This Research Report is issued under the fixed designation RR: D04-1027. You agree not to reproduce or circulate or quote, in whole or part, this document outside of ASTM International Committee/Society activities, or submit it to any other organization or standards body (whether national, international or other) except with the approval of the Chairman of the Committee having jurisdiction and the written authorization of the President of the Society. If you do not agree to these conditions, please immediately destroy all copies of this document. *Copyright ASTM International, 100 Barr Harbor Drive, West Conshohocken, PA 19428. All rights reserved.*

1 July 2008

Committee D04 on Road and Paving Materials
Subcommittee D04.34 on Preformed Joint Fillers, Sealers and Sealing Systems

Research Report: D04-1027

Interlaboratory Study to Establish Precision Statements for ASTM D545-08, Standard Test Methods for Preformed Expansion Joint Fillers for Concrete Construction (Nonextruding and Resilient Types)

Technical contact:
Thomas Verrill,
Knight Celotex Llc
743 Lisbon Street
Lisbon, ME 04252
US
tverrill@aknightcompany.com

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

This is a preview. Click here to purchase the full publication.

1. Introduction:

Interlaboratory Study 38 was conducted to establish a precision statement for D0545, Standard Test Methods for Preformed Expansion Joint Fillers for Concrete Construction (Nonextruding and Resilient Types).

2. Test Method:

The Test Method used for this ILS is ASTM D 545-08. To obtain a copy of D0545, 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

1. Ecole de technologie superieure
1100 Notre-Dame Ouest
Montreal , Quebec
H3C 1K3
CA
Dr. Alan Carter
(514)396-8800 poste
alan.carter@etsmtl.ca

2. Knight-Celotex
743 Lisbon Street
Lisbon Falls, ME
04252
US
Mr. Tom Verrill
207-353-1027
tverrill@aknightcompany.com

3. MoDOT
1617 Missouri Blvd.
Jefferson City, MO
65109
US
William Stalcup
573-751-1036
William.Stalcup@modot.mo.gov

4. Momentum Technologies Inc
1507 Boettler Rd
Uniontown, OH
44685
US
Richard Lee
330-896-5900
leerp@tremcoinc.com

5. Monmouth Rubber & Plastics Corp.
75 Long Branch Ave.
Long Branch, NJ
07740
US
John Bonforte Sr.
888-FOAM-888 X12
johnsr@monmouthrubber.com

6. Sealed Air
Scotia/Glenville Industrial Park
Building 201, A Street
Scotia, NY
12302
US
Mr. Tom Greco
518-370-1693
Tom.Greco@sealedair.com

Copyright © ASTM International, 100 Barr Harbor Drive, PO Box C700, West Conshohocken, PA 19428-2959, United States.

This is a preview. Click here to purchase the full publication.

7. W.R.Meadows, Inc.
PO Box 338
Hampshire , IL
60140
US
Richard Frier
(847) 683-4500
dfrier@wrmeadows.com

8. WV Division of Highways
West Virginia Div of HWYS
190 Dry Branch Dr.
MCST
Charleston, WV
25306-6616
US
Richard Genthner
304-558-3160
rgenthner@dot.state.wv.us

4. Description of Samples:

There were 5 samples of varying targeted results used for this study. Each sample was prepared and distributed by Tom Verrill of Knight-Celotex. Below is a list of the samples with the corresponding supplier:

1. 1.Cork
   Provided FOAMTASTIC, A Hohmann & Barnard Company

2. 2.Self-Expanding Cork
   Provided by FOAMTASTIC, A Hohmann & Barnard Company

3. 3.Sponge Rubber
   Provided by FOAMTASTIC, A Hohmann & Barnard Company

4. 4.Closed-Cell Polyolefin Foam
   Provided by Sealed Air

5. 5.Preformed Expansion Joint, Bituminous Type
   Provided by Knight-Celotex, LLC

5. Interlaboratory Study Instructions

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

6. Description of Equipment/Apparatus[1]:

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 data is provided in Annex C.

[1] The equipment listed was used to develop a precision statement for ASTM D545-08. This listing is not an endorsement or certification by ASTM International.

Copyright © ASTM International, 100 Barr Harbor Drive, PO Box C700, West Conshohocken, PA 19428-2959, United States.

This is a preview. Click here to purchase the full publication.

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 D545, Standard Test Method for Preformed Expansion Joint Fillers for Concrete Construction (Nonextruding and Resilient Types), conducted in 2007. Results in this study were obtained from a total of six laboratories, testing five different joint filler materials. Every "test result" reported represents an individual determination. Each participating laboratory reported up to ten replicate test results for each material. Except for the inability of every participating laboratory to provide test results for all study parameters, Practice E691 was followed for the design and analysis of the data; the details are given in ASTM Research Report No. D04-1027.

9.1.1 *Repeatability limit (r)* - Two test results obtained within one laboratory shall be judged not equivalent if they differ by more than the "*r*" value for that material; "*r*" is the interval representing the critical difference between two test results for the same material, obtained by the same operator using the same equipment on the same day in the same laboratory.

9.1.1.1 Repeatability limits are listed in Tables 1 – 7 below.

9.1.2 *Reproducibility limit (R)* - Two test results shall be judged not equivalent if they differ by more than the "*R*" value for that material; "*R*" is the interval representing the critical difference between two test results for the same material, obtained by different operators using different equipment in different laboratories.

9.1.2.1 Reproducibility limits are listed in Tables 1 – 7 below.

9.1.3 The above terms (repeatability limit and reproducibility limit) are used as specified in Practice E 177.

9.1.4 Any judgment in accordance with statements 9.1.1 and 9.1.2 would normally have an approximate 95% probability of being correct, however the precision statistics obtained in this ILS must not be treated as exact mathematical quantities which are applicable to all circumstances and uses. The limited number of laboratories reporting results guarantees that

Copyright © ASTM International, 100 Barr Harbor Drive, PO Box C700, West Conshohocken, PA 19428-2959, United States.

This is a preview. Click here to purchase the full publication.