

Minimum Design Temperature: figure 323.2.2A & B

13	mTemp [°F] = exemption temperature from figure 323.2.2A curve B	-20.00
14	SR1 = ((P*(D-2*t*Y1))/(2*E*t*W))/S stress ratio Y1	
15	((600*(8.625-2*0.219*0.4))/(2*1*0.219*1))/20000 =	0.5781
16	SR2 = ((P*(D-2*t*Y2))/(2*E*t*W))/S stress ratio Y2	
17	((600*(8.625-2*0.219*0.491))/(2*1*0.219*1))/20000 =	0.5754
18	SR = IF(tr1>=D/6,SR2,SR1) 323.2.2(b)(1)	
19	IF(0.128>=8.625/6,0.575,0.578) =	0.5781
20	TR [°F] = MDMT reduction from table 323.2B	44.40
21	MDMTmax [°F] = MAX(mTemp-TR,-55) material maximum MDMT	MAX(-20-44.4,-55) = -55.0000
22	CheckMDMT = MDMTmax<=MDMT	-55<=-50 = Ok

Alternate Method:

23	= (P*D)/(2*t)/S	(600*8.625)/(2*0.219)/20000 = 0.5901
24	TR [°F] = MDMT reduction from table 323.2B	42.00
25	MDMTmax [°F] = MAX(mTemp-TR,-55) material maximum MDMT	MAX(-20-44.4,-55) = -55.0000
26	CheckMDMT = MDMTmax<=MDMT	-55<=-50 = Ok