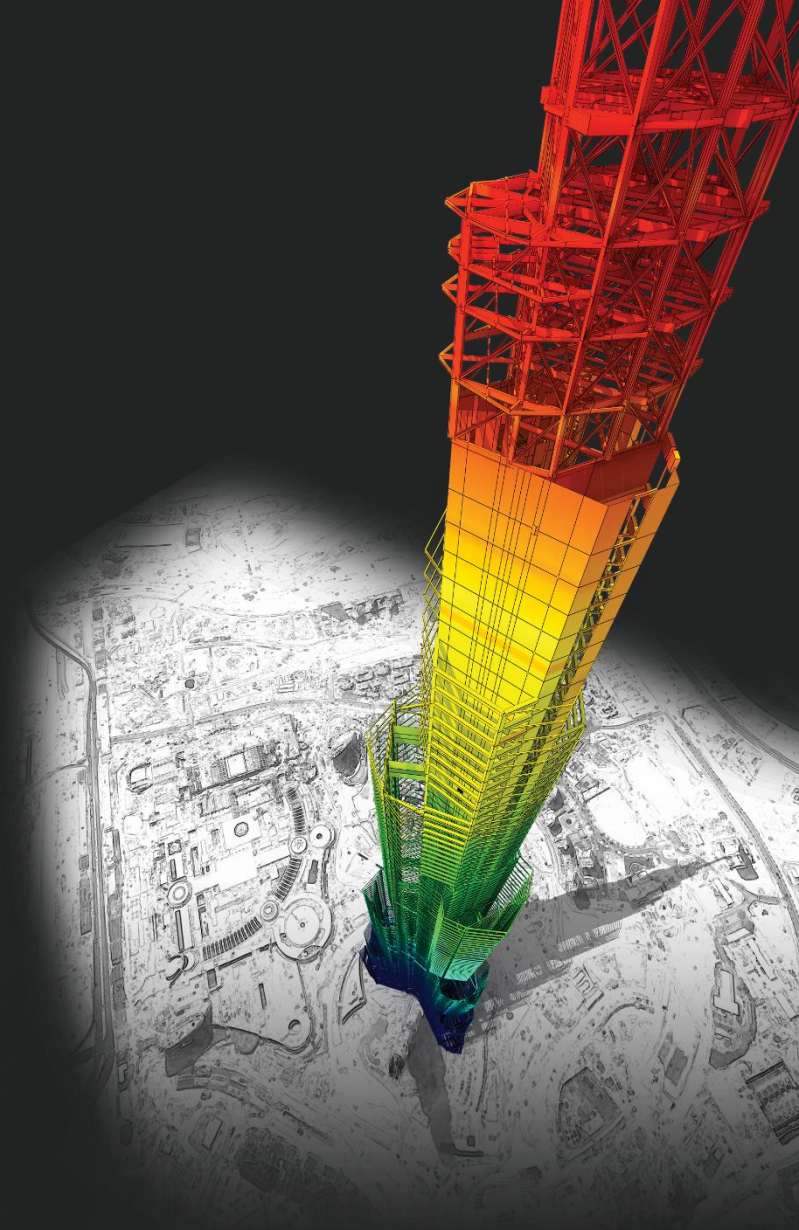


Unmodeled Sub Beam

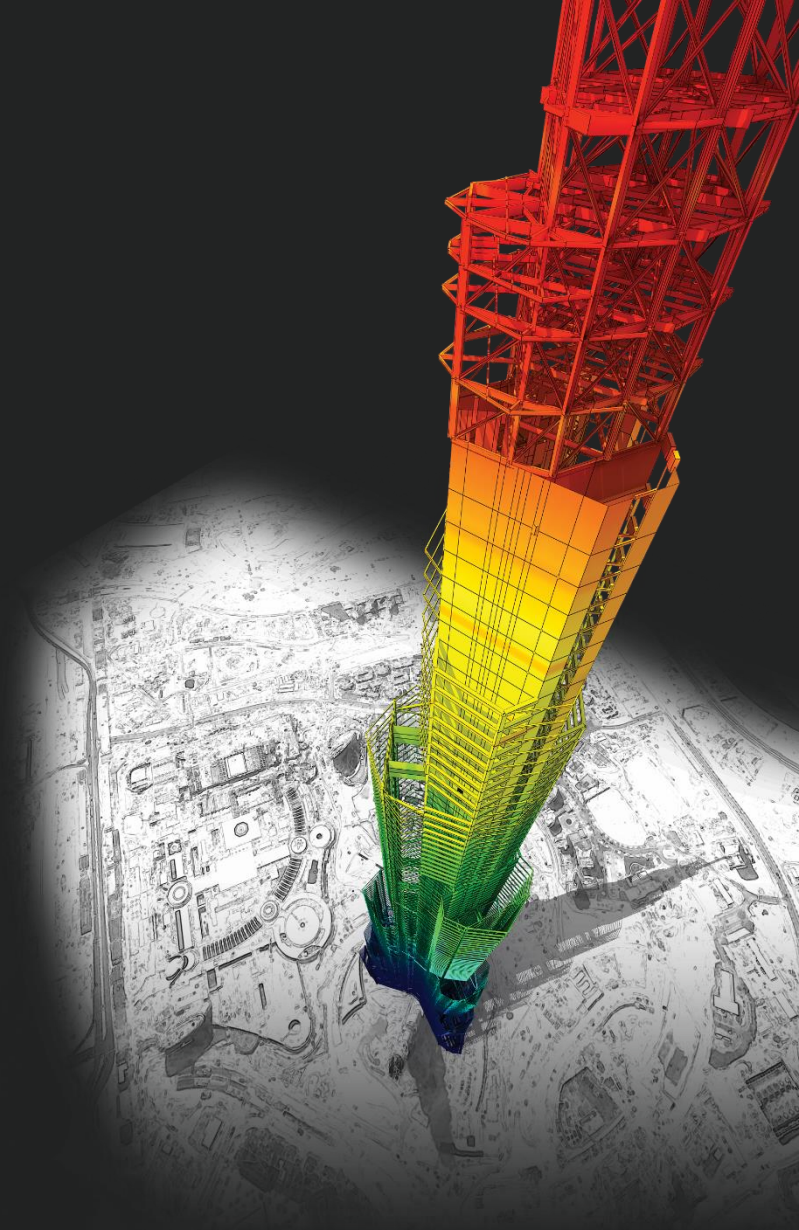
midas Gen 2021



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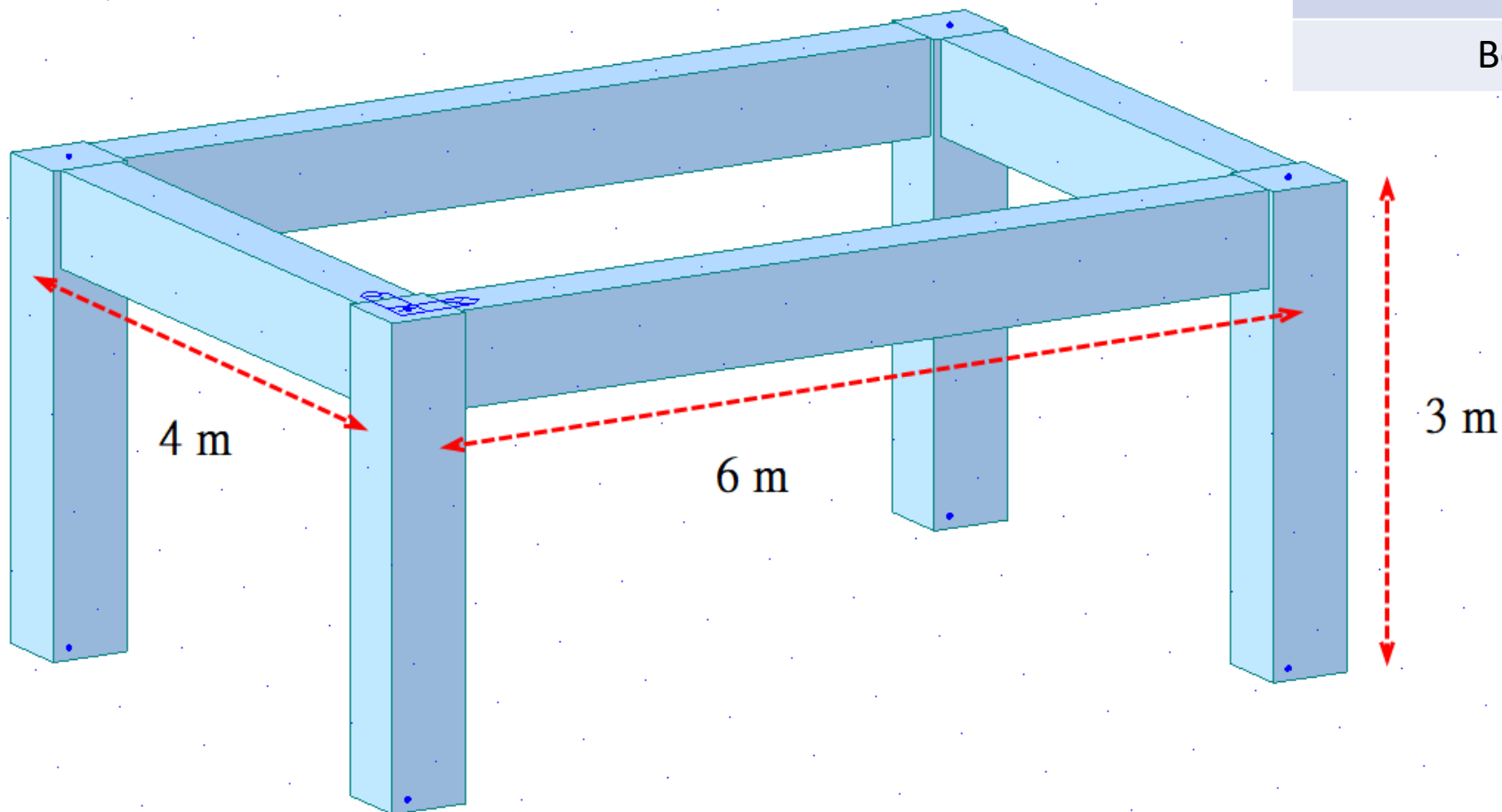
結構



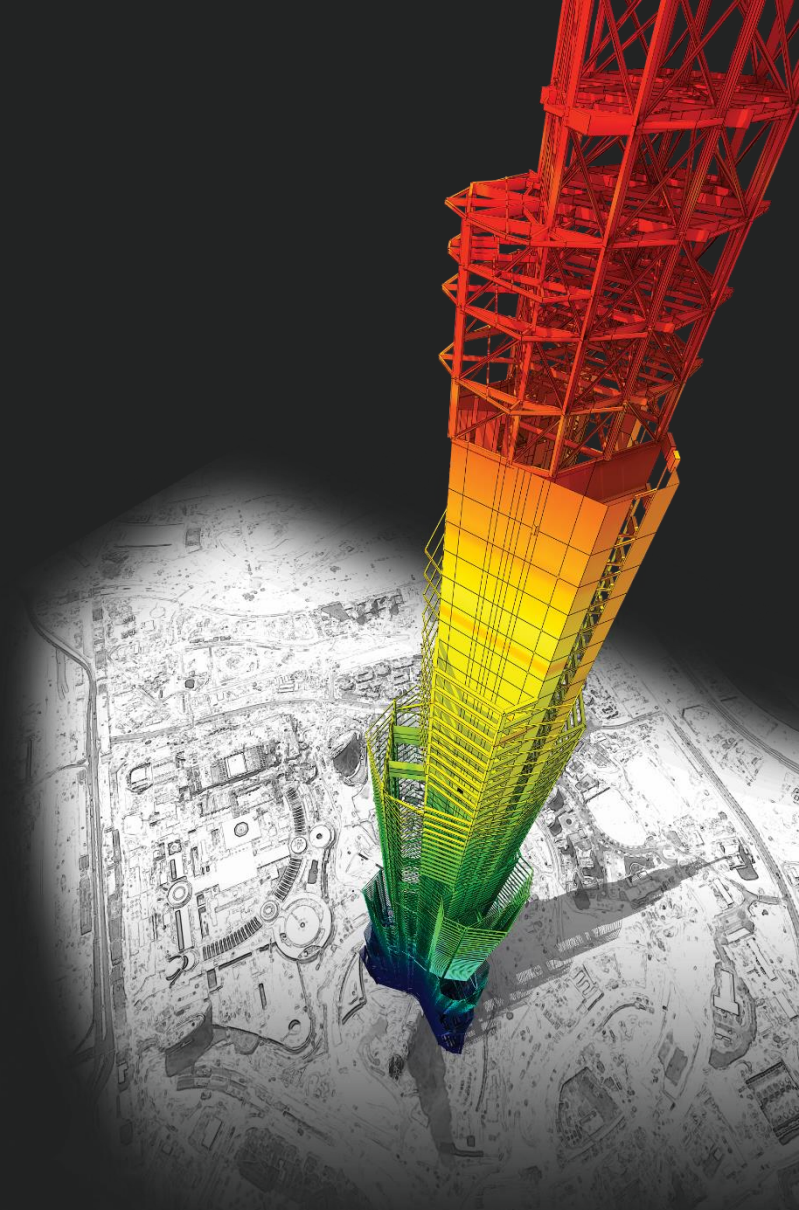
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名字	尺寸
Column	0.5 x 0.5
Beam	0.4 x 0.6



1. 輸入一般Floor Loads (沒有Unmodeled Sub Beam)



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Sub Beam Weigh	No. of Sub Beam	Unit Self Weight
√	-	-

Tree Menu: Node Element Boundary Mass Load

Assign Floor Loads

Load Group Name: Default

Floor Load Type: 2F

Distribution: Two way

Load Angle(A1): 0 [deg]

Exclude Inner Elem. of Area

Allow Polygon Type Unit Area

Unmodeled Sub-Beam

No. of Sub Beams: 0

Sub-Beam Angle(A2): 90

Unit Self Weight: 0 kgf/m

Load Direction & Projection

Load Direction: Global Z

Projection: Yes No

Description:

Nodes Defining Loading Area:

Copy Floor Load

Axis: x y z

Distances: 0 m

(Example: 5, 3, 4.5, 3@5.0)

Convert to Beam Load Type

Apply Close

Floor Load Type

Floor Load Type Name & Description

Name: 2F

Description:

Floor Load & Load Case

Load Case	Floor Load	Sub Beam Weight
1. DL	-300 kgf/m ²	<input checked="" type="checkbox"/>
2. LL	-200 kgf/m ²	<input type="checkbox"/>
3. NONE	0 kgf/m ²	<input type="checkbox"/>
4. NONE	0 kgf/m ²	<input type="checkbox"/>
5. NONE	0 kgf/m ²	<input type="checkbox"/>
6. NONE	0 kgf/m ²	<input type="checkbox"/>
7. NONE	0 kgf/m ²	<input type="checkbox"/>
8. NONE	0 kgf/m ²	<input type="checkbox"/>

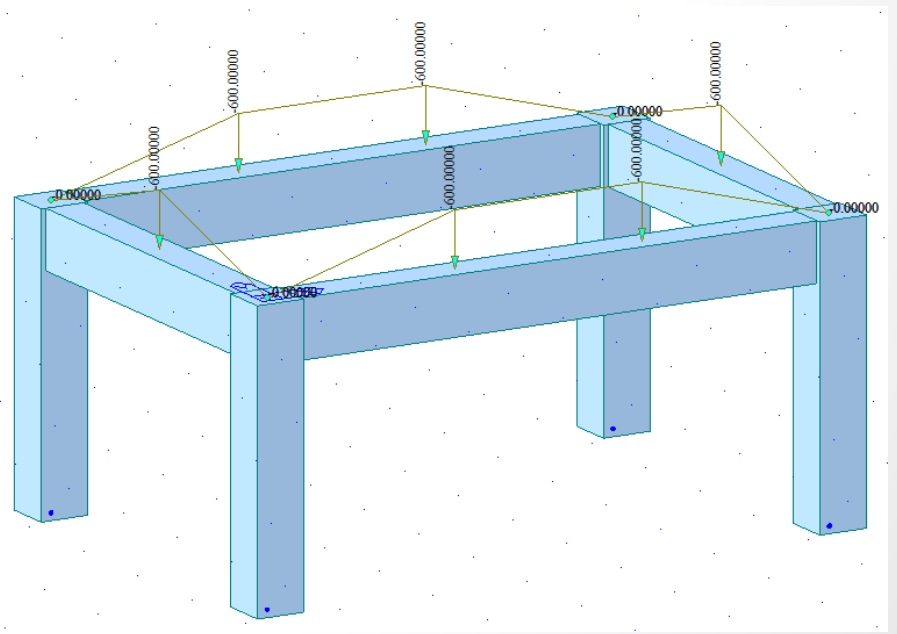
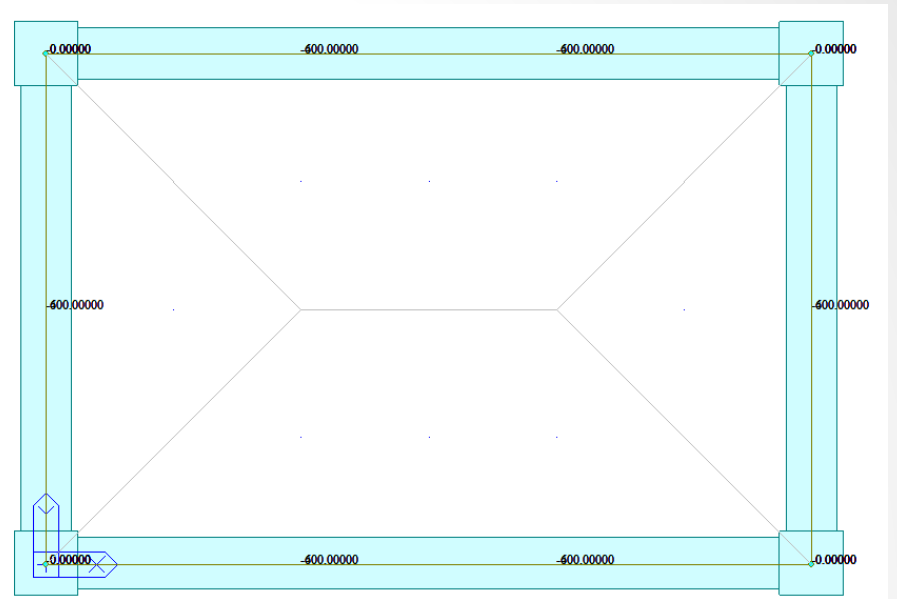
Define Load Case...

Name	Description
2F	

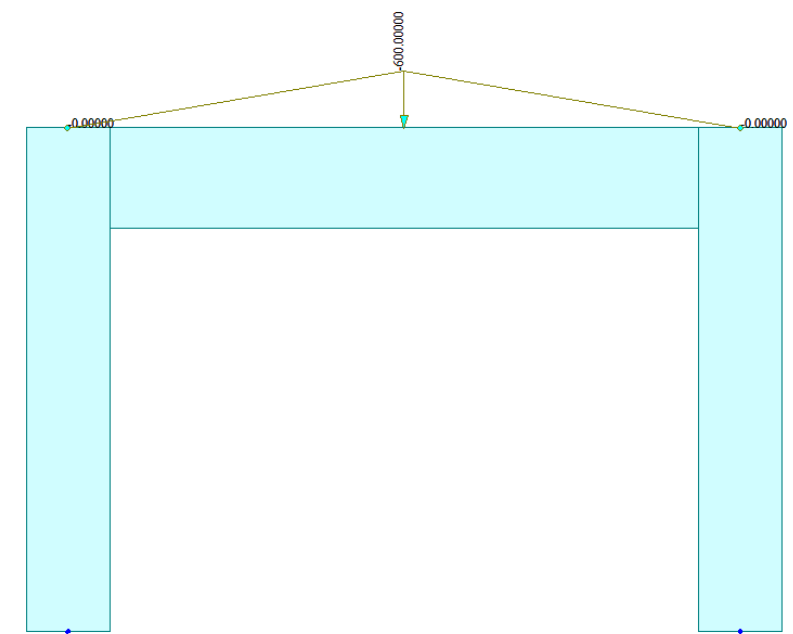
Add Modify Delete

Message Window

Command Message Analysis Message

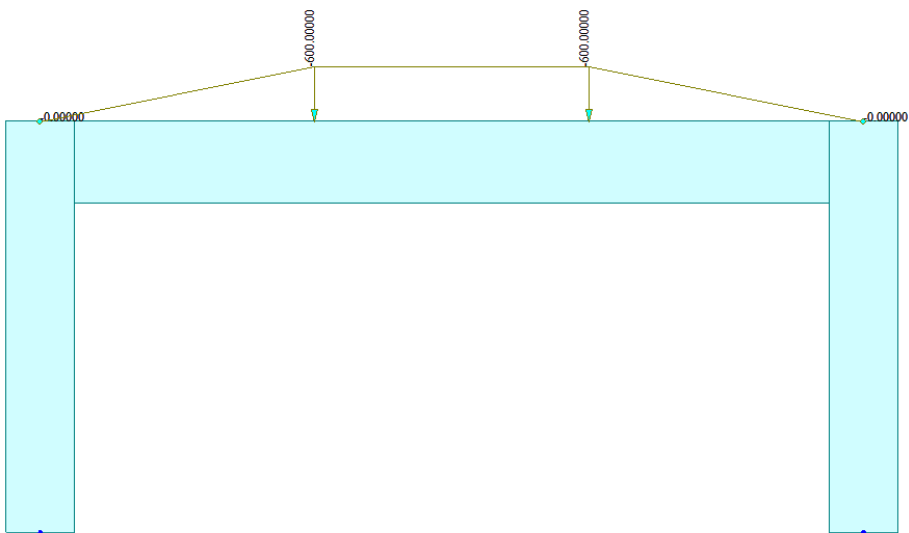


Sub Beam Weigth	No. of Sub Beam	Unit Self Weight
v	-	-



$$P = (4) * 600 / 2$$

$$P = 1200 \text{ kgf}$$



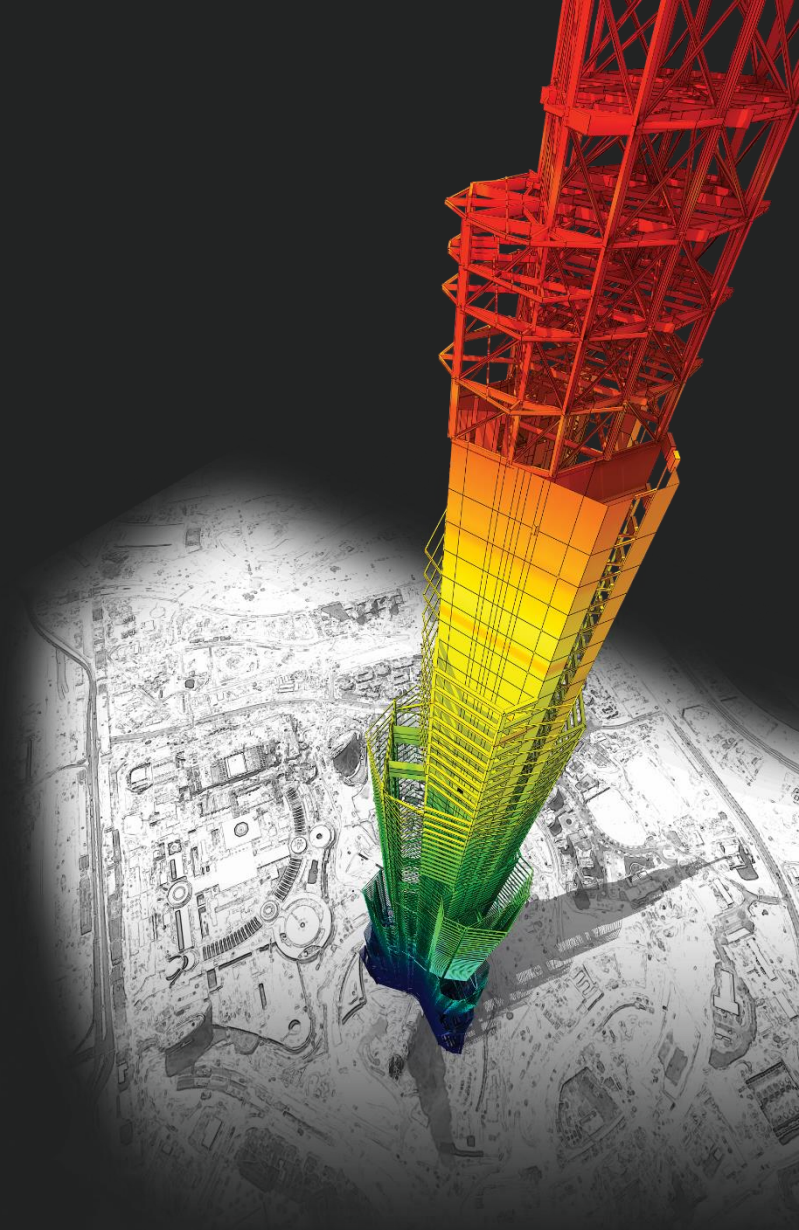
$$P = (6+2) * 600 / 2$$

$$P = 2400 \text{ kgf}$$

$$Total \text{ Story Load} = (1200 \times 2) + (2400 \times 2) = 7200 \text{ kgf}$$

Load	Story	Level (m)	Concent (kgf)	Beam (kgf)	Floor (kgf)	Pressure (kgf)	Self Weight (kgf)	Sum (kgf)
DL	Roof	3.0000	0.000	0.000	-7200.000	0.000	0.000	-7200.000
DL	1F	0.0000	0.000	0.000	0.000	0.000	0.000	0.000
SUMMATION OF STORY LOAD PRINTOUT								
			Concent (kgf)	Beam (kgf)	Floor (kgf)	Pressure (kgf)	Self Weight (kgf)	Sum (kgf)
DL			0.000	0.000	-7200.000	0.000	0.000	-7200.000

2. 輸入“No. of Sub Beams” Unit Self Weight = 0



Sub Beam Weigh	No. of Sub Beam	Unit Self Weight
√	√ (1個)	-

Tree Menu: Node Element Boundary Mass Load

Assign Floor Loads

Load Group Name: Default

Floor Load Type: 2F

Distribution: Two way

Load Angle(A1): 0 [deg]

Exclude Inner Elem. of Area

Allow Polygon Type Unit Area

Unmodeled Sub-Beam

No. of Sub Beams: 1

Sub-Beam Angle(A2): 90

Unit Self Weight: 0 kgf/m

Load Direction & Projection

Load Direction: Global Z

Projection: Yes No

Description:

Nodes Defining Loading Area:

Copy Floor Load

Axis: x y z

Distances: 0 m

(Example: 5, 3, 4.5, 3@5.0)

Convert to Beam Load Type

Apply Close

Floor Load Type

Floor Load Type Name & Description

Name: 2F

Description:

Floor Load & Load Case

Load Case	Floor Load	Sub Beam Weight
1. DL	-300 kgf/m ²	<input checked="" type="checkbox"/>
2. LL	-200 kgf/m ²	<input type="checkbox"/>
3. NONE	0 kgf/m ²	<input type="checkbox"/>
4. NONE	0 kgf/m ²	<input type="checkbox"/>
5. NONE	0 kgf/m ²	<input type="checkbox"/>
6. NONE	0 kgf/m ²	<input type="checkbox"/>
7. NONE	0 kgf/m ²	<input type="checkbox"/>
8. NONE	0 kgf/m ²	<input type="checkbox"/>

Define Load Case...

Name	Description
2F	
*	

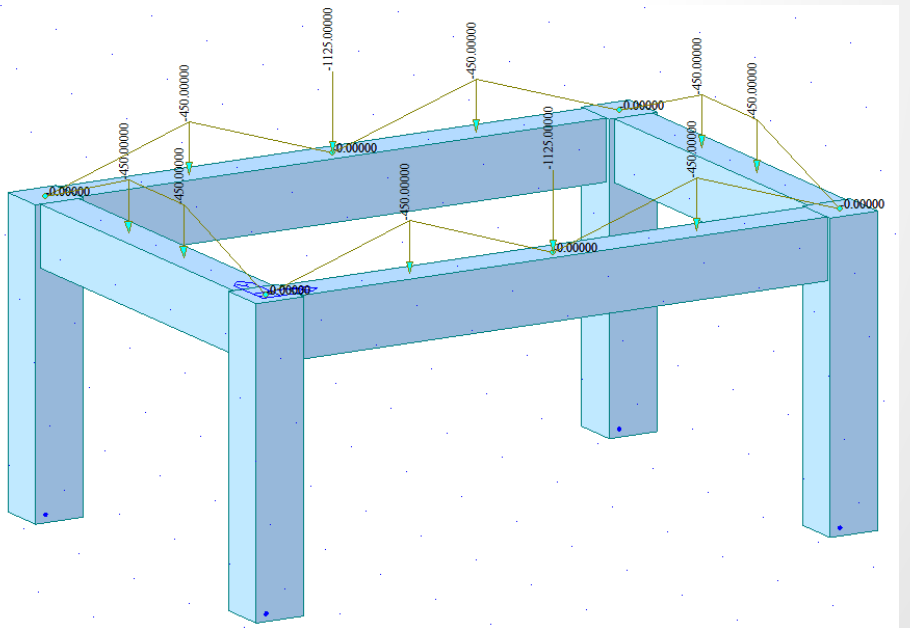
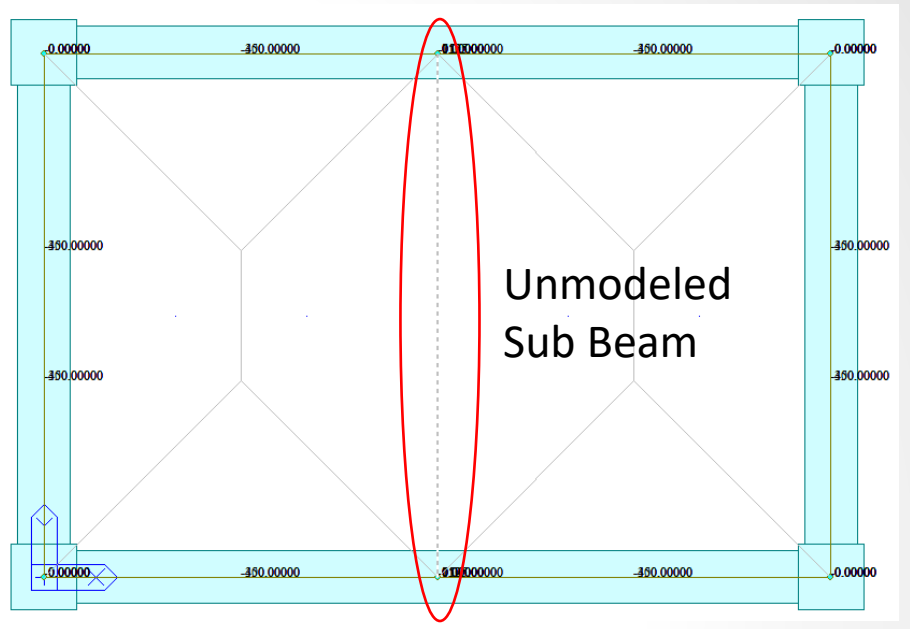
Add Modify Delete

Close

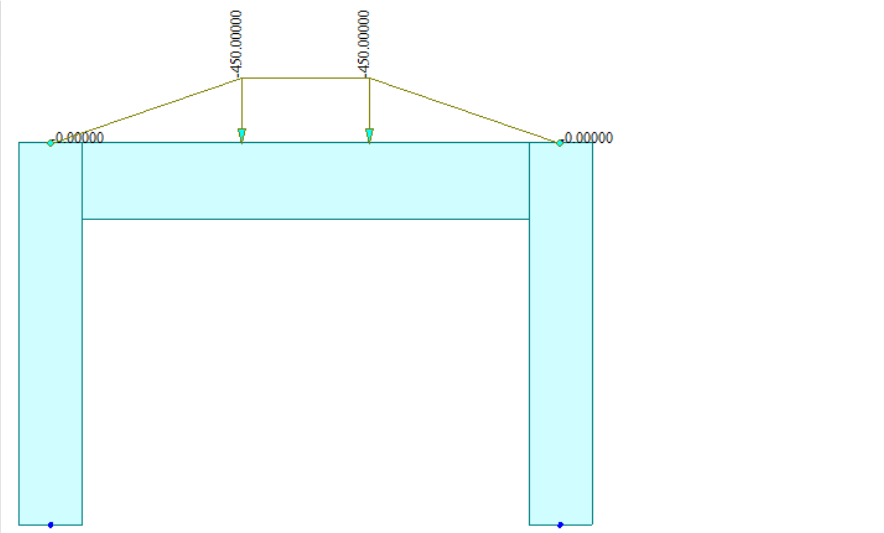
Message Window

The project will be saved by the auto-save feature.

Command Message Analysis Message



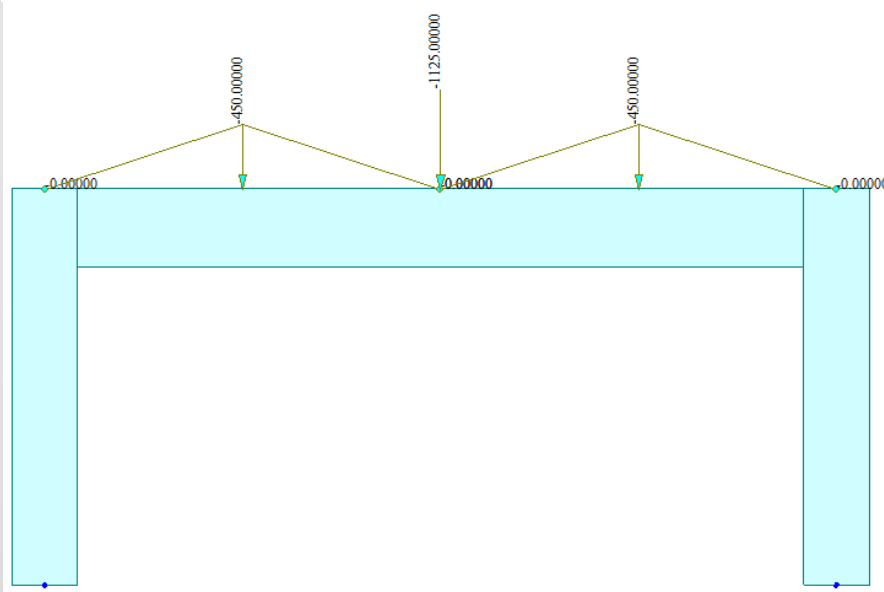
Sub Beam Weigth	No. of Sub Beam	Unit Self Weight
v	v (1個)	-



$$P = (4+1) * 450 / 2$$

$$P = 1125 \text{ kgf}$$

$$\text{Total Story Load} = (1125 \times 2) + (2475 \times 2) = 7200 \text{ kgf}$$

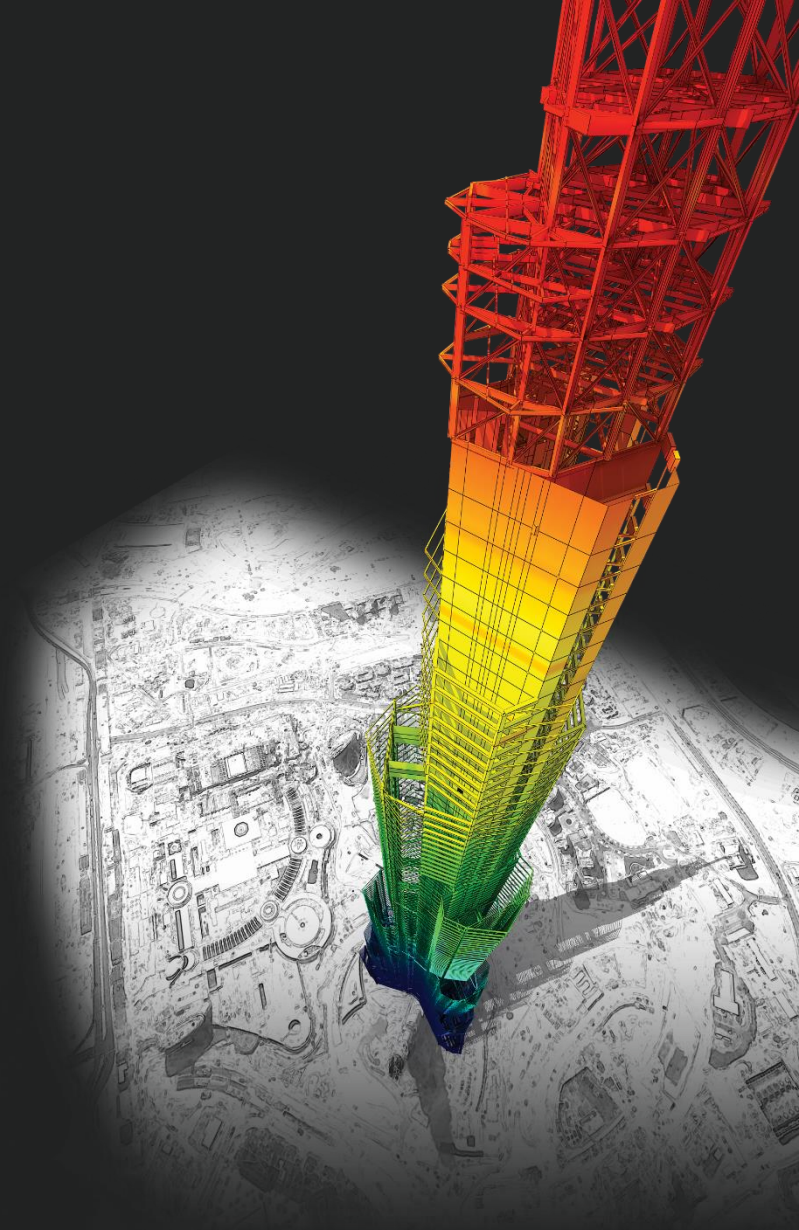


$$P = (2 * 3 * 450 / 2) + 1125$$

$$P = 2475 \text{ kgf}$$

Load	Story	Level (m)	Concent (kgf)	Beam (kgf)	Floor (kgf)	Pressure (kgf)	Self Weight (kgf)	Sum (kgf)
DL	Roof	3.0000	0.000	0.000	-7200.000	0.000	0.000	-7200.000
DL	1F	0.0000	0.000	0.000	0.000	0.000	0.000	0.000
SUMMATION OF STORY LOAD PRINTOUT								
			Concent (kgf)	Beam (kgf)	Floor (kgf)	Pressure (kgf)	Self Weight (kgf)	Sum (kgf)
DL			0.000	0.000	-7200.000	0.000	0.000	-7200.000

2. 輸入 Unit Self Weight



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Sub Beam Weigh	No. of Sub Beam	Unit Self Weight
√	√ (1個)	√ (288 kgf/m)

Floor Load Type

Name: 2F
Description:

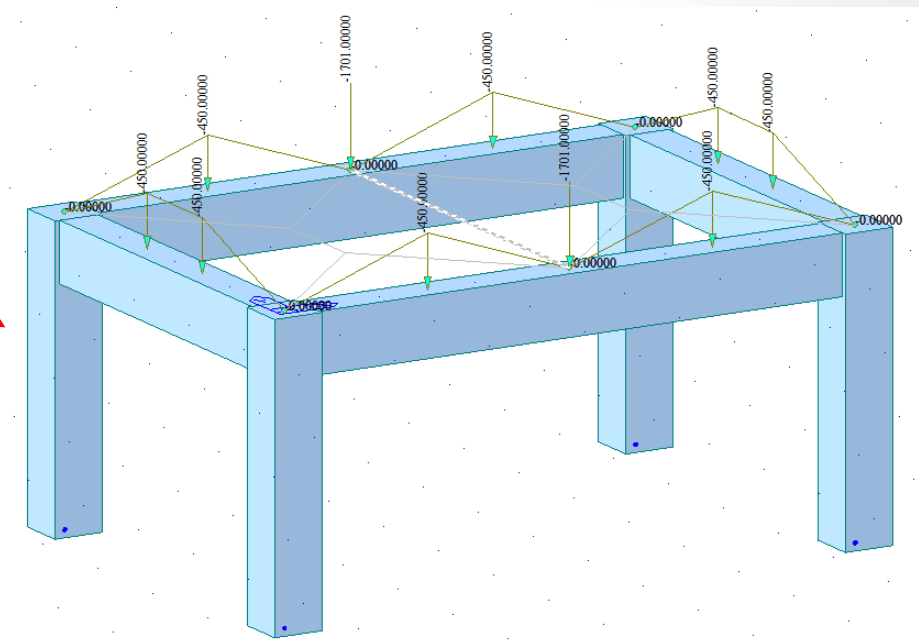
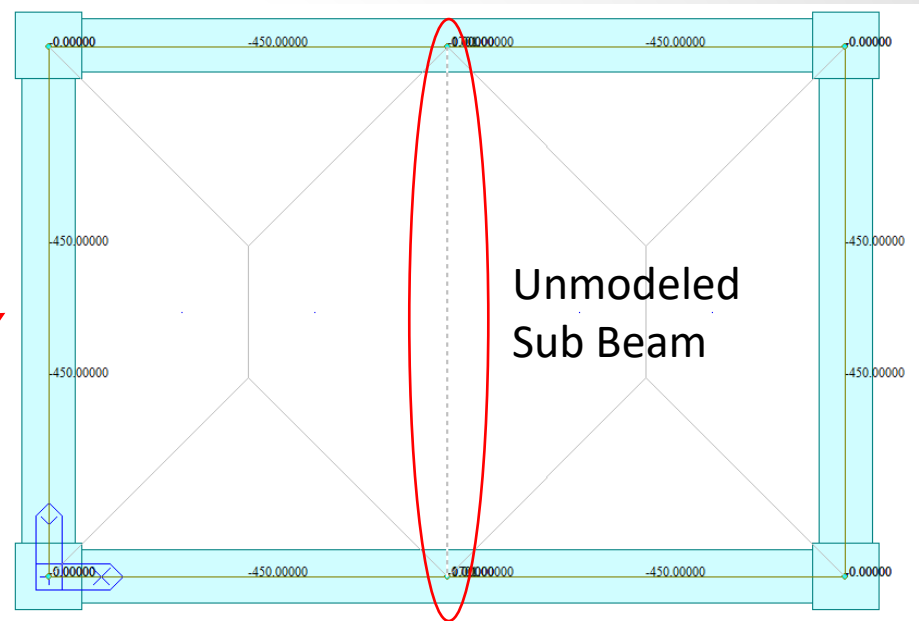
Floor Load & Load Case

Load Case	Floor Load	Sub Beam Weight
1. DL	-300 kgf/m ²	<input checked="" type="checkbox"/>
2. LL	-200 kgf/m ²	<input type="checkbox"/>
3. NONE	0 kgf/m ²	<input type="checkbox"/>
4. NONE	0 kgf/m ²	<input type="checkbox"/>
5. NONE	0 kgf/m ²	<input type="checkbox"/>
6. NONE	0 kgf/m ²	<input type="checkbox"/>
7. NONE	0 kgf/m ²	<input type="checkbox"/>
8. NONE	0 kgf/m ²	<input type="checkbox"/>

Unmodeled Sub-Beam

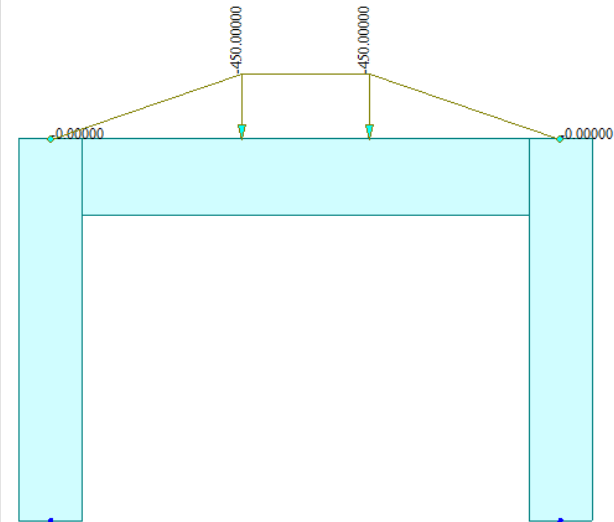
No. of Sub Beams: 1
Sub-Beam Angle(A2): 90
Unit Self Weight: 288 kgf/m

Unmodeled Sub Beam :
 尺寸 : 0.2 x 0.4
 Self Weight : 2400 x 0.2 x 0.4 = 288 kgf/m



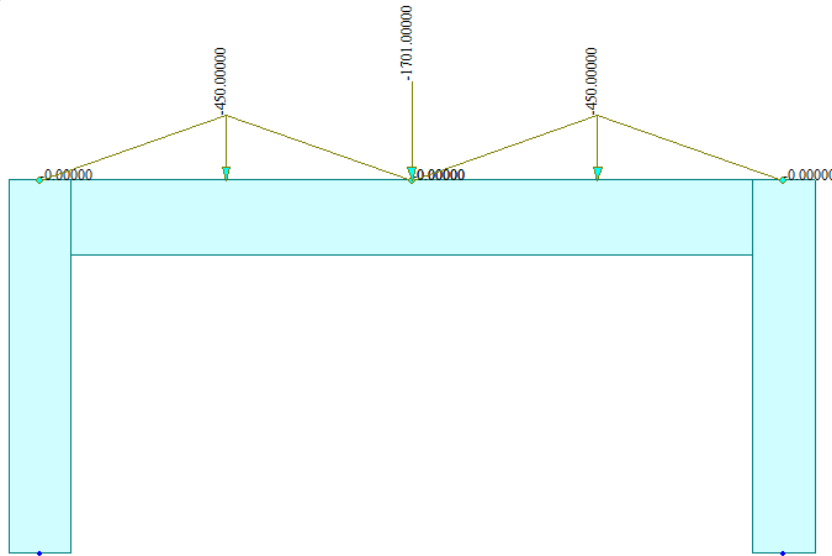
Unmodeled Sub Beam:
 288 x 4 = 1152 kgf

Sub Beam Weigth	No. of Sub Beam	Unit Self Weight
v	v (1個)	v (288 kgf/m)



$$P = (4+1) * 450 / 2$$

$$P = 1125 \text{ kgf}$$



$$P = (2 * 3 * 450 / 2) + 1701$$

$$P = 3051 \text{ kgf}$$

$$Total \text{ Story Load} = (1125 \times 2) + (3051 \times 2) = 8352 \text{ kgf}$$

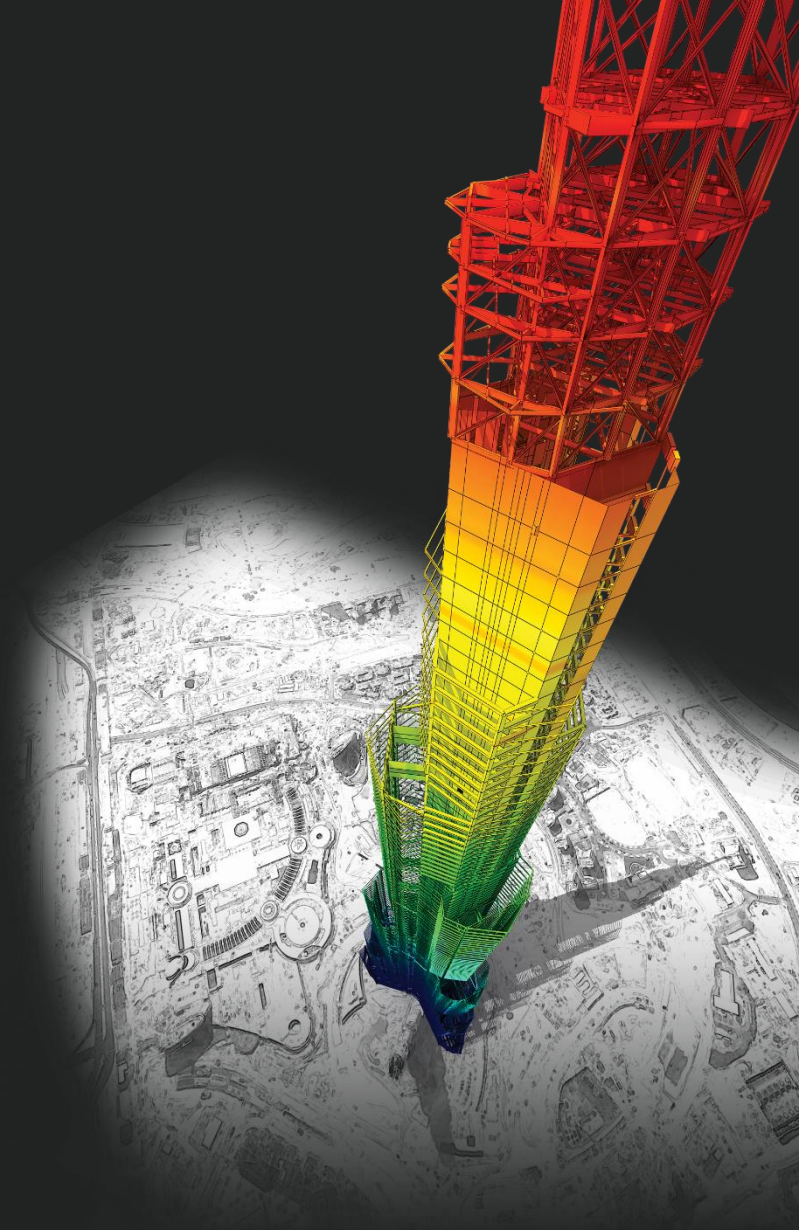
Load	Story	Level (m)	Concent (kgf)	Beam (kgf)	Floor (kgf)	Pressure (kgf)	Self Weight (kgf)	Sum (kgf)
DL	Roof	3.0000	0.000	0.000	-8352.000	0.000	0.000	-8352.000
DL	1F	0.0000	0.000	0.000	0.000	0.000	0.000	0.000
SUMMATION OF STORY LOAD PRINTOUT								
			Concent (kgf)	Beam (kgf)	Floor (kgf)	Pressure (kgf)	Self Weight (kgf)	Sum (kgf)
DL			0.000	0.000	-8352.000	0.000	0.000	-8352.000

原來Floor Loads = 7200 kgf
 加Unmodeled Sub Beam = 7200 + 1152 = 8352 kgf.

一樣
OK!



THANKYOU



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