

Appendices for:

Behaviour of self-centring shear walls—A state of the art review

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Appendix A1. Seismic coefficients of Experimental and numerical PT concrete walls

Table A1 Seismic coefficients of Experimental and numerical PT concrete walls

reference	designation	ASR ^a	AR ^b	ductility	T (s)	R				
						A,B	C	D	E	Cd
Perez et al. [77]	TEST2	0.24	2.8	11.3	0.3	6.4	4.7	4.5	3.3	2.4
Holden et al. [59]	Unit 2	0.26	3.0	37.3	0.1	10.8	7.8	7.5	5.3	4.3
Perez et al. [76]	TW2	0.16	2.7	24.5	0.1	7.2	5.3	5.1	3.7	3.5
	TW4	0.09	2.7	21.6	0.2	10.0	7.3	6.9	4.9	3.3
Erkmen et al. [17]	PTT	0.51	1.5	12.7	0.1	3.8	3.0	2.9	2.2	2.6
Smith and Kurama [60]	W1	0.24	1.5	14.6	0.1	3.5	2.7	2.7	2.1	2.8
Henry [101]	A1	0.06	1.5	12.1	0.1	2.7	2.2	2.1	1.7	2.5
	A2	0.04	1.5	18.8	0.1	4.3	3.3	3.2	2.4	3.1
	A3	0.02	1.5	86.6	0.1	14.8	10.6	10.1	7.0	6.6
	A4	0.03	1.5	16.9	0.1	5.3	4.0	3.8	2.9	2.9
	B1	0.02	3.3	89.9	0.2	30.8	21.7	20.6	13.9	6.7
	B2	0.04	3.3	38.9	0.1	11.5	8.3	7.9	5.5	4.4
	B3	0.06	3.3	41.9	0.1	10.3	7.5	7.2	5.1	4.6
	B4	0.08	3.3	15.4	0.2	5.4	4.1	3.9	2.9	2.8
	C1(1)	0.07	3.0	33.1	0.1	9.7	7.0	6.7	4.8	4.1
	C1(2)	0.07	3.0	26.4	0.1	8.3	6.1	5.8	4.2	3.7
	C1(3)	0.17	3.0	25.0	0.1	5.6	4.2	4.0	3.0	3.6
	C1(4)	0.17	3.0	11.4	0.1	3.4	2.6	2.6	2.0	2.4
	C2(1)	0.07	2.2	36.9	0.1	5.5	4.1	4.0	2.9	4.3
	C2(2)	0.07	2.2	36.0	0.1	5.4	4.0	3.9	2.9	4.3
	C2(3)	0.15	2.2	18.9	0.1	2.9	2.3	2.3	1.8	3.1
	C2(4)	0.15	2.2	16.5	0.1	2.7	2.1	2.1	1.7	2.9
	D1(1)	0.06	1.5	31.3	0.1	5.6	4.2	4.0	3.0	4.0
	D1(2)	0.06	1.5	33.9	0.1	5.9	4.4	4.2	3.1	4.1
	D1(3)	0.13	1.5	15.8	0.1	3.0	2.4	2.3	1.9	2.9
	D1(4)	0.13	1.5	14.8	0.1	2.8	2.3	2.2	1.8	2.8
	D2(1)	0.03	1.1	37.7	0.1	5.2	3.9	3.8	2.8	4.4
	D2(2)	0.05	1.1	24.2	0.1	3.7	2.8	2.7	2.2	3.5
	D2(3)	0.09	1.1	29.5	0.0	3.1	2.4	2.4	1.9	3.9
	D2(4)	0.12	1.1	10.5	0.0	1.8	1.5	1.5	1.3	2.4
	E1	0.03	3.0	30.5	0.2	9.8	7.1	6.8	4.8	3.9
	E2	0.05	3.0	25.3	0.1	7.1	5.2	5.0	3.6	3.6
	E3	0.07	3.0	29.2	0.1	6.4	4.8	4.6	3.4	3.9
	E4	0.11	3.0	21.6	0.1	4.4	3.3	3.2	2.5	3.3
	F1	0.04	1.5	36.0	0.1	5.9	4.4	4.2	3.1	4.3
	F2	0.05	1.5	32.3	0.1	4.8	3.6	3.5	2.6	4.1
	F3	0.06	1.5	29.1	0.1	4.2	3.2	3.1	2.4	3.8

Smith et al. [75]	F4	0.09	1.5	15.7	0.1	2.8	2.2	2.2	1.8	2.8
	HW2	0.02	1.5	12.3	0.1	3.3	2.6	2.5	2.0	2.5
	HW3	0.02	1.5	13.4	0.1	3.6	2.8	2.7	2.1	2.6
Preti and Meda [95]	W1	0.06	3.1	53.6	0.3	28.7	20.2	19.3	13.0	5.2
Sritharan et al. [1]	preWEC	0.10	3.3	16.1	0.2	6.8	5.0	4.8	3.5	2.9
Henry et al. [55]	preWEC-A	0.09	2.7	26.2	0.2	9.6	7.0	6.7	4.7	3.7
	preWEC-B	0.13	2.7	17.6	0.2	8.0	5.9	5.6	4.1	3.0
	preWEC-C	0.12	2.7	14.2	0.2	6.6	4.9	4.7	3.4	2.7
	preWEC-D	0.12	2.7	18.5	0.2	8.4	6.2	5.9	4.2	3.1
	preWEC-E	0.09	2.7	16.9	0.2	7.7	5.7	5.4	3.9	3.0
	preWEC-t	0.12	2.7	17.2	0.2	7.9	5.8	5.5	4.0	3.0
	preWEC A1,2	0.08	3.6	20.6	0.1	5.9	4.4	4.2	3.1	3.2
Twigden et al. [62]	preWEC B	0.08	3.6	34.0	0.1	6.9	5.1	4.9	3.5	4.2
	SRW	0.02	3.0	34.9	0.2	12.3	8.8	8.4	5.9	4.2
	SRW	0.10	3.6	35.1	0.1	9.4	6.8	6.5	4.7	4.2
	SRW	0.10	3.6	35.1	0.1	9.4	6.8	6.5	4.7	4.2
Jafari et al. [69]	a	0.02	3.1	25.0	0.3	14.5	10.4	9.9	6.8	3.6
	b	0.06	3.1	14.1	0.3	8.9	6.5	6.2	4.4	2.7
	c	0.08	3.1	11.4	0.3	7.2	5.3	5.1	3.7	2.4
	d	0.10	3.1	15.9	0.3	9.9	7.2	6.9	4.9	2.9
	e	0.13	3.1	104.6	0.3	62.9	43.9	41.8	27.8	7.2
	f	0.15	3.1	15.0	0.3	9.4	6.8	6.5	4.6	2.8
	g	0.18	3.1	38.1	0.3	23.2	16.4	15.6	10.6	4.4
	h	0.20	3.1	27.8	0.3	17.0	12.1	11.5	7.9	3.8
	i	0.25	3.1	19.0	0.3	11.8	8.5	8.1	5.7	3.1
	j	0.30	3.1	14.2	0.3	8.9	6.5	6.2	4.4	2.7

Appendix A2. Concrete, masonry and timber tested walls matrix

Table A2 Concrete, masonry and timber tested walls matrix

reference	designat ion	material	type	height × length × thickness					scale
				H (m)	×	L (m)	×	t (m)	
Priestley et al. [5]	W1	concrete	S.P	11.43	×	2.74	×	0.20	full
	W2	concrete	S.P	11.43	×	2.74	×	0.20	full
Perez et al. [77]	TEST1	concrete	C.M.P	7.14	×	2.54	×	0.20	0.42
	TEST2	concrete	C.M.P	7.14	×	2.54	×	0.20	0.42
	TEST3	concrete	C.M.P	7.14	×	2.54	×	0.20	0.42
	TEST4	concrete	C.M.P	7.14	×	2.54	×	0.20	0.42
	TEST5	concrete	C.M.P	7.14	×	2.54	×	0.20	0.42
Holden et al. [59]	Unit 2	concrete	S.P	4.00	×	1.33	×	0.13	0.5
Perez et al. [76]	TW1	concrete	C.M.P	6.60	×	2.54	×	0.15	0.5
	TW2	concrete	C.M.P	6.60	×	2.54	×	0.15	0.5
	TW3	concrete	C.M.P	6.60	×	2.54	×	0.15	0.5
	TW4	concrete	C.M.P	6.60	×	2.54	×	0.15	0.5

Erkmen and chultz [17] Smith et al. [111] Henry [101]	TW5	concrete	C.M.P	6.60	×	2.54	×	0.15	0.5
	PTT	concrete	S.P	3.11	×	2.03	×	0.15	0.6
	W1	concrete	C.M.P	3.65	×	2.43	×	0.16	0.4
	A1	concrete	S.P	3.00	×	2.00	×	0.14	full
	A2	concrete	S.P	3.00	×	2.00	×	0.14	full
	A3	concrete	S.P	3.00	×	2.00	×	0.14	full
	A4	concrete	S.P	3.00	×	2.00	×	0.14	full
	B1	concrete	S.P	3.30	×	1.00	×	0.14	full
	B2	concrete	S.P	3.30	×	1.00	×	0.14	full
	B3	concrete	S.P	3.30	×	1.00	×	0.14	full
	B4	concrete	S.P	3.30	×	1.00	×	0.14	full
	C1(1)	concrete	S.P	3.00	×	1.00	×	0.12	full
	C1(2)	concrete	S.P	3.00	×	1.00	×	0.12	full
	C1(3)	concrete	S.P	3.00	×	1.00	×	0.12	full
	C1(4)	concrete	S.P	3.00	×	1.00	×	0.12	full
	C2(1)	concrete	S.P	2.20	×	1.00	×	0.12	full
	C2(2)	concrete	S.P	2.20	×	1.00	×	0.12	full
	C2(3)	concrete	S.P	2.20	×	1.00	×	0.12	full
	C2(4)	concrete	S.P	2.20	×	1.00	×	0.12	full
	D1(1)	concrete	S.P	3.00	×	2.00	×	0.12	full
	D1(2)	concrete	S.P	3.00	×	2.00	×	0.12	full
	D1(3)	concrete	S.P	3.00	×	2.00	×	0.12	full
	D1(4)	concrete	S.P	3.00	×	2.00	×	0.12	full
	D2(1)	concrete	S.P	2.20	×	2.00	×	0.12	full
	D2(2)	concrete	S.P	2.20	×	2.00	×	0.12	full
	D2(3)	concrete	S.P	2.20	×	2.00	×	0.12	full
	D2(4)	concrete	S.P	2.20	×	2.00	×	0.12	full
	E1	concrete	S.P	3.00	×	1.00	×	0.12	full
	E2	concrete	S.P	3.00	×	1.00	×	0.12	full
	E3	concrete	S.P	3.00	×	1.00	×	0.12	full
	E4	concrete	S.P	3.00	×	1.00	×	0.12	full
	F1	concrete	S.P	3.00	×	2.00	×	0.12	full
	F2	concrete	S.P	3.00	×	2.00	×	0.12	full
	F3	concrete	S.P	3.00	×	2.00	×	0.12	full
	F4	concrete	S.P	3.00	×	2.00	×	0.12	full
Smith and Kurama [78]	HW1	concrete	C.M.P	3.66	×	2.43	×	0.16	0.4
	HW2	concrete	C.M.P	3.66	×	2.43	×	0.16	0.4
	HW3	concrete	C.M.P	3.66	×	2.43	×	0.16	0.4
Preti and Meda [95]	W1	h.p.f.r.c	S.P	10.00	×	2.80	×	0.30	full
Sritharan et al. [1]	preWEC	concrete	C.M.P	6.40	×	1.83	×	0.15	0.5
Henry et al. [55]	preWEC	concrete	preWEC	6.10	×	1.83	×	0.15	full
	-A	concrete	preWEC	6.10	×	1.83	×	0.15	full
	-B	concrete	preWEC	6.10	×	1.83	×	0.15	full
	-C	concrete	preWEC	6.10	×	1.83	×	0.15	full
	preWEC	concrete	preWEC	6.10	×	1.83	×	0.15	full
	-D	concrete	preWEC	6.10	×	1.83	×	0.15	full

Twigden et al. [74]	preWEC-E	concrete	preWEC	6.10	×	1.83	×	0.15	full
	preWEC-t	concrete	preWEC	6.10	×	1.83	×	0.15	full
	preWEC A1	concrete	preWEC	2.86	×	0.80	×	0.13	0.6
	preWEC A2	concrete	preWEC	2.86	×	0.80	×	0.13	0.6
	preWEC B	concrete	preWEC	2.86	×	0.80	×	0.13	0.6
	SRW-A	concrete	S.P	3.00	×	1.00	×	0.12	0.6
Nazari et al. [61]	SRW-B	concrete	S.P	2.86	×	0.80	×	0.13	0.6
	SRW1	concrete	S.P	4.88	×	1.91	×	0.13	0.28
	SRW2	concrete	S.P	4.88	×	1.91	×	0.13	0.28
	SRW3	concrete	S.P	4.88	×	1.91	×	0.13	0.28
	SRW4	concrete	S.P	4.88	×	1.91	×	0.13	0.28
Jafari et al. [69]	a	concrete	S.P	10.00	×	2.80	×	0.30	full
	b	concrete	S.P	10.00	×	2.80	×	0.30	full
	c	concrete	S.P	10.00	×	2.80	×	0.30	full
	d	concrete	S.P	10.00	×	2.80	×	0.30	full
	e	concrete	S.P	10.00	×	2.80	×	0.30	full
	f	concrete	S.P	10.00	×	2.80	×	0.30	full
	g	concrete	S.P	10.00	×	2.80	×	0.30	full
	h	concrete	S.P	10.00	×	2.80	×	0.30	full
	i	concrete	S.P	10.00	×	2.80	×	0.30	full
	j	concrete	S.P	10.00	×	2.80	×	0.30	full
Sarti et al. [48]	CWC400	LVL	S.P	4.10	×	1.60	×	0.19	0.667
	CWC600	LVL	S.P	4.10	×	1.60	×	0.19	0.667
	CWC400-8	LVL	PWEC	4.10	×	1.60	×	0.19	0.667
	CWC400-4	LVL	PWEC	4.10	×	1.60	×	0.19	0.667
	CWC600-4	LVL	PWEC	4.10	×	1.60	×	0.19	0.667
Ho et al. [47]	W1	CLT	S.P	2.44	×	0.61	×	0.13	full
Iqbal et al. [44]	W1	LVL	T.M.P	2.50	×	0.78	×	0.20	full
Moroder et al. [45]	A1	CLT	T.M.P	3.75	×	3.4	×	0.10	0.5
	B1	CLT	T.M.P	3.75	×	3.4	×	0.10	0.5
	C1	CLT	T.M.P	3.75	×	3.4	×	0.10	0.5
	D1	CLT	T.M.P	3.75	×	3.4	×	0.10	0.5
	E1	CLT	T.M.P	3.75	×	3.4	×	0.10	0.5
	F1	CLT	T.M.P	3.75	×	3.4	×	0.10	0.5
	A2	CLT	T.M.P	3.75	×	3.4	×	0.10	0.5
	B2	CLT	T.M.P	3.75	×	3.4	×	0.10	0.5
	C2	CLT	T.M.P	3.75	×	3.4	×	0.10	0.5
	D2	CLT	T.M.P	3.75	×	3.4	×	0.10	0.5
	E2	CLT	T.M.P	3.75	×	3.4	×	0.10	0.5
	F2	CLT	T.M.P	3.75	×	3.4	×	0.10	0.5
	G2	CLT	T.M.P	3.75	×	3.4	×	0.10	0.5

Laursen and Ingham [6]	FG:L3.0-W20-P3	grouted	Co.M	2.60	×	3.00	×	0.19	full
	FG:L3.0-W15-P3	grouted	Co.M	2.60	×	3.00	×	0.14	full
	FG:L3.0-W15-P2C	grouted	Co.M	2.60	×	3.00	×	0.14	full
	FG:L3.0-W15-P2E	grouted	Co.M	2.60	×	3.00	×	0.14	full
	FG:L1.8-W15-P2	grouted	Co.M	2.60	×	1.80	×	0.14	full
	FG:L1.8-W15-P3	grouted	Co.M	2.60	×	1.80	×	0.14	full
	PG:L3.0-W15-P2	PG	Co.M	2.60	×	3.00	×	0.14	full
	UG:L1.8-W10-P2	ungrouted	Co.M	2.60	×	1.80	×	0.09	full
Rosenboom and Kowalskey [107]	Test 1	grouted	Cl.M	2.44	×	1.22	×	0.31	full
	Test 2	grouted	Cl.M	2.44	×	1.22	×	0.31	full
	Test 3	grouted	Cl.M	2.44	×	1.22	×	0.31	full
	Test 4	grouted	Cl.M	2.44	×	1.22	×	0.31	full
	Test 5	ungrouted	Cl.M	2.44	×	1.22	×	0.31	full
Wight [112]	1	PG	Co.M	2.44	×	1.83	×	0.14	full
	2	PG	Co.M	2.44	×	1.02	×	0.14	full
	3	PG	Co.M	2.44	×	0.81	×	0.14	full
	4	PG	Co.M	2.44	×	1.83	×	0.14	full
Van der Meer et al. [80]	SR4	-	CASIEL-TLM	2.60	×	1.00	×	0.18	full
	SR4a	-	CASIEL-TLM	2.60	×	1.00	×	0.18	full
	CR2	-	CASIEL-TLM	2.60	×	1.00	×	0.18	full
	CR4	-	CASIEL-TLM	2.60	×	1.00	×	0.18	full
Hassanli et al. [81]	W1	grouted	Co.M	2.00	×	1.40	×	0.19	full
	W2	grouted	Co.M	2.00	×	1.40	×	0.19	full
	W3	grouted	Co.M	2.00	×	1.40	×	0.19	full
	W4	grouted	Co.M	2.00	×	1.40	×	0.19	full

Note: C.M.P = Concrete Multi panel; F_{ps} = PT stress; F_u = Steel ultimate stress; S.P = Single Panel; preWEC = Precast wall with end columns; J.P = Jointed panel; UFP = U-shaped flexural plate; Co.M = Concrete masonry; Cl.M = Clay masonry; P.G = Partially grouted; CASIEL-TLM = Calcium silicate element masonry with thin-layer mortar; LVL = Laminated veneer lumber; CLT = Cross-laminated timber; H.P.F.R.C = High performance fiber reinforced concrete.