TB-0016A — Performance of DARAWELD® C Bonding Agent for Concrete Repair Technical Bulletin

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 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®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®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®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®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 see the DARAWELD®C Job Analyzer.

ROBERT L. NELSON & ASSOCIATES, INC.
CONSTRUCTION MATERIALS LABORATORY
1220 REMINGTON ROAD
SCHAUMBURG, ILLINOIS 60173
847/882-1146

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.
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)	Set 1	Set 2
1	1310	1780
2	1340	1730
3	1230	1840
Average	1290	1780

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

Respectfully submitted,

ROBERT L. NELSON & ASSOCIATES, INC.

Robert L. Nelson
President

Last Updated: 2023-06-28
gcpat.com/solutions/products/tb-0016a-performance-daraweld-c-bonding-agent-concrete-repair-technical-bulletin