

Table 51 Optimized **imperfect isogrid-stiffened** equivalent elliposidal shell. Design margins from Load Set 4 (-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**.

A typical margin with the meanings of the indices, a, b, c, d, e, explained:

		a			b
8	2.033E-01	(SKNST1A(4,2)/SKNST1(4,2))	/SKNST1F(4,2)-1; F.S.= 1.00		
		c d e	c d e	c d e	

"SKNST" means "Skin effective stress"

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, $0 < x < xlimit$.)

Region 2 is from xlimit to the equator,
that is, $xlimit < x < \text{semi-major axis}$.)

*** RESULTS FOR LOAD SET NO. 4 (-mode 3 and -mode 4 imperfections) ***
MARGINS CORRESPONDING TO CURRENT DESIGN (F.S.= FACTOR OF SAFETY)

MARGIN CURRENT

NO.	VALUE	DEFINITION
1	3.365E-01	(CLAPS1(4)/CLAPS1A(4)) / CLAPS1F(4)-1; F.S.= 1.00
2	1.065E+00	(GENBK1(4)/GENBK1A(4)) / GENBK1F(4)-1; F.S.= 1.00
3	1.779E+00	(SKNBK1(4,1)/SKNBK1A(4,1))/SKNBK1F(4,1)-1; F.S.= 1.00
4	1.947E+00	(SKNBK1(4,2)/SKNBK1A(4,2))/SKNBK1F(4,2)-1; F.S.= 1.00
5	5.546E-01	(STFBK1(4,1)/STFBK1A(4,1))/STFBK1F(4,1)-1; F.S.= 1.00
6	5.238E-01	(STFBK1(4,2)/STFBK1A(4,2))/STFBK1F(4,2)-1; F.S.= 1.00
7	3.631E-01	(SKNST1A(4,1)/SKNST1(4,1))/SKNST1F(4,1)-1; F.S.= 1.00
8	2.033E-01	(SKNST1A(4,2)/SKNST1(4,2))/SKNST1F(4,2)-1; F.S.= 1.00
9	1.549E-01	(STFST1A(4,1)/STFST1(4,1))/STFST1F(4,1)-1; F.S.= 1.00
10	-8.753E-02	(STFST1A(4,2)/STFST1(4,2))/STFST1F(4,2)-1; F.S.= 1.00
11	5.648E-01	(WAPEx1A(4)/WAPEx1(4)) / WAPEx1F(4)-1; F.S.= 1.00
12	6.276E-01	(CLAPS2(4)/CLAPS2A(4)) / CLAPS2F(4)-1; F.S.= 1.00
13	1.337E+00	(GENBK2(4)/GENBK2A(4)) / GENBK2F(4)-1; F.S.= 1.00
14	1.684E+00	(SKNBK2(4,1)/SKNBK2A(4,1))/SKNBK2F(4,1)-1; F.S.= 1.00
15	1.717E+00	(SKNBK2(4,2)/SKNBK2A(4,2))/SKNBK2F(4,2)-1; F.S.= 1.00
16	5.823E-01	(STFBK2(4,1)/STFBK2A(4,1))/STFBK2F(4,1)-1; F.S.= 1.00
17	-2.282E-02	(STFBK2(4,2)/STFBK2A(4,2))/STFBK2F(4,2)-1; F.S.= 1.00
18	2.653E-01	(SKNST2A(4,1)/SKNST2(4,1))/SKNST2F(4,1)-1; F.S.= 1.00
19	7.029E-02	(SKNST2A(4,2)/SKNST2(4,2))/SKNST2F(4,2)-1; F.S.= 1.00
20	3.538E-02	(STFST2A(4,1)/STFST2(4,1))/STFST2F(4,1)-1; F.S.= 1.00
21	-2.347E-01	(STFST2A(4,2)/STFST2(4,2))/STFST2F(4,2)-1; F.S.= 1.00
22	6.600E-01	(WAPEx2A(4)/WAPEx2(4)) / WAPEx2F(4)-1; F.S.= 1.00