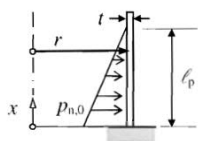


x	axial coordinate on cylinder
r	Outside radius of circular plate
t	Thickness of shell wall
$p_n$	Distributed normal pressure
$P_x$	Load per unit circumference acting in the meridional direction
$\sigma_{eq,n}$	Von Mises equivalent stress associated with only membrane stress components
$\sigma_{eq,s}$	Von Mises equivalent stress derived from surface stresses
$\sigma_{MT}$	Reference stress derived from membrane theory
$\sigma_{bx}$	Meridional bending stress
$\sigma_{b\theta}$	Circumferential bending stress
$\sigma_{sx}$	Meridional surface stress
$\sigma_{s\theta}$	Circumferential surface stress
$\tau_{xn}$	Transverse shear stress associated with meridional bending
$\sigma_{MT\theta}$	Reference stress derived from membrane theory

**C.2.4 Cylinder, clamped: hydrostatic internal pressure**



$$\sigma_{MT\theta} = p_{n0} \frac{r}{t}$$

BC1r

$p_{nh}$	0,069 [N/mm <sup>2</sup> ]
r	3005,00 [mm]
t	5,00 [mm]
$\sigma_{MT\theta}$	41 [MPa]
$l_p$	3500,00 [mm]
$\left(\frac{\sqrt{rt}}{t_p}\right)$	0,04
$\rho$	2,0

Maximum $\sigma_x$	Maximum $\sigma_\theta$	Maximum $\tau_{xn}$	Maximum $\sigma_{eq,s}$	Maximum $\sigma_{eq,m}$
$k_x \sigma_{MT\theta}$	$k_\theta \sigma_{MT\theta}$	$k_\tau \sqrt{t/r} \sigma_{MT\theta}$	$k_{eq,s} \sigma_{MT\theta}$	$k_{eq,m} \sigma_{MT\theta}$
72,8 [MPa]	42,0 [MPa]	1,9 [MPa]	64,7 [MPa]	40,1 [MPa]

14,0 [MPa]	48,0 [MPa]	6,0 [MPa]	47,0 [MPa]	32,0 [MPa]	11.160	S8
31,7 [MPa]	42,5 [MPa]	5,5 [MPa]	42,0 [MPa]	34,0 [MPa]	43.740	S8
52,7 [MPa]	41,9 [MPa]	5,3 [MPa]	41,9 [MPa]	37,0 [MPa]	173.160	S8
71,8 [MPa]	47,6 [MPa]	3,3 [MPa]	57,6 [MPa]	38,0 [MPa]	198.450	Local refinement. Shell size in clamped area aprox 1.6t
78,0 [MPa]	42,0 [MPa]		75,0 [MPa]			Same with internal solver
59,0 [MPa]	42,1 [MPa]	9,2 [MPa]	42,0 [MPa]	39,0 [MPa]	90.400	Victor
$\left(\frac{\sqrt{rt}}{t_p}\right)$	$k_x$	$k_\theta$	$k_\tau$	$k_{eq,s}$	$k_{eq,m}$	
0	1,816	1,08	1,169	1,614	1,043	
0,2	1,533	0,733	1,076	1,363	0,647	
0,04	1,77	1,02	1,15	1,57	0,97	