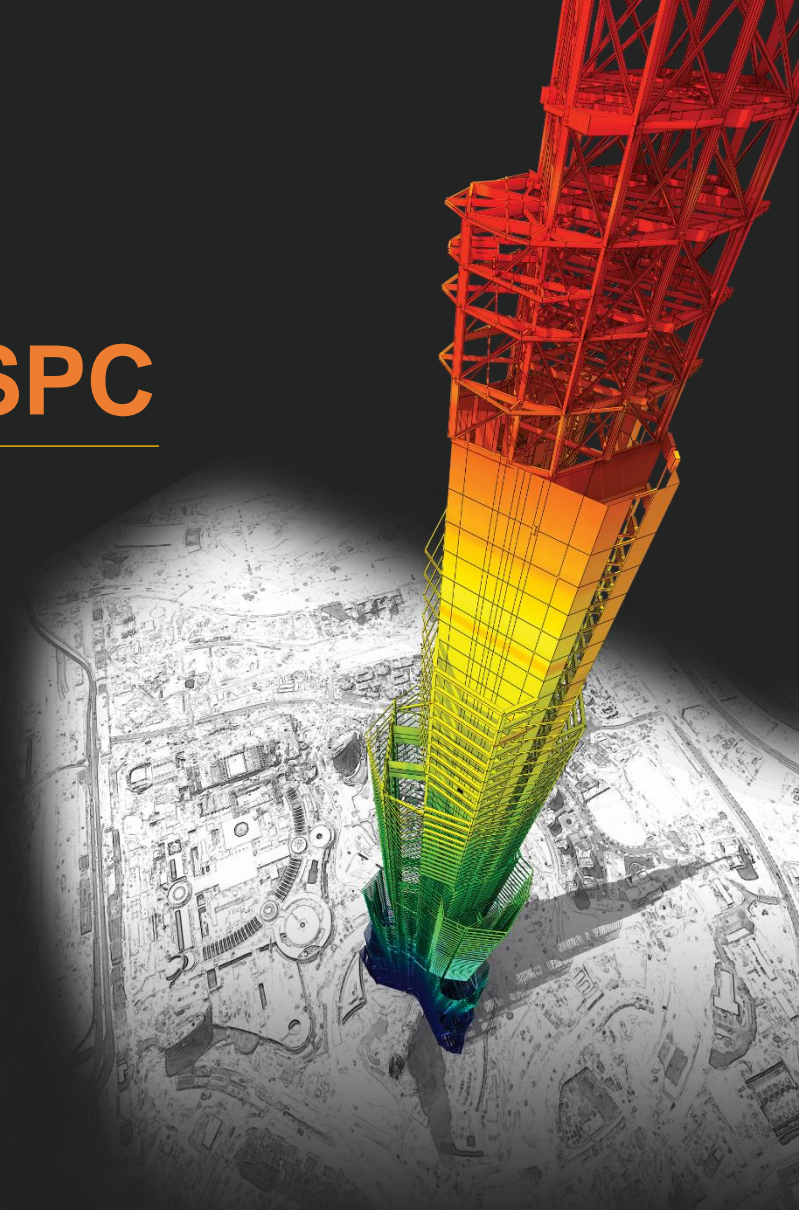


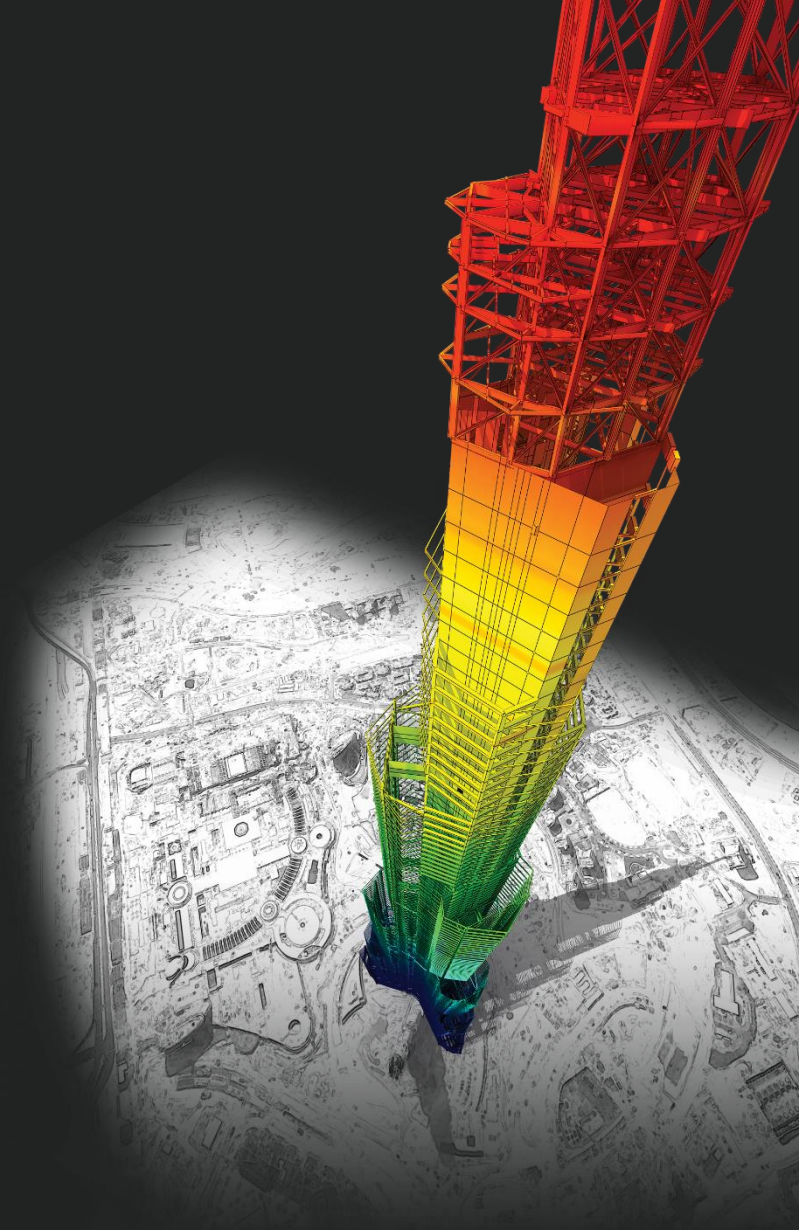
如何做 Composite Concrete 斷面使用 SPC



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問題

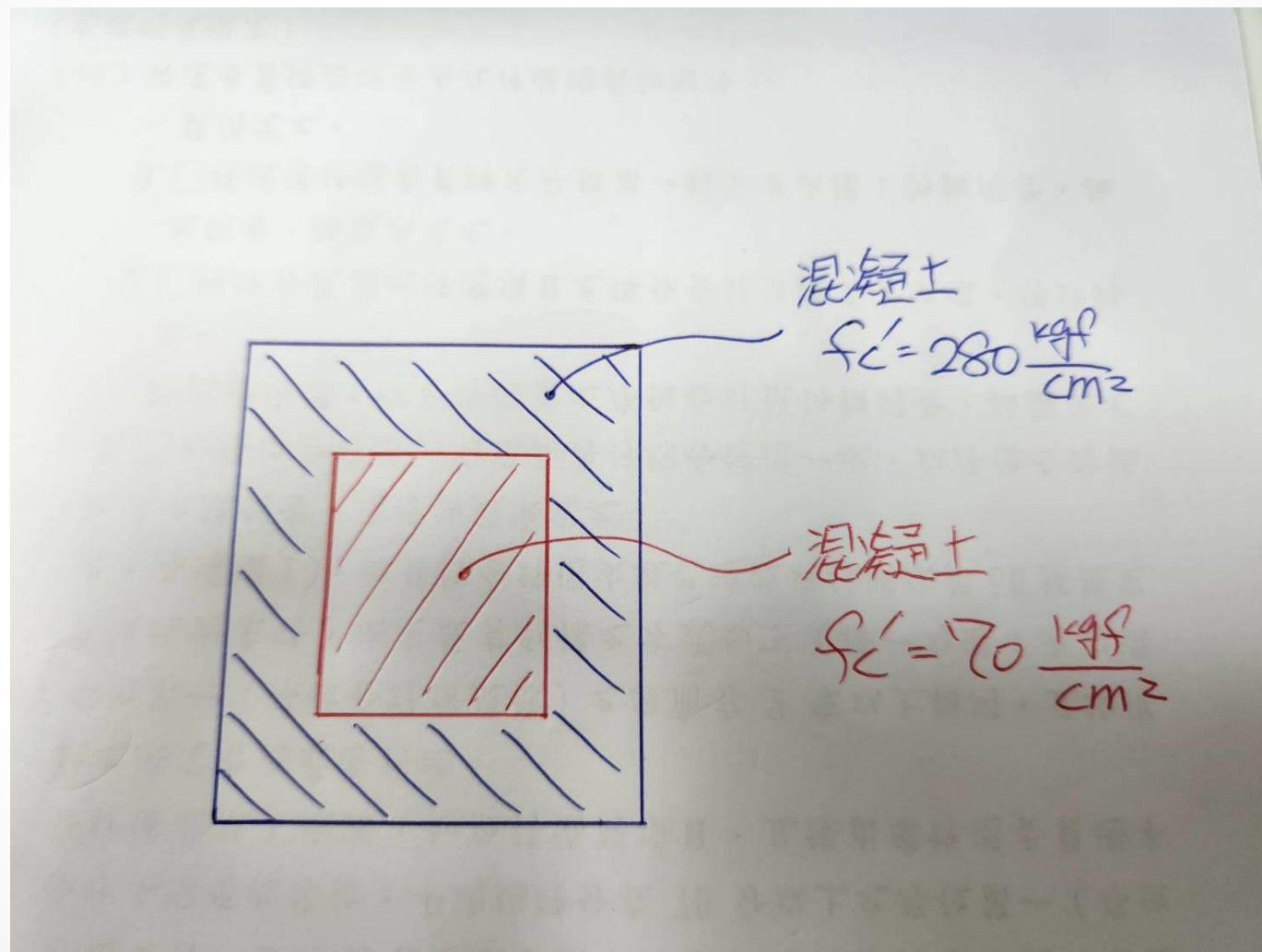


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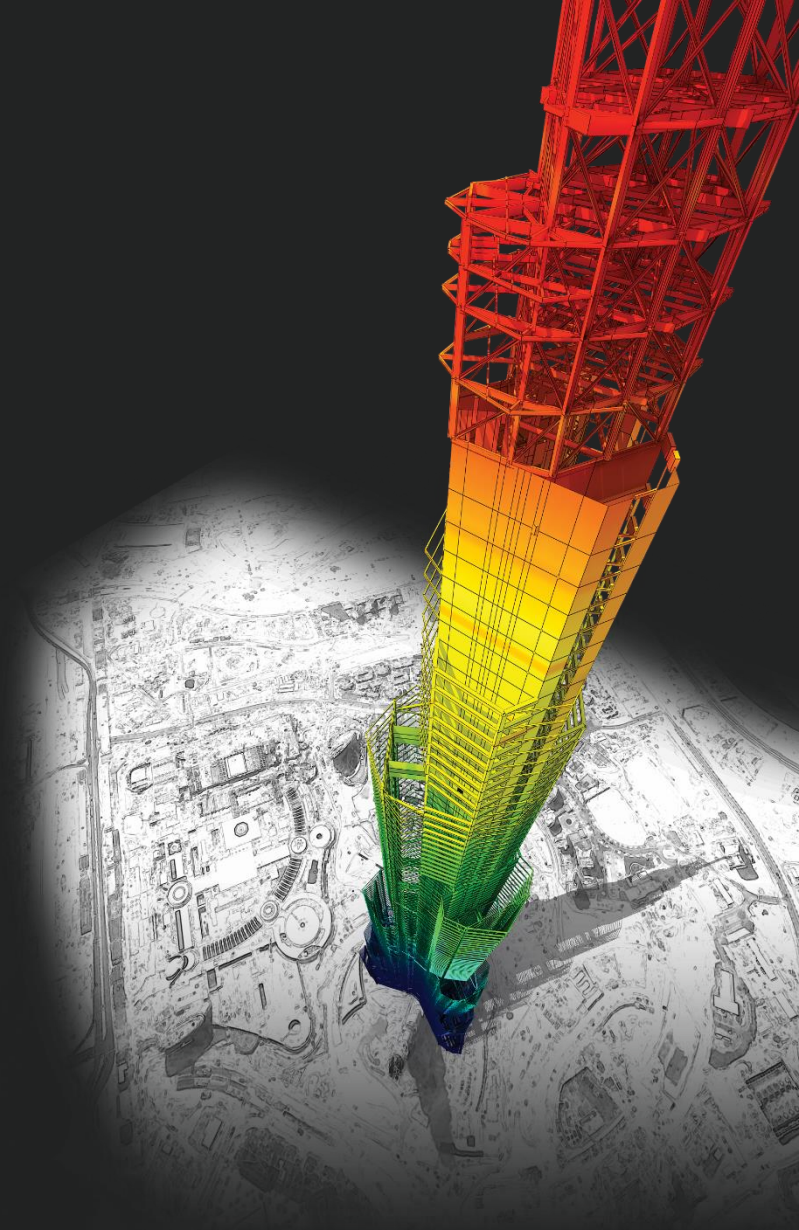
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問題

請問 我可以用 Gen 的 Tools -> Sectional Property Calculator 的功能，計算下方這種複合斷面的性質嗎？



回答



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回答

首先做兩個材料。
一個材料是 280 kgf/cm²，一個材料是 70 kgf/cm²

ID	Name
1	280
2	70

Buttons: Add, Delete, Close

Dialog: Add/Modify Material

ID: 1
Name: 280

Property

Modulus of Elasticity: 2511.40399626
Poisson's Ratio: 0.2
Density: 0.0000024

Buttons: OK, Cancel, Apply

Dialog: Add/Modify Material

ID: 2
Name: 70

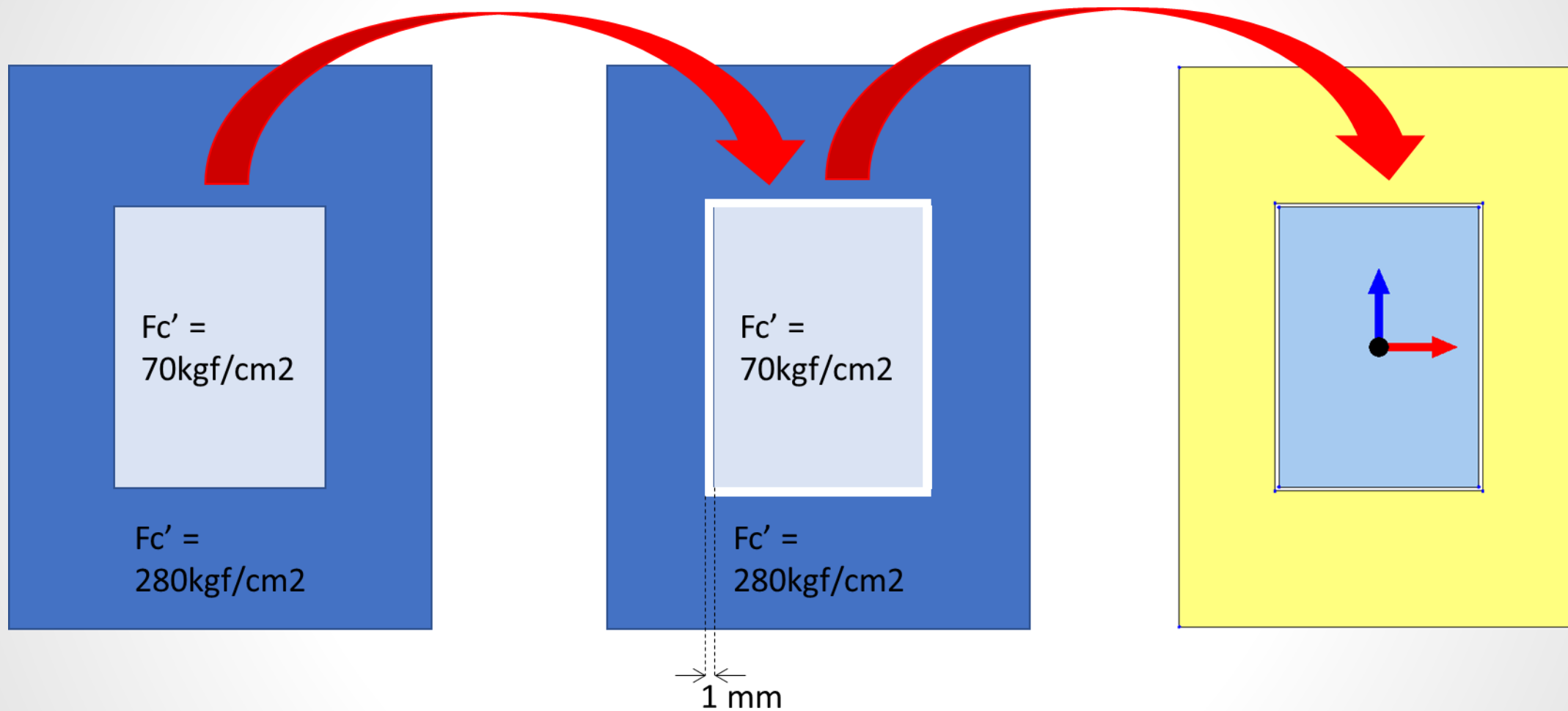
Property

Modulus of Elasticity: 1255.70
Poisson's Ratio: 0.2
Density: 2.4e-006

Buttons: OK, Cancel, Apply

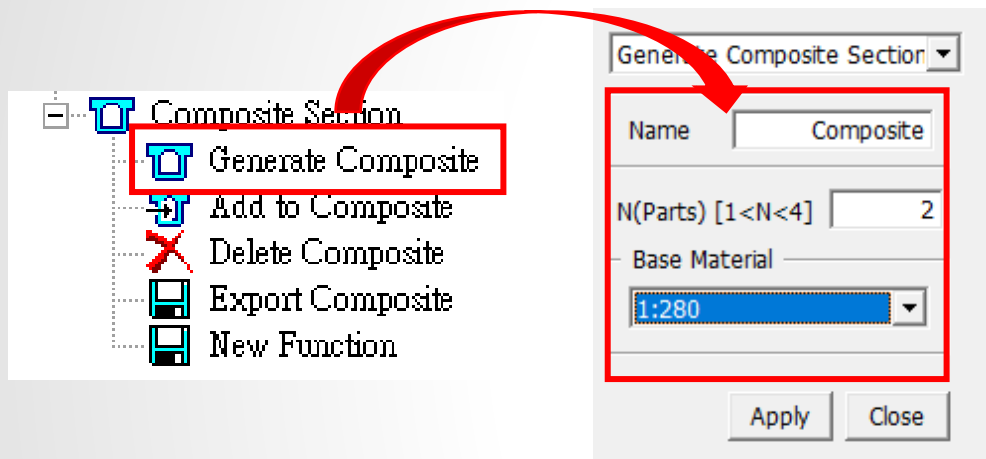
回答

在 SPC 功能，如果要做 Composite Section (跟你的圖一樣)，裡面斷面跟外面斷面應該要空個 1 mm 才行 (很小很小的才行)。

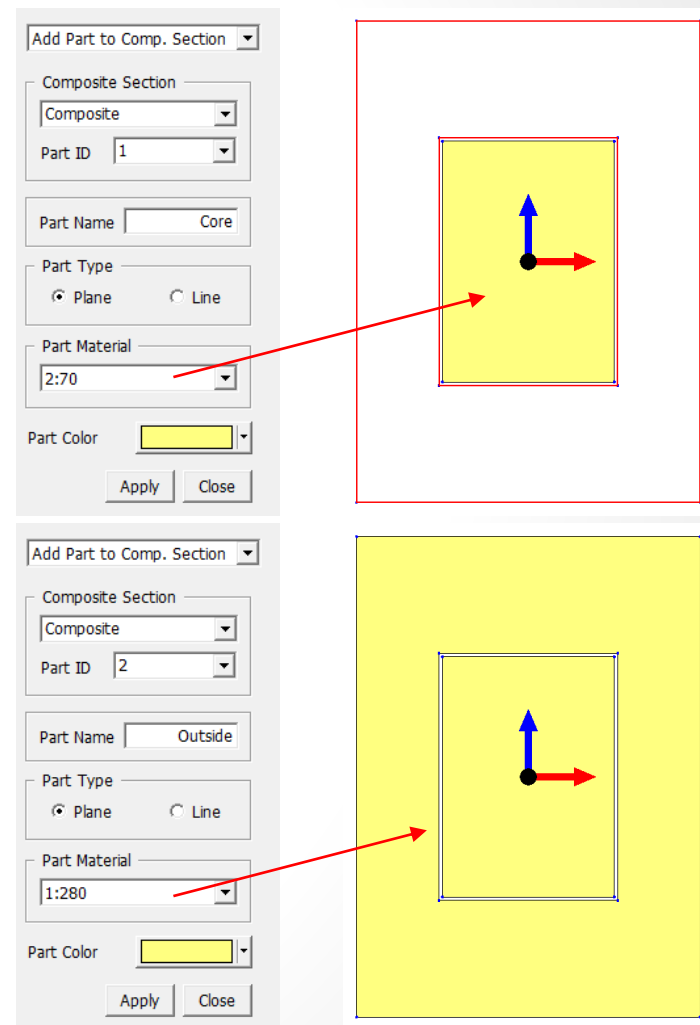


回答

然後在 Composite Section > Generate Composite > 在 N(parts) 輸入 2 > 選 Base Material 是 280。

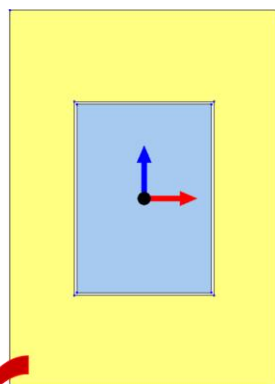


然後您可以輸入哪個斷面是 280，哪個斷面是 70。
在 Composite Section > Add to Composite，您可以設定斷面材料。



SPC 功能幫您計算 Equivalent Property。

在 Section Property > Value > 選 General Section > 您可以 Copy 那個 Property Section。

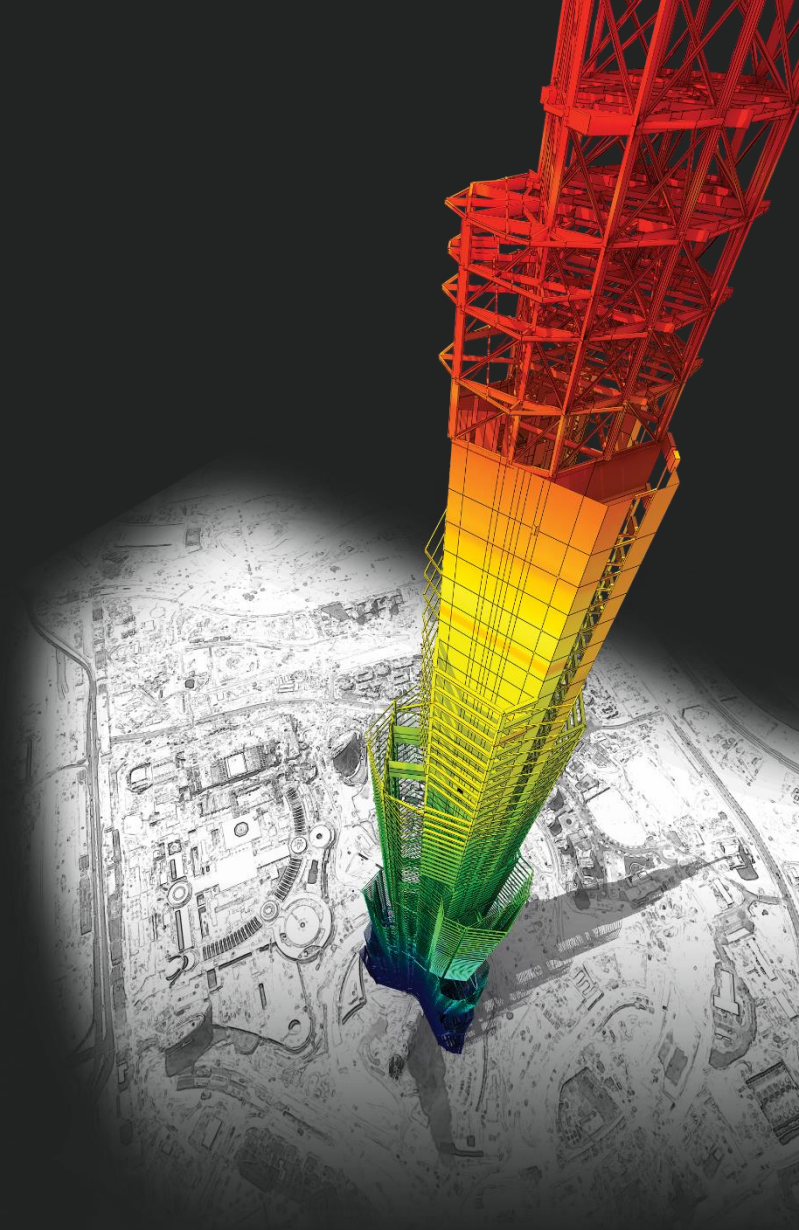


看 Composite Section Property Table

	Value [Length-Unit:mm]
Area	300149.930383
SAx	134910.809219
SAy	153257.745144
Ixx	13727400539.325232
Iyy	6992250887.410823
Ixy	0.000000
J	15316258916.409065
(+)Cx	250.000000
(-)Cx	250.000000
(+)Cy	350.000000
(-)Cy	350.000000

Section Properties		
Area	3.00150e+05	cm ²
Asy	1.34911e+05	cm ²
Asz	1.53258e+05	cm ²
Ixx	1.37274e+10	cm ⁴
Iyy	6.99225e+09	cm ⁴
Izz	0.00000e+00	cm ⁴
Cyp	250.0000	cm
Cym	250.0000	cm
Czp	350.0000	cm
Czm	350.0000	cm
Qyb	0.0000	cm ²
Qzb	0.0000	cm ²
Peri:O	0.00000e+00	cm
Peri:l	0.00000e+00	cm
Cent:y	0.0000	cm
Cent:z	0.0000	cm
y1	0.0000	cm

Thank You



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