

# TB-0016A — Performance of DARAWELD<sup>®</sup>C Bonding Agent for Concrete Repair Technical Bulletin (US Version)

DARAWELD<sup>®</sup>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 C 1059 Standard Specification for Latex Agents for Bonding Fresh to Hardened Concrete, tests were conducted in accordance with ASTM C 1042 Standard Test Method for Bond Strength of Latex Systems Used with Concrete by Slant Shear. 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<sup>®</sup>C was added to the cement and mixed to a workable consistency. This series of tests are identified as “Set 1”. In addition to performing the required tests in ASTM C 1042, a second set of specimens were made using GCP Advanced Technologies’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<sup>®</sup>C. This series of tests are identified as “Set 2”.

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<sup>®</sup>C complies with the requirements of ASTM C 1059. Furthermore, when GCP Advanced Technologies’s recommended bonding grout mix design is used, performance far exceeds the requirements of the specification.

DARAWELD<sup>®</sup>C bonding grouts and mortars have been used in a wide variety of applications. For a complete listing of applications for which DARAWELD<sup>®</sup>C can be used, please see the DARAWELD<sup>®</sup>C Job Analyzer.

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February 5, 2002

**REPORT OF TESTS**


**SUBJECT:** Slant Shear Bond Strength of Daraweld® C

**PROJECT:** 2002 Plant Research

**SPECIFICATION:** ASTM C 1042, "Test Method for Bond Strength of Latex Systems Used With Concrete By Slant Shear"

**TEST RESULTS**

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

Respectfully submitted,  
ROBERT L. NELSON & ASSOCIATES, INC.  
  
Robert L. Nelson  
President

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Last Updated: 2019-03-15

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