

Table 67 Input file, *.BEG, for the "BEGIN" processor for an equivalent "**perfect**" **isogrid-stiffened** equivalent ellipsoidal shell in which there is **one load set**:

Load set 1=+mode 1 and +mode 2 axisymmetric imperfections, one at a time
The input file name is "eqellperf.stiffened.BEG".

Change the case name from "eqellperf.stiffened" to "eqellperf"

before processing. The shell has a very, very small initial imperfection with amplitude, Wimp=0.0001 inch. Only one load set is required because the margins corresponding to -mode 1 and -mode 2 would be identical to those corresponding to +mode 1 and +mode 2 axisymmetric imperfection shapes, since the amplitude of the buckling modal imperfection is so small. Compare with Table 35, for which there are two load sets.

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n      $ Do you want a tutorial session and tutorial output?
13     $ number of x-coordinates: npoint
13     $ Number Ixinput of rows in the array  xinput: Ixinput
0.000000 $ x-coordinates for ends of segments: xinput( 1)
2.554500 $ x-coordinates for ends of segments: xinput( 2)
5.666450 $ x-coordinates for ends of segments: xinput( 3)
8.753630 $ x-coordinates for ends of segments: xinput( 4)
11.79770 $ x-coordinates for ends of segments: xinput( 5)
14.77232 $ x-coordinates for ends of segments: xinput( 6)
17.63477 $ x-coordinates for ends of segments: xinput( 7)
19.63631 $ x-coordinates for ends of segments: xinput( 8)
21.26065 $ x-coordinates for ends of segments: xinput( 9)
22.70426 $ x-coordinates for ends of segments: xinput(10)
23.86535 $ x-coordinates for ends of segments: xinput(11)
24.54286 $ x-coordinates for ends of segments: xinput(12)
24.75000 $ x-coordinates for ends of segments: xinput(13)
24.75000 $ length of semi-major axis: ainput
12.37500 $ length of semi-minor axis of ellipse: binput
11      $ number of nodal points per segment: nodes
17.63477 $ max. x-coordinate for x-coordinate callouts: xlimit
0.400000 $ skin thickness at xinput: THKSKN( 1)
0.400000 $ skin thickness at xinput: THKSKN( 2)
0.400000 $ skin thickness at xinput: THKSKN( 3)
0.400000 $ skin thickness at xinput: THKSKN( 4)
0.400000 $ skin thickness at xinput: THKSKN( 5)
0.400000 $ skin thickness at xinput: THKSKN( 6)
0.400000 $ skin thickness at xinput: THKSKN( 7)
0.400000 $ skin thickness at xinput: THKSKN( 8)
0.400000 $ skin thickness at xinput: THKSKN( 9)
0.400000 $ skin thickness at xinput: THKSKN(10)
0.400000 $ skin thickness at xinput: THKSKN(11)
0.400000 $ skin thickness at xinput: THKSKN(12)
0.400000 $ skin thickness at xinput: THKSKN(13)
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1.000000 $ height of an isogrid stiffening member: HIGH1( 1)
1.000000 $ height of an isogrid stiffening member: HIGH1( 2)
1.000000 $ height of an isogrid stiffening member: HIGH1( 3)
1.000000 $ height of an isogrid stiffening member: HIGH1( 4)
1.000000 $ height of an isogrid stiffening member: HIGH1( 5)
1.000000 $ height of an isogrid stiffening member: HIGH1( 6)
1.000000 $ height of an isogrid stiffening member: HIGH1( 7)
1.000000 $ height of an isogrid stiffening member: HIGH1( 8)
1.000000 $ height of an isogrid stiffening member: HIGH1( 1)
1.000000 $ height of an isogrid stiffening member: HIGH1( 2)
1.000000 $ height of an isogrid stiffening member: HIGH1( 3)
1.000000 $ height of an isogrid stiffening member: HIGH1( 4)
1.000000 $ height of an isogrid stiffening member: HIGH1( 5)
3.000000 $ spacing of the isogrid members: SPACNG
0.100000 $ thickness of an isogrid stiffening member: THSTIF
0.200000 $ thickness of the cylindrical shell: THKCYL
24.75000 $ radius of the cylindrical shell: RADCYL
0.000000 $ length of the cylindrical segment: LENCYL
0.0001000 $ amplitude of the axisymmetric imperfection: WIMP
0.160E+08 $ elastic modulus: EMATL
0.2500000 $ Poisson ratio of material: NUMATL
0.4155E-03 $ mass density of material: DNMATL
    2 $ strategy control for imperfection shapes: IMODE
    1 $ Number NCASES of load cases (environments): NCASES
460.0000 $ uniform external pressure: PRESS( 1)
550.0000 $ allowable pressure for axisymmetric collapse:CLAPS1A(1)
1.000000 $ factor of safety for axisymmetric collapse: CLAPS1F( 1)
1.000000 $ allowable general buckling load factor: GENBK1A( 1)
1.000000 $ factor of safety for general buckling: GENBK1F( 1)
    2 $ Number JSKNBK1 of columns in the array, SKNBK1: JSKNBK1
1.000000 $ allowable buckling load factor: SKNBK1A( 1, 1)
1.000000 $ allowable buckling load factor: SKNBK1A( 1, 2)
    1 $ factor of safety for skin buckling: SKNBK1F( 1, 1)
    1 $ factor of safety for skin buckling: SKNBK1F( 1, 2)
1.000000 $ allowable for isogrid stiffener buckling: STFBK1A( 1, 1)
1.000000 $ allowable for isogrid stiffener buckling: STFBK1A( 1, 2)
1.000000 $ factor of safety, isogrid stiffner buckling:STFBK1F(1,1)
1.000000 $ factor of safety, isogrid stiffner buckling:STFBK1F(1,2)
120000.0 $ allowable stress for the shell skin: SKNST1A( 1, 1)
120000.0 $ allowable stress for the shell skin: SKNST1A( 1, 2)
1.000000 $ factor of safety for skin stress: SKNST1F( 1, 1)
1.000000 $ factor of safety for skin stress: SKNST1F( 1, 2)
120000.0 $ allowable stress in isogrid stiffeners: STFST1A( 1, 1)
120000.0 $ allowable stress in isogrid stiffeners: STFST1A( 1, 2)
1.000000 $ factor of safety, stress in isogrid member:STFST1F(1,1)
1.000000 $ factor of safety, stress in isogrid member:STFST1F(1,2)
0.700000 $ allowable normal displacement at apex: WAPEX1A(1)
1.000000 $ factor of safety for WAPEX: WAPEX1F( 1)

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550.0000 \$ allowable pressure for axisymmetric collapse:CLAPS2A(1)
1.000000 \$ factor of safety for axisymmetric collapse: CLAPS2F(1)
1.000000 \$ allowable general buckling load factor): GENBK2A(1)
1.000000 \$ factor of safety for general buckling: GENBK2F(1)
2 \$ Number JSKNBK2 of columns in the array, SKNBK2: JSKNBK2
1.000000 \$ allowable skin buckling load factor: SKNBK2A(1, 1)
1.000000 \$ allowable skin buckling load factor: SKNBK2A(1, 2)
1 \$ factor of safety for local skin buckling: SKNBK2F(1, 1)
1 \$ factor of safety for local skin buckling: SKNBK2F(1, 2)
1.000000 \$ allowable for isogrid stiffener buckling: STFBK2A(1, 1)
1.000000 \$ allowable for isogrid stiffener buckling: STFBK2A(1, 2)
1.000000 \$ factor of safety, isogrid stiffner buckling:STFBK2F(1,1)
1.000000 \$ factor of safety, isogrid stiffner buckling:STFBK2F(1,2)
120000.0 \$ allowable stress for the shell skin: SKNST2A(1, 1)
120000.0 \$ allowable stress for the shell skin: SKNST2A(1, 2)
1.000000 \$ factor of safety for skin stress: SKNST2F(1, 1)
1.000000 \$ factor of safety for skin stress: SKNST2F(1, 2)
120000.0 \$ allowable stress in isogrid stiffeners: STFST2A(1, 1)
120000.0 \$ allowable stress in isogrid stiffeners: STFST2A(1, 2)
1.000000 \$ factor of safety, stress in isogrid member:STFST2F(1,1)
1.000000 \$ factor of safety, stress in isogrid member:STFST2F(1,2)
0.7000000 \$ allowable normal displacement at apex: WAPEX2A(1)
1.000000 \$ factor of safety for WAPEX: WAPEX2F(1)

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