

adidas

A0181/A0294

Print / Heat Transfer Print Procedure -Washing Test

Referenced documents:

A0181 01D-01-200 Print Procedure)-Version 04

A0294_a 01P-02-100 Heat Transfer Print Quality Procedure-T1-Version 02

Mandatory Test Chart on Trims/Accessories

1.06 Supplementary Procedures for Trims and Accessories)-Version 02

4.02 Dimensional Changes in Home Laundry(International) -Version 03

4.03 Dimensional Changes in Home Laundry (American)-Version 03

The SCI logo consists of the letters 'SCI' in a large, bold, black, sans-serif font. The 'S' and 'C' are connected, and the 'I' is a single vertical stroke.

Partner for Success

01. Purpose and Scope

02. Hardware / Equipment

03. Sample

04. Procedure

05. Data collection, Evaluation and Reporting

06. Requirements

Purpose

This procedure has been established in order to guarantee compliance to the physical & chemical quality requirements for prints used on any adidas Group Apparel.

Scope

1. A0294 Heat Transfer Print
2. A0181 Print
 - o Screen Prints
 - o Digital Prints
 - o Flock Prints
 - o Sublimation Prints
 - o Special Prints: Metal Studs & Glass Stones
 - o Pad Printing



Equipment



Washing machine 4.02

Miele Washing Machine and spin speed min. 1200 to max. 1600 turns / minute



Tumble dryer 4.02

Domestic tumble dryer with a cool-down facility.



Ballast Fabric(Makeweights) 4.02

Makeweights Compliant with ISO 6330 2012 (4 layer 100% Polyester)



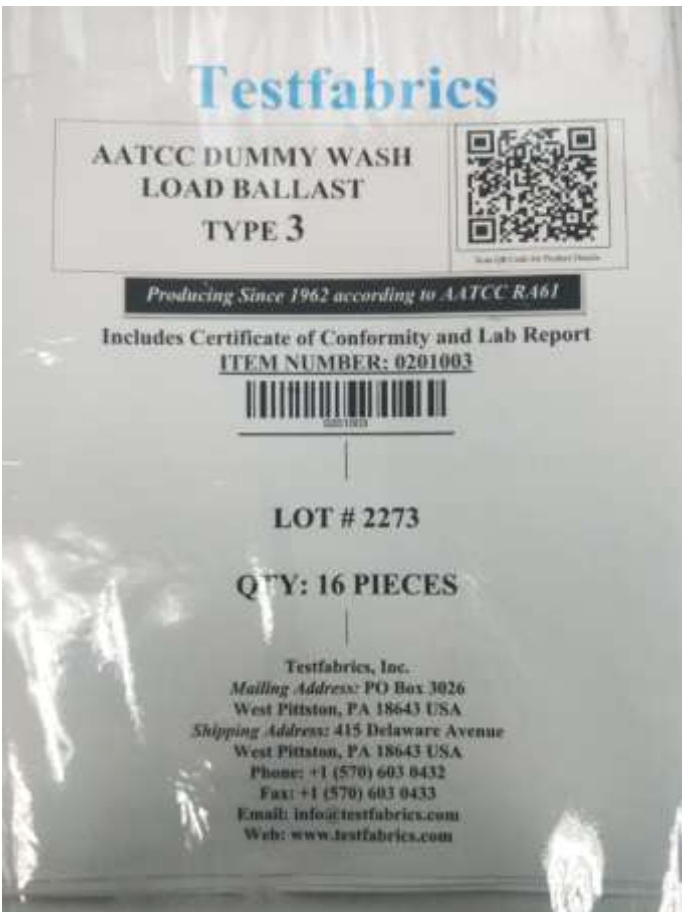
Washing machine 4.03

According to AATCC Laboratory Procedure 1
Labtex LBT-M6 (Tables I, IIC, IID, IIIA, IIIB)
Labtex LBT-M6T (Tables IIA 1.8-kg load only, IIB 1.8-kg load only)
SDL Atlas Vortex M6 (Tables I, IIC, IID, IIIA, IIIB)
Whirlpool 3LWTW4840YW (Table IIC 3.6-kg load only)*
Whirlpool 3LWTW4815FW (Table IIIB 3.6-kg load only)*
Whirlpool 4KWTW4815FW (Table IIIB 3.6-kg load only)*
Whirlpool WTW5000DW (Table IIIC 3.6-kg load only, revised Delicate water level)*



Tumble dryer 4.03

According to AATCC Laboratory Procedure 1
James Heal Accudry
Labtex LBT-M6D
Roaches Opti-Dry
SDL Atlas M223/1/2 Precision Tumble Dryer
SDL Atlas Vortex M6D
Whirlpool 3LWED4900YW
Whirlpool 3LWED4815FW (220 V/50 Hz/Single Phase)
Whirlpool 4KWED4815FW (220 V/60 Hz/Single Phase)
Whirlpool WED5000DW (220 V/60 Hz/Dual Phase)



Ballast Fabric(Makeweights) 4.03

50/50 Polyester/Cotton bleached mercerized plain weave. (AATCC Ballast Type 3).

Equipment



Thermometer 4.03
Thermometer 0 - 100°C



Washing detergent 4.02/4.03
Commercial / Standard Household Washing Detergent that is widely available in the order region or selling region

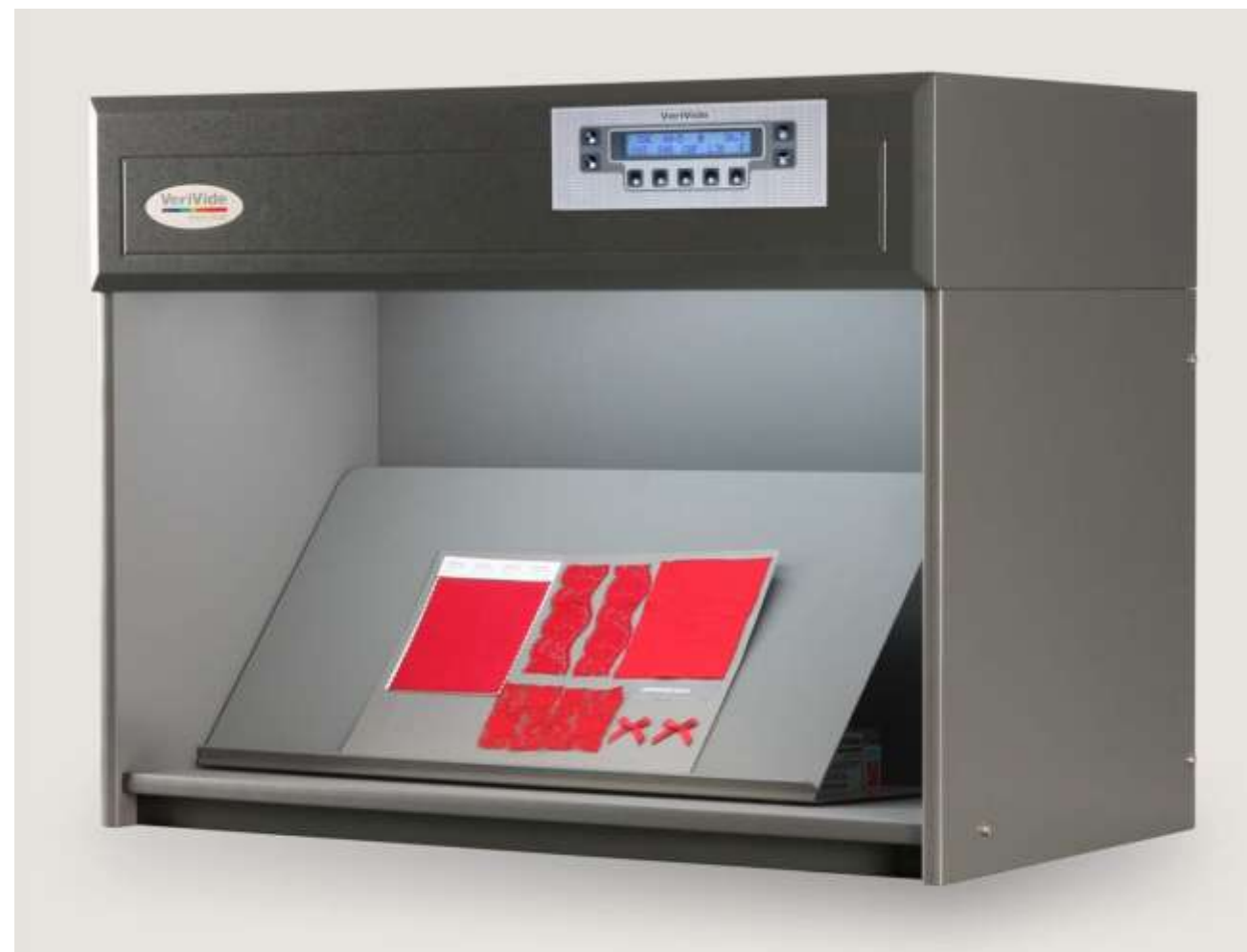


Balance for Detergent
Balance capable of weighing 150 – 200g and accurate to 0.1g



Balance for Ballast
Balance capable of weighing up to 2.0 +/-0.1 kg

Equipment



Colour assessment cabinet

According to Adidas 1.02 Colour Fastness
The cabinets must be fitted with D65 Artificial
Daylight to comply with BS950 Part 1



Grey scale for assessing change in colour

According to Adidas 1.02 Colour Fastness
BS EN 20105 1995 ISO 105 1993 AO2
Grey Scales for Assessing Colour Change



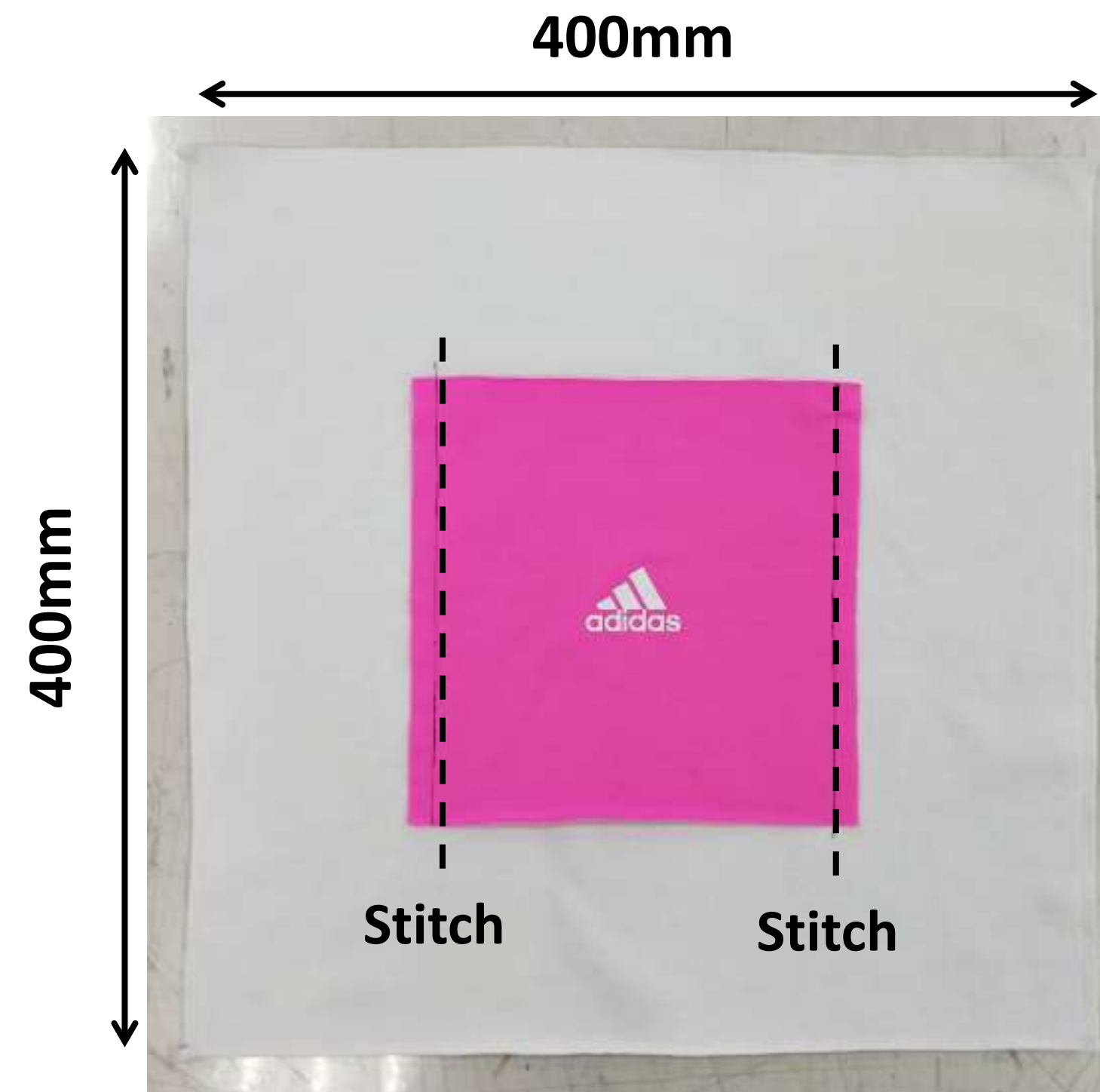
Pre Shrunk Fabric

According to Adidas 1.06 Suppl Procedures Trims and Accessories
Size : 400mm x 400 mm
Warp knitted fabrics are particularly suitable.
Woven fabrics should be over locked on four edges to prevent
fraying during repeated washing/drying procedures.
The selected fabric must be un dyed and washed/tumble dried
repeated times before using.
Repeated washing /drying before use will ensure that no further
shrinkage takes place during subsequent testing.

Preparation

The size of the specimen should not be less than **400mm X 400mm**.

Otherwise, the specimen need to be sewn on the pre shrunk fabric(size : 400mm X 400mm).



Washing

4.02 international

- 1. The total wash load of the test specimens and makeweights should be 2 kg.
- 2. Ensure no more than half of the load is test specimens, the rest of the load being made up of makeweights.
- 3. Select a 40°C programme (Table 1).
- 4. Setting spin speed min. 1200 to max. 1600 turns / minute.
- 5. Start the machine. When the water is above the base level in the sight tube pour the dissolved powder/liquid into the machines by lifting the lid on the top of the machine.
Flush down by rinsing the beaker out with an additional quantity of warm water.
- 3. On completion of the programme remove the wash load.
- 4. Perform drying procedure.



dissolved powder/liquid



warm water

Table 1

Machine	Procedure	Total Load	Temperature	Wash Level mm	Rinse Level mm	Household Detergent g(ml)
Miele	Cotton or Normal cycle	2kg	40°C	-	-	15.0



Makeweights Compliant with
ISO 6330 2012 (4 layer 100% Polyester)

Washing

4.03 American

- 1. The total wash load of the test specimens and makeweights should be 2 kg.
- 2. Ensure no more than half of the load is test specimens, the rest of the load being made up of makeweights.
- 3. Select the wash required depending on the instruction of the fabric supplier, if no temperature is stated use 40°C .
Set wash programme according to Table 2.
- 4. Start the machine. Once the machine has reached the fill level, ensure that the set temperature has been achieved (+/-2°C). Pour the dissolved powder/liquid into the machines.
- 5. Place makeweights then the test specimens in the washing machine. (total wash load :2 kg)
- 6. On completion of the programme remove the wash load.
- 7. Perform drying procedure.



dissolved powder/liquid



50/50 Polyester/Cotton bleached mercerized plain weave. (AATCC Ballast Type 3).

Table 2

Machine	Agitation Setting	Total Load	Washing		Household Detergent
			Wash temp	Liquor level	g(ml)
AATCC Approved model	Normal cycle	2kg	40+/-2°C	Small 45L	45.0
				Extra small 60L	60.0

Drying

Tumble dry

- 1. Remove the test specimen from the wash load.
- 2. Unpick the stitch line from one end only of each sample, this will allow free movement of the samples during tumble drying.
- 3. Place the test specimens and makeweights.(total load :2 kg)into a tumble dryer.

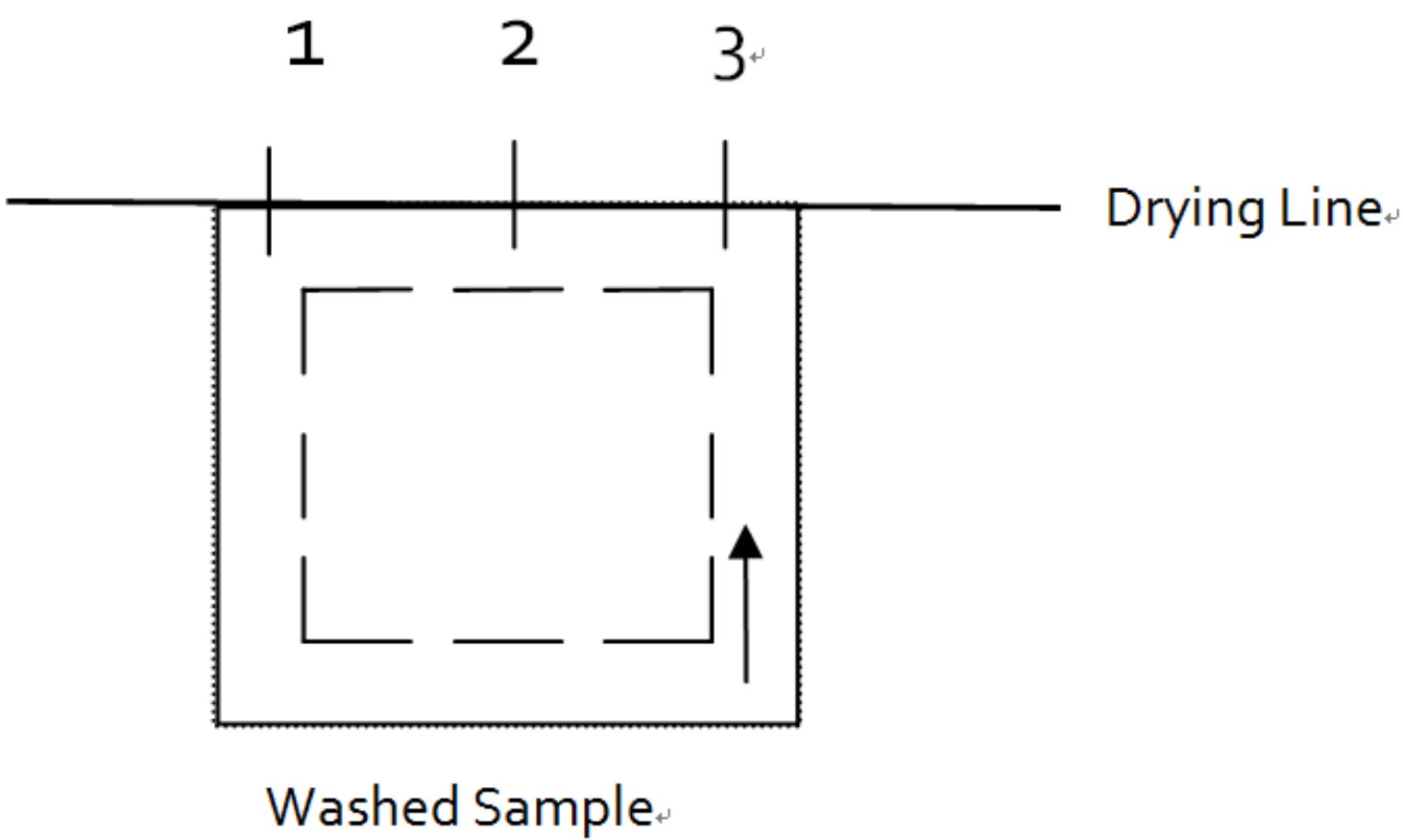
The temperature and time settings are as follows:

Test Method	Temperature settings tumble dryer low	Time settings (including a cool-down period)	Cool-down period
4.02	Max 50	Cellulosic and blends: 70 min Synthetics: 45 min	5 min
4.03	Delicate cycle		≤ 10 min



Line dry

- 1. Remove the test specimen only from the wash load and attach to the drying line.
Dry the makeweights separately.
- 2. This can be achieved by securing by the top edge of the specimen by three pegs/clips spaced evenly thereby supporting the full weight. The length (warp) direction should be in the vertical direction .
- 3. Hang the test specimen in a room without wind to allow the specimen to dry naturally.



Washing and drying cycle

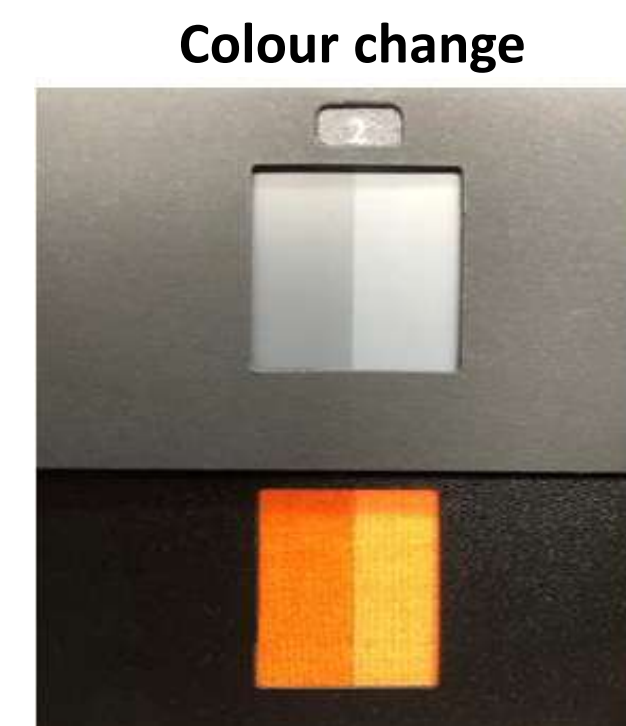
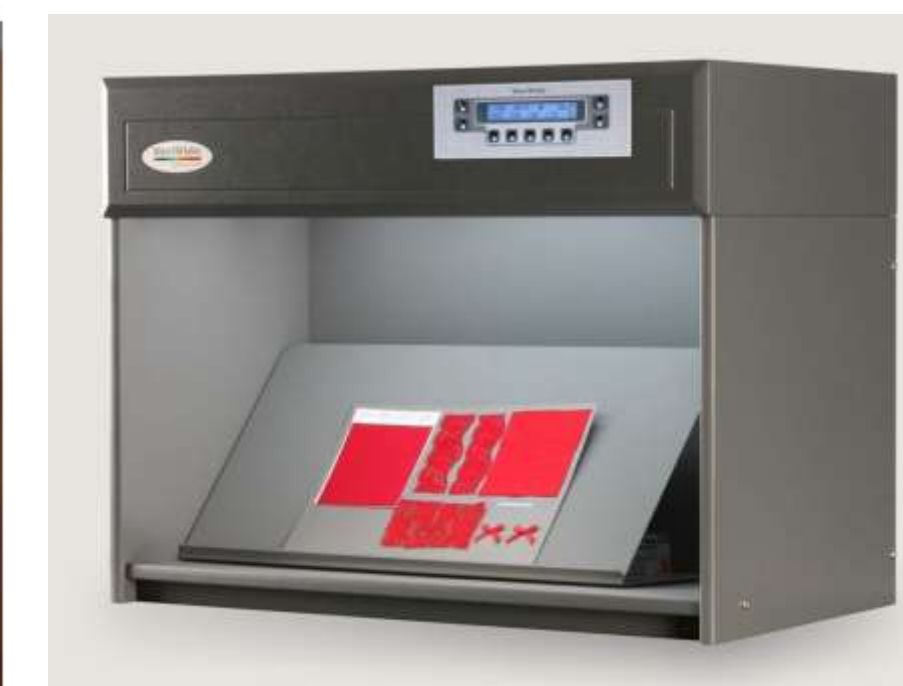
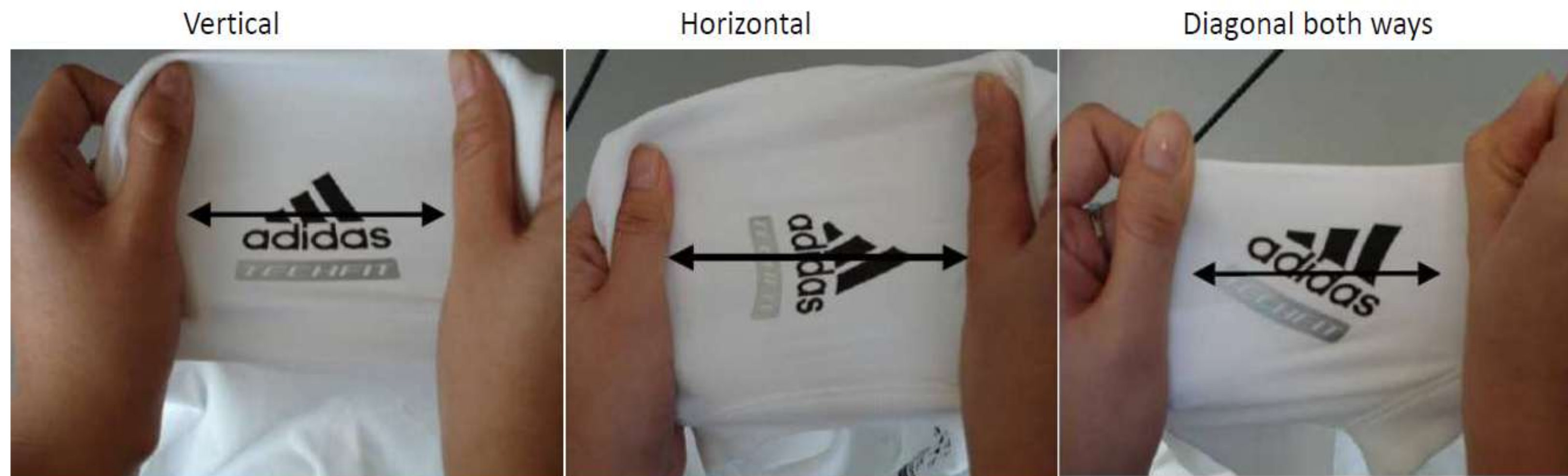
Stage	Development		Pre-production & Bulk		Novelty / Special Prints	
	Football	Non-Football	Football	Non-Football	Normal setting	Sensitive setting
Washing procedure	10 continuous washes at 60°C	5 continuous washes at 40°C followed by 5 continuous washes at 60°C	5 continuous washes at 60°C	5 continuous washes at 40°C	5 continuous washes at 30° or 40°C	5 continuous washes at 30°C
Drying procedure	tumble dry after the 10th cycle		tumble dry low after the 5th cycle		tumble dry low (or line dry) after the 5th cycle	line dry after the 5th cycle

Data collection, Evaluation and Reporting

Evaluation

A0181 Print

- o For general ranges, hold the sample by hand 2cm away from the print & stretch it until the fabric has reached its natural stretch behavior (in horizontal, vertical and diagonal direction)
- o For football and rugby ranges that require maximum stretch, fabrics need to be stretched to its maximum extension instead of natural stretch.
- o Stretch test should be conducted in both before and after washes, check if there's any **cracking, peeling or bubbling** before and after stretch.
- o After washing assess the specimens in a colour matching cabinet under D65. Using the grey scale for colour change .



Grade	1	1-2	2	2-3	3	3-4	4	4-5	5
Colour change									

Data collection, Evaluation and Reporting

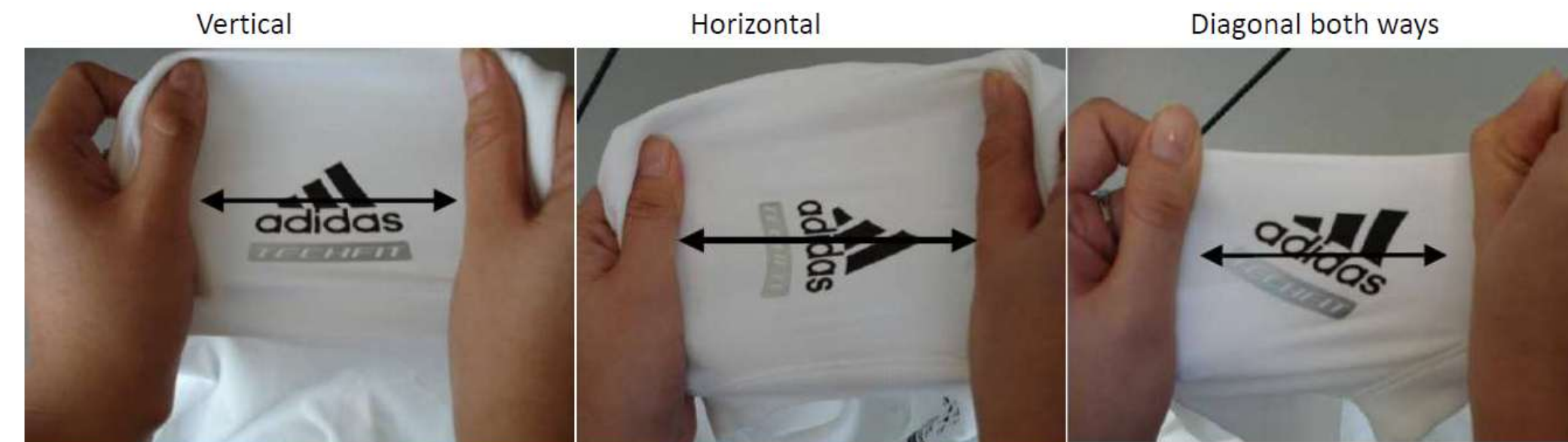
Evaluation

A0294 Heat Transfer Print

- o Appearance of heat transfer
- o Glue mark around the heat transfer
- o Plate & Film mark around the heat transfer
- o Cracking, peeling or bubbling before and after inspection

(Stretch the panel by holding 2cms away from the transfer as below to the natural stretch of the fabric, in vertical, horizontal and diagonal directions.)

- o After washing assess the specimens in a colour matching cabinet under D65. Using the grey scale for colour change .



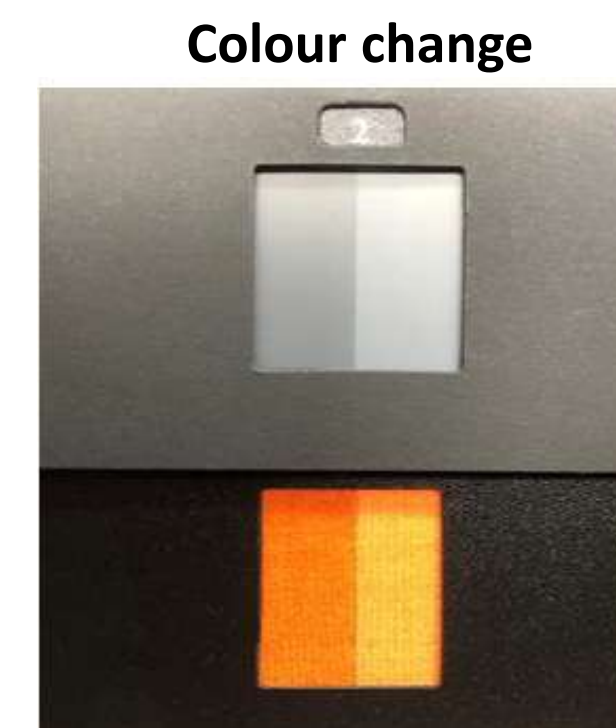
Peeling off




Cracking



Tolerated glue line mark is up to maximum 1mm (Zero tolerance) and should have a consistent appearance throughout the production.



Colour change

Grade	1	1-2	2	2-3	3	3-4	4	4-5	5
Colour change	Obviously  Not obviously								

Data collection, Evaluation and Reporting

Reporting

Using the adidas Group standard report format:

TRIM & ACCESSORY TEST REPORT						adidas GROUP	
Test Report No.:		Submission No.:					
MATERIAL SPECIFICATION:							
adidas Ref. No.:				adidas Color:			
Material Supplier:		Weight: g/ m ² / width :		Garment Maker:			
Supplier Ref.:		Construction:					
Composition:		Remarks:					
Coating:							
Finishing:							
Trims & Accessories Properties Tests							
	Test Name	Requirement	Test Results	Test Details	A	R	
1	4.02 Shrinkage (Line Dry)	refer to the shrinkage standard		% length			
		refer to the shrinkage standard		% width			
2	4.02 Shrinkage (Tumble Dry)	refer to the shrinkage standard		% length			
		refer to the shrinkage standard		% width			
3	4.03 Shrinkage (Line Dry)	refer to the shrinkage standard		% length			
		refer to the shrinkage standard		% width			
4	4.03 Shrinkage (Tumble Dry)	refer to the shrinkage standard		% length			
		refer to the shrinkage standard		% width			
5	Appearance after washing	after 1 washing					
		after 10 washing (30°C)					
		after 10 washing (5x40 °C + 5x60°C)					
		after 10 washing (60°C)					
6	4.12 Elongation and Recovery (Elastic Trims & Accessories)	Elongation ≥ 120% (for all sewn on elastic tapes)		%			

MANDATORY TEST CHART ON TRIMS

Version 3 MANDATORY TEST CHART ON TRIMS

TEST METHOD (pl. refer to 1.06 Supplementary Procedures for trims & acc.)		Heat Transfer Prints		Other Prints Excluding HT (e.g. screen print, digital print, sublimation, flocking print...)	S
		remarks	requirement	requirement	
A01	A-01 Policy		pass	pass	
Kids Safety	Kids Safety Policy (baby & kids styles)	refers to kids product only	pass	pass	
4.02	Dimensional Change in Home Laundry (International) Line Dry (LD) & Tumble Dry (TD)				LI TI
4.03	Dimensional Change in Home Laundry (American) Line Dry (LD) & Tumble Dry (TD)				LI TI
Appearance after washing	4.02 or 4.03	Performance: 5x40°C + 5x60°C Football: 10x60°C Novelty: 10x40°C or 10x30°C	10x* color change 4-5 no cracks, no distortion	10x* color change 4-5 no cracks, no distortion	