

## Skewed plate under uniform pressure

<b>REFERENCE</b>	The Standard NAFEMS Benchmarks, Rev. 3, NAFEMS, Glasgow, 1990
<b>MODEL FILENAME</b>	Skewed plate.nfx

A skewed plate model with obtuse angles of 150 degrees (see Figure 1.) subjected to uniform pressure of 700 Pa is evaluated. The maximum principal stress on the lower surface at the center of the plate (point E) is obtained using shell, solid and layered solid elements.

The reference value is taken from the standard NAFEMS benchmarks.

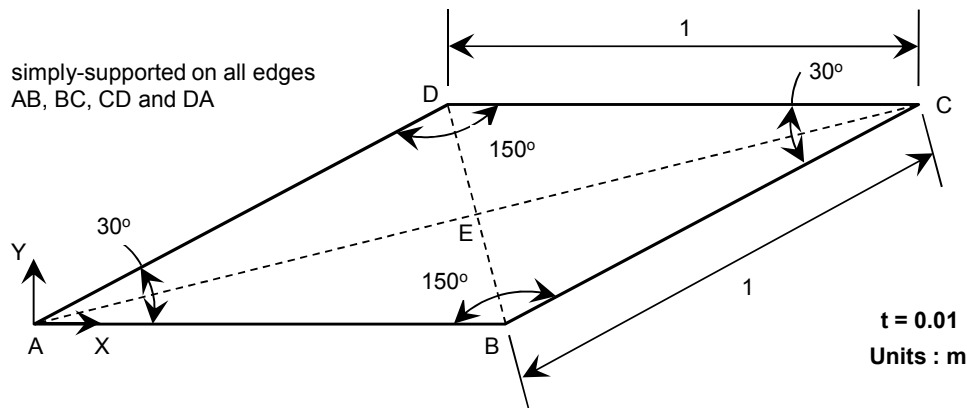


Figure 1. Skewed plate model

Material data	Young's modulus	$E = 210 \text{ GPa}$
	Poisson's ratio	$\nu = 0.3$
Section property	Thickness	$t = 0.01 \text{ m}$

Table 1. Maximum principal stress at bottom surface  $\sigma_{P1}$  obtained using shell elements

		$\sigma_{P1}^E$ [MPa]		
Reference		<b>0.802</b>		
Number of elements per side		2	<b>4</b>	8
Element Type	QUAD-4	0.666	<b>0.799</b>	0.799