



SECCION LONGITUDINAL SEMI-VANO 2  
ESQUEMA DE DOVELAS  
ESCALA 1:150



ESQUEMA DE ARMADURA LONGITUDINAL  
ESCALA 1:25

CUADRO DE ARMADURAS

DOVELA	1 Y 2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	CIERRE
ARMADURA	#16 @ 0.20	#16 @ 0.20	#16 @ 0.20	#16 @ 0.20	#16 @ 0.20	#16 @ 0.20	#16 @ 0.20	#16 @ 0.20	#16 @ 0.20	#16 @ 0.20	#16 @ 0.20	#16 @ 0.20	#16 @ 0.20	#16 @ 0.20	#16 @ 0.20	#16 @ 0.20
1	#16 @ 0.20	#16 @ 0.20	#16 @ 0.20	#16 @ 0.20	#16 @ 0.20	#16 @ 0.20	#16 @ 0.20	#16 @ 0.20	#16 @ 0.20	#16 @ 0.20	#16 @ 0.20	#16 @ 0.20	#16 @ 0.20	#16 @ 0.20	#16 @ 0.20	#16 @ 0.20
2	#16 @ 0.20	#16 @ 0.20	#16 @ 0.20	#16 @ 0.20	#16 @ 0.20	#16 @ 0.20	#16 @ 0.20	#16 @ 0.20	#16 @ 0.20	#16 @ 0.20	#16 @ 0.20	#16 @ 0.20	#16 @ 0.20	#16 @ 0.20	#16 @ 0.20	#16 @ 0.20
3	#20 @ 0.10+ #16 @ 0.20	#20 @ 0.10+ #16 @ 0.20	#20 @ 0.10+ #16 @ 0.20	#20 @ 0.10+ #16 @ 0.20	#20 @ 0.10+ #16 @ 0.20	#20 @ 0.10+ #16 @ 0.40	#20 @ 0.10+ #16 @ 0.40	#20 @ 0.10+ #16 @ 0.40	#20 @ 0.10+ #16 @ 0.40	#20 @ 0.10+ #16 @ 0.40	#20 @ 0.10+ #16 @ 0.40	#20 @ 0.10+ #16 @ 0.40	#20 @ 0.10+ #16 @ 0.40	#20 @ 0.10+ #16 @ 0.40	#20 @ 0.10+ #16 @ 0.40	#20 @ 0.10+ #16 @ 0.40
4	#25 @ 0.20	#25 @ 0.20	#25 @ 0.20	#25 @ 0.20	#25 @ 0.20	#25 @ 0.20	#25 @ 0.20	#25 @ 0.20	#25 @ 0.20	#25 @ 0.20	#25 @ 0.20	#25 @ 0.20	#25 @ 0.20	#25 @ 0.20	#25 @ 0.20	#25 @ 0.20
S1 [m]	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
S2 [m]	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70
T [m]	-	-	-	-	-	-	1.60	1.60	1.60	1.60	1.60	1.60	1.60	1.60	1.60	1.60

Factores de modificación que incrementan Id:

- a Factor de ubicación del refuerzo 1.40
- \* Refuerzo horizontal ubicado de manera que 30 cm de concreto
- \* Refuerzo de tumba por debajo del refuerzo, Top bar
- \* Otro refuerzo, Doble bar

1.00

Tabla: Longitud de desarrollo básica en tensión (tracción) [mm]

$f_y = 4200 \text{ kg/cm}^2$

Fc	f (mm)											
	10	12	14	16	18	20	22	25	28	32	36	
210	300	300	350	400	500	600	700	900	1150	1500	1850	
240	300	300	350	400	450	550	650	850	1050	1400	1750	
280	300	300	350	400	450	500	550	700	850	1150	1450	
350	300	300	350	400	450	500	550	650	800	1050	1350	
420	300	300	350	400	450	500	550	650	800	1050	1350	
500	300	300	350	400	450	500	550	650	750	950	1200	

Tabla: Traspases de refuerzo en tensión (tracción) [mm]

$f_y = 4200 \text{ kg/cm}^2$

Fc	Traspase clase C											
	10	12	14	16	18	20	22	25	28	32	36	
210	510	510	595	680	850	1020	1190	1530	1955	2550	3145	
240	510	510	595	680	765	935	1105	1445	1785	2380	2975	
280	510	510	595	680	765	850	1020	1360	1700	2295	2890	
350	510	510	595	680	765	850	1020	1360	1700	2295	2890	
420	510	510	595	680	765	850	935	1105	1390	1785	2295	
500	510	510	595	680	765	850	935	1105	1275	1615	2040	

NOTA:  
- VER ESPECIFICACIONES TECNICAS DE  
MATERIALES EN HOJA N°2 DEL CAPITULO 1.