

ITW Buildex

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Building Ideas That Work™

Engineering Report

Subject	Pullout Test of Gyp-Fast Nail Versus #8 "S-12" Self-drilling Screw from 18 ga. and 16 ga. Steel	Project Number	Report Number R-1304
Date	November 11, 2004	Requested By: Customer	
Performed By	Ron Huffmon	Approved Dan Kenny	

PURPOSE: To measure the ultimate pullout strength of the ITW Buildex Gyp-Fast nail compared to a #8 S-12 self-drilling screw.

PROCEDURE: The Gyp-Fast fastener was installed through ½" Dens-Glass Gold sheathing into a 3" x 6" steel coupon. The Dens-Glass was then carefully removed to allow the tensile test fixture to grip the underside of the head. The S-12 screw was installed into the test coupon using a standard screw gun. Each test assembly was placed in a calibrated Tinius-Olsen tensile testing machine and a constant load was applied at a rate of .2 inches per minute. The ultimate withdrawal load was recorded.

TEST RESULTS:	16 ga. (¼ Hard)	18 ga. (1/4 hard)	18 ga. (full hard)
	716	467	645
	732	458	644
	713	458	643
	660	416	742
	<u>704</u>	<u>448</u>	<u>740</u>
Gyp-Fast Nail	705 lbs. avg.	449 lbs. avg.	683 lbs. avg.
	530	339	607
	541	324	568
	573	310	572
	516	296	543
	<u>532</u>	<u>321</u>	<u>596</u>
S-12 Screw	539 lbs. avg.	318 lbs. avg.	577 lbs. avg.

NOTES: In all cases, failure was due to fastener withdrawal from the steel coupon.

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Test results obtained are under laboratory controlled conditions; appropriate safety factors should be applied to these ultimate values by the customer.