



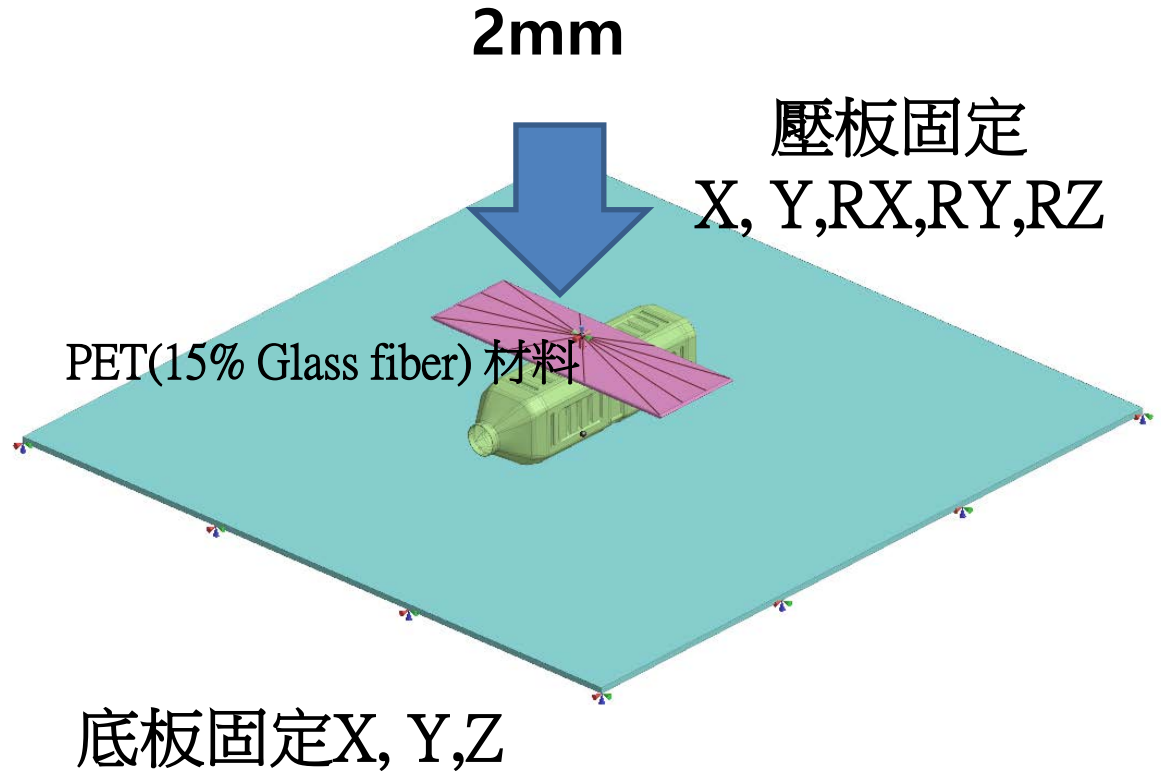
MIDAS

MESH FREE

寶特瓶_側邊強制位移下壓
(非線性分析/反力計算)

Simple, but Everything.



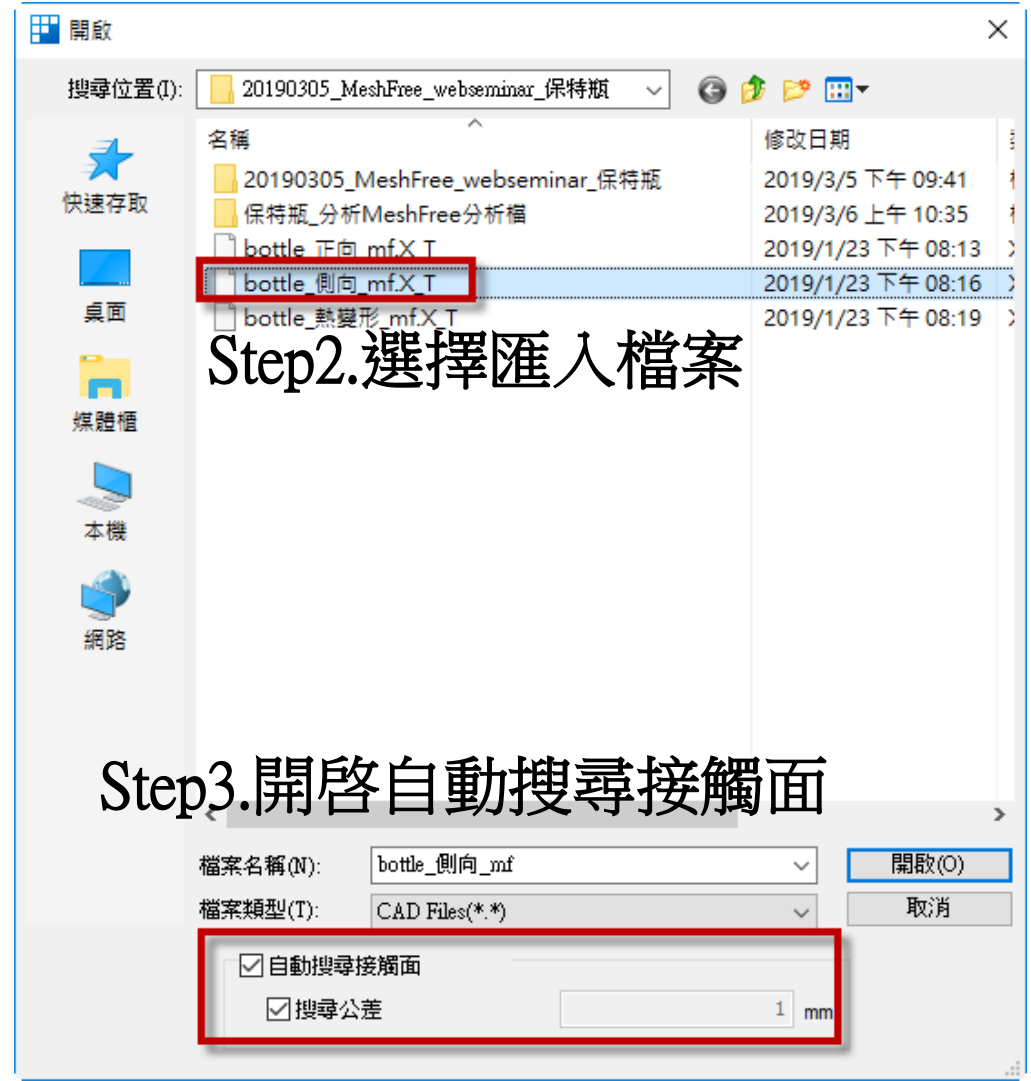




Step1.匯入3D 模型

MeshFree支援各類CAD 格式

- Parasolid (9 - 29) Files (*.x_t;*.xmt_txt;*.x_b;*.xmt_bin)
- ACIS (R1 - 2017 1.0) Files (*.sat;*.sab;*.asat;*.asab)
- STEP (AP203, AP214, AP242) Files (*.stp;*.step)
- IGES (Up to 5.3) Files (*.igs;*.iges)
- Pro-E (16 - Creo 3.0) Files (*.prt;*.prt.*;*.asm;*.asm.*)
- CATIA V4 (CATIA 4.1.9 - 4.2.4) Files (*.model;*.exp;*.session)
- CATIA V5 (V5R8 - V5-6R2016) Files (*.CATPart;*.CATProduct)
- Solid Works (98 - 2017) Files (*.sldprt;*.sldasm)
- Unigraphics (11 - NX11) Files (*.prt)
- Inventor Part (V6 - V2017) Files (*.ipt)
- Inventor Assembly (V11 - V2017) Files (*.iam)
- Solid Edge (V18 - ST9) Files (*.par;*.asm;*.psm)




Step2.選擇匯入檔案

Step3.開啓自動搜尋接觸面

新增PET(15% Glass fiber) 材料

材料定義

名稱: PET (15 Glass fiber) 顏色: 

分類: Plastics

- ABS
- ABS PC
- ABS-GF
- Acrylic
- Acrylic (Medium-high impact)
- EPDM
- Epoxy
- Gypsum bonded particleboard, par
- Gypsum bonded particleboard, per
- MGR
- Nylon
- Nylon 6/10
- PA Type 6
- PBT General Purpose
- PC
- PC High Viscosity
- PCB
- P-Cu
- PDMS (Polydimethylsiloxane)
- PE High Density
- PE Low/Medium Density
- PET (15% Glass fiber)**
- PET (33% Glass fiber)
- PET (unfilled, amorphous)
- PMMA
- Polycarbonate
- Polycarbonate-GF
- Polyethylene

載入 編輯

線性 彈塑性

結構

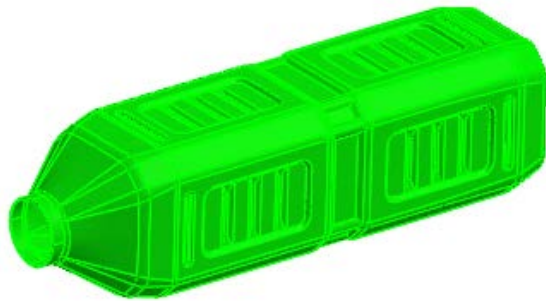
彈性模量	5710	N/mm ²
泊松比	0.3735	
質量密度	1.33e-006	kg/mm ³
屈服應力	0	N/mm ²

熱膨脹

熱膨脹係數	3.1e-005	
參考溫度	0	[°C]

熱

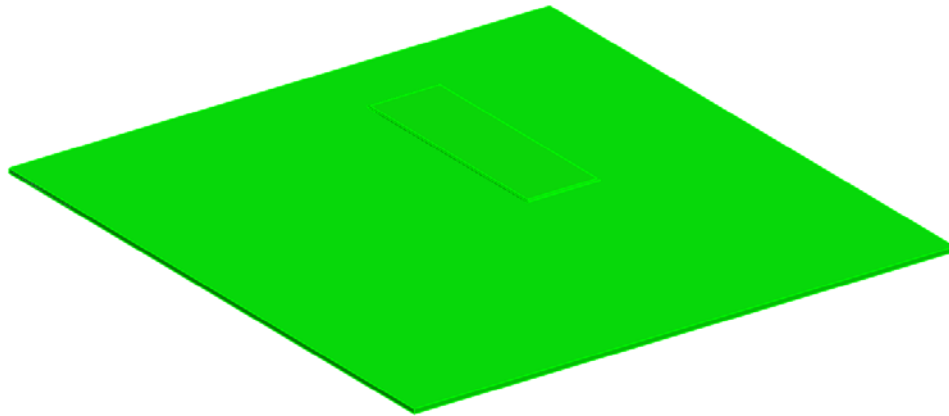
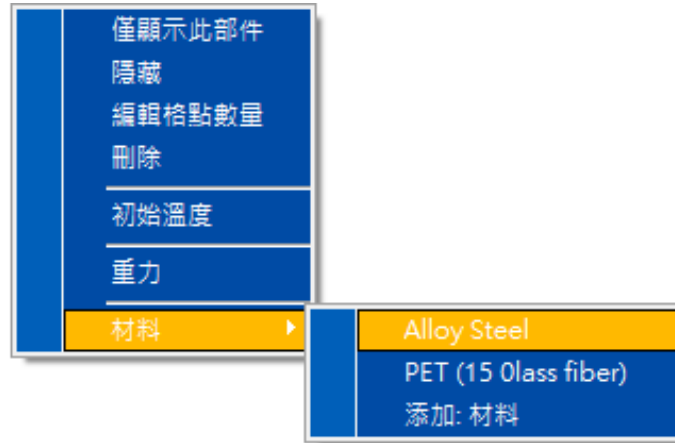
熱傳導係數	0.00038	W/(mm·[°C])
比熱	1460	J/(kg·[°C])
發熱係數	1	



滑鼠右鍵,材料定義



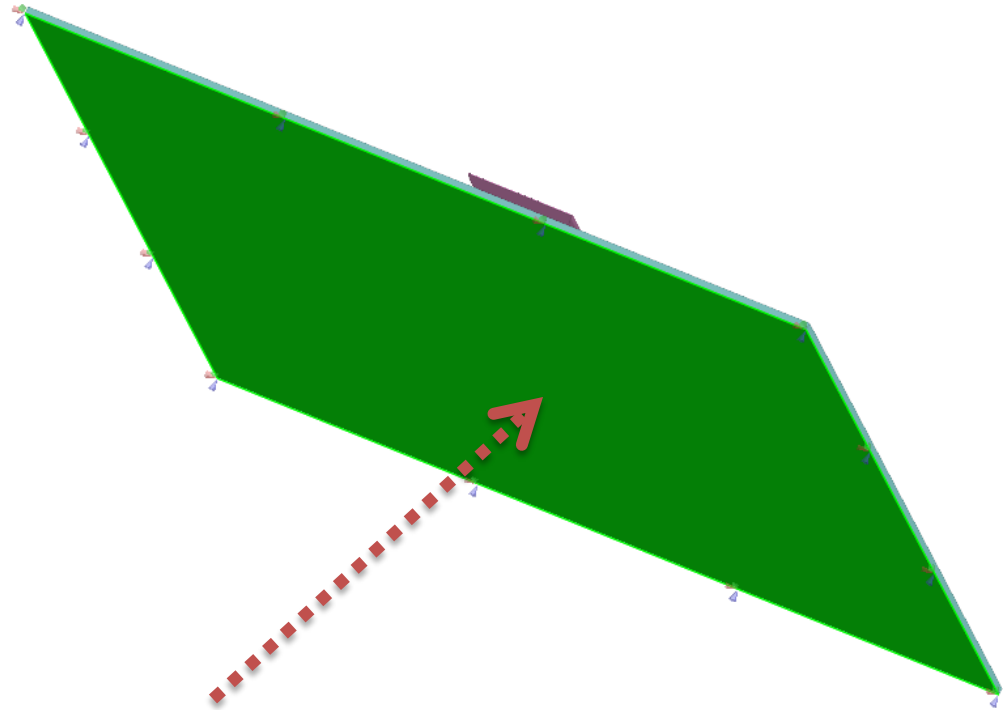
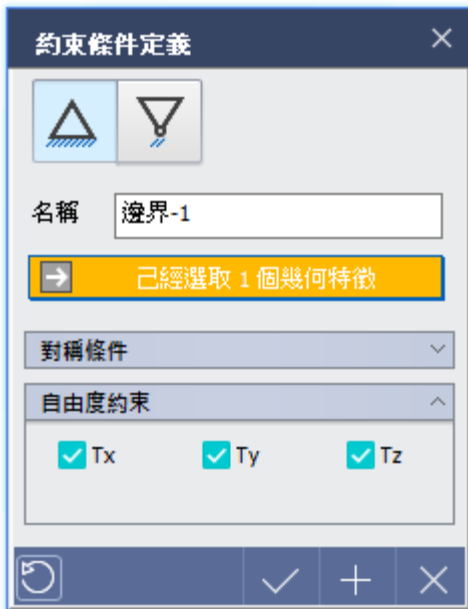
模型樹顯示指定材料



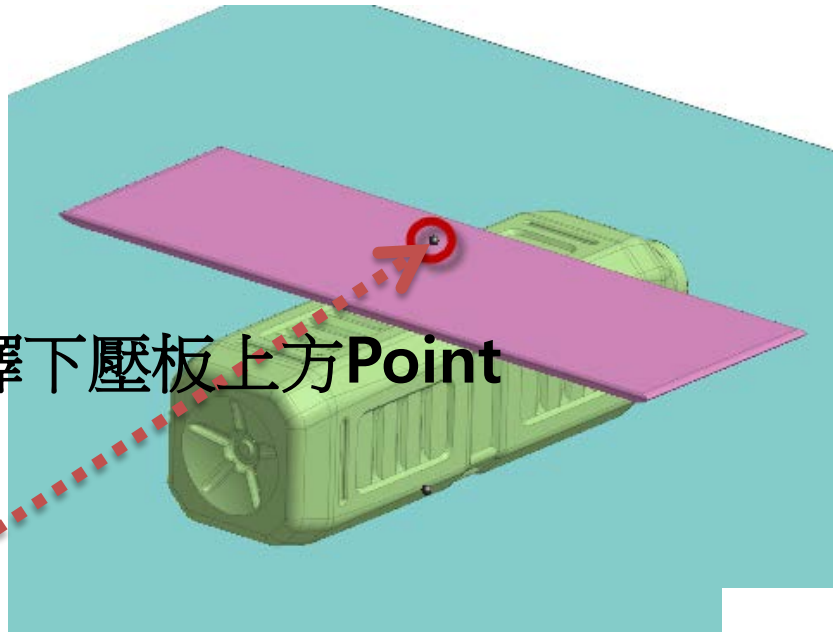
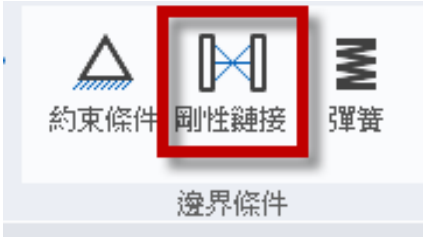
滑鼠右鍵,材料定義



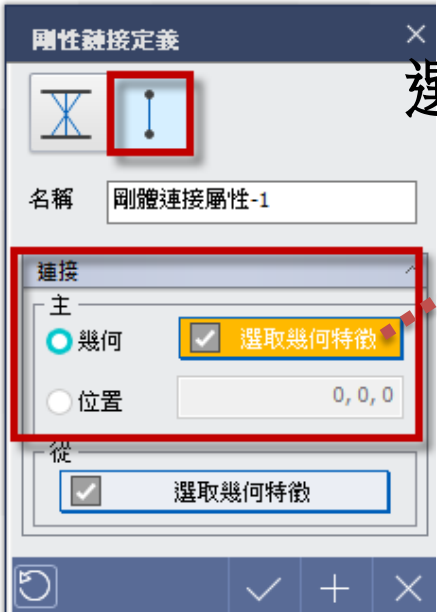
模型樹顯示指定材料



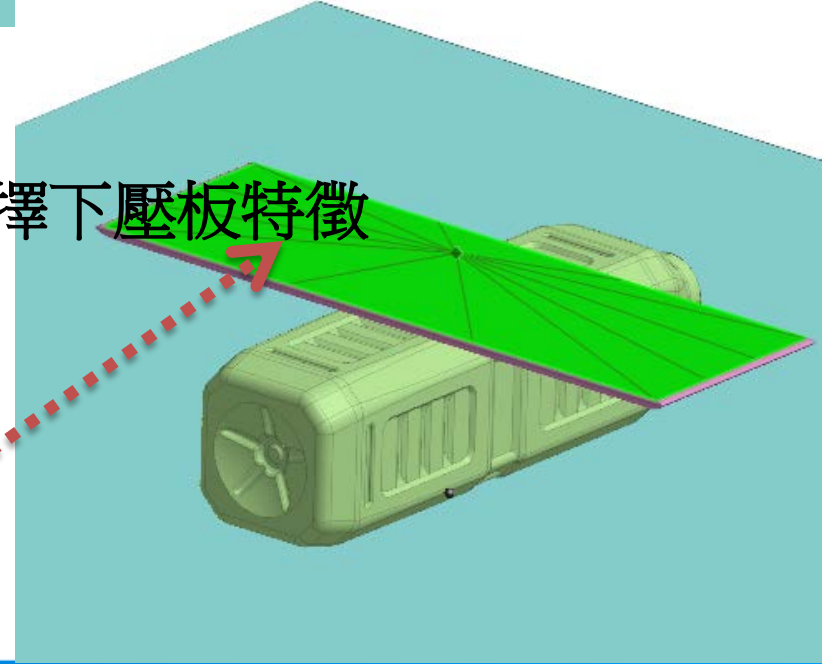
選取底板特徵
拘束(TX/TY/TZ)

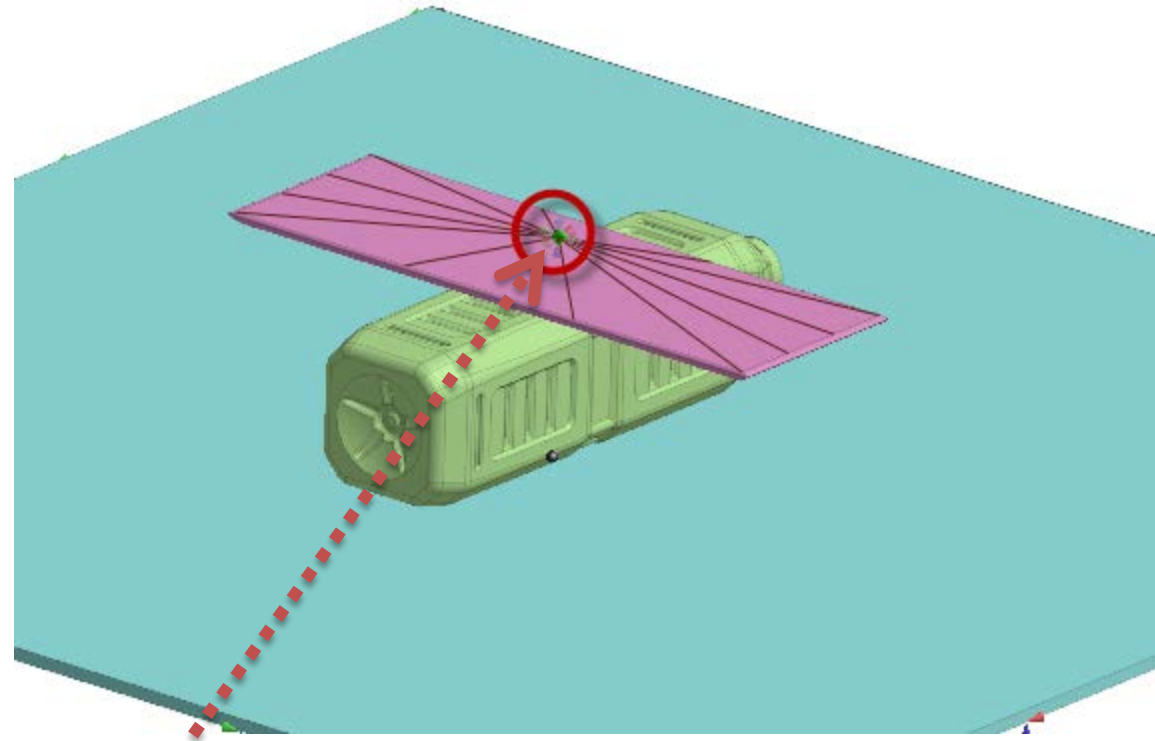
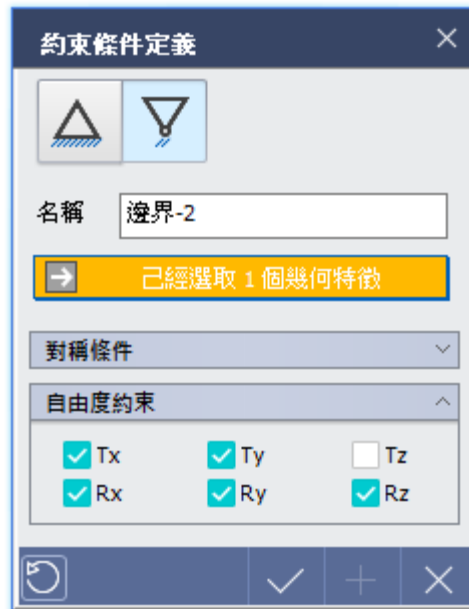


選擇下壓板上方Point

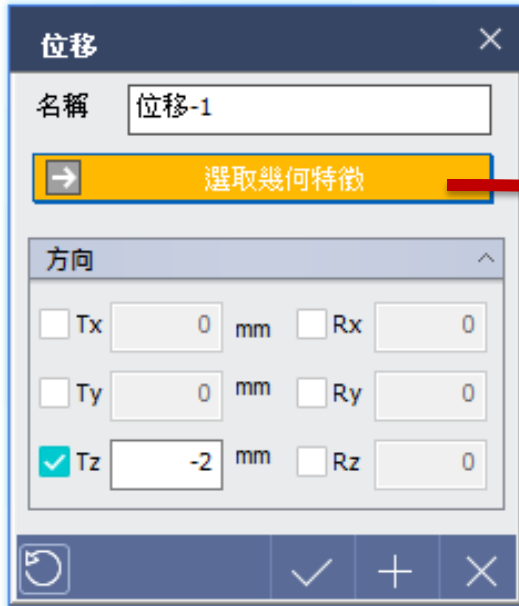


選擇下壓板特徵

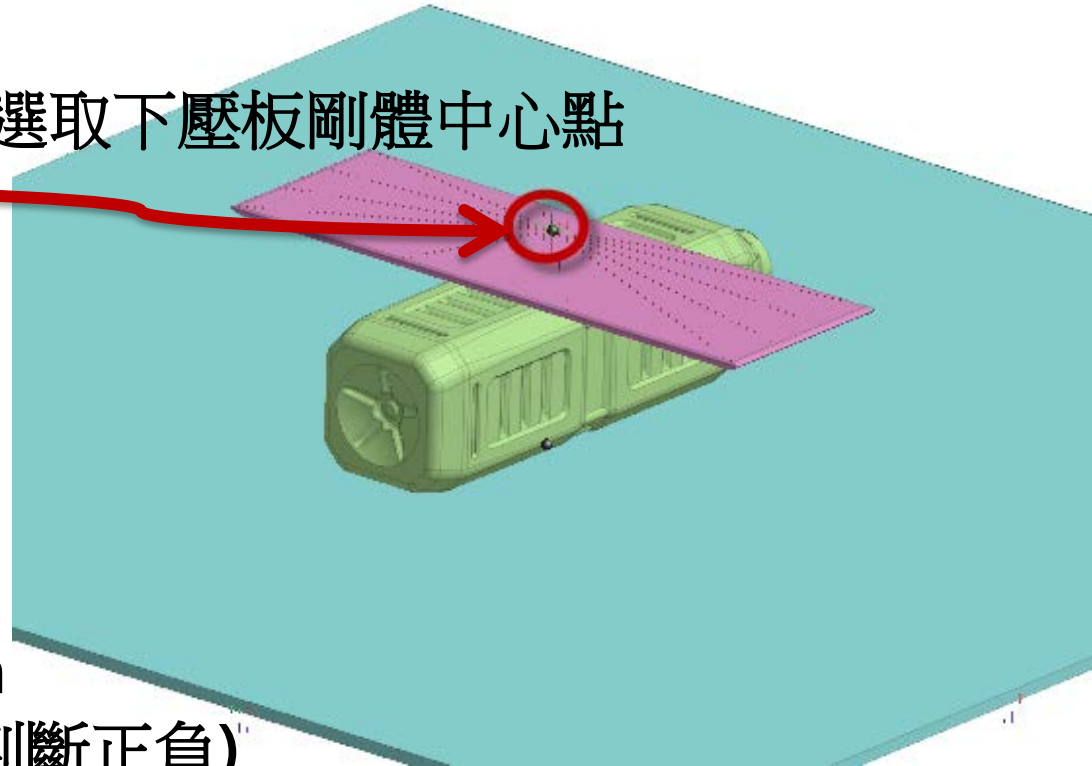




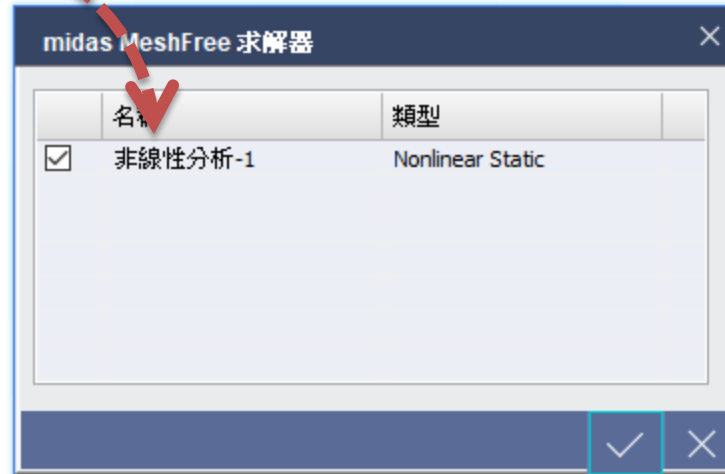
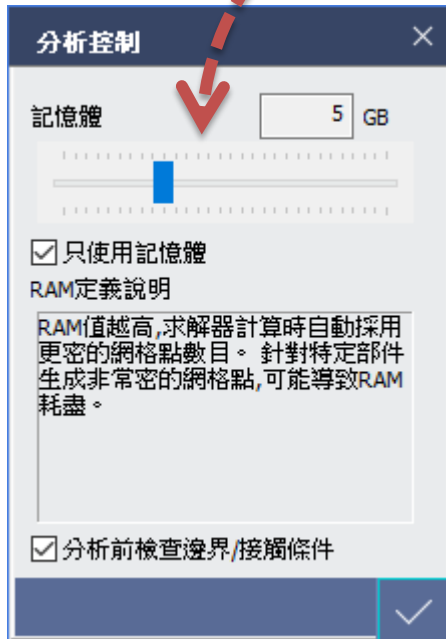
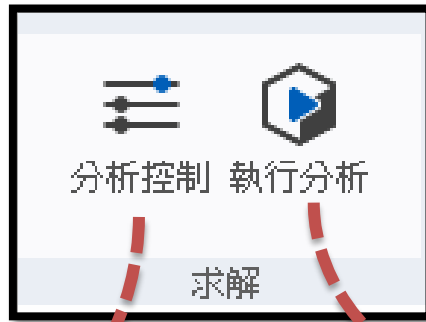
選取下壓板剛體中心點
拘束(TX/TY/RX/R Y/RZ)



選取下壓板剛體中心點



下壓2mm
(根據Global座標判斷正負)



記憶體大小

- 1.計算速度
- 2.分析準確性

midas MeshFree - 保特瓶_側邊強制位移下壓

操作選項 工具

開始 分析條件 約束條件 剛性連接 彈簧 重力 力 集中質量 壓力 扭矩 離心力 位移 初始溫度 結構溫度 分析控制 執行分析 分析結果

邊界條件 載荷 求解

模型 材料 顏色

- 幾何(3)
 - GDXL-HCT-580_PET (15 Class)
 - 拉伸(1) Alloy Steel
 - 拉伸(1) Alloy Steel
 - 點(2)
 - 點(1)
 - 點
- 材料
 - 接觸(2)
 - 拉伸-GDXL-HC_焊接
 - 拉伸-GDXL-HC_焊接
 - 邊界(3)
 - 邊界-1 約束條件
 - 邊界-2 約束條件
 - 剛體連接屬性-1 剛性連接
 - 載荷(1)
 - 位移-1 位移
- 分析
 - 分析工况
 - 非線性分析-1
 - 分析工况控制
 - 模型(5)
 - 接觸(2)
 - 邊界(3)
 - 載荷(1)

求解程序 [1/1]

自動網點計算

網點創建

接觸搜索

設置

迭代計算

80%

取消

Maximum Displacement vs. Load Scale Factor

Load Scale Factor	Maximum Displacement
0.00e+000	0.00e+000
1.00e-001	-2.50e-001
2.00e-001	-5.00e-001
3.00e-001	-6.00e-001

Maximum Rotation vs. Load Scale Factor

Load Scale Factor	Maximum Rotation
0.00e+000	0.000e+000
1.00e-001	0.000e+000
2.00e-001	0.000e+000
3.00e-001	0.000e+000

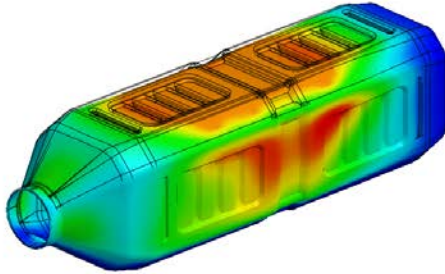
RESULT SUMMARY

MAXIMUM TRANSLATION -4.8310E-001 (T:392553), MAXIMUM ROTATION 0.0000E+000 (R:31)

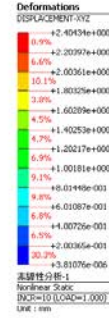
-275.4214, 446.0335, 294.0993

N mm J

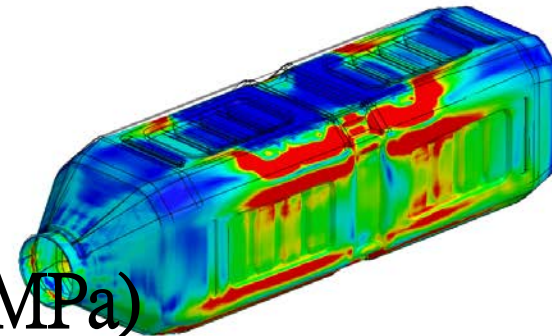
分析類型 非線性分析-1
Step [INCR=10 (LOAD=1,000)]
結果 DISPLACEMENT-XYZ



變形量(mm)



分析類型 非線性分析-1
Step [INCR=10 (LOAD=1,000)]
結果 STRESS VON MISES



應力(MPa)





分析結果

反力

已經選取 1 個幾何特徵

計算

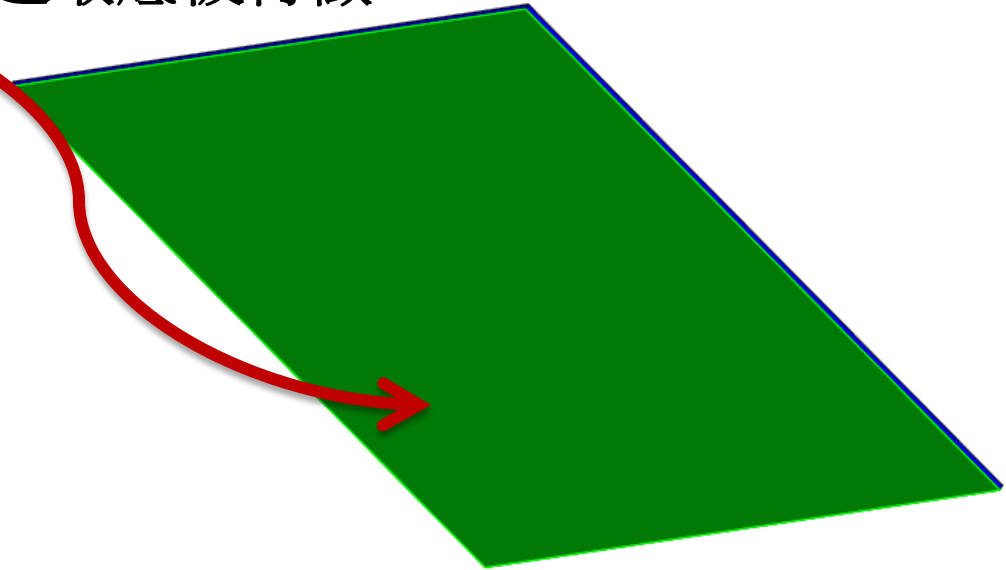
名稱	值
FX	-1.56e+003
FY	0.63
FZ	1.27e+004

分析步

分析步 : 結果

- Nonlinear Static : INCR=5 (LOAD=0.500)
- Nonlinear Static : INCR=6 (LOAD=0.600)
- Nonlinear Static : INCR=7 (LOAD=0.700)
- Nonlinear Static : INCR=8 (LOAD=0.800)
- Nonlinear Static : INCR=9 (LOAD=0.900)
- Nonlinear Static : INCR=10 (LOAD=1.000)

選取底板特徵



選擇分析步計算反力