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Table 50 Optimized imperfect isogrid-stiffened equivalent elliposidal
shell. Design margins from Load Set 3 (+mode 3 and +mode 4 imperfection
shapes) corresponding to the design optimized with the use of only mode 1
and mode 2 imperfection shapes. These margins are developed via the same
seven analyses of the type listed in Table 30. Critical margins in bold.
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A typical margin with the meanings of the indices, a, b, c, d, e,
explained:
                                 a
   1.380E+00
              (STFBK1(3,1)/STFBK1A(3,1))/STFBK1F(3,1)-1; F.S.= 1.00
                    c d e
                                c de
                                             c de
        "STFBK" means "Stiffener buckling"
    a = "A" means "Allowable value"
    b = "F" means "Factor of safety"
    c = Imperfection mode number, [1 = odd (mode 3); 2 = even (mode 4)]
    d = Load set number (3 or 4 in the cases explored here)
         Load set 3 means "use +mode 3 and +mode 4 imperfection shapes"
         Load set 4 means "use -mode 3 and -mode 4 imperfection shapes"
    e = Region number:
          (1 or 2 Region 1 is from the axis of revolution to xlimit,
                           that is, 0 < x < x  xlimit.
                  Region 2 is from xlimit to the equator,
                           that is, x = x < x < x < x.
*** RESULTS FOR LOAD SET NO. 3 (+mode 3 and +mode 4 imperfections) ***
MARGINS CORRESPONDING TO CURRENT DESIGN (F.S. = FACTOR OF SAFETY)
MARGIN CURRENT
NO.
        VALUE
                         DEFINITION
      6.727E-01
 1
                 (CLAPS1(3)/CLAPS1A(3)) / CLAPS1F(3)-1; F.S.= 1.00
                 (GENBK1(3)/GENBK1A(3)) / GENBK1F(3)-1; F.S.=
 2
      1.931E+00
                 (SKNBK1(3,1)/SKNBK1A(3,1))/SKNBK1F(3,1)-1; F.S.= 1.00
 3
      2.022E+00
                 (SKNBK1(3,2)/SKNBK1A(3,2))/SKNBK1F(3,2)-1; F.S.= 1.00
 4
      2.022E+00
                 (STFBK1(3,1)/STFBK1A(3,1))/STFBK1F(3,1)-1; F.S.= 1.00
 5
      1.380E+00
                 (STFBK1(3,2)/STFBK1A(3,2))/STFBK1F(3,2)-1; F.S.= 1.00
 6
      1.167E+00
 7
                 (SKNST1A(3,1)/SKNST1(3,1))/SKNST1F(3,1)-1; F.S.= 1.00
      5.313E-01
                 (SKNST1A(3,2)/SKNST1(3,2))/SKNST1F(3,2)-1; F.S.= 1.00
 8
     -5.063E-02
 9
      3.505E-01
                 (STFST1A(3,1)/STFST1(3,1))/STFST1F(3,1)-1; F.S.= 1.00
 10
     -2.263E-01
                 (STFST1A(3,2)/STFST1(3,2))/STFST1F(3,2)-1; F.S.= 1.00
      1.318E+00
                 (WAPEX1A(3)/WAPEX1(3)) / WAPEX1F(3)-1; F.S. = 1.00
11
12
                 (CLAPS2(3 )/CLAPS2A(3 )) / CLAPS2F(3 )-1; F.S.=
      6.727E-01
13
      1.807E+00
                 (GENBK2(3)/GENBK2A(3)) / GENBK2F(3)-1; F.S.=
                 (SKNBK2(3,1)/SKNBK2A(3,1))/SKNBK2F(3,1)-1; F.S.= 1.00
14
      2.202E+00
                 (SKNBK2(3,2)/SKNBK2A(3,2))/SKNBK2F(3,2)-1; F.S.= 1.00
15
      2.142E+00
                 (STFBK2(3,1)/STFBK2A(3,1))/STFBK2F(3,1)-1; F.S.= 1.00
16
      1.148E+00
                 (STFBK2(3,2)/STFBK2A(3,2))/STFBK2F(3,2)-1; F.S.= 1.00
17
      9.793E-01
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(SKNST2A(3,1)/SKNST2(3,1))/SKNST2F(3,1)-1; F.S.= 1.00

(SKNST2A(3,2)/SKNST2(3,2))/SKNST2F(3,2)-1; F.S.= 1.00

(STFST2A(3,1)/STFST2(3,1))/STFST2F(3,1)-1; F.S.= 1.00

(STFST2A(3,2)/STFST2(3,2))/STFST2F(3,2)-1; F.S.= 1.00

(WAPEX2A(3)/WAPEX2(3)) / WAPEX2F(3)-1; F.S.=

18

19

20

21

22

6.241E-01

1.102E-01

1.138E-01

1.251E+00

-3.096E-01