

**ZAP SCREWLOK TYPE 2 TEST DATA CONVERSION - 15M AND 20M**

Lab Report Date	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 %fy 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 %fy CSA Gr 400	
24-Oct-01	5T522	5A	Black	No. 5	0.31	32,461	104,712	175%	15M	200	144.4	722	180%
		5B		No. 5	0.31	32,346	104,342	174%	15M	200	143.9	719	180%
25-Oct-01	5T523	5A	Black	No. 5	0.31	33,413	107,784	180%	15M	200	148.6	743	186%
		5B		No. 5	0.31	32,084	103,498	172%	15M	200	142.7	714	178%
17-Dec-01	5T528	5A	Epoxy	No. 5	0.31	33,769	108,932	182%	15M	200	150.2	751	188%
		5B		No. 5	0.31	34,015	109,725	183%	15M	200	151.3	756	189%
3-Jan-02	5T530	5A	Epoxy	No. 5	0.31	34,970	112,805	188%	15M	200	155.5	778	194%
3-Jan-02	5T531	5A	Epoxy	No. 5	0.31	34,773	112,171	187%	15M	200	154.7	773	193%
		5B		No. 5	0.31	33,842	109,168	182%	15M	200	150.5	753	188%
6-Feb-02	5T536	5A	Black	No. 5	0.31	32,722	105,556	176%	15M	200	145.5	728	182%
		5B		No. 5	0.31	32,460	104,709	175%	15M	200	144.4	722	180%
12-Mar-02	5T546	5A	Black	No. 5	0.31	31,901	102,907	172%	15M	200	141.9	709	177%
		5B		No. 5	0.31	31,534	101,721	170%	15M	200	140.3	701	175%
2-Jul-01	6T467	6A	Epoxy	No. 6	0.44	48,021	109,138	182%	20M	300	213.6	712	178%
		6B		No. 6	0.44	46,754	106,259	177%	20M	300	208.0	693	173%
8-Aug-01	6T481	6A	Black	No. 6	0.44	49,753	113,074	188%	20M	300	221.3	738	184%
9-Aug-01	6T482	6A	Epoxy	No. 6	0.44	45,436	103,263	172%	20M	300	202.1	674	168%
		6B		No. 6	0.44	46,950	106,704	178%	20M	300	208.8	696	174%
12-Oct-01	6T497	6A	Black	No. 6	0.44	49,940	113,501	189%	20M	300	222.1	740	185%
24-Oct-01	6T499	6A	Black	No. 6	0.44	49,702	112,960	188%	20M	300	221.1	737	184%
8-Jan-02	6T507	6A	Epoxy	No. 6	0.44	43,669	99,247	165%	20M	300	194.2	647	162%
6-Feb-02	6T514	6A	Black	No. 6	0.44	50,579	114,952	192%	20M	300	225.0	750	187%
		6B		No. 6	0.44	50,905	115,694	193%	20M	300	226.4	755	189%
22-Feb-02	6T519	6A	Black	No. 6	0.44	49,600	112,727	188%	20M	300	220.6	735	184%
12-Mar-02	6T524	6A	Black	No. 6	0.44	48,838	110,995	185%	20M	300	217.2	724	181%
		6B		No. 6	0.44	47,788	108,609	181%	20M	300	212.6	709	177%

**NOTES**  
 Test results are from routine testing of each heat lot of arriving coupler material, per Barsplice Products, Inc. ISO Quality System. Reinforcing Bars, per ASTM A 615 Grade 60, have a specified yield, fy = 60,000 psi (420 N/mm<sup>2</sup>). See Lab reports for stress versus displacement curves (stress versus cross-head position). Load rates per ASTM A 370.  
 ASTM = American Society for Testing and Materials  
 CSA = Canadian Standards Association



**ZAP SCREWLOK TYPE 2 TEST DATA CONVERSION - 25M AND 30M**

Lab Report Date	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 %fy 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 %fy CSA Gr 400	
18-Sep-01	8T344	8A	Black	No. 8	0.79	86,770	109,836	183%	25M	500	386.0	772	193%
		8B		No. 8	0.79	82,920	104,962	175%	25M	500	368.8	738	184%
		8C		No. 8	0.79	80,774	102,246	170%	25M	500	359.3	719	180%
		8D		No. 8	0.79	88,232	111,686	186%	25M	500	392.5	785	196%
26-Nov-01	8T351	8A	Black	No. 8	0.79	86,435	109,411	182%	25M	500	384.5	769	192%
		8B		No. 8	0.79	83,902	106,205	177%	25M	500	373.2	746	187%
29-Nov-01	8T355	8A	Black	No. 8	0.79	91,025	115,222	192%	25M	500	404.9	810	202%
		8B		No. 8	0.79	80,873	102,371	171%	25M	500	359.7	719	180%
4-Mar-02	8T368	8A	Black	No. 8	0.79	86,262	109,192	182%	25M	500	383.7	767	192%
		8B		No. 8	0.79	85,371	108,064	180%	25M	500	379.7	759	190%
8-Mar-02	8T369	8A	Black	No. 8	0.79	86,432	109,408	182%	25M	500	384.5	769	192%
8-Apr-02	8T372	8A	Black	No. 8	0.79	83,238	105,365	176%	25M	500	370.2	740	185%
		8B		No. 8	0.79	84,010	106,342	177%	25M	500	373.7	747	187%
8-Aug-01	9T268	9A	Black	No. 9	1.00	106,367	106,367	177%	30M	700	473.1	676	169%
		9B		No. 9	1.00	105,642	105,642	176%	30M	700	469.9	671	168%
14-Aug-01	9T271	9A	Black	No. 9	1.00	103,684	103,684	173%	30M	700	461.2	659	165%
14-Aug-01	9T272	9A	Black	No. 9	1.00	104,508	104,508	174%	30M	700	464.9	664	166%
29-Oct-01	9T287	9A	Black	No. 9	1.00	106,399	106,399	177%	30M	700	473.3	676	169%
		9B		No. 9	1.00	105,805	105,805	176%	30M	700	470.6	672	168%
2-Nov-01	9T289	9A	Black	No. 9	1.00	106,124	106,124	177%	30M	700	472.0	674	169%
17-Jan-02	9T301	9A	Black	No. 9	1.00	105,398	105,398	176%	30M	700	468.8	670	167%
		9B		No. 9	1.00	99,858	99,858	166%	30M	700	444.2	635	159%
30-Jan-02	9T307	9A	Black	No. 9	1.00	107,825	107,825	180%	30M	700	479.6	685	171%
13-Feb-02	9T310	9A	Black	No. 9	1.00	102,046	102,046	170%	30M	700	453.9	648	162%
		9B		No. 9	1.00	107,158	107,158	179%	30M	700	476.6	681	170%
22-Feb-02	9T312	9A	Black	No. 9	1.00	107,776	107,776	180%	30M	700	479.4	685	171%

**NOTES**

Test results are from routine testing of each heat lot of arriving coupler material, per Barsplice Products, Inc. ISO Quality System.

Reinforcing Bars, per ASTM A 615 Grade 60, have a specified yield, fy = 60,000 psi (420 N/mm<sup>2</sup>).

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

Load rates per ASTM A 370.

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**ZAP SCREWLOK TYPE 2 TEST DATA CONVERSION - 35M AND 45M**

Lab Report Date	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 %fy 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 %fy CSA Gr 400
10-Aug-01	11T452	11A	Black	No. 11	1.56	166,335	106,625	178%	35M	1000	739.9	740	185%
		11B		No. 11	1.56	167,985	107,683	179%	35M	1000	747.2	747	187%
27-Aug-01	11T455	11A	Black	No. 11	1.56	172,224	110,400	184%	35M	1000	766.1	766	192%
20-Sep-01	11T463	11A	Black	No. 11	1.56	161,510	103,532	173%	35M	1000	718.4	718	180%
16-Nov-01	11T479	11A	Black	No. 11	1.56	166,571	106,776	178%	35M	1000	740.9	741	185%
		11B		No. 11	1.56	163,841	105,026	175%	35M	1000	728.8	729	182%
		11C		No. 11	1.56	153,401	98,334	164%	35M	1000	682.3	682	171%
1-Feb-02	11T489	11A	Black	No. 11	1.56	158,259	101,448	169%	35M	1000	703.9	704	176%
		11B		No. 11	1.56	166,262	106,578	178%	35M	1000	739.5	740	185%
22-Feb-02	11T494	11A	Black	No. 11	1.56	166,190	106,532	178%	35M	1000	739.2	739	185%
4-Apr-02	11T503	11A	Black	No. 11	1.56	161,493	103,521	173%	35M	1000	718.3	718	180%
		11B		No. 11	1.56	162,873	104,406	174%	35M	1000	724.5	724	181%
		11C		No. 11	1.56	156,003	100,002	167%	35M	1000	693.9	694	173%
28-Dec-05	14T213	14A	Black	No. 14	2.25	221,443	98,419	164%	45M	1500	985.0	657	164%
		14B		No. 14	2.25	211,653	94,068	157%	45M	1500	941.4	628	157%
5-Jan-06	14T214	14A	Black	No. 14	2.25	215,170	95,631	159%	45M	1500	957.1	638	160%
7-Feb-06	14T221	14A	Black	No. 14	2.25	212,690	94,529	158%	45M	1500	946.0	631	158%
		14B		No. 14	2.25	209,430	93,080	155%	45M	1500	931.5	621	155%
16-Jun-06	14T240	14A	Epoxy	No. 14	2.25	211,079	93,813	156%	45M	1500	938.9	626	156%
		14B		No. 14	2.25	205,810	91,471	152%	45M	1500	915.4	610	153%
30-Jun-06	14T245	14A	Epoxy	No. 14	2.25	214,569	95,364	159%	45M	1500	954.4	636	159%
		14B		No. 14	2.25	206,431	91,747	153%	45M	1500	918.2	612	153%
25-Oct-06	14T259	14A	Black	No. 14	2.25	213,129	94,724	158%	45M	1500	948.0	632	158%
		14B		No. 14	2.25	206,690	91,862	153%	45M	1500	919.4	613	153%
25-Oct-06	14T260	14A	Black	No. 14	2.25	213,300	94,800	158%	45M	1500	948.8	633	158%
		14B		No. 14	2.25	215,971	95,987	160%	45M	1500	960.6	640	160%

**NOTES**

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