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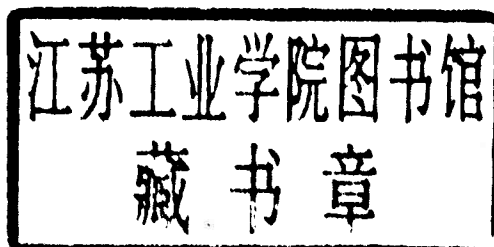
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AMERICAN ASSOCIATION OF TEXTILE CHEMISTS AND COLORISTS

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Table of Contents

Index of Test Methods	
Numerical Listing	5
Alphabetical Listing	9
Topical Listing	12
Changes in Test Methods Since Last Edition	15
Test Methods	18
Special Equipment and Materials	318
AATCC Detergent 124	320
Standardization of Home Laundry Test Conditions	321
Evaluation Procedures	
Gray Scale for Color Change	322
Gray Scale for Staining	324
AATCC Chromatic Transference Scale	325
Standard Depth Scales for Depth Determination	326
Nomenclature for Colorfastness Ratings	327
A Glossary of AATCC Standard Terminology	328
AATCC Style Guide for Writing Test Methods	331
Rules of Procedure for Committees	337
AATCC Council	
National Officers	344
Councilors Representing Sections	344
Past Presidents	344
Administrative Committees	344
Local Sectional Officers	349
Research Committees	351
Reference Committees	361
AATCC Representatives on Committees of Other	
Organizations	362
Joint Report ECR/TCR	363
Reports of Research Committees	366
Roster of Corporate Members	373

Preface

THE test methods in this edition of the TECHNICAL MANUAL were current as of April 1987. New methods that have been added and other important changes made since the last issue are summarized on pages 15–17.

AATCC test methods are developed by research committees through extensive investigations and interlaboratory comparisons, often covering several years work. Simplicity, reproducibility, applicability, cost of performing the test and the time required to perform the test are all important considerations in each development. Before a method is published in the TECHNICAL MANUAL, it must be approved by the responsible research committee, reviewed by the Editorial Committee and approved by the Technical Committee on Research (TCR).

During the first three years, each new test method is reviewed annually, at which times, on recommendation of the research committee and approval by TCR, it may be reaffirmed, revised or withdrawn. After the first three years, each method is reviewed at least once every five years by the research committee, and following approval by TCR may be reaffirmed, revised or withdrawn. The historical record of these actions is published in a foreword to each method.

An important feature of all AATCC test methods is that test results are numerically quantified as opposed to being reported as pass-fail. Test results are the basis for describing material or process characteristics that are not in themselves intended to be performance specifications. AATCC policy prohibits endorsement of such specifications.

Each test method is designated by a number followed by a date which indicates the year in which the method was issued, last revised or reaffirmed. The designation should be quoted in full in referring to a particular method. If the source of the method is not clear from the context of the reference, the designation should be preceded by AATCC, as for example, AATCC Test Method 16-1982, or simply AATCC 16-1982.

In colorfastness test methods, general practices and procedures are described first and then the methods for testing. Each class of colorfastness is defined with respect to (1) the test employed and (2) a dyed standard based on a well known commercial dye. The dyeing method for the standard is given in detail.

Whenever a dyeing is classified for colorfastness by comparing it with one of these standards, the fiber, the strength of the dyeing, the dyeing method and the names of the dyes with near COLOUR INDEX numbers, are specified, for both the dyeing to be tested and the standard for comparison.

Prior to 1969 the TECHNICAL MANUAL contained all the material now published in three separate books—the TECHNICAL MANUAL, the AATCC BUYER'S GUIDE and the AATCC MEMBERSHIP DIRECTORY. The present format for the TECHNICAL MANUAL has continued unchanged since 1969. Major changes in layout of the Technical Manual were made in 1985 as follows: (1) indexes were grouped at the front of the book; (2) test methods were arranged in numerical order; (3) the *Glossary of Standard Terminology* was added; and (4) the *Style Guide for Writing Test Methods* was added.

EDITORIAL COMMITTEE

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Numerical List of AATCC Test Methods

Method	Committee	Test Method	Page
1		*D Colorfastness to Mill Washing and Scouring (Wool)	
2-1983	RR22	Colorfastness to Fulling	18
3-1985	RA34	Colorfastness to Bleaching with Chlorine	20
4		D Colorfastness to Mill Washing (Silk)	
5		D Colorfastness to Dry and Wet Heat. Superseded by Method 133.	
6	RR1	Colorfastness to Acids and Alkalis.....	22
7-1983		Colorfastness to Degumming	23
8-1985	RA38	Colorfastness to Crocking: AATCC Crockmeter Method	24
9-1983	RR19	Colorfastness to Stoving.....	26
10		D Colorfastness to Commercial Laundering and to Domestic Washing. Superseded by Method 36.	
11-1983	RR4	Colorfastness to Carbonizing	28
12		D Colorfastness to Sea Water. Superseded by Method 63.	
13		D Colorfastness to Peroxide Bleaching (Silk). Superseded by Method 101.	
14		D Shrinkage of Textiles—Cotton and Linen. Superseded by Method 91.	
15-1985	RR52	Colorfastness to Perspiration	30
16-1987	RA50	Colorfastness to Light: General Method.....	33
16A-1982	RA50	Colorfastness to Light: Carbon-Arc Lamp, Continuous Light	37
16B		D Colorfastness to Light: Sunlight Test	
16C-1982	RA50	Colorfastness to Light through Glass: Daylight.....	39
16D-1982	RA50	Colorfastness to Light: Carbon-Arc Lamp, Alternate Light and Darkness	43
16E-1987	RA50	Colorfastness to Light: Water-Cooled Xenon-Arc Lamp, Continuous Light	44
16F-1982	RA50	Colorfastness to Light: Water-Cooled Xenon-Arc Lamp, Alternate Light and Darkness	47
16G-1985	RA50	Colorfastness to Light: Determination of Fastness Above L-7.....	48
17-1985	RR8	Wetting Agents, Evaluation of.....	49
18		D Resistance to Water Penetration (Hydrostatic Pressure Test). Superseded by Method 127.	
19		D Mercerization of Cotton, Determination of Degree of. Superseded by Method 89.	
20-1985	RA24	Fiber Analysis: Qualitative	51
20A-1981	RA24	Fiber Analysis: Quantitative	67
21-1983	RA63	Water Repellency: Static Absorption Test	74
22-1985	RA63	Water Repellency: Spray Test	76
23-1983	RA33	Colorfastness to Burnt Gas Fumes	78
24-1985	RR49	Insects, Resistance of Textiles to	81
25		D Colorfastness to Drycleaning. Superseded by Method 85.	
26-1983	RA9	Aging of Sulfur Dyed Textiles: Accelerated	86
27-1985	RR8	Wetting Agents: Evaluation of Rewetting Agents	88
28-1985	RR49	Insect Pest Deterrents on Textiles	89
29		D Colorfastness to Peroxide Bleaching (Cotton). Superseded by Method 101.	
30-1986	RA31	Fungicides, Evaluation on Textiles: Mildew and Rot Resistance of Textiles	91
31		D Colorfastness to Pleating. Superseded by Method 131.	
32		D Detection of Phototropism. Superseded by Method 139.	
33		D Flammability of Clothing Textiles	
34		D Evaluation of Fire Resistant Textiles	
35-1985	RA63	Water Resistance: Rain Test	94
36		D Wash Test for Characterization of Textile Colorants	
37		D Colorfastness to Commercial Laundering and Domestic Washing (Silk). Superseded by Method 36.	
38		D Colorfastness to Commercial Laundering and Domestic Washing (Wool). Superseded by Method 36.	
39		D Evaluation of Textiles for Wettability	
40		D Dimensional Changes in Textile Fabrics (Other Than Cotton and Linen). Superseded by Method 91.	
41		D Dimensional Changes in Textile Fabrics (Wool: Accelerated Test). Superseded by Method 99.	

*Discontinued Method.

Method	Committee	Test Method	Page
42-1985	RA63	Water Resistance: Impact Penetration Test.....	96
43-1985	RR8	Wetting Agents for Mercerization.....	98
44	D	Discontinued. Superseded by Method 54.	
45	D	Discontinued. Superseded by Method 54.	
46	D	Discontinued. Superseded by Method 63.	
47	D	Colorfastness to Water (Other than Silk and Wool). Superseded by Method 63.	
48	D	Colorfastness to Water Spotting. Superseded by Method 104.	
49	D	Colorfastness to Chlorination. Superseded by Method 3.	
50	D	Colorfastness to Soda Boil	
51	D	Colorfastness to Mercerizing	
52	D	Colorfastness to Decatizing	
53	D	Colorfastness to Chrome (Dichromate) in the Dyebath	
54	D	Colorfastness to Cross Dyeing	
55	D	Colorfastness to Potting	
56	D	Colorfastness to Cellulose Ester Bonding	
57	D	Colorfastness to Storage	
58	D	Colorfastness to Steaming	
59	D	Colorfastness to Peroxide Bleaching (Wool). Superseded by Method 13.	
60	D	Detergency Comparator (Operation of)	
61-1986	RA60	Colorfastness to Laundering, Home, and Commercial: Accelerated.....	99
62-1983	RR65	Oils, Wool; Oxidation in Storage.....	103
63	D	Colorfastness to Water. Superseded by Methods 105, 106, 107.	
64	D	Evaluation of Continuous Scouring of Raw Grease Wool	
65-1984	RR21	Snag Resistance of Women's Nylon Hosiery.....	105
66-1984	RR6	Wrinkle Recovery of Fabrics: Recovery Angle Method.....	107
67	D	Crease Recovery of Fabrics (Wrinkle Recovery Tester)	
68	D	Rapid Control Test for Colorfastness to Washing	
69	D	Damage Caused by Retained Chlorine. Superseded by Method 92.	
70-1983	RA63	Water Repellency: Tumble Jar Dynamic Absorption Test.....	109
71	D	Rapid Control Test for Colorfastness to Perspiration	
72	D	Rapid Control Test (Combined Colorfastness and Shrinkage in Laundering)	
73	D	Shrinkage of Wool Hose: Accelerated Test. Superseded by Method 99.	
74	D	Relaxation and Felting Shrinkage of Wool Knit Fabrics (Except Hose): Accelerated Test. Superseded by Method 99.	
75	D	Rapid Control Test for Colorfastness to Atmospheric Oxides of Nitrogen	
76-1987	RA32	Electrical Resistivity of Fabrics.....	111
77	D	Determination of Spinning Lubricant Scourability	
78-1985	RA34	Ash Content of Bleached Cellulosic Textiles.....	113
79-1986	RA34	Absorbency of Bleached Textiles.....	114
80	D	Determining the Noncotton Content of Bleach Woven Cotton Cloth. Superseded by Method 97.	
81-1983	RA34	pH of the Water-Extract from Bleached Textiles.....	115
82-1984	RA34	Fluidity of Dispersions of Cellulose from Bleached Cotton Cloth.....	116
83	D	Colorfastness to Alternate Light Exposure and Washing	
84-1987	RA32	Electrical Resistivity of Yarns.....	119
85	D	Colorfastness to Drycleaning. Superseded by Method 132.	
86-1985	RA43	Drycleaning: Durability of Applied Designs and Finishes.....	121
87	D	Colorfastness of Textiles to Industrial Laundering: Accelerated Test	
88	D	Wash and Wear Fabrics: Appearance After Home Laundering. Superseded by Method 88A.	
88A	D	Appearance of Fabrics in Wash and Wear Items after Home Laundering. Superseded by Method 124.	
88B-1984	RA61	Appearance of Seams in Durable Press Items after Repeated Home Laundering.....	123
88C-1987	RA61	Appearance of Creases in Durable Press Items after Repeated Home Laundering.....	125
89-1985	RR66	Mercerization in Cotton.....	127
90-1982	RA31	Antibacterial Activity of Fabrics, Detection of: Agar Plate Method.....	129
91	D	Dimensional Changes in Woven Textiles (Excluding Wool). Superseded by Method 96.	
92-1985	RR35	Chlorine, Retained, Tensile Loss: Single Sample Method.....	131
93-1984	RA29	Abrasion Resistance of Fabrics: Accelerator Method.....	133
94-1987	RA45	Finishes in Textiles: Identification.....	136
95	D	Dimensional Restorability of Woven Textiles after Laundering. Superseded by Method 96.	
96-1980	RA42	Dimensional Changes in Laundering of Woven and Knitted Fabrics Except Wool.....	143
97-1982	RA34	Extractable Content of Greige and/or Prepared Textiles.....	146

Method	Committee	Test Method	Page
98-1982	RA34	Alkali in Bleach Baths Containing Hydrogen Peroxide	147
99-1983	RA42	Dimensional Changes (Shrinkage), Felting and Relaxation, of Woven or Knitted Wool Textiles	149
100-1986	RA31	Antibacterial Finishes on Fabrics, Evaluation of	151
101-1984	RA34	Colorfastness to Bleaching with Peroxide	154
102-1987	RA34	Hydrogen Peroxide by Potassium Permanganate Titration: Determination of	156
103-1984	RA34	Bacterial Alpha-Amylase Enzymes Used in Desizing, Assay of	158
104-1983	RA23	Colorfastness to Water Spotting	160
105		D Colorfastness to Water: Chlorinated Pool. Superseded by Method 162.	
106-1986	RA23	Colorfastness to Water: Sea	161
107-1986	RA23	Colorfastness to Water	163
108		D Dimensional Changes in Drycleaning	
109-1987	RA33	Colorfastness to Ozone in the Atmosphere Under Low Humidities	165
110-1979	RA36	Reflectance, Blue, and Whiteness of Bleached Fabric	167
111-1984	RA64	Weather Resistance: General Information	169
111A-1984	RA64	Weather Resistance: Sunshine Arc Lamp Exposure with Wetting	170
111B-1984	RA64	Weather Resistance: Exposure to Natural Light and Weather	175
111C-1984	RA64	Weather Resistance: Sunshine Arc Lamp Exposure without Wetting	179
111D-1984	RA64	Weather Resistance: Exposure to Natural Light and Weather through Glass	183
112-1984	RA68	Formaldehyde Odor in Resin Treated Fabric, Determination of: Sealed Jar Method	187
113		D Formaldehyde Odor in Resin Treated Fabric, Determination of: Steam Method	
114-1985	RR35	Chlorine, Retained, Tensile Loss: Multiple Sample Method	190
115-1986	RA32	Electrostatic Clinging of Fabrics: Fabric-to-Metal Test	192
116-1983	RA38	Colorfastness to Crocking: Rotary Vertical Crockmeter Method	196
117-1984	RR54	Colorfastness to Heat; Dry (Excluding Pressing)	198
118-1983	RA56	Oil Repellency: Hydrocarbon Resistance Test	200
119-1984	RA29	Color Change due to Flat Abrasion (Frosting): Screen Wire Method	202
120-1984	RA29	Color Change due to Flat Abrasion (Frosting): Emery Method	205
121-1987	RA57	Carpet Soiling: Visual Rating Method	207
122-1987	RA57	Carpet Soiling: Service Soiling Method	209
123-1982	RA57	Carpet Soiling: Accelerated Soiling Method	211
124-1984	RA61	Appearance of Durable Press Fabrics after Repeated Home Laundering	212
125-1986	RA23	Colorfastness to Water and Light: Alternate Exposure	215
126-1986	RA23	Colorfastness to Water (High Humidity) and Light: Alternate Exposure	216
127-1985	RA63	Water Resistance: Hydrostatic Pressure Test	217
128-1985	RR6	Wrinkle Recovery of Fabrics: Appearance Method	218
129-1985	RA33	Colorfastness to Ozone in the Atmosphere Under High Humidities	220
130-1981	RA56	Soil Release: Oily Stain Release Method	222
131-1985	RR53	Colorfastness to Pleating: Steam Pleating	224
132-1985	RA43	Colorfastness to Drycleaning	226
133-1984	RR54	Colorfastness to Heat: Hot Pressing	228
134-1986	RA32	Electrostatic Propensity of Carpets	230
135-1987	RA42	Dimensional Changes in Automatic Home Laundering of Woven or Knit Fabrics	235
136-1985	RA79	Bond Strength of Bonded and Laminated Fabrics	236
137-1983	RA57	Rug Back Staining on Vinyl Tile	239
138-1987	RA57	Shampooing: Washing of Textile Floor Coverings	240
139-1985	RA50	Colorfastness to Light: Detection of Photochromism	241
140-1985	RA87	Dyestuff Migration: Evaluation of	243
141-1987	RA87	Compatibility of Basic Dyes for Acrylic Fibers	245
142-1983	RR81	Appearance of Flocked Fabrics after Repeated Home Laundering and/or Coin-Op Drycleaning	247
143-1984	RA61	Appearance of Apparel and Other Textile End Products after Repeated Home Laundering	249
144-1987	RA34	Alkali in Wet Processed Textiles: Total	252
145-1985	RA36	Color Measurement of the Blue Wool Lightfastness Standards: Instrumental	254
146-1984	RA87	Dispersibility of Disperse Dyes: Filter Test	256
147-1982	RA31	Antibacterial Activity of Fabrics, Detection of: Parallel Streak Method	259
148-1984	RA36	Light Blocking Effect of Curtain Materials	261
149-1985	RA90	Chelation Value of Aminopolycarboxylic Acids and Their Salts: Calcium Oxalate Method	263
150-1987	RA42	Dimensional Changes in Automatic Home Laundering of Garments	264
151-1985	RA56	Soil Redeposition, Resistance to: Launder-Ometer Method	267

Method	Committee	Test Method	Page
152-1985	RA56	Soil Redeposition, Resistance to: Terg-O-Tometer Method	269
153-1985	RA36	Color Measurement of Textiles: Instrumental	271
154-1986	RA87	Thermal Fixation Properties of Disperse Dyes	277
155-1986	RA87	Transfer of Disperse Dyes on Polyester.....	279
156-1986	RA87	Transfer of Basic Dyes on Acrylics	280
157-1985	RR92	Colorfastness to Solvent Spotting: Perchloroethylene	282
158-1985	RA43	Dimensional Changes on Drycleaning in Perchloroethylene: Machine Method	283
159-1984	RA87	Transfer of Acid and Premetallized Dyes on Nylon	286
160-1987	RA42	Dimensional Restoration of Knitted and Woven Fabrics After Laundering.....	288
161-1987	RA90	Chelating Agents: Disperse Dye Shade Change Caused by Metals	292
162-1986	RA23	Colorfastness to Water: Chlorinated Pool.....	295
163-1987	RR92	Colorfastness: Dye Transfer in Storage; Fabric-to Fabric.....	297
164-1987	RA33	Colorfastness to Oxides of Nitrogen in the Atmosphere Under High Humidities	299
165-1987	RA57	Colorfastness to Crocking: Carpets—AATCC Crockmeter Method.....	301
166-1987	RA87	Dispersion Stability of Disperse Dyes at High Temperature	303
167-1987	RA87	Foaming Propensity of Disperse Dye	305
168-1987	RA90	Chelating Agents: Active Ingredient Content of Polyaminopolycarboxylic Acid; Copper PAN Method	307
169-1987	RA64	Weather Resistance of Textiles: Xenon Lamp Exposure	308
170-1987	RA87	Dusting Properties of Powder Dyes: Evaluation	314
171-1987	RA57	Carpets: Cleaning of; Hot Water (Steam) Extraction Method	316

Alphabetical Index of AATCC Test Methods

Title	Method Number	Page	Title	Method Number	Page
Abrasion Resistance of Fabrics:			(Frosting):		
Accelerator Method	93-1984	133	Emery Method	120-1984	205
Absorbency of Bleached Textiles	79-1986	114	Screen Wire Method	119-1984	202
Aging of Sulfur-Dyed Textiles:			Color Measurement of Textiles:		
Accelerated	26-1983	86	Instrumental	153-1985	271
Alkali in Bleach Baths Containing			Color Measurement of the Blue Wool		
Hydrogen Peroxide	98-1982	147	Lightfastness Standards:		
Alkali in Wet Processed Textiles:			Instrumental	145-1985	254
Total	144-1987	252	Colorfastness to:		
Analysis of Textiles: Finishes,			Acids and Alkalis	6-1986	22
Identification of	94-1987	136	Bleaching with Chlorine.....	3-1985	20
Antibacterial Activity of Fabrics,			Bleaching with Peroxide.....	101-1984	154
Detection of: Agar Plate Method	90-1982	129	Burnt Gas Fumes	23-1983	78
Antibacterial Activity of Fabrics,			Carbonizing	11-1983	28
Detection of: Parallel Streak Method	147-1982	259	Crocking: Carpets—AATCC		
Antibacterial Finishes on Fabrics,			Crockmeter Method	165-1987	301
Evaluation of.....	100-1986	151	Crocking: AATCC Crockmeter		
Appearance of Apparel and Other Textile			Method.....	8-1985	24
End Products after Repeated Home			Crocking: Rotary Vertical		
Laundering	143-1984	249	Crockmeter Method	116-1983	196
Appearance of Durable Press Fabrics			Degumming	7-1983	23
after Repeated Home Launderings ...	124-1984	212	Drycleaning.....	132-1985	226
Appearance of Durable Press Items:			Dye Transfer in Storage:		
Creases after Repeated Home			Fabric-to-Fabric	163-1987	297
Laundering	88C-1987	125	Fulling	2-1983	18
Seams after Repeated Home			Heat: Dry (Excluding Pressing).....	117-1984	198
Laundering	88B-1984	123	Heat: Hot Pressing	133-1984	228
Appearance of Flocked Fabrics after			Laundering, Home,		
Repeated Home Laundering and/or			and Commercial: Accelerated	61-1986	99
Coin-Op Drycleaning	142-1983	247	Light: General Method	16-1987	33
Ash Content of Bleached Cellulosic			Light: Carbon-Arc Lamp, Alternate		
Fabrics.....	78-1985	113	Light and Darkness.....	16D-1982	43
Bacterial Alpha-Amylase Enzymes Used			Light: Carbon-Arc Lamp,		
in Desizing, Assay of	103-1984	158	Continuous Light	16A-1982	37
Bond Strength of Bonded and			Light: Detection of Photochromism	139-1985	241
Laminated Fabrics	136-1985	236	Light: Determination of		
Carpets: Cleaning of; Hot Water (Steam)			Fastness Above L-7.....	16G-1985	48
Extraction Method	171-1987	316	Light: Xenon-Arc Lamp, Water-		
Carpet Soiling:			Cooled, Alternate Light and		
Accelerated Soiling Method	123-1982	211	Darkness	16F-1982	47
Service Soiling Method	122-1987	209	Light: Xenon-Arc Lamp, Water-		
Visual Rating Method.....	121-1987	207	Cooled, Continuous Light	16E-1987	44
Chelating Agents: Active			Light through Glass: Daylight	16C-1982	39
Ingredient Content of			Oxides of Nitrogen in the		
Polyaminopolycarboxylic Acid;			Atmosphere Under High		
Copper PAN Method	168-1987	307	Humidities	164-1987	299
Chelating Agents: Disperse Dye Shade			Ozone in the Atmosphere under		
Change Caused by Metals.....	161-1987	292	Low Humidities	109-1987	165
Chelation Value of Aminopolycarboxylic			Ozone in the Atmosphere under		
Acids and Their Salts: Calcium			High Humidities.....	129-1985	220
Oxalate Method.....	149-1985	263	Perspiration	15-1985	30
Chlorine, Retained, Tensile Loss:			Pleating, Steam	131-1985	224
Multiple Sample Method	114-1985	190	Solvent Spotting: Perchloroethylene	157-1985	282
Chlorine, Retained, Tensile Loss:			Stoving	9-1983	26
Single Sample Method	92-1985	131	Water	107-1986	163
Color Change due to Flat Abrasion			Water: Chlorinated Pool	162-1986	295

Title	Method Number	Page
Water: Sea	106-1986	161
Water: Spotting	104-1983	160
Water and Light: Alternate Exposure	125-1986	215
Water (High Humidity) and Light		
Alternate Exposure	126-1986	216
Compatibility of Basic Dyes for		
Acrylic Fibers.....	141-1987	245
Dimensional Changes in Automatic		
Home Laundering of Woven or		
Knit Fabrics	135-1987	233
Dimensional Changes in Automatic Home		
Laundering of Garments.....	150-1987	264
Dimensional Changes in Laundering of		
Woven and Knitted Fabrics Except		
Wool	96-1980	143
Dimensional Changes on Drycleaning in		
Perchloroethylene:		
Machine Method.....	158-1985	283
Dimensional Changes (Shrinkage),		
Felting and Relaxation, of Woven		
or Knitted Wool Textiles.....	99-1983	149
Dimensional Restoration of Knitted and		
Woven Fabrics after Laundering	160-1987	288
Dispersibility of Disperse Dyes:		
Filter Test	146-1984	256
Dispersion Stability of Disperse Dyes		
at High Temperature	166-1987	303
Drycleaning: Durability of Applied		
Designs and Finishes.....	86-1985	121
Durable Press Fabrics, Appearance		
after Repeated Home Laundering	124-1982	212
Durable Press Items, Appearance of		
Creases after Repeated Home		
Laundering	88C-1987	125
Seams after Repeated Home		
Laundering	88B-1981	123
Dusting Properties of Powder Dyes	170-1987	314
Dyestuff Migration: Evaluation of	140-1985	243
Electrical Resistivity of Fabrics.....	76-1987	111
Electrical Resistivity of Yarns	84-1987	119
Electrostatic Clinging of Fabrics:		
Fabric-to-Metal Test.....	115-1986	192
Electrostatic Propensity of Carpets	134-1986	230
Extractable Content of Greige and/or		
Prepared Textiles.....	97-1982	146
Fiber Analysis: Qualitative	20-1985	51
Fiber Analysis: Quantitative.....	20A-1981	67
Finishes in Textiles: Identification	94-1987	136
Fluidity of Dispersions of Cellulose		
from Bleached Cotton Cloth	82-1984	116
Foaming Propensity of Disperse Dye	167-1987	305
Formaldehyde Odor in Resin		
Treated Fabric, Determination of:		
Sealed Jar Method.....	112-1984	187
Frosting (Color Change due to Flat		
Abrasion)		
Emery Method.....	120-1984	205
Screen Method.....	119-1984	202
Fungicides, Evaluation on Textiles:		
Mildew and Rot Resistance of		

Title	Method Number	Page
Textiles	30-1986	91
Hydrogen Peroxide: by Potassium		
Titration: Determination of.....	102-1987	156
Insect Pest Deterrents on Textiles	28-1985	89
Insect, Resistance of Textiles to	24-1985	81
Light Blocking Effect of Curtain		
Materials	148-1984	261
Mercerization in Cotton	89-1985	127
Mildew and Rot Resistance of Textiles:		
Fungicides	30-1981	91
Odor (Formaldehyde) in Resin		
Treated Fabric, Determination of:		
Sealed Jar Method.....	112-1982	187
Oil Repellency: Hydrocarbon		
Resistance Test.....	118-1983	200
Oils, Wool: Oxidation in Storage	62-1983	103
pH of the Water-Extract from Bleached		
Textiles	81-1983	115
Photochromism, Detection of	139-1985	241
Reflectance, Blue, and Whiteness of		
Bleached Fabric	110-1979	167
Rug Back Staining on Vinyl Tile	137-1983	239
Shampooing: Washing of Textile Floor		
Coverings.....	138-1987	240
Snag Resistance of Women's Nylon		
Hosiery	65-1984	104
Soil Redeposition, Resistance to:		
Launder-Ometer Method	151-1985	267
Soil Redeposition, Resistance to:		
Terg-O-Tometer Method	152-1985	269
Soil Release: Oily Stain Release		
Method	130-1981	222
Thermal Fixation Properties of Disperse		
Dyes.....	154-1986	277
Transfer of Acid and Premetallized		
Dyes on Nylon	159-1984	286
Transfer of Basic Dyes on Acrylics	156-1986	280
Transfer of Disperse Dyes on Polyester....	155-1986	279
Water Repellency: Spray Test	22-1985	76
Water Repellency: Static Absorption		
Test.....	21-1983	74
Water Repellency: Tumble Jar Dynamic		
Absorption Test	70-1983	109
Water Resistance: Hydrostatic Pressure		
Test.....	127-1985	217
Water Resistance: Impact Penetration		
Test.....	42-1985	96
Water Resistance: Rain Test	35-1985	94
Weather Resistance:		
General Information.....	111-1984	69
Sunshine Arc Lamp Exposure with		
Wetting	111A-1984	170
Sunshine Arc Lamp Exposure		
without Wetting	111C-1984	179
Exposure to Natural Light and		
Weather	111B-1984	175
Exposure to Natural Light and		
Weather Through Glass	111D-1984	183
Weather Resistance of Textiles:		
Xenon Lamp Exposure.....	169-1987	308

Title	Method Number	Page
Wetting Agents, Evaluation of	17-1985	49
Wetting Agents: Evaluation of Rewetting Agents	27-1985	88
Wetting Agents for Mercerization	43-1985	98
Whiteness of Bleached Fabric, Blue Reflectance and	110-1979	167

Title	Method Number	Page
Wrinkle Recovery of Fabrics: Appearance Method	128-1985	218
Wrinkle Recovery of Fabrics: Recovery Angle Method	66-1984	107

Topical Listing of AATCC Test Methods

BIOLOGICAL PROPERTIES

Antibacterial Activity of Fabrics, Detection of: Agar Plate Method; Test Method 90-1982	129
Antibacterial Activity of Fabrics, Detection of: Parallel Streak Method; Test Method 147-1982	259
Antibacterial Finishes on Fabrics, Evaluation of; Test Method 100-1986	151
Bacterial Alpha-Amylase Enzymes Used in Desizing, Assay of; Test Method 103-1984	158
Fungicides, Evaluation on Textiles: Mildew and Rot Resistance of Textiles; Test Method 30-1986..	91
Insect Pest Deterrents on Textiles; Test Method 28-1985	89
Insects, Resistance of Textiles to; Test Method 24-1985	81

COLORFASTNESS

Color Change Due To Flat Abrasion (Frosting): Emery Method; Test Method 120-1984	205
Color Change Due to Flat Abrasion (Frosting): Screen Wire Method; Test Method 119-1984	202
Color Measurement of Textiles: Instrumental; Test Method 153-1985	271
Color Measurement of the Blue Wool Lightfastness Standards: Instrumental; Test Method 145-1985 ...	254
Colorfastness to Acids and Alkalis; Test Method 6-1986	22
Colorfastness to Bleaching with Chlorine; Test Method 3-1985	20
Colorfastness to Bleaching with Peroxide; Test Method 101-1984	154
Colorfastness to Burnt Gas Fumes; Test Method 23-1983	78
Colorfastness to Carbonizing; Test Method 11-1983 .	28
Colorfastness to Crocking: Carpets—AATCC Crock- meter Method; Test Method 165-1987	301
Colorfastness to Crocking: AATCC Crockmeter Method; Test Method 8-1985	24
Colorfastness to Crocking: Rotary Vertical Crockmeter Method; Test Method 116-1983	196
Colorfastness to Degumming; Test Method 7-1983...	23
Colorfastness to Drycleaning; Test Method 132-1985	226
Colorfastness: Dye Transfer in Storage; Fabric-to- Fabric; Test Method 163-1987	297
Colorfastness to Fulling; Test Method 2-1983	18
Colorfastness to Heat: Dry (excluding Pressing); Test Method 117-1984	198

Colorfastness to Heat: Hot Pressing; Test Method 133-1984	228
Colorfastness to Laundering, Home, and Commercial: Accelerated; Test Method 61-1986	99
Colorfastness to Light: Carbon-Arc Lamp; Alternate Light and Darkness; Test Method 16D-1982	43
Colorfastness to Light; Carbon-Arc Lamp, Continuous Light; Test Method 16A-1982	37
Colorfastness to Light: Detection of Photochromism; Test Method 139-1985	241
Colorfastness to Light: Determination of Fastness above L-7; Test Method 16G-1985	48
Colorfastness to Light: General Method; Test Method 16-1987	33
Colorfastness to Light: Water-Cooled Xenon-Arc Lamp, Alternate Light and Darkness; Test Method 16F-1982	47
Colorfastness to Light: Water-Cooled Xenon-Arc Lamp, Continuous Light; Test Method 16E-1987..	44
Colorfastness to Light through Glass: Daylight; Test Method 16C-1982	39
Colorfastness to Oxides of Nitrogen in the Atmosphere Under High Humidities; Test Method 164-1987 ...	299
Colorfastness to Ozone in the Atmosphere under High Humidities; Test Method 129-1985	220
Colorfastness to Ozone in the Atmosphere under Low Humidities; Test Method 109-1987	165
Colorfastness to Perspiration; Test Method 15-1985..	30
Colorfastness to Pleating; Steam Pleating; Test Method 131-1985	224
Colorfastness to Solvent Spotting: Perchloroethylene; Test Method 157-1985	282
Colorfastness to Stoving; Test Method 9-1983	26
Colorfastness to Water; Test Method 107-1986	163
Colorfastness to Water: Chlorinated Pool; Test Method 162-1986	295
Colorfastness to Water: Sea; Test Method 106-1986	161
Colorfastness to Water Spotting; Test Method 104-1983	160
Colorfastness to Water and Light: Alternate Exposure; Test Method 125-1986	215
Colorfastness to Water (High Humidity) and Light: Alternate Exposure; Test Method 126-1986	216

DYEING PROPERTIES

Chelating Agents: Disperse Dye Shade Change Caused by Metals; Test Method 161-1987	292
---	-----

Compatibility of Basic Dyes for Acrylic Fibers; Test Method 141-1987	245
Dispersion Stability of Disperse Dyes at High Temperature; Test Method 166-1987.....	303
Dusting Properties of Powder Dyes: Evaluation of; Test Method 170-1987	314
Dyestuff Migration: Evaluation of; Test Method 140-1985	243
Foaming Propensity of Disperse Dyes; Test Method 167-1987	305
Thermal Fixation Properties of Disperse Dyes; Test Method 154-1986	277
Transfer of Acid and Premetallized Dyes on Nylon; Test Method 159-1984	286
Transfer of Cationic Dyes on Acrylics; Test Method 156-1986	280
Transfer of Disperse Dyes on Polyester; Test Method 155-1986	279

IDENTIFICATION AND ANALYSIS

Alkali in Bleach Baths Containing Hydrogen Peroxide; Test Method 98-1982.....	147
Alkali in Wet Processed Textiles: Total; Test Method 144-1987	252
Ash Content of Bleached Cellulosic Textiles; Test Method 78-1985	113
Chelating Agents: Active Ingredient Content of Polyaminopolycarboxylic Acid; Copper PAN Method; Test Method 168-1987.....	307
Chelation Value of Aminopolycarboxylic Acids and Their Salts: Calcium Oxalate Method; Test Method 149-1985.....	263
Dispersibility of Disperse Dyes: Filter Test; Test Method 146-1984	256
Extractable Content of Greige and/or Prepared Textiles; Test Method 97-1982.....	146
Fiber Analysis: Qualitative; Test Method 20-1985	51
Fiber Analysis: Quantitative; Test Method 20A-1981	67
Finishes in Textiles: Identification; Test Method 94-1987	136
Fluidity of Dispersions of Cellulose from Bleached Cotton Cloth; Test Method 82-1984	116
Formaldehyde Odor in Resin Treated Fabric, Determination of: Sealed Jar Method; Test Method 112-1984.....	187
Hydrogen Peroxide by Potassium Permanganate Titration: Determination of; Test Method 102- 1987	156
Mercerization in Cotton; Test Method 89-1985	127
pH of the Water-Extract from Bleached Textiles; Test Method 81-1983.....	115

Reflectance, Blue, and Whiteness of Bleached Fabric; Test Method 110-1979	167
--	-----

PHYSICAL PROPERTIES

Abrasion Resistance of Fabrics: Accelerotor Method; Test Method 93-1984.....	133
Absorbency of Bleached Textiles; Test Method 79-1986	114
Aging of Sulfur-Dyed Textiles: Accelerated; Test Method 26-1983	86
Appearance of Apparel and Other Textile End Products After Repeated Home Laundering; Test Method 143-1984.....	249
Appearance of Creases in Durable Press Items after Repeated Home Laundering; Test Method 88C- 1987	125
Appearance of Durable Press Fabrics after Repeated Home Laundering; Test Method 124- 1984	212
Appearance of Flocked Fabric after Repeated Home Laundering and/or Coin-Op Drycleaning; Test Method 142-1983	247
Appearance of Seams in Durable Press Items after Repeated Home Laundering; Test Method 88B- 1984	123
Bond Strength of Bonded and Laminated Fabrics; Test Method 136-1985	236
Carpets: Cleaning of; Hot Water (Steam) Extraction Method; Test Method 171-1987.....	316
Carpet Soiling: Accelerated Soiling Method; Test Method 123-1982	211
Carpet Soiling: Service Soiling Method; Test Method 122-1987	209
Carpet Soiling: Visual Rating Method; Test Method 121-1987	207
Chlorine, Retained, Tensile Loss: Multiple Sample Method; Test Method 114-1985.....	190
Chlorine, Retained, Tensile Loss: Single Sample Method; Test Method 92-1985	131
Dimensional Changes in Automatic Home Laundering of Garments; Test Method 150-1987.....	264
Dimensional Changes in Automatic Home Laundering of Woven or Knit Fabrics; Test Method 135- 1987	233
Dimensional Changes in Laundering of Woven and Knitted Fabrics Except Wool; Test Method 96-1980	143
Dimensional Changes on Drycleaning in Perchloroethylene: Machine Method; Test Method 158-1985.....	283
Dimensional Changes (Shrinkage), Felting and Relaxation, of Woven and Knitted Wool Textiles; Test Method 99-1983	149
Dimensional Restoration of Knitted and Woven Fabrics after Laundering; Test Method 160-1987 ..	288

Drycleaning: Durability of Applied Designs and Finishes; Test Method 86-1985	121	Water Repellency: Tumble Jar Dynamic Absorption Test; Test Method 70-1983	109
Electrical Resistivity of Fabrics; Test Method 76-1987	111	Water Resistance: Hydrostatic Pressure Test; Test Method 127-1985	217
Electrical Resistivity of Yarns; Test Method 84-1987	119	Water Resistance: Impact Penetration Test; Test Method 42-1985	96
Electrostatic Clinging of Fabrics: Fabric-to-Metal Test; Test Method 115-1986	192	Water Resistance: Rain Test; Test Method 35-1985 ..	94
Electrostatic Propensity of Carpets; Test Method 134-1986	230	Weather Resistance: Exposure to Natural Light and Weather; Test Method 111B-1984	175
Light Blocking Effect of Curtain Materials; Test Method 148-1984	261	Weather Resistance: Exposure to Natural Light and Weather through Glass; Test Method 111D-1984	183
Oil Repellency: Hydrocarbon Resistance Test; Test Method 118-1983	200	Weather Resistance: General Information; Test Method 111-1984	169
Oils, Wool: Oxidation in Storage; Test Method 62-1983	103	Weather Resistance: Sunshine Arc Lamp Exposure with Wetting; Test Method 111A-1984	170
Rug Back Staining on Vinyl Tile: Test Method 137-1983	239	Weather Resistance: Sunshine Arc Lamp Exposure without Wetting; Test Method 111C-1984	179
Shampooing: Washing of Textile Floor Coverings; Test Method 138-1987	240	Weather Resistance of Textiles: Xenon Lamp Exposure; Test Method 169-1987	308
Snag Resistance of Women's Nylon Hosiery; Tested Method 65-1984	104	Wetting Agents, Evaluation of; Test Method 17-1985	49
Soil Redeposition, Resistance to: Launder-Ometer Method; Test Method 151-1985	267	Wetting Agents: Evaluation of Rewetting Agents; Test Method 27-1985	88
Soil Redeposition, Resistance to: Terg-O-Tometer Method; Test Method 152-1985	269	Wetting Agents for Mercerization; Test Method 43-1985	98
Soil Release: Oily Stain Release Method; Test Method 130-1981	222	Wrinkle Recovery of Fabrics: Appearance Method; Test Method 128-1985	218
Water Repellency: Spray Test; Test Method 22-1985	76	Wrinkle Recovery of Fabrics: Recovery Angle Method; Test Method 66-1984	107
Water Repellency: Static Absorption Test; Test Method 21-1983	74		

Changes in AATCC Test Methods

The following changes have been made in AATCC test methods since publication of the 1987 edition of the TECHNICAL MANUAL. The copy deadline for changes in the 1987 edition was April 1, 1987.

11-1983, Colorfastness to Carbonizing

Editorially revised to add a standard safety precautions section.

16-1987, Colorfastness to Light: General Method

Revised to correct the irradiance level, total irradiance and to specify the ambient temperature.

16E-1987, Colorfastness to Light: Water-Cooled Xenon-Arc Lamp, Continuous Light

Revised to correct the irradiance level, total irradiance and to specify the ambient temperature.

22-1985, Water Repellency: Spray Test

Editorially revised to add a standard safety precautions section and a preliminary precision and bias statement.

26-1983, Aging of Sulfur-Dyed Textiles: Accelerated

Editorially revised to add a preliminary precision and bias statement.

35-1985, Water Resistance: Rain Test

Editorially revised to add a standard safety precautions section and a preliminary precision and bias statement.

42-1985, Water Resistance: Impact Penetration Test

Editorially revised to clarify the parts needed to construct an Impact Penetration Tester.

76-1987, Electrical Resistivity of Fabrics

Reaffirmed and editorially revised to add a preliminary precision and bias statement.

84-1987, Electrical Resistivity of Yarns

Reaffirmed and editorially revised to add a bias statement to the precision and bias section.

88C-1987, Appearance of Creases in Durable Press Items After Repeated Home Laundering

Revised to use Crease Appearance Replicas to rate creases in durable press items after repeated home laundering which replaced the use of photographic comparative ratings for crease retention. A new lighting and viewing arrangement has also been implemented. The Crease Appearance Replicas are available from the AATCC Technical Center.

94-1987, Finishes in Textiles: Identification

Revised in its entirety to better give guidelines for qualitative identification of various finish components present on textile fabrics, yarns or fibers. The identification scheme may involve any or all of the following: Sequential solvent extractions followed by identification of extracts by infrared spectroscopy, gas chromatography, high performance liquid chromatography, thin layer chromatography, nuclear magnetic resonance spectroscopy, or other instrumental or wet chemical methods; direct measure of elemental or chemical species on fabric by X-ray fluorescent spectroscopy, infrared reflectance spectroscopy, furnace atomic absorption spectroscopy and other instrumental or wet chemical analysis

methods; and identification of specific finishing components by chemical spot tests on the textile or on textile extracts.

97-1982, Extractable Content of Greige and/or Prepared Textiles

Editorially revised to add preliminary terminology, safety precautions and precision and bias statements.

98-1982, Alkali in Bleach Baths Containing Hydrogen Peroxide

Editorially revised to add a preliminary precision and bias statement.

101-1984, Colorfastness to Bleaching with Peroxide

Editorially revised to include a preliminary precision and bias statement.

102-1987, Hydrogen Peroxide by Potassium Permanganate Titration: Determination of

Revised for the purpose of determining the concentration of hydrogen peroxide in aqueous solutions, particularly those used in textile bleaching. The revisions also include a change in the title and the addition of a preliminary precision and bias statement.

104-1983, Colorfastness to Water Spotting

Editorially revised to add a standard safety precautions section and a preliminary precision and bias statement.

109-1987, Colorfastness to Ozone in the Atmosphere Under Low Humidities

Revised to include a uses and limitations section and a precision and bias statement. A statement concerning the control of temperature and relative humidity for reference or interlab testing was included and the method was rewritten to comply with the current AATCC Style Guide for Writing Test Methods.

111B-1984, Weather Resistance: Exposure to Natural Light and Weather

Editorially revised to add a standard safety precautions section and a preliminary precision and bias statement.

121-1987, Carpet Soiling: Visual Rating Method

Reaffirmed and editorially revised to include a standard safety precautions section.

122-1987, Carpet Soiling: Service Soiling Method

Reaffirmed and editorially revised to include a preliminary precision and bias statement.

135-1987, Dimensional Changes in Automatic Home Laundering of Woven and Knit Fabrics

Revised extensively to make the method more understandable and easier to follow. The method is intended for the determination of dimensional changes in woven and knit fabrics subjected to repeated automatic laundering procedures commonly used in the home. Four washing temperatures ranging from cold to hot are intended to reflect the usual range of cold, warm and hot temperatures in home washing. Three agitation cycles in laundering reflect those commonly available to the consumer. Four drying test procedures cover the range of drying techniques used in the

home. The revisions also include the addition of terminology and safety precautions sections and a preliminary precision and bias statement.

138-1987, Shampooing: Washing of Textile Floor Coverings

Reaffirmed and editorially revised to change sodium alkyl-sulfate to sodium laurylsulfate and to replace the preliminary precision and bias statement with a permanent statement.

140-1985, Dyestuff Migration: Evaluation of

Editorially revised to include a preliminary precision and bias statement.

141-1987, Compatibility of Basic Dyes for Acrylic Fibers

Reaffirmed and editorially revised to add a preliminary precision and bias statement.

144-1987, Alkali in Wet Processed Textiles: Total

Revised to include alkali in all wet processed textiles since the total alkali content of textiles is one indication of washing and/or neutralizing efficiency after wet processing, particularly bleaching. The total alkalinity can affect subsequent steps such as dyeing or finishing, in particular, resin finishing. The revision of the test method includes a title change to correspond with the changes in the method, a preliminary terminology section and a precision and bias statement.

146-1984, Dispersibility of Disperse Dyes: Filter Test

Editorially revised to add a preliminary precision and bias statement.

150-1987, Dimensional Changes in Automatic Home Laundering of Garments

Revised extensively to make the method more understandable and easier to use. The method is intended for the determination of dimensional changes of garments subjected to repeated automatic laundering procedures commonly used in the home. Four washing temperatures ranging from cold to hot are intended to reflect the usual range of cold, warm and hot temperatures in home washing. Three agitation cycles in laundering reflect those commonly available to the consumer. Four drying test procedures cover the range of drying techniques used in the home. The revisions also include the addition of definitions in the terminology section and a preliminary precision and bias statement.

159-1984, Transfer of Acid and Premetallized Dyes on Nylon

Editorially revised to add the term *transfer* to the terminology section and to add a preliminary precision and bias statement.

160-1987, Dimensional Restoration of Knitted and Woven Fabrics After Laundering

Revised extensively to make the method more understandable and easier to follow. Laundered knit or woven fabrics are subjected to restoration forces before measuring dimensional changes. The method is used in conjunction with other test methods for determining dimensional change in laundering. The revisions also include the addition of several definitions to the terminology section, the addition of a

standard safety precautions section and a preliminary precision and bias statement.

161-1987, Chelating Agents: Disperse Dye Shade Change Caused by Metals

Reaffirmed.

163-1987, Colorfastness: Dye Transfer in Storage; Fabric-to-Fabric

Reaffirmed.

164-1987, Colorfastness to Oxides of Nitrogen in the Atmosphere Under High Humidities

Reaffirmed.

165-1987, Colorfastness to Crocking: Carpets—AATCC Crockmeter Method

Reaffirmed.

166-1987, Dispersion Stability of Disperse Dyes at High Temperature

Reaffirmed.

167-1987, Foaming Propensity of Disperse Dye

Reaffirmed.

168-1987, Chelating Agents: Active Ingredient Content of Polyaminopolycarboxylic Acid; Copper Pan Method

This newly developed test method is designed to be an alternative to AATCC Method 149, Chelation Value of Aminocarboxylic Acids and Their Salts: Calcium Oxalate Method.

169-1987, Weather Resistance of Textiles: Xenon Lamp Exposure

This newly developed test method provides a procedure for the exposure of textile materials of all kinds, including coated fabrics and products made thereof, in an artificial weathering apparatus using controlled conditions of test. The method includes procedures for both controlled wetting and no wetting of the specimen.

170-1987, Dusting Properties of Powder Dyes: Evaluation of

This newly developed test provides a standard method for the evaluation of dusting properties of powder dyes. The method permits the assignment of a numerical rating describing the degree of dusting; or, conversely, the degree of non-dusting of powder dyes. The method is not intended for a quantitative determination of dusting. Water soluble dyes may give a lower rating than an equal amount of dusting caused by disperse dyes. Nevertheless, the method correlates well with dusting which may occur in practical usage. The Dusting Test Apparatus referenced in this method is available from the AATCC Technical Center.

171-1987, Carpets: Cleaning of; Hot Water (Steam) Extraction Method

Over the years, AATCC Research Committee RA57, Floor Covering Test Methods, has evaluated various techniques for on-site cleaning of carpets. Information exchanged with professional carpet cleaning organizations led to the selection of the system described in this newly developed test method as typical of a majority of actual cleaning operations. The method provides a laboratory procedure to clean textile