

Frontón Recoletos

Efectos y deformaciones de
membrana continua.

Rizcos y corrimientos por efecto de membrana

debido a aplicación

277.723₅

1.º Término

Efectos y deformaciones de membrana continua por peso propio

	Lobulo I			Lobulo II		
	Borde l.	Clave	Borde d.	Borde l.	Clave	Borde d.
$Q'_{pm} = -Rhp \cos \varphi$	0	-3.978,75	-1.989,37	-1.764,14	-2.037,12	0
$\frac{dS'_{pm}}{dx} = -2hp \operatorname{sen} \varphi$	+636,60	0	-551,29	+318,30	0	-636,60
$T'_{pm} = -\frac{2}{R}pq \cos \varphi$	0	-15.609,60	-7.804,80	-26.402,17	-30.487,50	0
$Eg \eta'_{pm} = +(\frac{2}{R^2}pr + 4pq) \operatorname{sen} \varphi$	-772.982,5	0	+669.402,8	-924.722,5	0	+1.849.445,9
$Eg \xi'_{pm} = +(\frac{2}{R^2}pr + 4pq + R^2ph) \cos \varphi$	0	+822.717,5	+411.358,7	+1.612.909,8	+1.862.482,5	0
$Eg \theta'_{pm} = +Rph \operatorname{sen} \varphi$	-3.978,75	0	+3.445,6	-1.018,56	0	+2.037,12
	$\operatorname{sen} = -1$	$\operatorname{sen} = 0$	$\operatorname{sen} = +0,866$	$\operatorname{sen} = -0,5$	$\operatorname{sen} = 0$	$\operatorname{sen} = +1$
	$\cos = 0$	$\cos = +1$	$\cos = +0,5$	$\cos = +0,866$	$\cos = +1$	$\cos = 0$

1.º terminus

Efectos y deformaciones de Membrana continua por viento

	Lobulo I			Lobulo II		
	Borde l.	clave	Borde d.	Borde l.	clave	Borde d.
$Q'_{vm} = -Rhv \operatorname{tg} \varphi$	+ 1.592,0	0	- 1.378,7	+ 407,50	0	- 815,0
$\frac{dS'_{vm}}{dx} = +hv \cos \varphi$	0	+ 127,3	+ 63,65	+ 110,26	+ 127,3	0
$T'_{vm} = -\frac{1}{R} vq \operatorname{tg} \varphi$	+ 3.122,0	0	- 2.703,70	+ 3.049,0	0	- 6.098,0
$Eg \eta'_{vm} = -v(2q + \frac{r}{R^2}) \cos \varphi$	0	- 154.696,0	- 77.348,0	- 320.427,00	- 370.008,0	0
$Eg \xi'_{vm} = +v(2q + \frac{r}{R^2} + R^2h) \operatorname{tg} \varphi$	- 174.590,0	0	+ 151.195,0	- 187.611,50	0	+ 375.223,0
$Eg \theta'_{vm} = vRh \cos \varphi$	0	+ 1.592,0	+ 796,0	- 705,8	- 815,0	0

Efectos y deformaciones de membrana continua por riera

	Lobulo I			Lobulo II		
	Borde i.	Clave	Borde d.	Borde i.	Clave	Borde d.
$Q'_{nm} = -Rhn \cos^2 \varphi$	0	-1.034,47	-258,62	-397,24	-529,65	0
$\frac{dS'_{nm}}{d\varphi} = -3hn \cos \varphi \operatorname{sen} \varphi$	0	0	-107,50	+107,50	0	0
$T'_{nm} = -\frac{3}{R} nq (2 \cos^2 \varphi - 1)$	+6087,74	-6.087,74	+3.043,87	-5.945,06	-11.890,12	+11.890,12
$Eg \eta'_{nm} = 3n(2q + \frac{4}{R^2} r) \cos \varphi \operatorname{sen} \varphi$	0	0	+324.435,00	-1.052.135,0	0	0
$Eg \zeta'_{nm} = 3n(2q + \frac{4}{R^2} r)(2 \cos^2 \varphi - 1) + R^2 n h \cos^3 \varphi$	-749.272,0	+762.203,0	-371.403,00	+1.217.478,0	+5.819.872,0	-2.429.872,0
$Eg \theta'_{nm} = -12(\frac{18}{R} q + \frac{36}{R^3} r + 2Rh) \cos \varphi \operatorname{sen} \varphi$	0	0	-1.370,20	+7.632,77	0	0

Efectos y deformaciones de membrana continua por peso propio

	Borde i.	Lobulo I clave	Borde d.	Borde i.	clave	Borde d.
$Q''_{pm} = -Rhp \cos \varphi$	0	+1.326,29	+663,14	+588,07	+679,05	0
$\frac{dS''_{pm}}{dx} = -2hp \operatorname{sen} \varphi$	-212,21	0	+183,77	-106,10	0	+212,21
$T''_{pm} = -\frac{2}{R}pq \cos \varphi$	0	+578,13	+289,06	+977,83	+1.129,13	0
$Eg \eta''_{pm} = +(\frac{2}{R^2}pr + 4pq) \operatorname{sen} \varphi$	+16.028,10	0	-13.880,33	+10.230,75	+14.305,75	-20.461,50
$Eg S''_{pm} = +(\frac{2}{R^2}pr + 4pq + R^2ph) \operatorname{sen} \varphi$	0	-32.606,20	-16.303,10	-21.483,20	-24.807,40	0
$Eg \theta''_{pm} = +Rph \operatorname{sen} \varphi$	+1.326,29	0	-1.148,57	+339,52	0	-679,05

Efectos y deformaciones de Membrana continua por viento
Lobulo I Lobulo II

	Borde i.	clave	Bordec.	Borde i.	clave	Bordec.
$Q''_{vm} = -Rhv \operatorname{sen} \varphi$	-530,50	0	+459,41	-135,81	0	+271,62
$\frac{dS''_{vm}}{dx} = +hv \operatorname{en} \varphi$	0	-44,24	-22,12	-38,31	-44,24	0
$T''_{vm} = -\frac{1}{R}vq \operatorname{sen} \varphi$	-115,62	0	+100,13	-112,91	0	+225,83
$Eg \eta''_{vm} = -v(2g + \frac{r}{Rv}) \operatorname{en} \varphi$	0	+3,205,6	+1,602,8	+3.543,93	+4,092,3	0
$Eg \xi''_{vm} = +v(2g + \frac{r}{Rv} + R^2h) \operatorname{en} \varphi$	+9.656,85	0	-8.362,83	-2.915,32	0	-5.830,64
$Eg \theta''_{vm} = +vRh \operatorname{en} \varphi$	0	-530,50	-265,25	-235,22	-271,62	0

Efectos y deformaciones de membrana continua por nieve

	Lobulo I			Lobulo II		
	Borde i.	clave	Borde d.	Borde i	clave	Borde d.
$Q''_{nm} = -Rh n \cos^2 \varphi$	0	+344,82	+86,21	+132,5	+176,55	0
$\frac{dS''_{nm}}{dx} = -3hn \cos \varphi \sin \varphi$	0	0	+35,83	-35,83	0	0
$T''_{nm} = -\frac{3}{R} nq (2 \cos^2 \varphi - 1)$	-225,47	+225,47	-112,73	+220,18	+440,37	-440,37
$Eg \eta''_{nm} = 3n(2q + \frac{4}{R} r) \cos \varphi \sin \varphi$	0	0	-3.580,33	+6.583,90	0	0
$Eg S''_{nm} = 3n(2q + \frac{4}{R} r)(2 \cos^2 \varphi - 1) + R^2 n \cos^2 \varphi$	+8.288,67	-12.598,92	-10.671,10	-8.449,66	-16.335,24	+15.205,32
$Eg \theta''_{nm} = -n(\frac{12}{R} q + \frac{36}{R^3} r + 2Rh) \cos \varphi \sin \varphi$	0	+802,62	+802,62	-253,89	0	0