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Investigative Chemistry
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Welder Qualification

**TESTING
OF
INSOFAST MATERIAL**

**Prepared for:
InSoFast, LLC
Attn: Ed Scherrer
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Minneapolis, MN 55432**

Client Purchase Order Number: Prepaid & PO0001726

Prepared By:



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The test results contained in this report pertain only to the samples submitted for testing and not necessarily to all similar products.

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TESTING OF INSOFAST MATERIAL

INTRODUCTION:

This report presents the results of fastener withdrawal, lateral resistance, and adhesion tests conducted on samples of InSoFast material. The testing was authorized by Ed Scherrer of InSoFast, LLC on October 19, 2009. The testing and data analysis were completed on October 29, 2009.

The scope of our work was limited to conducting fastener withdrawal, lateral resistance, and adhesion tests on the samples submitted and reporting the results.

SUMMARY OF RESULTS:

Fastener Withdrawal and Lateral Screw Resistance

Sample Identification	Average Peak Load, lbf	
	Fastener Withdrawal	Lateral Screw Resistance
InSoFast Panel	211	403

Adhesion

Sample Identification	Average		Predominate Type of Failure
	Peak Load, lbf	Peak Stress, psi	
InSoFast Stud Material	48	108	Adhesive failure between PL Premium Adhesive and InSoFast Stud Material

SAMPLE IDENTIFICATION:

The samples for the fastener withdrawal and lateral screw resistance tests were identified as InSoFast Panels. Five (5) panels were supplied for the withdrawal test and five (5) for the lateral resistance test. The fasteners supplied by the customer for testing were #6 - 1 ¼" Drywall Screws (Phillips flat-coarse).

The samples for the adhesion test were identified as a system of InSoFast Stud material adhered to concrete with PL Premium adhesive. Five (5) specimens were supplied by the customer.

TEST METHODS:

The samples were allowed to condition at standard laboratory conditions of 72 ± 4°F and 50 ± 5% relative humidity for at least 40 hours prior to testing. Testing was done based on ASTM D1761 and D4541, with notes of deviations and parameters.

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TEST METHODS Continued:

Test Method	Test Method Title	Deviations from and/or Parameters to Method
ASTM D1761-06	Standard Test Method for Mechanical Fasteners in Wood Section 1 – Fastener Withdrawal Strength Section 13 – Lateral Screw Resistance	-InSoFast Panels used instead of wood -The Lateral resistance test used ~1" x 6" steel plates attached ~5" from one of the short ends
ASTM D4541-02	Standard Test Method for Pull-Off Strength of Coatings Using Portable Adhesion Testers	Universal Test Machine used to pull off adhesion dollies.

CALIBRATED TEST EQUIPMENT:

MTS Universal Testing machine, model Qtest/50LP, System No. 1532, Stork TCT asset # MM210-009, calibrated 4/22/09, due 4/22/10

Mitutoyo Calipers, model CD-8C, S# 0006565, ID MM160-068, calibrated 8/21/09, due 8/21/10

UNCALIBRATED TEST EQUIPMENT:

Holding grips, fixtures and clamps

TEST DATA:

Fastener Withdrawal Strength

Sample Identification	Specimen	Peak Load, lbf
InSoFast Panel	1	199
	2	197
	3	193
	4	276
	5	191
Average		211
Standard Deviation		36

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TEST DATA Continued:

Lateral Screw Resistance

Sample Identification	Specimen	Peak Load, lbf
InSoFast Panel	1	387
	2*	444
	3	390
	4*	410
	5	385
Average		403
Standard Deviation		25

* Fastener failure

Adhesion

Sample Identification	Specimen	Diameter, in	Peak Load, lbf	Peak Stress, psi	Type of Failure
InSoFast Stud Material	1	0.75	38	86	Adhesive failure with concrete
	2	0.75	53	120	Adhesive failure with stud material
	3	0.75	53	119	Adhesive failure with concrete and stud material
	4	0.75	54	121	Adhesive failure with stud material
	5	0.75	42	94	Adhesive failure with stud material
Average			48	108	
Standard Deviation			7	17	

REMARKS:

The test materials not consumed in testing will be retained for 14 days from the date of this report and then discarded unless we receive written notification requesting otherwise.

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