Kohl's Denim Testing Standard Operating Procedure (SOP)

Overview:

Kohl's requires all new or newly adopted denim fabrics to undergo Adopted Denim Testing. This process evaluates fabric performance across a range of wash treatments, helping to identify any potential concerns before moving into bulk production.

The goal of this testing is to guide our cross-functional teams in selecting denim that aligns with the intended fit, wash, strength, and overall style requirements. By doing so, we take a proactive, data-driven approach to improve denim quality and ensure a consistent, high-satisfaction experience for our customers.

The Quality Assurance–Product Integrity (QA-PI) team is available for consultation on any test results that fall outside of the parameters outlined in the Adopted Denim Testing chart (provided on the following page).

Adopted Denim Testing- Sample Submission:

- Contact the designated test lab to determine the required quantity of samples.
- Submit Raw Denim, Code A, and Code B washes for testing.
- Select "Adopted Denim" on the Test Request Form (TRF).
- Follow wash codes as outlined in the Adopted Denim Testing chart (see next page)

Note: For tight-fitting, under-spec, highly destructed, or aggressively washed denim, it is strongly recommended that the Vendor/MR contact QA-PI for further guidance.

Adopted Denim Testing:

Labs should confirm the receipt of required fabrics and refer to Kohl's most recent fabric protocols, available on KLINK, to ensure current requirements are followed. Specific requirements are listed for some of the tests (as indicated below). All others are to follow the requirements as stated under protocol 102 woven fabrics and protocol 203 for Code A and Code B denim.

Labs should complete the tests listed below for Adopted Denim Testing:

Testing Required	Raw Denim	Code A Rinse Wash	Code B Light Wash
Wash Process		Only desize 10 min.	Desize + Enzyme Stone 45 mins + Bleach (stone added at recipe to have max stress to fabric)
Tensile Strength	x Fail: <90 lbs	X Fail: < 50 lbs	X Fail: < 50 lbs
Tear Strength	x	X	X
Tension & Elongation	x Total Elongation: <25%	x Total Elongation: 25%- 50%	x Total Elongation: > 50%
Stretch & Recovery	x Fail: Recovery < 85% Growth > 7%	X Fail: Recovery< 85% Growth > 4%	X Fail: Recovery < 85% Growth > 4%
Dimensional Stability (warp & weft only) **	x **Fail:** Weft Results: ≥11% Warp Results : >3%	X	X
Kohl's Appearance Retention (Torque & Skew only)	X Fail: Results > 3%		
Seam Slippage	x	X	X
Seam Strength	x	X	X
Colorfastness to Crocking	x	X	
Weight	x	X	X
Fiber Content	X		

Required Parameters & Test Results

Kohl's QA-PI has set specific performance parameters that differ from standard pass/fail requirements. These tests include: Dimensional Stability, Stretch & Recovery/ Tension & Elongation, and Tensile Strength. Any fabric that does not meet these parameters will receive a "Failed" status in the test report.

***Any Dimensional Stability results outside >3% Warp or >11% Weft shrinkage requires a pre-production discussion with Production, the Global Denim Team (GDT), and QA/PI, as a pilot run may be recommended or required.**

Data & Documentation

- Vendors/MRs must obtain and provide the following from mills:
    - Raw and washed weights
    - Yarn count and yarn size
- Vendors to fill in this data on the applicable TRF's:
    - Fabric TRF: Raw weight and construction

    - Garment TRF: Washed weight and construction
- Wash panels should be arranged by the garment vendor.
- Labs must include raw & washed weights & construction as data within the test report(s).
- Labs must provide modulus readings (length and width) during all stages of testing.
- Testing may be conducted at:
    - An accredited in-house lab, or
    - A Kohl's third-party approved facility

Failed Testing Requires Vendor To Email Testing Summary to QA-PI & GDT
Vendor's Email Must:

- Attach test report(s)
- Provide fabric reference number
- Provide Brand information
- Provide intended fit and image of the style
- Provide detailed information highlighting the failures
- Provide industrial shrinkage results if dimensional stability is failing
- Provide resolution/explanation for testing waiver request*
- Provide Full Garment Shrinkage/KAR test results
    - Only required if fails Dimensional Stability in fabric testing

**Vendors must immediately notify QA, PI, GDT, and Production if there are concerns regarding meeting performance standards (e.g., shrinkage, puckering, etc.).

***Example of testing waiver request:**

Failing Properties of HAMEEM R11769						
Failing points	Dimensional Stability		CF TO CROCKING		Tension & Elongation of Elastic Fabric	
Color (S)	Requirements	Achieved	Requirements	Achieved	Requirements	Achieved
Raw Fabric	Warp : ≤3%	Warp : -2%	Dry--3.5	Dry-- 3.5	Elongation < 25%	Elongation 13.3% - Pass
	Weft: <11%	Weft: -15% Failed	Wet--2	Wet--1.0 Failed	Growth 7%	Growth 0.25% - Pass
Code A-Rinse Wash	Warp : -3.0 TO +1.0 %	Warp : -2%	Dry--3.5	Dry-- 3.5	Elongation 25%-5	Elongation 34% - Pass
	Weft: -3.0 TO +1.0 %	Warp : -2%			Growth 4%	Growth 2.25% - Pass
Code B-Light Wash	Warp : -3.0 TO +1.0 %	Warp : -2%			Elongation >50%	Elongation 39.6% -Failed
	Weft: -3.0 TO +1.0 %	Weft: -2%			Growth 4%	Growth 2.5% - Pass
Industrial Shrinkage	Code A Rinse Wash : Length -0.8%, Width -15.9% Code B Light Wash : Length -2.0%, Width -18.7%					
	Vendor Comments		Vendor Comments		Vendor Comments	
	This is a high stretch fabric (having almost 40% stretch) in 98% cotton, 2% spandex composition. Thus, dimensional stability will be higher than regular fabric. Kindly advise this can be accepted.		Raw fabric - Crocking performance will be poor in Raw stage due to unfix dyestuffs. Rinse Wash- Since this is dark wash, thus wet rub can be achieved 1.5. Please help to accept as it is.		This fabric will be using for Loose fit. Considering the stretch performance, please help to accept accordingly.	

Test Reporting & Review Process

- Testing is the responsibility of the vendor.
- Final reports must be uploaded to OnePLM by a third-party approved lab.
- Reports will be reviewed by QA-PI, agents, and vendors.

Issue Resolution & Follow-Up

- If concerns are identified prior to or during Early Garment Development (EGD), QA-PI will work with the Global Denim Team to assess performance and determine appropriate action.

NEW: Full Garment Shrinkage/KAR Test*

- Conduct only when fabric fails dimensional stability testing in the raw state.
- To assess garment-level performance when denim fabric fails to meet Kohl's dimensional stability standards at the fabric stage.
- Vendor to include test results at the same time email to QA-PI & GDT is sent for failed fabric testing summary
- Test Requirements (on medium wash only):
    - Dimensional Stability (3 washes)
    - KAR (3 washes)

Early Garment Development (EGD) Testing:

EGD testing is required during the early development stage for all new or adopted denim styles. The garment factory is responsible for conducting this testing in accordance with Kohl's 203 Garment Protocol, covering the darkest wash, medium shade, and most extreme wash.

Key Requirements:

- EGD testing must be completed before the fit approval process begins.
- Testing should use sample yardage, and there must be sufficient fabric on hand to produce these test garments.
- Garments used for EGD testing and those submitted for fit approval must be identical and prepared concurrently.
- When these conditions are met, Kohl's will accept the same garments for both EGD testing and fit evaluation.
- If Pilot Run is recommended or required, it is to be conducted if/when a bulk order gets placed. Blanket shrinkage results must be provided. If the results of the pilot are acceptable, then goods can be rolled over & used for bulk garment production**.**

Garment Bulk Production Testing:

Once EGD Testing is complete & vendor either has a Passing Test Report, or a QA-PI Accepted/ Waived Report, then Garment Bulk Production Testing can take place. Testing must follow protocol 203 and include relevant washes for the style(s). Any questions, please reach out to the Kohl's PI team.

Existing/Running Denim Fabric Testing:

Existing or Running fabrics should follow our standard bulk production fabric test requirements. This includes testing dark rinse and light washes, following the 102 fabric protocol.
Any questions regarding the process, please reach out to Kohl's QA-PI team for assistance.

When Should Denim Testing Take Place?

TESTING REQUIRED FOR DENIM/WASHED APPAREL				
	ADOPTED FABRIC/ DEVELOPMENT	EARLY GARMENT DEVELOPMENT TESTING	PRODUCTION FABRIC	PRODUCTION GARMENT
TYPE OF FABRIC				
ADOPTED/NEW	X	X	X	X
EXISTING			X	X
** FULL GARMENT SHRINKAGE/KAR TESTING IS REQUIRED WHEN FABRIC TESTING FAILS TO MEET KOHL'S DIMENSIONAL STABILITY REQUIREMENTS. THIS WILL TAKE PLACE PRIOR TO EARLY GARMENT DEVELOPMENT TESTING				

Additional reminders:

- Testing is required to be uploaded into OnePLM, as per Kohl's policy.
- Kohl's QA-PI team reviews failing reports, and will consult with Vendor/MR & Global Denim Team (GDT) on an as-needed basis.
- If no stretch performance is indicated on the TRF, but there is spandex in the fabric/garment, labs are to follow the Comfort Stretch parameters. If stretch performance *is* known at the time of testing, refer to the *Stretch Performance Claims* section of this document.

Stretch Performance Claims for Denim:

The Stretch Performance Claim chart shown below is intended to be used as a tool for directional development to help the GDT predict performance across multiple silhouettes and washes. Visibility to these results in the Adopted Fabric stage allows our teams to identify expectations for stretch and performance.

Parameters are listed below & also listed in Kohl's 401 Performance Claim protocol on KLINK**.**

Performance Claim	Requirements
Comfort Stretch	Total Elongation @ 10 lbs: < 25% Recovery @ 60 sec: 85% min Growth @ 30 min: 7% max
Performance Stretch	Total Elongation @ 10 lbs: 25%-50% Recovery @ 60 sec: 85% min Growth @ 30 min: 4% max
Super Stretch	Total Elongation @ 10 lbs: > 50% Recovery @ 60 sec: 85% min Growth @ 30 min: 4% max

Note: QA-PI is available to consult on test report results on an as-needed basis. It is important that cross-functional team members understand the testing parameters, and not rely on QA-PI to comment on each individual test report.

Kohl's Denim Adopted Fabric Roles & Responsibilities:

FABRIC TESTING:ROLES /RESPONSIBILITIES & PROCESS		
	TASK	**OWNER**
1	Seasonal new fabric selection	GDT
2	Trigger sample request in new/adopted fabric	GDT
3	Upon receipt of development chart in new fabrics, automatically trigger fabric testing: -Before wash -After wash code A -After wash code B	VendorI
4	Once fabric testing is complete, add into master chart and upload report into OnePLM	Vendor
5	Review any reports falling outside of the agreed upon parameters. PI & LF/DI to alert GDT	QA-PI & Vendor
6	Identify performance claim based on testing that can be marketed	QA-PI
7	PM to reach out to PI on any marketing claims they want to call out in regards to stretch. Below are current claims & parameters (available on KLINK): Comfort Stretch Performance Stretch Super Stretch	QA-PI & PM

VERSION HISTORY:

Version 1: *Created by Jackie Deppisch*
Version 2: *June 2022- updated requirements for adopted denim dimensional stability and Torque/SKEW -Changes made by Jackie Deppisch*
Version 3: *August 2022**-** updated to add in Existing/Running Denim Fabric production testing parameters; Guidelines for how to report weight, fabric count for fabric and garment submissions-Changes made by Jackie Deppisch*
Version 4: *July 2025- Updated to add in Full Garment Shrink Test, Failed Fabric Testing Summary requirements/example image, updating PPG testing to be called Early Garment Development (EGD) testing, overall document update to make the SOP more clear and easy to understand- Jackie Deppisch*