

# NDT Non-Destructive Testing Group

*Quality by Integrity and Knowledge*

## Report of Tension Adhesion Tests

Report To: Professional Service Industries, Inc.  
Construction Services Department  
850 Poplar Street  
Pittsburgh, PA 15220  
Attn: Dan John

PO: 06-812  
Lab No. 991811

Report For: SURTREAT

EV99522 812-90401-1, Revision I

Date: January 11, 2000 Reissued

Work Order 99-8879

On December 14, 1999, NDT Group received four, 4" x 4" x 4" shotcrete cubes, with one surface treated with SURTREAT TPSII (GPHP) compound and one, two-part epoxy kit. We were requested to perform tension adhesion tests on the four treated surfaces and three nontreated (control) surfaces.

A 2" x 2" steel plate was epoxied to the treated surface. The samples were allowed to cure and the plates were then pulled off using our Baldwin universal testing machine, NDT Control 220. For the nontreated (control) surfaces, three cubes tested for the treated were used. Again, 2" x 2" steel plates were epoxied to the surface and pulled in tension.

Following are the results.

Sample ID	Adhesion Area-Inches width depth	Maximum Load Pounds	Area Square Inch	Tension Shear Psi	Comments
<b>SURTREAT TPSII (GPHP)</b>					
A)	2.035 2.030	2410	4.131	583	Concrete failure
B)	2.043 2.030	2310	4.147	557	Concrete failure
C)	1.997 2.000	880	3.994	220	Concrete failure
D)	1.998 2.022	2000	4.040	495	Concrete failure

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Sample ID	Adhesion Area-Inches width                  depth	Maximum Load Pounds	Area Square Inch	Tension Shear Psi	Comments
Nontreated (Control)					
A)	1.935      2.017	1380	3.903	354	Concrete failure
B)	2.049      2.087	840	4.276	196	80% Concrete failure
C)	1.958      2.030	1790	3.975	450	Concrete failure
Average:				333	

Respectfully submitted,



J. Peter Merther, PE  
Laboratory Supervisor  
Non-Destructive Testing Group

**TESTED FOR:** Surtreat  
437 Grant Street  
Suite 1210  
Pittsburgh, PA 15219

**PROJECT:** Pull Off Testing

Attention: Mr. Tony Fiasco

DATE: January 6, 2000

**PSI REPORT NO.:** 812-90401-1

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Please find attached a report of the results of Tension Adhesion testing performed for the above referenced project. The test specimens were delivered to our client, who applied the surface treatment and returned them to PSI for testing. The shotcrete used in these tests was 74 days old at the test, and had a 28-day average compressive strength of 5370 psi.

Respectfully Submitted,  
*Professional Service Industries, Inc.*

DEJ:jlmc  
Attachment: Report (2 pages)