

Performance of DARAWELD® C Bonding Agent for Concrete Repair

DARAWELD® C is a liquid bonding agent for bonding new to old or new to new concrete. Examples of its many uses include bonding, patching, or re-surfacing concrete floors, walls, beams, columns, pipe, or other structural members.

To show compliance with ASTM Standard Specification for Latex Agents for Bonding Fresh to Hardened Concrete (C 1059), and to demonstrate the performance of DARAWELD C, tests were conducted in accordance with ASTM Standard Test Method for Bond Strength of Latex Systems Used with Concrete by Slant Shear (C 1042). Robert L. Nelson & Associates, Inc. of Schaumburg, Illinois performed the tests and the results of the tests are given on the reverse side of this technical bulletin.

ASTM C 1042 states that for Type II Latices, a cement and latex slurry be prepared and applied to the hardened specimens. To prepare the cement and latex slurry, an equal parts solution of water and DARAWELD C was added to the cement and mixed to a workable consistency. This series of tests are identified as “Set 1” on the reverse side. In addition to performing the required tests in ASTM C 1042, a second set of specimens were made using Grace’s recommended bonding grout slurry mix design. The bonding grout slurry incorporated 2 parts sand and 5 parts cement and was mixed to a workable consistency with an equal parts solution of water and DARAWELD C. This series of tests are identified as “Set 2” on the reverse side.

ASTM C 1059 requires that the minimum bond strength for Type II Latices be 1250 psi after immersion. In these tests the average bond strength for Set 1 was 1290 psi and 1780 psi for Set 2.

The results of these tests illustrate that DARAWELD C complies with the requirements of ASTM C 1059. Furthermore, when Grace’s recommended bonding grout mix design is used, performance far exceeds the requirements of the specification.

DARAWELD C bonding grouts and mortars have been used in a wide variety of applications. For a complete listing of applications for which DARAWELD C can be used, please request a copy of the DARAWELD C Job Analyzer from your Grace representative, or call the Chicago Customer Service Center at 877-423-6491. To order copies of the standards, contact ASTM International at 610-832-9585 or at www.astm.org.

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February 5, 2002

Attn: Mr. Neal Jablonski

REPORT OF TESTS

SUBJECT: Slant Shear Bond Strength of W. R. Grace & Company Daraweld[®] C
PROJECT: W. R. Grace & Company 2002 Plant Research
SPECIFICATION: ASTM C 1042, "Test Method for Bond Strength of Latex Systems Used With Concrete By Slant Shear"

TEST RESULTS

	<u>Set 1</u> (g)	<u>Set 1</u> Parts by Vol.	<u>Set 2</u> (g)	<u>Set 2</u> Parts by Vol.
Mix				
Portland Cement (g)	300	5	213	5
Sand (g)	--	--	73	2
Equal Parts Water/Latex (ml)	85	2	75	2.5
Bond Strength (PSI @ 14 days)		<u>Set 1</u>		<u>Set 2</u>
1		1310		1780
2		1340		1730
3		<u>1230</u>		<u>1840</u>
Average		1290		1780

Type of Fracture -----All at the interface-----

Respectfully submitted,

ROBERT L. NELSON & ASSOCIATES, INC.

Robert L. Nelson
President

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Call 800-558-7066 or 877-423-6491 CST

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