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**Committee D01 on Paint and Related Coatings, Materials, and
Applications
Subcommittee D01.46 on Industrial Protective Coatings**

Research Report: D01-1188

**Interlaboratory Study to Establish Precision Statements for ASTM
C579-18, Test Methods for Compressive Strength of Chemical-Resistant
Mortars, Grouts, Monolithic Surfacing, and Polymer Concretes**

Method B

Technical contact:

Frederick Gelfant,
Stonhard Inc
1000 E Park Ave
Maple Shade, NJ 08052
USA
GELFANT@STONHARD.COM

ASTM International
100 Barr Harbor Drive
West Conshohocken, PA 19428-2959

1. Introduction:

Interlaboratory Study 1418 was conducted to establish a precision statement for C0579, Test Methods for Compressive Strength of Chemical-Resistant Mortars, Grouts, Monolithic Surfacing, and Polymer Concretes.

2. Test Method:

The Test Method used for this ILS is C0579-01 (Reapproved 2012). To obtain a copy of C0579, go to ASTM's website, www.astm.org, or contact ASTM Customer Service by phone at **610-832-9585** (8:30 a.m. - 4:30 p.m. Eastern U.S. Standard Time, Monday through Friday) or by email at service@astm.org.

3. Participating Laboratories:

The following laboratories participated in this interlaboratory study:

CTL Group
5400 Old Orchard Road
Skokie, IL 60077-1030
USA
Elizabeth Rodenkirch
847-972-3324
erodenkirch@ctlgroup.com

KTA-Tator, Inc.
115 Technology Drive
Pittsburgh, PA 15275
USA
Valerie Sherbondy
vsherbondy@kta.com

Nelson Testing Laboratories
717 Industrial Drive
Elmhurst, IL 60126
USA
Mark Nelson
mnelson@nelsontesting.com

Sika US
201 Polito Ave.,
Lyndhurst, NJ 07071
USA
Dave Elmendorf
elmendorf.dave@us.sika.com

Stonhard- 2 Operators
The Stonhard Group
1000 E. Park Ave.,
Maple Shade, NJ 08052
USA
Fred Gelfant
GELFANT@STONHARD.COM

The Euclid Chemical Company
19320 Redwood Road
Cleveland, OH 44110
USA
Brad Nemunaitis
Group@RPMPCG

4. Description of Samples:

The three-component, chemical-resistant epoxy grouting material for molding and testing were provided by: International Protective Coatings

All samples were proportioned, mixed, and molded as per instructions from the manufacturer and from the ILS coordinator (Annex A) and molded and tested as per the C0579 Test Method B.

5. Interlaboratory Study Instructions

Laboratory participants were emailed a copy of the test method. For a copy of the procedure, please see Annex A.

6. Description of Equipment/Apparatus¹:

For information on the equipment/apparatus used by each laboratory, please see Annex B.

7. Data Report Forms:

Each laboratory was provided with a data report form for the collection of data. A copy of the summarized data is provided in Annex C.

Please note: The laboratories have been randomly coded and cannot be identified herein.

8. Statistical Data Summary:

A summary of the statistics calculated from the data returned by the participating laboratories is provided in Annex D.

9. Precision and Bias Statement:

9.1 The precision of this test method is based on an interlaboratory study of C579, Standard Test Methods for Compressive Strength of Chemical-Resistant Mortars, Grouts, Monolithic Surfacing, and Polymer Concretes, conducted in 2017. Six facilities participated in this study. Each participant reported three replicate test results. Every “test result” reported represents the average of six individual determinations. Except for the inclusion of just a single material type, Practice E691 was followed for the design and analysis of the data; the details are given in ASTM Research Report No. D01-1188.ⁱ

9.1.1 Repeatability (r) - The difference between repetitive results obtained by the same operator in a given laboratory applying the same test method with the same apparatus under constant operating conditions on identical test material within short intervals of time would in the long run, in the normal and correct operation of the test method, exceed the following values only in one case in 20.

9.1.1.1 Repeatability can be interpreted as the maximum difference between two results, obtained under repeatability conditions, that is accepted as plausible due to random causes under normal and correct operation of the test method.

9.1.1.2 Repeatability estimates are listed in Table 1 below.

9.1.2 Reproducibility (R) - The difference between two single and independent results obtained by different operators applying the same test method in different laboratories using different apparatus on identical test material would, in the long run, in the normal and correct operation of the test method, exceed the following values only in one case in 20.

¹ The equipment listed was used to develop a precision statement for C0579. This listing is not an endorsement or certification by ASTM International.

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