

# **Appendix C Experimental Verification Tables for Response-2000**

Appendix C: Data used in experimental database for Response-2000

Total number of beams:	534		
Prestressed beams:	155		
Reinforced beams:	379		
Beams with axial Load:	57		
No axial load:	477		
Beams with stirrups	300		
No stirrups	234		
Shape Codes:	R	Rectantular	270 tests
	I	I beam	163 tests
	T	Tee-beam	90 tests
	C	Circle	9 tests
	INTER	Interlocking Spiral Column	2 tests
	PC	Precast beam	

Researcher	Beam Name	Depth (mm)	d (mm)	Width (mm)	Long. p (%)	a/d ratio	Shape	Trans. p (%)	f <sub>c</sub> ' (MPa)	Used in Fig 10-1	Test V (kN)	ACI V (kN)	R2k V (kN)	Exp/ Pred-ACI	Exp/ Pred-R2k	
Kani Reference 45	43	152	137	150	2.75	5.93	R	0.00	28.0	1	28.7	18.1	23.5	1.586	1.221	
	52	152	137	150	2.73	3.93	R	0.00	25.0	1	28.6	17.2	26.6	1.663	1.075	
	55	152	137	150	2.80	3.02	R	0.00	25.0	1	32.7	16.8	28.7	1.946	1.139	
	83	305	270	156	2.74	3.00	R	0.00	27.0	1	65.1	36.8	55.6	1.769	1.171	
	84	305	270	151	2.84	4.00	R	0.00	27.0	1	55.4	35.6	50.4	1.556	1.099	
	93	305	270	155	2.66	6.46	R	0.00	30.0	1	53.6	38.6	45.3	1.389	1.183	
	63	610	543	156	2.77	4.00	R	0.00	26.0	1	93.1	71.3	98.5	1.306	0.945	
	74	610	543	156	2.77	3.12	R	0.00	27.0	1	107.8	69.1	106.0	1.560	1.017	
	79	610	543	156	2.72	6.84	R	0.00	26.0	1	84.6	72.3	79.1	1.170	1.070	
	3043	1219	1090	154	2.71	3.00	R	0.00	27.0	1	164.4	144.8	177.7	1.135	0.925	
	3044	1219	1090	152	2.72	3.98	R	0.00	30.0	1	158.0	150.9	157.7	1.047	1.002	
	3046	1219	1090	155	2.70	7.00	R	0.00	27.0	1	153.6	145.9	135.2	1.053	1.136	
	270	305	270	152	0.50	1.98	R	0.00	17.0	0	41.4	28.1	37.5	1.473	1.104	
	266	305	270	152	0.50	2.48	R	0.00	17.0	0	32.5	28.1	31.4	1.156	1.035	
	268	305	270	152	0.50	2.98	R	0.00	17.0	0	27.2	27.3	27.2	0.997	1.000	
	267	305	270	152	0.50	3.53	R	0.00	17.0	0	24.5	23.1	23.4	1.060	1.046	
	246	305	270	152	0.50	3.47	R	0.00	28.0	0	25.4	24.0	24.6	1.057	1.031	
	248	305	270	152	0.50	2.40	R	0.00	28.0	0	37.2	34.7	36.2	1.071	1.026	
	251	305	270	152	0.50	1.97	R	0.00	28.0	0	41.9	36.0	40.6	1.163	1.032	
	179	305	270	152	0.50	2.57	R	0.00	35.0	0	33.6	32.4	35.2	1.037	0.954	
	180	305	270	152	0.50	3.52	R	0.00	35.0	0	24.9	23.6	24.7	1.056	1.009	
	177	305	270	152	0.50	4.91	R	0.00	35.0	0	18.6	17.0	17.4	1.093	1.068	
	143	305	270	152	0.80	3.96	R	0.00	17.0	0	30.2	28.1	30.7	1.076	0.985	
	144	305	270	152	0.80	5.02	R	0.00	17.0	0	27.3	25.5	24.6	1.072	1.112	
	147	305	270	152	0.80	2.36	R	0.00	17.0	0	42.3	28.1	38.1	1.506	1.110	
	149	305	270	152	0.80	2.50	R	0.00	17.0	0	43.7	28.1	37.1	1.555	1.177	
	150	305	270	152	0.80	2.49	R	0.00	17.0	0	46.2	28.1	38.1	1.644	1.212	
	151	305	270	152	0.80	2.48	R	0.00	17.0	0	35.6	28.1	39.2	1.268	0.909	
	152	305	270	152	0.80	3.02	R	0.00	17.0	0	32.5	28.1	35.4	1.156	0.918	
	153	305	270	152	0.80	2.99	R	0.00	17.0	0	32.8	28.1	36.0	1.168	0.912	
	102	305	270	152	0.80	2.02	R	0.00	26.0	0	48.8	34.7	46.7	1.405	1.045	
	103	305	270	152	0.80	2.98	R	0.00	26.0	0	38.8	34.7	41.8	1.117	0.928	
	104	305	270	152	0.80	4.03	R	0.00	26.0	0	33.6	31.8	31.3	1.058	1.075	
	105	305	270	152	0.80	2.50	R	0.00	26.0	0	41.5	34.7	43.7	1.196	0.951	
	106	305	270	152	0.80	2.53	R	0.00	26.0	0	44.6	34.7	47.1	1.285	0.948	
	107	305	270	152	0.80	5.08	R	0.00	26.0	0	25.7	25.2	24.8	1.018	1.034	
	110	305	270	152	0.80	5.05	R	0.00	26.0	0	27.9	25.3	23.9	1.104	1.168	
	111	305	270	152	0.80	2.49	R	0.00	26.0	0	43.3	34.7	43.8	1.247	0.989	
	112	305	270	152	0.80	2.49	R	0.00	26.0	0	39.4	34.7	44.1	1.134	0.893	
	114	305	270	152	0.80	2.01	R	0.00	26.0	0	61.4	34.7	47.5	1.768	1.293	
	115	305	270	152	0.80	2.50	R	0.00	26.0	0	45.3	34.7	43.7	1.305	1.037	
	116	305	270	152	0.80	3.01	R	0.00	26.0	0	39.3	34.7	38.5	1.131	1.021	
	117	305	270	152	0.80	3.96	R	0.00	26.0	0	32.6	32.3	30.0	1.009	1.087	
	Ghannoum Reference 55	N220-l	220	190	400	1.20	2.50	R	0.00	34.2	0	102.7	73.8	82.5	1.392	1.245
		N220-h	220	190	400	2.00	2.50	R	0.00	34.2	0	121.8	73.8	97.3	1.651	1.252
N350-l		350	313	400	1.20	2.50	R	0.00	34.2	0	156.0	121.5	123.8	1.283	1.260	
N350-h		350	313	400	2.00	2.50	R	0.00	34.2	0	176.5	121.5	151.3	1.452	1.166	
N485-l		485	440	400	1.20	2.50	R	0.00	34.2	0	183.6	170.9	162.3	1.074	1.131	
N485-h		485	440	400	2.00	2.50	R	0.00	34.2	0	211.4	170.9	204.6	1.237	1.033	
N960-l		960	889	400	1.20	2.50	R	0.00	34.2	0	349.7	345.2	274.1	1.013	1.276	
N960-h		960	889	400	2.00	2.50	R	0.00	34.2	0	369.2	345.2	312.4	1.070	1.182	
H220-l		220	190	400	1.20	2.50	R	0.00	58.6	0	104.9	96.6	96.7	1.086	1.085	
H220-h		220	190	400	2.00	2.50	R	0.00	58.6	0	134.4	96.6	115.4	1.392	1.165	
H350-l		350	313	400	1.20	2.50	R	0.00	58.6	0	155.2	159.1	144.4	0.975	1.075	
H350-h		350	313	400	2.00	2.50	R	0.00	58.6	0	187.6	159.1	178.6	1.179	1.050	
H485-l		485	440	400	1.20	2.50	R	0.00	58.6	0	194.5	223.7	189.5	0.869	1.026	



Researcher	Beam Name	Depth (mm)	d (mm)	Width (mm)	Long. p (%)	a/d ratio	Shape	Trans. p (%)	f <sub>c</sub> ' (MPa)	Used in Fig 10-1	Test V (kN)	ACI V (kN)	R2k V (kN)	Exp/ Pred-ACI	Exp/ Pred-R2k
Elzanaty Nilson Slate Reference 58	SE50A-M-69	500	445	169	1.03	2.72	R	0.15	74.0	0	138.5	161.3	122.8	0.859	1.128
	Se50B-M-69	500	445	169	1.16	2.72	R	0.15	74.0	0	151.8	161.3	148.4	0.941	1.023
	CW1	457	373	51	1.43	2.90	I	0.00	76.6	0	138.4	103.8	107.8	1.334	1.284
	CW2	457	373	51	1.43	3.75	I	0.00	76.6	0	124.6	108.0	105.5	1.154	1.181
	CW3	457	373	51	1.43	5.00	I	0.00	76.6	0	117.5	103.4	106.0	1.136	1.108
	CW4	457	373	51	1.03	3.75	I	0.00	78.6	0	127.3	109.7	108.8	1.160	1.170
	CW5	457	373	51	3.17	3.75	I	0.00	77.9	0	124.2	108.7	105.0	1.143	1.182
	CW7	457	373	51	1.12	3.75	I	0.00	77.6	0	105.9	92.1	92.0	1.150	1.151
	CW6	457	373	51	1.43	3.75	I	0.00	77.9	0	112.1	93.5	95.1	1.200	1.179
	CW9	457	373	51	1.43	3.75	I	0.00	61.0	0	101.0	87.0	90.3	1.161	1.119
	CW8	457	373	51	1.43	3.75	I	0.00	41.4	0	89.9	80.3	83.3	1.119	1.079
	CI1	342	290	76	1.57	7.80	I	0.00	76.6	0	77.9	70.8	86.2	1.100	0.903
	CI3	342	290	76	1.57	4.00	I	0.00	76.6	0	121.0	103.8	121.0	1.166	1.000
	CI2	342	290	76	1.17	5.80	I	0.00	76.6	0	111.3	92.5	104.3	1.203	1.067
	CI4	342	290	76	3.35	5.80	I	0.00	78.6	0	108.6	93.8	104.6	1.158	1.038
	CI5	342	290	76	1.26	5.80	I	0.00	77.9	0	119.7	93.0	107.1	1.288	1.118
	CI7	342	290	76	1.57	5.80	I	0.00	77.6	0	81.4	73.4	83.7	1.110	0.973
CI6	342	290	76	1.57	5.80	I	0.00	77.9	0	91.2	74.8	89.4	1.219	1.020	
CI9	342	290	76	1.57	5.80	I	0.00	61.0	0	88.6	71.5	86.6	1.239	1.023	
CI8	342	290	76	1.57	5.80	I	0.00	41.4	0	86.8	69.0	81.5	1.258	1.065	
CW10	457	373	51	1.43	3.75	I	0.55	73.1	0	173.6	132.2	143.3	1.313	1.211	
CW11	457	373	51	1.43	3.75	I	0.55	55.9	0	156.6	125.5	135.3	1.248	1.158	
CW12	457	373	51	1.43	3.75	I	0.55	40.0	0	140.6	119.3	129.5	1.179	1.086	
CW13	457	373	51	1.43	3.75	I	0.55	72.4	0	182.5	148.6	153.8	1.228	1.186	
CW14	457	373	51	1.43	3.75	I	0.79	73.8	0	187.8	167.8	179.3	1.119	1.047	
CW15	457	373	51	1.43	3.75	I	0.55	70.3	0	150.4	130.4	142.2	1.154	1.058	
CW16	457	373	51	1.43	3.75	I	0.55	73.1	0	186.9	149.1	156.3	1.254	1.196	
CW17	457	373	51	1.43	3.75	I	0.25	69.7	0	142.4	125.5	112.6	1.135	1.265	
CI10	342	290	76	1.57	5.80	I	0.46	73.1	0	141.5	107.7	127.0	1.314	1.114	
CI11	342	290	76	1.57	5.80	I	0.46	55.9	0	127.3	104.1	126.6	1.222	1.005	
CI12	342	290	76	1.57	5.80	I	0.46	40.0	0	122.4	101.5	117.4	1.206	1.042	
CI13	342	290	76	1.57	5.80	I	0.46	72.4	0	154.9	127.3	143.6	1.217	1.078	
CI14	342	290	76	1.57	5.80	I	0.73	73.8	0	164.7	150.0	159.6	1.098	1.032	
CI15	342	290	76	1.57	5.80	I	0.46	70.3	0	121.0	106.4	127.7	1.138	0.948	
CI16	342	290	76	3.35	5.80	I	0.46	73.1	0	163.3	128.2	162.1	1.274	1.007	
CI17	342	290	76	1.57	5.80	I	0.21	69.7	0	129.5	107.2	110.4	1.207	1.173	
Rabbat Reference 59	B1	610	567	305	2.41	3.23	R	0.24	27.1	0	378.3	306.0	357.7	1.236	1.058
B2	610	567	152	4.82	3.23	I	0.48	27.1	0	333.8	229.0	342.8	1.457	0.974	
Makwana Reference 60	D1	406	328	406	4.50	2.80	R	0.49	30.1	0	544.0	320.0	497.0	1.700	1.095
D2	406	328	406	4.50	2.80	R	0.49	25.8	0	558.0	330.0	505.6	1.691	1.104	
Khalifa Reference 47	SC0	445	356	445	3.82	2.60	C	0.00	23.4	0	326.0	174.0	316.0	1.874	1.032
SC1	445	356	445	3.82	2.60	C	0.10	23.4	0	324.0	241.0	302.1	1.344	1.072	
SC2	445	356	445	3.82	2.60	C	0.30	23.4	0	478.0	417.0	462.4	1.146	1.034	
SC3	445	356	445	3.82	2.60	C	0.45	23.4	0	578.0	538.0	590.2	1.074	0.979	
SC4	445	356	445	3.82	2.60	C	0.30	23.4	0	456.0	380.0	476.2	1.200	0.958	
Aregawi Reference 61	EB1	457	366	457	3.78	4.20	C	0.83	39.3	0	358.4	412.0	347.4	0.870	1.032
WB1	457	366	457	3.78	4.20	C	1.11	39.3	0	462.0	463.0	408.4	0.998	1.131	
EB2	457	366	457	3.78	4.20	C	0.83	27.6	0	343.0	367.0	310.3	0.935	1.105	
WB2	457	366	457	3.78	4.20	C	1.11	27.6	0	433.0	421.0	373.0	1.029	1.161	
Podgorniak-Stanik Reference 54	B100	1000	925	300	1.01	2.92	R	0.00	36.0	1	225.0	276.5	197.5	0.814	1.139
B100R	1000	925	300	1.01	2.92	R	0.00	36.0	1	249.0	276.5	197.5	0.901	1.261	
B100D	1000	925	300	1.19	2.92	R	0.00	36.0	1	320.0	276.5	259.3	1.157	1.234	
B100H	1000	925	300	1.01	2.92	R	0.00	98.0	0	193.0	382.9	256.5	0.504	0.752	
BH100E	1000	925	300	1.01	2.92	R	0.00	98.0	0	217.0	382.9	256.5	0.567	0.846	
B100L	1000	925	300	1.01	2.92	R	0.00	39.0	1	223.0	287.8	183.6	0.775	1.215	
B100L-R	1000	925	300	1.01	2.92	R	0.00	39.0	1	235.0	287.8	183.6	0.817	1.280	
B100B	1000	925	300	1.01	2.92	R	0.00	39.0	1	204.0	287.8	197.2	0.709	1.034	
BRL100	1000	925	300	0.51	2.70	R	0.00	94.0	0	163.0	384.0	209.4	0.424	0.778	
BHD100	1000	925	300	1.19	2.92	R	0.00	99.0	0	278.0	382.9	322.5	0.726	0.862	
BHD100R	1000	925	300	1.19	2.92	R	0.00	99.0	0	333.5	382.9	322.5	0.871	1.034	
BHD50	500	460	300	1.11	3.00	R	0.00	99.0	0	192.7	186.3	167.5	1.034	1.150	
BHD50R	500	460	300	1.11	3.00	R	0.00	99.0	0	204.7	186.3	167.5	1.099	1.222	
BHD25	250	225	300	1.31	3.00	R	0.00	99.0	0	111.4	93.1	103.7	1.197	1.074	
BH100	1000	925	300	0.76	2.92	R	0.00	99.0	0	193.0	382.9	255.3	0.504	0.756	
BH50	500	460	300	0.81	3.00	R	0.00	99.0	0	131.7	186.3	143.8	0.707	0.916	
BH25	250	225	300	0.89	3.00	R	0.00	99.0	0	84.8	93.1	87.7	0.911	0.967	
BND100	1000	925	300	1.19	2.92	R	0.00	37.0	1	258.0	281.1	248.9	0.918	1.037	
BND50	500	460	300	1.11	3.00	R	0.00	37.0	1	162.7	136.8	127.0	1.189	1.281	
BND25	250	225	300	1.31	3.00	R	0.00	37.0	1	112.0	68.4	78.8	1.637	1.421	
BN100	1000	925	300	0.76	2.92	R	0.00	37.2	1	192.0	204.0	202.1	0.941	0.950	
BN50	500	460	300	0.81	3.00	R	0.00	37.2	1	131.7	136.8	116.8	0.963	1.128	
BN25	250	225	300	0.89	3.00	R	0.00	37.0	1	72.9	68.4	71.2	1.066	1.024	
BN12	125	110	300	0.91	3.07	R	0.00	37.0	1	40.0	33.4	37.6	1.198	1.064	

Researcher	Beam Name	Depth (mm)	d (mm)	Width (mm)	Long. ρ (%)	a/d ratio	Shape	Trans. ρ (%)	f <sub>c</sub> ' (MPa)	Used in Fig 10-1	Test V (kN)	ACI V (kN)	R2k V (kN)	Exp/ Pred-ACI	Exp/ Pred-R2k	
	BM100	1000	925	300	1.01	2.70	R	0.09	47.0	0	343.0	424.0	341.0	0.809	1.006	
	BM100D	1000	925	300	1.20	2.70	R	0.09	47.0	0	462.0	455.0	422.0	1.015	1.095	
	WM100D	1000	925	1000	0.75	3.00	R	0.04	45.0	0	800.0	1030.0	944.7	0.777	0.847	
	WM100C	1000	925	1000	0.75	3.00	R	0.04	45.0	0	700.0	1030.0	773.6	0.680	0.905	
Kuzmanovic Reference 62	TTC Box	650	615	960	0.71	5.00	R	0.00	45.0	1	347.0	640.0	268.2	0.542	1.294	
Shioya Iguo Nojiri Akiyama Okada Reference 42,43	Shioya 7	3140	3000	1500	0.40	6.00	R	0.00	24.1	1	1576.9	3667.2	1659.1	0.430	0.950	
	Shioya 6	2100	2000	1000	0.40	6.00	R	0.00	28.5	1	840.2	1772.4	774.7	0.474	1.085	
	Shioya 5	1100	1000	500	0.40	6.00	R	0.00	21.9	1	239.1	388.4	237.8	0.616	1.005	
	Shioya 3	660	600	300	0.40	6.00	R	0.00	21.1	0	127.9	137.3	153.8	0.932	0.831	
	Shioya 2	220	200	158	0.40	6.00	R	0.00	19.7	0	28.9	23.3	32.1	1.239	0.898	
Kawano Watanabe Ref 63	A-4 a	2200	2000	600	1.20	3.00	R	0.00	22.2	1	610.5	938.6	588.7	0.650	1.037	
	A-4 b	2200	2000	600	1.20	3.00	R	0.00	23.1	1	560.0	957.4	595.5	0.585	0.940	
	A-3 a	1050	950	350	1.22	3.00	R	0.00	20.7	0	216.0	251.1	209.5	0.860	1.031	
	A-3 b	1050	950	350	1.22	3.00	R	0.00	20.6	0	237.5	250.5	208.9	0.948	1.137	
	A-2 a	570	500	176	1.35	3.00	R	0.00	27.3	0	82.5	76.3	82.1	1.081	1.005	
	A-2 b	570	500	176	1.35	3.00	R	0.00	27.3	0	101.5	76.3	82.1	1.330	1.236	
	A-1 a	330	300	105	1.26	3.00	R	0.00	24.8	0	33.5	26.0	31.1	1.286	1.077	
	A-1 b	330	300	105	1.26	3.00	R	0.00	24.8	0	29.5	26.0	31.1	1.133	0.949	
Yoon Cook Mitchell Reference 64	H1S	750	655	375	2.80	3.23	R	0.00	87.0	1	327.0	342.0	333.5	0.956	0.981	
	N1S	750	655	375	2.80	3.23	R	0.00	36.0	1	249.0	246.0	264.3	1.012	0.942	
	M1S	750	655	375	2.80	3.23	R	0.00	67.0	1	296.0	336.0	302.3	0.881	0.979	
	H1N	750	655	375	2.80	2.34	R	0.09	87.0	0	483.0	428.0	435.7	1.129	1.109	
	H2S	750	655	375	2.80	2.34	R	0.14	87.0	0	598.0	489.0	605.0	1.223	0.988	
	H2N	750	655	375	2.80	2.34	R	0.23	87.0	0	721.0	628.0	749.9	1.148	0.961	
	M1N	750	655	375	2.80	3.23	R	0.09	67.0	0	405.0	422.0	441.5	0.960	0.917	
	M2-S	750	655	375	2.80	3.23	R	0.13	67.0	0	552.0	459.0	515.8	1.203	1.070	
	M2-N	750	655	375	2.80	3.23	R	0.18	67.0	0	689.0	508.0	636.3	1.356	1.083	
	N1-N	750	655	375	2.80	3.23	R	0.09	36.0	0	457.0	332.0	339.5	1.377	1.346	
	N2-S	750	655	375	2.80	3.23	R	0.09	36.0	0	363.0	332.0	335.9	1.093	1.081	
	N2-N	750	655	375	2.80	3.23	R	0.13	36.0	0	483.0	369.0	423.8	1.309	1.140	
Angelakos Reference 40	DB0530	1000	925	300	0.50	2.70	R	0.00	32.0	1	165.0	262.0	160.0	0.630	1.031	
	DB130	1000	925	300	1.00	2.70	R	0.00	30.0	1	185.0	262.0	186.8	0.706	0.990	
	DB230	1000	925	300	2.00	2.70	R	0.00	32.0	1	272.0	262.0	232.8	1.038	1.168	
	DB120	1000	925	300	1.00	2.70	R	0.00	21.0	0	179.0	207.0	167.6	0.865	1.068	
	DB140	1000	925	300	1.00	2.70	R	0.00	38.0	0	180.0	282.0	201.2	0.638	0.895	
	DB165	1000	925	300	1.00	2.70	R	0.00	65.0	0	185.0	374.0	235.9	0.495	0.784	
	DB180	1000	925	300	1.00	2.70	R	0.00	80.0	0	172.0	385.0	241.9	0.447	0.711	
	DB120M	1000	925	300	1.00	2.70	R	0.09	21.0	0	282.0	318.0	346.0	0.887	0.815	
	DB140M	1000	925	300	1.00	2.70	R	0.09	38.0	0	277.0	393.0	346.0	0.705	0.801	
	DB165M	1000	925	300	1.00	2.70	R	0.09	65.0	0	452.0	485.0	415.4	0.932	1.088	
	DB180M	1000	925	300	1.00	2.70	R	0.09	80.0	0	395.0	496.0	415.2	0.796	0.951	
	DB0530M	1000	925	300	0.50	2.70	R	0.09	32.0	0	263.0	373.0	244.3	0.705	1.077	
	Haddadin Mattock Reference 65	A1	470	380	178	3.81	2.50	T	0.00	29.5	0	116.8	114.5	109.6	1.020	1.066
		A1T	470	380	178	3.81	2.50	T	0.00	27.9	0	122.4	122.4	97.4	1.000	1.257
C1C		470	380	178	3.81	4.25	T	0.00	27.5	0	129.0	118.3	103.4	1.090	1.247	
C1		470	380	178	3.81	4.25	T	0.00	25.9	0	87.4	85.7	85.1	1.020	1.027	
C1T		470	380	178	3.81	4.25	T	0.00	29.1	0	73.4	85.3	80.8	0.860	0.908	
A2		470	380	178	3.81	2.50	T	0.19	29.2	0	194.4	158.0	160.2	1.230	1.213	
A3C		470	380	178	3.81	2.50	T	0.42	34.0	0	329.4	291.5	263.2	1.130	1.252	
A3		470	380	178	3.81	2.50	T	0.42	30.1	0	291.6	249.2	250.7	1.170	1.163	
A3T		470	380	178	3.81	2.50	T	0.42	29.2	0	244.8	240.0	248.5	1.020	0.985	
A4C		470	380	178	3.81	2.50	T	0.79	28.4	0	389.2	381.6	355.1	1.020	1.096	
A4		470	380	178	3.81	2.50	T	0.79	28.6	0	342.5	342.5	353.6	1.000	0.969	
A4T		470	380	178	3.81	2.50	T	0.79	29.6	0	345.3	341.9	357.9	1.010	0.965	
A5C		470	380	178	3.81	2.50	T	1.26	27.1	0	467.3	428.7	426.0	1.090	1.097	
A5		470	380	178	3.81	2.50	T	1.26	26.3	0	387.4	379.8	413.3	1.020	0.937	
A5T		470	380	178	3.81	2.50	T	1.26	27.6	0	405.1	382.2	423.8	1.060	0.956	
B3C		470	380	178	3.81	3.40	T	0.42	27.7	0	293.9	264.8	241.6	1.110	1.216	
B3		470	380	178	3.81	3.40	T	0.42	27.7	0	271.5	242.4	235.4	1.120	1.153	
B3T		470	380	178	3.81	3.40	T	0.42	24.0	0	243.0	231.4	224.9	1.050	1.080	
C2C		470	380	178	3.81	4.25	T	0.19	27.9	0	202.8	162.2	155.5	1.250	1.304	
C2		470	380	178	3.81	4.25	T	0.19	27.8	0	173.3	148.2	151.8	1.170	1.142	
C2T		470	380	178	3.81	4.25	T	0.19	24.0	0	183.6	146.9	155.4	1.250	1.182	
C3C		470	380	178	3.81	4.25	T	0.42	26.7	0	273.8	253.5	228.1	1.080	1.200	
C3C'		470	380	178	3.81	4.25	T	0.42	27.3	0	262.1	242.7	227.7	1.080	1.151	
C3		470	380	178	3.81	4.25	T	0.42	24.1	0	260.3	224.4	216.1	1.160	1.204	
C3T		470	380	178	3.81	4.25	T	0.42	28.6	0	240.2	237.8	228.9	1.010	1.049	
C4C		470	380	178	3.81	4.25	T	0.79	26.3	0	309.3	294.6	301.4	1.050	1.026	
C4		470	380	178	3.81	4.25	T	0.79	25.7	0	310.7	275.0	291.1	1.130	1.067	
C4T		470	380	178	3.81	4.25	T	0.79	27.9	0	289.2	283.6	289.2	1.020	1.000	
C5		470	380	178	3.81	4.25	T	1.26	30.4	0	358.4	358.4	337.3	1.000	1.062	
D3C		470	380	178	3.81	6.00	T	0.42	29.9	0	226.1	213.3	217.9	1.060	1.038	
D3		470	380	178	3.81	6.00	T	0.42	29.3	0	241.1	206.1	209.0	1.170	1.154	
D3T	470	380	178	3.81	6.00	T	0.42	26.2	0	216.8	190.2	197.3	1.140	1.099		
E2	470	380	178	3.81	2.50	T	0.19	15.2	0	169.1	141.0	134.7	1.200	1.256		

Researcher	Beam Name	Depth (mm)	d (mm)	Width (mm)	Long. p (%)	a/d ratio	Shape	Trans. p (%)	f <sub>c</sub> ' (MPa)	Used in Fig 10-1	Test V (kN)	ACI V (kN)	R2k V (kN)	Exp/ Pred-ACI	Exp/ Pred-R2k
Pasley Gogoi Darwin McCabe Reference 66	E3C	470	380	178	3.81	2.50	T	0.42	15.4	0	233.6	253.9	207.2	0.920	1.128
	E3	470	380	178	3.81	2.50	T	0.42	13.7	0	189.2	191.1	192.1	0.990	0.985
	E3T	470	380	178	3.81	2.50	T	0.42	14.7	0	198.6	189.1	168.1	1.050	1.181
	E4	470	380	178	3.81	2.50	T	0.79	13.4	0	251.4	232.8	255.7	1.080	0.983
	E5	470	380	178	3.81	2.50	T	1.26	17.1	0	307.5	313.7	341.1	0.980	0.901
	F3C	470	380	178	3.81	2.50	T	0.42	40.6	0	351.4	297.8	281.6	1.180	1.248
	F3	470	380	178	3.81	2.50	T	0.42	44.9	0	329.9	261.8	288.6	1.260	1.143
	F3T	470	380	178	3.81	2.50	T	0.42	40.0	0	263.5	251.0	271.1	1.050	0.972
	G3C	470	380	178	3.81	2.50	T	0.42	31.8	0	411.2	345.5	299.9	1.190	1.371
	G3	470	380	178	3.81	2.50	T	0.42	26.2	0	332.7	286.8	276.8	1.160	1.202
	G3T	470	380	178	3.81	2.50	T	0.42	29.4	0	317.3	268.9	284.2	1.180	1.116
	G4C	470	380	178	3.81	2.50	T	0.63	25.2	0	378.9	367.9	359.2	1.030	1.055
	G4	470	380	178	3.81	2.50	T	0.63	26.8	0	388.8	338.0	340.2	1.150	1.143
	G4T	470	380	178	3.81	2.50	T	0.63	28.1	0	376.1	335.8	346.4	1.120	1.086
	G5C	470	380	178	3.81	2.50	T	1.05	27.9	0	463.0	449.6	450.8	1.030	1.027
	G5	470	380	178	3.81	2.50	T	1.05	26.1	0	428.0	396.3	431.4	1.080	0.992
	G5T	470	380	178	3.81	2.50	T	1.05	26.7	0	394.8	390.9	433.7	1.010	0.910
	H1C	470	380	178	3.81	2.50	T	0.42	30.5	0	324.7	275.2	255.6	1.180	1.270
	H1	470	380	178	3.81	2.50	T	0.42	29.2	0	283.6	240.4	247.5	1.180	1.146
	H1T	470	380	178	3.81	2.50	T	0.42	32.3	0	234.6	236.9	249.8	0.990	0.939
	H2C	470	380	178	5.72	2.50	T	0.42	30.1	0	324.7	303.5	259.0	1.070	1.254
	H2	470	380	178	5.72	2.50	T	0.42	28.2	0	318.7	257.0	247.8	1.240	1.286
	H2T	470	380	178	5.72	2.50	T	0.42	31.5	0	256.1	243.9	259.0	1.050	0.989
	J3C	470	380	178	3.81	2.50	T	0.42	30.9	0	298.1	266.2	256.7	1.120	1.161
	J3	470	380	178	3.81	2.50	T	0.42	30.4	0	263.1	224.8	247.6	1.170	1.062
	J3T	470	380	178	3.81	2.50	T	0.42	28.6	0	187.8	211.1	240.9	0.890	0.780
	J4T	470	380	178	3.81	2.50	T	0.79	27.3	0	321.0	248.8	327.0	1.290	0.982
	J5	470	380	178	3.81	2.50	T	1.26	32.6	0	433.6	333.5	436.3	1.300	0.994
	J5T	470	380	178	3.81	2.50	T	1.26	31.7	0	413.5	323.1	430.5	1.280	0.961
	Palaksas Darwin Reference 67	I-1 WE	457	371	191	1.02		T	0.00	31.7	0	67.2	64.5	69.7	1.042
I3-EW		457	371	191	1.00		T	0.00	30.8	0	73.3	77.0	72.0	0.952	1.019
J1-VWV		457	371	191	0.88		T	0.00	31.1	0	64.5	61.9	63.1	1.042	1.023
J1-WE		457	371	191	0.88		T	0.00	31.1	0	66.8	64.1	63.8	1.042	1.046
J1-EW		457	371	191	0.88		T	0.00	31.1	0	66.3	63.7	63.8	1.042	1.039
J1-EE		457	371	191	0.88		T	0.00	31.1	0	53.4	51.3	62.8	1.042	0.850
J2-EW		457	371	191	0.88		T	0.00	31.0	0	69.0	74.5	65.2	0.926	1.058
I-1 EW		457	371	191	1.02		T	0.00	31.7	0	65.1	61.2	80.3	1.064	0.811
I2-EW		457	371	191	1.00		T	0.08	30.5	0	103.4	122.0	91.0	0.847	1.136
I3-WE		457	371	191	1.00		T	0.08	30.8	0	92.2	95.9	98.5	0.962	0.937
J2-WE		457	371	191	0.88		T	0.08	31.0	0	96.1	93.2	99.7	1.031	0.964
J3-EW		457	371	191	0.88		T	0.08	30.6	0	109.5	135.7	119.1	0.806	0.919
J3-WE		457	371	191	0.88		T	0.15	30.6	0	138.8	151.3	147.1	0.917	0.944
Palaksas Darwin Reference 67	#2	457	371	191	0.69	4.14	T	0.00	32.8	0	72.3	67.7	59.0	1.068	1.225
	A00	457	371	191	0.66	3.92	T	0.00	32.7	0	64.8	71.4	61.3	0.908	1.057
	B00	457	371	191	0.49	3.88	T	0.00	32.0	0	71.3	71.4	55.9	0.999	1.275
	C00	457	371	191	0.94	3.96	T	0.00	29.4	0	59.1	67.3	66.2	0.878	0.893
	A25	457	371	191	0.66	3.97	T	0.05	32.5	0	85.8	86.9	80.4	0.987	1.067
	#1	457	371	191	0.70	4.18	T	0.36	38.0	0	139.2	126.0	180.0	1.105	0.773
	A75	457	371	191	0.66	3.92	T	0.31	32.8	0	142.2	121.3	146.2	1.172	0.973
	A50	457	371	191	0.66	3.96	T	0.24	26.3	0	115.4	101.4	111.1	1.138	1.039
	A50A	457	371	191	0.66	3.94	T	0.24	26.3	0	109.7	104.5	113.3	1.050	0.968
	A25A	457	371	191	0.67	4.00	T	0.05	32.5	0	92.4	86.7	80.9	1.066	1.142
	B25	457	371	191	0.49	3.93	T	0.10	30.8	0	78.6	86.0	82.8	0.914	0.949
	B50	457	371	191	0.50	3.96	T	0.25	30.3	0	107.0	107.1	112.6	0.999	0.950
	C25	457	371	191	0.95	3.98	T	0.10	28.3	0	83.0	82.1	87.0	1.011	0.954
	C50	457	371	191	0.94	3.94	T	0.25	29.7	0	134.2	107.1	122.4	1.253	1.096
C75	457	371	191	0.93	3.92	T	0.33	29.4	0	133.6	117.0	151.2	1.142	0.884	
Ozcebe Ersoy Tankut Reference 68	ACI56	360	311	150	3.46	5.00	R	0.14	58.0	0	93.6	78.6	87.9	1.191	1.065
	THS56	360	311	150	3.46	5.00	R	0.14	63.0	0	103.5	84.3	101.1	1.228	1.024
	TS56	360	311	150	3.46	5.00	R	0.24	61.0	0	129.2	91.8	120.5	1.407	1.072
	ACI59	360	311	150	4.43	5.00	R	0.14	82.0	0	96.5	90.9	96.5	1.062	1.000
	TH59	360	311	150	4.43	5.00	R	0.19	75.0	0	119.3	93.4	113.9	1.277	1.047
	TS59	360	311	150	4.43	5.00	R	0.28	82.0	0	125.4	107.4	147.8	1.168	0.848
	ACI36	360	311	150	2.59	3.00	R	0.14	75.0	0	105.3	87.8	97.5	1.199	1.080
	TH36	360	311	150	2.59	3.00	R	0.17	75.0	0	140.9	91.1	108.6	1.547	1.297
	TS36	360	311	150	2.59	3.00	R	0.24	75.0	0	155.9	99.5	134.6	1.567	1.158
	ACI39	360	311	150	3.08	3.00	R	0.14	73.0	0	111.8	88.2	96.5	1.268	1.159
	TH39	360	311	150	3.08	3.00	R	0.17	73.0	0	142.9	96.4	125.1	1.482	1.142
TS39	360	311	150	3.08	3.00	R	0.27	73.0	0	179.2	104.7	150.1	1.712	1.194	
Levi Marro Reference 69	RC 30 A1	1050	933	120	3.50	4.20	I	0.84	25.0	0	676.0	544.0	673.1	1.243	1.004
	RC 30 A2	1050	933	120	3.50	4.20	I	0.84	25.0	0	688.0	544.0	673.1	1.265	1.022
	RC 60 A1	1050	933	120	4.00	4.20	I	0.84	47.0	0	990.0	578.0	859.2	1.713	1.152
	RC 60 A2	1050	933	120	4.00	4.20	I	0.84	47.0	0	938.0	578.0	859.2	1.623	1.092
	RC 60 B1	1050	933	120	5.30	4.20	I	1.25	50.0	0	1181.0	807.0	1107.8	1.463	1.066
	RC 60 B2	1050	933	120	5.30	4.20	I	1.25	50.0	0	1239.0	807.0	1107.8	1.535	1.118
	RC 70 B1	1050	933	120	5.30	4.20	I	1.25	60.0	0	1330.0	820.0	1194.9	1.622	1.113
Roller & Russel Reference 70	N1	635	559	356	1.53	2.50	R	0.09	120.0	0	297.0	425.0	326.8	0.699	0.909
	N2	681	559	356	3.01	2.50	R	0.44	120.0	0	1098.0	777.0	947.4	1.413	1.159
	N3	719	559	356	4.56	2.50	R	0.89	120.0	0	1655.7	1212.0	1754.4	1.366	0.944
	N4	719	559	356	4.56	2.50	R	1.27	120.0	0	1940.0	1578.0	1947.5	1.229	0.996

Researcher	Beam Name	Depth (mm)	d (mm)	Width (mm)	Long. p (%)	a/d ratio	Shape	Trans. p (%)	f <sub>c</sub> ' (MPa)	Used in Fig 10-1	Test V (kN)	ACI V (kN)	R2k V (kN)	Exp/ Pred-ACI	Exp/ Pred-R2k
	N5	744	564	356	6.59	2.50	R	1.94	120.0	0	2233.9	1886.0	2410.2	1.184	0.927
	N6	871	763	457	1.52	3.00	R	0.09	72.4	0	665.6	628.3	616.1	1.059	1.080
	N7	871	763	457	1.65	3.00	R	0.16	72.4	0	788.2	750.0	847.2	1.051	0.930
	N8	871	763	457	1.65	3.00	R	0.09	125.0	0	483.0	779.6	606.9	0.620	0.796
	N9	871	763	457	2.06	3.00	R	0.16	125.0	0	749.8	907.4	928.6	0.826	0.807
	N10	871	763	457	2.53	3.00	R	0.21	125.0	0	1172.3	1034.1	1165.2	1.134	1.006
Benzoni Reference 49	INTER4 - push	610	457	406	2.00	4.10	INTER	0.20	37.0	0	376.0		367.6		1.023
	INTER4 - pull	610	457	406	2.00	4.10	INTER	0.20	37.0	0	677.0		635.3		1.066
Arbesman Conte Reference 71, 5	CF1	610	560	152	0.40	3.00	I	0.60	38.6	0	465.9		437.5		1.065
Arbesman Reference 72	SA1	610	584	305	0.85	3.00	R	0.21	48.0	0	374.0	346.0	425.2	1.081	0.880
	SA2	610	564	152	0.85	3.00	I	0.43	48.0	0	324.0	235.0	366.8	1.379	0.883
	SA3	610	549	152	3.30	3.00	I	1.17	40.0	0	730.0	478.0	730.5	1.527	0.999
Rangan Kong Reference 73	S1-1	350	293	250	2.80	2.50	R	0.16	63.6	0	228.3	163.0	233.5	1.401	0.978
	S1-2	350	293	250	2.80	2.50	R	0.16	63.6	0	208.3	163.0	233.5	1.278	0.892
	S1-3	350	293	250	2.80	2.50	R	0.16	63.6	0	206.1	163.0	233.5	1.264	0.883
	S1-4	350	293	250	2.80	2.50	R	0.16	63.6	0	277.9	163.0	233.5	1.705	1.190
	S1-5	350	293	250	2.80	2.50	R	0.16	63.6	0	253.3	163.0	233.5	1.554	1.085
	S1-6	350	293	250	2.80	2.50	R	0.16	63.6	0	224.1	163.0	233.5	1.375	0.960
	S2-1	350	293	250	2.80	2.50	R	0.11	72.5	0	260.3	145.0	186.1	1.795	1.399
	S2-2	350	293	250	2.80	2.50	R	0.13	72.5	0	232.5	154.0	213.7	1.510	1.088
	S2-3	350	293	250	2.80	2.50	R	0.16	72.5	0	253.3	167.5	245.0	1.512	1.034
	S2-4	350	293	250	2.80	2.50	R	0.16	72.5	0	219.4	167.5	245.0	1.310	0.896
	S2-5	350	293	250	2.80	2.50	R	0.21	72.5	0	282.1	188.0	290.4	1.500	0.971
	S2-6	350	293	250	2.80	2.50	R	0.26	72.5	0	359.0	210.0	313.8	1.709	1.144
	S3-1	350	297	250	1.40	2.50	R	0.10	67.4	0	209.2	149.3	172.2	1.401	1.215
	S3-2	350	297	250	1.40	2.50	R	0.10	67.4	0	178.0	149.3	172.2	1.192	1.034
	S3-3	350	293	250	2.80	2.50	R	0.10	67.4	0	228.6	147.3	192.7	1.552	1.186
	S3-4	350	293	250	2.80	2.50	R	0.10	67.4	0	174.9	147.3	192.7	1.187	0.908
	S4-4	350	293	250	2.80	2.50	R	0.16	87.3	0	258.1	167.5	242.5	1.541	1.064
	S4-6	250	198	250	2.80	2.53	R	0.16	87.3	0	202.9	113.2	162.6	1.792	1.248
	S5-1	350	293	250	2.80	3.01	R	0.16	89.4	0	241.7	167.5	241.9	1.443	0.999
	S5-2	350	293	250	2.80	2.74	R	0.16	89.4	0	259.9	167.5	259.0	1.551	1.003
	S5-3	350	293	250	2.80	2.50	R	0.16	89.4	0	243.8	167.5	247.8	1.455	0.984
	S7-1	350	293	250	4.50	3.30	R	0.11	74.8	0	217.2	145.6	204.0	1.492	1.065
	S7-2	350	293	250	4.50	3.30	R	0.13	74.8	0	205.4	154.4	231.1	1.331	0.889
	S7-3	350	293	250	4.50	3.30	R	0.16	74.8	0	246.5	167.5	263.4	1.471	0.936
S7-4	350	293	250	4.50	3.30	R	0.20	74.8	0	273.6	185.1	305.0	1.478	0.897	
S7-5	350	293	250	4.50	3.30	R	0.22	74.8	0	304.4	196.1	326.6	1.552	0.932	
S7-6	350	293	250	4.50	3.30	R	0.26	74.8	0	310.6	210.0	352.6	1.479	0.881	
S8-1	350	293	250	2.80	2.50	R	0.11	74.6	0	272.1	145.6	211.2	1.869	1.288	
S8-2	350	293	250	2.80	2.50	R	0.13	74.6	0	250.9	154.4	240.8	1.625	1.042	
S8-3	350	293	250	2.80	2.50	R	0.16	74.6	0	309.6	167.5	264.6	1.848	1.170	
S8-4	350	293	250	2.80	2.50	R	0.16	74.6	0	265.8	167.5	264.6	1.587	1.005	
S8-5	350	293	250	2.80	2.50	R	0.20	74.6	0	289.2	183.7	301.7	1.575	0.959	
S8-6	350	293	250	2.80	2.50	R	0.22	74.6	0	283.9	196.1	310.3	1.448	0.915	
Rangan Reference 74	I-1	615	570	74	3.20	2.48	I	2.70	36.5	0	453.1	208.9	454.9	2.169	0.996
	I-2	615	570	74	3.20	2.48	I	1.50	30.5	0	371.0	190.0	358.7	1.953	1.034
	I-3	615	570	63	3.20	2.48	I	3.20	31.2	0	369.1	164.4	345.0	2.245	1.070
	I-4	615	570	64	3.20	2.48	I	1.80	35.7	0	416.0	178.7	364.7	2.328	1.141
	II-1	615	570	64	2.23	2.48	I	1.90	45.0	0	460.9	266.7	436.0	1.728	1.057
	II-2	615	570	63	2.23	2.48	I	3.20	31.5	0	378.8	225.2	367.2	1.682	1.032
	II-3	615	570	73	2.23	2.48	I	1.70	44.6	0	489.2	298.8	458.5	1.637	1.067
	II-4	615	570	74	2.23	2.48	I	2.70	43.0	0	479.4	297.7	533.1	1.610	0.899
	III-1	615	570	66	1.80	2.50	I	1.84	40.0	0	368.0	296.2	414.1	1.242	0.889
	III-2	615	570	66	1.80	2.50	I	3.00	37.0	0	390.5	274.0	404.2	1.425	0.966
	III-3	615	570	77	1.80	2.50	I	1.60	39.0	0	396.5	336.9	440.9	1.177	0.899
	III-4	615	570	73	1.80	2.50	I	2.80	37.0	0	453.0	303.1	450.6	1.495	1.005
	IV-1	615	570	62	0.89	2.50	I	3.20	37.1	0	375.0	246.1	407.0	1.524	0.921
	IV-2	615	570	64	0.89	2.50	I	1.90	33.0	0	337.8	226.0	365.5	1.495	0.924
	IV-3	615	570	72	0.89	2.50	I	2.80	36.0	0	464.8	277.3	373.5	1.676	1.244
	IV-4	615	570	72	0.89	2.50	I	1.70	28.7	0	390.6	221.1	359.8	1.767	1.086
MacGregor Reference 48	AD.14.37A	305	258	152	6.00	3.55	R	0.00	18.6	0	29.4		40.5		0.725
	AD.14.37B	305	258	152	6.00	3.55	R	0.00	18.6	0	42.3		40.5		1.044
	AW.14.39	305	215	152	6.00	4.22	R	0.26	37.7	0	62.3		71.8		0.868
	AW.14.76	305	215	152	6.00	4.25	R	0.26	19.1	0	49.4		54.6		0.905
	AW.24.48	305	215	152	6.00	4.25	R	0.26	33.8	0	64.1		61.6		1.041
	AW.24.68	305	217	151	5.95	4.22	R	0.26	17.3	0	53.8		53.5		1.006
	B.14.34	305	262	79	3.10	3.50	I	0.00	21.3	0	39.6		36.9		1.072
	B.14.41	305	254	76	3.00	3.60	I	0.00	20.7	0	42.3		42.7		0.990
	BD.14.18	305	257	72	2.83	3.56	I	0.00	44.1	0	49.0		46.3		1.058
	BE.14.19	305	259	74	2.90	3.53	I	0.00	46.3	0	49.4		46.7		1.057
	BD.14.23	305	257	76	3.00	3.56	I	0.00	29.0	0	24.9		28.0		0.889
	BD.14.26	305	264	76	3.00	3.46	I	0.00	21.8	0	28.5		31.6		0.901
	BD.14.27	305	257	76	3.00	3.56	I	0.00	26.6	0	42.3		36.5		1.159
BD.14.28	305	257	76	3.00	3.56	I	0.00	29.2	0	44.1		39.2		1.125	

Researcher	Beam Name	Depth (mm)	d (mm)	Width (mm)	Long. p (%)	a/d ratio	Shape	Trans. p (%)	f <sub>c</sub> ' (MPa)	Used in Fig 10-1	Test V (kN)	ACI V (kN)	R2k V (kN)	Exp/ Pred-ACI	Exp/ Pred-R2k
	BD.14.34	305	260	76	3.00	3.52	I	0.00	18.8	0	38.7		30.7		1.261
	BD.14.35	305	257	75	2.95	3.56	I	0.00	18.0	0	28.9		31.2		0.929
	BD.14.42	305	257	74	2.90	3.56	I	0.00	20.6	0	44.1		38.7		1.138
	BD.24.32	305	257	76	3.00	3.56	I	0.00	21.3	0	39.2		32.5		1.205
	BV.14.30	305	257	75	2.95	3.56	I	0.28	29.0	0	54.3		44.1		1.232
	BV.14.32A	305	257	72	2.85	3.55	I	0.32	29.0	0	59.2		45.4		1.304
	BV.14.32B	305	257	72	2.85	3.55	I	0.32	29.0	0	65.0		45.4		1.431
	BV.14.34	305	258	76	3.00	3.55	I	0.30	26.2	0	56.5		47.2		1.198
	BV.14.35	305	259	74	2.92	3.53	I	0.40	23.0	0	54.3		48.1		1.130
	BV.14.42	305	258	73	2.88	3.55	I	0.35	21.3	0	56.1		43.6		1.286
	BW.14.20	305	266	75	2.95	3.44	I	0.10	19.6	0	35.6		28.9		1.231
	BW.14.22	305	257	76	3.00	3.56	I	0.28	38.1	0	61.0		50.7		1.202
	BW.14.23	305	253	77	3.02	3.61	I	0.15	37.0	0	62.3		50.7		1.228
	BW.14.26	305	257	73	2.86	3.56	I	0.22	28.8	0	49.4		43.2		1.144
	BW.14.31	305	257	76	3.00	3.56	I	0.29	22.0	0	56.5		47.6		1.187
	BW.14.32	305	259	73	2.86	3.53	I	0.14	19.6	0	45.4		36.5		1.244
	BW.14.38	305	257	75	2.95	3.56	I	0.19	19.9	0	57.4		43.6		1.316
	BW.14.39	305	257	74	2.90	3.56	I	0.40	21.5	0	57.9		51.2		1.130
	BW.14.41	305	258	75	2.95	3.55	I	0.28	21.0	0	52.5		46.3		1.135
	BW.14.42	305	258	75	2.96	3.55	I	0.28	19.8	0	53.0		46.3		1.144
	BW.14.43	305	257	75	2.95	3.56	I	0.40	20.1	0	54.3		52.5		1.034
	BW.14.45	305	257	76	3.00	3.55	I	0.26	21.4	0	53.4		46.3		1.154
	BW.14.58	305	253	74	2.91	3.61	I	0.20	23.4	0	67.2		52.5		1.280
	BW.14.60	305	253	73	2.89	3.61	I	0.20	18.8	0	63.6		50.7		1.254
	BW.15.34	305	258	76	3.00	4.73	I	0.19	25.0	0	42.3		37.8		1.118
	BW.15.37	305	257	76	3.00	4.74	I	0.28	22.8	0	42.3		40.9		1.033
	BW.16.38	305	255	76	3.00	5.37	I	0.19	26.2	0	36.9		35.6		1.038
	BW.18.15	305	258	76	3.00	6.90	I	0.14	50.1	0	34.3		33.9		1.009
	BW.18.27	305	258	76	3.00	6.90	I	0.39	32.1	0	32.9		33.3		0.988
	BW.19.28	305	258	80	3.15	7.68	I	0.37	30.5	0	29.4		29.7		0.988
	BW.28.26	305	259	77	3.05	6.86	I	0.32	22.1	0	26.3		23.7		1.107
	BW.28.28	305	259	75	2.95	6.88	I	0.35	23.2	0	25.8		23.3		1.106
	C.13.23N	305	264	45	1.79	2.60	I	0.00	23.9	0	23.1		29.4		0.788
	C.13.23S	305	264	45	1.79	2.60	I	0.00	23.9	0	30.3		29.4		1.030
	CD.13.24N	305	268	45	1.77	2.56	I	0.00	26.6	0	32.9		29.8		1.104
	CD.13.24S	305	268	45	1.77	2.56	I	0.00	26.6	0	32.0		29.8		1.075
	CD.13.25	305	266	46	1.82	2.58	I	0.00	20.8	0	36.0		29.4		1.227
	CD.14.34	305	260	44	1.75	3.52	I	0.00	18.3	0	24.0		26.3		0.915
	CW.13.28	305	255	44	1.75	2.79	I	0.95	26.6	0	77.0		62.3		1.236
	CW.13.38	305	255	46	1.80	2.79	I	1.09	22.7	0	72.5		63.6		1.140
	CW.14.14	305	255	44	1.72	3.58	I	0.35	46.4	0	62.7		55.2		1.137
	CW.14.15	305	267	43	1.70	3.43	I	0.98	19.0	0	34.7		37.1		0.936
	CW.14.16	305	266	44	1.75	3.44	I	0.26	21.9	0	34.3		27.1		1.262
	CW.14.17	305	266	45	1.76	3.43	I	0.16	19.8	0	33.8		24.5		1.382
	CW.14.18	305	267	43	1.70	3.43	I	1.35	20.3	0	35.6		36.9		0.964
	CW.14.19	305	266	45	1.78	3.44	I	0.32	19.8	0	35.6		32.0		1.111
	CW.14.20	305	266	43	1.70	3.43	I	0.34	20.3	0	35.6		31.2		1.143
	CW.14.21	305	267	43	1.70	3.42	I	0.24	17.8	0	33.8		25.8		1.310
	CW.14.22	305	258	43	1.71	3.55	I	0.67	32.1	0	60.1		49.8		1.205
	CW.14.23	305	266	44	1.75	3.44	I	0.24	19.3	0	33.8		25.8		1.310
	CW.14.24	305	266	44	1.75	3.44	I	0.37	20.0	0	34.3		31.2		1.100
	CW.14.25	305	258	46	1.80	3.55	I	0.92	37.4	0	61.4		62.3		0.986
	CW.14.26	305	267	43	1.70	3.43	I	0.49	16.7	0	34.7		32.5		1.068
	CW.14.35	305	256	44	1.75	3.58	I	0.80	22.5	0	55.2		53.0		1.042
	CW.14.36	305	257	47	1.86	3.56	I	0.84	22.6	0	57.9		54.7		1.057
	CW.14.37	305	257	43	1.70	3.56	I	0.49	30.8	0	55.6		42.7		1.302
	CW.14.39	305	257	44	1.75	3.56	I	0.33	23.2	0	47.2		38.7		1.218
	CW.14.40	305	258	44	1.75	3.55	I	1.19	21.0	0	56.5		57.7		0.979
	CW.14.42	305	257	43	1.70	3.56	I	0.68	21.9	0	56.1		49.0		1.145
	CW.14.45	305	257	42	1.65	3.55	I	1.01	21.8	0	50.3		51.2		0.983
	CW.14.47	305	258	43	1.70	3.55	I	0.67	18.2	0	51.6		43.2		1.196
	CW.14.50	305	258	44	1.75	3.55	I	0.89	16.9	0	52.1		47.2		1.104
	CW.14.51	305	252	46	1.80	3.63	I	0.45	24.2	0	56.5		42.7		1.323
	CW.14.54	305	253	45	1.78	3.61	I	0.46	24.1	0	58.7		44.9		1.307
	CW.18.15	305	257	44	1.73	6.93	I	0.35	46.3	0	46.7		33.5		1.395
	CW.28.26	305	256	45	1.78	6.94	I	0.68	26.9	0	23.6		23.5		1.004
	CW.28.28	305	259	47	1.84	6.88	I	0.68	21.9	0	23.6		23.3		1.010
	FW.14.06	305	312	44	1.75	2.93	I	1.04	22.9	0	81.0		71.6		1.130
	FW.14.07	305	312	47	1.85	2.93	I	1.06	27.8	0	87.9		85.0		1.034
Shahawy Batchelor Ref 75, 76	A0-00-R N	1118	995	152	1.00	2.17	I	0.96	58.5	0	1392.9	1023.5	1045.8	1.361	1.332
	A0-00-R S	1118	995	152	1.00	2.17	I	0.96	58.5	0	1228.2	1023.5	1045.8	1.200	1.174
	A1-00-R/2 N	1118	996	152	1.00	2.60	I	0.42	49.0	0	738.7	636.4	774.3	1.161	0.954
	A1-00-R/2 S	1118	997	152	1.00	3.16	I	0.38	49.0	0	769.9	574.1	787.7	1.341	0.977
	A1-00-R N	1118	996	152	1.00	2.60	I	0.83	49.1	0	934.5	898.9	961.2	1.040	0.972
	A1-00-R S	1118	997	152	1.00	3.16	I	0.75	49.1	0	925.6	729.8	905.6	1.268	1.022
	A1-00-3R/2 N	1118	996	152	1.00	2.60	I	1.25	52.4	0	921.2	890.0	1059.1	1.035	0.870
	A1-00-3R/2 S	1118	997	152	1.00	3.16	I	1.13	52.4	0	1023.5	867.8	913.8	1.179	1.120
	A2-00-2R N	1118	996	152	1.00	2.60	I	1.66	48.5	0	1143.7	1174.8	1101.0	0.973	1.039
	A2-00-3R N	1118	996	152	1.00	2.60	I	2.50	50.3	0	1143.7	1210.4	1101.0	0.945	1.039
	A2-00-3R S	1118	995	152	1.00	2.17	I	2.86	50.3	0	1388.4	1201.5	1272.7	1.156	1.091
	A4-00-0R(1) N	1118	998	152	1.00	2.29	I	0.00	52.4	0	417.9	449.5	364.9	0.930	1.145
	A4-00-0R(1) S	1118	998	152	1.00	2.29	I	0.00	52.4	0	434.3	449.5	364.9	0.966	1.190
	B0-00-R N	1118	1004	152	1.10	2.58	I	0.83	51.4	0	979.0	863.3	912.3	1.134	1.073
	B0-00-R S	1118	1003	152	1.10	3.14	I	0.38	51.4	0	916.7	716.5	922.4	1.280	0.994
	B0-00-2R N	1118	1004	152	1.10	2.58	I	1.66	49.9	0	992.4	1179.3	1094.2	0.842	0.907



Researcher	Beam Name	Depth (mm)	d (mm)	Width (mm)	Long. p (%)	a/d ratio	Shape	Trans. p (%)	f <sub>c</sub> ' (MPa)	Used in Fig 10-1	Test V (kN)	ACI V (kN)	R2k V (kN)	Exp/ Pred-ACI	Exp/ Pred-R2k
	B0-00-2R S	1118	1003	152	1.10	3.14	I	1.25	49.9	0	961.2	987.9	900.0	0.973	1.068
	B0-00-3R N	1118	1004	152	1.10	2.58	I	2.50	53.0	0	1028.0	1241.6	1121.4	0.828	0.917
	B0-00-3R S	1118	1003	152	1.10	3.14	I	2.25	53.0	0	1050.2	1210.4	922.4	0.868	1.138
	C0-00-R N	1118	1010	152	1.00	3.57	I	0.31	51.6	0	783.2	654.2	766.8	1.197	1.021
	C0-00-R S	1118	1010	152	1.00	3.32	I	0.63	51.6	0	801.0	712.0	824.9	1.125	0.971
	C1-00-R N	1118	1010	152	1.00	3.57	I	0.31	51.2	0	787.7	654.2	766.8	1.204	1.027
	C1-00-R S	1118	1010	152	1.00	3.32	I	0.63	51.2	0	872.2	712.0	824.9	1.225	1.057
	C1-00-3R/2 N	1118	1010	152	1.00	3.32	I	0.47	49.8	0	854.4	876.7	824.9	0.975	1.036
	C1-00-3R/2 S	1118	1010	152	1.00	3.17	I	0.73	49.8	0	898.9	881.1	864.1	1.020	1.040
	<b>Count</b>	534	534	534	534	521		534	534	534	534	448	534	<b>448</b>	<b>534</b>
	<b>Average</b>	516	452	198	2.15	3.44		0.32	42	0	243	258	236	<b>1.20</b>	<b>1.05</b>
	<b>Minimum</b>	125	110	42	0.40	1.97		0.00	6	0	11	8	11	<b>0.42</b>	<b>0.71</b>
	<b>Maximum</b>	3140	3000	1500	6.59	7.80		3.20	125	1	2234	3667	2410	<b>5.33</b>	<b>1.43</b>
												<b>Coefficient of Variation</b>		<b>32.1</b>	<b>12.0</b>