

5-bay flat panel: Input for the PANDA2 processor, STAGSUNIT, is listed in Table 19

PA= 1.00000E+01 PB= 0.00000E+00 PX= 0.00000E+00

step 459 fabrication system ,seff, layer 1, inner fiber

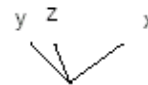
Fig.55 nonlinear effective stress - inner fiber; case=allflat

Minimum value = 4.78515E+02, Maximum value = 5.76033E+04

Θ x -35.84

Θ y -13.14

Θ z 35.63



— 2.989E+00 —

Fig. 55 STAGS prediction of the inner fiber effective stress in the flat panel at the design load, PA = 10.0 (Nx = -1000 lb/in). The inner fiber is on the panel skin surface opposite from that to which the external stringers are attached. Compare with Fig. 37, which pertains to the curved panel with internal stringers. No overall axial bending nor in-plane warping of the panel skin at the four edges are permitted in this STAGS model. Notice that, unlike the situation with the curved panel, for the flat panel the outer and inner fiber maximum effective stress are about the same, a result of the fact that the amplitudes of the inward and outward buckles are about the same for the flat panel (Fig. 53).