

TABLE: Steel Details 1 - Summary Data - Eurocode 3-2005

Frame	DesignSect	DesignType	Status	Ratio	RatioType	Combo	Location	ErrMsg	WarnMsg
Text	Text	Text	Text	Unitless	Text	Text	m	Text	Text
P07_FUSTE	PILA_MET	Brace	No Messages	0.974	PMM	ELU_01_T0	0	No Messages	No Messages
P07_FUSTE	PILA_MET	Brace	No Messages	0.618	PMM	ELU_01_T0	3.3596	No Messages	No Messages
P07_FUSTE	PILA_MET	Brace	No Messages	0.593	PMM	ELU_01_T0	6.7192	No Messages	No Messages
P07_FUSTE	PILA_MET	Brace	No Messages	0.968	PMM	ELU_01_TINF	0	No Messages	No Messages
P07_FUSTE	PILA_MET	Brace	No Messages	0.622	PMM	ELU_01_TINF	3.3596	No Messages	No Messages
P07_FUSTE	PILA_MET	Brace	No Messages	0.589	PMM	ELU_01_TINF	6.7192	No Messages	No Messages
P07_FUSTE	PILA_MET	Brace	No Messages	0.871	PMM	ELU_02_T0	0	No Messages	No Messages
P07_FUSTE	PILA_MET	Brace	No Messages	0.514	PMM	ELU_02_T0	3.3596	No Messages	No Messages
P07_FUSTE	PILA_MET	Brace	No Messages	0.439	PMM	ELU_02_T0	6.7192	No Messages	No Messages
P07_FUSTE	PILA_MET	Brace	No Messages	0.848	PMM	ELU_02_TINF	0	No Messages	No Messages
P07_FUSTE	PILA_MET	Brace	No Messages	0.518	PMM	ELU_02_TINF	3.3596	No Messages	No Messages
P07_FUSTE	PILA_MET	Brace	No Messages	0.442	PMM	ELU_02_TINF	6.7192	No Messages	No Messages
P07_FUSTE	PILA_MET	Brace	No Messages	0.837	PMM	ELU_03_T0	0	No Messages	No Messages
P07_FUSTE	PILA_MET	Brace	No Messages	0.476	PMM	ELU_03_T0	3.3596	No Messages	No Messages
P07_FUSTE	PILA_MET	Brace	No Messages	0.441	PMM	ELU_03_T0	6.7192	No Messages	No Messages
P07_FUSTE	PILA_MET	Brace	No Messages	0.815	PMM	ELU_03_TINF	0	No Messages	No Messages
P07_FUSTE	PILA_MET	Brace	No Messages	0.480	PMM	ELU_03_TINF	3.3596	No Messages	No Messages
P07_FUSTE	PILA_MET	Brace	No Messages	0.437	PMM	ELU_03_TINF	6.7192	No Messages	No Messages
P07_FUSTE	PILA_MET	Brace	No Messages	0.383	PMM	ELU_SISMO_X_T0	0	No Messages	No Messages
P07_FUSTE	PILA_MET	Brace	No Messages	0.257	PMM	ELU_SISMO_X_T0	3.3596	No Messages	No Messages
P07_FUSTE	PILA_MET	Brace	No Messages	0.231	PMM	ELU_SISMO_X_T0	6.7192	No Messages	No Messages
P07_FUSTE	PILA_MET	Brace	No Messages	0.335	PMM	ELU_SISMO_Y_T0	0	No Messages	No Messages
P07_FUSTE	PILA_MET	Brace	No Messages	0.202	PMM	ELU_SISMO_Y_T0	3.3596	No Messages	No Messages
P07_FUSTE	PILA_MET	Brace	No Messages	0.176	PMM	ELU_SISMO_Y_T0	6.7192	No Messages	No Messages
P07_FUSTE	PILA_MET	Brace	No Messages	0.309	PMM	ELU_SISMO_Z_T0	0	No Messages	No Messages
P07_FUSTE	PILA_MET	Brace	No Messages	0.174	PMM	ELU_SISMO_Z_T0	3.3596	No Messages	No Messages
P07_FUSTE	PILA_MET	Brace	No Messages	0.185	PMM	ELU_SISMO_Z_T0	6.7192	No Messages	No Messages
P07_FUSTE	PILA_MET	Brace	No Messages	0.378	PMM	ELU_SISMO_X_TINF	0	No Messages	No Messages
P07_FUSTE	PILA_MET	Brace	No Messages	0.260	PMM	ELU_SISMO_X_TINF	3.3596	No Messages	No Messages
P07_FUSTE	PILA_MET	Brace	No Messages	0.228	PMM	ELU_SISMO_X_TINF	6.7192	No Messages	No Messages
P07_FUSTE	PILA_MET	Brace	No Messages	0.330	PMM	ELU_SISMO_Y_TINF	0	No Messages	No Messages
P07_FUSTE	PILA_MET	Brace	No Messages	0.205	PMM	ELU_SISMO_Y_TINF	3.3596	No Messages	No Messages
P07_FUSTE	PILA_MET	Brace	No Messages	0.175	PMM	ELU_SISMO_Y_TINF	6.7192	No Messages	No Messages
P07_FUSTE	PILA_MET	Brace	No Messages	0.304	PMM	ELU_SISMO_Z_TINF	0	No Messages	No Messages
P07_FUSTE	PILA_MET	Brace	No Messages	0.176	PMM	ELU_SISMO_Z_TINF	3.3596	No Messages	No Messages
P07_FUSTE	PILA_MET	Brace	No Messages	0.182	PMM	ELU_SISMO_Z_TINF	6.7192	No Messages	No Messages

TABLE: Steel Details 2 - PMM Details - Eurocode 3-2005

Frame	DesignSect	DesignType	Status	Combo	Location	Pu	MuMajor	MuMinor	VuMajor	VuMinor	Tu	Equation	TotalRatio	PRatio	MMajRatio	MMinRatio
Text	Text	Text	Text	Text	m	KN	KN-m	KN-m	KN	KN	KN-m	Text	Unitless	Unitless	Unitless	Unitless
P07_FUSTE	PILA_MET	Brace	No Messages	ELU_01_T0	0.00	-2048.49	-1933.89	-1106.29	-323.54	-110.45	-141.32	6.3.3(4)-6.62	0.97	0.09	0.80	0.09
P07_FUSTE	PILA_MET	Brace	No Messages	ELU_01_T0	3.36	-2014.98	-2254.52	-742.71	-314.55	-105.99	-141.32	6.3.3(4)-6.61	0.62	0.08	0.46	0.08
P07_FUSTE	PILA_MET	Brace	No Messages	ELU_01_T0	6.72	-1978.52	-4947.96	-394.12	-304.78	-101.53	-141.32	6.2.9.3(2)	0.59	0.07	0.49	0.04
P07_FUSTE	PILA_MET	Brace	No Messages	ELU_01_TINF	0.00	-2046.65	-2074.25	-1106.29	-350.36	-110.45	-141.32	6.3.3(4)-6.62	0.97	0.09	0.79	0.09
P07_FUSTE	PILA_MET	Brace	No Messages	ELU_01_TINF	3.36	-2013.14	-2304.75	-742.71	-341.38	-105.99	-141.32	6.3.3(4)-6.61	0.62	0.08	0.46	0.08
P07_FUSTE	PILA_MET	Brace	No Messages	ELU_01_TINF	6.72	-1976.68	-4908.06	-394.12	-331.60	-101.53	-141.32	6.2.9.3(2)	0.59	0.07	0.48	0.04
P07_FUSTE	PILA_MET	Brace	No Messages	ELU_02_T0	0.00	-1491.06	3137.63	-2685.44	-81.07	-366.13	-326.30	6.2.9.3(2)	0.87	0.06	0.51	0.30
P07_FUSTE	PILA_MET	Brace	No Messages	ELU_02_T0	3.36	-1457.55	-1394.65	-1343.69	962.37	-351.51	-326.30	6.3.3(4)-6.61	0.51	0.06	0.30	0.16
P07_FUSTE	PILA_MET	Brace	No Messages	ELU_02_T0	6.72	-1421.09	-3358.00	-188.56	972.15	-336.64	-326.30	6.3.3(4)-6.61	0.44	0.05	0.24	0.15
P07_FUSTE	PILA_MET	Brace	No Messages	ELU_02_TINF	0.00	-1489.22	2997.27	-2685.44	-107.90	-366.13	-326.30	6.2.9.3(2)	0.85	0.06	0.48	0.30
P07_FUSTE	PILA_MET	Brace	No Messages	ELU_02_TINF	3.36	-1455.71	-1444.88	-1343.69	935.54	-351.51	-326.30	6.3.3(4)-6.61	0.52	0.05	0.31	0.16
P07_FUSTE	PILA_MET	Brace	No Messages	ELU_02_TINF	6.72	-1419.26	-3318.09	-188.56	945.32	-336.64	-326.30	6.3.3(4)-6.61	0.44	0.05	0.25	0.15
P07_FUSTE	PILA_MET	Brace	No Messages	ELU_03_T0	0.00	-1523.42	4175.97	-901.27	-192.95	-109.84	-111.72	6.2.9.3(2)	0.84	0.06	0.67	0.10
P07_FUSTE	PILA_MET	Brace	No Messages	ELU_03_T0	3.36	-1489.91	-1552.14	-538.93	-183.97	-105.62	-111.72	6.3.3(4)-6.61	0.48	0.06	0.36	0.06
P07_FUSTE	PILA_MET	Brace	No Messages	ELU_03_T0	6.72	-1453.45	-3784.02	-191.57	-174.19	-101.16	-111.72	6.2.9.3(2)	0.44	0.05	0.37	0.02
P07_FUSTE	PILA_MET	Brace	No Messages	ELU_03_TINF	0.00	-1521.58	4035.61	-901.27	-219.78	-109.84	-111.72	6.2.9.3(2)	0.81	0.06	0.65	0.10
P07_FUSTE	PILA_MET	Brace	No Messages	ELU_03_TINF	3.36	-1488.07	-1602.37	-538.93	-210.79	-105.62	-111.72	6.3.3(4)-6.61	0.48	0.06	0.36	0.06
P07_FUSTE	PILA_MET	Brace	No Messages	ELU_03_TINF	6.72	-1451.61	-3744.12	-191.57	-201.02	-101.16	-111.72	6.2.9.3(2)	0.44	0.05	0.37	0.02
P07_FUSTE	PILA_MET	Brace	No Messages	ELU_SISMO_X_T0	0.00	-872.38	-1192.86	287.93	574.32	-39.60	-38.49	6.3.3(4)-6.62	0.38	0.04	0.33	0.02
P07_FUSTE	PILA_MET	Brace	No Messages	ELU_SISMO_X_T0	3.36	-847.56	-744.05	154.91	580.98	-39.60	-38.49	6.3.3(4)-6.61	0.26	0.03	0.21	0.02
P07_FUSTE	PILA_MET	Brace	No Messages	ELU_SISMO_X_T0	6.72	-820.55	-2026.38	22.01	588.22	-39.60	-38.49	6.2.9.3(2)	0.23	0.03	0.20	0.00
P07_FUSTE	PILA_MET	Brace	No Messages	ELU_SISMO_Y_T0	0.00	-820.15	-132.93	959.64	329.81	-131.99	-128.27	6.3.3(4)-6.62	0.33	0.03	0.23	0.07
P07_FUSTE	PILA_MET	Brace	No Messages	ELU_SISMO_Y_T0	3.36	-795.33	-504.70	516.25	336.46	-131.99	-128.27	6.3.3(4)-6.61	0.20	0.03	0.11	0.06
P07_FUSTE	PILA_MET	Brace	No Messages	ELU_SISMO_Y_T0	6.72	-768.33	-1442.61	73.26	343.70	-131.99	-128.27	6.2.9.3(2)	0.18	0.03	0.14	0.01
P07_FUSTE	PILA_MET	Brace	No Messages	ELU_SISMO_Z_T0	0.00	-851.49	-183.67	287.95	356.59	-39.60	-38.48	6.3.3(4)-6.62	0.31	0.04	0.25	0.02
P07_FUSTE	PILA_MET	Brace	No Messages	ELU_SISMO_Z_T0	3.36	-826.67	-543.99	154.92	363.25	-39.60	-38.48	6.3.3(4)-6.61	0.17	0.03	0.12	0.02
P07_FUSTE	PILA_MET	Brace	No Messages	ELU_SISMO_Z_T0	6.72	-799.66	-1571.88	22.01	370.49	-39.60	-38.48	6.2.9.3(2)	0.19	0.03	0.15	0.00
P07_FUSTE	PILA_MET	Brace	No Messages	ELU_SISMO_X_TINF	0.00	-871.02	-1296.83	287.93	554.45	-39.60	-38.49	6.3.3(4)-6.62	0.38	0.04	0.32	0.02
P07_FUSTE	PILA_MET	Brace	No Messages	ELU_SISMO_X_TINF	3.36	-846.20	-781.25	154.91	561.10	-39.60	-38.49	6.3.3(4)-6.61	0.26	0.03	0.21	0.02
P07_FUSTE	PILA_MET	Brace	No Messages	ELU_SISMO_X_TINF	6.72	-819.19	-1996.82	22.01	568.34	-39.60	-38.49	6.2.9.3(2)	0.23	0.03	0.20	0.00
P07_FUSTE	PILA_MET	Brace	No Messages	ELU_SISMO_Y_TINF	0.00	-818.79	-236.90	959.64	309.93	-131.99	-128.27	6.3.3(4)-6.62	0.33	0.03	0.23	0.07
P07_FUSTE	PILA_MET	Brace	No Messages	ELU_SISMO_Y_TINF	3.36	-793.97	-541.91	516.25	316.59	-131.99	-128.27	6.3.3(4)-6.61	0.20	0.03	0.12	0.06
P07_FUSTE	PILA_MET	Brace	No Messages	ELU_SISMO_Y_TINF	6.72	-766.96	-1413.05	73.26	323.83	-131.99	-128.27	6.3.3(4)-6.61	0.18	0.03	0.09	0.05
P07_FUSTE	PILA_MET	Brace	No Messages	ELU_SISMO_Z_TINF	0.00	-850.13	-287.64	287.95	336.72	-39.60	-38.48	6.3.3(4)-6.62	0.30	0.04	0.25	0.02
P07_FUSTE	PILA_MET	Brace	No Messages	ELU_SISMO_Z_TINF	3.36	-825.31	-581.20	154.92	343.37	-39.60	-38.48	6.3.3(4)-6.61	0.18	0.03	0.13	0.02
P07_FUSTE	PILA_MET	Brace	No Messages	ELU_SISMO_Z_TINF	6.72	-798.30	-1542.32	22.01	350.61	-39.60	-38.48	6.2.9.3(2)	0.18	0.03	0.15	0.00

TABLE: Steel Details 3 - Shear Details - Eurocode 3-2005

Frame	DesignSect	DesignType	Status	VMajorCombo	VMajorLoc	VMajorRatio	VsdMajDsgn	VrdMajor	TuMajor	VMinorCombo	VMinorLoc	VMinorRatio	VsdMinDsgn	VrdMinor	TuMinor	SRLimit	RLLF	ErrMsg
Text	Text	Text	Text	Text	m	Unitless	KN	KN	KN-m	Text	m	Unitless	KN	KN	KN-m	Unitless	Unitless	Text
P07_FUSTE	PILA_MET	Brace	No Messages	ELU_01_T0	0.00	0.20	1353.06	6668.39	91.96	ELU_01_T0	0.00	0.01	1353.06	9526.28	91.96	1	0	No Messages
P07_FUSTE	PILA_MET	Brace	No Messages	ELU_01_T0	3.36	0.16	1362.04	8335.49	91.96	ELU_01_T0	3.36	0.01	1362.04	9526.28	91.96	1	0	No Messages
P07_FUSTE	PILA_MET	Brace	No Messages	ELU_01_T0	6.72	0.14	1371.82	10002.59	91.96	ELU_01_T0	6.72	0.01	1371.82	9526.28	91.96	1	0	No Messages
P07_FUSTE	PILA_MET	Brace	No Messages	ELU_01_TINF	0.00	0.20	1326.23	6668.39	91.95	ELU_01_TINF	0.00	0.01	1326.23	9526.28	91.95	1	0	No Messages
P07_FUSTE	PILA_MET	Brace	No Messages	ELU_01_TINF	3.36	0.16	1335.21	8335.49	91.95	ELU_01_TINF	3.36	0.01	1335.21	9526.28	91.95	1	0	No Messages
P07_FUSTE	PILA_MET	Brace	No Messages	ELU_01_TINF	6.72	0.13	1344.99	10002.59	91.95	ELU_01_TINF	6.72	0.01	1344.99	9526.28	91.95	1	0	No Messages
P07_FUSTE	PILA_MET	Brace	No Messages	ELU_02_T0	0.00	0.14	953.39	6668.39	306.54	ELU_02_T0	0.00	0.04	953.39	9526.28	306.54	1	0	No Messages
P07_FUSTE	PILA_MET	Brace	No Messages	ELU_02_T0	3.36	0.12	962.37	8335.49	306.54	ELU_02_T0	3.36	0.04	962.37	9526.28	306.54	1	0	No Messages
P07_FUSTE	PILA_MET	Brace	No Messages	ELU_02_T0	6.72	0.10	972.15	10002.59	306.54	ELU_02_T0	6.72	0.04	972.15	9526.28	306.54	1	0	No Messages
P07_FUSTE	PILA_MET	Brace	No Messages	ELU_02_TINF	0.00	0.14	926.56	6668.39	306.54	ELU_02_TINF	0.00	0.04	926.56	9526.28	306.54	1	0	No Messages
P07_FUSTE	PILA_MET	Brace	No Messages	ELU_02_TINF	3.36	0.11	935.54	8335.49	306.54	ELU_02_TINF	3.36	0.04	935.54	9526.28	306.54	1	0	No Messages
P07_FUSTE	PILA_MET	Brace	No Messages	ELU_02_TINF	6.72	0.09	945.32	10002.59	306.54	ELU_02_TINF	6.72	0.04	945.32	9526.28	306.54	1	0	No Messages
P07_FUSTE	PILA_MET	Brace	No Messages	ELU_03_T0	0.00	0.18	1171.32	6668.39	91.96	ELU_03_T0	0.00	0.01	1171.32	9526.28	91.96	1	0	No Messages
P07_FUSTE	PILA_MET	Brace	No Messages	ELU_03_T0	3.36	0.14	1180.31	8335.49	91.96	ELU_03_T0	3.36	0.01	1180.31	9526.28	91.96	1	0	No Messages
P07_FUSTE	PILA_MET	Brace	No Messages	ELU_03_T0	6.72	0.12	1190.08	10002.59	91.96	ELU_03_T0	6.72	0.01	1190.08	9526.28	91.96	1	0	No Messages
P07_FUSTE	PILA_MET	Brace	No Messages	ELU_03_TINF	0.00	0.17	1144.49	6668.39	91.96	ELU_03_TINF	0.00	0.01	1144.49	9526.28	91.96	1	0	No Messages
P07_FUSTE	PILA_MET	Brace	No Messages	ELU_03_TINF	3.36	0.14	1153.48	8335.49	91.96	ELU_03_TINF	3.36	0.01	1153.48	9526.28	91.96	1	0	No Messages
P07_FUSTE	PILA_MET	Brace	No Messages	ELU_03_TINF	6.72	0.12	1163.25	10002.59	91.96	ELU_03_TINF	6.72	0.01	1163.25	9526.28	91.96	1	0	No Messages
P07_FUSTE	PILA_MET	Brace	No Messages	ELU_SISMO_X_T0	0.00	0.09	574.32	6668.39	38.49	ELU_SISMO_X_T0	0.00	0.00	574.32	9526.28	38.49	1	0	No Messages
P07_FUSTE	PILA_MET	Brace	No Messages	ELU_SISMO_X_T0	3.36	0.07	580.98	8335.49	38.49	ELU_SISMO_X_T0	3.36	0.00	580.98	9526.28	38.49	1	0	No Messages
P07_FUSTE	PILA_MET	Brace	No Messages	ELU_SISMO_X_T0	6.72	0.06	588.22	10002.59	38.49	ELU_SISMO_X_T0	6.72	0.00	588.22	9526.28	38.49	1	0	No Messages
P07_FUSTE	PILA_MET	Brace	No Messages	ELU_SISMO_Y_T0	0.00	0.05	329.81	6668.39	128.27	ELU_SISMO_Y_T0	0.00	0.01	329.81	9526.28	128.27	1	0	No Messages
P07_FUSTE	PILA_MET	Brace	No Messages	ELU_SISMO_Y_T0	3.36	0.04	336.46	8335.49	128.27	ELU_SISMO_Y_T0	3.36	0.01	336.46	9526.28	128.27	1	0	No Messages
P07_FUSTE	PILA_MET	Brace	No Messages	ELU_SISMO_Y_T0	6.72	0.03	343.70	10002.59	128.27	ELU_SISMO_Y_T0	6.72	0.01	343.70	9526.28	128.27	1	0	No Messages
P07_FUSTE	PILA_MET	Brace	No Messages	ELU_SISMO_Z_T0	0.00	0.05	356.59	6668.39	38.48	ELU_SISMO_Z_T0	0.00	0.00	356.59	9526.28	38.48	1	0	No Messages
P07_FUSTE	PILA_MET	Brace	No Messages	ELU_SISMO_Z_T0	3.36	0.04	363.25	8335.49	38.48	ELU_SISMO_Z_T0	3.36	0.00	363.25	9526.28	38.48	1	0	No Messages
P07_FUSTE	PILA_MET	Brace	No Messages	ELU_SISMO_Z_T0	6.72	0.04	370.49	10002.59	38.48	ELU_SISMO_Z_T0	6.72	0.00	370.49	9526.28	38.48	1	0	No Messages
P07_FUSTE	PILA_MET	Brace	No Messages	ELU_SISMO_X_TINF	0.00	0.08	554.45	6668.39	38.49	ELU_SISMO_X_TINF	0.00	0.00	554.45	9526.28	38.49	1	0	No Messages
P07_FUSTE	PILA_MET	Brace	No Messages	ELU_SISMO_X_TINF	3.36	0.07	561.10	8335.49	38.49	ELU_SISMO_X_TINF	3.36	0.00	561.10	9526.28	38.49	1	0	No Messages
P07_FUSTE	PILA_MET	Brace	No Messages	ELU_SISMO_X_TINF	6.72	0.06	568.34	10002.59	38.49	ELU_SISMO_X_TINF	6.72	0.00	568.34	9526.28	38.49	1	0	No Messages
P07_FUSTE	PILA_MET	Brace	No Messages	ELU_SISMO_Y_TINF	0.00	0.05	309.93	6668.39	128.27	ELU_SISMO_Y_TINF	0.00	0.01	309.93	9526.28	128.27	1	0	No Messages
P07_FUSTE	PILA_MET	Brace	No Messages	ELU_SISMO_Y_TINF	3.36	0.04	316.59	8335.49	128.27	ELU_SISMO_Y_TINF	3.36	0.01	316.59	9526.28	128.27	1	0	No Messages
P07_FUSTE	PILA_MET	Brace	No Messages	ELU_SISMO_Y_TINF	6.72	0.03	323.83	10002.59	128.27	ELU_SISMO_Y_TINF	6.72	0.01	323.83	9526.28	128.27	1	0	No Messages
P07_FUSTE	PILA_MET	Brace	No Messages	ELU_SISMO_Z_TINF	0.00	0.05	336.72	6668.39	38.48	ELU_SISMO_Z_TINF	0.00	0.00	336.72	9526.28	38.48	1	0	No Messages
P07_FUSTE	PILA_MET	Brace	No Messages	ELU_SISMO_Z_TINF	3.36	0.04	343.37	8335.49	38.48	ELU_SISMO_Z_TINF	3.36	0.00	343.37	9526.28	38.48	1	0	No Messages
P07_FUSTE	PILA_MET	Brace	No Messages	ELU_SISMO_Z_TINF	6.72	0.04	350.61	10002.59	38.48	ELU_SISMO_Z_TINF	6.72	0.00	350.61	9526.28	38.48	1	0	No Messages

TABLE: Steel Details 1 - Summary Data - Eurocode 3-2005

Frame	DesignSect	DesignType	Status	Ratio	RatioType	Combo	Location	ErrMsg	WarnMsg
Text	Text	Text	Text	Unitless	Text	Text	m	Text	Text
P08_FUSTE	PILA_MET	Brace	No Messages	0.974	PMM	ELU_01_T0	0	No Messages	No Messages
P08_FUSTE	PILA_MET	Brace	No Messages	0.618	PMM	ELU_01_T0	3.3596	No Messages	No Messages
P08_FUSTE	PILA_MET	Brace	No Messages	0.592	PMM	ELU_01_T0	6.7192	No Messages	No Messages
P08_FUSTE	PILA_MET	Brace	No Messages	0.964	PMM	ELU_01_TINF	0	No Messages	No Messages
P08_FUSTE	PILA_MET	Brace	No Messages	0.622	PMM	ELU_01_TINF	3.3596	No Messages	No Messages
P08_FUSTE	PILA_MET	Brace	No Messages	0.586	PMM	ELU_01_TINF	6.7192	No Messages	No Messages
P08_FUSTE	PILA_MET	Brace	No Messages	0.872	PMM	ELU_02_T0	0	No Messages	No Messages
P08_FUSTE	PILA_MET	Brace	No Messages	0.528	PMM	ELU_02_T0	3.3596	No Messages	No Messages
P08_FUSTE	PILA_MET	Brace	No Messages	0.451	PMM	ELU_02_T0	6.7192	No Messages	No Messages
P08_FUSTE	PILA_MET	Brace	No Messages	0.843	PMM	ELU_02_TINF	0	No Messages	No Messages
P08_FUSTE	PILA_MET	Brace	No Messages	0.532	PMM	ELU_02_TINF	3.3596	No Messages	No Messages
P08_FUSTE	PILA_MET	Brace	No Messages	0.455	PMM	ELU_02_TINF	6.7192	No Messages	No Messages
P08_FUSTE	PILA_MET	Brace	No Messages	0.838	PMM	ELU_03_T0	0	No Messages	No Messages
P08_FUSTE	PILA_MET	Brace	No Messages	0.476	PMM	ELU_03_T0	3.3596	No Messages	No Messages
P08_FUSTE	PILA_MET	Brace	No Messages	0.441	PMM	ELU_03_T0	6.7192	No Messages	No Messages
P08_FUSTE	PILA_MET	Brace	No Messages	0.809	PMM	ELU_03_TINF	0	No Messages	No Messages
P08_FUSTE	PILA_MET	Brace	No Messages	0.480	PMM	ELU_03_TINF	3.3596	No Messages	No Messages
P08_FUSTE	PILA_MET	Brace	No Messages	0.435	PMM	ELU_03_TINF	6.7192	No Messages	No Messages
P08_FUSTE	PILA_MET	Brace	No Messages	0.381	PMM	ELU_SISMO_X_T0	0	No Messages	No Messages
P08_FUSTE	PILA_MET	Brace	No Messages	0.256	PMM	ELU_SISMO_X_T0	3.3596	No Messages	No Messages
P08_FUSTE	PILA_MET	Brace	No Messages	0.230	PMM	ELU_SISMO_X_T0	6.7192	No Messages	No Messages
P08_FUSTE	PILA_MET	Brace	No Messages	0.330	PMM	ELU_SISMO_Y_T0	0	No Messages	No Messages
P08_FUSTE	PILA_MET	Brace	No Messages	0.198	PMM	ELU_SISMO_Y_T0	3.3596	No Messages	No Messages
P08_FUSTE	PILA_MET	Brace	No Messages	0.176	PMM	ELU_SISMO_Y_T0	6.7192	No Messages	No Messages
P08_FUSTE	PILA_MET	Brace	No Messages	0.307	PMM	ELU_SISMO_Z_T0	0	No Messages	No Messages
P08_FUSTE	PILA_MET	Brace	No Messages	0.172	PMM	ELU_SISMO_Z_T0	3.3596	No Messages	No Messages
P08_FUSTE	PILA_MET	Brace	No Messages	0.185	PMM	ELU_SISMO_Z_T0	6.7192	No Messages	No Messages
P08_FUSTE	PILA_MET	Brace	No Messages	0.374	PMM	ELU_SISMO_X_TINF	0	No Messages	No Messages
P08_FUSTE	PILA_MET	Brace	No Messages	0.259	PMM	ELU_SISMO_X_TINF	3.3596	No Messages	No Messages
P08_FUSTE	PILA_MET	Brace	No Messages	0.226	PMM	ELU_SISMO_X_TINF	6.7192	No Messages	No Messages
P08_FUSTE	PILA_MET	Brace	No Messages	0.323	PMM	ELU_SISMO_Y_TINF	0	No Messages	No Messages
P08_FUSTE	PILA_MET	Brace	No Messages	0.201	PMM	ELU_SISMO_Y_TINF	3.3596	No Messages	No Messages
P08_FUSTE	PILA_MET	Brace	No Messages	0.172	PMM	ELU_SISMO_Y_TINF	6.7192	No Messages	No Messages
P08_FUSTE	PILA_MET	Brace	No Messages	0.300	PMM	ELU_SISMO_Z_TINF	0	No Messages	No Messages
P08_FUSTE	PILA_MET	Brace	No Messages	0.175	PMM	ELU_SISMO_Z_TINF	3.3596	No Messages	No Messages
P08_FUSTE	PILA_MET	Brace	No Messages	0.181	PMM	ELU_SISMO_Z_TINF	6.7192	No Messages	No Messages

TABLE: Steel Details 2 - PMM Details - Eurocode 3-2005

Frame	DesignSect	DesignType	Status	Combo	Location	Pu	MuMajor	MuMinor	VuMajor	VuMinor	Tu	Equation	TotalRatio	PRatio	MMajRatio	MMinRatio
Text	Text	Text	Text	Text	m	KN	KN-m	KN-m	KN	KN	KN-m	Text	Unitless	Unitless	Unitless	Unitless
P08_FUSTE	PILA_MET	Brace	No Messages	ELU_01_T0	0	-2048.60	-1930.71	1108.43	1352.18	110.35	92.28	6.3.3(4)-6.62	0.97	0.09	0.79	0.09
P08_FUSTE	PILA_MET	Brace	No Messages	ELU_01_T0	3.3596	-2015.09	-2254.02	743.15	1361.17	105.89	92.28	6.3.3(4)-6.61	0.62	0.08	0.46	0.08
P08_FUSTE	PILA_MET	Brace	No Messages	ELU_01_T0	6.7192	-1978.63	-4944.93	392.85	1370.94	101.43	92.28	6.2.9.3(2)	0.59	0.07	0.49	0.04
P08_FUSTE	PILA_MET	Brace	No Messages	ELU_01_TINF	0	-2044.36	-2109.11	1108.42	1316.52	110.35	92.28	6.3.3(4)-6.62	0.96	0.08	0.79	0.09
P08_FUSTE	PILA_MET	Brace	No Messages	ELU_01_TINF	3.3596	-2010.85	-2312.62	743.15	1325.51	105.89	92.28	6.3.3(4)-6.61	0.62	0.08	0.46	0.08
P08_FUSTE	PILA_MET	Brace	No Messages	ELU_01_TINF	6.7192	-1974.39	-4883.73	392.85	1335.28	101.43	92.28	6.2.9.3(2)	0.59	0.07	0.48	0.04
P08_FUSTE	PILA_MET	Brace	No Messages	ELU_02_T0	0	-1491.25	3136.91	2694.34	953.00	368.09	307.61	6.2.9.3(2)	0.87	0.06	0.50	0.30
P08_FUSTE	PILA_MET	Brace	No Messages	ELU_02_T0	3.3596	-1457.74	-1394.79	1482.68	961.98	352.98	307.61	6.3.3(4)-6.61	0.53	0.06	0.30	0.17
P08_FUSTE	PILA_MET	Brace	No Messages	ELU_02_T0	6.7192	-1421.28	-3356.13	320.95	971.76	338.12	307.61	6.3.3(4)-6.61	0.45	0.05	0.24	0.16
P08_FUSTE	PILA_MET	Brace	No Messages	ELU_02_TINF	0	-1487.01	2958.51	2694.34	917.34	368.09	307.61	6.2.9.3(2)	0.84	0.06	0.48	0.30
P08_FUSTE	PILA_MET	Brace	No Messages	ELU_02_TINF	3.3596	-1453.50	-1453.38	1482.68	926.32	352.98	307.61	6.3.3(4)-6.61	0.53	0.05	0.31	0.17
P08_FUSTE	PILA_MET	Brace	No Messages	ELU_02_TINF	6.7192	-1417.04	-3294.92	320.95	936.10	338.12	307.61	6.3.3(4)-6.61	0.45	0.05	0.25	0.16
P08_FUSTE	PILA_MET	Brace	No Messages	ELU_03_T0	0	-1523.80	4175.74	903.77	1170.88	110.60	92.28	6.2.9.3(2)	0.84	0.06	0.67	0.10
P08_FUSTE	PILA_MET	Brace	No Messages	ELU_03_T0	3.3596	-1490.29	-1552.61	539.71	1179.87	105.89	92.28	6.3.3(4)-6.61	0.48	0.06	0.36	0.06
P08_FUSTE	PILA_MET	Brace	No Messages	ELU_03_T0	6.7192	-1453.83	-3781.32	190.62	1189.64	101.43	92.28	6.2.9.3(2)	0.44	0.05	0.37	0.02
P08_FUSTE	PILA_MET	Brace	No Messages	ELU_03_TINF	0	-1519.56	3997.34	903.77	1135.22	110.60	92.28	6.2.9.3(2)	0.81	0.06	0.64	0.10
P08_FUSTE	PILA_MET	Brace	No Messages	ELU_03_TINF	3.3596	-1486.05	-1611.21	539.70	1144.21	105.89	92.28	6.3.3(4)-6.61	0.48	0.06	0.36	0.06
P08_FUSTE	PILA_MET	Brace	No Messages	ELU_03_TINF	6.7192	-1449.59	-3720.12	190.62	1153.98	101.43	92.28	6.2.9.3(2)	0.43	0.05	0.37	0.02
P08_FUSTE	PILA_MET	Brace	No Messages	ELU_SISMO_X_T0	0	-871.97	-1186.80	-268.10	-145.87	-36.59	-39.15	6.3.3(4)-6.62	0.38	0.04	0.33	0.02
P08_FUSTE	PILA_MET	Brace	No Messages	ELU_SISMO_X_T0	3.3596	-847.15	-742.49	-145.18	-139.22	-36.59	-39.15	6.3.3(4)-6.61	0.26	0.03	0.21	0.02
P08_FUSTE	PILA_MET	Brace	No Messages	ELU_SISMO_X_T0	6.7192	-820.15	-2023.14	-22.55	-131.98	-36.59	-39.15	6.2.9.3(2)	0.23	0.03	0.20	0.00
P08_FUSTE	PILA_MET	Brace	No Messages	ELU_SISMO_Y_T0	0	-820.02	-131.16	893.44	329.37	-121.97	-130.48	6.3.3(4)-6.62	0.33	0.03	0.23	0.06
P08_FUSTE	PILA_MET	Brace	No Messages	ELU_SISMO_Y_T0	3.3596	-795.19	-504.23	483.75	336.03	-121.97	-130.48	6.3.3(4)-6.61	0.20	0.03	0.11	0.06
P08_FUSTE	PILA_MET	Brace	No Messages	ELU_SISMO_Y_T0	6.7192	-768.19	-1441.57	-75.07	111.58	-121.97	-130.48	6.2.9.3(2)	0.18	0.03	0.14	0.01
P08_FUSTE	PILA_MET	Brace	No Messages	ELU_SISMO_Z_T0	0	-851.35	-181.97	268.03	356.10	-36.60	-39.15	6.3.3(4)-6.62	0.31	0.04	0.25	0.02
P08_FUSTE	PILA_MET	Brace	No Messages	ELU_SISMO_Z_T0	3.3596	-826.53	-543.36	145.11	362.75	-36.60	-39.15	6.3.3(4)-6.61	0.17	0.03	0.12	0.02
P08_FUSTE	PILA_MET	Brace	No Messages	ELU_SISMO_Z_T0	6.7192	-799.52	-1570.42	-22.55	84.86	-36.60	-39.15	6.2.9.3(2)	0.19	0.03	0.15	0.00
P08_FUSTE	PILA_MET	Brace	No Messages	ELU_SISMO_X_TINF	0	-868.83	-1318.95	-268.10	-172.29	-36.60	-39.15	6.3.3(4)-6.62	0.37	0.04	0.32	0.02
P08_FUSTE	PILA_MET	Brace	No Messages	ELU_SISMO_X_TINF	3.3596	-844.01	-785.89	-145.19	-165.63	-36.60	-39.15	6.3.3(4)-6.61	0.26	0.03	0.21	0.02
P08_FUSTE	PILA_MET	Brace	No Messages	ELU_SISMO_X_TINF	6.7192	-817.00	-1977.81	-22.55	-158.39	-36.60	-39.15	6.2.9.3(2)	0.23	0.03	0.19	0.00
P08_FUSTE	PILA_MET	Brace	No Messages	ELU_SISMO_Y_TINF	0	-816.87	-263.30	893.44	302.96	-121.97	-130.48	6.3.3(4)-6.62	0.32	0.03	0.22	0.06
P08_FUSTE	PILA_MET	Brace	No Messages	ELU_SISMO_Y_TINF	3.3596	-792.05	-547.63	483.75	309.61	-121.97	-130.48	6.3.3(4)-6.61	0.20	0.03	0.12	0.06
P08_FUSTE	PILA_MET	Brace	No Messages	ELU_SISMO_Y_TINF	6.7192	-765.04	-1396.23	74.99	316.85	-121.97	-130.48	6.3.3(4)-6.61	0.17	0.03	0.09	0.05
P08_FUSTE	PILA_MET	Brace	No Messages	ELU_SISMO_Z_TINF	0	-848.20	-314.11	268.03	329.68	-36.60	-39.15	6.3.3(4)-6.62	0.30	0.04	0.25	0.02
P08_FUSTE	PILA_MET	Brace	No Messages	ELU_SISMO_Z_TINF	3.3596	-823.38	-586.76	145.11	336.34	-36.60	-39.15	6.3.3(4)-6.61	0.18	0.03	0.13	0.02
P08_FUSTE	PILA_MET	Brace	No Messages	ELU_SISMO_Z_TINF	6.7192	-796.38	-1525.08	-22.55	58.44	-36.60	-39.15	6.2.9.3(2)	0.18	0.03	0.15	0.00

TABLE: Steel Details 3 - Shear Details - Eurocode 3-2005

Frame	DesignSect	DesignType	Status	VMajorCombo	VMajorLoc	VMajorRatio	VsdMajDsgn	VrdMajor	TuMajor	VMinorCombo	VMinorLoc	VMinorRatio	VsdMinDsgn	VrdMinor	TuMinor	SRLimit	RLLF	ErrMsg
Text	Text	Text	Text	Text	m	Unitless	KN	KN	KN-m	Text	m	Unitless	KN	KN	KN-m	Unitless	Unitless	Text
P08_FUSTE	PILA_MET	Brace	No Messages	ELU_01_T0	0	0.202775	1352.181	6668.393	141.4635	ELU_01_T0	0	0.011647	1352.181	9526.275	141.4635	1	0	No Messages
P08_FUSTE	PILA_MET	Brace	No Messages	ELU_01_T0	3.3596	0.163298	1361.166	8335.491	141.4635	ELU_01_T0	3.3596	0.011179	1361.166	9526.275	141.4635	1	0	No Messages
P08_FUSTE	PILA_MET	Brace	No Messages	ELU_01_T0	6.7192	0.137059	1370.942	10002.589	141.4635	ELU_01_T0	6.7192	0.010711	1370.942	9526.275	141.4635	1	0	No Messages
P08_FUSTE	PILA_MET	Brace	No Messages	ELU_01_TINF	0	0.197427	1316.521	6668.393	141.4626	ELU_01_TINF	0	0.011647	1316.521	9526.275	141.4626	1	0	No Messages
P08_FUSTE	PILA_MET	Brace	No Messages	ELU_01_TINF	3.3596	0.15902	1325.506	8335.491	141.4626	ELU_01_TINF	3.3596	0.011179	1325.506	9526.275	141.4626	1	0	No Messages
P08_FUSTE	PILA_MET	Brace	No Messages	ELU_01_TINF	6.7192	0.133494	1335.282	10002.589	141.4626	ELU_01_TINF	6.7192	0.010711	1335.282	9526.275	141.4626	1	0	No Messages
P08_FUSTE	PILA_MET	Brace	No Messages	ELU_02_T0	0	0.142913	952.997	6668.393	327.2936	ELU_02_T0	0	0.03864	952.997	9526.275	327.2936	1	0	No Messages
P08_FUSTE	PILA_MET	Brace	No Messages	ELU_02_T0	3.3596	0.115408	961.981	8335.491	327.2936	ELU_02_T0	3.3596	0.037079	961.981	9526.275	327.2936	1	0	No Messages
P08_FUSTE	PILA_MET	Brace	No Messages	ELU_02_T0	6.7192	0.097151	971.757	10002.589	327.2936	ELU_02_T0	6.7192	0.035518	971.757	9526.275	327.2936	1	0	No Messages
P08_FUSTE	PILA_MET	Brace	No Messages	ELU_02_TINF	0	0.137565	917.337	6668.393	327.2927	ELU_02_TINF	0	0.03864	917.337	9526.275	327.2927	1	0	No Messages
P08_FUSTE	PILA_MET	Brace	No Messages	ELU_02_TINF	3.3596	0.11113	926.322	8335.491	327.2927	ELU_02_TINF	3.3596	0.037079	926.322	9526.275	327.2927	1	0	No Messages
P08_FUSTE	PILA_MET	Brace	No Messages	ELU_02_TINF	6.7192	0.093585	936.097	10002.589	327.2927	ELU_02_TINF	6.7192	0.035518	936.097	9526.275	327.2927	1	0	No Messages
P08_FUSTE	PILA_MET	Brace	No Messages	ELU_03_T0	0	0.175587	1170.883	6668.393	111.9648	ELU_03_T0	0	0.01161	1170.883	9526.275	111.9648	1	0	No Messages
P08_FUSTE	PILA_MET	Brace	No Messages	ELU_03_T0	3.3596	0.141547	1179.868	8335.491	111.9648	ELU_03_T0	3.3596	0.011141	1179.868	9526.275	111.9648	1	0	No Messages
P08_FUSTE	PILA_MET	Brace	No Messages	ELU_03_T0	6.7192	0.118934	1189.643	10002.589	111.9648	ELU_03_T0	6.7192	0.010673	1189.643	9526.275	111.9648	1	0	No Messages
P08_FUSTE	PILA_MET	Brace	No Messages	ELU_03_TINF	0	0.170239	1135.224	6668.393	111.964	ELU_03_TINF	0	0.01161	1135.224	9526.275	111.964	1	0	No Messages
P08_FUSTE	PILA_MET	Brace	No Messages	ELU_03_TINF	3.3596	0.137269	1144.208	8335.491	111.964	ELU_03_TINF	3.3596	0.011141	1144.208	9526.275	111.964	1	0	No Messages
P08_FUSTE	PILA_MET	Brace	No Messages	ELU_03_TINF	6.7192	0.115368	1153.983	10002.589	111.964	ELU_03_TINF	6.7192	0.010673	1153.983	9526.275	111.964	1	0	No Messages
P08_FUSTE	PILA_MET	Brace	No Messages	ELU_SISMO_X_T0	0	0.085917	572.928	6668.393	39.1508	ELU_SISMO_X_T0	0	0.003841	572.928	9526.275	39.1508	1	0	No Messages
P08_FUSTE	PILA_MET	Brace	No Messages	ELU_SISMO_X_T0	3.3596	0.069532	579.583	8335.491	39.1508	ELU_SISMO_X_T0	3.3596	0.003841	579.583	9526.275	39.1508	1	0	No Messages
P08_FUSTE	PILA_MET	Brace	No Messages	ELU_SISMO_X_T0	6.7192	0.058667	586.824	10002.589	39.1508	ELU_SISMO_X_T0	6.7192	0.003841	586.824	9526.275	39.1508	1	0	No Messages
P08_FUSTE	PILA_MET	Brace	No Messages	ELU_SISMO_Y_T0	0	0.049393	329.373	6668.393	130.4832	ELU_SISMO_Y_T0	0	0.012804	329.373	9526.275	130.4832	1	0	No Messages
P08_FUSTE	PILA_MET	Brace	No Messages	ELU_SISMO_Y_T0	3.3596	0.040313	336.028	8335.491	130.4832	ELU_SISMO_Y_T0	3.3596	0.012804	336.028	9526.275	130.4832	1	0	No Messages
P08_FUSTE	PILA_MET	Brace	No Messages	ELU_SISMO_Y_T0	6.7192	0.034318	343.269	10002.589	130.4832	ELU_SISMO_Y_T0	6.7192	0.012804	343.269	9526.275	130.4832	1	0	No Messages
P08_FUSTE	PILA_MET	Brace	No Messages	ELU_SISMO_Z_T0	0	0.053401	356.097	6668.393	39.147	ELU_SISMO_Z_T0	0	0.003842	356.097	9526.275	39.147	1	0	No Messages
P08_FUSTE	PILA_MET	Brace	No Messages	ELU_SISMO_Z_T0	3.3596	0.043519	362.752	8335.491	39.147	ELU_SISMO_Z_T0	3.3596	0.003842	362.752	9526.275	39.147	1	0	No Messages
P08_FUSTE	PILA_MET	Brace	No Messages	ELU_SISMO_Z_T0	6.7192	0.03699	369.992	10002.589	39.147	ELU_SISMO_Z_T0	6.7192	0.003842	369.992	9526.275	39.147	1	0	No Messages
P08_FUSTE	PILA_MET	Brace	No Messages	ELU_SISMO_X_TINF	0	0.081956	546.514	6668.393	39.1502	ELU_SISMO_X_TINF	0	0.003841	546.514	9526.275	39.1502	1	0	No Messages
P08_FUSTE	PILA_MET	Brace	No Messages	ELU_SISMO_X_TINF	3.3596	0.066363	553.168	8335.491	39.1502	ELU_SISMO_X_TINF	3.3596	0.003841	553.168	9526.275	39.1502	1	0	No Messages
P08_FUSTE	PILA_MET	Brace	No Messages	ELU_SISMO_X_TINF	6.7192	0.056026	560.409	10002.589	39.1502	ELU_SISMO_X_TINF	6.7192	0.003841	560.409	9526.275	39.1502	1	0	No Messages
P08_FUSTE	PILA_MET	Brace	No Messages	ELU_SISMO_Y_TINF	0	0.045432	302.958	6668.393	130.4825	ELU_SISMO_Y_TINF	0	0.012804	302.958	9526.275	130.4825	1	0	No Messages
P08_FUSTE	PILA_MET	Brace	No Messages	ELU_SISMO_Y_TINF	3.3596	0.037144	309.613	8335.491	130.4825	ELU_SISMO_Y_TINF	3.3596	0.012804	309.613	9526.275	130.4825	1	0	No Messages
P08_FUSTE	PILA_MET	Brace	No Messages	ELU_SISMO_Y_TINF	6.7192	0.031677	316.854	10002.589	130.4825	ELU_SISMO_Y_TINF	6.7192	0.012804	316.854	9526.275	130.4825	1	0	No Messages
P08_FUSTE	PILA_MET	Brace	No Messages	ELU_SISMO_Z_TINF	0	0.04944	329.682	6668.393	39.1464	ELU_SISMO_Z_TINF	0	0.003842	329.682	9526.275	39.1464	1	0	No Messages
P08_FUSTE	PILA_MET	Brace	No Messages	ELU_SISMO_Z_TINF	3.3596	0.04035	336.337	8335.491	39.1464	ELU_SISMO_Z_TINF	3.3596	0.003842	336.337	9526.275	39.1464	1	0	No Messages
P08_FUSTE	PILA_MET	Brace	No Messages	ELU_SISMO_Z_TINF	6.7192	0.034349	343.578	10002.589	39.1464	ELU_SISMO_Z_TINF	6.7192	0.003842	343.578	9526.275	39.1464	1	0	No Messages

Empresa:
Dirección:
Teléfono/Fax:
Sitio web:

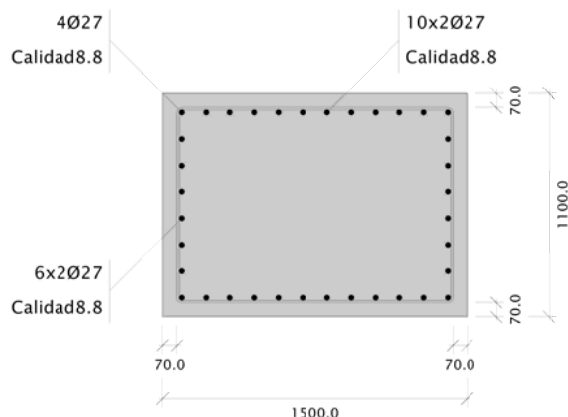
Proyecto:
Código:
Autor:
Fecha: 04/01/2017

ANCLAJE PILA

1.- Norma

Instrucción de Hormigón Estructural (EHE-08)

2.- Detalle

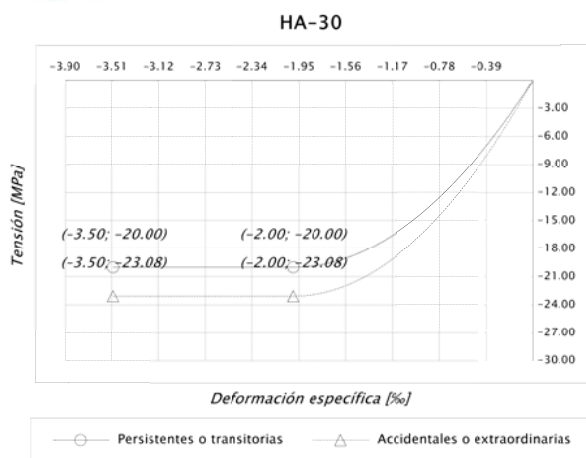


Hormigón: HA-30

Hormigón: 16500.00 cm²
Armaduras: 16416.00 mm²
Cuantía: 9.95 %

3.- Materiales

3.1.- Hormigón



Designación: HA-30

f_{ck} : 30.00 MPa

α_{cc} : 1.000 (Persistentes o transitorias)

α_{cc} : 1.000 (Accidentales o extraordinarias)

γ_c : 1.500 (Persistentes o transitorias)

γ_c : 1.300 (Accidentales o extraordinarias)

f_{cd} : 20.00 MPa (Persistentes o transitorias)

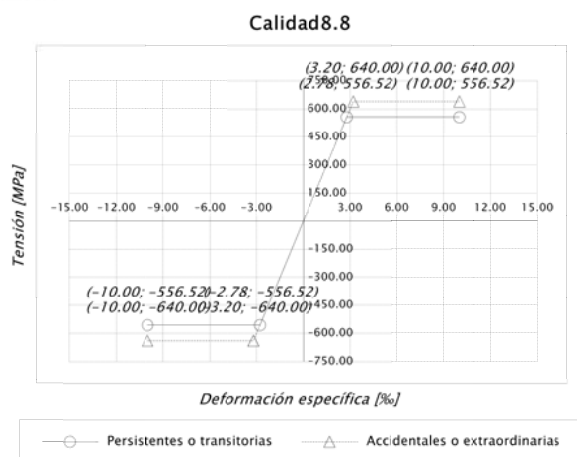
f_{cd} : 23.08 MPa (Accidentales o extraordinarias)

ϵ_{c0} : 2.00 ‰

ϵ_{cu} : 3.50 ‰

n : 2.000 (exponente)

3.2.- Armadura



Designación: Calidad 8.8

f_{yk} : 640.00 MPa

γ_s : 1.150 (Persistentes o transitorias)

γ_s : 1.000 (Accidentales o extraordinarias)

f_{yd} : 556.52 MPa (Persistentes o transitorias)

f_{yd} : 640.00 MPa (Accidentales o extraordinarias)

$\epsilon_{m\acute{a}x}$: 10.00 ‰

E_s : 200000.0 MPa

Empresa:	Proyecto:
Dirección:	Código:
Teléfono/Fax:	Autor:
Sitio web:	Fecha: 04/01/2017

4.- Esfuerzos internos aplicados

Combinación	N _d [kN]	My _d [kN·m]	Mz _d [kN·m]	Accidental
P07_FUSTE_ELU_01_T0	-940.50	3861.20	-764.60	No
P07_FUSTE_ELU_01_T0	-2035.70	-1853.20	-1106.30	No
P07_FUSTE_ELU_01_TINF	-938.60	3720.90	-764.60	No
P07_FUSTE_ELU_01_TINF	-2033.90	-1993.60	-1106.30	No
P07_FUSTE_ELU_02_T0	-994.10	2723.10	-2548.80	No
P07_FUSTE_ELU_02_T0	-1478.30	-1014.40	-2685.40	No
P07_FUSTE_ELU_02_TINF	-992.30	2582.80	-2548.80	No
P07_FUSTE_ELU_02_TINF	-1476.40	-1154.70	-2685.40	No
P07_FUSTE_ELU_03_T0	-974.80	3727.20	-764.60	No
P07_FUSTE_ELU_03_T0	-1510.30	-1628.40	-901.30	No
P07_FUSTE_ELU_03_TINF	-972.90	3586.80	-764.60	No
P07_FUSTE_ELU_03_TINF	-1508.40	-1768.80	-901.30	No
P07_FUSTE_ELU_SISMO_X_T0	-696.30	1879.10	287.90	No
P07_FUSTE_ELU_SISMO_X_T0	-872.40	-1192.90	-287.80	No
P07_FUSTE_ELU_SISMO_Y_T0	-748.50	819.10	959.60	No
P07_FUSTE_ELU_SISMO_Y_T0	-820.20	-132.90	-959.60	No
P07_FUSTE_ELU_SISMO_Z_T0	-717.20	869.90	287.90	No
P07_FUSTE_ELU_SISMO_Z_T0	-851.50	-183.70	-287.90	No
P07_FUSTE_ELU_SISMO_X_TINF	-694.90	1775.10	287.90	No
P07_FUSTE_ELU_SISMO_X_TINF	-871.00	-1296.80	-287.80	No
P07_FUSTE_ELU_SISMO_Y_TINF	-747.10	715.20	959.60	No
P07_FUSTE_ELU_SISMO_Y_TINF	-818.80	-236.90	-959.60	No
P07_FUSTE_ELU_SISMO_Z_TINF	-715.80	765.90	287.90	No
P07_FUSTE_ELU_SISMO_Z_TINF	-850.10	-287.60	-287.90	No
P08_FUSTE_ELU_01_T0	-940.40	3858.30	1108.40	No
P08_FUSTE_ELU_01_T0	-2035.80	-1850.00	767.30	No
P08_FUSTE_ELU_01_TINF	-936.10	3679.90	1108.40	No
P08_FUSTE_ELU_01_TINF	-2031.50	-2028.40	767.30	No
P08_FUSTE_ELU_02_T0	-994.00	2722.30	2694.30	No
P08_FUSTE_ELU_02_T0	-1478.40	-1013.40	2557.90	No
P08_FUSTE_ELU_02_TINF	-989.70	2543.90	2694.30	No
P08_FUSTE_ELU_02_TINF	-1474.20	-1191.80	2557.90	No
P08_FUSTE_ELU_03_T0	-974.50	3726.70	903.80	No
P08_FUSTE_ELU_03_T0	-1510.50	-1627.60	767.30	No
P08_FUSTE_ELU_03_TINF	-970.30	3548.30	903.80	No
P08_FUSTE_ELU_03_TINF	-1506.30	-1806.00	767.30	No
P08_FUSTE_ELU_SISMO_X_T0	-696.60	1872.90	268.00	No
P08_FUSTE_ELU_SISMO_X_T0	-872.00	-1186.80	-268.10	No
P08_FUSTE_ELU_SISMO_Y_T0	-748.60	817.30	893.40	No
P08_FUSTE_ELU_SISMO_Y_T0	-820.00	-131.20	-893.50	No
P08_FUSTE_ELU_SISMO_Z_T0	-717.30	868.10	268.00	No

Empresa:

Dirección:

Teléfono/Fax:

Sitio web:

Proyecto:

Código:

Autor:

Fecha: 04/01/2017

Combinación	N_d [kN]	M_{yy_d} [kN·m]	M_{zz_d} [kN·m]	Accidental
P08_FUSTE_ELU_SISMO_Z_T0	-851.30	-182.00	-268.10	No
P08_FUSTE_ELU_SISMO_X_TINF	-693.50	1740.80	268.00	No
P08_FUSTE_ELU_SISMO_X_TINF	-868.80	-1318.90	-268.10	No
P08_FUSTE_ELU_SISMO_Y_TINF	-745.50	685.10	893.40	No
P08_FUSTE_ELU_SISMO_Y_TINF	-816.90	-263.30	-893.50	No
P08_FUSTE_ELU_SISMO_Z_TINF	-714.10	735.90	268.00	No
P08_FUSTE_ELU_SISMO_Z_TINF	-848.20	-314.10	-268.10	No

5.- Comprobaciones



La sección transversal resiste todas las combinaciones.

Combinación: P08_FUSTE_ELU_01_T0

5.1.- Comprobación de resistencia a los esfuerzos actuantes

5.1.1) Hormigón

Máxima deformación de compresión: -1.65 ‰

Máxima tensión de compresión: -19.40 MPa

5.1.2) Armadura

Máxima deformación de compresión: -1.21 ‰

Máxima tensión de compresión: -241.67 MPa

Máxima deformación de tracción: 3.37 ‰

Máxima tensión de tracción: 556.52 MPa

5.1.3) Equilibrio

Valor y posición de las resultantes internas

Resultante	Valor [kN]	Y [m]	Z [m]	Vista 3D
Hormigón	-4242.65	0.162	-0.438	
Armadura comprimida	-956.13	0.169	-0.445	
Armadura traccionada	4258.38	-0.061	0.370	

5.2.- Comprobación de resistencia para la situación de colapso

Modo de colapsar: Axil y excentricidades Y-Z constantes

N_u : -940.40 kN

M_{yy_u} : 4442.51 kN·m

M_{zz_u} : 1276.23 kN·m

Empresa:

Dirección:

Teléfono/Fax:

Sitio web:

Proyecto:

Código:

Autor:

Fecha: 04/01/2017

Aprovechamiento: 86.85 %

5.2.1) Hormigón

Máxima deformación de compresión: -3.50 ‰

Máxima tensión de compresión: -20.00 MPa

5.2.2) Armadura

Máxima deformación de compresión: -2.33 ‰

Máxima tensión de compresión: -465.57 MPa

Máxima deformación de tracción: 9.70 ‰

Máxima tensión de tracción: 556.52 MPa

5.2.3) Equilibrio

Valor y posición de las resultantes internas					
Resultante	Valor [kN]	Y [m]	Z [m]	Vista 3D	
Hormigón	-4729.17	0.155	-0.455		
Armadura comprimida	-1585.98	0.203	-0.450		
Armadura traccionada	5374.75	-0.041	0.293		

CÁLCULO DE LOS PERNOS DE ANCLAJE DE LAS PILAS 7 Y 8

ESFUERZOS Y COMPROBACIÓN INTERACCIÓN FLEXOCOMPRESIÓN-CORTANTE

nº TOTAL DE PERNOS DISPUESTOS	42
RESISTENCIA A CORTANTE POR PERNO	219.86 kN (perno Ø27, grado 8.8)
(*) cálculo con el programa CUBECUT	

TABLE: Element Forces - Frames

Frame	Station	OutputCase	CaseType	StepType	P	V2	V3	M2	M3	% utilizacion	%utilización	
Text	m	Text	Text	Text	KN	KN	KN	KN-m	KN-m	flexión (*)	cortante	SUMA
P07_FUSTE	0	ELU_01_T0	Combination	Max	-937.7	1353.1	-109.8	-764.6	4275.7	83.3	14.7	98.0
P07_FUSTE	0	ELU_01_T0	Combination	Min	-2048.5	-323.5	-110.5	-1106.3	-1933.9	38.8	3.7	42.5
P07_FUSTE	0	ELU_01_TINF	Combination	Max	-935.9	1326.2	-109.8	-764.6	4135.3	80.6	14.4	95.0
P07_FUSTE	0	ELU_01_TINF	Combination	Min	-2046.7	-350.4	-110.5	-1106.3	-2074.2	41.1	4.0	45.1
P07_FUSTE	0	ELU_02_T0	Combination	Max	-991.4	953.4	-366.1	-2548.8	3137.6	72.1	11.1	83.2
P07_FUSTE	0	ELU_02_T0	Combination	Min	-1491.1	-81.1	-366.4	-2685.4	-1095.1	44.2	4.1	48.3
P07_FUSTE	0	ELU_02_TINF	Combination	Max	-989.6	926.6	-366.1	-2548.8	2997.3	69.9	10.8	80.7
P07_FUSTE	0	ELU_02_TINF	Combination	Min	-1489.2	-107.9	-366.4	-2685.4	-1235.4	45.7	4.1	49.8
P07_FUSTE	0	ELU_03_T0	Combination	Max	-974.8	1171.3	-109.8	-764.6	4176.0	81.2	12.7	93.9
P07_FUSTE	0	ELU_03_T0	Combination	Min	-1523.4	-193.0	-110.1	-901.3	-1628.4	33.4	2.4	35.8
P07_FUSTE	0	ELU_03_TINF	Combination	Max	-972.9	1144.5	-109.8	-764.6	4035.6	78.5	12.5	91.0
P07_FUSTE	0	ELU_03_TINF	Combination	Min	-1521.6	-219.8	-110.1	-901.3	-1768.8	35.8	2.7	38.5
P07_FUSTE	0	ELU_SISMO_X_T0	Combination	Max	-696.3	574.3	39.6	287.9	1879.1	37.2	6.2	43.5
P07_FUSTE	0	ELU_SISMO_X_T0	Combination	Min	-872.4	-147.3	-39.6	-287.8	-1192.9	23.6	1.7	25.2
P07_FUSTE	0	ELU_SISMO_Y_T0	Combination	Max	-748.5	329.8	132.0	959.6	819.1	21.9	3.8	25.7
P07_FUSTE	0	ELU_SISMO_Y_T0	Combination	Min	-820.2	97.2	-132.0	-959.6	-132.9	14.2	1.8	16.0
P07_FUSTE	0	ELU_SISMO_Z_T0	Combination	Max	-717.2	356.6	39.6	287.9	869.9	17.7	3.9	21.6
P07_FUSTE	0	ELU_SISMO_Z_T0	Combination	Min	-851.5	70.5	-39.6	-287.9	-183.7	5.7	0.9	6.6
P07_FUSTE	0	ELU_SISMO_X_TINF	Combination	Max	-694.9	554.4	39.6	287.9	1775.1	35.2	6.0	41.2
P07_FUSTE	0	ELU_SISMO_X_TINF	Combination	Min	-871.0	-167.1	-39.6	-287.8	-1296.8	25.5	1.9	27.4
P07_FUSTE	0	ELU_SISMO_Y_TINF	Combination	Max	-747.1	309.9	132.0	959.6	715.2	20.4	3.6	24.1
P07_FUSTE	0	ELU_SISMO_Y_TINF	Combination	Min	-818.8	77.4	-132.0	-959.6	-236.9	15.0	1.7	16.6
P07_FUSTE	0	ELU_SISMO_Z_TINF	Combination	Max	-715.8	336.7	39.6	287.9	765.9	15.7	3.7	19.4
P07_FUSTE	0	ELU_SISMO_Z_TINF	Combination	Min	-850.1	50.6	-39.6	-287.9	-287.6	7.2	0.7	7.8

CÁLCULO DE LOS PERNOS DE ANCLAJE DE LAS PILAS 7 Y 8

ESFUERZOS Y COMPROBACIÓN INTERACCIÓN FLEXOCOMPRESIÓN-CORTANTE

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Text	m	Text	Text	Text	KN	KN	KN	KN-m	KN-m	flexión (*)	cortante	SUMA
P08_FUSTE	0	ELU_01_T0	Combination	Max	-937.7	1352.2	111.0	1108.4	4272.9	84.3	14.7	99.0
P08_FUSTE	0	ELU_01_T0	Combination	Min	-2048.6	-322.7	110.4	767.3	-1930.7	36.8	3.7	40.5
P08_FUSTE	0	ELU_01_TINF	Combination	Max	-933.4	1316.5	111.0	1108.4	4094.5	81.0	14.3	95.3
P08_FUSTE	0	ELU_01_TINF	Combination	Min	-2044.4	-358.3	110.4	767.3	-2109.1	39.9	4.1	43.9
P08_FUSTE	0	ELU_02_T0	Combination	Max	-991.3	953.0	368.1	2694.3	3136.9	73.4	11.1	84.4
P08_FUSTE	0	ELU_02_T0	Combination	Min	-1491.3	-80.7	367.8	2557.9	-1094.0	42.6	4.1	46.7
P08_FUSTE	0	ELU_02_TINF	Combination	Max	-987.0	917.3	368.1	2694.3	2958.5	70.6	10.7	81.3
P08_FUSTE	0	ELU_02_TINF	Combination	Min	-1487.0	-116.4	367.8	2557.9	-1272.4	44.6	4.2	48.8
P08_FUSTE	0	ELU_03_T0	Combination	Max	-974.5	1170.9	110.6	903.8	4175.7	81.6	12.7	94.3
P08_FUSTE	0	ELU_03_T0	Combination	Min	-1523.8	-192.6	110.4	767.3	-1627.6	32.6	2.4	35.0
P08_FUSTE	0	ELU_03_TINF	Combination	Max	-970.3	1135.2	110.6	903.8	3997.3	78.2	12.4	90.6
P08_FUSTE	0	ELU_03_TINF	Combination	Min	-1519.6	-228.2	110.4	767.3	-1806.0	35.7	2.7	38.5
P08_FUSTE	0	ELU_SISMO_X_T0	Combination	Max	-696.6	572.9	36.6	268.0	1872.9	37.1	6.2	43.3
P08_FUSTE	0	ELU_SISMO_X_T0	Combination	Min	-872.0	-145.9	-36.6	-268.1	-1186.8	23.4	1.6	25.0
P08_FUSTE	0	ELU_SISMO_Y_T0	Combination	Max	-748.6	329.4	122.0	893.4	817.3	21.2	3.8	25.0
P08_FUSTE	0	ELU_SISMO_Y_T0	Combination	Min	-820.0	97.7	-122.0	-893.5	-131.2	13.3	1.7	15.0
P08_FUSTE	0	ELU_SISMO_Z_T0	Combination	Max	-717.3	356.1	36.6	268.0	868.1	17.6	3.9	21.4
P08_FUSTE	0	ELU_SISMO_Z_T0	Combination	Min	-851.3	71.0	-36.6	-268.1	-182.0	5.4	0.9	6.3
P08_FUSTE	0	ELU_SISMO_X_TINF	Combination	Max	-693.5	546.5	36.6	268.0	1740.8	34.5	5.9	40.4
P08_FUSTE	0	ELU_SISMO_X_TINF	Combination	Min	-868.8	-172.3	-36.6	-268.1	-1318.9	25.9	1.9	27.8
P08_FUSTE	0	ELU_SISMO_Y_TINF	Combination	Max	-745.5	303.0	122.0	893.4	685.1	19.3	3.5	22.8
P08_FUSTE	0	ELU_SISMO_Y_TINF	Combination	Min	-816.9	71.3	-122.0	-893.5	-263.3	14.3	1.5	15.8
P08_FUSTE	0	ELU_SISMO_Z_TINF	Combination	Max	-714.1	329.7	36.6	268.0	735.9	15.1	3.6	18.7
P08_FUSTE	0	ELU_SISMO_Z_TINF	Combination	Min	-848.2	44.5	-36.6	-268.1	-314.1	7.4	0.6	8.0

DIMENSIONAMIENTO DEL ESPESOR DE LA PLACA DE ANCLAJE DE LAS PILAS 7 Y 8

Límite elástico acero chapa	275.00	Mpa
Coefficiente de seguridad	1.10	

LADO TRACCIONES

Tracción máxima por perno (*)	253773.12	N
Separación entre pernos	122.00	mm
Vuelo máximo de perno	95.00	m

(*) teniendo en cuenta la máxima tensión de tracción (ver listados CubeCut)

Momento	24108446	N*mm
Wpl necesario	96434	mm ³
Espesor de chapa necesario	56.2	mm

LADO COMPRESIONES

Compresión máxima del hormigón	20.00	Mpa
Longitud con compresiones	150.00	mm
Vuelo de placa	175.00	mm

Momento	300000	N*mm
Wpl necesario	1200	mm ³
Espesor de chapa necesario	69.3	mm

COMPROBACIÓN DE LA NECESIDAD DE TENER EN CUENTA LOS EFECTOS DE SEGUNDO ORDEN EN LA COMPROBACIÓN DE LOS FUSTES DE PILA DE HORMIGÓN

Se aplica el artículo 43.1.2 de la EHE

Altura máxima de fuste	5.300	m
Axil máximo de compresión en fuste (Nd)	893.000	kN
Máximo momento longitudinal de 1er (Md)	61.160	kN*m
Area de fuste de pila	0.461	m ²
Canto de la sección	0.600	m
Radio de giro	0.159	m
Longitud de pandeo	10.600	m
Esbeltez mecánica	66.583	
fcd hormigón	20.000	Mpa
Axil reducido	0.097	
e2	0.068	
Coeficiente C	0.240	
Esbeltez mecánica inferior	97.034	
ES NECESARIO TENER EN CUENTA EFECTOS DE 2ND ORDEN??		FALSO

Empresa:
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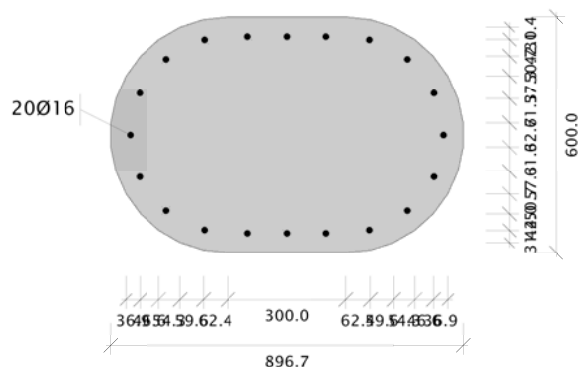
Proyecto:
Código:
Autor:
Fecha: 05/01/2017

FUSTE PILA

1.- Norma

Instrucción de Hormigón Estructural (EHE-08)

2.- Detalle

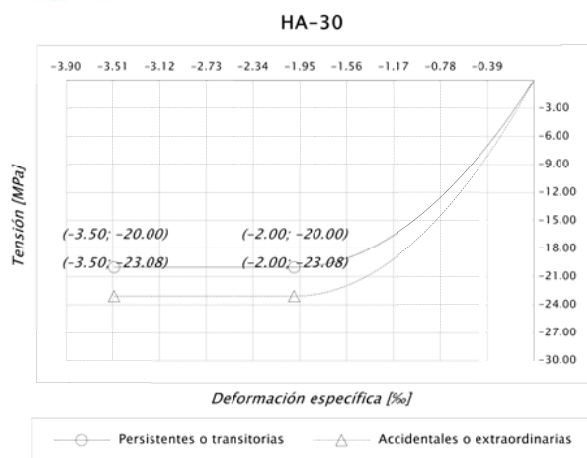


Hormigón: HA-30
Acero: B500S

Hormigón: 4606.81 cm²
Armaduras: 4021.24 mm²
Cuantía: 8.73 %

3.- Materiales

3.1.- Hormigón



Designación: HA-30

f_{ck} : 30.00 MPa

α_{cc} : 1.000 (Persistentes o transitorias)

α_{cc} : 1.000 (Accidentales o extraordinarias)

γ_c : 1.500 (Persistentes o transitorias)

γ_c : 1.300 (Accidentales o extraordinarias)

f_{cd} : 20.00 MPa (Persistentes o transitorias)

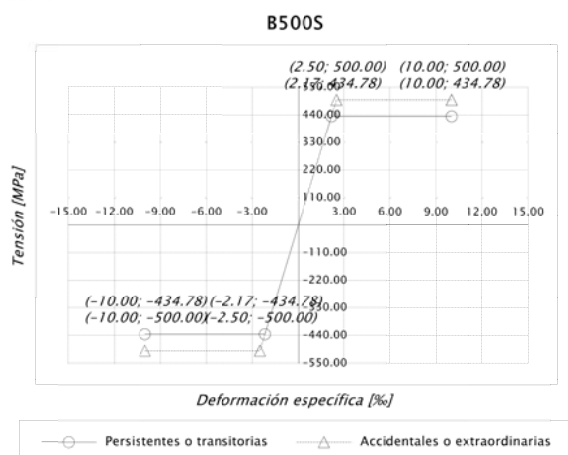
f_{cd} : 23.08 MPa (Accidentales o extraordinarias)

ϵ_{c0} : 2.00 ‰

ϵ_{cu} : 3.50 ‰

n : 2.000 (exponente)

3.2.- Armadura



Designación: B500S

f_{yk} : 500.00 MPa

γ_s : 1.150 (Persistentes o transitorias)

γ_s : 1.000 (Accidentales o extraordinarias)

f_{yd} : 434.78 MPa (Persistentes o transitorias)

f_{yd} : 500.00 MPa (Accidentales o extraordinarias)

$\epsilon_{m\acute{a}x}$: 10.00 ‰

E_s : 200000.0 MPa

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4.- Esfuerzos internos aplicados

Combinación	N _d [kN]	My _d [kN·m]	Mz _d [kN·m]	Accidental
P01_FUSTE_ELU_01_T0	-331.90	1.21E-009	179.21	No
P01_FUSTE_ELU_01_T0	-742.01	-1.77E-009	72.29	No
P01_FUSTE_ELU_01_TINF	-373.18	20.66	179.21	No
P01_FUSTE_ELU_01_TINF	-783.29	20.66	72.29	No
P01_FUSTE_ELU_02_T0	-344.16	1.07E-009	283.80	No
P01_FUSTE_ELU_02_T0	-543.02	-1.63E-009	241.03	No
P01_FUSTE_ELU_02_TINF	-385.44	20.66	283.79	No
P01_FUSTE_ELU_02_TINF	-584.30	20.66	241.03	No
P01_FUSTE_ELU_03_T0	-329.56	1.72E-009	115.06	No
P01_FUSTE_ELU_03_T0	-567.29	-2.68E-009	72.29	No
P01_FUSTE_ELU_03_TINF	-370.84	20.66	115.06	No
P01_FUSTE_ELU_03_TINF	-608.57	20.66	72.29	No
P01_FUSTE_ELU_SISMO_X_T0	-276.66	0.00	30.98	No
P01_FUSTE_ELU_SISMO_X_T0	-277.59	0.00	-31.00	No
P01_FUSTE_ELU_SISMO_Y_T0	-276.72	0.00	103.29	No
P01_FUSTE_ELU_SISMO_Y_T0	-277.53	0.00	-103.32	No
P01_FUSTE_ELU_SISMO_Z_T0	-275.83	7.42E-006	30.98	No
P01_FUSTE_ELU_SISMO_Z_T0	-278.42	-7.42E-006	-31.00	No
P01_FUSTE_ELU_SISMO_X_TINF	-307.24	15.30	30.98	No
P01_FUSTE_ELU_SISMO_X_TINF	-308.17	15.30	-31.01	No
P01_FUSTE_ELU_SISMO_Y_TINF	-307.30	15.30	103.29	No
P01_FUSTE_ELU_SISMO_Y_TINF	-308.11	15.30	-103.32	No
P01_FUSTE_ELU_SISMO_Z_TINF	-306.41	15.30	30.98	No
P01_FUSTE_ELU_SISMO_Z_TINF	-309.00	15.30	-31.01	No
P02_FUSTE_ELU_01_T0	-279.79	1.45E-009	219.08	No
P02_FUSTE_ELU_01_T0	-656.26	-2.12E-009	100.98	No
P02_FUSTE_ELU_01_TINF	-269.66	22.22	219.08	No
P02_FUSTE_ELU_01_TINF	-646.13	22.22	100.98	No
P02_FUSTE_ELU_02_T0	-309.08	1.27E-009	383.89	No
P02_FUSTE_ELU_02_T0	-469.39	-1.94E-009	336.66	No
P02_FUSTE_ELU_02_TINF	-298.95	22.22	383.89	No
P02_FUSTE_ELU_02_TINF	-459.26	22.22	336.66	No
P02_FUSTE_ELU_03_T0	-302.32	2.02E-009	148.22	No
P02_FUSTE_ELU_03_T0	-473.48	-3.17E-009	100.98	No
P02_FUSTE_ELU_03_TINF	-292.19	22.22	148.22	No
P02_FUSTE_ELU_03_TINF	-463.35	22.22	100.98	No
P02_FUSTE_ELU_SISMO_X_T0	-250.36	0.00	45.01	No
P02_FUSTE_ELU_SISMO_X_T0	-251.43	0.00	-45.03	No
P02_FUSTE_ELU_SISMO_Y_T0	-250.52	0.00	150.06	No
P02_FUSTE_ELU_SISMO_Y_T0	-251.27	0.00	-150.08	No
P02_FUSTE_ELU_SISMO_Z_T0	-249.81	0.00	45.01	No

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Combinación	N_d [kN]	M_{yy_d} [kN·m]	M_{zz_d} [kN·m]	Accidental
P02_FUSTE_ELU_SISMO_Z_T0	-251.98	0.00	-45.03	No
P02_FUSTE_ELU_SISMO_X_TINF	-242.85	16.46	45.01	No
P02_FUSTE_ELU_SISMO_X_TINF	-243.92	16.46	-45.03	No
P02_FUSTE_ELU_SISMO_Y_TINF	-243.01	16.46	150.06	No
P02_FUSTE_ELU_SISMO_Y_TINF	-243.76	16.46	-150.08	No
P02_FUSTE_ELU_SISMO_Z_TINF	-242.30	16.46	45.01	No
P02_FUSTE_ELU_SISMO_Z_TINF	-244.47	16.46	-45.03	No
P03_FUSTE_ELU_01_T0	-310.56	1.63E-009	241.95	No
P03_FUSTE_ELU_01_T0	-675.42	-2.35E-009	121.95	No
P03_FUSTE_ELU_01_TINF	-313.02	28.18	241.95	No
P03_FUSTE_ELU_01_TINF	-677.89	28.18	121.94	No
P03_FUSTE_ELU_02_T0	-337.39	1.41E-009	454.53	No
P03_FUSTE_ELU_02_T0	-485.02	-2.12E-009	406.53	No
P03_FUSTE_ELU_02_TINF	-339.86	28.18	454.53	No
P03_FUSTE_ELU_02_TINF	-487.48	28.18	406.53	No
P03_FUSTE_ELU_03_T0	-336.69	2.23E-009	169.95	No
P03_FUSTE_ELU_03_T0	-486.20	-3.46E-009	121.95	No
P03_FUSTE_ELU_03_TINF	-339.16	28.18	169.95	No
P03_FUSTE_ELU_03_TINF	-488.66	28.18	121.94	No
P03_FUSTE_ELU_SISMO_X_T0	-262.63	0.00	54.32	No
P03_FUSTE_ELU_SISMO_X_T0	-265.25	0.00	-54.34	No
P03_FUSTE_ELU_SISMO_Y_T0	-263.33	0.00	181.08	No
P03_FUSTE_ELU_SISMO_Y_T0	-264.55	0.00	-181.10	No
P03_FUSTE_ELU_SISMO_Z_T0	-262.61	0.00	54.32	No
P03_FUSTE_ELU_SISMO_Z_T0	-265.28	0.00	-54.34	No
P03_FUSTE_ELU_SISMO_X_TINF	-264.46	20.88	54.32	No
P03_FUSTE_ELU_SISMO_X_TINF	-267.08	20.88	-54.34	No
P03_FUSTE_ELU_SISMO_Y_TINF	-265.16	20.88	181.08	No
P03_FUSTE_ELU_SISMO_Y_TINF	-266.38	20.88	-181.11	No
P03_FUSTE_ELU_SISMO_Z_TINF	-264.44	20.88	54.32	No
P03_FUSTE_ELU_SISMO_Z_TINF	-267.10	20.88	-54.34	No
P04_FUSTE_ELU_01_T0	-320.91	1.74E-009	254.18	No
P04_FUSTE_ELU_01_T0	-701.90	-2.46E-009	133.55	No
P04_FUSTE_ELU_01_TINF	-319.97	34.06	254.18	No
P04_FUSTE_ELU_01_TINF	-700.97	34.06	133.55	No
P04_FUSTE_ELU_02_T0	-350.99	1.47E-009	493.46	No
P04_FUSTE_ELU_02_T0	-505.95	-2.18E-009	445.21	No
P04_FUSTE_ELU_02_TINF	-350.05	34.06	493.46	No
P04_FUSTE_ELU_02_TINF	-505.01	34.06	445.21	No
P04_FUSTE_ELU_03_T0	-349.86	2.30E-009	181.80	No
P04_FUSTE_ELU_03_T0	-507.68	-3.54E-009	133.55	No
P04_FUSTE_ELU_03_TINF	-348.92	34.06	181.80	No
P04_FUSTE_ELU_03_TINF	-506.75	34.06	133.55	No

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Combinación	N_d [kN]	M_{yy_d} [kN·m]	M_{zz_d} [kN·m]	Accidental
P04_FUSTE_ELU_SISMO_X_T0	-271.23	0.00	56.79	No
P04_FUSTE_ELU_SISMO_X_T0	-280.96	0.00	-56.82	No
P04_FUSTE_ELU_SISMO_Y_T0	-274.30	0.00	189.33	No
P04_FUSTE_ELU_SISMO_Y_T0	-277.88	0.00	-189.36	No
P04_FUSTE_ELU_SISMO_Z_T0	-273.20	0.00	56.79	No
P04_FUSTE_ELU_SISMO_Z_T0	-278.98	0.00	-56.82	No
P04_FUSTE_ELU_SISMO_X_TINF	-270.53	25.23	56.79	No
P04_FUSTE_ELU_SISMO_X_TINF	-280.27	25.23	-56.82	No
P04_FUSTE_ELU_SISMO_Y_TINF	-273.61	25.23	189.33	No
P04_FUSTE_ELU_SISMO_Y_TINF	-277.19	25.23	-189.36	No
P04_FUSTE_ELU_SISMO_Z_TINF	-272.51	25.23	56.79	No
P04_FUSTE_ELU_SISMO_Z_TINF	-278.29	25.23	-56.82	No
P05_FUSTE_ELU_01_T0	-238.67	1.80E-009	250.11	No
P05_FUSTE_ELU_01_T0	-701.05	-2.47E-009	133.04	No
P05_FUSTE_ELU_01_TINF	-240.48	40.94	250.11	No
P05_FUSTE_ELU_01_TINF	-702.86	40.94	133.04	No
P05_FUSTE_ELU_02_T0	-296.38	1.49E-009	490.34	No
P05_FUSTE_ELU_02_T0	-494.07	-2.14E-009	443.51	No
P05_FUSTE_ELU_02_TINF	-298.20	40.94	490.34	No
P05_FUSTE_ELU_02_TINF	-495.88	40.94	443.51	No
P05_FUSTE_ELU_03_T0	-287.76	0.00	179.87	No
P05_FUSTE_ELU_03_T0	-499.64	-3.48E-009	133.04	No
P05_FUSTE_ELU_03_TINF	-289.57	40.94	179.87	No
P05_FUSTE_ELU_03_TINF	-501.45	40.94	133.04	No
P05_FUSTE_ELU_SISMO_X_T0	-237.36	15.85	51.24	No
P05_FUSTE_ELU_SISMO_X_T0	-277.84	-15.85	-51.26	No
P05_FUSTE_ELU_SISMO_Y_T0	-250.42	4.75	170.82	No
P05_FUSTE_ELU_SISMO_Y_T0	-264.77	-4.75	-170.84	No
P05_FUSTE_ELU_SISMO_Z_T0	-246.75	4.75	51.24	No
P05_FUSTE_ELU_SISMO_Z_T0	-268.45	-4.75	-51.26	No
P05_FUSTE_ELU_SISMO_X_TINF	-238.70	46.18	51.24	No
P05_FUSTE_ELU_SISMO_X_TINF	-279.18	14.48	-51.26	No
P05_FUSTE_ELU_SISMO_Y_TINF	-251.77	35.08	170.82	No
P05_FUSTE_ELU_SISMO_Y_TINF	-266.11	25.57	-170.84	No
P05_FUSTE_ELU_SISMO_Z_TINF	-248.09	35.08	51.24	No
P05_FUSTE_ELU_SISMO_Z_TINF	-269.79	25.57	-51.26	No
P06_FUSTE_ELU_01_T0	-349.51	1.82E-009	228.82	No
P06_FUSTE_ELU_01_T0	-980.39	-2.51E-009	120.14	No
P06_FUSTE_ELU_01_TINF	-343.80	61.16	228.82	No
P06_FUSTE_ELU_01_TINF	-974.68	61.16	120.14	No
P06_FUSTE_ELU_02_T0	-410.93	1.44E-009	443.98	No
P06_FUSTE_ELU_02_T0	-707.23	-2.09E-009	400.51	No
P06_FUSTE_ELU_02_TINF	-405.21	61.16	443.98	No

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P06_FUSTE_ELU_02_TINF	-701.51	61.16	400.50	No
P06_FUSTE_ELU_03_T0	-392.00	2.20E-009	163.61	No
P06_FUSTE_ELU_03_T0	-737.27	-3.33E-009	120.14	No
P06_FUSTE_ELU_03_TINF	-386.28	61.16	163.61	No
P06_FUSTE_ELU_03_TINF	-731.55	61.16	120.14	No
P06_FUSTE_ELU_SISMO_X_T0	-297.34	26.08	39.44	No
P06_FUSTE_ELU_SISMO_X_T0	-414.05	-26.08	-39.46	No
P06_FUSTE_ELU_SISMO_Y_T0	-335.26	7.83	131.49	No
P06_FUSTE_ELU_SISMO_Y_T0	-376.13	-7.83	-131.51	No
P06_FUSTE_ELU_SISMO_Z_T0	-325.51	7.83	39.44	No
P06_FUSTE_ELU_SISMO_Z_T0	-385.89	-7.83	-39.46	No
P06_FUSTE_ELU_SISMO_X_TINF	-293.11	71.39	39.44	No
P06_FUSTE_ELU_SISMO_X_TINF	-409.82	19.22	-39.46	No
P06_FUSTE_ELU_SISMO_Y_TINF	-331.03	53.13	131.49	No
P06_FUSTE_ELU_SISMO_Y_TINF	-371.90	37.48	-131.51	No
P06_FUSTE_ELU_SISMO_Z_TINF	-321.28	53.13	39.44	No
P06_FUSTE_ELU_SISMO_Z_TINF	-381.65	37.48	-39.46	No
P09_FUSTE_ELU_01_T0	-348.44	2.45E-009	230.75	No
P09_FUSTE_ELU_01_T0	-977.95	-1.78E-009	119.98	No
P09_FUSTE_ELU_01_TINF	-341.78	-59.78	230.75	No
P09_FUSTE_ELU_01_TINF	-971.29	-59.78	119.98	No
P09_FUSTE_ELU_02_T0	-409.88	2.04E-009	444.27	No
P09_FUSTE_ELU_02_T0	-704.62	-1.40E-009	399.96	No
P09_FUSTE_ELU_02_TINF	-403.21	-59.78	444.27	No
P09_FUSTE_ELU_02_TINF	-697.96	-59.78	399.96	No
P09_FUSTE_ELU_03_T0	-391.39	3.26E-009	164.29	No
P09_FUSTE_ELU_03_T0	-733.97	-2.15E-009	119.98	No
P09_FUSTE_ELU_03_TINF	-384.72	-59.78	164.29	No
P09_FUSTE_ELU_03_TINF	-727.30	-59.78	119.98	No
P09_FUSTE_ELU_SISMO_X_T0	-296.39	24.43	38.32	No
P09_FUSTE_ELU_SISMO_X_T0	-412.51	-24.43	-38.34	No
P09_FUSTE_ELU_SISMO_Y_T0	-334.22	7.33	127.74	No
P09_FUSTE_ELU_SISMO_Y_T0	-374.67	-7.33	-127.76	No
P09_FUSTE_ELU_SISMO_Z_T0	-324.87	7.33	38.32	No
P09_FUSTE_ELU_SISMO_Z_T0	-384.03	-7.33	-38.33	No
P09_FUSTE_ELU_SISMO_X_TINF	-291.45	-19.86	38.32	No
P09_FUSTE_ELU_SISMO_X_TINF	-407.57	-68.71	-38.34	No
P09_FUSTE_ELU_SISMO_Y_TINF	-329.29	-36.96	127.74	No
P09_FUSTE_ELU_SISMO_Y_TINF	-369.74	-51.61	-127.76	No
P09_FUSTE_ELU_SISMO_Z_TINF	-319.93	-36.96	38.32	No
P09_FUSTE_ELU_SISMO_Z_TINF	-379.09	-51.61	-38.33	No
P10_FUSTE_ELU_01_T0	-241.88	2.57E-009	240.98	No
P10_FUSTE_ELU_01_T0	-702.49	-1.87E-009	130.41	No

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Autor:

Fecha: 05/01/2017

Combinación	N_d [kN]	M_{yy_d} [kN·m]	M_{zz_d} [kN·m]	Accidental
P10_FUSTE_ELU_01_TINF	-243.44	-42.78	240.98	No
P10_FUSTE_ELU_01_TINF	-704.05	-42.78	130.40	No
P10_FUSTE_ELU_02_T0	-299.90	2.24E-009	478.95	No
P10_FUSTE_ELU_02_T0	-495.64	-1.55E-009	434.72	No
P10_FUSTE_ELU_02_TINF	-301.47	-42.78	478.95	No
P10_FUSTE_ELU_02_TINF	-497.21	-42.78	434.72	No
P10_FUSTE_ELU_03_T0	-292.11	3.63E-009	174.64	No
P10_FUSTE_ELU_03_T0	-500.67	-2.40E-009	130.41	No
P10_FUSTE_ELU_03_TINF	-293.67	-42.78	174.64	No
P10_FUSTE_ELU_03_TINF	-502.23	-42.78	130.40	No
P10_FUSTE_ELU_SISMO_X_T0	-239.12	17.86	49.05	No
P10_FUSTE_ELU_SISMO_X_T0	-279.74	-17.86	-49.07	No
P10_FUSTE_ELU_SISMO_Y_T0	-252.28	5.36	163.52	No
P10_FUSTE_ELU_SISMO_Y_T0	-266.58	-5.36	-163.54	No
P10_FUSTE_ELU_SISMO_Z_T0	-248.77	5.36	49.05	No
P10_FUSTE_ELU_SISMO_Z_T0	-270.09	-5.36	-49.07	No
P10_FUSTE_ELU_SISMO_X_TINF	-240.27	-13.83	49.05	No
P10_FUSTE_ELU_SISMO_X_TINF	-280.90	-49.55	-49.07	No
P10_FUSTE_ELU_SISMO_Y_TINF	-253.44	-26.33	163.52	No
P10_FUSTE_ELU_SISMO_Y_TINF	-267.73	-37.05	-163.54	No
P10_FUSTE_ELU_SISMO_Z_TINF	-249.93	-26.33	49.05	No
P10_FUSTE_ELU_SISMO_Z_TINF	-271.24	-37.05	-49.07	No
P11_FUSTE_ELU_01_T0	-319.42	2.30E-009	248.78	No
P11_FUSTE_ELU_01_T0	-704.39	-1.63E-009	126.64	No
P11_FUSTE_ELU_01_TINF	-321.32	-31.95	248.78	No
P11_FUSTE_ELU_01_TINF	-706.29	-31.95	126.64	No
P11_FUSTE_ELU_02_T0	-348.89	2.04E-009	471.03	No
P11_FUSTE_ELU_02_T0	-507.50	-1.38E-009	422.17	No
P11_FUSTE_ELU_02_TINF	-350.79	-31.95	471.03	No
P11_FUSTE_ELU_02_TINF	-509.40	-31.95	422.17	No
P11_FUSTE_ELU_03_T0	-346.90	3.32E-009	175.50	No
P11_FUSTE_ELU_03_T0	-510.68	-2.16E-009	126.64	No
P11_FUSTE_ELU_03_TINF	-348.80	-31.95	175.50	No
P11_FUSTE_ELU_03_TINF	-512.58	-31.95	126.64	No
P11_FUSTE_ELU_SISMO_X_T0	-270.30	0.00	52.39	No
P11_FUSTE_ELU_SISMO_X_T0	-280.07	0.00	-52.41	No
P11_FUSTE_ELU_SISMO_Y_T0	-273.38	0.00	174.64	No
P11_FUSTE_ELU_SISMO_Y_T0	-276.99	0.00	-174.66	No
P11_FUSTE_ELU_SISMO_Z_T0	-272.24	0.00	52.38	No
P11_FUSTE_ELU_SISMO_Z_T0	-278.13	0.00	-52.41	No
P11_FUSTE_ELU_SISMO_X_TINF	-271.71	-23.66	52.38	No
P11_FUSTE_ELU_SISMO_X_TINF	-281.48	-23.66	-52.41	No
P11_FUSTE_ELU_SISMO_Y_TINF	-274.79	-23.66	174.64	No

Empresa:

Dirección:

Teléfono/Fax:

Sitio web:

Proyecto:

Código:

Autor:

Fecha: 05/01/2017

Combinación	N_d [kN]	M_{yy_d} [kN·m]	M_{zz_d} [kN·m]	Accidental
P11_FUSTE_ELU_SISMO_Y_TINF	-278.40	-23.66	-174.67	No
P11_FUSTE_ELU_SISMO_Z_TINF	-273.65	-23.66	52.38	No
P11_FUSTE_ELU_SISMO_Z_TINF	-279.54	-23.66	-52.41	No
P12_FUSTE_ELU_01_T0	-277.57	2.06E-009	232.08	No
P12_FUSTE_ELU_01_T0	-660.86	-1.43E-009	109.56	No
P12_FUSTE_ELU_01_TINF	-267.57	-24.69	232.08	No
P12_FUSTE_ELU_01_TINF	-650.86	-24.69	109.56	No
P12_FUSTE_ELU_02_T0	-308.20	1.86E-009	414.25	No
P12_FUSTE_ELU_02_T0	-473.41	-1.24E-009	365.24	No
P12_FUSTE_ELU_02_TINF	-298.20	-24.69	414.25	No
P12_FUSTE_ELU_02_TINF	-463.42	-24.69	365.24	No
P12_FUSTE_ELU_03_T0	-299.96	3.04E-009	158.57	No
P12_FUSTE_ELU_03_T0	-478.44	-1.96E-009	109.56	No
P12_FUSTE_ELU_03_TINF	-289.97	-24.69	158.57	No
P12_FUSTE_ELU_03_TINF	-468.45	-24.69	109.56	No
P12_FUSTE_ELU_SISMO_X_T0	-251.31	0.00	47.67	No
P12_FUSTE_ELU_SISMO_X_T0	-253.77	0.00	-47.69	No
P12_FUSTE_ELU_SISMO_Y_T0	-252.00	0.00	158.91	No
P12_FUSTE_ELU_SISMO_Y_T0	-253.08	0.00	-158.94	No
P12_FUSTE_ELU_SISMO_Z_T0	-251.43	0.00	47.67	No
P12_FUSTE_ELU_SISMO_Z_T0	-253.64	0.00	-47.69	No
P12_FUSTE_ELU_SISMO_X_TINF	-243.91	-18.29	47.67	No
P12_FUSTE_ELU_SISMO_X_TINF	-246.37	-18.29	-47.69	No
P12_FUSTE_ELU_SISMO_Y_TINF	-244.60	-18.29	158.91	No
P12_FUSTE_ELU_SISMO_Y_TINF	-245.68	-18.29	-158.94	No
P12_FUSTE_ELU_SISMO_Z_TINF	-244.03	-18.29	47.67	No
P12_FUSTE_ELU_SISMO_Z_TINF	-246.24	-18.29	-47.69	No
P13_FUSTE_ELU_01_T0	-340.19	2.10E-009	179.43	No
P13_FUSTE_ELU_01_T0	-754.30	-1.45E-009	81.99	No
P13_FUSTE_ELU_01_TINF	-381.43	-27.72	179.42	No
P13_FUSTE_ELU_01_TINF	-795.54	-27.72	81.99	No
P13_FUSTE_ELU_02_T0	-352.54	1.91E-009	312.32	No
P13_FUSTE_ELU_02_T0	-555.15	-1.27E-009	273.34	No
P13_FUSTE_ELU_02_TINF	-393.77	-27.72	312.31	No
P13_FUSTE_ELU_02_TINF	-596.38	-27.72	273.34	No
P13_FUSTE_ELU_03_T0	-337.02	3.13E-009	120.97	No
P13_FUSTE_ELU_03_T0	-580.88	-2.02E-009	81.99	No
P13_FUSTE_ELU_03_TINF	-378.26	-27.72	120.97	No
P13_FUSTE_ELU_03_TINF	-622.11	-27.72	81.99	No
P13_FUSTE_ELU_SISMO_X_T0	-283.97	0.00	36.23	No
P13_FUSTE_ELU_SISMO_X_T0	-284.84	0.00	-36.25	No
P13_FUSTE_ELU_SISMO_Y_T0	-284.10	0.00	120.78	No
P13_FUSTE_ELU_SISMO_Y_T0	-284.71	0.00	-120.80	No

Empresa:	Proyecto:
Dirección:	Código:
Teléfono/Fax:	Autor:
Sitio web:	Fecha: 05/01/2017

Combinación	N_d [kN]	M_{yy_d} [kN·m]	M_{zz_d} [kN·m]	Accidental
P13_FUSTE_ELU_SISMO_Z_T0	-283.52	0.00	36.23	No
P13_FUSTE_ELU_SISMO_Z_T0	-285.29	0.00	-36.25	No
P13_FUSTE_ELU_SISMO_X_TINF	-314.52	-20.53	36.23	No
P13_FUSTE_ELU_SISMO_X_TINF	-315.39	-20.53	-36.25	No
P13_FUSTE_ELU_SISMO_Y_TINF	-314.65	-20.53	120.78	No
P13_FUSTE_ELU_SISMO_Y_TINF	-315.26	-20.53	-120.80	No
P13_FUSTE_ELU_SISMO_Z_TINF	-314.07	-20.53	36.23	No
P13_FUSTE_ELU_SISMO_Z_TINF	-315.84	-20.53	-36.25	No

5.- Comprobaciones

 La sección transversal resiste todas las combinaciones.

Combinación: P05_FUSTE_ELU_02_TINF

5.1.- Comprobación de resistencia a los esfuerzos actuantes

5.1.1) Hormigón

Máxima deformación de compresión: -0.96 ‰

Máxima tensión de compresión: -14.64 MPa

5.1.2) Armadura

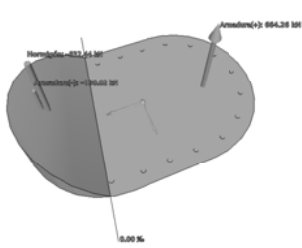
Máxima deformación de compresión: -0.77 ‰

Máxima tensión de compresión: -153.51 MPa

Máxima deformación de tracción: 2.10 ‰

Máxima tensión de tracción: 419.22 MPa

5.1.3) Equilibrio

Valor y posición de las resultantes internas					
Resultante	Valor [kN]	Y [m]	Z [m]	Vista 3D	
Hormigón	-832.44	0.333	-0.028		
Armadura comprimida	-130.02	0.351	-0.033		
Armadura traccionada	664.26	-0.252	0.020		

5.2.- Comprobación de resistencia para la situación de colapso

Modo de colapsar: Axil y excentricidades Y-Z constantes

N_u : -298.20 kN

M_{yy_u} : 58.62 kN·m

Empresa:

Dirección:

Teléfono/Fax:

Sitio web:

Proyecto:

Código:

Autor:

Fecha: 05/01/2017

M_{zzu} : 702.07 kN·m

Aprovechamiento: 69.84 %

5.2.1) Hormigón

Máxima deformación de compresión: -3.09 ‰

Máxima tensión de compresión: -20.00 MPa

5.2.2) Armadura

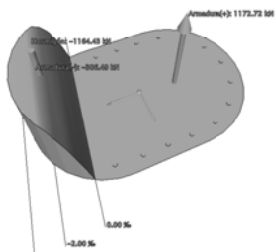
Máxima deformación de compresión: -2.25 ‰

Máxima tensión de compresión: -434.78 MPa

Máxima deformación de tracción: 10.00 ‰

Máxima tensión de tracción: 434.78 MPa

5.2.3) Equilibrio

Valor y posición de las resultantes internas					
Resultante	Valor [kN]	Y [m]	Z [m]		Vista 3D
Hormigón	-1164.43	0.351	-0.030		
Armadura comprimida	-306.49	0.366	-0.029		
Armadura traccionada	1172.72	-0.155	0.013		

CÁLCULO A CORTANTE SEGÚN EHE

FECHA:	05/01/2017
OBRA:	PASARELA UCA
ELEMENTO:	CORTANTE EN FUSTE DE PILAS

PILA-HIPOTESIS	DATOS													RESULTADOS								
	Vrd (ton)	Nd (ton)	Ac (m2)	fck (Mpa)	yc	bo (cm)	d (cm)	cotg(θ)	alpha (°)	As (cm2)	Ap (cm2)	fyk (kp/cm2)	fpk (kp/cm2)	Vrd sin cercos (ton)	Vcu ton	Vsu,nec ton	As,nec (cm2/ml)	As,min (cm2/ml)	As (cm2/ml)	Sep.max (cm)	Vu1 (ton)	Decalaje (m)
P01_FUSTE_ELU_01_T0	2.7	33.8	0.46	30	1.5	60	70	1	90	0	2.51	5100	15700	18.55	13.15	-10.45	-4.07	6.00	6.00	30.00	257.14	1.24
P01_FUSTE_ELU_01_T0	2.7	75.6	0.46	30	1.5	60	70	1	90	0	5.6	5100	15700	28.52	17.08	-14.39	-5.60	6.00	6.00	30.00	257.14	1.47
P01_FUSTE_ELU_01_TINF	2.9	38.0	0.46	30	1.5	60	70	1	90	0	2.82	5100	15700	19.67	13.68	-10.75	-4.18	6.00	6.00	30.00	257.14	1.20
P01_FUSTE_ELU_01_TINF	2.9	79.8	0.46	30	1.5	60	70	1	90	0	5.91	5100	15700	29.43	17.36	-14.43	-5.61	6.00	6.00	30.00	257.14	1.40
P01_FUSTE_ELU_02_T0	9.0	35.1	0.46	30	1.5	60	70	1	90	0	2.6	5100	15700	18.89	13.31	-4.35	-1.69	6.00	6.00	30.00	257.14	0.71
P01_FUSTE_ELU_02_T0	9.0	55.4	0.46	30	1.5	60	70	1	90	0	4.1	5100	15700	23.96	15.49	-6.52	-2.54	6.00	6.00	30.00	257.14	0.74
P01_FUSTE_ELU_02_TINF	9.0	39.3	0.46	30	1.5	60	70	1	90	0	2.91	5100	15700	20.00	13.84	-4.79	-1.86	6.00	6.00	30.00	257.14	0.71
P01_FUSTE_ELU_02_TINF	9.0	59.6	0.46	30	1.5	60	70	1	90	0	4.41	5100	15700	24.94	15.85	-6.81	-2.65	6.00	6.00	30.00	257.14	0.75
P01_FUSTE_ELU_03_T0	2.7	33.6	0.46	30	1.5	60	70	1	90	0	2.49	5100	15700	18.48	13.12	-10.43	-4.06	6.00	6.00	30.00	257.14	1.24
P01_FUSTE_ELU_03_T0	2.7	57.8	0.46	30	1.5	60	70	1	90	0	4.28	5100	15700	24.54	15.71	-13.02	-5.06	6.00	6.00	30.00	257.14	1.39
P01_FUSTE_ELU_03_TINF	2.9	37.8	0.46	30	1.5	60	70	1	90	0	2.8	5100	15700	19.61	13.66	-10.72	-4.17	6.00	6.00	30.00	257.14	1.20
P01_FUSTE_ELU_03_TINF	2.9	62.0	0.46	30	1.5	60	70	1	90	0	4.6	5100	15700	25.51	16.06	-13.13	-5.11	6.00	6.00	30.00	257.14	1.33
P01_FUSTE_ELU_SISMO_X_T0	1.1	28.2	0.46	30	1.5	60	70	1	90	0	2.09	5100	15700	16.96	12.35	-11.24	-4.37	6.00	6.00	30.00	257.14	2.22
P01_FUSTE_ELU_SISMO_X_T0	1.1	28.3	0.46	30	1.5	60	70	1	90	0	2.1	5100	15700	16.99	12.36	-11.25	-4.38	6.00	6.00	30.00	257.14	2.22
P01_FUSTE_ELU_SISMO_Y_T0	3.7	28.2	0.46	30	1.5	60	70	1	90	0	2.09	5100	15700	16.96	12.35	-8.65	-3.36	6.00	6.00	30.00	257.14	1.00
P01_FUSTE_ELU_SISMO_Y_T0	3.7	28.3	0.46	30	1.5	60	70	1	90	0	2.1	5100	15700	16.98	12.36	-8.66	-3.37	6.00	6.00	30.00	257.14	1.00
P01_FUSTE_ELU_SISMO_Z_T0	1.1	28.1	0.46	30	1.5	60	70	1	90	0	2.08	5100	15700	16.93	12.33	-11.22	-4.37	6.00	6.00	30.00	257.14	2.22
P01_FUSTE_ELU_SISMO_Z_T0	1.1	28.4	0.46	30	1.5	60	70	1	90	0	2.1	5100	15700	17.01	12.37	-11.26	-4.38	6.00	6.00	30.00	257.14	2.23
P01_FUSTE_ELU_SISMO_X_TINF	1.4	31.3	0.46	30	1.5	60	70	1	90	0	2.32	5100	15700	17.85	12.80	-11.40	-4.43	6.00	6.00	30.00	257.14	1.90
P01_FUSTE_ELU_SISMO_X_TINF	1.4	31.4	0.46	30	1.5	60	70	1	90	0	2.33	5100	15700	17.88	12.82	-11.41	-4.44	6.00	6.00	30.00	257.14	1.90
P01_FUSTE_ELU_SISMO_Y_TINF	3.8	31.3	0.46	30	1.5	60	70	1	90	0	2.32	5100	15700	17.85	12.80	-9.01	-3.50	6.00	6.00	30.00	257.14	1.00
P01_FUSTE_ELU_SISMO_Y_TINF	3.8	31.4	0.46	30	1.5	60	70	1	90	0	2.33	5100	15700	17.87	12.82	-9.02	-3.51	6.00	6.00	30.00	257.14	1.00
P01_FUSTE_ELU_SISMO_Z_TINF	1.4	31.2	0.46	30	1.5	60	70	1	90	0	2.31	5100	15700	17.83	12.79	-11.38	-4.43	6.00	6.00	30.00	257.14	1.90
P01_FUSTE_ELU_SISMO_Z_TINF	1.4	31.5	0.46	30	1.5	60	70	1	90	0	2.33	5100	15700	17.90	12.83	-11.42	-4.44	6.00	6.00	30.00	257.14	1.90
P02_FUSTE_ELU_01_T0	3.1	28.5	0.46	30	1.5	60	70	1	90	0	2.11	5100	15700	17.05	12.39	-9.30	-3.62	6.00	6.00	30.00	257.14	1.10
P02_FUSTE_ELU_01_T0	3.1	66.9	0.46	30	1.5	60	70	1	90	0	4.96	5100	15700	26.60	16.44	-13.37	-5.20	6.00	6.00	30.00	257.14	1.31
P02_FUSTE_ELU_01_TINF	3.2	27.5	0.46	30	1.5	60	70	1	90	0	2.04	5100	15700	16.75	12.23	-9.00	-3.50	6.00	6.00	30.00	257.14	1.07
P02_FUSTE_ELU_01_TINF	3.2	65.9	0.46	30	1.5	60	70	1	90	0	4.88	5100	15700	26.37	16.36	-13.16	-5.12	6.00	6.00	30.00	257.14	1.27
P02_FUSTE_ELU_02_T0	10.2	31.5	0.46	30	1.5	60	70	1	90	0	2.33	5100	15700	17.90	12.83	-2.59	-1.01	6.00	6.00	30.00	257.14	0.67
P02_FUSTE_ELU_02_T0	10.2	47.8	0.46	30	1.5	60	70	1	90	0	3.54	5100	15700	22.16	14.77	-4.55	-1.77	6.00	6.00	30.00	257.14	0.70
P02_FUSTE_ELU_02_TINF	10.3	30.5	0.46	30	1.5	60	70	1	90	0	2.26	5100	15700	17.61	12.68	-2.40	-0.93	6.00	6.00	30.00	257.14	0.67
P02_FUSTE_ELU_02_TINF	10.3	46.8	0.46	30	1.5	60	70	1	90	0	3.47	5100	15700	21.91	14.67	-4.40	-1.71	6.00	6.00	30.00	257.14	0.70
P02_FUSTE_ELU_03_T0	3.1	30.8	0.46	30	1.5	60	70	1	90	0	2.28	5100	15700	17.71	12.73	-9.65	-3.75	6.00	6.00	30.00	257.14	1.12
P02_FUSTE_ELU_03_T0	3.1	48.3	0.46	30	1.5	60	70	1	90	0	3.58	5100	15700	22.26	14.81	-11.75	-4.57	6.00	6.00	30.00	257.14	1.23
P02_FUSTE_ELU_03_TINF	3.2	29.8	0.46	30	1.5	60	70	1	90	0	2.21	5100	15700	17.41	12.58	-9.36	-3.64	6.00	6.00	30.00	257.14	1.09
P02_FUSTE_ELU_03_TINF	3.2	47.2	0.46	30	1.5	60	70	1	90	0	3.5	5100	15700	22.01	14.71	-11.50	-4.47	6.00	6.00	30.00	257.14	1.19
P02_FUSTE_ELU_SISMO_X_T0	1.3	25.5	0.46	30	1.5	60	70	1	90	0	1.89	5100	15700	16.16	11.92	-10.59	-4.12	6.00	6.00	30.00	257.14	1.89
P02_FUSTE_ELU_SISMO_X_T0	1.3	25.6	0.46	30	1.5	60	70	1	90	0	1.9	5100	15700	16.20	11.94	-10.61	-4.13	6.00	6.00	30.00	257.14	1.89
P02_FUSTE_ELU_SISMO_Y_T0	4.4	25.5	0.46	30	1.5	60	70	1	90	0	1.89	5100	15700	16.17	11.92	-7.51	-2.92	6.00	6.00	30.00	257.14	0.90
P02_FUSTE_ELU_SISMO_Y_T0	4.4	25.6	0.46	30	1.5	60	70	1	90	0	1.9	5100	15700	16.19	11.93	-7.52	-2.92	6.00	6.00	30.00	257.14	0.90
P02_FUSTE_ELU_SISMO_Z_T0	1.3	25.5	0.46	30	1.5	60	70	1	90	0	1.89	5100	15700	16.15	11.91	-10.59	-4.12	6.00	6.00	30.00	257.14	1.89
P02_FUSTE_ELU_SISMO_Z_T0	1.3	25.7	0.46	30	1.5	60	70	1	90	0	1.9	5100	15700	16.21	11.95	-10.62	-4.13	6.00	6.00	30.00	257.14	1.89
P02_FUSTE_ELU_SISMO_X_TINF	1.5	24.8	0.46	30	1.5	60	70	1	90	0	1.83	5100	15700	15.93	11.79	-10.30	-4.00	6.00	6.00	30.00	257.14	1.71

CÁLCULO A CORTANTE SEGÚN EHE

FECHA:	05/01/2017
OBRA:	PASARELA UCA
ELEMENTO:	CORTANTE EN FUSTE DE PILAS

PILA-HIPOTESIS	DATOS													RESULTADOS								
	Vrd (ton)	Nd (ton)	Ac (m2)	fck (Mpa)	yc	bo (cm)	d (cm)	cotg(θ)	alpha (°)	As (cm2)	Ap (cm2)	fyk (kp/cm2)	fpk (kp/cm2)	Vrd sin cercos (ton)	Vcu ton	Vsu,nec ton	As,nec (cm2/ml)	As,min (cm2/ml)	As (cm2/ml)	Sep.max (cm)	Vu1 (ton)	Decalaje (m)
P02_FUSTE_ELU_SISMO_X_TINF	1.5	24.9	0.46	30	1.5	60	70	1	90	0	1.84	5100	15700	15.96	11.81	-10.32	-4.01	6.00	6.00	30.00	257.14	1.71
P02_FUSTE_ELU_SISMO_Y_TINF	4.5	24.8	0.46	30	1.5	60	70	1	90	0	1.83	5100	15700	15.94	11.79	-7.32	-2.85	6.00	6.00	30.00	257.14	0.89
P02_FUSTE_ELU_SISMO_Y_TINF	4.5	24.8	0.46	30	1.5	60	70	1	90	0	1.84	5100	15700	15.96	11.81	-7.34	-2.85	6.00	6.00	30.00	257.14	0.89
P02_FUSTE_ELU_SISMO_Z_TINF	1.5	24.7	0.46	30	1.5	60	70	1	90	0	1.83	5100	15700	15.91	11.78	-10.29	-4.00	6.00	6.00	30.00	257.14	1.71
P02_FUSTE_ELU_SISMO_Z_TINF	1.5	24.9	0.46	30	1.5	60	70	1	90	0	1.85	5100	15700	15.98	11.82	-10.32	-4.02	6.00	6.00	30.00	257.14	1.71
P03_FUSTE_ELU_01_T0	3.3	31.7	0.46	30	1.5	60	70	1	90	0	2.34	5100	15700	17.94	12.85	-9.60	-3.73	6.00	6.00	30.00	257.14	1.09
P03_FUSTE_ELU_01_T0	3.2	68.9	0.46	30	1.5	60	70	1	90	0	5.1	5100	15700	27.04	16.59	-13.38	-5.20	6.00	6.00	30.00	257.14	1.28
P03_FUSTE_ELU_01_TINF	3.4	31.9	0.46	30	1.5	60	70	1	90	0	2.36	5100	15700	18.01	12.89	-9.50	-3.70	6.00	6.00	30.00	257.14	1.07
P03_FUSTE_ELU_01_TINF	3.3	69.1	0.46	30	1.5	60	70	1	90	0	5.12	5100	15700	27.09	16.61	-13.26	-5.16	6.00	6.00	30.00	257.14	1.25
P03_FUSTE_ELU_02_T0	10.7	34.4	0.46	30	1.5	60	70	1	90	0	2.55	5100	15700	18.70	13.22	-2.50	-0.97	6.00	6.00	30.00	257.14	0.67
P03_FUSTE_ELU_02_T0	10.7	49.4	0.46	30	1.5	60	70	1	90	0	3.66	5100	15700	22.55	14.93	-4.23	-1.64	6.00	6.00	30.00	257.14	0.69
P03_FUSTE_ELU_02_TINF	10.8	34.6	0.46	30	1.5	60	70	1	90	0	2.57	5100	15700	18.77	13.26	-2.49	-0.97	6.00	6.00	30.00	257.14	0.67
P03_FUSTE_ELU_02_TINF	10.7	49.7	0.46	30	1.5	60	70	1	90	0	3.68	5100	15700	22.61	14.96	-4.21	-1.64	6.00	6.00	30.00	257.14	0.69
P03_FUSTE_ELU_03_T0	3.2	34.3	0.46	30	1.5	60	70	1	90	0	2.54	5100	15700	18.68	13.21	-9.99	-3.88	6.00	6.00	30.00	257.14	1.12
P03_FUSTE_ELU_03_T0	3.2	49.6	0.46	30	1.5	60	70	1	90	0	3.67	5100	15700	22.58	14.94	-11.73	-4.56	6.00	6.00	30.00	257.14	1.20
P03_FUSTE_ELU_03_TINF	3.4	34.6	0.46	30	1.5	60	70	1	90	0	2.56	5100	15700	18.75	13.25	-9.89	-3.84	6.00	6.00	30.00	257.14	1.09
P03_FUSTE_ELU_03_TINF	3.3	49.8	0.46	30	1.5	60	70	1	90	0	3.69	5100	15700	22.64	14.97	-11.62	-4.52	6.00	6.00	30.00	257.14	1.18
P03_FUSTE_ELU_SISMO_X_T0	1.4	26.8	0.46	30	1.5	60	70	1	90	0	1.98	5100	15700	16.54	12.12	-10.73	-4.17	6.00	6.00	30.00	257.14	1.84
P03_FUSTE_ELU_SISMO_X_T0	1.4	27.0	0.46	30	1.5	60	70	1	90	0	2	5100	15700	16.62	12.16	-10.77	-4.19	6.00	6.00	30.00	257.14	1.84
P03_FUSTE_ELU_SISMO_Y_T0	4.6	26.8	0.46	30	1.5	60	70	1	90	0	1.99	5100	15700	16.56	12.13	-7.49	-2.91	6.00	6.00	30.00	257.14	0.88
P03_FUSTE_ELU_SISMO_Y_T0	4.6	27.0	0.46	30	1.5	60	70	1	90	0	2	5100	15700	16.60	12.15	-7.51	-2.92	6.00	6.00	30.00	257.14	0.88
P03_FUSTE_ELU_SISMO_Z_T0	1.4	26.8	0.46	30	1.5	60	70	1	90	0	1.98	5100	15700	16.54	12.12	-10.73	-4.17	6.00	6.00	30.00	257.14	1.84
P03_FUSTE_ELU_SISMO_Z_T0	1.4	27.0	0.46	30	1.5	60	70	1	90	0	2	5100	15700	16.62	12.16	-10.77	-4.19	6.00	6.00	30.00	257.14	1.84
P03_FUSTE_ELU_SISMO_X_TINF	1.6	27.0	0.46	30	1.5	60	70	1	90	0	2	5100	15700	16.59	12.15	-10.60	-4.12	6.00	6.00	30.00	257.14	1.70
P03_FUSTE_ELU_SISMO_X_TINF	1.6	27.2	0.46	30	1.5	60	70	1	90	0	2.02	5100	15700	16.67	12.19	-10.64	-4.14	6.00	6.00	30.00	257.14	1.70
P03_FUSTE_ELU_SISMO_Y_TINF	4.7	27.0	0.46	30	1.5	60	70	1	90	0	2	5100	15700	16.61	12.16	-7.47	-2.90	6.00	6.00	30.00	257.14	0.88
P03_FUSTE_ELU_SISMO_Y_TINF	4.7	27.2	0.46	30	1.5	60	70	1	90	0	2.01	5100	15700	16.65	12.18	-7.49	-2.91	6.00	6.00	30.00	257.14	0.88
P03_FUSTE_ELU_SISMO_Z_TINF	1.6	27.0	0.46	30	1.5	60	70	1	90	0	2	5100	15700	16.59	12.15	-10.59	-4.12	6.00	6.00	30.00	257.14	1.70
P03_FUSTE_ELU_SISMO_Z_TINF	1.6	27.2	0.46	30	1.5	60	70	1	90	0	2.02	5100	15700	16.67	12.19	-10.64	-4.14	6.00	6.00	30.00	257.14	1.70
P04_FUSTE_ELU_01_T0	3.1	32.7	0.46	30	1.5	60	70	1	90	0	2.42	5100	15700	18.24	13.00	-9.86	-3.84	6.00	6.00	30.00	257.14	1.12
P04_FUSTE_ELU_01_T0	3.1	71.5	0.46	30	1.5	60	70	1	90	0	5.3	5100	15700	27.63	16.79	-13.69	-5.32	6.00	6.00	30.00	257.14	1.32
P04_FUSTE_ELU_01_TINF	3.3	32.6	0.46	30	1.5	60	70	1	90	0	2.42	5100	15700	18.21	12.98	-9.71	-3.78	6.00	6.00	30.00	257.14	1.10
P04_FUSTE_ELU_01_TINF	3.2	71.5	0.46	30	1.5	60	70	1	90	0	5.29	5100	15700	27.61	16.78	-13.55	-5.27	6.00	6.00	30.00	257.14	1.29
P04_FUSTE_ELU_02_T0	10.3	35.8	0.46	30	1.5	60	70	1	90	0	2.65	5100	15700	19.07	13.40	-3.06	-1.19	6.00	6.00	30.00	257.14	0.68
P04_FUSTE_ELU_02_T0	10.3	51.6	0.46	30	1.5	60	70	1	90	0	3.82	5100	15700	23.06	15.14	-4.81	-1.87	6.00	6.00	30.00	257.14	0.70
P04_FUSTE_ELU_02_TINF	10.4	35.7	0.46	30	1.5	60	70	1	90	0	2.64	5100	15700	19.05	13.39	-3.01	-1.17	6.00	6.00	30.00	257.14	0.68
P04_FUSTE_ELU_02_TINF	10.4	51.5	0.46	30	1.5	60	70	1	90	0	3.81	5100	15700	23.04	15.13	-4.76	-1.85	6.00	6.00	30.00	257.14	0.70
P04_FUSTE_ELU_03_T0	3.1	35.7	0.46	30	1.5	60	70	1	90	0	2.64	5100	15700	19.04	13.39	-10.28	-4.00	6.00	6.00	30.00	257.14	1.15
P04_FUSTE_ELU_03_T0	3.1	51.8	0.46	30	1.5	60	70	1	90	0	3.83	5100	15700	23.11	15.15	-12.06	-4.69	6.00	6.00	30.00	257.14	1.24
P04_FUSTE_ELU_03_TINF	3.3	35.6	0.46	30	1.5	60	70	1	90	0	2.63	5100	15700	19.02	13.38	-10.13	-3.94	6.00	6.00	30.00	257.14	1.12
P04_FUSTE_ELU_03_TINF	3.2	51.7	0.46	30	1.5	60	70	1	90	0	3.83	5100	15700	23.08	15.15	-11.91	-4.63	6.00	6.00	30.00	257.14	1.21
P04_FUSTE_ELU_SISMO_X_T0	1.3	27.6	0.46	30	1.5	60	70	1	90	0	2.05	5100	15700	16.80	12.26	-10.97	-4.27	6.00	6.00	30.00	257.14	1.97
P04_FUSTE_ELU_SISMO_X_T0	1.3	28.6	0.46	30	1.5	60	70	1	90	0	2.12	5100	15700	17.09	12.41	-11.12	-4.33	6.00	6.00	30.00	257.14	1.98

CÁLCULO A CORTANTE SEGÚN EHE

FECHA:	05/01/2017
OBRA:	PASARELA UCA
ELEMENTO:	CORTANTE EN FUSTE DE PILAS

PILA-HIPOTESIS	DATOS													RESULTADOS								
	Vrd (ton)	Nd (ton)	Ac (m2)	fck (Mpa)	yc	bo (cm)	d (cm)	cotg(θ)	alpha (°)	As (cm2)	Ap (cm2)	fyk (kp/cm2)	fpk (kp/cm2)	Vrd sin cercos (ton)	Vcu ton	Vsu,nec ton	As,nec (cm2/ml)	As,min (cm2/ml)	As (cm2/ml)	Sep.max (cm)	Vu1 (ton)	Decalaje (m)
P04_FUSTE_ELU_SISMO_Y_T0	4.3	28.0	0.46	30	1.5	60	70	1	90	0	2.07	5100	15700	16.89	12.31	-8.01	-3.11	6.00	6.00	30.00	257.14	0.92
P04_FUSTE_ELU_SISMO_Y_T0	4.3	28.3	0.46	30	1.5	60	70	1	90	0	2.1	5100	15700	16.99	12.36	-8.06	-3.14	6.00	6.00	30.00	257.14	0.92
P04_FUSTE_ELU_SISMO_Z_T0	1.3	27.8	0.46	30	1.5	60	70	1	90	0	2.06	5100	15700	16.86	12.29	-11.00	-4.28	6.00	6.00	30.00	257.14	1.97
P04_FUSTE_ELU_SISMO_Z_T0	1.3	28.4	0.46	30	1.5	60	70	1	90	0	2.11	5100	15700	17.03	12.38	-11.09	-4.31	6.00	6.00	30.00	257.14	1.98
P04_FUSTE_ELU_SISMO_X_TINF	1.5	27.6	0.46	30	1.5	60	70	1	90	0	2.04	5100	15700	16.78	12.25	-10.78	-4.19	6.00	6.00	30.00	257.14	1.79
P04_FUSTE_ELU_SISMO_X_TINF	1.5	28.6	0.46	30	1.5	60	70	1	90	0	2.12	5100	15700	17.07	12.40	-10.94	-4.25	6.00	6.00	30.00	257.14	1.80
P04_FUSTE_ELU_SISMO_Y_TINF	4.4	27.9	0.46	30	1.5	60	70	1	90	0	2.07	5100	15700	16.87	12.30	-7.94	-3.09	6.00	6.00	30.00	257.14	0.92
P04_FUSTE_ELU_SISMO_Y_TINF	4.4	28.3	0.46	30	1.5	60	70	1	90	0	2.09	5100	15700	16.97	12.35	-8.00	-3.11	6.00	6.00	30.00	257.14	0.92
P04_FUSTE_ELU_SISMO_Z_TINF	1.5	27.8	0.46	30	1.5	60	70	1	90	0	2.06	5100	15700	16.83	12.28	-10.82	-4.21	6.00	6.00	30.00	257.14	1.79
P04_FUSTE_ELU_SISMO_Z_TINF	1.5	28.4	0.46	30	1.5	60	70	1	90	0	2.1	5100	15700	17.01	12.37	-10.91	-4.24	6.00	6.00	30.00	257.14	1.80
P05_FUSTE_ELU_01_T0	2.7	24.3	0.46	30	1.5	60	70	1	90	0	1.8	5100	15700	15.80	11.72	-9.02	-3.51	6.00	6.00	30.00	257.14	1.15
P05_FUSTE_ELU_01_T0	2.7	71.5	0.46	30	1.5	60	70	1	90	0	5.29	5100	15700	27.61	16.78	-14.10	-5.48	6.00	6.00	30.00	257.14	1.46
P05_FUSTE_ELU_01_TINF	2.9	24.5	0.46	30	1.5	60	70	1	90	0	1.82	5100	15700	15.86	11.75	-8.89	-3.46	6.00	6.00	30.00	257.14	1.12
P05_FUSTE_ELU_01_TINF	2.8	71.6	0.46	30	1.5	60	70	1	90	0	5.31	5100	15700	27.65	16.80	-13.96	-5.43	6.00	6.00	30.00	257.14	1.40
P05_FUSTE_ELU_02_T0	9.0	30.2	0.46	30	1.5	60	70	1	90	0	2.24	5100	15700	17.54	12.65	-3.64	-1.42	6.00	6.00	30.00	257.14	0.69
P05_FUSTE_ELU_02_T0	9.0	50.4	0.46	30	1.5	60	70	1	90	0	3.73	5100	15700	22.77	15.02	-6.02	-2.34	6.00	6.00	30.00	257.14	0.74
P05_FUSTE_ELU_02_TINF	9.1	30.4	0.46	30	1.5	60	70	1	90	0	2.25	5100	15700	17.59	12.67	-3.62	-1.41	6.00	6.00	30.00	257.14	0.69
P05_FUSTE_ELU_02_TINF	9.0	50.5	0.46	30	1.5	60	70	1	90	0	3.74	5100	15700	22.82	15.04	-5.99	-2.33	6.00	6.00	30.00	257.14	0.73
P05_FUSTE_ELU_03_T0	2.7	29.3	0.46	30	1.5	60	70	1	90	0	2.17	5100	15700	17.29	12.52	-9.81	-3.82	6.00	6.00	30.00	257.14	1.20
P05_FUSTE_ELU_03_T0	2.7	50.9	0.46	30	1.5	60	70	1	90	0	3.77	5100	15700	22.91	15.08	-12.38	-4.82	6.00	6.00	30.00	257.14	1.35
P05_FUSTE_ELU_03_TINF	2.9	29.5	0.46	30	1.5	60	70	1	90	0	2.19	5100	15700	17.34	12.54	-9.68	-3.77	6.00	6.00	30.00	257.14	1.16
P05_FUSTE_ELU_03_TINF	2.9	51.1	0.46	30	1.5	60	70	1	90	0	3.79	5100	15700	22.95	15.09	-12.24	-4.76	6.00	6.00	30.00	257.14	1.30
P05_FUSTE_ELU_SISMO_X_T0	1.1	24.2	0.46	30	1.5	60	70	1	90	0	1.79	5100	15700	15.76	11.70	-10.58	-4.12	6.00	6.00	30.00	257.14	2.12
P05_FUSTE_ELU_SISMO_X_T0	1.1	28.3	0.46	30	1.5	60	70	1	90	0	2.1	5100	15700	16.99	12.36	-11.25	-4.38	6.00	6.00	30.00	257.14	2.22
P05_FUSTE_ELU_SISMO_Y_T0	3.4	25.5	0.46	30	1.5	60	70	1	90	0	1.89	5100	15700	16.17	11.92	-8.50	-3.31	6.00	6.00	30.00	257.14	1.02
P05_FUSTE_ELU_SISMO_Y_T0	3.4	27.0	0.46	30	1.5	60	70	1	90	0	2	5100	15700	16.60	12.16	-8.74	-3.40	6.00	6.00	30.00	257.14	1.03
P05_FUSTE_ELU_SISMO_Z_T0	1.0	25.2	0.46	30	1.5	60	70	1	90	0	1.86	5100	15700	16.05	11.86	-10.82	-4.21	6.00	6.00	30.00	257.14	2.28
P05_FUSTE_ELU_SISMO_Z_T0	1.0	27.4	0.46	30	1.5	60	70	1	90	0	2.03	5100	15700	16.71	12.22	-11.18	-4.35	6.00	6.00	30.00	257.14	2.33
P05_FUSTE_ELU_SISMO_X_TINF	1.5	24.3	0.46	30	1.5	60	70	1	90	0	1.8	5100	15700	15.80	11.72	-10.20	-3.97	6.00	6.00	30.00	257.14	1.68
P05_FUSTE_ELU_SISMO_X_TINF	1.1	28.5	0.46	30	1.5	60	70	1	90	0	2.11	5100	15700	17.03	12.38	-11.33	-4.41	6.00	6.00	30.00	257.14	2.31
P05_FUSTE_ELU_SISMO_Y_TINF	3.5	25.7	0.46	30	1.5	60	70	1	90	0	1.9	5100	15700	16.21	11.94	-8.43	-3.28	6.00	6.00	30.00	257.14	1.01
P05_FUSTE_ELU_SISMO_Y_TINF	3.5	27.1	0.46	30	1.5	60	70	1	90	0	2.01	5100	15700	16.64	12.18	-8.71	-3.39	6.00	6.00	30.00	257.14	1.03
P05_FUSTE_ELU_SISMO_Z_TINF	1.3	25.3	0.46	30	1.5	60	70	1	90	0	1.87	5100	15700	16.09	11.88	-10.57	-4.11	6.00	6.00	30.00	257.14	1.89
P05_FUSTE_ELU_SISMO_Z_TINF	1.2	27.5	0.46	30	1.5	60	70	1	90	0	2.04	5100	15700	16.75	12.24	-11.07	-4.30	6.00	6.00	30.00	257.14	2.12
P06_FUSTE_ELU_01_T0	2.0	35.6	0.46	30	1.5	60	70	1	90	0	2.64	5100	15700	19.03	13.38	-11.36	-4.42	6.00	6.00	30.00	257.14	1.51
P06_FUSTE_ELU_01_T0	1.9	99.9	0.46	30	1.5	60	70	1	90	0	7.4	5100	15700	33.61	18.56	-16.68	-6.49	6.00	6.00	30.00	257.14	2.03
P06_FUSTE_ELU_01_TINF	2.3	35.0	0.46	30	1.5	60	70	1	90	0	2.6	5100	15700	18.88	13.31	-10.97	-4.27	6.00	6.00	30.00	257.14	1.37
P06_FUSTE_ELU_01_TINF	2.2	99.4	0.46	30	1.5	60	70	1	90	0	7.36	5100	15700	33.49	18.53	-16.32	-6.35	6.00	6.00	30.00	257.14	1.79
P06_FUSTE_ELU_02_T0	6.7	41.9	0.46	30	1.5	60	70	1	90	0	3.1	5100	15700	20.67	14.14	-7.40	-2.88	6.00	6.00	30.00	257.14	0.80
P06_FUSTE_ELU_02_T0	6.7	72.1	0.46	30	1.5	60	70	1	90	0	5.34	5100	15700	27.75	16.83	-10.15	-3.95	6.00	6.00	30.00	257.14	0.87
P06_FUSTE_ELU_02_TINF	6.8	41.3	0.46	30	1.5	60	70	1	90	0	3.06	5100	15700	20.52	14.07	-7.23	-2.81	6.00	6.00	30.00	257.14	0.80
P06_FUSTE_ELU_02_TINF	6.8	71.5	0.46	30	1.5	60	70	1	90	0	5.3	5100	15700	27.62	16.79	-10.01	-3.89	6.00	6.00	30.00	257.14	0.86
P06_FUSTE_ELU_03_T0	2.0	40.0	0.46	30	1.5	60	70	1	90	0	2.96	5100	15700	20.17	13.91	-11.89	-4.63	6.00	6.00	30.00	257.14	1.55

CÁLCULO A CORTANTE SEGÚN EHE

FECHA:	05/01/2017
OBRA:	PASARELA UCA
ELEMENTO:	CORTANTE EN FUSTE DE PILAS

PILA-HIPOTESIS	DATOS													RESULTADOS								
	Vrd (ton)	Nd (ton)	Ac (m2)	fck (Mpa)	yc	bo (cm)	d (cm)	cotg(θ)	alpha (°)	As (cm2)	Ap (cm2)	fyk (kp/cm2)	fpk (kp/cm2)	Vrd sin cercos (ton)	Vcu ton	Vsu,nec ton	As,nec (cm2/ml)	As,min (cm2/ml)	As (cm2/ml)	Sep.max (cm)	Vu1 (ton)	Decalaje (m)
P06_FUSTE_ELU_03_T0	2.0	75.2	0.46	30	1.5	60	70	1	90	0	5.57	5100	15700	28.42	17.04	-15.08	-5.87	6.00	6.00	30.00	257.14	1.84
P06_FUSTE_ELU_03_TINF	2.3	39.4	0.46	30	1.5	60	70	1	90	0	2.92	5100	15700	20.02	13.85	-11.51	-4.48	6.00	6.00	30.00	257.14	1.40
P06_FUSTE_ELU_03_TINF	2.3	74.6	0.46	30	1.5	60	70	1	90	0	5.52	5100	15700	28.29	17.00	-14.72	-5.72	6.00	6.00	30.00	257.14	1.64
P06_FUSTE_ELU_SISMO_X_T0	0.9	30.3	0.46	30	1.5	60	70	1	90	0	2.25	5100	15700	17.56	12.66	-11.78	-4.58	6.00	6.00	30.00	257.14	2.74
P06_FUSTE_ELU_SISMO_X_T0	0.9	42.2	0.46	30	1.5	60	70	1	90	0	3.13	5100	15700	20.75	14.17	-13.29	-5.17	6.00	6.00	30.00	257.14	3.01
P06_FUSTE_ELU_SISMO_Y_T0	2.2	34.2	0.46	30	1.5	60	70	1	90	0	2.53	5100	15700	18.64	13.19	-11.00	-4.28	6.00	6.00	30.00	257.14	1.42
P06_FUSTE_ELU_SISMO_Y_T0	2.2	38.3	0.46	30	1.5	60	70	1	90	0	2.84	5100	15700	19.75	13.72	-11.53	-4.49	6.00	6.00	30.00	257.14	1.46
P06_FUSTE_ELU_SISMO_Z_T0	0.7	33.2	0.46	30	1.5	60	70	1	90	0	2.46	5100	15700	18.37	13.06	-12.38	-4.82	6.00	6.00	30.00	257.14	3.50
P06_FUSTE_ELU_SISMO_Z_T0	0.7	39.3	0.46	30	1.5	60	70	1	90	0	2.91	5100	15700	20.01	13.84	-13.16	-5.12	6.00	6.00	30.00	257.14	3.68
P06_FUSTE_ELU_SISMO_X_TINF	1.6	29.9	0.46	30	1.5	60	70	1	90	0	2.21	5100	15700	17.44	12.60	-11.00	-4.28	6.00	6.00	30.00	257.14	1.72
P06_FUSTE_ELU_SISMO_X_TINF	0.7	41.8	0.46	30	1.5	60	70	1	90	0	3.09	5100	15700	20.64	14.12	-13.41	-5.22	6.00	6.00	30.00	257.14	3.58
P06_FUSTE_ELU_SISMO_X_TINF	2.4	33.7	0.46	30	1.5	60	70	1	90	0	2.5	5100	15700	18.52	13.14	-10.72	-4.17	6.00	6.00	30.00	257.14	1.33
P06_FUSTE_ELU_SISMO_Y_TINF	2.3	37.9	0.46	30	1.5	60	70	1	90	0	2.81	5100	15700	19.64	13.67	-11.38	-4.43	6.00	6.00	30.00	257.14	1.41
P06_FUSTE_ELU_SISMO_Z_TINF	1.2	32.7	0.46	30	1.5	60	70	1	90	0	2.43	5100	15700	18.25	13.00	-11.77	-4.58	6.00	6.00	30.00	257.14	2.13
P06_FUSTE_ELU_SISMO_Z_TINF	1.0	38.9	0.46	30	1.5	60	70	1	90	0	2.88	5100	15700	19.90	13.79	-12.84	-4.99	6.00	6.00	30.00	257.14	2.75
P09_FUSTE_ELU_01_T0	2.0	35.5	0.46	30	1.5	60	70	1	90	0	2.63	5100	15700	19.00	13.37	-11.34	-4.41	6.00	6.00	30.00	257.14	1.51
P09_FUSTE_ELU_01_T0	1.9	99.7	0.46	30	1.5	60	70	1	90	0	7.38	5100	15700	33.56	18.55	-16.65	-6.48	6.00	6.00	30.00	257.14	2.01
P09_FUSTE_ELU_01_TINF	2.3	34.8	0.46	30	1.5	60	70	1	90	0	2.58	5100	15700	18.82	13.28	-10.94	-4.26	6.00	6.00	30.00	257.14	1.36
P09_FUSTE_ELU_01_TINF	2.2	99.0	0.46	30	1.5	60	70	1	90	0	7.33	5100	15700	33.42	18.51	-16.28	-6.33	6.00	6.00	30.00	257.14	1.78
P09_FUSTE_ELU_02_T0	6.8	41.8	0.46	30	1.5	60	70	1	90	0	3.09	5100	15700	20.64	14.12	-7.37	-2.87	6.00	6.00	30.00	257.14	0.80
P09_FUSTE_ELU_02_T0	6.7	71.8	0.46	30	1.5	60	70	1	90	0	5.32	5100	15700	27.69	16.81	-10.11	-3.93	6.00	6.00	30.00	257.14	0.87
P09_FUSTE_ELU_02_TINF	6.9	41.1	0.46	30	1.5	60	70	1	90	0	3.04	5100	15700	20.47	14.05	-7.19	-2.80	6.00	6.00	30.00	257.14	0.79
P09_FUSTE_ELU_02_TINF	6.8	71.1	0.46	30	1.5	60	70	1	90	0	5.27	5100	15700	27.55	16.76	-9.96	-3.87	6.00	6.00	30.00	257.14	0.86
P09_FUSTE_ELU_03_T0	2.0	39.9	0.46	30	1.5	60	70	1	90	0	2.96	5100	15700	20.16	13.91	-11.88	-4.62	6.00	6.00	30.00	257.14	1.55
P09_FUSTE_ELU_03_T0	2.0	74.8	0.46	30	1.5	60	70	1	90	0	5.54	5100	15700	28.35	17.02	-15.05	-5.85	6.00	6.00	30.00	257.14	1.83
P09_FUSTE_ELU_03_TINF	2.3	39.2	0.46	30	1.5	60	70	1	90	0	2.9	5100	15700	19.98	13.83	-11.49	-4.47	6.00	6.00	30.00	257.14	1.40
P09_FUSTE_ELU_03_TINF	2.3	74.1	0.46	30	1.5	60	70	1	90	0	5.49	5100	15700	28.20	16.97	-14.68	-5.71	6.00	6.00	30.00	257.14	1.64
P09_FUSTE_ELU_SISMO_X_T0	0.9	30.2	0.46	30	1.5	60	70	1	90	0	2.24	5100	15700	17.54	12.65	-11.79	-4.58	6.00	6.00	30.00	257.14	2.79
P09_FUSTE_ELU_SISMO_X_T0	0.9	42.0	0.46	30	1.5	60	70	1	90	0	3.11	5100	15700	20.71	14.15	-13.30	-5.17	6.00	6.00	30.00	257.14	3.06
P09_FUSTE_ELU_SISMO_Y_T0	2.2	34.1	0.46	30	1.5	60	70	1	90	0	2.52	5100	15700	18.61	13.18	-11.01	-4.28	6.00	6.00	30.00	257.14	1.43
P09_FUSTE_ELU_SISMO_Y_T0	2.2	38.2	0.46	30	1.5	60	70	1	90	0	2.83	5100	15700	19.71	13.70	-11.53	-4.49	6.00	6.00	30.00	257.14	1.46
P09_FUSTE_ELU_SISMO_Z_T0	0.7	33.1	0.46	30	1.5	60	70	1	90	0	2.45	5100	15700	18.35	13.05	-12.38	-4.82	6.00	6.00	30.00	257.14	3.53
P09_FUSTE_ELU_SISMO_Z_T0	0.7	39.1	0.46	30	1.5	60	70	1	90	0	2.9	5100	15700	19.96	13.82	-13.15	-5.11	6.00	6.00	30.00	257.14	3.71
P09_FUSTE_ELU_SISMO_X_TINF	0.7	29.7	0.46	30	1.5	60	70	1	90	0	2.2	5100	15700	17.39	12.57	-11.85	-4.61	6.00	6.00	30.00	257.14	3.23
P09_FUSTE_ELU_SISMO_X_TINF	1.6	41.5	0.46	30	1.5	60	70	1	90	0	3.08	5100	15700	20.58	14.10	-12.53	-4.87	6.00	6.00	30.00	257.14	1.89
P09_FUSTE_ELU_SISMO_Y_TINF	2.3	33.6	0.46	30	1.5	60	70	1	90	0	2.49	5100	15700	18.47	13.11	-10.84	-4.22	6.00	6.00	30.00	257.14	1.38
P09_FUSTE_ELU_SISMO_Y_TINF	2.4	37.7	0.46	30	1.5	60	70	1	90	0	2.79	5100	15700	19.58	13.64	-11.24	-4.37	6.00	6.00	30.00	257.14	1.37
P09_FUSTE_ELU_SISMO_Z_TINF	1.0	32.6	0.46	30	1.5	60	70	1	90	0	2.42	5100	15700	18.21	12.98	-12.03	-4.68	6.00	6.00	30.00	257.14	2.61
P09_FUSTE_ELU_SISMO_Z_TINF	1.2	38.6	0.46	30	1.5	60	70	1	90	0	2.86	5100	15700	19.83	13.76	-12.54	-4.88	6.00	6.00	30.00	257.14	2.24
P10_FUSTE_ELU_01_T0	2.7	24.7	0.46	30	1.5	60	70	1	90	0	1.83	5100	15700	15.90	11.78	-9.11	-3.54	6.00	6.00	30.00	257.14	1.17
P10_FUSTE_ELU_01_T0	2.6	71.6	0.46	30	1.5	60	70	1	90	0	5.3	5100	15700	27.65	16.79	-14.17	-5.51	6.00	6.00	30.00	257.14	1.48
P10_FUSTE_ELU_01_TINF	2.8	24.8	0.46	30	1.5	60	70	1	90	0	1.84	5100	15700	15.95	11.80	-8.97	-3.49	6.00	6.00	30.00	257.14	1.13
P10_FUSTE_ELU_01_TINF	2.8	71.8	0.46	30	1.5	60	70	1	90	0	5.32	5100	15700	27.68	16.80	-14.02	-5.45	6.00	6.00	30.00	257.14	1.42

CÁLCULO A CORTANTE SEGÚN EHE

FECHA:	05/01/2017
OBRA:	PASARELA UCA
ELEMENTO:	CORTANTE EN FUSTE DE PILAS

PILA-HIPOTESIS	DATOS													RESULTADOS								
	Vrd (ton)	Nd (ton)	Ac (m2)	fck (Mpa)	yc	bo (cm)	d (cm)	cotg(θ)	alpha (°)	As (cm2)	Ap (cm2)	fyk (kp/cm2)	fpk (kp/cm2)	Vrd sin cercos (ton)	Vcu ton	Vsu,nec ton	As,nec (cm2/ml)	As,min (cm2/ml)	As (cm2/ml)	Sep.max (cm)	Vu1 (ton)	Decalaje (m)
P10_FUSTE_ELU_02_T0	8.9	30.6	0.46	30	1.5	60	70	1	90	0	2.26	5100	15700	17.64	12.70	-3.80	-1.48	6.00	6.00	30.00	257.14	0.70
P10_FUSTE_ELU_02_T0	8.9	50.5	0.46	30	1.5	60	70	1	90	0	3.74	5100	15700	22.81	15.04	-6.16	-2.40	6.00	6.00	30.00	257.14	0.74
P10_FUSTE_ELU_02_TINF	8.9	30.7	0.46	30	1.5	60	70	1	90	0	2.28	5100	15700	17.68	12.72	-3.77	-1.47	6.00	6.00	30.00	257.14	0.70
P10_FUSTE_ELU_02_TINF	8.9	50.7	0.46	30	1.5	60	70	1	90	0	3.75	5100	15700	22.85	15.05	-6.12	-2.38	6.00	6.00	30.00	257.14	0.74
P10_FUSTE_ELU_03_T0	2.7	29.8	0.46	30	1.5	60	70	1	90	0	2.21	5100	15700	17.41	12.58	-9.91	-3.86	6.00	6.00	30.00	257.14	1.21
P10_FUSTE_ELU_03_T0	2.6	51.0	0.46	30	1.5	60	70	1	90	0	3.78	5100	15700	22.94	15.09	-12.44	-4.84	6.00	6.00	30.00	257.14	1.37
P10_FUSTE_ELU_03_TINF	2.8	29.9	0.46	30	1.5	60	70	1	90	0	2.22	5100	15700	17.46	12.60	-9.78	-3.80	6.00	6.00	30.00	257.14	1.17
P10_FUSTE_ELU_03_TINF	2.8	51.2	0.46	30	1.5	60	70	1	90	0	3.79	5100	15700	22.97	15.10	-12.29	-4.78	6.00	6.00	30.00	257.14	1.32
P10_FUSTE_ELU_SISMO_X_T0	1.1	24.4	0.46	30	1.5	60	70	1	90	0	1.81	5100	15700	15.81	11.73	-10.64	-4.14	6.00	6.00	30.00	257.14	2.16
P10_FUSTE_ELU_SISMO_X_T0	1.1	28.5	0.46	30	1.5	60	70	1	90	0	2.11	5100	15700	17.05	12.39	-11.30	-4.40	6.00	6.00	30.00	257.14	2.26
P10_FUSTE_ELU_SISMO_Y_T0	3.3	25.7	0.46	30	1.5	60	70	1	90	0	1.9	5100	15700	16.22	11.95	-8.66	-3.37	6.00	6.00	30.00	257.14	1.04
P10_FUSTE_ELU_SISMO_Y_T0	3.3	27.2	0.46	30	1.5	60	70	1	90	0	2.01	5100	15700	16.66	12.19	-8.89	-3.46	6.00	6.00	30.00	257.14	1.05
P10_FUSTE_ELU_SISMO_Z_T0	1.0	25.4	0.46	30	1.5	60	70	1	90	0	1.88	5100	15700	16.11	11.89	-10.90	-4.24	6.00	6.00	30.00	257.14	2.35
P10_FUSTE_ELU_SISMO_Z_T0	1.0	27.5	0.46	30	1.5	60	70	1	90	0	2.04	5100	15700	16.76	12.24	-11.24	-4.37	6.00	6.00	30.00	257.14	2.40
P10_FUSTE_ELU_SISMO_X_TINF	1.0	24.5	0.46	30	1.5	60	70	1	90	0	1.81	5100	15700	15.85	11.75	-10.73	-4.17	6.00	6.00	30.00	257.14	2.29
P10_FUSTE_ELU_SISMO_X_TINF	1.5	28.6	0.46	30	1.5	60	70	1	90	0	2.12	5100	15700	17.08	12.41	-10.89	-4.24	6.00	6.00	30.00	257.14	1.76
P10_FUSTE_ELU_SISMO_Y_TINF	3.3	25.8	0.46	30	1.5	60	70	1	90	0	1.91	5100	15700	16.26	11.97	-8.63	-3.36	6.00	6.00	30.00	257.14	1.04
P10_FUSTE_ELU_SISMO_Y_TINF	3.4	27.3	0.46	30	1.5	60	70	1	90	0	2.02	5100	15700	16.69	12.20	-8.81	-3.43	6.00	6.00	30.00	257.14	1.04
P10_FUSTE_ELU_SISMO_Z_TINF	1.1	25.5	0.46	30	1.5	60	70	1	90	0	1.89	5100	15700	16.15	11.91	-10.78	-4.19	6.00	6.00	30.00	257.14	2.13
P10_FUSTE_ELU_SISMO_Z_TINF	1.3	27.6	0.46	30	1.5	60	70	1	90	0	2.05	5100	15700	16.80	12.26	-10.97	-4.27	6.00	6.00	30.00	257.14	1.96
P11_FUSTE_ELU_01_T0	3.1	32.6	0.46	30	1.5	60	70	1	90	0	2.41	5100	15700	18.20	12.98	-9.90	-3.85	6.00	6.00	30.00	257.14	1.13
P11_FUSTE_ELU_01_T0	3.0	71.8	0.46	30	1.5	60	70	1	90	0	5.32	5100	15700	27.69	16.81	-13.78	-5.36	6.00	6.00	30.00	257.14	1.34
P11_FUSTE_ELU_01_TINF	3.2	32.8	0.46	30	1.5	60	70	1	90	0	2.43	5100	15700	18.25	13.00	-9.78	-3.81	6.00	6.00	30.00	257.14	1.11
P11_FUSTE_ELU_01_TINF	3.2	72.0	0.46	30	1.5	60	70	1	90	0	5.33	5100	15700	27.73	16.82	-13.65	-5.31	6.00	6.00	30.00	257.14	1.31
P11_FUSTE_ELU_02_T0	10.1	35.6	0.46	30	1.5	60	70	1	90	0	2.63	5100	15700	19.02	13.38	-3.25	-1.26	6.00	6.00	30.00	257.14	0.68
P11_FUSTE_ELU_02_T0	10.1	51.7	0.46	30	1.5	60	70	1	90	0	3.83	5100	15700	23.10	15.15	-5.05	-1.96	6.00	6.00	30.00	257.14	0.71
P11_FUSTE_ELU_02_TINF	10.2	35.8	0.46	30	1.5	60	70	1	90	0	2.65	5100	15700	19.07	13.40	-3.23	-1.26	6.00	6.00	30.00	257.14	0.68
P11_FUSTE_ELU_02_TINF	10.1	51.9	0.46	30	1.5	60	70	1	90	0	3.85	5100	15700	23.15	15.17	-5.02	-1.95	6.00	6.00	30.00	257.14	0.71
P11_FUSTE_ELU_03_T0	3.1	35.4	0.46	30	1.5	60	70	1	90	0	2.62	5100	15700	18.96	13.35	-10.30	-4.01	6.00	6.00	30.00	257.14	1.16
P11_FUSTE_ELU_03_T0	3.0	52.1	0.46	30	1.5	60	70	1	90	0	3.86	5100	15700	23.18	15.18	-12.15	-4.73	6.00	6.00	30.00	257.14	1.26
P11_FUSTE_ELU_03_TINF	3.2	35.6	0.46	30	1.5	60	70	1	90	0	2.63	5100	15700	19.01	13.37	-10.18	-3.96	6.00	6.00	30.00	257.14	1.13
P11_FUSTE_ELU_03_TINF	3.2	52.3	0.46	30	1.5	60	70	1	90	0	3.87	5100	15700	23.23	15.20	-12.03	-4.68	6.00	6.00	30.00	257.14	1.23
P11_FUSTE_ELU_SISMO_X_T0	1.2	27.6	0.46	30	1.5	60	70	1	90	0	2.04	5100	15700	16.77	12.25	-11.01	-4.28	6.00	6.00	30.00	257.14	2.03
P11_FUSTE_ELU_SISMO_X_T0	1.2	28.5	0.46	30	1.5	60	70	1	90	0	2.11	5100	15700	17.06	12.40	-11.17	-4.34	6.00	6.00	30.00	257.14	2.05
P11_FUSTE_ELU_SISMO_Y_T0	4.1	27.9	0.46	30	1.5	60	70	1	90	0	2.06	5100	15700	16.86	12.29	-8.19	-3.18	6.00	6.00	30.00	257.14	0.94
P11_FUSTE_ELU_SISMO_Y_T0	4.1	28.2	0.46	30	1.5	60	70	1	90	0	2.09	5100	15700	16.97	12.35	-8.24	-3.21	6.00	6.00	30.00	257.14	0.95
P11_FUSTE_ELU_SISMO_Z_T0	1.2	27.8	0.46	30	1.5	60	70	1	90	0	2.06	5100	15700	16.83	12.28	-11.04	-4.30	6.00	6.00	30.00	257.14	2.04
P11_FUSTE_ELU_SISMO_Z_T0	1.2	28.4	0.46	30	1.5	60	70	1	90	0	2.1	5100	15700	17.00	12.37	-11.14	-4.33	6.00	6.00	30.00	257.14	2.05
P11_FUSTE_ELU_SISMO_X_TINF	1.4	27.7	0.46	30	1.5	60	70	1	90	0	2.05	5100	15700	16.81	12.27	-10.85	-4.22	6.00	6.00	30.00	257.14	1.84
P11_FUSTE_ELU_SISMO_X_TINF	1.4	28.7	0.46	30	1.5	60	70	1	90	0	2.13	5100	15700	17.10	12.42	-11.01	-4.28	6.00	6.00	30.00	257.14	1.85
P11_FUSTE_ELU_SISMO_Y_TINF	4.2	28.0	0.46	30	1.5	60	70	1	90	0	2.07	5100	15700	16.90	12.32	-8.15	-3.17	6.00	6.00	30.00	257.14	0.94
P11_FUSTE_ELU_SISMO_Y_TINF	4.2	28.4	0.46	30	1.5	60	70	1	90	0	2.1	5100	15700	17.01	12.37	-8.21	-3.19	6.00	6.00	30.00	257.14	0.94
P11_FUSTE_ELU_SISMO_Z_TINF	1.4	27.9	0.46	30	1.5	60	70	1	90	0	2.07	5100	15700	16.87	12.30	-10.88	-4.23	6.00	6.00	30.00	257.14	1.84

CÁLCULO A CORTANTE SEGÚN EHE

FECHA:	05/01/2017
OBRA:	PASARELA UCA
ELEMENTO:	CORTANTE EN FUSTE DE PILAS

PILA-HIPOTESIS	DATOS													RESULTADOS								
	Vrd (ton)	Nd (ton)	Ac (m2)	fck (Mpa)	yc	bo (cm)	d (cm)	cotg(θ)	alpha (°)	As (cm2)	Ap (cm2)	fyk (kp/cm2)	fpk (kp/cm2)	Vrd sin cercos (ton)	Vcu ton	Vsu,nec ton	As,nec (cm2/ml)	As,min (cm2/ml)	As (cm2/ml)	Sep.max (cm)	Vu1 (ton)	Decalaje (m)
P11 FUSTE ELU SISMO Z TINF	1.4	28.5	0.46	30	1.5	60	70	1	90	0	2.11	5100	15700	17.04	12.39	-10.98	-4.27	6.00	6.00	30.00	257.14	1.85
P12 FUSTE ELU 01 T0	3.1	28.3	0.46	30	1.5	60	70	1	90	0	2.1	5100	15700	16.99	12.36	-9.26	-3.60	6.00	6.00	30.00	257.14	1.10
P12 FUSTE ELU 01 T0	3.0	67.4	0.46	30	1.5	60	70	1	90	0	4.99	5100	15700	26.71	16.48	-13.44	-5.23	6.00	6.00	30.00	257.14	1.32
P12 FUSTE ELU 01 TINF	3.2	27.3	0.46	30	1.5	60	70	1	90	0	2.02	5100	15700	16.69	12.20	-8.96	-3.49	6.00	6.00	30.00	257.14	1.07
P12 FUSTE ELU 01 TINF	3.2	66.3	0.46	30	1.5	60	70	1	90	0	4.91	5100	15700	26.48	16.40	-13.22	-5.14	6.00	6.00	30.00	257.14	1.28
P12 FUSTE ELU 02 T0	10.2	31.4	0.46	30	1.5	60	70	1	90	0	2.33	5100	15700	17.88	12.82	-2.65	-1.03	6.00	6.00	30.00	257.14	0.67
P12 FUSTE ELU 02 T0	10.1	48.3	0.46	30	1.5	60	70	1	90	0	3.57	5100	15700	22.26	14.81	-4.67	-1.82	6.00	6.00	30.00	257.14	0.70
P12 FUSTE ELU 02 TINF	10.2	30.4	0.46	30	1.5	60	70	1	90	0	2.25	5100	15700	17.59	12.67	-2.46	-0.96	6.00	6.00	30.00	257.14	0.67
P12 FUSTE ELU 02 TINF	10.2	47.2	0.46	30	1.5	60	70	1	90	0	3.5	5100	15700	22.01	14.71	-4.52	-1.76	6.00	6.00	30.00	257.14	0.70
P12 FUSTE ELU 03 T0	3.1	30.6	0.46	30	1.5	60	70	1	90	0	2.26	5100	15700	17.64	12.70	-9.63	-3.75	6.00	6.00	30.00	257.14	1.12
P12 FUSTE ELU 03 T0	3.0	48.8	0.46	30	1.5	60	70	1	90	0	3.61	5100	15700	22.39	14.86	-11.82	-4.60	6.00	6.00	30.00	257.14	1.24
P12 FUSTE ELU 03 TINF	3.2	29.6	0.46	30	1.5	60	70	1	90	0	2.19	5100	15700	17.35	12.55	-9.34	-3.63	6.00	6.00	30.00	257.14	1.09
P12 FUSTE ELU 03 TINF	3.2	47.8	0.46	30	1.5	60	70	1	90	0	3.54	5100	15700	22.14	14.76	-11.58	-4.50	6.00	6.00	30.00	257.14	1.20
P12 FUSTE ELU SISMO X T0	1.3	25.6	0.46	30	1.5	60	70	1	90	0	1.9	5100	15700	16.19	11.94	-10.64	-4.14	6.00	6.00	30.00	257.14	1.92
P12 FUSTE ELU SISMO X T0	1.3	25.9	0.46	30	1.5	60	70	1	90	0	1.92	5100	15700	16.27	11.98	-10.68	-4.15	6.00	6.00	30.00	257.14	1.93
P12 FUSTE ELU SISMO Y T0	4.3	25.7	0.46	30	1.5	60	70	1	90	0	1.9	5100	15700	16.21	11.95	-7.63	-2.97	6.00	6.00	30.00	257.14	0.91
P12 FUSTE ELU SISMO Y T0	4.3	25.8	0.46	30	1.5	60	70	1	90	0	1.91	5100	15700	16.25	11.97	-7.65	-2.97	6.00	6.00	30.00	257.14	0.91
P12 FUSTE ELU SISMO Z T0	1.3	25.6	0.46	30	1.5	60	70	1	90	0	1.9	5100	15700	16.20	11.94	-10.64	-4.14	6.00	6.00	30.00	257.14	1.92
P12 FUSTE ELU SISMO Z T0	1.3	25.9	0.46	30	1.5	60	70	1	90	0	1.92	5100	15700	16.26	11.97	-10.68	-4.15	6.00	6.00	30.00	257.14	1.93
P12 FUSTE ELU SISMO X TINF	1.5	24.9	0.46	30	1.5	60	70	1	90	0	1.84	5100	15700	15.96	11.81	-10.34	-4.02	6.00	6.00	30.00	257.14	1.74
P12 FUSTE ELU SISMO X TINF	1.5	25.1	0.46	30	1.5	60	70	1	90	0	1.86	5100	15700	16.04	11.85	-10.38	-4.04	6.00	6.00	30.00	257.14	1.74
P12 FUSTE ELU SISMO Y TINF	4.4	24.9	0.46	30	1.5	60	70	1	90	0	1.85	5100	15700	15.99	11.82	-7.45	-2.90	6.00	6.00	30.00	257.14	0.90
P12 FUSTE ELU SISMO Y TINF	4.4	25.0	0.46	30	1.5	60	70	1	90	0	1.86	5100	15700	16.02	11.84	-7.47	-2.90	6.00	6.00	30.00	257.14	0.90
P12 FUSTE ELU SISMO Z TINF	1.5	24.9	0.46	30	1.5	60	70	1	90	0	1.84	5100	15700	15.97	11.81	-10.34	-4.02	6.00	6.00	30.00	257.14	1.74
P12 FUSTE ELU SISMO Z TINF	1.5	25.1	0.46	30	1.5	60	70	1	90	0	1.86	5100	15700	16.04	11.85	-10.38	-4.04	6.00	6.00	30.00	257.14	1.74
P13 FUSTE ELU 01 T0	2.8	34.7	0.46	30	1.5	60	70	1	90	0	2.57	5100	15700	18.78	13.26	-10.49	-4.08	6.00	6.00	30.00	257.14	1.23
P13 FUSTE ELU 01 T0	2.8	76.9	0.46	30	1.5	60	70	1	90	0	5.7	5100	15700	28.80	17.16	-14.40	-5.60	6.00	6.00	30.00	257.14	1.45
P13 FUSTE ELU 01 TINF	3.0	38.9	0.46	30	1.5	60	70	1	90	0	2.88	5100	15700	19.89	13.79	-10.78	-4.19	6.00	6.00	30.00	257.14	1.19
P13 FUSTE ELU 01 TINF	3.0	81.1	0.46	30	1.5	60	70	1	90	0	6.01	5100	15700	29.70	17.44	-14.44	-5.62	6.00	6.00	30.00	257.14	1.38
P13 FUSTE ELU 02 T0	9.2	35.9	0.46	30	1.5	60	70	1	90	0	2.66	5100	15700	19.12	13.42	-4.20	-1.63	6.00	6.00	30.00	257.14	0.70
P13 FUSTE ELU 02 T0	9.2	56.6	0.46	30	1.5	60	70	1	90	0	4.19	5100	15700	24.25	15.60	-6.37	-2.48	6.00	6.00	30.00	257.14	0.74
P13 FUSTE ELU 02 TINF	9.3	40.1	0.46	30	1.5	60	70	1	90	0	2.97	5100	15700	20.22	13.94	-4.64	-1.80	6.00	6.00	30.00	257.14	0.71
P13 FUSTE ELU 02 TINF	9.3	60.8	0.46	30	1.5	60	70	1	90	0	4.5	5100	15700	25.22	15.96	-6.66	-2.59	6.00	6.00	30.00	257.14	0.74
P13 FUSTE ELU 03 T0	2.8	34.4	0.46	30	1.5	60	70	1	90	0	2.54	5100	15700	18.69	13.22	-10.45	-4.06	6.00	6.00	30.00	257.14	1.22
P13 FUSTE ELU 03 T0	2.8	59.2	0.46	30	1.5	60	70	1	90	0	4.39	5100	15700	24.86	15.82	-13.06	-5.08	6.00	6.00	30.00	257.14	1.37
P13 FUSTE ELU 03 TINF	3.0	38.6	0.46	30	1.5	60	70	1	90	0	2.86	5100	15700	19.81	13.75	-10.74	-4.18	6.00	6.00	30.00	257.14	1.19
P13 FUSTE ELU 03 TINF	3.0	63.4	0.46	30	1.5	60	70	1	90	0	4.7	5100	15700	25.82	16.17	-13.16	-5.12	6.00	6.00	30.00	257.14	1.32
P13 FUSTE ELU SISMO X T0	1.2	28.9	0.46	30	1.5	60	70	1	90	0	2.14	5100	15700	17.17	12.46	-11.27	-4.38	6.00	6.00	30.00	257.14	2.12
P13 FUSTE ELU SISMO X T0	1.2	29.0	0.46	30	1.5	60	70	1	90	0	2.15	5100	15700	17.20	12.47	-11.29	-4.39	6.00	6.00	30.00	257.14	2.12
P13 FUSTE ELU SISMO Y T0	4.0	29.0	0.46	30	1.5	60	70	1	90	0	2.15	5100	15700	17.18	12.46	-8.51	-3.31	6.00	6.00	30.00	257.14	0.97
P13 FUSTE ELU SISMO Y T0	4.0	29.0	0.46	30	1.5	60	70	1	90	0	2.15	5100	15700	17.20	12.47	-8.52	-3.31	6.00	6.00	30.00	257.14	0.97
P13 FUSTE ELU SISMO Z T0	1.2	28.9	0.46	30	1.5	60	70	1	90	0	2.14	5100	15700	17.16	12.45	-11.27	-4.38	6.00	6.00	30.00	257.14	2.12
P13 FUSTE ELU SISMO Z T0	1.2	29.1	0.46	30	1.5	60	70	1	90	0	2.15	5100	15700	17.21	12.48	-11.29	-4.39	6.00	6.00	30.00	257.14	2.13

CÁLCULO A CORTANTE SEGÚN EHE

FECHA:	05/01/2017
OBRA:	PASARELA UCA
ELEMENTO:	CORTANTE EN FUSTE DE PILAS

PILA-HIPOTESIS	DATOS													RESULTADOS								
	Vrd (ton)	Nd (ton)	Ac (m2)	fck (Mpa)	γc	bo (cm)	d (cm)	cotg(θ)	alpha (º)	As (cm2)	Ap (cm2)	fyk (kp/cm2)	fpk (kp/cm2)	Vrd sin cercos (ton)	Vcu ton	Vsu,nec ton	As,nec (cm2/ml)	As,min (cm2/ml)	As (cm2/ml)	Sep.max (cm)	Vu1 (ton)	Decalaje (m)
P13_FUSTE_ELU_SISMO_X_TINF	1.5	32.1	0.46	30	1.5	60	70	1	90	0	2.37	5100	15700	18.06	12.91	-11.44	-4.45	6.00	6.00	30.00	257.14	1.85
P13_FUSTE_ELU_SISMO_X_TINF	1.5	32.1	0.46	30	1.5	60	70	1	90	0	2.38	5100	15700	18.08	12.92	-11.45	-4.45	6.00	6.00	30.00	257.14	1.85
P13_FUSTE_ELU_SISMO_Y_TINF	4.0	32.1	0.46	30	1.5	60	70	1	90	0	2.38	5100	15700	18.06	12.91	-8.86	-3.45	6.00	6.00	30.00	257.14	0.97
P13_FUSTE_ELU_SISMO_Y_TINF	4.0	32.1	0.46	30	1.5	60	70	1	90	0	2.38	5100	15700	18.08	12.92	-8.87	-3.45	6.00	6.00	30.00	257.14	0.97
P13_FUSTE_ELU_SISMO_Z_TINF	1.5	32.0	0.46	30	1.5	60	70	1	90	0	2.37	5100	15700	18.04	12.90	-11.43	-4.45	6.00	6.00	30.00	257.14	1.85
P13_FUSTE_ELU_SISMO_Z_TINF	1.5	32.2	0.46	30	1.5	60	70	1	90	0	2.38	5100	15700	18.09	12.93	-11.46	-4.46	6.00	6.00	30.00	257.14	1.85

FUSTES DE PILA. ARMADO DE LA CABEZA

Cálculo de la armadura transversal (como viga de gran canto invertida Art. 63 EHE)

Máxima reacción vertical por apoyo (Rd)	508.34	kN
Máxima reacción transversal por apoyo (Hd)	48.56	kN
$Td, \max = 0.4 \cdot Rd + Hd$	251.90	kN
As,nec	6.30	cm2
Nº de redondos del 12	6	

Cálculo de la armadura de zunchado (Art.61 EHE)

Dimensión mínima del apoyo	0.20	m
Dimensión del fuste de pila	0.60	m
Td	84.72	kN
As,nec	2.12	cm2