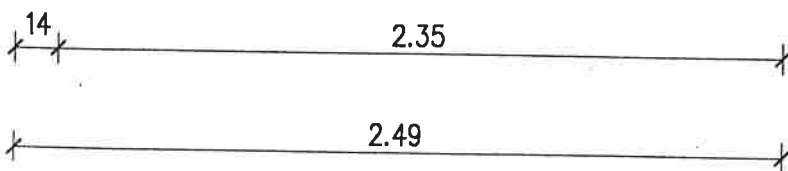
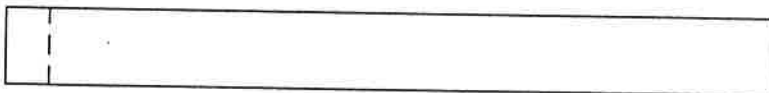
ANSICHT



QUERSCHNITT



GRUNDRISS



Prog.: HTB REV. 6.00

Datum:97/02/24 Zeit:10:31 Seite: 1

Autor:** TDV-Graz-AUSTRIA **

Ed.Ast & Co., Baug.m.b.H. **KONSTRUKTIONSBUERO** 8073-Feldkirchen/Graz

sko energo stiegenhausturm
traeger tr03

kb2467

SYSTEMGEOMETRIE

FELD	LAENGE	AUFLAGER	EINSPANNG.	AUSR.BR.	AUFL.BR.	TEILG.	ERGEBNISPUNKTE
		starr	D				
1	2.350						8
		starr	D				

QUERSCHNITTE

FELD	X-VON	Q-NR	I	X-BIS	Q-NR	I
1	0.000	1	0.000563	2.350	1	0.000563

LASTANGABEN

STAENDIGE LAST

FELD	LASTART	LASTWERTE
1	1 GLEICHL.	47.900 (Q)

VERWENDETE QUERSCHNITTE

RECHTECK-QUERSCHNITTE

NR.	ART	B0	D0	RA-O	RA-U	J
1	1	0.25	0.30	0.040	0.040	0.00056

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VERWENDETE MATERIALIEN

STRUKTUR:

BEZ.	SIGMA-P	SIGMA-Z	TAU-1	E	GAMMA	EPS*
2 B25	-17500.	0.	750.	0.300E+08	25.000	-0.003

BIEGEBEWEHRUNG

BEZ.	SIG-PROP	SIG-STRECK	E	GAMMA	EPS*
13 ST3	420000.	420000.	0.210E+09	78.500	0.0050

SCHUBBEWEHRUNG

BEZ.	SIG-PROP	SIG-STRECK	E	GAMMA	EPS*
13 ST3	420000.	420000.	0.210E+09	78.500	0.0050

Bemessung erfolgt nach D I N 1045

SCHNITTKRAEFTE FUER MAX/MIN M

STAENDIGE LAST G			G+NUTZLAST-MAX		G+NUTZLAST-MIN	
X	M	Q	M	Q	M	Q
FELD 1						
0.000	0.000	-56.283	0.000	-56.283	0.000	-56.283
0.130	6.912	-50.056	6.912	-50.056	6.912	-50.056
0.294	14.466	-42.212	14.466	-42.212	14.466	-42.212
0.587	24.799	-28.141	24.799	-28.141	24.799	-28.141
0.881	30.999	-14.071	30.999	-14.071	30.999	-14.071
1.175			33.066	0.000		
1.175	33.066	0.000	33.066	0.000	33.066	0.000
1.469	30.999	14.071	30.999	14.071	30.999	14.071
1.763	24.799	28.141	24.799	28.141	24.799	28.141
2.056	14.466	42.212	14.466	42.212	14.466	42.212
2.220	6.912	50.055	6.912	50.055	6.912	50.055
2.350	0.000	56.283	0.000	56.283	0.000	56.283

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SCHNITTKRAEFTE FUER MAX/MIN Q

		STAENDIGE LAST G		G+NUTZLAST-MAX		G+NUTZLAST-MIN	
	X	M	Q	M	Q	M	Q
FELD	1						
	0.000	0.000	-56.283	0.000	-56.283	0.000	-56.283
	0.130	6.912	-50.056	6.912	-50.056	6.912	-50.056
	0.294	14.466	-42.212	14.466	-42.212	14.466	-42.212
	0.587	24.799	-28.141	24.799	-28.141	24.799	-28.141
	0.881	30.999	-14.071	30.999	-14.071	30.999	-14.071
	1.175	33.066	0.000	33.066	0.000	33.066	0.000
	1.469	30.999	14.071	30.999	14.071	30.999	14.071
	1.763	24.799	28.141	24.799	28.141	24.799	28.141
	2.056	14.466	42.212	14.466	42.212	14.466	42.212
	2.220	6.912	50.055	6.912	50.055	6.912	50.055
	2.350	0.000	56.283	0.000	56.283	0.000	56.283

AUFLAGER-REAKTIONEN

		STAENDIGE LAST G		G+NUTZLAST-MAX		G+NUTZLAST-MIN	
	NR	A	M	A	M	A	M
	1	-56.283	0.000	-56.283	0.000	-56.283	0.000
	2	-56.283	0.000	-56.283	0.000	-56.283	0.000

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BIEGE-BEMESSUNG

X	M-MAX	M-MIN	Q-NR	AS-U	W/WG	AS-O	W/WG
FELD 1							
0.000	0.00	0.00	1	0.00	0.00	0.00	0.00
0.130	6.91	0.00 *	1	1.16	0.13	0.00	0.00
0.294	14.47	0.00 *	1	2.49	0.28	0.00	0.00
0.587	24.80	0.00 *	1	4.40	0.49	0.00	0.00
0.881	31.00	0.00 *	1	5.61	0.63	0.00	0.00
1.175	33.07	0.00 *	1	6.02	0.67	0.00	0.00
1.469	31.00	0.00 *	1	5.61	0.63	0.00	0.00
1.763	24.80	0.00 *	1	4.40	0.49	0.00	0.00
2.056	14.47	0.00 *	1	2.49	0.28	0.00	0.00
2.220	6.91	0.00 *	1	1.16	0.13	0.00	0.00
2.350	0.00 *	0.00	1	0.00	0.00	0.00	0.00

SCHUB-BEMESSUNG

	Q-MAX/MIN	Q-RED	Q-NR	TAU0	TAU	ASMIN	AS-S	BER.
FELD 1								
0.000	-56.283	-56.283	1	866.	417.	0.00	0.00	2
0.130	-50.056	-50.056	1	806.	361.	1.05	1.88	2
0.294	-42.212	-42.212	1	697.	279.	0.91	1.45	2
0.587	-28.141	-28.141	1	479.	192.	0.62	1.00	2
0.881	-14.071	-14.071	1	244.	98.	0.32	0.51	2
1.175	0.000	0.000	1	0.	0.	0.00	0.00	2
1.469	14.071	14.071	1	244.	98.	0.32	0.51	2
1.763	28.141	28.141	1	479.	192.	0.62	1.00	2
2.056	42.212	42.212	1	697.	279.	0.91	1.45	2
2.220	50.055	50.055	1	806.	361.	1.05	1.88	2
2.350	56.283	56.283	1	866.	417.	0.00	0.00	2

Prog.: HTB REV. 6.00
 Autor:** TDV-Graz-AUSTRIA **
 Ed.Ast & Co., Baug.m.b.H. **KONSTRUKTIONSBUERO**

Datum:97/02/24 Zeit:10:31 Seite: 5

8073-Feldkirchen/Graz

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 traeger tr03

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FELD	BEREICH	X-A	X-E	AS-BUE	X-S	AS-AUFBIEGUNG
1	1	0.00	2.35	2.51		

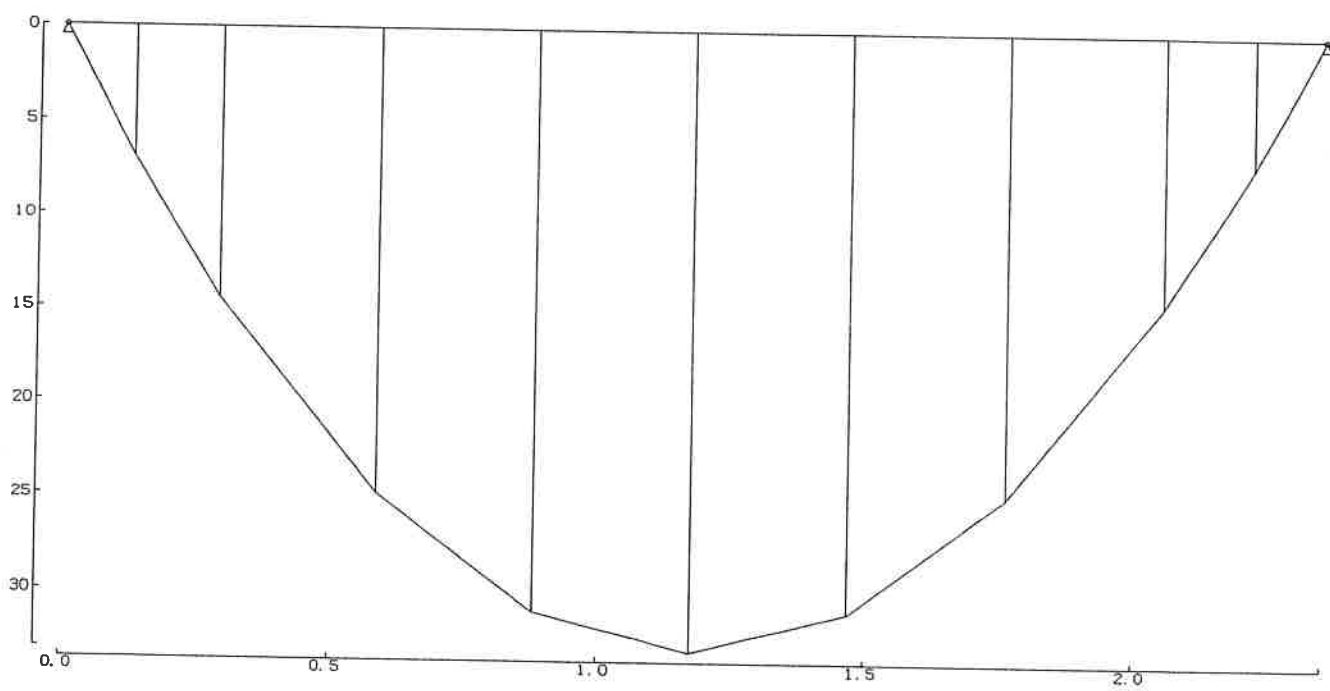
D U R C H B I E G U N G E N (MM)

FELD	1	0.00	0.13	0.29	0.59	0.88	1.17	1.47	1.76	2.06	2.2
F I (G+)	0.0	-0.1	-0.1	-0.3	-0.3	-0.3	-0.3	-0.3	-0.3	-0.1	-0.
F KZ (G+)	0.0	-0.6	-1.4	-2.5	-3.2	-3.5	-3.2	-2.5	-1.4	-0.	
F LZ (G+)	0.0	-1.0	-2.3	-4.2	-5.3	-5.7	-5.3	-4.2	-2.3	-1.	
AS-U	0.0	1.2	2.5	4.4	5.6	6.0	5.6	4.4	2.5	1.	
AS-O	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.	

FELD	1	2.35
F I (G+)	0.0	
F KZ (G+)	0.0	
F LZ (G+)	0.0	
AS-U	0.0	
AS-O	0.0	

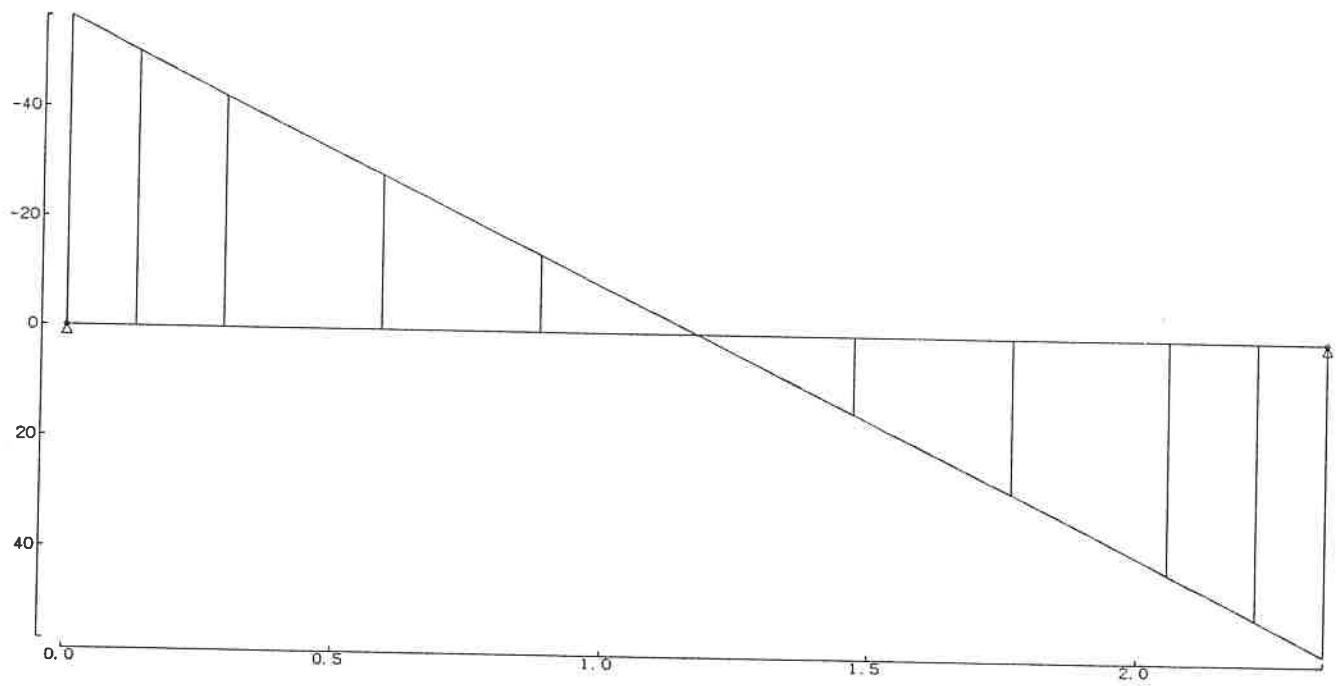
sko energo atlegenhusturm
træger tr03

MOMENTE



sko energo stiegenhausturm
träger tr03

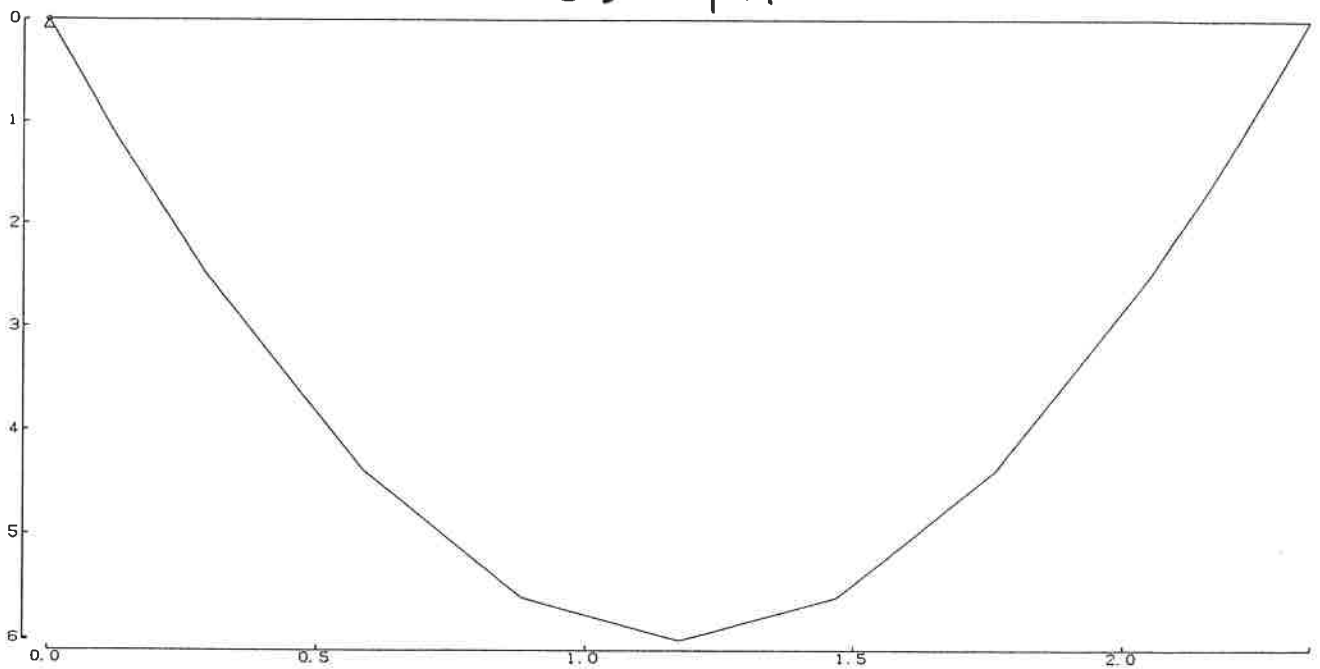
QUERKRAEFTE



sko energo stiegenhausturm
tr ger tr03

BIEGEBEMESSUNG

O: 2 ϕ 14



u: 4 ϕ 14

KonsolE:

$$l = 0,11 \text{ m}$$

B g l: ϕ 8/15

$$a = 0,07 \text{ m}$$

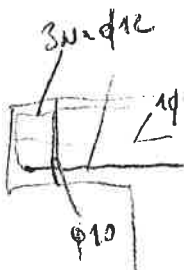
$$l_s = 0,25 \text{ m} > l_{\text{berf}} = 0,246 \text{ m}$$

$$F = 56,3 \text{ kN}$$

$$I_0 = 44,78 \text{ cm}^4 \rightarrow A_{\text{berf}} = 1,82 \text{ cm}^2 \rightarrow \text{gew hlt: 3 Na } \phi 12$$

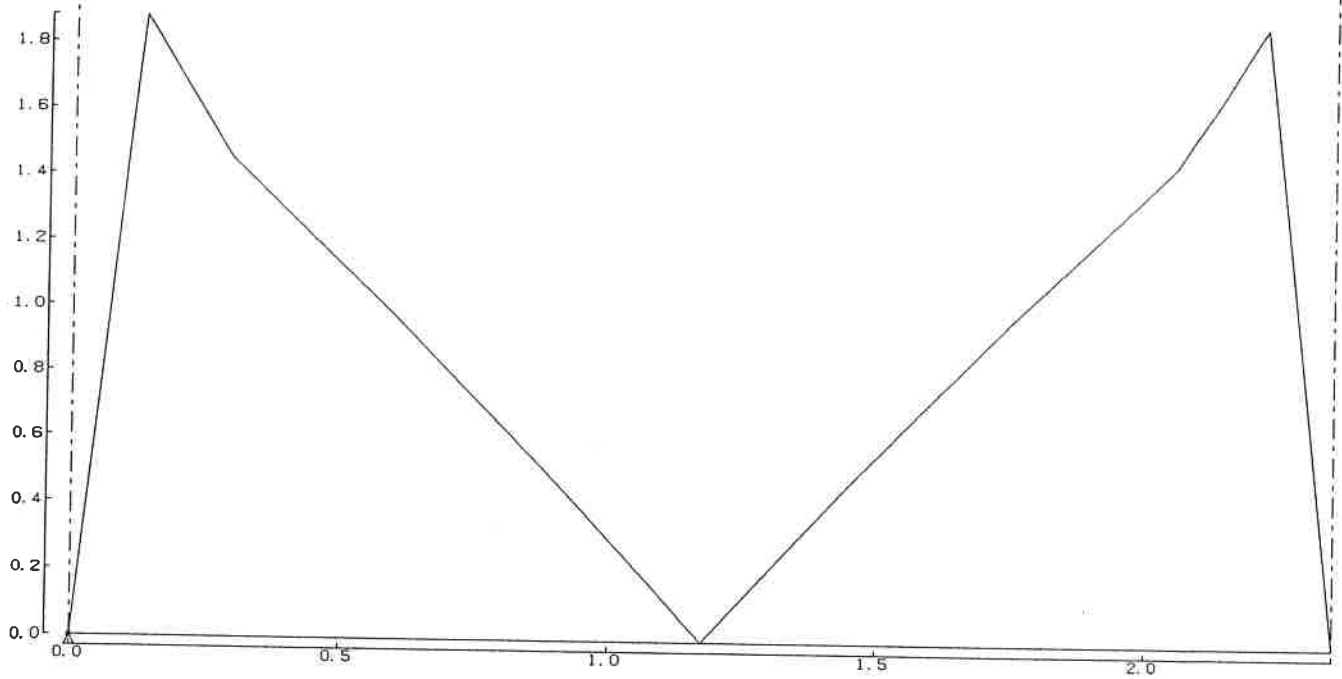
$$I_{\text{m}} = 16,9 \text{ cm}^4 \rightarrow A_{\text{berf}} = 1,98 \text{ cm}^2 \rightarrow \text{gew hlt: 1 Na } \phi 12$$

$$I_{\text{iv}} = 8,96 \text{ cm}^4 \rightarrow A_{\text{berf}} = 0,36 \text{ cm}^2 \rightarrow \text{gew hlt: 1 Ba } \phi 10$$



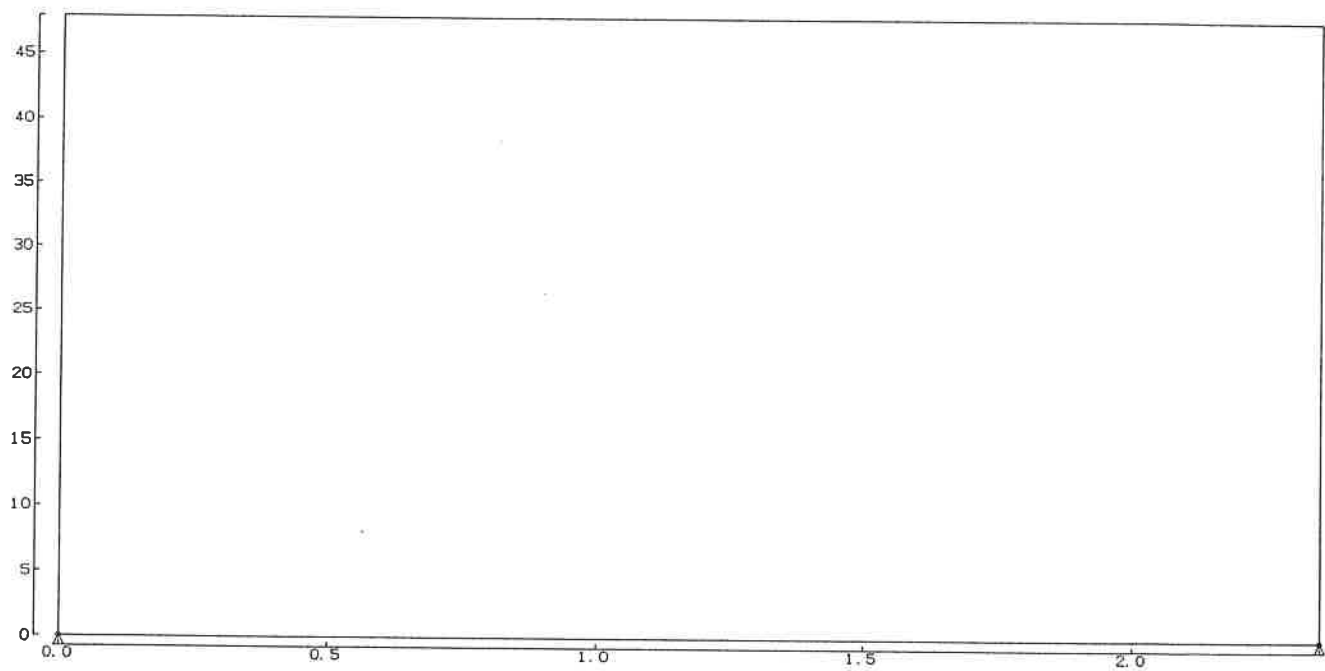
sko energo stiegenhausturm
träger tr03

SCHUBBEMESSUNG



sko energo stiegenhausturm
traeger tr03

LASTEINGABEN



3.4) PPO1

```

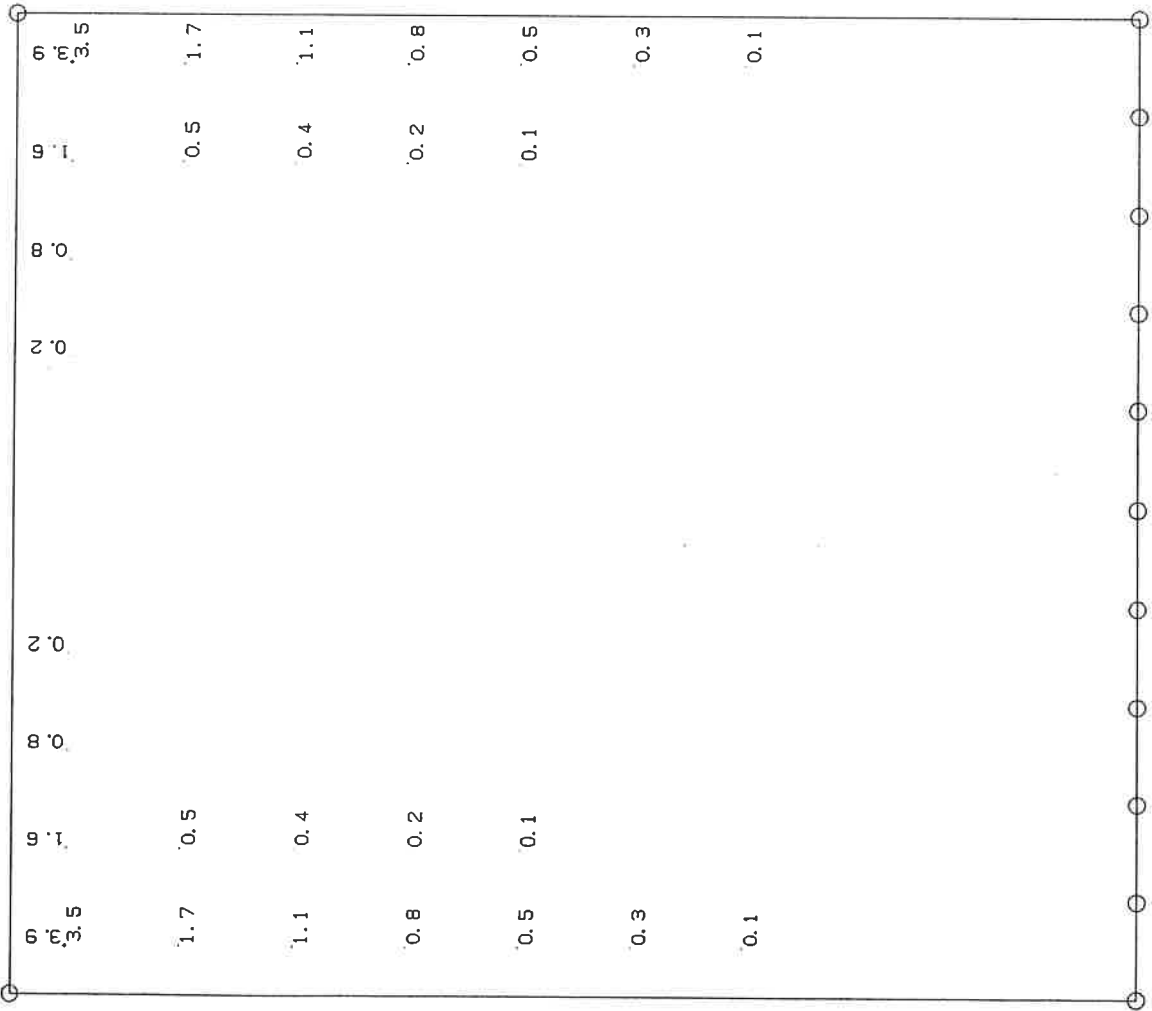
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nor
0
mat
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beto
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en
thi
* elbeg, elend, elstep, t1, t2, t3, t4
  1, 100, 1, 0.140, 0.140, 0.140, 0.140 (D(140))
en
sup
codl
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  6, 6,1, 1, 0.900E+10, 0.000E+00, 0.000E+00, 0.900E+10, 0.000E+00, 0.000E+00
  7, 7,1, 1, 0.900E+10, 0.000E+00, 0.000E+00, 0.900E+10, 0.000E+00, 0.000E+00
  8, 8,1, 1, 0.900E+10, 0.000E+00, 0.000E+00, 0.900E+10, 0.000E+00, 0.000E+00
  9, 9,1, 1, 0.900E+10, 0.000E+00, 0.000E+00, 0.900E+10, 0.000E+00, 0.000E+00
  10, 10,1, 1, 0.900E+10, 0.000E+00, 0.000E+00, 0.900E+10, 0.000E+00, 0.000E+00
en
code
* elbeg, elend, elstep, node, w, phi-x, phi-y, alpha
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  19, 19,1, 2, 0.900E+10, 0.000E+00, 0.000E+00, 0.000 0.000
en
en
act
* elbeg, elend, elstep, iact
  1, 100, 1, 1
en
loin
new
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  1, 1.00, DATUE
ll
* elbeg, elend, elstep, gama
  1, 100, 1, 25.000 (25.000) (g1)
en
14
* q, xbeg, ybeg, a, b, phi
  -10.000, 0.000, 0.000, 2.410, 2.730, 0.000
en
en
enen
enen
enen

```

ks (m) 3

ks (m) = (0.2)

Neb: # ϕ 10/12



PROJEKT sko ergo stiegenhausturm
 PLOT 1 Stiegenhaus Podestplatte PP01-obere Bewe
 MASZSTAB - 1 : 20.00

kb2467



Note: # 12/15

5.6.5	4.8	4.6	4.4	4.0	4.0	4.4	4.6	4.8	5.6.5
2.9	3.9	4.1	3.2	3.4	3.2	3.9	4.1	3.9	2.9
2.0	2.9	3.1	3.1	2.8	2.6	3.1	3.1	2.9	2.0
1.5	2.2	2.5	2.5	2.3	2.4	2.5	2.5	2.2	1.5
1.1	1.7	1.9	2.0	1.9	1.4	1.8	1.9	1.7	1.1
0.6.0	1.2	1.5	1.6	1.5	1.4	1.5	1.5	1.3	0.6.0
0.5.2	0.9	1.1	1.2	1.1	1.4	1.1	1.1	0.9	0.5.2
0.4.1	0.6	0.8	0.9	0.8	0.3	0.8	0.3	0.4	0.4.1
0.2.6	0.4	0.5	0.6	0.4	0.2	0.5	0.2	0.4	0.2.6
0.9	0.1	0.2	0.2	0.9	0.2	0.2	0.2	0.1	0.9

PROJEKT sko ergo stiegenhausturm
 PLOT 1 Stiegenhaus Podestplatte PP01 - untere Bew
 MASZSTAB - 1 : 20.00

kb2467



3.5) PPO2

```

inp
nor
1
mat
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beto
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en
thi
* elbeg, elend, elstep, t1, t2, t3, t4
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en
sup
codl
* elbeg, elend, elstep, side, w, phi-x, phi-y, w, phi-x, phi-y
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  3, 3, 1, 1, 0.900E+10, 0.000E+00, 0.000E+00, 0.900E+10, 0.000E+00, 0.000E+00
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en
code
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  11, 11, 1, 2, 0.900E+10, 0.000E+00, 0.000E+00, 0.000 0.000
en
en
act
* elbeg, elend, elstep, iact
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en
loin
new
  1, 100001001, 1, max.Last
  1, 1.00, DATUE
11
* elbeg, elend, elstep, gama
  1, 32, 1, 25.000  p (kN/m³)
en
14
* q, xbeg, ybeg, a, b, phi
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en
en
enen
enen
enen

```

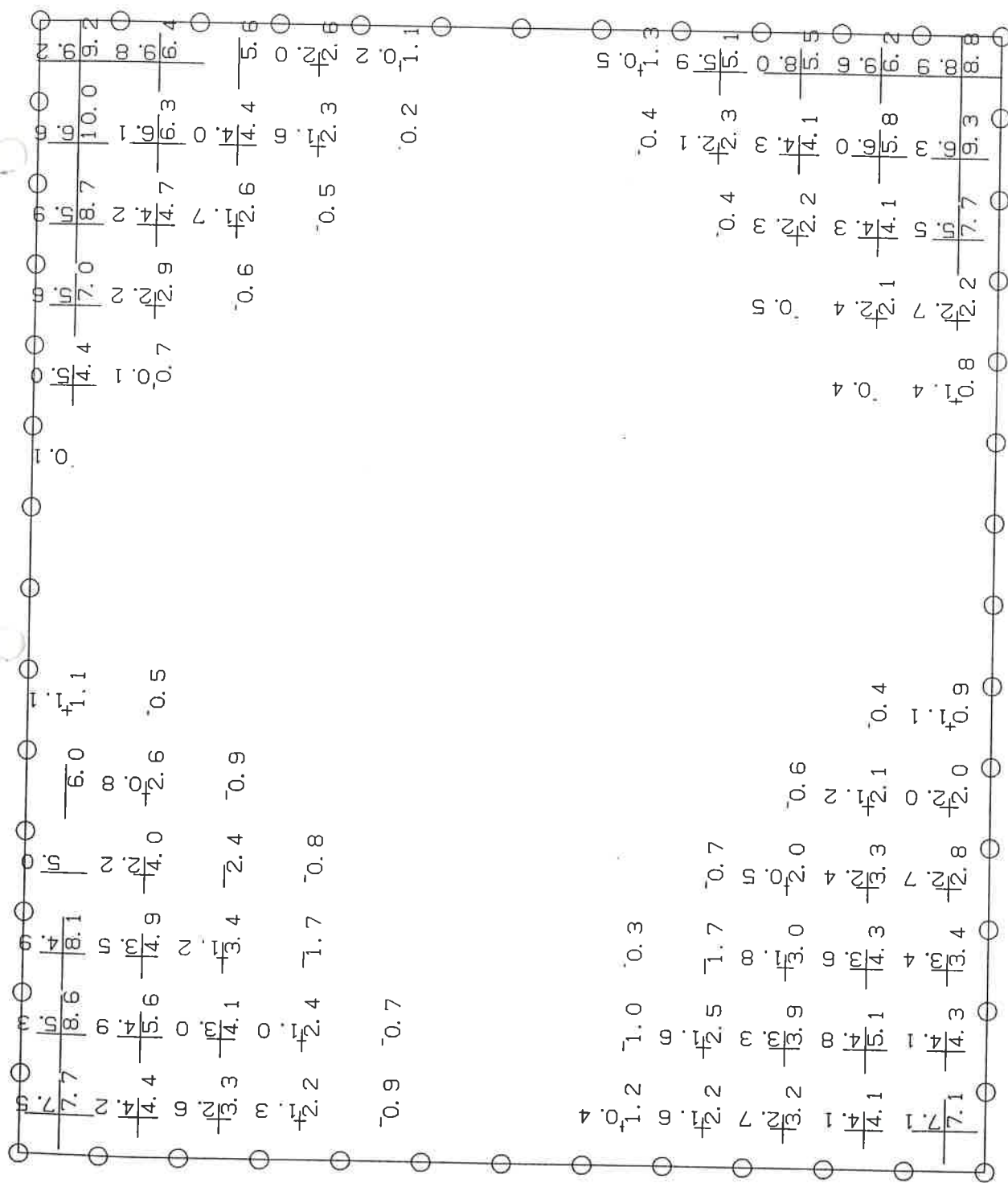
KONSOLEBEWEHRUNG WIE PPO1

$$A_{S_{min}} = 14 \cdot 100 \cdot 45 / 1000^2$$

$$= 6,3 \text{ cm}^2/\text{m}$$

gewählt: $\phi 16/20$

$$A_S = 10,1 \text{ cm}^2/\text{m}$$



PROJEKT SKO ENERGO - STIEGENHAUS
 PLOT 1
 MASZTAB - 1 : 50.00



ERFORDERLICHE OBERE BEWEHRUNG



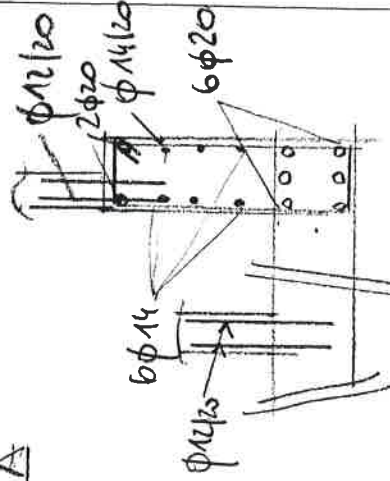
Achse Stiegenhauswand

gewähl. $\phi 16/20 \#$

$$D_{\Sigma} = 10,1 \text{ cm}^2/\text{m}$$

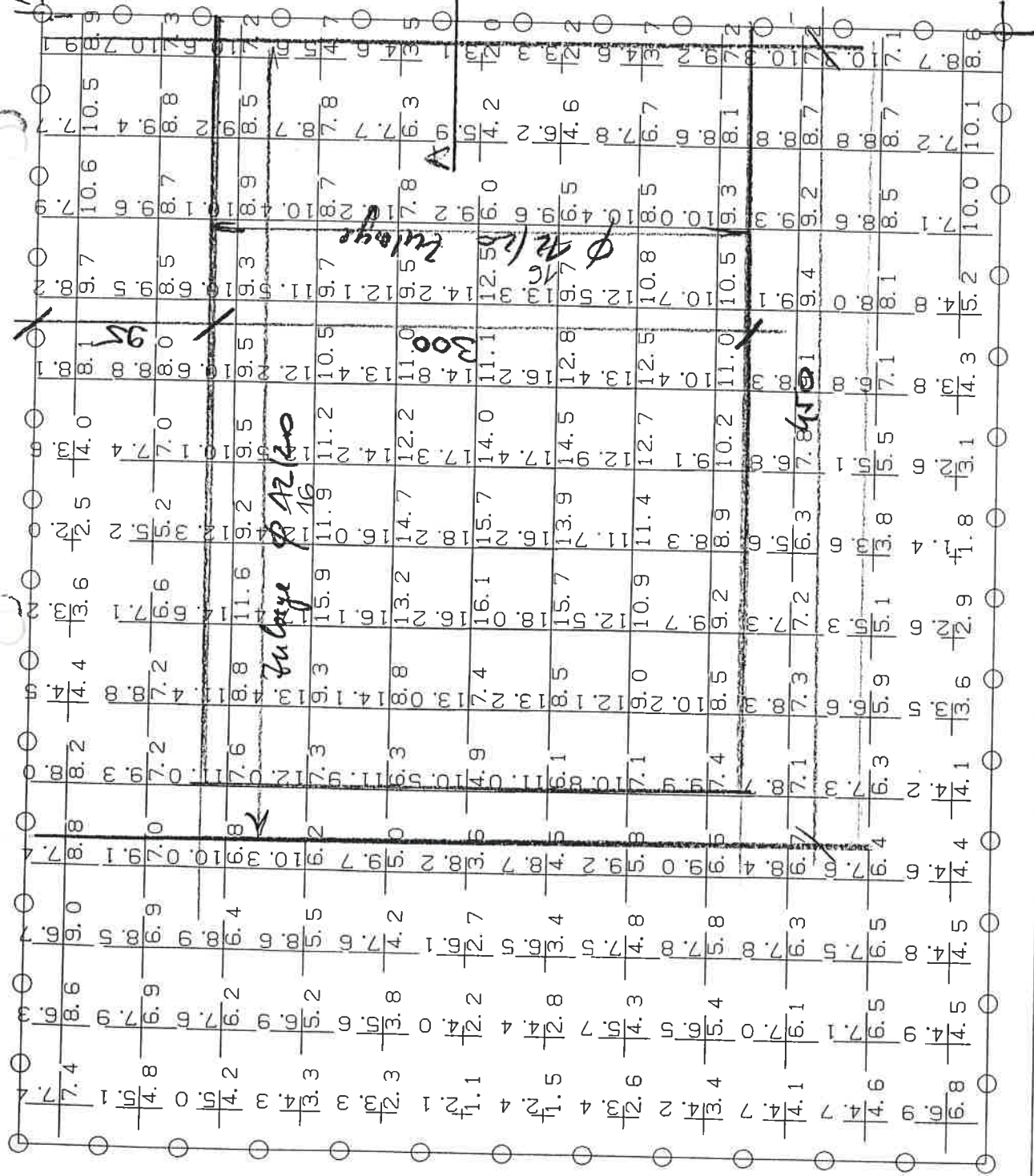
Zulage $\phi 12/20$

$$\bar{Z}_{\Sigma} = 10,1 + 8,65 = 18,66 \text{ cm}^2/\text{m}$$



Schnitt A-A

Achse Stiegenhauswand

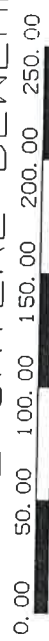


PROJEKT SKO ENERGO - STIEGENHAUS

PLOT

1 ERFORDERLICHE UNTERE BEWEHRUNG

MASZTAB - 1 : 50.00



4.) Wölb

4.1) BAUSTAND

STIEGENHAUS:

> Wölb:

$$N_{min}^w = -9308,7 \text{ kg}$$

> Moment aus Windbelastung

$$M_w = \underbrace{(1465,5 + 3,0 \cdot 46,5 \cdot 178,6^*)}_{1644,1} \cdot 6,0 = \underline{\underline{\pm 9864 \text{ kg m}}}$$

$$\rightarrow N^H = \pm 9864 / 5,0 = \pm 1973 \text{ kg}$$

$$N_{min}^H = -9308,7 \text{ kg}$$

$$N_{min} = -9308,7 - 1973 = \underline{\underline{-10282 \text{ kg}}}$$

$$N_{max} = -9308,7 + 1973 = \underline{\underline{-6336 \text{ kg}}}$$

* / Wind auf Schale, welche 3,0m über festigen Schacht hinausreicht.

WAND: LÄNGE (AUFITRAGS FLÄCHE)
 $\rightarrow 27.6 \text{ m}$

$$\rightarrow p_{\text{SOP, t}} / 27.6 = 301 \text{ kg/m}$$

$$q_{\text{bind}} = 1973 / 6.0 = 329 \text{ kg/m} \quad (\text{bezogen auf den Druck - bis Fußgrund})$$

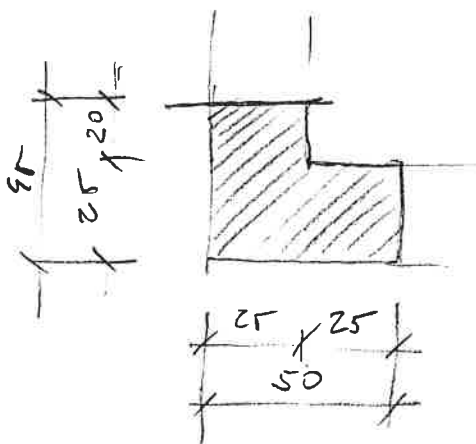
$$\text{max } \lambda = 301 + 329 = 630 \text{ kg/m}$$

$$\rightarrow \sigma_0 = 630 / 0.25 = 2520 \text{ kg/m}^2$$

im Wanddach: $630 \cdot 3.0 = 1890 \text{ kg}$

$$\text{Fläche } (0.15 + 0.40) \cdot 0.45 = 0.18 \rightarrow$$

$$\sigma_0^{\text{eck}} = 1890 / 0.18 = 10500 \text{ kg/m}^2$$



~ Querschnitt 42/42

$$\lambda = \frac{2.10 \cdot 3.464}{0.42} = 20.7$$

$$\rightarrow \omega = 1.02$$

$$A_{\text{req}} = \frac{1890 \cdot 2.10 \cdot 1.02 - 22500 \cdot 0.18}{420000} = 0.00183 \text{ m}^2 = 18.3 \text{ cm}^2$$

Vorh 4 $\phi 16 \rightarrow \text{Erlage} + 4 \phi 20 \text{ in den Ecken}$

4.2) Endzustand

$$N \approx 670 \text{ kg/m}^2$$

$$\sigma = 670 / 0,25 = 2680 \text{ kg/m}^2 < \sigma_{zul}$$

Verbleibende Berechnung:

ab + 1100

vertikal $\phi 10/20$

horizontal $\phi 8/20$

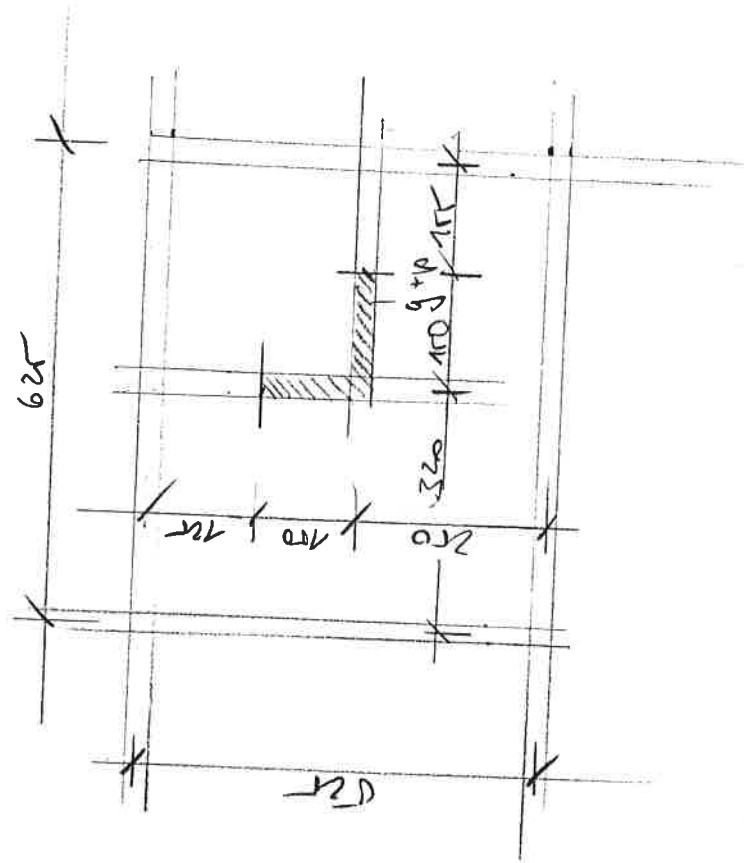
von 0,00 bis 1100 vertikal $\phi 12/20$

horizontal $\phi 12/20$

*) Statische Berechnung T71-10002, Kap 3.3

5.) Bodenplatte

Abdelloukh



$$g_{4p} = \underbrace{0,25 - 25 \cdot 48,25}_{301,6} + \underbrace{2125 \cdot 12 \cdot (0,18 \cdot 25 + 110)}_{77,2} \times 12 = 378,75 \text{ km}^2/\text{an}$$

38	37	36	35	34	33	32	31	30	29	28	27	26	25
39	80	79	78	77	76	75	74	73	72	71	70	69	24
40	81	114	113	112	111	110	109	108	107	106	105	68	23
41	82	115	140	139	138	137	136	135	134	133	104	67	22
42	83	116	141	158	157	156	155	154	153	132	103	66	21
43	84	117	142	159	168	167	166	165	152	131	102	65	20
44	85	118	143	160	161	162	163	164	151	130	101	64	19
45	86	119	144	145	146	147	148	149	150	129	100	63	18
46	87	120	121	122	123	124	125	126	127	128	99	62	17
47	88	89	90	91	92	93	94	95	96	97	98	61	16
48	49	50	51	52	53	54	55	56	57	58	59	60	15
1	2	3	4	5	6	7	8	9	10	11	12	13	14

PROJEKT SKO ENERGO - STIEGENHAUS
PLOT 1
Kranbahn
MASZSTAB - 1 : 50.00



Prog.: PL REV. 5.50 Datum:97/01/28 Zeit:13:37 Seite:
 Autor:** TDV-Graz-AUSTRIA **
 Ed.Ast & Co., Baug.m.b.H. **KONSTRUKTIONSBUERO** 8073-Feldkirchen/Graz
 SKO ENERGO - STIEGENHAUS
 BODENPLATTE

Lastfall Nr.: 1 MAX.LAST
 Ausgabe :

Lastangaben
 Innere Kraefte
 Linienauflagerkraefte
 Teilsummen

Ueberlagerungsfile:
 Faktor 1.000

DATUE
 Ueberlagerungs-Kennziffer: 1

Ueberlagerungsfile wird geloesch

VON	BIS	STEP	ART	SE/KN	EINGABEWERTE			
1	168	1	11	0	25.000	0.000	0.000	0.000
	SUMME				-410.156	0.000	0.000	
	ART	XBEG	YBEG		Q	A	PHI	
SUMME	13	3.20	4.00		-378.75	1.50	270.00	
					-568.125	0.000	0.000	
SUMME	13	3.20	2.50		-378.75	1.50	0.00	
					-568.125	0.000	0.000	
GESAMTSUMME					-1546.406	0.000	0.000	

Innere Kraefte fuer Plattenelemente

ELEM	MX	MY	MX Y	QX	QY	M-I	M-II	ALPH
1	-2.0	-1.0	-42.0	148.4	142.8	40.5	-43.6	-45.3
2	0.9	4.9	-57.4	164.4	-38.6	60.4	-54.5	-46.0
3	7.0	8.7	-52.0	164.8	-49.6	59.8	-44.1	-45.5
4	10.0	11.8	-46.9	146.8	-67.2	57.8	-36.0	-45.6
5	13.4	14.2	-39.6	121.6	-83.5	53.4	-25.8	-45.3
6	17.4	15.9	-29.5	87.9	-97.4	46.2	-12.9	-44.2
7	21.2	16.8	-16.4	46.6	-108.0	35.5	2.4	-41.2
8	23.7	17.0	-0.7	-1.0	-113.5	23.8	16.9	-5.8
9	24.3	16.5	16.4	-52.5	-112.7	37.2	3.5	38.3
10	22.7	15.3	33.2	-102.9	-105.1	52.4	-14.4	41.8
11	19.3	13.3	48.0	-148.5	-90.1	64.4	-31.8	43.2
12	14.6	10.2	59.8	-185.8	-69.3	72.2	-47.4	43.9

SKO ENERGO - STIEGENHAUS
 BODENPLATTE

8073-Feldkirchen/Graz

Innere Kraefte fuer Plattenelemente

ELEM	MX	MY	MX Y	QX	QY	M-I	M-II	ALP
13	4.7	5.8	70.5	-196.4	-53.6	75.8	-65.3	45.3
14	-1.4	-1.6	52.9	-182.6	179.6	51.5	-54.4	44.9
15	6.1	4.1	71.4	53.0	194.4	76.6	-66.3	44.6
16	10.7	14.6	61.2	71.4	184.9	73.9	-48.6	45.9
17	13.8	20.8	49.2	95.3	147.3	66.7	-32.0	47.0
18	15.7	26.5	32.7	113.6	96.7	54.2	-12.0	49.7
19	16.5	30.2	12.4	123.7	36.3	37.4	9.2	59.5
20	16.4	30.6	-9.6	124.0	-28.2	35.4	11.6	-63.3
21	15.5	27.6	-30.4	114.7	-90.4	52.5	-9.5	-50.6
22	13.4	22.6	-48.1	96.8	-145.0	66.4	-30.3	-47.7
23	10.1	16.7	-61.9	73.1	-187.1	75.3	-48.5	-46.5
24	5.6	5.5	-73.8	54.4	-199.6	79.4	-68.3	-45.0
25	-2.0	-1.2	-55.2	-192.4	-186.4	53.6	-56.8	-45.2
26	3.3	7.0	-74.4	-209.3	56.9	79.6	-69.3	-45.7
27	12.8	12.4	-65.0	-202.9	75.8	77.6	-52.4	-44.9
28	17.9	16.9	-55.1	-169.0	103.1	72.5	-37.7	-44.8
29	23.4	20.3	-41.5	-123.2	127.6	63.4	-19.6	-43.9
30	28.7	22.3	-23.6	-68.0	145.0	49.3	1.6	-41.1
31	30.9	23.0	-2.4	-8.0	152.0	31.6	22.3	-15.8
32	28.3	22.8	18.6	51.1	146.5	44.4	6.7	40.8
33	21.8	21.6	35.8	101.7	130.3	57.5	-14.1	44.9
34	14.7	19.3	47.2	140.0	107.4	64.3	-30.3	46.4
35	9.3	15.7	53.8	166.4	82.1	66.4	-41.5	46.7
36	6.0	11.2	57.6	183.2	58.1	66.3	-49.1	46.3
37	0.0	6.2	62.2	179.8	43.8	65.4	-59.2	46.4
38	-2.5	-0.7	45.2	160.8	-151.8	43.6	-46.8	45.6
39	3.0	5.6	59.8	-39.7	-160.6	64.1	-55.6	45.6
40	5.7	15.0	48.6	-51.4	-148.0	59.2	-38.5	47.7
41	7.6	19.0	36.1	-65.9	-111.4	49.8	-23.3	49.5
42	8.8	21.2	21.3	-75.4	-66.7	37.3	-7.2	53.1
43	9.4	22.0	5.5	-79.2	-18.2	24.1	7.3	69.3
44	9.5	21.1	-10.2	-77.9	30.3	27.0	3.6	-59.9
45	9.0	19.0	-24.7	-71.8	75.3	39.2	-11.2	-50.8
46	7.8	16.0	-37.3	-61.2	114.3	49.4	-25.6	-48.1
47	5.9	12.1	-47.3	-46.8	144.6	56.4	-38.4	-46.9
48	3.2	3.9	-56.3	-36.3	153.2	59.8	-52.8	-45.2
49	8.9	14.5	-75.5	-36.1	-38.9	87.2	-63.8	-46.1
50	13.9	24.0	-70.0	-34.6	-42.7	89.1	-51.2	-47.1
51	19.8	32.2	-63.6	-32.2	-56.4	89.9	-37.8	-47.8
52	27.0	38.4	-54.3	-30.0	-70.8	87.3	-21.9	-48.0
53	35.1	42.5	-41.1	-25.6	-83.9	80.0	-2.4	-47.6
54	42.8	44.5	-23.3	-17.5	-94.2	66.9	20.3	-46.0
55	48.0	44.5	-1.5	-5.4	-99.9	48.6	43.9	-20.2
56	49.1	42.9	22.4	8.8	-99.4	68.6	23.4	41.1
57	45.5	39.9	45.7	22.8	-91.9	88.5	-3.1	43.2

SKO ENERGO - STIEGENHAUS
 BODENPLATTE

Innere Kraefte fuer Plattenelemente

ELEM	MX	MY	MXY	QX	QY	M-I	M-II	ALI
58	38.2	34.8	65.8	35.2	-78.4	102.4	-29.3	44.
59	28.3	27.0	81.4	45.4	-61.5	109.1	-53.8	44.
60	17.8	16.8	93.5	52.0	-54.5	110.9	-76.2	44.
61	28.7	27.9	82.6	60.9	-51.8	110.9	-54.3	44.
62	36.6	40.5	67.6	81.5	-44.4	106.2	-29.0	45.
63	40.7	52.8	45.9	100.0	-31.4	93.0	0.5	48.
64	42.0	60.9	17.7	110.3	-11.3	71.5	31.5	59.
65	41.8	61.4	-13.3	110.1	10.2	68.1	35.1	-63.
66	39.7	54.7	-42.0	99.8	29.7	89.9	4.5	-50.
67	34.7	44.2	-65.5	82.2	42.3	105.2	-26.3	-47.
68	26.4	32.4	-83.6	62.8	51.6	113.0	-54.2	-46.
69	16.0	20.3	-97.5	54.5	57.3	115.6	-79.4	-45.
70	25.3	33.6	-86.9	51.7	66.1	116.5	-57.6	-46.
71	35.4	45.5	-73.8	47.5	87.6	114.4	-33.5	-46.
72	46.5	54.7	-56.1	43.0	110.7	106.8	-5.6	-47.1
73	57.9	60.6	-32.6	31.5	133.5	91.9	26.6	-46.2
74	64.1	62.3	-3.3	2.9	144.0	66.7	59.7	-37.3
75	58.5	62.3	27.3	-26.3	138.0	87.7	33.1	47.0
76	43.7	60.2	49.8	-46.6	117.6	102.5	1.4	49.7
77	29.1	53.3	63.6	-47.6	90.4	106.0	-23.6	50.4
78	19.0	43.2	71.5	-44.0	68.1	103.6	-41.4	49.8
79	12.3	31.2	76.3	-41.5	49.9	98.6	-55.1	48.5
80	8.0	18.5	80.7	-40.1	43.8	94.1	-67.7	46.9
81	13.3	29.1	67.1	-43.5	35.2	88.8	-46.3	48.4
82	17.6	37.1	49.8	-53.8	24.1	78.1	-23.4	50.5
83	20.3	41.9	29.4	-61.2	13.2	62.4	-0.2	55.0
84	21.9	43.3	7.4	-64.3	2.3	45.6	19.6	72.7
85	22.2	41.5	-14.4	-63.1	-8.0	49.3	14.5	-61.9
86	21.3	37.3	-34.5	-57.7	-17.3	64.7	-6.1	-51.5
87	18.8	31.1	-51.6	-49.2	-25.4	76.9	-27.0	-48.4
88	14.6	23.3	-65.0	-38.9	-33.3	84.1	-46.2	-46.9
89	21.3	37.4	-60.7	-39.6	-37.9	90.6	-31.9	-48.8
90	30.1	49.5	-56.4	-40.1	-51.8	97.0	-17.4	-49.9
91	41.7	59.1	-49.6	-39.9	-67.4	100.8	0.0	-50.0
92	55.5	65.5	-39.1	-36.5	-84.3	99.9	21.1	-48.7
93	69.3	68.5	-23.5	-26.7	-99.9	92.4	45.4	-44.5
94	78.9	68.4	-3.0	-10.5	-109.9	79.7	67.5	-15.0
95	80.9	65.9	20.2	10.6	-110.9	94.9	51.9	34.8
96	74.0	61.4	42.4	31.0	-101.6	110.6	24.8	40.8
97	60.6	54.1	60.5	47.0	-84.5	117.9	-3.3	43.4
98	44.5	43.1	73.1	56.9	-63.5	116.9	-29.3	44.7
99	56.9	63.0	62.3	82.7	-63.7	122.3	-2.5	46.4
100	64.1	85.4	44.9	113.6	-54.1	120.9	28.6	51.7
101	66.0	102.2	18.4	135.8	-21.0	110.0	58.3	67.3
102	65.2	102.2	-12.9	132.9	24.8	106.3	61.1	-72.6

SKO ENERGO - STIEGENHAUS
 BODENPLATTE

Innere Kraefte fuer Plattenelemente

ELEM	MX	MY	MX Y	QX	QY	M-I	M-II	AL
103	61.1	88.2	-39.1	110.2	48.4	116.0	33.3	-54
104	52.4	70.3	-59.3	84.9	57.2	121.3	1.4	-49
105	40.1	52.0	-74.6	63.1	62.5	120.9	-28.7	-47
106	55.7	69.3	-63.6	62.1	84.4	126.5	-1.4	-48
107	73.1	84.5	-48.6	61.0	108.5	127.7	29.9	-48
108	92.4	96.9	-28.9	59.1	142.5	123.7	65.7	-47
109	108.6	104.8	-2.2	31.3	186.9	109.7	103.8	-24
110	97.5	104.5	28.2	-76.9	171.2	129.4	72.6	48
111	66.5	95.7	46.1	-75.1	111.1	129.5	32.7	53
112	43.3	82.1	55.0	-64.5	78.1	121.0	4.4	54
113	28.3	65.6	60.0	-54.8	57.0	109.8	-15.9	53
114	19.0	47.8	63.3	-48.1	40.9	98.4	-31.5	51
115	24.0	60.8	47.1	-60.1	29.1	93.0	-8.2	55
116	27.5	68.7	27.5	-67.9	15.7	82.5	13.8	63
117	29.6	71.0	6.2	-70.5	1.8	71.9	28.7	81
118	30.4	67.9	-14.8	-68.1	-10.8	73.0	25.3	-70
119	29.5	60.4	-33.6	-61.5	-22.0	81.9	8.0	-57
120	26.5	49.8	-49.1	-51.5	-31.1	88.6	-12.2	-51
121	37.5	66.7	-46.9	-54.7	-44.4	101.1	3.0	-53
122	52.7	81.1	-43.3	-58.4	-62.0	112.4	21.4	-54
123	72.5	91.7	-36.5	-57.8	-84.6	119.9	44.3	-52
124	94.1	97.6	-23.9	-47.0	-109.7	119.8	71.9	-47
125	109.8	99.0	-4.8	-21.4	-128.7	111.7	97.2	-20
126	112.7	96.7	18.0	14.4	-133.4	124.4	85.0	33
127	101.4	90.7	38.8	50.8	-119.9	135.3	56.9	41
128	80.4	79.6	53.9	73.2	-93.4	133.9	26.1	44
129	96.3	113.8	42.1	120.0	-103.3	148.0	62.1	50
130	105.1	145.5	19.5	174.2	-56.5	153.4	97.2	68
131	101.7	143.8	-10.6	162.5	75.9	146.3	99.1	-76
132	89.2	117.8	-33.3	111.8	76.2	139.7	67.2	-56
133	73.6	93.6	-50.4	84.7	80.0	134.9	32.3	-50
134	96.7	115.0	-37.1	84.1	102.8	144.1	67.6	-51
135	123.0	135.6	-19.5	91.9	128.9	149.8	108.7	-53
136	149.5	152.2	2.2	69.3	151.3	153.5	148.2	60
137	131.2	149.6	25.2	-151.0	133.5	167.2	113.6	55
138	82.2	129.7	37.1	-110.2	87.9	149.9	61.9	61
139	52.8	107.3	42.1	-86.0	58.2	130.2	29.9	61
140	34.9	84.0	44.9	-70.1	41.3	110.7	8.3	59
141	39.2	95.7	25.8	-79.5	22.0	105.8	29.2	68
142	41.8	98.9	4.7	-82.0	1.4	99.3	41.4	85
143	42.8	93.9	-15.8	-77.8	-17.6	98.3	38.3	-74
144	41.6	82.4	-33.3	-67.9	-33.3	101.1	22.9	-60
145	59.2	102.6	-32.9	-77.4	-49.7	120.3	41.6	-61
146	85.1	120.4	-30.3	-88.5	-79.7	137.8	67.7	-60
147	116.9	133.4	-22.0	-84.6	-122.2	148.6	101.7	-55

Prog.: PL REV. 5.50
 Autor:** TDV-Graz-AUSTRIA **
 Ed.Ast & Co., Baug.m.b.H. **KONSTRUKTIONSBUERO**

Datum:97/01/28 Zeit:13:37 Seite:
 8073-Feldkirchen/Graz

SKO ENERGO - STIEGENHAUS
 BODENPLATTE

Innere Kraefte fuer Plattenelemente

ELEM	MX	MY	MX Y	QX	QY	M-I	M-II	AI
148	141.5	142.0						
149	144.8	144.1	-4.0	-46.7	-165.0	145.8	137.8	-46
150	127.2	134.5	16.1	24.3	-178.7	160.5	128.3	44
151	144.3	181.3	32.1	80.7	-153.1	163.1	98.6	48
152	139.5	180.5	18.2	109.5	-98.4	188.7	136.9	67
153	118.9	144.8	-2.2	117.6	119.2	180.6	139.4	-87
154	149.1	169.8	-21.2	105.4	99.5	156.7	107.0	-60
155	176.5	187.3	-5.8	102.6	106.2	171.3	147.6	-75
156	150.3	180.5	8.5	65.5	90.8	192.0	171.8	61
157	91.2	153.2	17.5	-194.7	67.3	188.6	142.3	65
158	58.3	123.9	21.7	-136.1	44.4	160.0	84.4	72
159	61.4	128.3	23.9	-99.9	30.1	131.7	50.5	71
160	61.9	120.1	2.9	-102.5	-1.1	128.4	61.3	87
161	91.7	146.5	-17.1	-93.7	-29.7	124.7	57.3	-74
162	138.1	173.9	-17.8	-118.7	-53.5	151.8	86.5	-73
163	172.3	195.3	-12.6	-160.1	-120.2	177.9	134.1	-72
164	169.1	198.9	2.8	-48.8	-161.2	195.6	172.0	83
165	169.1	204.7	13.9	50.2	-133.4	204.4	163.6	68
166	186.3	212.1	7.0	84.2	106.9	206.0	167.8	79
167	151.9	193.3	10.5	9.6	45.7	215.8	182.6	70
168	93.7	159.7	4.7	-209.9	-9.7	193.8	151.3	83
			1.9	-137.7	-10.8	159.7	93.6	88

Linienauflagerkraefte

ELEM	SIDE	NOD	A	MY-GL	MX-GL
1	1	1	204.52	0.00	0.00
		2	30.94	0.00	0.00
1	4	1	204.52	0.00	0.00
		4	31.38	0.00	0.00
2	1	1	30.94	0.00	0.00
		2	-45.77	0.00	0.00
3	1	1	-45.77	0.00	0.00
		2	-73.59	0.00	0.00
4	1	1	-73.59	0.00	0.00
		2	-95.34	0.00	0.00
5	1	1	-95.34	0.00	0.00
		2	-116.34	0.00	0.00
6	1	1	-116.34	0.00	0.00
		2	-134.51	0.00	0.00
7	1	1	-134.51	0.00	0.00
		2	-147.49	0.00	0.00
8	1	1	-147.49	0.00	0.00
		2	-152.73	0.00	0.00

Prog.: PL REV. 5.50
 Autor:** TDV-Graz-AUSTRIA **
 Ed.Ast & Co., Baug.m.b.H. **KONSTRUKTIONSBUERO**

Datum:97/01/28 Zeit:13:37 Seite:
 8073-Feldkirchen/Graz

SKO ENERGO - STIEGENHAUS
 BODENPLATTE

Linienauflagerkraefte

ELEM	SIDE	NOD	A	MY-GL	MX-GL
9	1	1	-152.73	0.00	0.00
		2	-147.86	0.00	0.00
10	1	1	-147.86	0.00	0.00
		2	-132.69	0.00	0.00
11	1	1	-132.69	0.00	0.00
		2	-109.08	0.00	0.00
12	1	1	-109.08	0.00	0.00
		2	-70.86	0.00	0.00
13	1	1	-70.86	0.00	0.00
		2	32.48	0.00	0.00
14	1	1	32.48	0.00	0.00
		2	256.21	0.00	0.00
14	2	2	256.21	0.00	0.00
		3	35.98	0.00	0.00
15	1	1	35.98	0.00	0.00
		2	-71.48	0.00	0.00
16	1	1	-71.48	0.00	0.00
		2	-113.69	0.00	0.00
17	1	1	-113.69	0.00	0.00
		2	-144.49	0.00	0.00
18	1	1	-144.49	0.00	0.00
		2	-165.60	0.00	0.00
19	1	1	-165.60	0.00	0.00
		2	-174.09	0.00	0.00
20	1	1	-174.09	0.00	0.00
		2	-167.70	0.00	0.00
21	1	1	-167.70	0.00	0.00
		2	-148.21	0.00	0.00
22	1	1	-148.21	0.00	0.00
		2	-118.82	0.00	0.00
23	1	1	-118.82	0.00	0.00
		2	-75.19	0.00	0.00
24	1	1	-75.19	0.00	0.00
		2	37.17	0.00	0.00
25	1	1	37.17	0.00	0.00
		2	267.82	0.00	0.00
25	2	2	267.82	0.00	0.00
		3	35.19	0.00	0.00
26	1	1	35.19	0.00	0.00
		2	-72.47	0.00	0.00
27	1	1	-72.47	0.00	0.00
		2	-115.67	0.00	0.00
28	1	1	-115.67	0.00	0.00
		2	-149.56	0.00	0.00

Prog.: PL REV. 5.50

Autor:** TDV-Graz-AUSTRIA **

Ed.Ast & Co., Baug.m.b.H. **KONSTRUKTIONSBUERO** 8073-Feldkirchen/Graz

Datum:97/01/28 Zeit:13:37 Seite: 1

SKO ENERGO - STIEGENHAUS
BODENPLATTE

Linienauflagerkrafte

ELEM	SIDE	NOD	A	MY-GL	MX-GL
29	1	1	-149.56	0.00	0.00
		2	-178.56	0.00	0.00
30	1	1	-178.56	0.00	0.00
		2	-195.34	0.00	0.00
31	1	1	-195.34	0.00	0.00
		2	-195.55	0.00	0.00
32	1	1	-195.55	0.00	0.00
		2	-177.97	0.00	0.00
33	1	1	-177.97	0.00	0.00
		2	-148.54	0.00	0.00
34	1	1	-148.54	0.00	0.00
		2	-114.63	0.00	0.00
35	1	1	-114.63	0.00	0.00
		2	-83.42	0.00	0.00
36	1	1	-83.42	0.00	0.00
		2	-50.04	0.00	0.00
37	1	1	-50.04	0.00	0.00
		2	33.01	0.00	0.00
38	1	1	33.01	0.00	0.00
		2	219.93	0.00	0.00
38	2	2	219.93	0.00	0.00
		3	32.27	0.00	0.00
39	1	1	32.27	0.00	0.00
		2	-57.59	0.00	0.00
40	1	1	-57.59	0.00	0.00
		2	-88.86	0.00	0.00
41	1	1	-88.86	0.00	0.00
		2	-105.96	0.00	0.00
42	1	1	-105.96	0.00	0.00
		2	-115.04	0.00	0.00
43	1	1	-115.04	0.00	0.00
		2	-116.21	0.00	0.00
44	1	1	-116.21	0.00	0.00
		2	-110.01	0.00	0.00
45	1	1	-110.01	0.00	0.00
		2	-97.57	0.00	0.00
46	1	1	-97.57	0.00	0.00
		2	-79.15	0.00	0.00
47	1	1	-79.15	0.00	0.00
		2	-50.47	0.00	0.00
48	1	1	-50.47	0.00	0.00
		2	31.38	0.00	0.00

SKO ENERGO - STIEGENHAUS
 BODENPLATTE

Kraefte von DATUE
 Ergebnisfile BEW
 Sicherheitsfaktor..... 1.70

B 300	h'1o	h'2o	h'1u	h'2u	phi1-o	phi2-o	phi1-u	phi2-u	theta
STAHL IV	0.040	0.050	0.040	0.050	0.0	90.0	0.0	90.0	45.0
ELEM	dm	As1-o	As2-o	As1-u	As2-u	Sig-b	Q-max	Tau-max	As-q
1	0.500	7.13	7.06	6.79	6.90	2007.3	205.9	475.2	0.1
		3.36	3.36	3.05	3.19	11269.6			2.3
2	0.500	4.33	4.11	4.47	4.90	12577.9	168.9	384.9	0.0
3	0.500	3.43	3.37	4.52	4.77	11864.7	172.1	392.2	0.0
4	0.500	2.81	2.73	4.36	4.61	11687.5	161.5	367.8	0.0
5	0.500	1.99	1.97	4.06	4.21	11291.8	147.5	335.4	0.0
6	0.500	0.91	1.05	3.59	3.54	10594.3	131.2	297.7	0.0
7	0.500	0.00	0.00	2.86	2.58	9398.9	117.6	265.7	0.0
8	0.500	0.00	0.00	1.85	1.36	7390.6	113.5	254.7	0.0
9	0.500	0.00	0.00	3.10	2.55	9555.6	124.3	281.1	0.0
10	0.500	0.79	1.38	4.29	3.79	11171.2	147.1	334.4	0.0
11	0.500	2.18	2.70	5.17	4.82	12226.4	173.7	396.5	0.0
12	0.500	7.71	5.49	9.96	7.11	8146.6	198.3	462.1	0.0
		3.45	3.88	5.73	5.51	12838.9			1.8
13	0.500	9.34	6.27	10.06	7.20	9919.0	203.6	461.1	0.0
		5.06	5.09	5.80	6.03	13740.5			1.6
14	0.500	8.78	8.91	8.56	8.66	2501.6	256.1	589.6	2.0
		4.16	4.27	3.95	4.02	12574.9			6.2
15	0.500	6.16	9.61	7.12	10.27	10129.4	201.5	456.8	0.0
		5.02	5.29	5.98	5.96	13845.8			1.3
16	0.500	5.51	8.03	7.15	10.30	8289.4	198.2	467.2	0.0
		3.86	3.65	5.53	5.98	12968.5			1.8
17	0.500	5.05	5.88	7.18	9.20	7391.7	175.5	410.8	0.0
		2.69	2.20	4.84	5.52	12415.3			0.0
18	0.500	1.28	0.47	3.70	4.65	11330.8	149.2	339.3	0.0
19	0.500	0.00	0.00	2.19	3.32	9440.4	128.9	291.3	0.0
20	0.500	0.00	0.00	1.97	3.13	9117.6	127.1	287.0	0.0
21	0.500	1.12	0.21	3.51	4.55	11161.0	146.0	331.9	0.0
22	0.500	2.64	1.97	4.72	5.57	12382.5	174.3	398.1	0.0
23	0.500	5.64	0.00	7.20	10.57	8352.4	200.9	454.8	0.7
		3.96	3.52	5.54	6.20	13071.0			2.0
24	0.500	6.42	9.81	7.30	10.68	10280.1	206.9	469.4	0.0
		5.24	5.37	6.13	6.26	14043.6			1.5
25	0.500	9.25	9.23	8.93	9.05	2613.7	267.9	617.4	2.6
		4.38	4.42	4.08	4.23	12837.3			7.1
26	0.500	10.02	6.56	10.52	7.68	10196.7	216.9	491.6	0.0
		5.47	5.30	6.00	6.43	14139.5			2.2
27	0.500	8.65	5.87	10.60	7.86	8252.7	216.6	504.8	0.0
		3.99	4.12	6.00	6.11	13236.1			3.2

SKO ENERGO - STIEGENHAUS

BODENPLATTE

B 300		h'1o	h'2o	h'1u	h'2u	phi1-o	phi2-o	phi1-u	phi2-u	theta
STAHL IV		0.040	0.050	0.040	0.050	0.0	90.0	0.0	90.0	45.0
ELEM	dm	As1-o	As2-o	As1-u	As2-u	Sig-b	Q-max	Tau-max	As-q	
28	0.500	6.95	5.57	9.73	8.23	7447.0	197.9	458.4	0.0	
		2.83	2.97	5.62	5.67	12863.6			1.8	
29	0.500	4.44	5.01	8.07	8.12	6607.7	177.3	432.6	0.0	
		1.36	1.64	4.99	4.86	12153.1			0.2	
30	0.500	0.00	0.10	4.00	3.58	10873.6	160.2	363.8	0.0	
31	0.500	0.00	0.00	2.53	1.97	8627.0	152.2	343.0	0.0	
32	0.500	0.00	0.00	3.59	3.23	10378.9	155.2	351.8	0.0	
33	0.500	1.05	1.09	4.42	4.50	11661.2	165.3	376.5	0.0	
34	0.500	5.97	0.00	8.24	7.95	6891.9	176.4	405.6	0.0	
		2.47	2.16	4.75	5.24	12228.3			0.1	
35	0.500	0.00	4.98	8.81	7.44	7390.0	185.6	418.4	0.2	
		3.40	2.97	4.85	5.48	12398.1			0.8	
36	0.500	8.06	4.94	8.97	6.73	7884.5	192.2	433.6	0.0	
		3.95	3.63	4.89	5.42	12389.4			1.3	
37	0.500	8.64	5.35	8.64	6.35	9575.1	185.1	418.0	0.0	
		4.78	4.39	4.78	5.39	13091.6			0.8	
38	0.500	7.72	7.51	7.37	7.41	2154.4	221.1	510.3	0.7	
		3.64	3.58	3.25	3.47	11667.4			3.5	
39	0.500	4.35	4.25	4.82	5.14	12696.1	165.4	377.6	0.0	
40	0.500	3.28	2.62	4.16	5.00	11791.1	156.7	357.0	0.0	
41	0.500	2.16	1.32	3.33	4.31	10911.4	129.4	293.9	0.0	
42	0.500	0.94	0.00	2.29	3.32	9526.1	100.7	227.5	0.0	
43	0.500	0.00	0.00	1.13	2.13	7443.7	81.2	182.3	0.0	
44	0.500	0.00	0.00	1.49	2.43	8100.0	83.6	188.0	0.0	
45	0.500	1.19	0.43	2.56	3.41	9794.5	104.0	235.3	0.0	
46	0.500	2.23	1.65	3.44	4.17	10890.9	129.6	294.4	0.0	
47	0.500	3.16	2.74	4.08	4.66	11560.5	152.0	346.0	0.0	
48	0.500	4.06	4.11	4.57	4.73	12384.9	157.4	358.8	0.0	
49	0.500	5.12	4.79	6.52	7.13	13883.4	53.1	122.0	0.0	
50	0.500	4.30	3.59	6.48	7.45	13994.2	54.9	126.3	0.0	
51	0.500	3.33	2.44	6.44	7.59	14034.7	64.9	149.3	0.0	
52	0.500	2.07	1.23	6.27	7.34	13868.6	76.9	176.6	0.0	
53	0.500	0.45	0.00	5.87	6.61	13396.0	87.8	201.3	0.0	
54	0.500	0.00	0.00	5.08	5.33	12443.4	95.8	218.8	0.0	
55	0.500	0.00	0.00	3.79	3.59	10749.8	100.1	227.1	0.0	
56	0.500	0.00	0.00	5.50	5.14	12547.0	99.8	228.0	0.0	
57	0.500	0.00	0.44	7.06	6.77	13954.7	94.7	217.6	0.0	
58	0.500	2.10	2.41	8.07	7.99	14796.1	85.9	198.3	0.0	
59	0.500	4.06	4.26	8.53	8.63	15169.2	76.4	176.6	0.0	
60	0.500	5.84	6.05	8.66	8.79	15265.1	75.3	174.1	0.0	
61	0.500	4.13	4.28	8.65	8.80	15267.5	80.0	184.9	0.0	
62	0.500	2.35	2.09	8.09	8.60	15012.5	92.8	214.3	0.0	
63	0.500	0.38	0.00	6.69	7.83	14225.2	104.8	241.2	0.0	
64	0.500	0.00	0.00	4.58	6.20	12607.9	110.9	253.5	0.0	
65	0.500	0.00	0.00	4.22	5.89	12271.6	110.6	252.5	0.0	

SKO ENERGO - STIEGENHAUS

BODENPLATTE

B 300		h'1o	h'2o	h'1u	h'2u	phi1-o	phi2-o	phi1-u	phi2-u	theta
STAHL IV		0.040	0.050	0.040	0.050	0.0	90.0	0.0	90.0	45.0
ELEM	dm	As1-o	As2-o	As1-u	As2-u	Sig-b	Q-max	Tau-max	As-q	
66	0.500	0.18	0.00	6.31	7.67	14011.5	104.1	239.4	0.0	
67	0.500	2.34	1.65	7.77	8.74	14948.9	92.4	213.4	0.0	
68	0.500	4.38	4.00	8.55	9.25	15377.4	81.3	188.0	0.0	
69	0.500	6.29	6.09	8.83	9.39	15514.2	79.1	183.0	0.0	
70	0.500	4.73	4.17	8.73	9.62	15552.4	83.9	194.2	0.0	
71	0.500	2.92	2.20	8.49	9.52	15444.6	99.6	230.5	0.0	
72	0.500	0.72	0.10	7.96	8.82	15042.3	118.8	274.2	0.0	
73	0.500	0.00	0.00	7.00	7.39	14179.8	137.2	315.5	0.0	
74	0.500	0.00	0.00	5.19	5.16	12409.9	144.0	329.0	0.0	
75	0.500	0.00	0.00	6.62	7.10	13915.2	140.5	322.9	0.0	
76	0.500	0.46	0.00	7.24	8.76	14766.1	126.5	291.8	0.0	
77	0.500	2.62	0.79	7.17	9.32	14925.8	102.2	235.9	0.0	
78	0.500	4.02	2.19	7.00	9.14	14800.5	81.1	187.0	0.0	
79	0.500	4.91	3.52	6.85	8.55	14544.6	64.9	149.6	0.0	
80	0.500	5.61	4.89	6.86	7.88	14307.3	59.4	136.7	0.0	
81	0.500	4.11	2.96	6.20	7.63	13951.8	56.0	128.7	0.0	
82	0.500	2.45	0.98	5.19	6.88	13202.2	59.0	135.1	0.0	
83	0.500	0.68	0.00	3.81	5.62	11911.1	62.6	142.7	0.0	
84	0.500	0.00	0.00	2.22	3.96	9920.1	64.4	145.7	0.0	
85	0.500	0.00	0.00	2.79	4.38	10598.7	63.6	144.2	0.0	
86	0.500	0.99	0.00	4.28	5.66	12192.3	60.3	137.5	0.0	
87	0.500	2.49	1.58	5.42	6.54	13161.9	55.4	126.9	0.0	
88	0.500	3.86	3.25	6.14	6.99	13673.7	51.2	117.5	0.0	
89	0.500	3.00	1.80	6.33	7.79	14063.8	54.8	126.1	0.0	
90	0.500	1.99	0.52	6.69	8.42	14436.0	65.6	151.0	0.0	
91	0.500	0.60	0.00	7.07	8.66	14664.2	78.3	180.5	0.0	
92	0.500	0.00	0.00	7.33	8.32	14644.0	91.9	211.8	0.0	
93	0.500	0.00	0.00	7.19	7.29	14213.4	103.4	237.9	0.0	
94	0.500	0.00	0.00	6.33	5.63	13158.2	110.4	252.9	0.0	
95	0.500	0.00	0.00	7.84	6.81	14266.0	111.4	256.3	0.0	
96	0.500	0.00	0.00	9.07	8.25	15216.9	106.2	245.5	0.0	
97	0.500	0.00	0.49	9.44	9.13	15621.5	96.7	223.9	0.0	
98	0.500	2.17	2.34	9.16	9.26	15576.1	85.3	197.5	0.0	
99	0.500	0.41	0.00	9.29	10.01	15842.7	104.4	242.0	0.0	
100	0.500	0.00	0.00	8.47	10.42	15707.0	125.8	291.5	0.0	
101	0.500	0.00	0.00	6.52	9.63	14776.3	137.4	316.9	0.0	
102	0.500	0.00	0.00	6.02	9.18	14429.0	135.2	311.3	0.0	
103	0.500	0.00	0.00	7.78	10.17	15402.5	120.3	278.3	0.0	
104	0.500	0.52	0.00	8.68	10.36	15758.3	102.3	237.1	0.0	
105	0.500	2.61	1.74	8.93	10.12	15763.6	88.9	205.9	0.0	
106	0.500	0.59	0.00	9.30	10.63	16024.8	104.8	243.1	0.0	
107	0.500	0.00	0.00	9.48	10.65	16083.7	124.5	288.9	0.0	
108	0.500	0.00	0.00	9.46	10.05	15907.9	154.3	357.7	0.0	
109	0.500	0.00	0.00	9.24	12.34	12356.8	189.5	434.9	0.6	
		0.00	0.00	8.62	8.51	15160.8			1.3	-

SKO ENERGO - STIEGENHAUS
BODENPLATTE

B 300		h'1o	h'2o	h'1u	h'2u	phi1-o	phi2-o	phi1-u	phi2-u	theta
STAHL IV		0.040	0.050	0.040	0.050	0.0	90.0	0.0	90.0	45.0
ELEM	dm	As1-o	As2-o	As1-u	As2-u	Sig-b	Q-max	Tau-max	As-q	
110	0.500	0.00	0.00	11.56	14.60	12799.3	187.7	432.2	0.0	
		0.00	0.00	9.81	10.62	16170.5			1.0	
111	0.500	0.00	0.00	8.76	11.38	16060.9	134.1	311.3	0.0	
112	0.500	0.88	0.00	7.62	10.98	15578.1	101.3	234.5	0.0	
113	0.500	2.41	0.00	6.83	10.04	15020.6	79.1	182.6	0.0	
114	0.500	3.38	1.19	6.36	8.85	14455.1	63.2	145.4	0.0	
115	0.500	1.75	0.00	5.48	8.58	13994.1	66.8	153.6	0.0	
116	0.500	0.00	0.00	4.22	7.64	13041.6	69.7	159.5	0.0	
117	0.500	0.00	0.00	2.72	6.09	11502.7	70.5	160.5	0.0	
118	0.500	0.00	0.00	3.44	6.53	12149.0	69.0	157.4	0.0	
119	0.500	0.30	0.00	4.85	7.45	13277.0	65.3	149.6	0.0	
120	0.500	1.70	0.00	5.83	7.85	13875.5	60.2	138.2	0.0	
121	0.500	0.70	0.00	6.51	9.04	14583.0	70.4	162.3	0.0	
122	0.500	0.00	0.00	7.44	9.93	15211.4	85.2	196.8	0.0	
123	0.500	0.00	0.00	8.47	10.25	15658.4	102.5	237.4	0.0	
124	0.500	0.00	0.00	9.19	9.70	15720.7	119.3	276.4	0.0	
125	0.500	0.00	0.00	8.93	8.25	15170.4	130.5	301.6	0.0	
126	0.500	0.00	0.00	10.21	9.14	15849.8	134.2	311.1	0.0	
127	0.500	0.00	0.00	10.98	10.36	16419.5	130.2	302.7	0.0	
128	0.500	0.00	0.00	10.50	10.69	16384.3	118.7	275.8	0.0	
129	0.500	0.00	0.00	10.82	12.53	16936.3	158.3	369.2	0.0	
130	0.500	0.00	0.00	9.72	13.30	16807.3	183.2	426.8	0.0	
131	0.500	0.00	0.00	12.48	14.17	13151.7	179.4	413.3	0.0	
		0.00	0.00	8.73	12.41	16311.9			0.2	
132	0.500	0.00	0.00	9.55	12.14	16492.3	135.3	314.8	0.0	
133	0.500	0.00	0.00	9.67	11.55	16379.9	116.5	270.8	0.0	
134	0.500	0.00	0.00	10.46	12.23	16767.5	132.8	309.3	0.0	
135	0.500	0.00	0.00	11.17	12.48	17010.6	158.3	369.2	0.0	
136	0.500	0.00	0.00	11.91	12.42	17179.3	166.4	388.4	0.0	
137	0.500	0.00	0.00	15.92	17.39	14011.9	201.6	467.4	0.0	
		0.00	0.00	12.28	14.12	17634.4			0.4	
138	0.500	0.00	0.00	9.29	13.45	16716.0	141.0	328.3	0.0	
139	0.500	0.00	0.00	7.35	12.00	15753.0	103.8	240.6	0.0	
140	0.500	0.75	0.00	6.16	10.31	14843.3	81.3	187.7	0.0	
141	0.500	0.00	0.00	5.00	9.70	14164.6	82.5	189.8	0.0	
142	0.500	0.00	0.00	3.55	8.23	12932.4	82.0	187.7	0.0	
143	0.500	0.00	0.00	4.49	8.73	13593.2	79.7	182.9	0.0	
144	0.500	0.00	0.00	5.77	9.22	14341.6	75.6	174.1	0.0	
145	0.500	0.00	0.00	7.13	10.85	15368.4	92.0	212.9	0.0	
146	0.500	0.00	0.00	8.98	12.11	16315.8	119.1	276.8	0.0	
147	0.500	0.00	0.00	10.87	12.50	16938.9	148.6	346.5	0.0	
148	0.500	0.00	0.00	11.41	11.72	16889.1	171.5	399.7	0.0	
149	0.500	0.00	0.00	12.65	12.90	17459.3	180.4	421.8	0.0	
150	0.500	0.00	0.00	12.52	13.43	17545.7	173.0	404.8	0.0	
151	0.500	0.00	0.00	12.78	16.20	18123.2	147.2	345.8	0.0	

SKO ENERGO - STIEGENHAUS
BODENPLATTE

B 300		h'1o	h'2o	h'1u	h'2u	phi1-o	phi2-o	phi1-u	phi2-u	theta
STAHL IV		0.040	0.050	0.040	0.050	0.0	90.0	0.0	90.0	45.0
ELEM	dm	As1-o	As2-o	As1-u	As2-u	Sig-b	Q-max	Tau-max	As-q	
152	0.500	0.00	0.00	11.09	14.78	17476.5	167.4	391.6	0.0	
153	0.500	0.00	0.00	10.97	13.38	17163.3	144.9	338.3	0.0	
154	0.500	0.00	0.00	12.17	14.19	17622.2	147.7	345.6	0.0	
155	0.500	0.00	0.00	14.70	15.96	17909.4	111.9	264.5	0.0	
156	0.500	0.00	0.00	13.22	16.07	18196.7	206.0	483.8	0.0	
157	0.500	0.00	0.00	8.78	14.12	16706.1	143.2	333.5	0.0	
158	0.500	0.00	0.00	6.35	11.87	15354.7	104.3	241.3	0.0	
159	0.500	0.00	0.00	4.94	10.49	14385.7	102.5	236.0	0.0	
160	0.500	0.00	0.00	6.10	10.99	15016.7	98.3	227.0	0.0	
161	0.500	0.00	0.00	8.51	13.24	16434.4	130.2	302.8	0.0	
162	0.500	0.00	0.00	15.67	18.04	14234.9	200.2	464.6	0.0	
		0.00	0.00	11.83	15.10	17717.1			0.1	-
163	0.500	0.00	0.00	13.89	16.15	18144.5	168.4	397.7	0.0	
164	0.500	0.00	0.00	14.54	17.40	17777.8	142.5	337.3	0.0	
165	0.500	0.00	0.00	13.97	17.32	18091.3	136.1	321.8	0.0	
166	0.500	0.00	0.00	15.68	18.25	17553.6	46.7	110.8	0.0	
167	0.500	0.00	0.00	16.08	16.24	16039.1	210.1	490.3	0.0	
		0.00	0.00	12.30	16.07	17995.4			0.5	-
168	0.500	0.00	0.00	7.40	13.01	16017.5	138.1	320.4	0.0	

+ ... Betondruckspannung aus Biegung ueberschritten !

* ... Wechselmoment - Summe : Betonspannung aus Biegung und Bewehrungsaussteifung groesser als zulaessig !

x ... Sicherheit gegen Druckbruch nicht eingehalten !

- ... Horizontalkomponente der Querkraft bei der Biegebemessung nicht beruecksichtigt !

d ... Druckbewehrung