

# **DESIGN CALCULATION OF STEEL PLATFORM**

## **DESIGN CRITERIA**

ALL STEEL STRUCTURE DESIGN CONFORM TO AISC ASD 9th EDITION

DEAD LOAD, DL

- |                |   |                                  |
|----------------|---|----------------------------------|
| - SELF WEIGHT  | = | AUTOMATIC APPLY BY STAAD PRO V8i |
| - FLOOR FINISH | = | 200 KG/M2                        |

LIVE LOAD, LL


- |                   |   |           |
|-------------------|---|-----------|
| - FLOOR LIVE LOAD | = | 300 KG/M2 |
|-------------------|---|-----------|

MATERIAL

- |         |      |             |
|---------|------|-------------|
| - STEEL | Fy = | 2400 KG/CM2 |
|---------|------|-------------|

DEFLECTION

- |                        |   |       |
|------------------------|---|-------|
| - ALLOWABLE DEFLECTION | = | L/360 |
|------------------------|---|-------|

 Software licensed to	Job No	Sheet No <b>1</b>	Rev
	Part		
Job Title	Ref		
Client	By	Date 05-Apr-17	Chd
	File Platform.std	Date/Time 05-Apr-2017 10:46	

## Job Information

	Engineer	Checked	Approved
Name:			
Date:	05-Apr-17		

Structure Type	SPACE FRAME
----------------	-------------

Number of Nodes	88	Highest Node	128
Number of Elements	132	Highest Beam	280

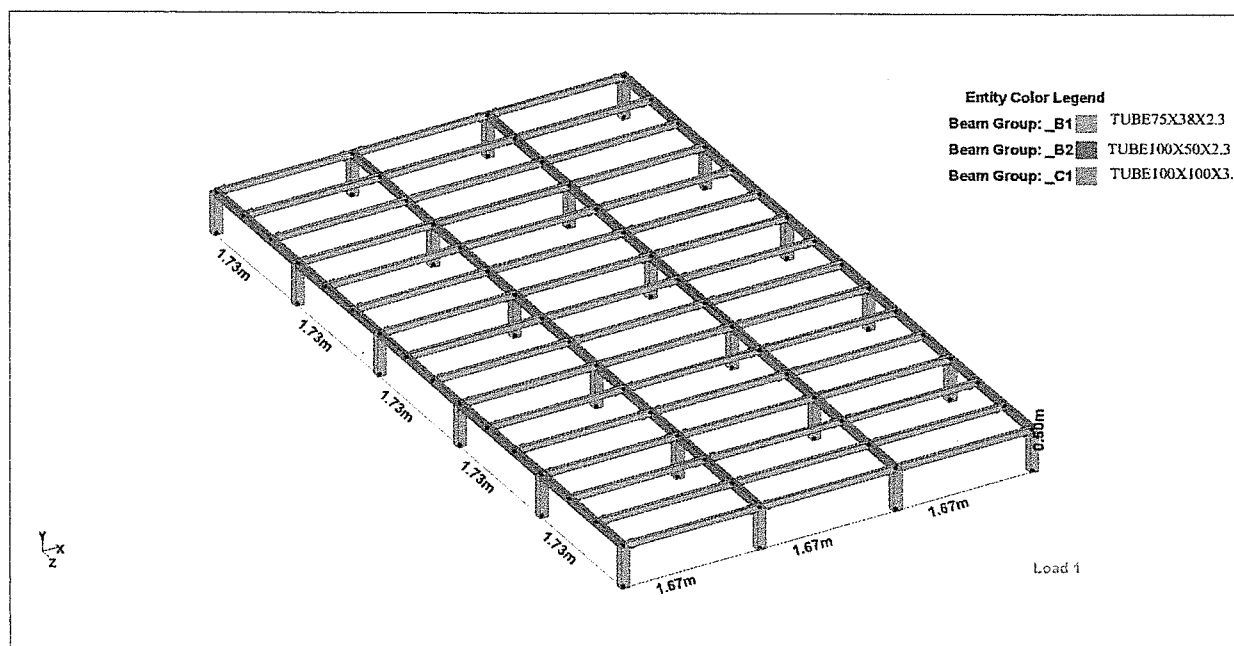
Number of Basic Load Cases	2
Number of Combination Load Cases	1

Included in this printout are data for:

All	The Whole Structure
-----	---------------------

Included in this printout are results for load cases:

Type	L/C	Name
Primary	1	DL
Primary	2	LL
Combination	3	DL+LL



3D MODEL



Software licensed to

Job No

Sheet No

2

Rev

Part

Job Title

Ref

By

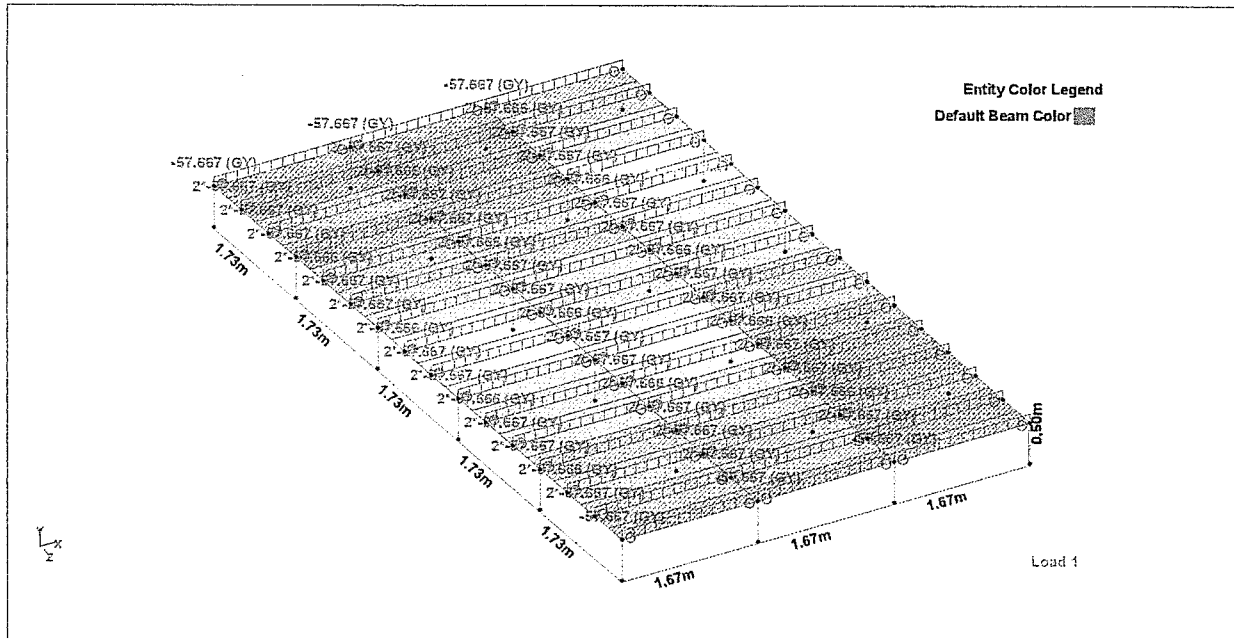
Date 05-Apr-17

Chd

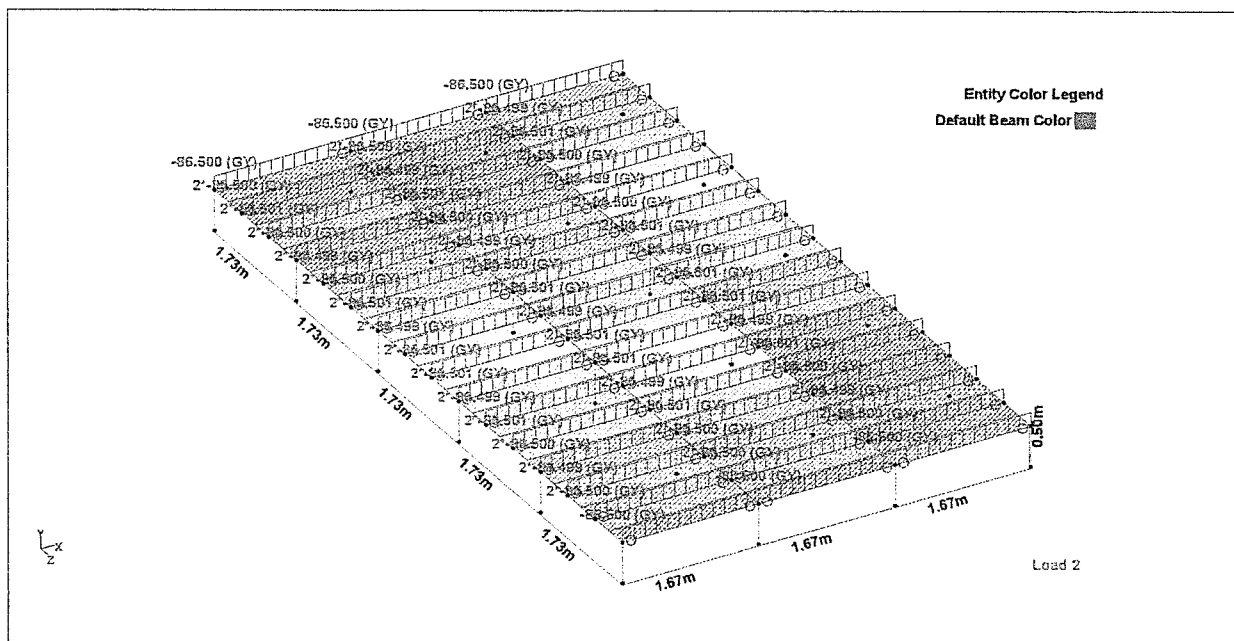
Client

File Platform.std

Date/Time 05-Apr-2017 10:46



DEAD LOAD = 200 KG/M2, DL



LIVE LOAD = 300 KG/M2, LL



Software licensed to

Job No

Sheet No

3

Rev

Part

Job Title

Ref

By

Date 05-Apr-17

Chd

Client

File Platform.std

Date/Time 05-Apr-2017 10:46

## Nodes

Node	X (m)	Y (m)	Z (m)
1	0.000	0.000	8.650
2	5.000	0.000	8.650
3	0.000	0.000	0.000
4	5.000	0.000	0.000
7	0.000	0.000	6.920
10	0.000	0.000	5.190
13	0.000	0.000	3.460
16	0.000	0.000	1.730
21	5.000	0.000	6.920
24	5.000	0.000	5.190
27	5.000	0.000	3.460
30	5.000	0.000	1.730
33	1.667	0.000	8.650
34	3.333	0.000	8.650
35	1.667	0.000	0.000
36	3.333	0.000	0.000
41	1.667	0.000	1.730
42	3.333	0.000	1.730
47	1.667	0.000	3.460
48	3.333	0.000	3.460
53	1.667	0.000	5.190
54	3.333	0.000	5.190
59	1.667	0.000	6.920
60	3.333	0.000	6.920
65	0.000	0.500	8.650
66	5.000	0.500	8.650
67	0.000	0.500	0.000
68	5.000	0.500	0.000
69	0.000	0.500	8.073
70	0.000	0.500	7.497
71	0.000	0.500	6.920
72	0.000	0.500	6.343
73	0.000	0.500	5.767
74	0.000	0.500	5.190
75	0.000	0.500	4.613
76	0.000	0.500	4.037
77	0.000	0.500	3.460
78	0.000	0.500	2.883
79	0.000	0.500	2.307
80	0.000	0.500	1.730
81	0.000	0.500	1.153
82	0.000	0.500	0.577
83	5.000	0.500	8.073
84	5.000	0.500	7.497
85	5.000	0.500	6.920
86	5.000	0.500	6.343
87	5.000	0.500	5.767
88	5.000	0.500	5.190
89	5.000	0.500	4.613



Software licensed to

Job No

Sheet No

4

Rev

Part

Job Title

Ref

By

Date 05-Apr-17

Chd

Client

File Platform.std

Date/Time 05-Apr-2017 10:46

## Nodes Cont...

Node	X (m)	Y (m)	Z (m)
90	5.000	0.500	4.037
91	5.000	0.500	3.460
92	5.000	0.500	2.883
93	5.000	0.500	2.307
94	5.000	0.500	1.730
95	5.000	0.500	1.153
96	5.000	0.500	0.577
97	1.667	0.500	8.650
98	3.333	0.500	8.650
99	1.667	0.500	0.000
100	3.333	0.500	0.000
101	1.667	0.500	0.577
102	3.333	0.500	0.577
103	1.667	0.500	1.153
104	3.333	0.500	1.153
105	1.667	0.500	1.730
106	3.333	0.500	1.730
107	1.667	0.500	2.307
108	3.333	0.500	2.307
109	1.667	0.500	2.883
110	3.333	0.500	2.883
111	1.667	0.500	3.460
112	3.333	0.500	3.460
113	1.667	0.500	4.037
114	3.333	0.500	4.037
115	1.667	0.500	4.613
116	3.333	0.500	4.613
117	1.667	0.500	5.190
118	3.333	0.500	5.190
119	1.667	0.500	5.767
120	3.333	0.500	5.767
121	1.667	0.500	6.343
122	3.333	0.500	6.343
123	1.667	0.500	6.920
124	3.333	0.500	6.920
125	1.667	0.500	7.497
126	3.333	0.500	7.497
127	1.667	0.500	8.073
128	3.333	0.500	8.073




Software licensed to

Job No	Sheet No <b>5</b>	Rev
Part		
Ref		
By	Date 05-Apr-17	Chd
Client	File Platform.std	Date/Time 05-Apr-2017 10:46

## Beams

Beam	Node A	Node B	Length (m)	Property	$\beta$ (degrees)
109	1	65	0.500	3	90
110	2	66	0.500	3	90
111	3	67	0.500	3	90
112	4	68	0.500	3	90
115	7	71	0.500	3	90
118	10	74	0.500	3	90
121	13	77	0.500	3	90
124	16	80	0.500	3	90
129	21	85	0.500	3	90
132	24	88	0.500	3	90
135	27	91	0.500	3	90
138	30	94	0.500	3	90
141	33	97	0.500	3	90
142	34	98	0.500	3	90
143	35	99	0.500	3	90
144	36	100	0.500	3	90
149	41	105	0.500	3	90
150	42	106	0.500	3	90
155	47	111	0.500	3	90
156	48	112	0.500	3	90
161	53	117	0.500	3	90
162	54	118	0.500	3	90
167	59	123	0.500	3	90
168	60	124	0.500	3	90
173	65	97	1.667	1	0
174	67	99	1.667	1	0
175	65	69	0.577	2	0
176	66	83	0.577	2	0
177	69	70	0.577	2	0
178	70	71	0.577	2	0
179	71	72	0.577	2	0
180	72	73	0.577	2	0
181	73	74	0.577	2	0
182	74	75	0.577	2	0
183	75	76	0.577	2	0
184	76	77	0.577	2	0
185	77	78	0.577	2	0
186	78	79	0.577	2	0
187	79	80	0.577	2	0
188	80	81	0.577	2	0
189	81	82	0.577	2	0
190	82	67	0.577	2	0
191	83	84	0.577	2	0
192	84	85	0.577	2	0
193	85	86	0.577	2	0
194	86	87	0.577	2	0
195	87	88	0.577	2	0
196	88	89	0.577	2	0
197	89	90	0.577	2	0

 Software licensed to	Job No	Sheet No <b>6</b>	Rev
	Part		
Job Title	Ref		
	By	Date 05-Apr-17	Chd
Client	File Platform.std	Date/Time 05-Apr-2017 10:46	

## Beams Cont...

Beam	Node A	Node B	Length (m)	Property	$\beta$ (degrees)
198	90	91	0.577	2	0
199	91	92	0.577	2	0
200	92	93	0.577	2	0
201	93	94	0.577	2	0
202	94	95	0.577	2	0
203	95	96	0.577	2	0
204	96	68	0.577	2	0
205	82	101	1.667	1	0
206	81	103	1.667	1	0
207	80	105	1.667	1	0
208	79	107	1.667	1	0
209	78	109	1.667	1	0
210	77	111	1.667	1	0
211	76	113	1.667	1	0
212	75	115	1.667	1	0
213	74	117	1.667	1	0
214	73	119	1.667	1	0
215	72	121	1.667	1	0
216	71	123	1.667	1	0
217	70	125	1.667	1	0
218	69	127	1.667	1	0
219	97	98	1.667	1	0
220	98	66	1.667	1	0
221	99	100	1.667	1	0
222	100	68	1.667	1	0
223	101	102	1.667	1	0
224	102	96	1.667	1	0
225	103	104	1.667	1	0
226	104	95	1.667	1	0
227	105	106	1.667	1	0
228	106	94	1.667	1	0
229	107	108	1.667	1	0
230	108	93	1.667	1	0
231	109	110	1.667	1	0
232	110	92	1.667	1	0
233	111	112	1.667	1	0
234	112	91	1.667	1	0
235	113	114	1.667	1	0
236	114	90	1.667	1	0
237	115	116	1.667	1	0
238	116	89	1.667	1	0
239	117	118	1.667	1	0
240	118	88	1.667	1	0
241	119	120	1.667	1	0
242	120	87	1.667	1	0
243	121	122	1.667	1	0
244	122	86	1.667	1	0
245	123	124	1.667	1	0
246	124	85	1.667	1	0





Software licensed to

Job No

Sheet No

7

Rev

Part

Job Title

Ref

By

Date 05-Apr-17

Chd

Client

File Platform.std


Date/Time 05-Apr-2017 10:46

## Beams Cont...

Beam	Node A	Node B	Length (m)	Property	$\beta$ (degrees)
247	125	126	1.667	1	0
248	126	84	1.667	1	0
249	127	128	1.667	1	0
250	128	83	1.667	1	0
251	97	127	0.577	2	0
252	127	125	0.577	2	0
253	125	123	0.577	2	0
254	123	121	0.577	2	0
255	121	119	0.577	2	0
256	119	117	0.577	2	0
257	117	115	0.577	2	0
258	115	113	0.577	2	0
259	113	111	0.577	2	0
260	111	109	0.577	2	0
261	109	107	0.577	2	0
262	107	105	0.577	2	0
263	105	103	0.577	2	0
264	103	101	0.577	2	0
265	101	99	0.577	2	0
266	98	128	0.577	2	0
267	128	126	0.577	2	0
268	126	124	0.577	2	0
269	124	122	0.577	2	0
270	122	120	0.577	2	0
271	120	118	0.577	2	0
272	118	116	0.577	2	0
273	116	114	0.577	2	0
274	114	112	0.577	2	0
275	112	110	0.577	2	0
276	110	108	0.577	2	0
277	108	106	0.577	2	0
278	106	104	0.577	2	0
279	104	102	0.577	2	0
280	102	100	0.577	2	0

## Section Properties

Prop	Section	Area (cm <sup>2</sup> )	$I_{yy}$ (cm <sup>4</sup> )	$I_{zz}$ (cm <sup>4</sup> )	J (cm <sup>4</sup> )	Material
1	TUBE	4.986	12.436	36.479	28.585	STEEL
2	TUBE	6.688	29.773	88.178	68.710	STEEL
3	TUBE	12.390	193.713	193.713	290.253	STEEL


 Software licensed to	Job No	Sheet No <b>8</b>	Rev
	Part		
Job Title	Ref		
	By	Date 05-Apr-17	Chd
Client	File Platform.std	Date/Time 05-Apr-2017 10:46	

## Materials

Mat	Name	E (kN/mm <sup>2</sup> )	v	Density (kg/m <sup>3</sup> )	α (1/°K)
1	STEEL	205.000	0.300	7.83E+3	12E -6
2	STAINLESSSTEEL	197.930	0.300	7.83E+3	18E -6
3	ALUMINUM	68.948	0.330	2.71E+3	23E -6
4	CONCRETE	21.718	0.170	2.4E+3	10E -6

## Supports

Node	X (kN/mm)	Y (kN/mm)	Z (kN/mm)	rX (kN°m/deg)	rY (kN°m/deg)	rZ (kN°m/deg)
1	Fixed	Fixed	Fixed	-	Fixed	-
2	Fixed	Fixed	Fixed	-	Fixed	-
3	Fixed	Fixed	Fixed	-	Fixed	-
4	Fixed	Fixed	Fixed	-	Fixed	-
7	Fixed	Fixed	Fixed	-	Fixed	-
10	Fixed	Fixed	Fixed	-	Fixed	-
13	Fixed	Fixed	Fixed	-	Fixed	-
16	Fixed	Fixed	Fixed	-	Fixed	-
21	Fixed	Fixed	Fixed	-	Fixed	-
24	Fixed	Fixed	Fixed	-	Fixed	-
27	Fixed	Fixed	Fixed	-	Fixed	-
30	Fixed	Fixed	Fixed	-	Fixed	-
33	Fixed	Fixed	Fixed	-	Fixed	-
34	Fixed	Fixed	Fixed	-	Fixed	-
35	Fixed	Fixed	Fixed	-	Fixed	-
36	Fixed	Fixed	Fixed	-	Fixed	-
41	Fixed	Fixed	Fixed	-	Fixed	-
42	Fixed	Fixed	Fixed	-	Fixed	-
47	Fixed	Fixed	Fixed	-	Fixed	-
48	Fixed	Fixed	Fixed	-	Fixed	-
53	Fixed	Fixed	Fixed	-	Fixed	-
54	Fixed	Fixed	Fixed	-	Fixed	-
59	Fixed	Fixed	Fixed	-	Fixed	-
60	Fixed	Fixed	Fixed	-	Fixed	-

 Software licensed to	Job No	Sheet No <b>9</b>	Rev
	Part		
Job Title	Ref		
	By	Date 05-Apr-17	Chd
Client	File Platform.std	Date/Time 05-Apr-2017 10:46	

## Releases

Beam ends not shown in this table are fixed in all directions.

Beam	Node	x	y	z	rx	ry	rz
173	65	Fixed	Fixed	Fixed	Fixed	Fixed	Fixed
173	97	Fixed	Fixed	Fixed	Fixed	Fixed	Fixed
174	67	Fixed	Fixed	Fixed	Fixed	Fixed	Fixed
174	99	Fixed	Fixed	Fixed	Fixed	Fixed	Fixed
205	82	Fixed	Fixed	Fixed	Fixed	Fixed	Fixed
205	101	Fixed	Fixed	Fixed	Fixed	Fixed	Fixed
206	81	Fixed	Fixed	Fixed	Fixed	Fixed	Fixed
206	103	Fixed	Fixed	Fixed	Fixed	Fixed	Fixed
207	80	Fixed	Fixed	Fixed	Fixed	Fixed	Fixed
207	105	Fixed	Fixed	Fixed	Fixed	Fixed	Fixed
208	79	Fixed	Fixed	Fixed	Fixed	Fixed	Fixed
208	107	Fixed	Fixed	Fixed	Fixed	Fixed	Fixed
209	78	Fixed	Fixed	Fixed	Fixed	Fixed	Fixed
209	109	Fixed	Fixed	Fixed	Fixed	Fixed	Fixed
210	77	Fixed	Fixed	Fixed	Fixed	Fixed	Fixed
210	111	Fixed	Fixed	Fixed	Fixed	Fixed	Fixed
211	76	Fixed	Fixed	Fixed	Fixed	Fixed	Fixed
211	113	Fixed	Fixed	Fixed	Fixed	Fixed	Fixed
212	75	Fixed	Fixed	Fixed	Fixed	Fixed	Fixed
212	115	Fixed	Fixed	Fixed	Fixed	Fixed	Fixed
213	74	Fixed	Fixed	Fixed	Fixed	Fixed	Fixed
213	117	Fixed	Fixed	Fixed	Fixed	Fixed	Fixed
214	73	Fixed	Fixed	Fixed	Fixed	Fixed	Fixed
214	119	Fixed	Fixed	Fixed	Fixed	Fixed	Fixed
215	72	Fixed	Fixed	Fixed	Fixed	Fixed	Fixed
215	121	Fixed	Fixed	Fixed	Fixed	Fixed	Fixed
216	71	Fixed	Fixed	Fixed	Fixed	Fixed	Fixed
216	123	Fixed	Fixed	Fixed	Fixed	Fixed	Fixed
217	70	Fixed	Fixed	Fixed	Fixed	Fixed	Fixed
217	125	Fixed	Fixed	Fixed	Fixed	Fixed	Fixed
218	69	Fixed	Fixed	Fixed	Fixed	Fixed	Fixed
218	127	Fixed	Fixed	Fixed	Fixed	Fixed	Fixed
219	97	Fixed	Fixed	Fixed	Fixed	Fixed	Fixed
219	98	Fixed	Fixed	Fixed	Fixed	Fixed	Fixed
220	98	Fixed	Fixed	Fixed	Fixed	Fixed	Fixed
220	66	Fixed	Fixed	Fixed	Fixed	Fixed	Fixed
221	99	Fixed	Fixed	Fixed	Fixed	Fixed	Fixed
221	100	Fixed	Fixed	Fixed	Fixed	Fixed	Fixed
222	100	Fixed	Fixed	Fixed	Fixed	Fixed	Fixed
222	68	Fixed	Fixed	Fixed	Fixed	Fixed	Fixed
223	101	Fixed	Fixed	Fixed	Fixed	Fixed	Fixed
223	102	Fixed	Fixed	Fixed	Fixed	Fixed	Fixed
224	102	Fixed	Fixed	Fixed	Fixed	Fixed	Fixed
224	96	Fixed	Fixed	Fixed	Fixed	Fixed	Fixed
225	103	Fixed	Fixed	Fixed	Fixed	Fixed	Fixed
225	104	Fixed	Fixed	Fixed	Fixed	Fixed	Fixed
226	104	Fixed	Fixed	Fixed	Fixed	Fixed	Fixed
226	95	Fixed	Fixed	Fixed	Fixed	Fixed	Fixed



Software licensed to

Job No	Sheet No <b>10</b>	Rev
Part		
Ref		
By	Date 05-Apr-17	Chd
Client	File Platform.std	Date/Time 05-Apr-2017 10:46

### Releases Cont...

Beam	Node	x	y	z	rx	ry	rz
227	105	Fixed	Fixed	Fixed	Fixed	Fixed	Fixed
227	106	Fixed	Fixed	Fixed	Fixed	Fixed	Fixed
228	106	Fixed	Fixed	Fixed	Fixed	Fixed	Fixed
228	94	Fixed	Fixed	Fixed	Fixed	Fixed	Fixed
229	107	Fixed	Fixed	Fixed	Fixed	Fixed	Fixed
229	108	Fixed	Fixed	Fixed	Fixed	Fixed	Fixed
230	108	Fixed	Fixed	Fixed	Fixed	Fixed	Fixed
230	93	Fixed	Fixed	Fixed	Fixed	Fixed	Fixed
231	109	Fixed	Fixed	Fixed	Fixed	Fixed	Fixed
231	110	Fixed	Fixed	Fixed	Fixed	Fixed	Fixed
232	110	Fixed	Fixed	Fixed	Fixed	Fixed	Fixed
232	92	Fixed	Fixed	Fixed	Fixed	Fixed	Fixed
233	111	Fixed	Fixed	Fixed	Fixed	Fixed	Fixed
233	112	Fixed	Fixed	Fixed	Fixed	Fixed	Fixed
234	112	Fixed	Fixed	Fixed	Fixed	Fixed	Fixed
234	91	Fixed	Fixed	Fixed	Fixed	Fixed	Fixed
235	113	Fixed	Fixed	Fixed	Fixed	Fixed	Fixed
235	114	Fixed	Fixed	Fixed	Fixed	Fixed	Fixed
236	114	Fixed	Fixed	Fixed	Fixed	Fixed	Fixed
236	90	Fixed	Fixed	Fixed	Fixed	Fixed	Fixed
237	115	Fixed	Fixed	Fixed	Fixed	Fixed	Fixed
237	116	Fixed	Fixed	Fixed	Fixed	Fixed	Fixed
238	116	Fixed	Fixed	Fixed	Fixed	Fixed	Fixed
238	89	Fixed	Fixed	Fixed	Fixed	Fixed	Fixed
239	117	Fixed	Fixed	Fixed	Fixed	Fixed	Fixed
239	118	Fixed	Fixed	Fixed	Fixed	Fixed	Fixed
240	118	Fixed	Fixed	Fixed	Fixed	Fixed	Fixed
240	88	Fixed	Fixed	Fixed	Fixed	Fixed	Fixed
241	119	Fixed	Fixed	Fixed	Fixed	Fixed	Fixed
241	120	Fixed	Fixed	Fixed	Fixed	Fixed	Fixed
242	120	Fixed	Fixed	Fixed	Fixed	Fixed	Fixed
242	87	Fixed	Fixed	Fixed	Fixed	Fixed	Fixed
243	121	Fixed	Fixed	Fixed	Fixed	Fixed	Fixed
243	122	Fixed	Fixed	Fixed	Fixed	Fixed	Fixed
244	122	Fixed	Fixed	Fixed	Fixed	Fixed	Fixed
244	86	Fixed	Fixed	Fixed	Fixed	Fixed	Fixed
245	123	Fixed	Fixed	Fixed	Fixed	Fixed	Fixed
245	124	Fixed	Fixed	Fixed	Fixed	Fixed	Fixed
246	124	Fixed	Fixed	Fixed	Fixed	Fixed	Fixed
246	85	Fixed	Fixed	Fixed	Fixed	Fixed	Fixed
247	125	Fixed	Fixed	Fixed	Fixed	Fixed	Fixed
247	126	Fixed	Fixed	Fixed	Fixed	Fixed	Fixed
248	126	Fixed	Fixed	Fixed	Fixed	Fixed	Fixed
248	84	Fixed	Fixed	Fixed	Fixed	Fixed	Fixed
249	127	Fixed	Fixed	Fixed	Fixed	Fixed	Fixed
249	128	Fixed	Fixed	Fixed	Fixed	Fixed	Fixed
250	128	Fixed	Fixed	Fixed	Fixed	Fixed	Fixed
250	83	Fixed	Fixed	Fixed	Fixed	Fixed	Fixed



Software licensed to

Job No

Sheet No

11

Rev

Part

Job Title

Ref

By

Date 05-Apr-17

Chd

Client

File Platform.std

Date/Time 05-Apr-2017 10:46

## Basic Load Cases

Number	Name
1	DL
2	LL

## Combination Load Cases

Comb.	Combination L/C Name	Primary	Primary L/C Name	Factor
3	DL+LL	1	DL	1.00
		2	LL	1.00

## Load Generators

There is no data of this type.

## One Way Loads : 1 DL


Load (N/mm <sup>2</sup> )	Min Ht. (m)	Max Ht. (m)	Min X (m)	Max X (m)	Min Y (m)	Max Y (m)
-0.002	0.500	0.500	-	-	-	-

## Selfweight : 1 DL

Direction	Factor
Y	-1.000

## One Way Loads : 2 LL

Load (N/mm <sup>2</sup> )	Min Ht. (m)	Max Ht. (m)	Min X (m)	Max X (m)	Min Y (m)	Max Y (m)
-0.003	0.500	0.500	-	-	-	-

 Software licensed to	Job No	Sheet No <b>12</b>	Rev
	Part		
	Ref		
	By	Date 05-Apr-17	Chd
Client	File Platform.std	Date/Time 05-Apr-2017 10:46	

## Utilization Ratio

Beam	Analysis Property	Design Property	Actual Ratio	Allowable Ratio	Ratio (Act./Allow.)	Clause	L/C	Ax (cm <sup>2</sup> )	Iz (cm <sup>4</sup> )	Iy (cm <sup>4</sup> )	Ix (cm <sup>4</sup> )
109	TUBE	TUB E	0.171	1.000	0.171	AISC- H1-3	3	12.390	193.713	193.713	290.253
110	TUBE	TUB E	0.172	1.000	0.172	AISC- H1-3	3	12.390	193.713	193.713	290.253
111	TUBE	TUB E	0.171	1.000	0.171	AISC- H1-3	3	12.390	193.713	193.713	290.253
112	TUBE	TUB E	0.172	1.000	0.172	AISC- H1-3	3	12.390	193.713	193.713	290.253
115	TUBE	TUB E	0.107	1.000	0.107	AISC- H1-3	3	12.390	193.713	193.713	290.253
118	TUBE	TUB E	0.092	1.000	0.092	AISC- H1-3	3	12.390	193.713	193.713	290.253
121	TUBE	TUB E	0.092	1.000	0.092	AISC- H1-3	3	12.390	193.713	193.713	290.253
124	TUBE	TUB E	0.107	1.000	0.107	AISC- H1-3	3	12.390	193.713	193.713	290.253
129	TUBE	TUB E	0.108	1.000	0.108	AISC- H1-3	3	12.390	193.713	193.713	290.253
132	TUBE	TUB E	0.093	1.000	0.093	AISC- H1-3	3	12.390	193.713	193.713	290.253
135	TUBE	TUB E	0.093	1.000	0.093	AISC- H1-3	3	12.390	193.713	193.713	290.253
138	TUBE	TUB E	0.108	1.000	0.108	AISC- H1-3	3	12.390	193.713	193.713	290.253
141	TUBE	TUB E	0.289	1.000	0.289	AISC- H1-3	3	12.390	193.713	193.713	290.253
142	TUBE	TUB E	0.289	1.000	0.289	AISC- H1-3	3	12.390	193.713	193.713	290.253
143	TUBE	TUB E	0.289	1.000	0.289	AISC- H1-3	3	12.390	193.713	193.713	290.253
144	TUBE	TUB E	0.289	1.000	0.289	AISC- H1-3	3	12.390	193.713	193.713	290.253
149	TUBE	TUB E	0.119	1.000	0.119	AISC- H1-3	3	12.390	193.713	193.713	290.253
150	TUBE	TUB E	0.117	1.000	0.117	AISC- H1-3	3	12.390	193.713	193.713	290.253
155	TUBE	TUB E	0.089	1.000	0.089	AISC- H1-3	3	12.390	193.713	193.713	290.253
156	TUBE	TUB E	0.088	1.000	0.088	AISC- H1-3	3	12.390	193.713	193.713	290.253
161	TUBE	TUB E	0.089	1.000	0.089	AISC- H1-3	3	12.390	193.713	193.713	290.253
162	TUBE	TUB E	0.088	1.000	0.088	AISC- H1-3	3	12.390	193.713	193.713	290.253
167	TUBE	TUB E	0.119	1.000	0.119	AISC- H1-3	3	12.390	193.713	193.713	290.253
168	TUBE	TUB E	0.117	1.000	0.117	AISC- H1-3	3	12.390	193.713	193.713	290.253
173	TUBE	TUB E	0.366	1.000	0.366	DEFLECTION	3	4.986	36.479	12.436	28.585
174	TUBE	TUB E	0.366	1.000	0.366	DEFLECTION	3	4.986	36.479	12.436	28.585
175	TUBE	TUB E	0.293	1.000	0.293	AISC- H1-3	3	6.688	88.178	29.773	68.710
176	TUBE	TUB E	0.296	1.000	0.296	AISC- H1-3	3	6.688	88.178	29.773	68.710
177	TUBE	TUB E	0.223	1.000	0.223	AISC- H1-3	3	6.688	88.178	29.773	68.710
178	TUBE	TUB E	0.397	1.000	0.397	AISC- H1-3	3	6.688	88.178	29.773	68.710
179	TUBE	TUB E	0.358	1.000	0.358	AISC- H1-3	3	6.688	88.178	29.773	68.710
180	TUBE	TUB E	0.189	1.000	0.189	AISC- H1-3	3	6.688	88.178	29.773	68.710
181	TUBE	TUB E	0.363	1.000	0.363	AISC- H1-3	3	6.688	88.178	29.773	68.710
182	TUBE	TUB E	0.359	1.000	0.359	AISC- H1-3	3	6.688	88.178	29.773	68.710
183	TUBE	TUB E	0.190	1.000	0.190	AISC- H1-3	3	6.688	88.178	29.773	68.710
184	TUBE	TUB E	0.359	1.000	0.359	AISC- H1-3	3	6.688	88.178	29.773	68.710
185	TUBE	TUB E	0.363	1.000	0.363	AISC- H1-3	3	6.688	88.178	29.773	68.710
186	TUBE	TUB E	0.189	1.000	0.189	AISC- H1-3	3	6.688	88.178	29.773	68.710
187	TUBE	TUB E	0.358	1.000	0.358	AISC- H1-3	3	6.688	88.178	29.773	68.710
188	TUBE	TUB E	0.397	1.000	0.397	AISC- H1-3	3	6.688	88.178	29.773	68.710
189	TUBE	TUB E	0.223	1.000	0.223	AISC- H1-3	3	6.688	88.178	29.773	68.710
190	TUBE	TUB E	0.293	1.000	0.293	AISC- H1-3	3	6.688	88.178	29.773	68.710
191	TUBE	TUB E	0.221	1.000	0.221	AISC- H1-3	3	6.688	88.178	29.773	68.710
192	TUBE	TUB E	0.393	1.000	0.393	AISC- H1-3	3	6.688	88.178	29.773	68.710
193	TUBE	TUB E	0.359	1.000	0.359	AISC- H1-3	3	6.688	88.178	29.773	68.710
194	TUBE	TUB E	0.189	1.000	0.189	AISC- H1-3	3	6.688	88.178	29.773	68.710
195	TUBE	TUB E	0.362	1.000	0.362	AISC- H1-3	3	6.688	88.178	29.773	68.710
196	TUBE	TUB E	0.359	1.000	0.359	AISC- H1-3	3	6.688	88.178	29.773	68.710
197	TUBE	TUB E	0.190	1.000	0.190	AISC- H1-3	3	6.688	88.178	29.773	68.710



Software licensed to

Job No

Sheet No

13

Rev

Part

Job Title

Ref

By

Date 05-Apr-17

Chd

Client

File Platform.std

Date/Time 05-Apr-2017 10:46

## Utilization Ratio Cont...

Beam	Analysis Property	Design Property	Actual Ratio	Allowable Ratio	Ratio (Act./Allow.)	Clause	L/C	Ax (cm <sup>2</sup> )	Iz (cm <sup>4</sup> )	Iy (cm <sup>4</sup> )	Ix (cm <sup>4</sup> )
198	TUBE	TUB E	0.359	1.000	0.359	AISC- H1-3	3	6.688	88.178	29.773	68.710
199	TUBE	TUB E	0.362	1.000	0.362	AISC- H1-3	3	6.688	88.178	29.773	68.710
200	TUBE	TUB E	0.189	1.000	0.189	AISC- H1-3	3	6.688	88.178	29.773	68.710
201	TUBE	TUB E	0.359	1.000	0.359	AISC- H1-3	3	6.688	88.178	29.773	68.710
202	TUBE	TUB E	0.393	1.000	0.393	AISC- H1-3	3	6.688	88.178	29.773	68.710
203	TUBE	TUB E	0.221	1.000	0.221	AISC- H1-3	3	6.688	88.178	29.773	68.710
204	TUBE	TUB E	0.296	1.000	0.296	AISC- H1-3	3	6.688	88.178	29.773	68.710
205	TUBE	TUB E	0.727	1.000	0.727	DEFLECTION	3	4.986	36.479	12.436	28.585
206	TUBE	TUB E	0.728	1.000	0.728	DEFLECTION	3	4.986	36.479	12.436	28.585
207	TUBE	TUB E	0.721	1.000	0.721	DEFLECTION	3	4.986	36.479	12.436	28.585
208	TUBE	TUB E	0.728	1.000	0.728	DEFLECTION	3	4.986	36.479	12.436	28.585
209	TUBE	TUB E	0.728	1.000	0.728	DEFLECTION	3	4.986	36.479	12.436	28.585
210	TUBE	TUB E	0.721	1.000	0.721	DEFLECTION	3	4.986	36.479	12.436	28.585
211	TUBE	TUB E	0.728	1.000	0.728	DEFLECTION	3	4.986	36.479	12.436	28.585
212	TUBE	TUB E	0.728	1.000	0.728	DEFLECTION	3	4.986	36.479	12.436	28.585
213	TUBE	TUB E	0.721	1.000	0.721	DEFLECTION	3	4.986	36.479	12.436	28.585
214	TUBE	TUB E	0.728	1.000	0.728	DEFLECTION	3	4.986	36.479	12.436	28.585
215	TUBE	TUB E	0.728	1.000	0.728	DEFLECTION	3	4.986	36.479	12.436	28.585
216	TUBE	TUB E	0.721	1.000	0.721	DEFLECTION	3	4.986	36.479	12.436	28.585
217	TUBE	TUB E	0.728	1.000	0.728	DEFLECTION	3	4.986	36.479	12.436	28.585
218	TUBE	TUB E	0.727	1.000	0.727	DEFLECTION	3	4.986	36.479	12.436	28.585
219	TUBE	TUB E	0.365	1.000	0.365	DEFLECTION	3	4.986	36.479	12.436	28.585
220	TUBE	TUB E	0.365	1.000	0.365	DEFLECTION	3	4.986	36.479	12.436	28.585
221	TUBE	TUB E	0.365	1.000	0.365	DEFLECTION	3	4.986	36.479	12.436	28.585
222	TUBE	TUB E	0.365	1.000	0.365	DEFLECTION	3	4.986	36.479	12.436	28.585
223	TUBE	TUB E	0.720	1.000	0.720	DEFLECTION	3	4.986	36.479	12.436	28.585
224	TUBE	TUB E	0.727	1.000	0.727	DEFLECTION	3	4.986	36.479	12.436	28.585
225	TUBE	TUB E	0.720	1.000	0.720	DEFLECTION	3	4.986	36.479	12.436	28.585
226	TUBE	TUB E	0.727	1.000	0.727	DEFLECTION	3	4.986	36.479	12.436	28.585
227	TUBE	TUB E	0.719	1.000	0.719	DEFLECTION	3	4.986	36.479	12.436	28.585
228	TUBE	TUB E	0.720	1.000	0.720	DEFLECTION	3	4.986	36.479	12.436	28.585
229	TUBE	TUB E	0.720	1.000	0.720	DEFLECTION	3	4.986	36.479	12.436	28.585
230	TUBE	TUB E	0.727	1.000	0.727	DEFLECTION	3	4.986	36.479	12.436	28.585
231	TUBE	TUB E	0.720	1.000	0.720	DEFLECTION	3	4.986	36.479	12.436	28.585
232	TUBE	TUB E	0.727	1.000	0.727	DEFLECTION	3	4.986	36.479	12.436	28.585
233	TUBE	TUB E	0.720	1.000	0.720	DEFLECTION	3	4.986	36.479	12.436	28.585
234	TUBE	TUB E	0.720	1.000	0.720	DEFLECTION	3	4.986	36.479	12.436	28.585
235	TUBE	TUB E	0.720	1.000	0.720	DEFLECTION	3	4.986	36.479	12.436	28.585
236	TUBE	TUB E	0.727	1.000	0.727	DEFLECTION	3	4.986	36.479	12.436	28.585
237	TUBE	TUB E	0.720	1.000	0.720	DEFLECTION	3	4.986	36.479	12.436	28.585
238	TUBE	TUB E	0.727	1.000	0.727	DEFLECTION	3	4.986	36.479	12.436	28.585
239	TUBE	TUB E	0.720	1.000	0.720	DEFLECTION	3	4.986	36.479	12.436	28.585
240	TUBE	TUB E	0.720	1.000	0.720	DEFLECTION	3	4.986	36.479	12.436	28.585
241	TUBE	TUB E	0.720	1.000	0.720	DEFLECTION	3	4.986	36.479	12.436	28.585
242	TUBE	TUB E	0.727	1.000	0.727	DEFLECTION	3	4.986	36.479	12.436	28.585
243	TUBE	TUB E	0.720	1.000	0.720	DEFLECTION	3	4.986	36.479	12.436	28.585
244	TUBE	TUB E	0.727	1.000	0.727	DEFLECTION	3	4.986	36.479	12.436	28.585
245	TUBE	TUB E	0.719	1.000	0.719	DEFLECTION	3	4.986	36.479	12.436	28.585
246	TUBE	TUB E	0.720	1.000	0.720	DEFLECTION	3	4.986	36.479	12.436	28.585



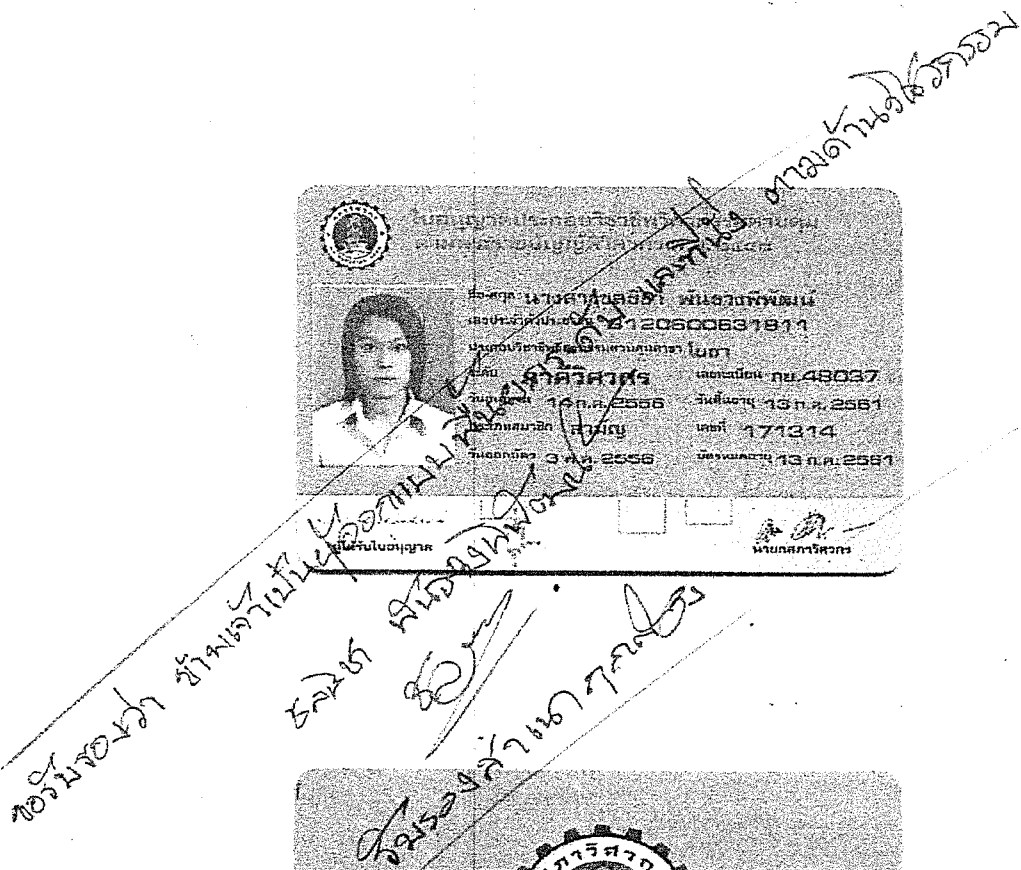
Software licensed to

Job No	Sheet No <b>14</b>	Rev
Part		
Ref		
By	Date 05-Apr-17	Chd
Client	File Platform.std	Date/Time 05-Apr-2017 10:46

### Utilization Ratio Cont...

Beam	Analysis Property	Design Property	Actual Ratio	Allowable Ratio	Ratio (Act./Allow.)	Clause	L/C	Ax (cm <sup>2</sup> )	Iz (cm <sup>4</sup> )	Iy (cm <sup>4</sup> )	Ix (cm <sup>4</sup> )
247	TUBE	TUB E	0.720	1.000	0.720	DEFLECTION	3	4.986	36.479	12.436	28.585
248	TUBE	TUB E	0.727	1.000	0.727	DEFLECTION	3	4.986	36.479	12.436	28.585
249	TUBE	TUB E	0.720	1.000	0.720	DEFLECTION	3	4.986	36.479	12.436	28.585
250	TUBE	TUB E	0.727	1.000	0.727	DEFLECTION	3	4.986	36.479	12.436	28.585
251	TUBE	TUB E	0.581	1.000	0.581	AISC- H1-3	3	6.688	88.178	29.773	68.710
252	TUBE	TUB E	0.434	1.000	0.434	AISC- H1-3	3	6.688	88.178	29.773	68.710
253	TUBE	TUB E	0.776	1.000	0.776	AISC- H1-3	3	6.688	88.178	29.773	68.710
254	TUBE	TUB E	0.702	1.000	0.702	AISC- H1-3	3	6.688	88.178	29.773	68.710
255	TUBE	TUB E	0.366	1.000	0.366	AISC- H1-3	3	6.688	88.178	29.773	68.710
256	TUBE	TUB E	0.711	1.000	0.711	AISC- H1-3	3	6.688	88.178	29.773	68.710
257	TUBE	TUB E	0.704	1.000	0.704	AISC- H1-3	3	6.688	88.178	29.773	68.710
258	TUBE	TUB E	0.367	1.000	0.367	AISC- H1-3	3	6.688	88.178	29.773	68.710
259	TUBE	TUB E	0.704	1.000	0.704	AISC- H1-3	3	6.688	88.178	29.773	68.710
260	TUBE	TUB E	0.711	1.000	0.711	AISC- H1-3	3	6.688	88.178	29.773	68.710
261	TUBE	TUB E	0.366	1.000	0.366	AISC- H1-3	3	6.688	88.178	29.773	68.710
262	TUBE	TUB E	0.702	1.000	0.702	AISC- H1-3	3	6.688	88.178	29.773	68.710
263	TUBE	TUB E	0.776	1.000	0.776	AISC- H1-3	3	6.688	88.178	29.773	68.710
264	TUBE	TUB E	0.434	1.000	0.434	AISC- H1-3	3	6.688	88.178	29.773	68.710
265	TUBE	TUB E	0.581	1.000	0.581	AISC- H1-3	3	6.688	88.178	29.773	68.710
266	TUBE	TUB E	0.582	1.000	0.582	AISC- H1-3	3	6.688	88.178	29.773	68.710
267	TUBE	TUB E	0.433	1.000	0.433	AISC- H1-3	3	6.688	88.178	29.773	68.710
268	TUBE	TUB E	0.772	1.000	0.772	AISC- H1-3	3	6.688	88.178	29.773	68.710
269	TUBE	TUB E	0.702	1.000	0.702	AISC- H1-3	3	6.688	88.178	29.773	68.710
270	TUBE	TUB E	0.366	1.000	0.366	AISC- H1-3	3	6.688	88.178	29.773	68.710
271	TUBE	TUB E	0.710	1.000	0.710	AISC- H1-3	3	6.688	88.178	29.773	68.710
272	TUBE	TUB E	0.703	1.000	0.703	AISC- H1-3	3	6.688	88.178	29.773	68.710
273	TUBE	TUB E	0.367	1.000	0.367	AISC- H1-3	3	6.688	88.178	29.773	68.710
274	TUBE	TUB E	0.703	1.000	0.703	AISC- H1-3	3	6.688	88.178	29.773	68.710
275	TUBE	TUB E	0.710	1.000	0.710	AISC- H1-3	3	6.688	88.178	29.773	68.710
276	TUBE	TUB E	0.366	1.000	0.366	AISC- H1-3	3	6.688	88.178	29.773	68.710
277	TUBE	TUB E	0.702	1.000	0.702	AISC- H1-3	3	6.688	88.178	29.773	68.710
278	TUBE	TUB E	0.772	1.000	0.772	AISC- H1-3	3	6.688	88.178	29.773	68.710
279	TUBE	TUB E	0.433	1.000	0.433	AISC- H1-3	3	6.688	88.178	29.773	68.710
280	TUBE	TUB E	0.582	1.000	0.582	AISC- H1-3	3	6.688	88.178	29.773	68.710





ใบอนุญาตประกอบวิชาชีพสถาปัตยกรรมควบคุม  
สาขา สถาปัตยกรรมหลัก  
ระดับ ภาควิชาสถาปนิก เลขที่ ภ-สถ 10990



นายโกญจนาท กันตนิกร

ตั้งแต่วันที่ 1 สิงหาคม 2559

ถึงวันที่ 31 กรกฎาคม 2564

  
ตามมือหรือผู้ถือใบอนุญาตฯ



สภาสถาปนิก  
Architect Council of Thailand

12 ถนนพระราม 9 (ปากซอย 36) แขวงหัวหมาก เขตบางกะปิ  
กรุงเทพฯ 10240 โทร 02-318-2112 E-mail: office@act.or.th

นายโกญจนาท กันตนิกร

สมาชิกสามัญ

เลขที่ 005910

(นายสุทธิพงษ์ ลิ้มป๊ะเรียม)

(นายเจตกำจร พรหมไยอี)

เลขาธิการสภาสถาปนิก

นายกสภาสถาปนิก