

## ZAP SCREWLOK® SL SYSTEM TEST DATA CONVERSION - 15M AND 20M (GRADE 400)

Lab Report & Reference No.		Bar Type	ASTM Bar Size Designation	ASTM Bar Area (in <sup>2</sup> )	Max Load (lb)	Max Stress (psi)	Developed Stress % <i>f<sub>y</sub></i> ASTM Gr 60 (metric Gr 420)	Equivalent CSA Designation	CSA Bar Area (mm <sup>2</sup> )	Max Load (kN)	Equivalent Max Stress CSA Gr 400 (N/mm <sup>2</sup> )	Equivalent Developed Stress % <i>f<sub>y</sub></i> CSA Gr 400
5T8334	5A	BLACK	No. 5	0.31	32,230	103,968	173%	15M	200	143.4	717	179%
	5B		No. 5	0.31	30,080	97,032	162%	15M	200	133.8	669	167%
5T8418	5A	BLACK	No. 5	0.31	29,510	95,194	159%	15M	200	131.3	656	164%
	5B		No. 5	0.31	28,750	92,742	155%	15M	200	127.9	639	160%
5T8698	5A	BLACK	No. 5	0.31	28,880	93,161	155%	15M	200	128.5	642	161%
	5B		No. 5	0.31	30,330	97,839	163%	15M	200	134.9	675	169%
5T7917 *A706	5A	EPOXY	No. 5	0.31	28,050	90,484	151%	15M	200	124.8	624	156%
	5B		No. 5	0.31	25,860	83,419	139%	15M	200	115.0	575	144%
5T8493	5A	EPOXY	No. 5	0.31	28,830	93,000	155%	15M	200	128.2	641	160%
	5B		No. 5	0.31	28,630	92,355	154%	15M	200	127.3	637	159%
6T5694	6A	BLACK	No. 6	0.44	41,780	94,955	158%	20M	300	185.8	619	155%
	6B		No. 6	0.44	42,520	96,636	161%	20M	300	189.1	630	158%
6T5844	6A	BLACK	No. 6	0.44	44,000	100,000	167%	20M	300	195.7	652	163%
	6B		No. 6	0.44	45,720	103,909	173%	20M	300	203.4	678	169%
6T5853	6A	BLACK	No. 6	0.44	40,600	92,273	154%	20M	300	180.6	602	150%
	6B		No. 6	0.44	44,610	101,386	169%	20M	300	198.4	661	165%
6T5448 *A706	6A	EPOXY	No. 6	0.44	37,390	84,977	142%	20M	300	166.3	554	139%
	6B		No. 6	0.44	36,800	83,636	139%	20M	300	163.7	546	136%
6T5919	6A	EPOXY	No. 6	0.44	40,220	91,409	152%	20M	300	178.9	596	149%
	6B		No. 6	0.44	41,580	94,500	158%	20M	300	184.9	616	154%

### NOTES

All splices meet Type 1 requirement of ACI 318 Section 25 (125% *f<sub>y</sub>*) Grade 60 bar, and CSA A23.3 Clause 12.14.3.4 requirement (120% *f<sub>y</sub>*) Grade 400 bar. Results shown are from routine testing of various heat lots of completed coupler assemblies, per Barsplice Products, Inc. ISO 9001 Quality System.

Conducted on reinforcing bars per ASTM A615 (or \*A706) Grade 60, with a specified yield, *f<sub>y</sub>* = 60,000 psi (420 N/mm<sup>2</sup>).

Tests performed in accordance with ASTM A1034, Section 10.3, Monotonic Tension Tests, using load rates per ASTM A370

See Lab reports for stress versus displacement curves (stress versus cross-head position).

ASTM = American Society for Testing and Materials, CSA = Canadian Standards Association

## ZAP SCREWLOK® SL SYSTEM TEST DATA CONVERSION - 25M AND 30M (GRADE 400)

Lab Report & Reference No.		Bar Type	ASTM Bar Size Designation	ASTM Bar Area (in <sup>2</sup> )	Max Load (lb)	Max Stress (psi)	Developed Stress % <i>f<sub>y</sub></i> ASTM Gr 60 (metric Gr 420)	Equivalent CSA Designation	CSA Bar Area (mm <sup>2</sup> )	Max Load (kN)	Equivalent Max Stress CSA Gr 400 (N/mm <sup>2</sup> )	Equivalent Developed Stress % <i>f<sub>y</sub></i> CSA Gr 400
8T3536	8A	BLACK	<b>No. 8</b>	0.79	76,694	97,081	<b>162%</b>	<b>25M</b>	500	341.1	682	<b>171%</b>
	8B		<b>No. 8</b>	0.79	76,288	96,567	<b>161%</b>	<b>25M</b>	500	339.3	679	<b>170%</b>
8T3573	8A	BLACK	<b>No. 8</b>	0.79	80,871	102,368	<b>171%</b>	<b>25M</b>	500	359.7	719	<b>180%</b>
	8B		<b>No. 8</b>	0.79	79,115	100,145	<b>167%</b>	<b>25M</b>	500	351.9	704	<b>176%</b>
8T3732	8A	BLACK	<b>No. 8</b>	0.79	81,492	103,155	<b>172%</b>	<b>25M</b>	500	362.5	725	<b>181%</b>
	8B		<b>No. 8</b>	0.79	79,338	100,428	<b>167%</b>	<b>25M</b>	500	352.9	706	<b>176%</b>
8T3504 <i>*A706</i>	8A	EPOXY	<b>No. 8</b>	0.79	71,904	91,018	<b>152%</b>	<b>25M</b>	500	319.8	640	<b>160%</b>
	8B		<b>No. 8</b>	0.79	65,326	82,691	<b>138%</b>	<b>25M</b>	500	290.6	581	<b>145%</b>
8T3633	8A	EPOXY	<b>No. 8</b>	0.79	80,891	102,394	<b>171%</b>	<b>25M</b>	500	359.8	720	<b>180%</b>
	8B		<b>No. 8</b>	0.79	79,464	100,587	<b>168%</b>	<b>25M</b>	500	353.5	707	<b>177%</b>
9T2321	9A	BLACK	<b>No. 9</b>	1.00	104,947	104,947	<b>175%</b>	<b>30M</b>	700	466.8	667	<b>167%</b>
	9B		<b>No. 9</b>	1.00	100,486	100,486	<b>167%</b>	<b>30M</b>	700	447.0	639	<b>160%</b>
9T2340	9A	BLACK	<b>No. 9</b>	1.00	102,210	102,210	<b>170%</b>	<b>30M</b>	700	454.6	649	<b>162%</b>
	9B		<b>No. 9</b>	1.00	106,722	106,722	<b>178%</b>	<b>30M</b>	700	474.7	678	<b>170%</b>
9T2374	9A	BLACK	<b>No. 9</b>	1.00	105,676	105,676	<b>176%</b>	<b>30M</b>	700	470.0	671	<b>168%</b>
	9B		<b>No. 9</b>	1.00	101,078	101,078	<b>168%</b>	<b>30M</b>	700	449.6	642	<b>161%</b>
9T2172	9A	EPOXY	<b>No. 9</b>	1.00	91,820	91,820	<b>153%</b>	<b>30M</b>	700	408.4	583	<b>146%</b>
	9B		<b>No. 9</b>	1.00	97,540	97,540	<b>163%</b>	<b>30M</b>	700	433.9	620	<b>155%</b>
9T2194 <i>*A706</i>	9A	EPOXY	<b>No. 9</b>	1.00	87,994	87,994	<b>147%</b>	<b>30M</b>	700	391.4	559	<b>140%</b>
	9B		<b>No. 9</b>	1.00	92,077	92,077	<b>153%</b>	<b>30M</b>	700	409.6	585	<b>146%</b>

### NOTES

All splices meet Type 1 requirement of ACI 318 Section 25 (125% *f<sub>y</sub>*) Grade 60 bar, and CSA A23.3 Clause 12.14.3.4 requirement (120% *f<sub>y</sub>*) Grade 400 bar. Results shown are from routine testing of various heat lots of completed coupler assemblies, per Barsplice Products, Inc. ISO 9001 Quality System. Conducted on reinforcing bars per ASTM A615 (or *\*A706*) Grade 60, with a specified yield, *f<sub>y</sub>* = 60,000 psi (420 N/mm<sup>2</sup>). Tests performed in accordance with ASTM A1034, Section 10.3, Monotonic Tension Tests, using load rates per ASTM A370. See Lab reports for stress versus displacement curves (stress versus cross-head position). ASTM = American Society for Testing and Materials, CSA = Canadian Standards Association

## ZAP SCREWLOK® SL SYSTEM TEST DATA CONVERSION - 35M AND 45M (GRADE 400)

Lab Report & Reference No.		Bar Type	ASTM Bar Size Designation	ASTM Bar Area (in <sup>2</sup> )	Max Load (lb)	Max Stress (psi)	Developed Stress % <i>f<sub>y</sub></i> ASTM Gr 60 (metric Gr 420)	Equivalent CSA Designation	CSA Bar Area (mm <sup>2</sup> )	Max Load (kN)	Equivalent Max Stress CSA Gr 400 (N/mm <sup>2</sup> )	Equivalent Developed Stress % <i>f<sub>y</sub></i> CSA Gr 400
11T3917	11A	BLACK	No. 11	1.56	150,721	96,616	161%	35M	1000	670.4	670	168%
	11B		No. 11	1.56	156,602	100,386	167%	35M	1000	696.6	697	174%
11T4181	11A	BLACK	No. 11	1.56	162,920	104,436	174%	35M	1000	724.7	725	181%
	11B		No. 11	1.56	170,478	109,281	182%	35M	1000	758.3	758	190%
11T4216	11A	BLACK	No. 11	1.56	158,571	101,648	169%	35M	1000	705.3	705	176%
	11B		No. 11	1.56	172,520	110,590	184%	35M	1000	767.4	767	192%
11T3895	11A	EPOXY	No. 11	1.56	151,220	96,936	162%	35M	1000	672.6	673	168%
	11B		No. 11	1.56	160,920	103,154	172%	35M	1000	715.8	716	179%
11T3927 *A706	11A	EPOXY	No. 11	1.56	134,391	86,148	144%	35M	1000	597.8	598	149%
	11B		No. 11	1.56	136,151	87,276	145%	35M	1000	605.6	606	151%
14T1348	14A	BLACK	No. 14	2.25	215,395	95,731	160%	45M	1500	958.1	639	160%
	14B		No. 14	2.25	210,526	93,567	156%	45M	1500	936.4	624	156%
14T1394	14A	BLACK	No. 14	2.25	210,935	93,749	156%	45M	1500	938.2	625	156%
	14B		No. 14	2.25	221,699	98,533	164%	45M	1500	986.1	657	164%
14T1419	14A	BLACK	No. 14	2.25	207,943	92,419	154%	45M	1500	924.9	617	154%
	14B		No. 14	2.25	219,542	97,574	163%	45M	1500	976.5	651	163%
14T1334	14A	EPOXY	No. 14	2.25	198,416	88,185	147%	45M	1500	882.6	588	147%
	14B		No. 14	2.25	196,742	87,441	146%	45M	1500	875.1	583	146%
14T1417	14A	EPOXY	No. 14	2.25	209,342	93,041	155%	45M	1500	931.2	621	155%
	14B		No. 14	2.25	218,986	97,327	162%	45M	1500	974.0	649	162%

### NOTES

All splices meet Type 1 requirement of ACI 318 Section 25 (125% *f<sub>y</sub>*) Grade 60 bar, and CSA A23.3 Clause 12.14.3.4 requirement (120% *f<sub>y</sub>*) Grade 400 bar. Results shown are from routine testing of various heat lots of completed coupler assemblies, per Barsplice Products, Inc. ISO 9001 Quality System.

Conducted on reinforcing bars per ASTM A615 (or \*A706) Grade 60, with a specified yield, *f<sub>y</sub>* = 60,000 psi (420 N/mm<sup>2</sup>).

Tests performed in accordance with ASTM A1034, Section 10.3, Monotonic Tension Tests, using load rates per ASTM A370

See Lab reports for stress versus displacement curves (stress versus cross-head position).

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## ZAP SCREWLOK® SL SYSTEM TEST DATA CONVERSION - 55M (GRADE 400)

Lab Report & Reference No.		Bar Type	ASTM Bar Size Designation	ASTM Bar Area (in <sup>2</sup> )	Max Load (lb)	Max Stress (psi)	Developed Stress % <i>f<sub>y</sub></i> ASTM Gr 60 (metric Gr 420)	Equivalent CSA Designation	CSA Bar Area (mm <sup>2</sup> )	Max Load (kN)	Equivalent Max Stress CSA Gr 400 (N/mm <sup>2</sup> )	Equivalent Developed Stress % <i>f<sub>y</sub></i> CSA Gr 400
18T806	18A	BLACK	<b>No. 18</b>	4.00	364,596	91,149	<b>152%</b>	<b>55M</b>	2500	1621.7	649	<b>162%</b>
	18B		<b>No. 18</b>	4.00	356,480	89,120	<b>149%</b>	<b>55M</b>	2500	1585.6	634	<b>159%</b>
18T861	18A	BLACK	<b>No. 18</b>	4.00	376,092	94,023	<b>157%</b>	<b>55M</b>	2500	1672.9	669	<b>167%</b>
	18B		<b>No. 18</b>	4.00	357,196	89,299	<b>149%</b>	<b>55M</b>	2500	1588.8	636	<b>159%</b>
18T918	18A	BLACK	<b>No. 18</b>	4.00	347,540	86,885	<b>145%</b>	<b>55M</b>	2500	1545.9	618	<b>155%</b>
	18B		<b>No. 18</b>	4.00	367,900	91,975	<b>153%</b>	<b>55M</b>	2500	1636.4	655	<b>164%</b>
18T863	18A	EPOXY	<b>No. 18</b>	4.00	354,008	88,502	<b>148%</b>	<b>55M</b>	2500	1574.6	630	<b>157%</b>
	18B		<b>No. 18</b>	4.00	346,968	86,742	<b>145%</b>	<b>55M</b>	2500	1543.3	617	<b>154%</b>

### NOTES

All splices meet Type 1 requirement of ACI 318 Section 25 (125% *f<sub>y</sub>*) Grade 60 bar, and CSA A23.3 Clause 12.14.3.4 requirement (120% *f<sub>y</sub>*) Grade 400 bar. Results shown are from routine testing of various heat lots of completed coupler assemblies, per Barsplice Products, Inc. ISO 9001 Quality System. Conducted on reinforcing bars per ASTM A615 (or \*A706) Grade 60, with a specified yield, *f<sub>y</sub>* = 60,000 psi (420 N/mm<sup>2</sup>). Tests performed in accordance with ASTM A1034, Section 10.3, Monotonic Tension Tests, using load rates per ASTM A370. See Lab reports for stress versus displacement curves (stress versus cross-head position). ASTM = American Society for Testing and Materials, CSA = Canadian Standards Association