

November 30, 2006

**Committee Document-Not for Publication**



**AMERICAN ASSOCIATION OF TEXTILE CHEMISTS AND COLORISTS**

**TECHNICAL COMMITTEE ON RESEARCH (C3)**

**Report of the 334th Meetings**

**Wednesday, November 15, 2006 – 5:30-6:30 pm**

**Thursday, November 16, 2006 – 12:00-12:15 pm**

The 334th meeting of the Technical Committee on Research took place on two separate days. Richard Malachowski, ECR chair, filled in for Steve Simonson, chair of TCR, and convened the Wednesday, November 15, meeting at 5:30 pm, and the Thursday, November 16, meeting at 11:45 am.

The following members were present at either one or both of the above meetings:

Richard A. Malachowski, ECR Chair

Christopher S. Leonard, Secretary

Martin J. Bide  
Stephen B. Brooks  
Adi B. Chehna  
Fred L. Cook  
John Y. Daniels  
Susan K. Gassett  
Harold K. Greeson Jr.  
Judy B. Holden

Kanti A. Jasani  
Paul L. Johnson  
Norma M. Keyes  
Robert K. Lattie  
Jodi Lynch  
Luther M. Myers  
Nancy E. PeBenito  
Thomas H. Perry Jr.

David L. Ramey  
Carol T. Revels  
James E. Rodgers III  
Jerry G. Tew  
Brooks G. Tippet  
Rembert J. Truesdale  
Heidi Woodacre

**Others Present:**

Kay Adams  
Alan Buitenhoff  
Aaron Creech  
Tricia F. Day  
Thomas Fabian  
Perry Grady\*

Suzanne Holmes  
Glenn Horan  
Bill Kimbrell  
Karen E. Kylo  
Susan Matter  
Scheryl McDavid

Shawn Meeks  
Peggy J. Pickett  
Marcia Quinlan  
Rona Reid  
Michelle Wallace  
Wanda Wilks

**Announcements:**

Mr. Malachowski reported on the upcoming workshops/symposia taking place through February 2007. He also announced that the *AATCC Rules and Procedure for Test Method and Technology Committees* was revised last year so that a senior individual member may be chair of two research committees at the same time and that this revision is in the *2006 AATCC Technical Manual*.

President Bob L. Latte announced that the Executive Committee on Research (ECR) has been working on a revision to the ECR policy qualifying equipment and materials that can be used in AATCC Test Methods. A task group of ECR has drafted a proposed policy which will be published in the January 2007 issue of *AATCC Review* for review and comments.

It was announced that Fred Cook of Georgia Tech, member of ECR, along with a task group will check on restructuring research committees, to see whether or not to have joint meetings of some committees with similar interests or to possibly merge others or put poor attended meetings on reference status.

**RA23, Colorfastness to Water:** A recent ballot for revision to Method 162 was discussed with all negatives and comments addressed. The interlaboratory trial was also discussed in the meeting. The written protocol for this study was discussed. It was decided to send this document to the committee members before the trial. Tricia Day of the AATCC staff will be sending this document to the members requesting any changes that may be needed. Five fabrics of different colors were purchased and submitted to AATCC for interlaboratory trial. Participating labs include AATCC, Bureau Veritas, Warnaco, Intertek and James H. Heal. Regarding AATCC Methods 106 and 107; Sandeep Khatua is to find out what the multifiber swatch #1 is. The committee proposed to include the MF #10 only instead of both #1 and 10 listed currently. Regarding the test specimen size, the committee decided to take the language from Method 15 in order to be consistent. Types of multifiber swatches available currently are believed to cause inconsistent test results. RA23 proposed to study the effect of types of multifiber swatches available, fused, surged and cold-cut, to see if the edges (thickness variations) cause uneven compression during testing leading to different results. Uneven drying due to different air flow rates inside the ovens are believed to cause variations within the same fabric. This was discussed in the meeting. Shirley Powlette of A & H Sportswear presented some results verifying the problem. The committee decided to study the effect of air circulation rate in the different ovens on color bleeding. A & H lab will also participate. Ms. Powlette will write a protocol before the interlab study. Two fabrics, two tests per fabric and two different times were proposed on same fabric. A zip lock bag will be used to control the uneven drying in the oven. Regarding the volume of solution, the committee proposed to take the language from Method 15 to be consistent. A revision of Method 15 was also discussed to include the alkaline option to be part of the method with a comment that acidic perspiration is the preferred option. Alkaline option is to be done based on the request only. Also, remove the sentence "*If the fiber or fibers in the dyed fabric are not present in the multifiber test fabric, also include a piece of undyed original material in the test*" from the Test Specimen section of the method because it is not practical. A request to change the name of the committee to include Perspiration since the committee has undertaken the responsibility of Method 15 was discussed. It was decided to evaluate the current scope first.

**RA24, Fiber Analysis:** Balloting has been successfully completed on updating AATCC Methods 20 and 20A, making them more comparable with ISO 2076. These changes will be reflected in the *2008 Technical Manual*. The new generic fiber melamine's technical information is being incorporated into AATCC Methods 20 and 20A with SEM photomicrographs. A motion was carried to incorporate the larger AATCC Logos into the photomicrographs of fibers in AATCC Method 20. Suzanne Holmes of the AATCC staff is moving forward with proficiency testing using wool/nylon blends. Sandeep Khatua of Bureau Veritas is chairing a subcommittee tasked with merging the best features of ASTM D 629 and ASTM D 276 into AATCC Methods 20 and 20A. Ken Langley with University of Mass.-Dartmouth is chairing a subcommittee tasked with developing a Precision and Bias statement for the analysis of cashmere/wool blends under AATCC Method 20A.

**RA31, Antimicrobial Activity:** The subcommittee for the Quantitative Bacterial Methods for Hydrophobic textiles is to run another round robin trial. The test samples are being prepared and the subcommittee will work out final details before the trial is run. The committee ballot for proposed revisions of Methods 30 and 174 received one negative vote and one affirmative vote with comment for each method. In addition, each method received two negative votes from members of Committee RA99, Technical Manual Editorial Review. The negatives are being addressed. A revised draft of each will be sent to the interested parties before these items are sent back to committee ballot. A discussion was held in November 2005 and again in May 2006 regarding the reactivation of Method 90, as the method is referenced in methods from other agencies.

It was decided that the method should be reactivated. It will require extensive revisions before it goes for a committee ballot.

**RA32, Static Electricity:** Kay Adams with the ESD Association attended the meeting pursuing a relationship with AATCC on Static Electricity. A suggestion has been made to transfer the jurisdiction of AATCC Method 134-2006, Electrostatic Propensity of Carpets, to AATCC Committee RA57, Floor Covering Test Methods. The chair of RA57 will be contacted to see if they are willing to take the responsibility of this method.

**RA33, Colorfastness to Atmospheric Contaminants:** AATCC will send fabrics to conduct the round robin for Method 23, Colorfastness to Burnt Gas Fumes. The recent RA33 Committee Ballot for proposed revisions to Method 109, Colorfastness to Ozone, Low Humidity, will require more labs to participate in the round robin. There may not be enough old Control Ribbon for comparison with the proposed new control ribbon fabric. The proposed revision of Method 109 will not go to TCR ballot until the results are reported. The interlab studies on carpet specimens for Method 129, Colorfastness to Ozone, High Humidity, are being held up in an effort to provide Precision and Bias Statements. Method 164 will have additional carpet specimens tested and evaluated after 1 – 2 – 3 cycles. The ISO fabric will be included.

**RA34, Preparation and RA73, Warp Size Technology Joint Meeting:** The recent RA34 TCR Ballot to revise Method 82, Fluidity of Dispersion of Cellulose from Bleached Cotton Cloth, had one negative regarding the Precision and Bias Statement. This negative has been resolved and the proposed revisions will go forth for publication in the *2008 AATCC Technical Manual*. The approved TCR ballot to merge RA34 with RA73 on Warp Size Technology was approved but the RA34 membership feels the merger is no longer necessary because of poor attendance from RA73. In lieu of this, RA73 will make a request to be put on reference status so that if it is decided to revise the *Warp Size Handbook*, it can be easily reactivated to do so. Proposed TCR ballot for reaffirmation of Method 97 received negatives which will be addressed in the upcoming revision of Method 97. Data analysis is in progress and once completed will be sent to a committee ballot. A proposal was made and accepted to pay a statistician to re-analyze the data for Method 97 interlabs. The committee has not used its budget of \$500 so the funds could be used to pay the fees required. RA34 is looking for a new chair. If anyone would consider taking the position, please contact the AATCC Technical Center, 919-549-3534. Discussion arose on how RA34 could work at the international level since some of their methods, such as TM 81, are being used internationally.

**RA36, Color Measurement:** The proposed new evaluation procedure, "Spectrophotometer UV Energy Calibration Procedure for Optically Brightened Textiles" underwent another committee ballot and TCR Ballot since the May meetings. It has completed all balloting and is now ready to be published in the 2008 AATCC Technical Manual as well as used in the new UV Calibration Proficiency Program. The proposed new method on "Opacity of Textile Fabrics to Light," was revised by Stephanie Marcott with the U.S. Army Natick Soldier Center and sent back to committee ballot which received negatives again. The negative voter discussed changes with Ms. Marcott but revised draft has not been completed. When it is, the draft will be sent back to committee ballot. Committee Ballot #360202 on proposed new evaluation procedure for Instrumental Degree of Staining is being re-drafted to address negatives and hopefully, will be re-balloted prior to the next meeting. There was no report on this item at this meeting. Regarding the proposed new Gray Scale Holder from Munsell, spiral bound so that the scale will open and lay flat, was shown at the November meeting. The new design will also be reviewed by RA60 and RA50 followed by more general review. RA36 will undertake compilation of the 3<sup>rd</sup> Edition of "*Color Technology in the Textile Industry*." The committee discussed plans for the ISO meetings in Las Vegas in July 2007. RA36 will work with Procter & Gamble on specifications for whiteness of standard detergent used by AATCC. The electronics subcommittee will be reactivated to review the ISO proposal for XML produced for graphic arts industry.

**RA38, Colorfastness to Crocking:** A standard Crockmeter Calibration Cloth was developed (Direct Navy)

and tested for use with the AATCC Crockmeters. The proposed change to Method 8 was sent to TCR Ballot in October. One negative remains to be resolved. An attempt to resolve will be made by the Chair and if necessary, will be rebaloted. Lisa Strachan with James H. Heal presented results data for qualification of a new alternate Crockmeter at the November meeting. The proposed change to Method 8 along with supporting data will be submitted to committee letter ballot in December.

**RA42, Dimensional Change:** The committee continues to work on including the AATCC Standard Liquid Detergent in its test methods. The committee revisited the idea of withdrawing Method 99 from the *Technical Manual*. It was suggested that maybe RA71 should be contacted to see if they would want to assume responsibility of Method 99. Jodie Lynch, chair of RA71, will check with Hosiery Technology Center and/or Wool Bureau to determine the applicability of Method 99. Update on precision and bias statements are as follows: Method 135 is awaiting analysis of data, Methods 150 and 179 are waiting generation of data on fabric and garment samples on hand. Table II in Methods 135, 150 and 179 do not match the Monograph in the back of the *Technical Manual*. Suzanne Holmes of the AATCC staff will compare and present changes for balloting. Some of the units in RA42's test methods do not have a metric equivalent and these need to be inserted.

**RA43, Professional Textile Care:** RA43 did not have a business meeting this series. However, twelve committee members and guests took a field trip to a local wet cleaning company. The proprietor explained the process including costs, advantages to the environment and difficulty as compared to conventional dry cleaning.

**RA50, Colorfastness to Light:** A committee ballot was submitted jointly to RA50 and RA64 for a proposed merger of the two committees with a new title and a new scope, which was approved. It was then submitted to the October TCR ballot which received one negative. The negative was resolved so the merger will take place with the next meeting in May 2007. The possibility of withdrawing Method 139 from the *Technical Manual* was advertised in *AATCC Review* and the AATCC Newsletter to see if anyone in the industry still uses the method. No responses were received, so this item will proceed to a committee letter ballot for withdrawal. Method 181 will be advertised for proposed withdrawal for the same reasons. The subcommittee on the status of the Blue Wool inventory is being chaired by Eugene Maddox with Mohawk Industries. It was decided to develop a full set of blue wool. The subcommittee on Method 16, chaired by Richard Slomko of Atlas Weathering Group, presented revised sections for review along with a proposed flow chart. Lisa Strachan of James H. Heal Co. presented test data to qualify their lightfastness equipment. The information and data will be submitted for a committee letter ballot. The merger of RA50 and RA64 was approved with a new name and new scope. The designation for the newly combined committee will remain RA50. Lisa Strachan and Richard Slomko were nominated as co-chairs. (Secretary's Note: ECR at its November 16, 2006 meeting did not approve the use of co-chairs. There will need to be a committee ballot to determine who the new chair will be. The ballot will be submitted in December 2006.)

**RA56, Stain Resistance:** A recent TCR ballot to reaffirm AATCC Method 193 (under the three year development review process) received one negative which will require a technical change. The method will be revised to address specimen size and re-submitted for a committee ballot with some additional reporting and editorial revisions. Method 130 will require major revisions such as wash fill, detergent level and detergent type. Five labs will be needed and five fabrics each with three performance levels for the interlab. Additional funds may be needed to buy fabrics.

**RA57, Floor Covering:** The new version of the Red 40 Stain Scale has some problems with consistency. RA57 recommends that AATCC put in place mechanisms for evaluating samples and suppliers when changing suppliers. Alan Buttenhoff of Shaw Industries will take over as new chair beginning in 2007. Shane Trombley of Mohawk Industries was appointed as secretary. Eugene Maddox of Mohawk will take over the responsibility of revising Method 122 to include the synthetic soil so that Method 123 can be

withdrawn from the Technical Manual. A budget of \$500.00 is being requested to send out samples.

**RA59, Fibrous Test Materials:** The recent TCR ballot for proposed reaffirmation of AATCC Evaluation Procedure 10 was approved. RA59 is still looking for a chair, one who is not a producer of test materials. If you are interested in this position, please contact Chris Leonard, AATCC Technical Director. Testfabrics had to change the source of Nylon yarn for multifiber fabric. There was a slight change in staining in the new Nylon 6 as opposed to the old Nylon 6,6. The UK is considering the Dye Injection in 105-F10. Hope to hear more about this by the July 2007 ISO meetings in Las Vegas.

**RA60, Colorfastness to Washing:** A proposed revision of AATCC Method 172, Colorfastness to Non-Chlorine Bleach in Home Laundering (with a new title), underwent a committee and TCR Ballot prior to the meetings, to indicate that this method is only applicable to the powdered type of non-chlorine bleach (and not to the liquid type of non-chlorine bleach). It passed all balloting and will now be forwarded to the Technical Center to be published in the 2008 *AATCC Technical Manual*. The accelerated cold water wash will be sent to committee ballot. The hand wash protocol will be balloted with agreement from RA88, Home Laundering Technology. A committee ballot to include the James H. Heal Gyrowash as an alternative to the Launder-Ometer in Method 61 will be sent to committee ballot with supporting data from Heal. SDL Atlas shared some data on another Launder-Ometer alternative. Complete data will be available by the May 2007 meeting. A question about tolerances for methods was raised, specifically about the Launder-Ometer canister sizes. The committee will look into the need for specifications. A student study request will be submitted to have a student evaluate the standard liquid detergent in Method 61 versus full scale testing.

**RA61, Appearance Retention:** The committee reviewed the results of a survey sent out to RA61 and C2C Interest Group members to evaluate the use of Method 128 and interest in improving the correlation between the method results and the consumer end-use results. Based on survey results, Norma Keyes and Ken Greeson from Cotton Incorporated agreed to draft a note for the Method 128 to share Cotton Incorporated's learning on method modifications that can make the method more consumer relevant. The draft note will be reviewed by interested parties identified through the survey and will be shared for feedback at the next committee meeting. Mrs. Keyes shared a draft protocol for qualifying instrumental smoothness grading systems for Method 124. Committee recommendations included having the instrumental and visual qualification testing be performed at AATCC and the inclusion of various fiber/fabric types for the standard fabric set. The subcommittee will incorporate this feedback and share a revised protocol prior to the next meeting. The committee approved a motion to request \$2500 budget to source a standard fabric set for Method 124 instrument qualification. Cotton Incorporated indicated that they are developing a video to help educate their partners on the preparation/testing/grading processes for Method 124. Cotton Incorporated will share the completed video with the committee in May.

**RA63, Water Resistance, Absorbency and Wetting Agent Evaluation:** Andrew Kallmes of M/K Systems discussed a new piece of equipment to measure the absorbency of textiles called GATS. The equipment is being used by TAPPI to measure nonwoven absorbency properties. The recent TCR ballot for revision of Method 79, Absorbency of Textiles, was approved. The revised test method is ready for the *2008 Technical Manual*. Norma Keyes of Cotton Incorporated will work on adding the "quick medicine dropper test" to the test method. Karen Kylo of Intertek updated the committee on resolving the negatives from the spring committee ballot on the proposed new method "Liquid Moisture Management of Porous Materials in Textile Fabrics." A new draft will be forwarded to the Technical Center for another committee ballot. Tom Fabian of Underwriters Laboratories provided an update on consolidation attributes of multiple test methods to measure Drying Time of Textiles and format it in AATCC format for a committee ballot. An in-depth discussion took place about forming a subcommittee to develop a technical supplement on the topic of moisture management procedures and guidelines. The following people have volunteered to participate: Jodi Lynch of Hosiery Tech, Nancy PeBenito of Nike, James Sheets of JCPenney, Bill Rearick of Cotton Incorporated, Karen Kylo of Intertek, Kanti Jasani of Performance & Technical Textile Consulting, Luisa

Santos of Natick Labs and Norma Keyes of Cotton Incorporated. The subcommittee plans to meet at ASTM and AATCC meetings with the goal of completing this supplement within 18 months.

**RA64, Weather Resistance:** The recent TCR ballot to merge RA64 with RA50 with a new name and scope was approved. RA64 members present were asked to meet with RA50 that afternoon for all business related to RA64.

**RA71, Hosiery:** The recent RA71 committee ballot for a proposed new AATCC Method, "Phenolic Yellowing of Yarns, Fabrics and Garments," received negatives from the committee, and two of the advisory committee members, which will need to be resolved before this item goes forward. One negative focused on the issue of a precision and bias statement. Interlab trials at Hosiery Technology Center will begin to accomplish this. The committee would also like for AATCC to participate. Another suggestion was to change the title to "Phenolic Yellowing of Garments." RA71 had been approached by RA42 on Dimensional change to take responsibility for Method 99. It was determined that RA71 will not assume responsibility for this method.

**RA75, Correlation of Laboratory Tests with End Use Performance:** A review of the proposed revision of ASTM/AATCC comparisons with Federal Standard 191 Test Methods was discussed. A link to this document has been put on AATCC and ASTM's web site. A request will be made to take this link off the web sites until a more accurate list can be compiled. The committee has been working on a name revision and a new scope. It is hoped that this can go to ballot prior to the next meeting.

**RA79, Coated, Bonded and Laminated Fabrics:** Aaron Mailloux of Rohm and Haas was introduced as the new chair of RA79. Ways to increase participation in the committee and ideas for future guest speakers were discussed.

**RA80, Printing Technology:** David Clark of Huntsman Textile Effects presented "Digital Print Applications and Case Studies." The development of a *Digital Print Handbook* was revisited. A call for papers will be issued toward the development of a *Textile Printing Handbook*. A discussion was re-opened concerning an educational program for 2007 and plans to discuss association with AATCC C2C Interest Group and Chemical Applications Interest Group; and outside partners such as TC[2] and Screen Graphics and Imaging Association (SGIA). Kerry King of TC[2] provided a brief summary of textile printing highlights from the SGIA 2006 program. *Pigment Printing Handbook* updates will be addressed as part of old business.

**RA88, Home Laundering Technology:** Presentation by Glenn Jordan of Procter & Gamble Co. focused on High Efficiency washing machine trends. HE machines are leading to larger load sizes (about 8 lbs) and lower energy and water usage. Machine manufacturers beyond traditional US manufacturers will play an important role in the penetration of HE machines in the US. New Home Laundering Test Conditions for HE Washers was proposed by a team led by Glenn Jordan. Significant discussion resulted in important modifications that will clarify terms for a) wash settings and b) availability of HE washing machines meeting the guidelines. Revised Home Laundering Test Conditions for HE Washers will proceed to committee ballot as soon as possible to allow feedback to be incorporated and re-balloted before May 2007 meetings. An educational HE monograph aimed at providing general information on HE washers will also be balloted. Incorporating the AATCC liquid detergent into test methods was mentioned. Attendees were encouraged to bring this up in the test method committees during the current 2006 meetings. Liquid detergent incorporation into test methods will be a RA88 agenda item during the May 2007 meeting. Glenn Jordan of P&G was nominated as the new chair beginning January 2007 and Nancy PeBenito of Nike was appointed as secretary.

**RA89, Hand Evaluation:** Ning Pan of the University of California, Davis gave a presentation on "Introduction of a New Instrument for Fabric Sensory Performance Evaluation-Fabric Hand, Drape and Wrinkle Recovery." The Phabrometer Tester showed how the instrument measures attributes of softness,

smoothness (slick), stiffness and the software output. Dr. Pan will put the Phabrometer into an AATCC format for consideration as a new test method. S. S. Ramkumar with Texas Tech is also preparing his friction test into AATCC format for RA89's consideration. The committee discussed a proposed development of a reference fabric set with different hand attributes for use in the qualifying new hand test methods. The qualifying draft proposal will be revised by the next committee meeting for further review. A budget of \$500 for acquisition of fabrics to establish a reference fabric set for the measurement of hand attributes was submitted.

**RA99, Technical Manual Editorial Review:** The recent TCR ballot for proposed revision of the *AATCC Style Guide for Writing AATCC Test Methods* received negatives. The negatives were resolved and the revisions will be published in the *2007 AATCC Technical Manual*. RA99 reviews all committee ballots submitted for proper format and content. All items on recent committee and TCR ballots were found to be in good shape. In some instances, the precision and bias statements proposed as additions were found to be erroneous and misleading. These were revised after consultation with RA99 and acceptance by committee chairs.

**RA100, Safety, Health and Environmental Technology:** Henry Boyter Jr. of ITT gave a talk on "New Sustainability Standards." The committee is looking for a new chair.

**RA103, Spectroscopic Technologies:** The current standing of the polyester/cotton NIR research project was discussed. A survey will be sent out regarding instruments that would be pre-calibrated by the manufacturer. A need to expand the instrument survey was discussed. Dr. Rodgers will have the printed version converted to electronic format and e-mail to members for comments. A future symposium in 2008 was another topic of the meeting. It was suggested that it be focused toward the retailers and brands by covering uses in those areas, instead of having a focus on the research and instrumentation that is available. A discussion on changing the name and scope of RA103 to broaden participation ensued.

**RA106, UV Protective Textiles:** Discussion of need to complete precision and bias statement for Method 183 was discussed. The data is available but needs statistics analysis done. A suggestion to develop a Technical Supplement from AATCC combining document ASTM D 6603, D 6544 and AATCC Method 183 protocols is moving forward. Nancy PeBenito with Nike was nominated as the new chair. A new secretary will be appointed.

**RA109, Flammability Technology:** Thomas Fabian of Underwriters Laboratories presented a talk on "Flammability Test Method Selection."

**How to Participate:** The next series of committee meetings will be held May 1-3, 2007 at the Radisson Hotel in Research Triangle Park, N. C. For information regarding these meetings and how to take part in committee work, contact Tricia F. Day, AATCC technical assistant, P.O. Box 12215, Research Triangle Park, N.C. 27709; telephone: 919/549-3534; FAX: 919/549-8933; E-mail: [dayt@aatcc.org](mailto:dayt@aatcc.org).

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