



勢流科技

SIEMENS



# FloTHERM區域網格設定



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# 網格設定流程與原則

- 初估系統網格尺寸(依求解域尺寸、模型尺寸調整)
- 搭配 Localize 、 Inflation 等功能，針對重要熱傳局部加密網格

## 網格原則：

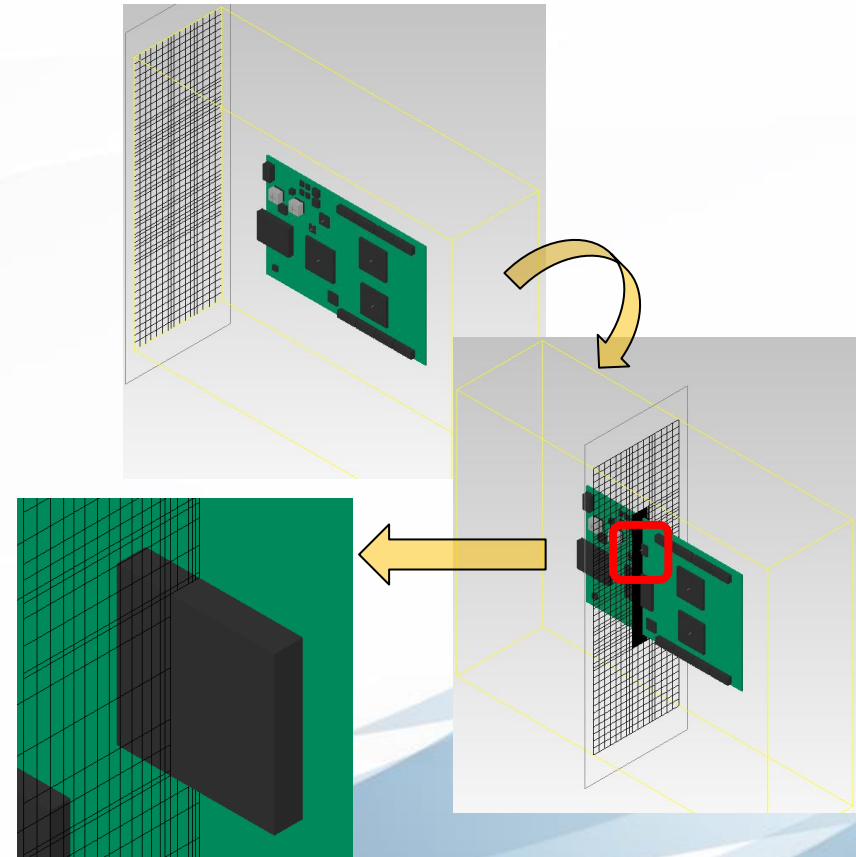
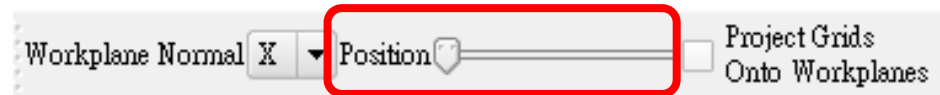
- 熱傳導厚度方向至少 2~3 個網格 例：PCB 、 IC 厚度、 fin 厚
- Aspect Ratio(長寬比)盡量  $< 200$
- 鄰近網格之"數量比"、"尺寸比"，不宜差距過大



# 網格呈現 - Workplane

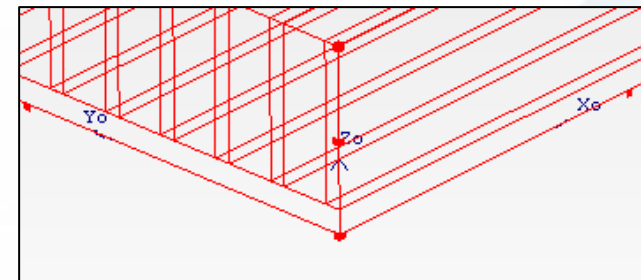
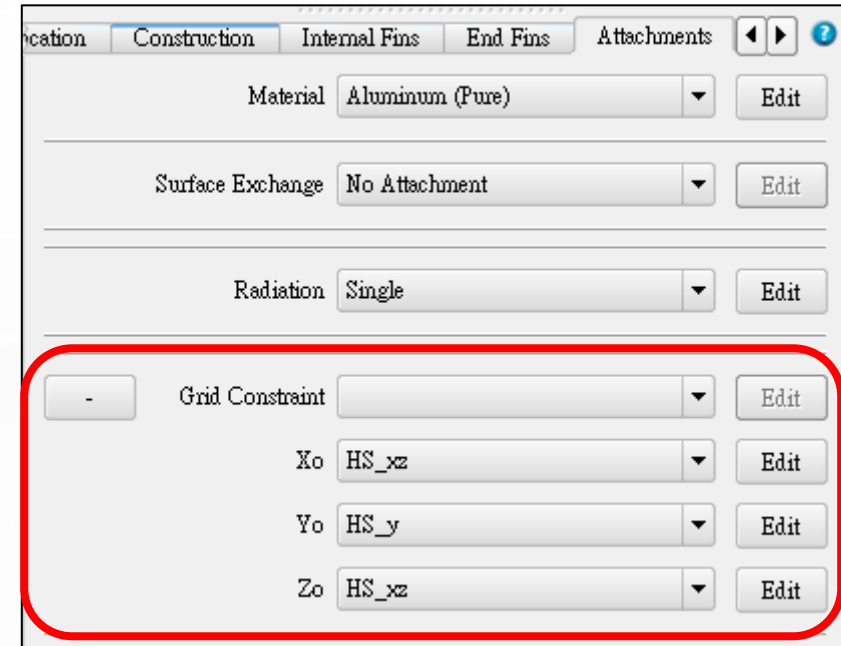
透過Workplane確認網格設定:

- Grid can be plotted on the workplane by pressing 'g' or via [Viewer/Show Grid Toggle].
- Use **Slide Bar** to adjust workplane location
- Toggle off "**Project grids onto workplane**" will show only the grid bisected by the workplane
- **The workplane location will NOT be reset** when the view from direction is changed using the x, y or z shortcuts.



# Grid Constraints

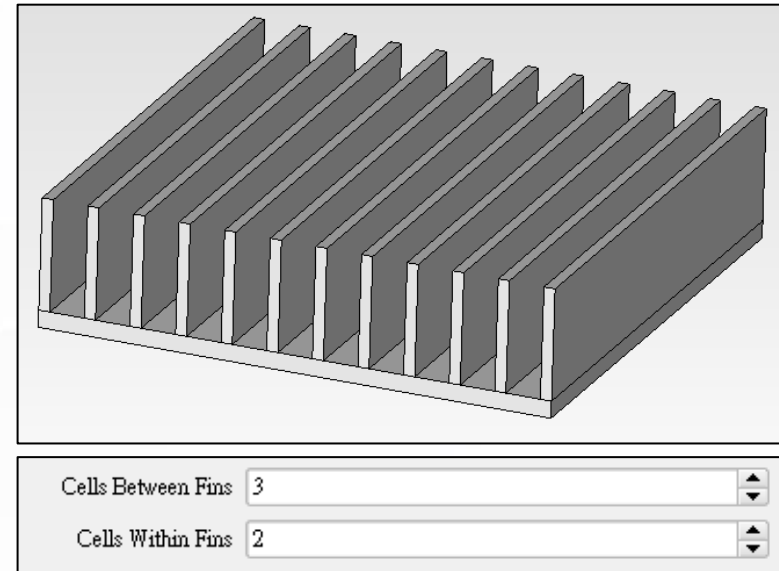
- 於物件、Region、群組 Grid Constraints 為控制局部區域網格參數。
- 可根據區域座標  $X_o$ 、 $Y_o$ 、 $Z_o$  方向，來設定對應的網格



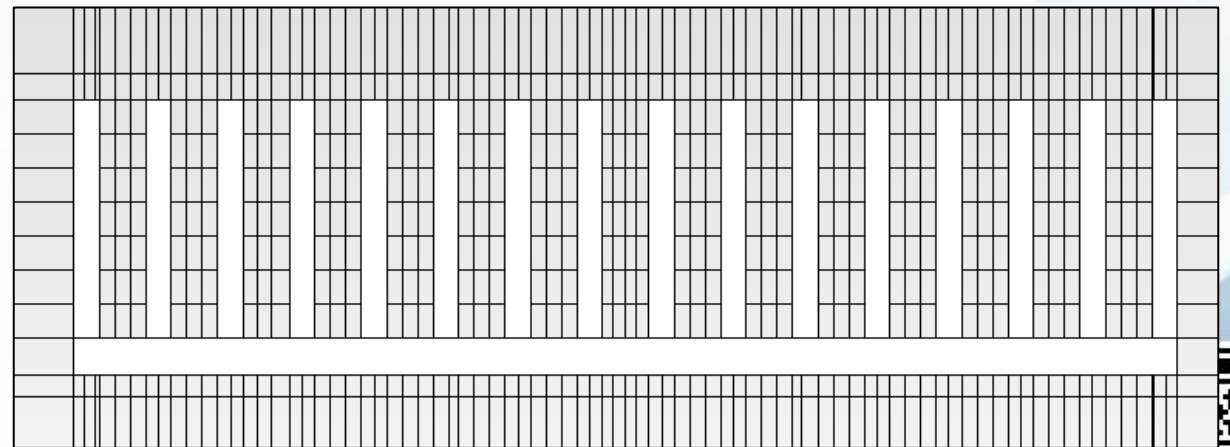
# Grid Constraints-Attribute

以Heat Sink網格設定為例:

- 設定網格大小限制，來控制網格疏密
- 需確保網格設定得滿足流道與鰭片的網格條件
- 網格線須切齊實體邊界



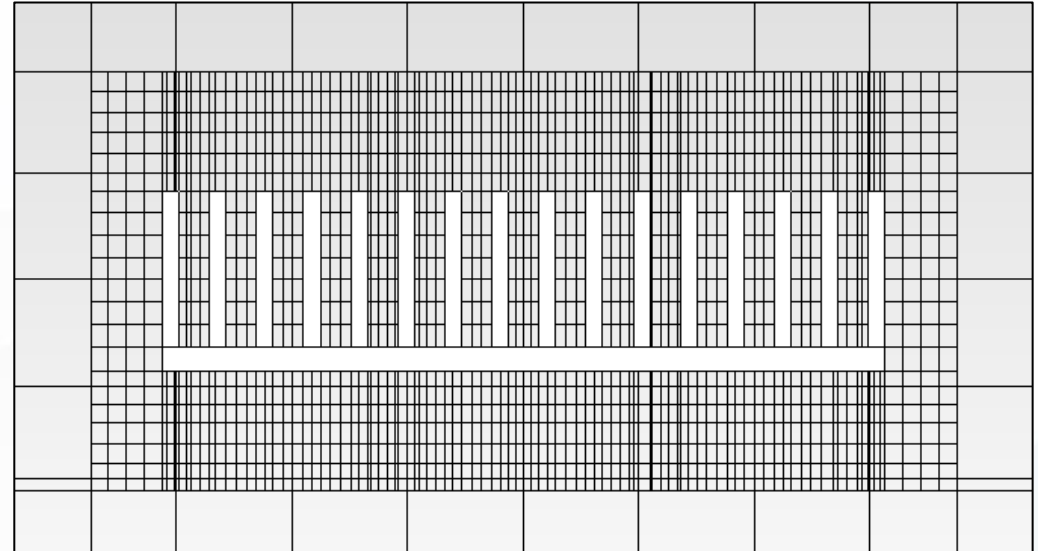
Attribute Data	Notes
Name	HS_y
<input checked="" type="checkbox"/> Minimum Size	
Minimum Size	0.06 mm
Min. No. / Max. Size	Maximum Size
Maximum Size	0.5 mm



# Grid Constraints-Inflation and Localize

Inflation 與 Localize 搭配使用，  
將網格設定鎖定在局部區域：

- Inflation 控制網格向外膨脹範圍及網格大小
- Localize Grid 網格設定的作用鎖定在膨脹的範圍內



Location	Construction	Internal Fins	End Fins	Attachmen
Name	Heatsink			
Position X	0.0381	m		
Y	0.096915	m		
Z	0.004371801	m		
	<input checked="" type="checkbox"/> Localize Grid			
	<input type="checkbox"/> De-activate			
	<input type="checkbox"/> Hide			
Transparency				

Low Side Inflation	
Inflation	Size
	3 mm
Min. No. / Max. Size	Maximum Size
	Maximum Size 1 mm
High Side Inflation	
Inflation	Size
	3 mm
Min. No. / Max. Size	Maximum Size
	Maximum Size 1 mm



# Thanks for your attention!



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