

TTGT DOUGHNUT TERMINATION SYSTEM TEST DATA CONVERSION - 15M AND 20M (GRADE 400)

Lab Report & Reference No.		Head Type	ASTM Bar Size Designation	ASTM Bar Area (in ²)	Max Load (lb)	Max Stress (psi)	Developed Stress % <i>f_y</i> ASTM Gr 60 (metric Gr 420)	Equivalent CSA Designation	CSA Bar Area (mm ²)	Max Load (kN)	Equivalent Max Stress CSA Gr 400 (N/mm ²)	Equivalent Developed Stress % <i>f_y</i> CSA Gr 400
5T624	5A	TDS	No. 5	0.31	35,238	113,670	189%	15M	200	156.7	784	196%
	5B	5Ab	No. 5	0.31	35,317	113,926	190%	15M	200	157.1	785	196%
5T806*	5A	TDX 10Ab	No. 5	0.31	29,025	93,629	156%	15M	200	129.1	646	161%
5T1047	5A	TDS	No. 5	0.31	32,900	106,129	177%	15M	200	146.3	732	183%
	5B	5Ab	No. 5	0.31	33,300	107,419	179%	15M	200	148.1	741	185%
5T6659	5A	TDS	No. 5	0.31	33,630	108,484	181%	15M	200	149.6	748	187%
	5B	5Ab	No. 5	0.31	33,550	108,226	180%	15M	200	149.2	746	187%
5T7301	5A	TDS	No. 5	0.31	31,460	101,484	169%	15M	200	139.9	700	175%
	5B	5Ab	No. 5	0.31	31,570	101,839	170%	15M	200	140.4	702	176%
6T571A	6A	TDS	No. 6	0.44	49,058	111,495	186%	20M	300	218.2	727	182%
	6B	5Ab	No. 6	0.44	48,672	110,618	184%	20M	300	216.5	722	180%
6T611A	6A	TDS	No. 6	0.44	46,922	106,640	178%	20M	300	208.7	696	174%
	6B	5Ab	No. 6	0.44	47,217	107,312	179%	20M	300	210.0	700	175%
6T1023	6A	TDX	No. 6	0.44	48,930	111,205	185%	20M	300	217.6	725	181%
	6B	10Ab	No. 6	0.44	48,070	109,250	182%	20M	300	213.8	713	178%
6T1024	6A	TDS	No. 6	0.44	47,900	108,864	181%	20M	300	213.1	710	178%
	6B	5Ab	No. 6	0.44	49,990	113,614	189%	20M	300	222.4	741	185%

NOTES

All headed devices meet ACI 318 Section 20, and ASTM A970 Class A & HA requirements (100% *f_u*) Grade 60 bar.
 TTGT DoughNUT TDX meets CSA A23.3 Clause 7.1.4 requirement of gross bearing area to be 10 times the bar area, 10Ab.
 Results shown are from routine testing of various heat lots of completed headed devices, per Barsplice Products, Inc. ISO 9001 Quality System.
 Conducted on reinforcing bars per ASTM A615 (or *A706) Grade 60, with a specified tensile, *f_y* = 60,000 psi (420 N/mm²).
 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

TTGT DOUGHNUT TERMINATION SYSTEM TEST DATA CONVERSION - 25M AND 30M (GRADE 400)

Lab Report & Reference No.		Head Type	ASTM Bar Size Designation	ASTM Bar Area (in ²)	Max Load (lb)	Max Stress (psi)	Developed Stress % <i>f_y</i> ASTM Gr 60 (metric Gr 420)	Equivalent CSA Designation	CSA Bar Area (mm ²)	Max Load (kN)	Equivalent Max Stress CSA Gr 400 (N/mm ²)	Equivalent Developed Stress % <i>f_y</i> CSA Gr 400
8T3187	8A	TDX 10Ab	No. 8	0.79	92,430	117,000	195%	25M	500	411.1	822	206%
	8B		No. 8	0.79	89,890	113,785	190%	25M	500	399.8	800	200%
8T3161	8A	TDS 5Ab	No. 8	0.79	84,850	107,405	179%	25M	500	377.4	755	189%
	8B		No. 8	0.79	84,030	106,367	177%	25M	500	373.8	748	187%
8T3203	8A	TDS 5Ab	No. 8	0.79	84,890	107,456	179%	25M	500	377.6	755	189%
	8B		No. 8	0.79	85,350	108,038	180%	25M	500	379.6	759	190%
8T3604	8A	TDS 5Ab	No. 8	0.79	86,250	109,177	182%	25M	500	383.6	767	192%
	8B		No. 8	0.79	87,150	110,316	184%	25M	500	387.6	775	194%
9T1314*	9A	TDS 5Ab	No. 9	1.00	98,530	98,530	164%	30M	700	438.3	626	157%
9T1792	9A	TDX 10Ab	No. 9	1.00	117,030	117,030	195%	30M	700	520.5	744	186%
	9B		No. 9	1.00	116,560	116,560	194%	30M	700	518.5	741	185%
9T1844	9A	TDS 5Ab	No. 9	1.00	108,690	108,690	181%	30M	700	483.5	691	173%
	9B		No. 9	1.00	106,480	106,480	177%	30M	700	473.6	677	169%
9T2286	9A	TDX 10Ab	No. 9	1.00	106,900	106,900	178%	30M	700	475.5	679	170%
	9B		No. 9	1.00	112,090	112,090	187%	30M	700	498.6	712	178%
9T2314	9A	TDS 5Ab	No. 9	1.00	111,760	111,760	186%	30M	700	497.1	710	178%
	9B		No. 9	1.00	112,180	112,180	187%	30M	700	499.0	713	178%

NOTES

All headed devices meet ACI 318 Section 20, and ASTM A970 Class A & HA requirements (100% *f_u*) Grade 60 bar.
 TTGT DoughNUT TDX meets CSA A23.3 Clause 7.1.4 requirement of gross bearing area to be 10 times the bar area, 10Ab.
 Results shown are from routine testing of various heat lots of completed headed devices, per Barsplice Products, Inc. ISO 9001 Quality System.
 Conducted on reinforcing bars per ASTM A615 (or *A706) Grade 60, with a specified tensile, *f_y* = 60,000 psi (420 N/mm²).
 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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TTGT DOUGHNUT TERMINATION SYSTEM TEST DATA CONVERSION - 35M, 45M AND 55M (GRADE 400)

Lab Report & Reference No.		Head Type	ASTM Bar Size Designation	ASTM Bar Area (in ²)	Max Load (lb)	Max Stress (psi)	Developed Stress % <i>f_y</i> ASTM Gr 60 (metric Gr 420)	Equivalent CSA Designation	CSA Bar Area (mm ²)	Max Load (kN)	Equivalent Max Stress CSA Gr 400 (N/mm ²)	Equivalent Developed Stress % <i>f_y</i> CSA Gr 400
11T4083	11A	TDS 5Ab	No. 11	1.56	163,000	104,487	174%	35M	1000	725.0	725	181%
	11B		No. 11	1.56	161,480	103,513	173%	35M	1000	718.3	718	180%
11T4096	11A	TDS 5Ab	No. 11	1.56	172,300	110,449	184%	35M	1000	766.4	766	192%
	11B		No. 11	1.56	168,700	108,141	180%	35M	1000	750.4	750	188%
11T4196	11A	TDX 10Ab	No. 11	1.56	169,659	108,756	181%	35M	1000	754.6	755	189%
	11B		No. 11	1.56	168,780	108,192	180%	35M	1000	750.7	751	188%
14T685	14A	TDS 5Ab	No. 14	2.25	242,480	107,769	180%	45M	1500	1078.6	719	180%
	14B		No. 14	2.25	236,810	105,249	175%	45M	1500	1053.3	702	176%
14T888	14A	TDS 5Ab	No. 14	2.25	254,511	113,116	189%	45M	1500	1132.1	755	189%
	14B		No. 14	2.25	256,741	114,107	190%	45M	1500	1142.0	761	190%
14T925*	14A	TDX 10Ab	No. 14	2.25	225,020	100,009	167%	45M	1500	1000.9	667	167%
18T190*	18A	TDX 10Ab	No. 18	4.00	393,172	98,293	164%	55M	2500	1748.8	700	175%
	18B		No. 18	4.00	394,760	98,690	164%	55M	2500	1755.9	702	176%
18T403	18A	TDS 5Ab	No. 18	4.00	418,520	104,630	174%	55M	2500	1861.6	745	186%
	18B		No. 18	4.00	421,432	105,358	176%	55M	2500	1874.5	750	187%
18T509	18A	TDS 5Ab	No. 18	4.00	454,728	113,682	189%	55M	2500	2022.6	809	202%
	18B		No. 18	4.00	448,160	112,040	187%	55M	2500	1993.4	797	199%

NOTES

All headed devices meet ACI 318 Section 20, and ASTM A970 Class A & HA requirements (100% *f_u*) Grade 60 bar.
 TTGT DoughNUT TDX meets CSA A23.3 Clause 7.1.4 requirement of gross bearing area to be 10 times the bar area, 10Ab.
 Results shown are from routine testing of various heat lots of completed headed devices, per Barsplice Products, Inc. ISO 9001 Quality System.
 Conducted on reinforcing bars per ASTM A615 (or *A706) Grade 60, with a specified tensile, *f_y* = 60,000 psi (420 N/mm²).
 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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