



Barsplicer

XP Series

**TYPE 2 THREADED MECHANICAL
CONNECTIONS FOR
FOR UNCOATED AND
EPOXY COATED
REINFORCING BARS**



PERFORMANCE TEST DATA

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INTRODUCTION

Barsplice Products, Inc. have conducted a series of tests on threaded dowel bar mechanical connections, sizes No. 4 through No. 11. The tests have been conducted on uncoated and epoxy coated Barsplicer XP couplers. The purpose of the testing is to ensure that products are manufactured to the quality standards of BPI's ISO 9001 Quality System and are capable of exceeding strength requirements of various Building Codes.

TENSILE TEST PROCEDURE

Test specimens were loaded monotonically in tension to failure to determine the capability of the splice system. The tests were conducted in accordance with ASTM A370, "Standard Test Methods and Definitions for Mechanical Testing of Steel Products" and ASTM A1034, "Standard Test Methods for Testing Mechanical Splices for Steel Reinforcing Bars." The testing was performed to exceed the strength requirements of ACI (American Concrete Institute) 318-19, Chapter 25 and Chapter 18 using Grade 60 reinforcing bar.

All monotonic tension tests were carried out on a 600 kip Forney universal testing machine, or a 900 kip MTS universal test machine, located at the Barsplice manufacturing facility. Current calibration certificates for the test machine(s) are on file.

The reinforcing steel used in these tests conforms to the requirements of ASTM A615, Grade 60 and ASTM A706, Grade 60.

TEST RESULTS

Results of the Barsplicer XP tension testing described above are summarized in Table 1 and represented in Chart 1.

SUMMARY

Tension test specimens exceeded the Type 1 strength requirements of ACI 318-19, Chapter 25, namely 125% x specified yield strength of Grade 60 rebar or 75,000 psi.

Tension test specimens exceeded the Type 2 strength requirements of ACI 318-19, Chapter 18, namely the specified tensile strength of ASTM A615 and A706 Grade 60 bar, specifically 80,000 psi, which is equivalent to 133% x specified yield.

TABLE 1: BARSPLICER XP TENSILE TEST RESULTS

BAR SIZE	BAR TYPE	TEST LAB ID # & REF #		PEAK STRENGTH	
				MAX STRESS (psi)	% GR. 60 SPEC. YIELD
No. 4	BLACK	4T1032	4A	109,550	183%
			4B	114,550	191%
		4T1188	4A	105,300	176%
			4B	107,650	179%
		4T3218	4A	104,950	175%
			4B	107,750	180%
	EPOXY	4T2755	4A	101,850	170%
			4B	105,600	176%
		4T2807	4A	112,600	188%
			4B	116,950	195%
4T3409	4A	102,600	171%		
	4B	103,050	172%		
No. 5	BLACK	5T2687	5A	104,484	174%
			5B	101,516	169%
		5T3601	5A	107,774	180%
			5B	108,258	180%
		5T7801 *A706	5A	99,677	166%
			5B	98,290	164%
	EPOXY	5T7519	5A	103,452	172%
			5B	101,226	169%
		5T7648	5A	104,968	175%
			5B	106,548	178%
5T7964 *A706	5A	103,032	172%		
	5B	101,903	170%		
No. 6	BLACK	6T2251	6A	101,932	170%
			6B	101,227	169%
		6T2285	6A	105,023	175%
			6B	100,909	168%
		6T2547	6A	109,136	182%
			6B	110,932	185%
	EPOXY	6T2239	6A	100,864	168%
			6B	104,909	175%
		6T2384	6A	104,023	173%
			6B	103,409	172%
6T2466	6A	108,205	180%		
	6B	107,432	179%		
No. 7	BLACK	7T2077	7A	103,783	173%
			7B	104,900	175%
		7T2485	7A	100,443	167%
			7B	100,287	167%
		7T2614 *A706	7A	95,446	159%
			7B	96,562	161%
	EPOXY	7T2093	7A	109,364	182%
			7B	108,726	181%
		7T2464	7A	100,099	167%
			7B	101,652	169%
7T2821 *A706	7A	99,966	167%		
	7B	99,761	166%		
No. 8	BLACK	8T1402	8A	107,430	179%
			8B	107,494	179%
		8T3080	8A	100,390	167%
			8B	102,304	171%
		8T3528	8A	103,345	172%
			8B	102,558	171%
	EPOXY	8T3215 *A706	8A	101,518	169%
			8B	101,458	169%
		8T3419	8A	110,115	184%
			8B	109,084	182%
8T3521	8A	103,863	173%		
	8B	104,310	174%		
No. 9	BLACK	9T1694	9A	105,260	175%
			9B	110,960	185%
		9T1827	9A	104,890	175%
			9B	106,710	178%
		9T2081 *A706	9A	116,778	195%
			9B	117,708	196%
	EPOXY	9T1138	9A	108,710	181%
			9B	109,360	182%
		9T1155	9A	101,310	169%
			9B	103,060	172%
9T1283	9A	100,690	168%		
	7B	101,240	169%		

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BAR SIZE	BAR TYPE	TEST LAB ID # & REF #		PEAK STRENGTH	
				MAX STRESS (psi)	% GR. 60 SPEC. YIELD
No. 10	BLACK	10T1270	10A	104,079	173%
			10B	102,457	171%
		10T1650	10A	97,079	162%
			10B	103,472	172%
		10T2170	10A	101,658	169%
			10B	100,764	168%
	EPOXY	10T1107	10A	102,402	171%
			10B	100,811	168%
		10T1778	10A	100,913	168%
			10B	100,480	167%
10T1935	10A	97,797	163%		
	10B	101,890	170%		

BAR SIZE	BAR TYPE	TEST LAB ID # & REF #		PEAK STRENGTH	
				MAX STRESS (psi)	% GR. 60 SPEC. YIELD
No. 11	BLACK	11T2293	11A	112,577	188%
			11B	113,192	189%
		11T3369	11A	102,218	170%
			11B	101,346	169%
		11T3957	11A	103,566	173%
			11B	104,318	174%
	EPOXY	11T2298	11A	104,885	175%
			11B	105,256	175%
		11T3157	11A	97,679	163%
			11B	98,474	164%
11T3419	11A	99,295	165%		
	11B	100,288	167%		

CHART 1: BARSPLICER XP TENSILE TEST RESULTS

