Ripley Berg, Autumn Graybill, Sophia Strathearn, Brigitta Vande Lune, Max Veasman
Dr. Chunhui Xiang
FDM 3050
11 December 2025
Brand: Old Navy
Part One: Product and Target Market

The product for analysis is a pair of *Sky-Hi* Wide Leg Jeans from the brand *Old Navy*. Fabric content is 99% cotton with an added 1% spandex. The target consumer is women in their 20-30's, living on a lower to middle class income, possibly ranging from $49,000-$62,000. Aesthetics the consumer is looking for would be leaning modest, possibly following a business casual dress code. Old Navy is a family focused brand, so it is assumed the customers share similar values when shopping with them. The target consumer does not shop often, usually only out of necessity, and relies on good quality items that last a few seasons, without compromising affordability. Analyzing the brand, Old Navy is known for decent quality denim that is easy to care for, along with a wide range of sizing, furthering their consumer market.

The five most important test results for the Old Navy jeans are wrinkle recovery, hand, drapeability, crocking, and durability strength. Wrinkle recovery was accepted, hand was accepted, the drapability for the front was accepted and the drapability for the back was not accepted as it was too stiff, crocking was not accepted, and durability strength was accepted. Changes recommended to improve product quality would be to improve drapability for the back of the fabric to meet the drapability of the front of the fabric, as well as improving crocking and perspiration. To make these changes in production, we could add elastane which would increase stretch, reduce stiffness, and improve drape. We could also use Tencel to reduce rigidity, or use ring-spun yarns instead of open-end to create a better bending performance. A lower yarn twist could also be used to increase pliability. To improve crocking resistance, we could increase dye fixation through improving/reducing oxidizing cycles, ensure proper yarn penetration, and use pre-reduced indigo with better fixation efficiency to minimize loose dye particles. Lastly, for better perspiration fastness, production could use a perspiration -resistant fixative. Improving these properties in production would create a low to moderate price increase overall.

Given that the target market for the Sky-Hi Wide Leg Jeans from Old Navy are shopping for convenience and affordable prices, these changes may not increase purchasability for our shopper, as a price increase may deter them from purchasing.

Our final consensus regarding the Old Navy jeans is accepted, as our customer would be satisfied with the overall performance of the Old Navy Sky-Hi Wide Leg Jeans, specifically the durability performance of the jeans which provided excellent results in breaking strength, seam strength, and pilling resistance.

Part Two: Fabric Characteristics

Fabric Characteristics	Test Method	Specifications	Testing Results	Comments
Structure	Visual Analysis	As a rule, denim is woven as 3/1 twill, 2/1 twill, 3/1 broken twill, or 2/2 broken twill.	Average Warp = 6.79mm/g Average Filling = 4.49mm/g	—
Count (epi X ppi or wpi X cpi)	ASTM D 3775	60-64 warp yarns per inch and 38-42 filling yarns per inch	**Warp:** 32.2in^2 **Weft:** 22in^2	**Accepted**
Fabric Name	—	100% Cotton Denim	Left Hand Twill, 2xq weave	—
Weight	ASTM D 3776	Bottom weight 14.5-ounce denim	—	—
Bow/Skew	ASTM D 3882	Bow: 1-2% of fabric width Skew: 2-3%	**Bow:** **Sample 1:** 0.39% **Sample 2:** 10% **Sample 3:** 20% **Skew:** **Sample 1:** 13.79% **Sample 2 & 3:** No skew	**Not Accepted** Both the bow and skew are over the spec margin of error.
Yarns: Type (all)	ASTM D 1059	The drafted cotton fibers twist around the spandex core to produce and elastic ring-spun	—	—

		type yarn		
Size/Number/Denier	ASTM D 1907	Warp yarns for bottom weight jeans typically range in size from Ne 4.0 to Ne 12.5/1	—	—
Twist & Twist Direction	ASTM D 1422	combinations of ring and open-end yarns.only Z-twist yarns are formed in open-end yarns, while ring-spun yarns have either Z or S. For that reason, open-end yarn can be used in left-hand twills when a more pronounced twill line is desirable	“S” twist	—
Fiber Content: Qualitative	ASTM D 20	Body: Cotton and Spandex	—	—
Fiber Content: Quantitative	ASTM 20A	Body: 99% Cotton, 1% Spandex	—	—
Special Purpose Finish	AATCC 94	N/A	—	**Accepted**
Color: dye or pigment class	No Standard Test Method	Dye	—	**Accepted**
Stage When Colored	Visual Assessment	Yarn dyed	—	**Accepted**
Description of Color	ASTM D 2616	Pantone: Dark Denim 19-4118 TCX	—	**Accepted**

				
Color Matching Requirements	AATCC 9	**ΔE ≤ 1.0–1.5** is typically acceptable for denim Measurement usually in *CIELAB system (L, a*, b): • L: Lightness (0=black, 100=white) • a: Red-Green axis • b: Yellow-Blue axis	—	—
Fabric Defects/ Fabric Quality	ASTM D 5430	Level #01-#05 #01 being the worst and #05 being the best	—	—

Part Three: Physical Performance

Physical Performance	Test Method	Specifications	Testing Results	Comments
Durability Tearing Strength	ASTM D 2261 Tongue (Single Rip)	**Warp: ≥ 12 lbf** **Fill: ≥ 10 lbf**	Ultimate Force **Sample 1:** 21.833 **Sample 2:** 22.067 **Sample 3:** 22.333 **Sample 4:** 23.800 **Sample 5:** 22.933	**Accepted** Durability tearing strength is well above required specification.
Breaking Force	ASTM D5034-08 Textile Fabrics Breaking Strength & elongation - Grab Strength	Warp: **≥ 250 lbf**, ≥ 15% Fill: **≥ 150 lbf**, ≥ 10%	Max elongation % **Sample 1:** 44.2% **Sample 2:** 45.7% **Sample 3:** 43.9% **Sample 4:** 45.0% **Sample 5:** 43.8%	**Accepted** Our sample data far exceeds the required specification for breaking force.
Bursting Strength (Seam Strength)	ASTM D 3786	(lbs., min.) 40.0 <9.0 45.0 >_ 9.0	(mm/min) Inner Seam **Sample 1:** 850 **Sample 2:** 1,000 **Sample 3**: 897 Sample 4: 880	**Accepted** The seam bursting strength well exceeds the required specification. The seams were proven to be very durable for the fabric

			Sample 5: 905	weight.
Pilling	ASTM D 3512	30 minute cycle 4.0+-0.5	**Sample 1:** 4 (meets specs) **Sample 2:** 5 (does not meet) **Sample 3:** 5 (does not meet) **Sample 4:** 5 (does not meet)	**Accepted** The test for pilling was accepted as the samples were between 4-t, meeting specifications.
Abrasion resistance	ASTM 3884	Less than 2-3% mass loss	**Sample 1:** 50 Cycles Initial weight: 5.77g Final weight: 5.75g 2 grams of lost mass <u>0.3% mass lost</u> **Sample 2:** 65 Cycles Initial weight: 5.82g Final Weight: 5.77g 5 grams of lost mass <u>0.8% mass lost</u> **Sample 3:** 50 Cycles Initial weight: 5.83g Final weight: 5.75g 8 grams of lost mass	**Accepted** This meets specs because it did not lose over 3% of mass

			1.4% mass lost **Sample 4:** 50 Cycles Initial weight: 5.76g Final weight: 5.71g 5 grams of lost mass 0.8% mass lost **Sample 5:** 50 Cycles Initial weight: 5.89g Final weight: 5.84g 5 grams of lost mass 0.8% mass lost Average Mass Loss: 0.82% mass lost	
Snagging	ASTM D 3939	600 cycles 4.5+-0.5	**Sample 1:** 4 (slight Snagging) **Sample 2:** 4 (slight Snagging)	**Accepted** Meets specifications. The sample had very slight snagging and appeared to be very durable during testing.
Colorfastness: Light	AATCC 16	(min) 20 AFU - 3.5	4 - little to no change	**Accepted** The sample was left in direct

				sunlight for around 6 weeks, showing little to no change in color.
Water Impact Penetration	AATCC 42	Water Absorbed: Pass Threshold: ≤ 20g Fail Threshold: > 20g	**Sample 1:** Blotting paper-initial weight: 12.87g Final weight: 32.74g Percentage dry: -154.39% **Sample 2:** Blotting paper-initial weight: 12.87g Final weight: 33.74g Percentage dry: -162.16% **Sample 3:** Blotting paper-initial weight: 12.87g Final weight: 33.67g Percentage dry: -171.62% **Average initial weight:** 12.87g **Average final weight:** 33.36g **Average percentage dry:** 159.39%	**Not Accepted** Samples #2 and Sample #03 surpassed the fail threshold, therefore we do not accept.
Cleaning	—----	—----	—----	—----
Accelerated Washing	AATCC 61	**Minimum**:	**Sample 1:** Denim shade	**Accepted**

		1 being the worst staining/shade change and 5 being no change Shade change: 3-5 Stain: 3-5	change: 3 Multifiber strip staining: 5 **Sample 2:** Denim Shade change: 2-3 Multifiber strip staining: 5 **Sample 3:** Denim shade change: 3-4 Multifiber strip staining: 5 **Sample 4:** Denim shade change: 3 Multifiber strip staining: 5	Four out of five meet the specifications with low color change and staining.
Crocking	AATCC 8	(min) Dry: 3.5 Wet 1.5	Sample 1 color change (wet): 4-5 does not meet Sample 1 color change (dry): 4 Does not meet Sample 2 color staining (wet): 1-2 Meets specs Sample 2 color staining (dry): 3 Meets Specs	**Not Accepted** Two out of four samples did not meet specifications.
Perspiration	AATCC 15	**Perspiration Fastness:** Color change:	**Sample 1:Denim Color Change:** 2-3	**Not Accepted** All samples did

		4.0+-0.5 Staining-Cotton: 4.0+-0.5	**Sample 1: Staining-Cotton :** 5 **Sample 2: Denim Color Change:** 2	not meet specifications.
Frosting	AATCC 120	4.0% +- 0.5%	—	—
Dimensional Stability	AATCC 96	Length x Width 3.0 x 3.0	—	—
Durable press/ appearance retention	ASTM 124	3-4 / 5 after 5 washes	—	—
Hand	ASTM D123 – Standard Terminology for Textile Terms (subjective hand evaluation terminology).	"Moderate hand," not crispy; no excessive hardness that would affect wear comfort Thermal Element: - Warm or Cool Testing Scale: 1 being Coolest, 5 being Warmest **Physical Touch** Testing Scale: 1 being Smooth, 5 being Rough **Stiffness:** Testing Scale: 1 being the most Limp and 5 being the most Stiff	**Thermal Element:** **Sample #01:** Average 3.2 **Sample #02:** Average 2.7 **Sample #03:** Average 3.1 **Physical Touch:** **Sample #01:** Average 2.7 **Sample #02:** Average 2.8 **Sample #03:** Average 2.3 **Stiffness:** **Sample #01:** Average 2.8 **Sample #02:** Average 2.4 **Sample #03:** Average 2.9	**Accepted** Hand was accepted as there was no excessive hardness that would affect wear or comfort.

Absorbency (Wicking)	AATCC 79	50–150% for 100% cotton denim	**Sample #01 Filling:** Starting: 1” Wick: 2 ¾” 36.36% Does not meet specs **Sample #02 Filling:** Starting: 1” Wick: 3” 33.33% Does not meet specs **Sample #03 Filling** Starting: 1” Wick: 2.75” 36.36% Does not meet specs **Sample #01 Warp:** Starting: 1” Wick: 3.5” 28.57% Does not meet specs **Sample #02 Warp:**	**Not Accepted** All samples failed to meet specification, except for Sample #03 Warp.

			Starting: 1” Wick: 3.5” <u>28.57%</u> <u>Does not meet specs</u> **Sample #03** **Warp:** Starting: 2.5” Wick: 3.625” <u>68.97%</u> <u>Meets specs</u> Average Wick: 3.275”	
Water repellency/ resistance	AATCC 22	Rating 70–100 (AATCC 0–100 scale)	**Sample 1:** 0 Complete wetting of the entire face of specimen **Sample 2:** 0 **Sample 3:** 0	**Not Accepted** All samples had complete wetting of the entire face of the specimen.
Flammability	ASTM D6413	Average burn time: ≥ 3.5 seconds	5 samples warp and weft **Warp:** **Average Open Flame Time:** 1:03 minutes **Average Afterglow Time:** 4 minutes **Weft:** **Average Open Flame time:**	**Not Accepted** All samples did not meet specification.

			1:02 minutes **Average Afterglow Time:** 4.50 minutes Does not meet specs because the open flame is longer than 3.5 seconds	
Elongation/ elasticity	ASTM D5034	Warp: 2–3% Weft: 4–5%	Sample #01: 50.9% Sample #02: 49.6% Sample #03: 50.7% Sample #04: 41.3% Sample #05: 49.9% Sample #06: 50.9% Sample #07: 51.2% Sample #08: 45.2%	**Accepted** Our samples well exceeded the needed specification for elongation/elasticity.
Drape		70-80%	**Front of Fabric:** 64.52% (stiff) Meets Specs **Back of Fabric:** 87.44% (stiff) Does not meet specs	**Not Accepted** The front of the fabric was 64.52% - stiff while still meeting specs. The back of fabric was

				87.44%, stiff while not meeting specs.
Stiffness	ASTM D1388	Testing Scale: 1 being the most Limp and 5 being the most Stiff	**Stiffness:** <u>Sample #01:</u> Ripley: 2.5 Autumn: 2.5 Sophia: 3 Brigitta: 3 Max: 3 **Average**: 2.8 <u>Sample #02:</u> Ripley: 2 Autumn: 2.4 Sophia: 2.8 Brigitta: 2.5 Max: 2.5 **Average**: 2.44 <u>Sample #03:</u> Ripley: 3 Autumn: 2.5 Sophia: 3 Brigitta: 3 Max: 3 **Average**: 2.9	**Accepted** Each group member wrote ratings for each sample and then the average of all ratings was calculated. These averages aligned with the product and its stiffness needs.
Creasing	ASTM D1295	Appearance rating 3–4/5 after 5 washes	—	—
Wrinkling	AATCC 66 Wrinkle Recovery	Warp: greater than or equal to 55-60. Weft: greater than or equal 50-55	**Sample #01:** 3 **Sample #02:** 3 **Sample #03:** 4	**Accepted** Sample pieces showed strong wrinkle recovery

		degrees Samples are ranked on a scale from 1 to 5, 1 being the most wrinkled and 5 being the least wrinkled.	**Sample #04:** 3 **Sample #05:** 3 **Sample #06:** 4	- minimal wrinkles remained after 24 hours.

Part Four: Product Characteristics

Product Characteristics	Test Method	Specifications	Testing Results	Comments
Components	Waistband, pockets, pant legs, waistband loops	—	—	—
Materials	Knit cotton, cotton lining, thread, rivet, metal zipper, metal button	—	—	—
Thread Type and Size	ASTM D 204	Polyester thread, tex 60 ± 5	—	—
Lining	ASTM D 276	3oz/yd^2 +- 0.20	—	—
Closures	Metal zipper and metal button	—	—	—
Stitch Density	ASTM D 6193	6-8 Stitch per Inch	—	—
Seam/Hem Strength	ASTM D1683	100 lbf +- 10	Results on page 14	
Seam Density		10-12 SPI 3-inch sample	516 5-Thread Safety **Sample 1:**11 SPI	**Accepted** Average samples meet the

			Sample 2: 11 SPI **Sample 3:**10 SPI **Sample 4:** 9 SPI **Sample 5:** 9 SPI **Sample 6:** 10 SPI **Average SPI Approx:** 10	specification for a 3-inch sample.
Stitch Type	ASTM D6193			
Seam/Hem appearance	ASTM D6193	3 inch sample 9-12 SPI	516 Seam **Sample 1:** 10 SPI **Sample 2:** 10 SPI **Sample 3:** 10 SPI **Sample 4:** 11 SPI **Sample 5:** 11 SPI **Average SPI Approx:** 10	**Accepted** All samples meet the specification range for a 3-inch sample.
Care Label Content	ASTM D 276	N/A	—	—
Seams/Slippage	ASTM D163	30 lbf ± 3	—	—
Seam/Hem Allowance	No Standard Test Method	—	—	—

Closures	No Standard Test Method	Metal zipper and button	—	—
Cost	No Standard Test Method	$44.95 (Style #732521)	—	—
Put-up/Packaging	In plastic bag from factory to store/consumer	Folding spec: fold in half along the crotch and inseam so both legs are aligned. Then fold pant legs to mid leg length and fold again so that the size sticker is facing up	—	—
Labeling	Sticker with size on left pant leg. Paper label with size and price on the front left side waistband seam	—	—	—

Part Five: Performance & Evaluation

Performance & Evaluation	Test Method	Specs
Cost	No Standard Test Method	$44.95 (Style #732521)
Durability	—	—
	ASTM D5034	Warp ≥ 578 N, Fill ≥ 244 N
	ASTM D5035	Warp ≥ 667 N, Fill ≥ 267 N

Performance & Evaluation	Test Method	Specs	Testing Results	Comments

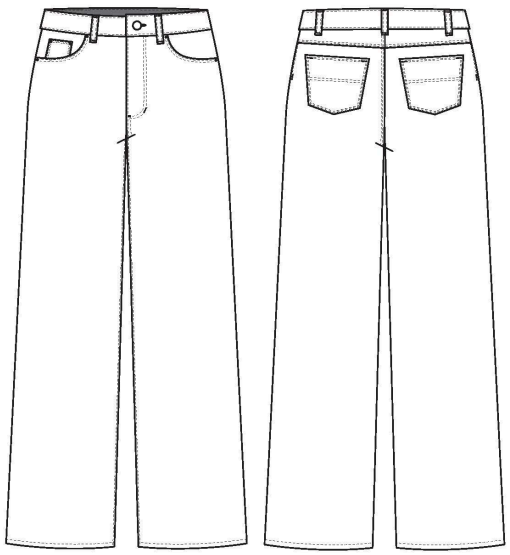
Care/Appearance Retention	—	—	—	
Color Fastness to Laundering	AATCC TM61	Grade ≥ 4 for color change and staining after laundering	—	
Color Fastness to Light	AATCC TM16	Grade ≥ 4 for colorfastness to light after 2 months	4 - little to no change	**Accepted** Sample meets the color fastness specification.
Color Fastness to Perspiration	AATCC TM15	Grade ≥ 2 for colorfastness to perspiration (acid and alkaline)	**Sample 1:** Denim color change: 2-3 Multifiber strip color staining: 5 **Sample 2:** Denim color change: 2 Multifiber strip color staining: 3-4	**Accepted** All samples had a denim color change and multifiber strip staining within the specifications
Comfort Safety	MTC 501	Class I, Standard Flammability	—	—

Part Six: Acceptance Levels

Acceptance Levels	Test Method	Specs
Criteria for Acceptance	ASTM D6554	**Breaking Strength**: Warp ≥ 578 N, Fill ≥ 244 N Tear Strength: Warp ≥ 35 N, Fill ≥ 15 N

		Seam Slippage (¼" separation): ≥ 133 N **Skewness**: 2x1 Twill - 4.5% ± 3% **Dimensional Change**: ≤ 4% **Flammability**: Class I
Accept/Reject & Why	No Standard Test Method	N/A
Defect Level and Types	Defects would be found through running all the tests of the *Physical Performance* and *Product Characteristics* categories.	Level #01-#05 #01 being the worst, and #05 being the best.
Suggested Product Changes & Impact	No Standard Test Method	N/A

Part Seven: Sample Measurements



Zone 1: Crotch down
Zone 2: Back
Zone 3: Crotch up

Part Being Measured	Seam Type	Measurement
Side Seam	LSq	43 ¼" ± ⅛"
Inseam	LSc Seam with 504 Overedge stitch	31 ½" ± ⅛"
Leg Opening	EFb Seam 301 Lockstitch	21" ± ⅛"
Leg Band Height	N/A	¾" ± ⅛"
Symmetry:		Both leg circumferences and leg lengths must be symmetrical ± ⅛"
Waistband: ● Width ● Height	EFa Seam with 406 Coverstitch & 401 Chainstitch	Width:43" ± ⅛" Height: 1 ½" ± ⅛"

Pocket: ● Opening Length	SSi Seam with 504 Overedge stitch	7 ¼" ± ⅛"
Crotch:	Lsas Seam with 301 lockstitch	34" ± ⅛"

Tearing Strength and Breaking Strength Charted Results

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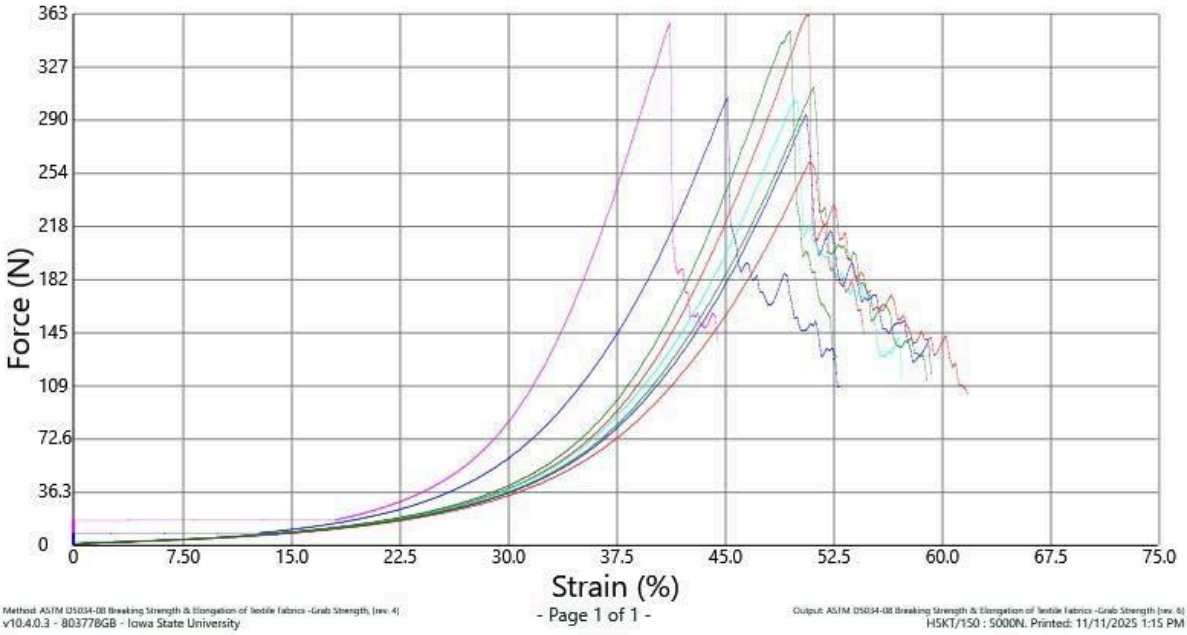
Iowa State University
ASTM D5034-08 Textile Fabrics
Breaking Strength & Elongation - Grab Strength

Lot:	1
Style:	filling
Color:	Denim
Operator:	chunhui
Start Date:	11 Nov, 2025

Temperature:	Ambient
Humidity:	Ambient
Gage Length:	75.0 mm
Test Speed:	300 mm/min
Preload:	1.00 N

Direction: Filling

	Breaking Force N	Max Elongation %
	362	50.9
	351	49.6
	294	50.7
	356	41.3
	303	49.9
	262	50.9
	313	51.2
	306	45.2
Average	318	48.7
SD	35.2	3.6



Method: ASTM D5034-08 Breaking Strength & Elongation of Textile Fabrics -Grab Strength, (rev. 4)
v10.4.0.3 - 803778GB - Iowa State University

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Output: ASTM D5034-08 Breaking Strength & Elongation of Textile Fabrics -Grab Strength (rev. 6)
H5KT/150 : 5000N. Printed: 11/11/2025 1:15 PM

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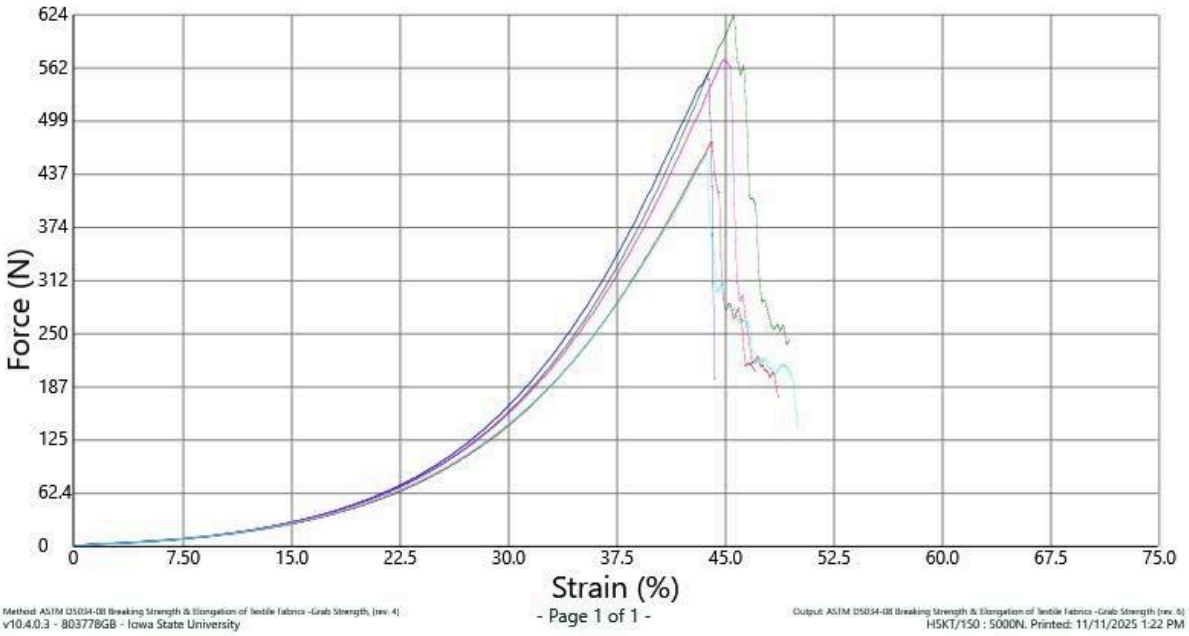
Iowa State University
ASTM D5034-08 Textile Fabrics
Breaking Strength & Elongation - Grab Strength

Lot:	1
Style:	Warp
Color:	Denim
Operator:	chunhui
Start Date:	11 Nov, 2025

Temperature:	Ambient
Humidity:	Ambient
Gage Length:	75.0 mm
Test Speed:	300 mm/min
Preload:	1.00 N

Direction: Warp

	Breaking Force N	Max Elongation %
	475	44.2
	623	45.7
	556	43.9
	572	45.0
	462	43.8
Average	538	44.5
SD	68.0	.8



Method: ASTM D5034-08 Breaking Strength & Elongation of Textile Fabrics -Grab Strength, (rev. 4)
v10.4.0.3 - 80377BGB - Iowa State University

- Page 1 of 1 -

Output: ASTM D5034-08 Breaking Strength & Elongation of Textile Fabrics -Grab Strength (rev. 6)
H5KT/150 : 5000N. Printed: 11/11/2025 1:22 PM

Arc'Teryx

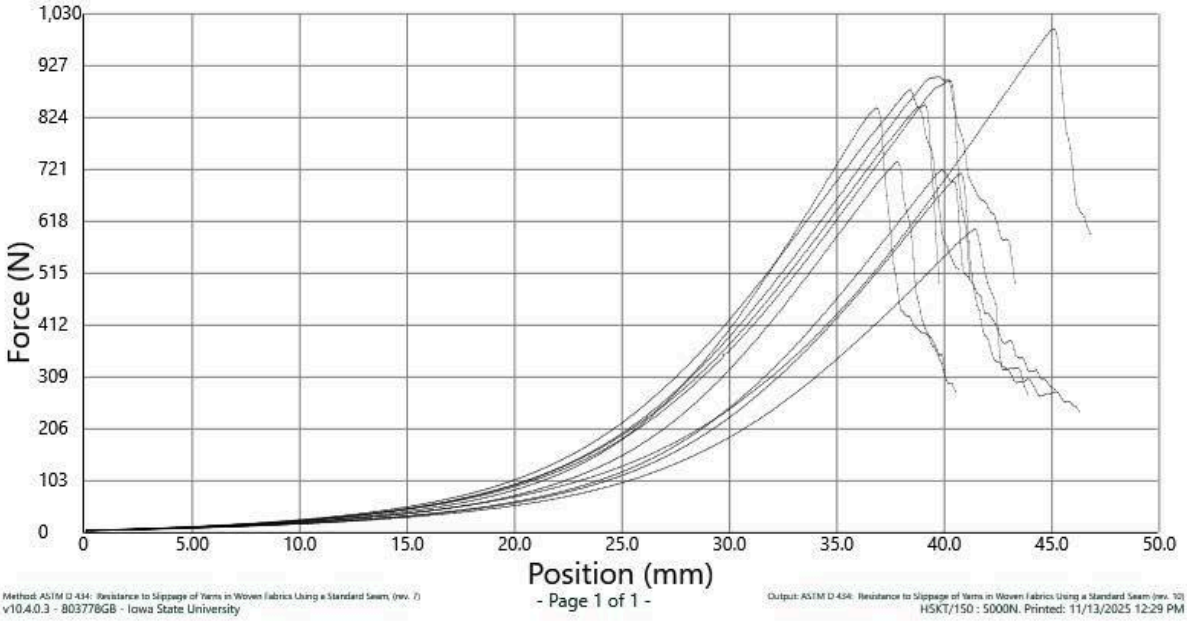
ASTM D 434: 1995

Resistance to Slippage of Yarns in Woven Fabrics Using a Standard Seam

Batch Start Date and Time:	11/13/2025 12:15 PM	Ambient Temperature:	Ambient
PO#:		Relative Humidity:	Ambient
Lot:	2	Jaw separation):	75.0 mm
Style:	Inner Seam	Speed:	300 mm/min
Color:	Denim	Compensation Load:	4.50 N
Technician:	Group 1	Seam Opening:	6.40 mm

Direction: Cross Direction: MD Seam

Fabric Breaking Force N	Seam Breaking Force N	Seam Slippage N	Attributes
713	850	N/F	Fabric tears at seam
602	1,000	N/F	Fabric tears
720	897	N/F	Fabric tears at jaws
735	880	N/F	Fabric tears at seam
843	905	N/F	Fabric tears at seam
Average	906	N/A	
SD	56.5	N/A	



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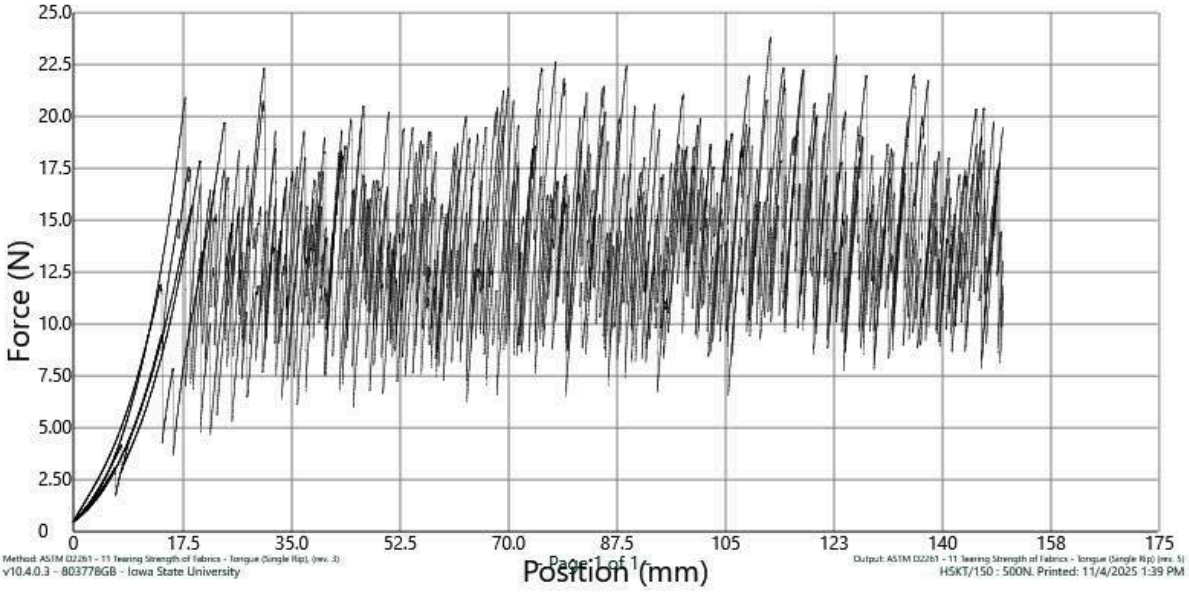
Iowa State University
ASTM D 2261 - 11
Tearing Strength of Fabrics - Tongue (Single Rip)

Lot:	1
Style:	Denim
Color:	Blue
Operator:	
Batch Start Date and Time:	11/4/2025 1:15 PM

Temperature:	Ambient
Humidity:	Ambient
Nominal Grip Separation:	75.0 mm
Test Speed:	50.0 mm/min
Take-Up load:	0.50 N
Pull Length:	150 mm

Direction: Fill

Number of Peaks (Option 1)	Avg 5 Highest Peaks (Option 1) N	Ultimate Force (Option 2) N
75	20.847	21.833
73	20.053	22.067
68	21.743	22.333
65	22.210	23.800
66	22.450	22.933
Average	21.461	22.593
SD	0.997	0.790



Method: ASTM D2261 - 11 Tearing Strength of Fabrics - Tongue (Single Rip), (rev. 3)
v10.4.0.3 - 80377BGB - Iowa State University

Output: ASTM D2261 - 11 Tearing Strength of Fabrics - Tongue (Single Rip) (rev. 5)
HSKT/150 : 500N. Printed: 11/4/2025 1:39 PM

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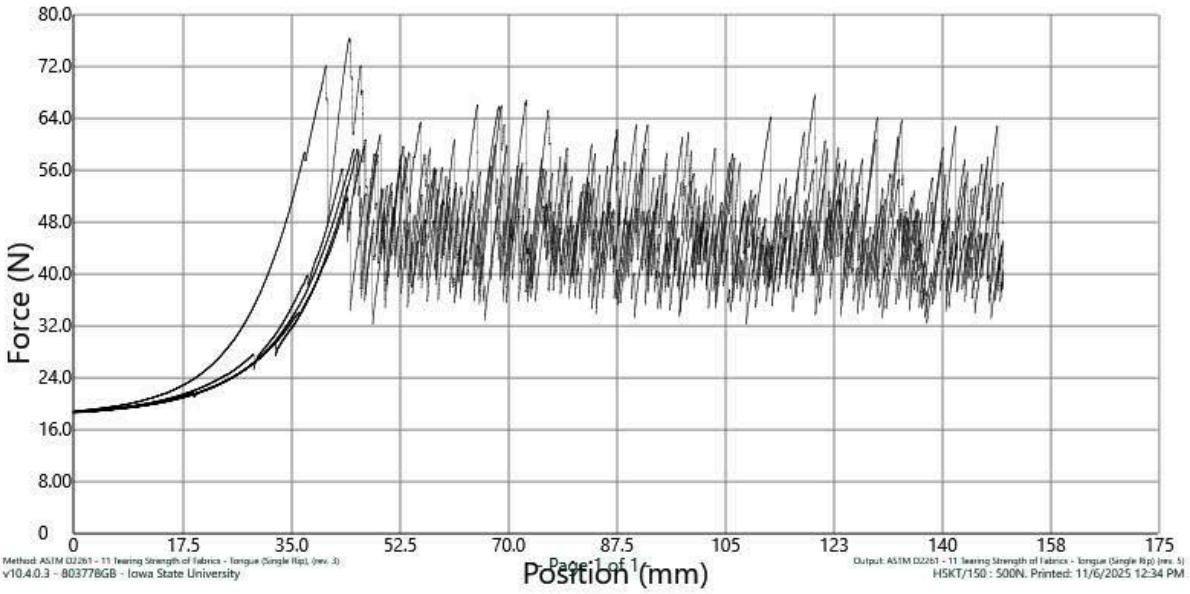
Iowa State University
ASTM D 2261 - 11
Tearing Strength of Fabrics - Tongue (Single Rip)

Lot:	1
Style:	Denim
Color:	Blue
Operator:	
Batch Start Date and Time:	11/6/2025 12:12 PM

Temperature:	Ambient
Humidity:	Ambient
Nominal Grip Separation:	75.0 mm
Test Speed:	50.0 mm/min
Take-Up load:	0.50 N
Pull Length:	150 mm

Direction: Warp

	Number of Peaks (Option 1)	Avg 5 Highest Peaks (Option 1) N	Ultimate Force (Option 2) N
	53	64.177	67.600
	51	65.657	66.750
	51	67.460	76.300
	55	59.080	62.933
	46	58.653	65.750
Average		63.005	67.867
SD		3.956	5.031



Method: ASTM D2261 - 11 Tearing Strength of Fabrics - Tongue (Single Rip), (rev. 3)
v10.4.0.3 - 80377BGB - Iowa State University

Output: ASTM D2261 - 11 Tearing Strength of Fabrics - Tongue (Single Rip) (rev. 5)
HSKT/150 : 500N. Printed: 11/6/2025 12:34 PM

Meeting Minutes:

Week 4:
- Planned out our semester schedule
- Completed Bow & skew testing
- Set up Colorfastness to Light in classroom

Week 5:
- Completed Hand test

Week 6:
- Completed Drapability Testing

Week 7:
- Completed Drapability Testing
- Started Elongation/elasticity testing

Week 8:
Spring Break

Week 9:
- Started flammability test
- Finished Elongation/elasticity testing

Week 10:
- Finished flammability test

Week 11:
- Completed bursting strength test
- Completed abrasion resistance test
- Completed Perspiration Test

Week 12:
- Completed Snagging test
- Completed pilling test
- Prepped Wrinkle recovery testing

Week 13:
- Completed Absorbency(wicking) test
- Completed water repellency/Resistance test
- Finished Wrinkle recovery testing

Week 14:
- Completed Accelerated Washing test
- Completed Stiffness test

Week 15:
- Wrapped up testing and worked on final paper

Work Cited

https://www.pantone.com/color-finder/19-4118-tcx

https://www.hunterlab.com/blog/spectrophotometry-in-the-textile-industry-ensuring-color-consistency-in-denim-production/

https://compass.astm.org/content-access?contentCode=ASTM%7CD6554_D6554M-09%7Cen-US

chrome-extension://efaidnbmnnnibpcajpcglclefindmkaj/https://www.cottoninc.com/wp-content/uploads/2017/12/ISP-1010-Denim-Fabric-Manufacturing.pdf

ChatGpt. (2025). *Jeans Specifications*. https://chatgpt.com/?utm_source=google&utm_medium=paidsearch_brand&utm_campaign=DEPT_SEM_Google_Brand_Acquisition_NAMER_US_Consumer_CPA_BAU_Mix&utm_term=chatgpt&gad_source=1&gad_campaignid=21714513245&gbraid=0AAAAA-IW-UW26AwxD6IPkUyfRo89Ftn5X&gclid=Cj0KCQjwyIPDBhDBARIsAHJyyVgMEyCeZsjK41APIbDHYlzG4TLrIKUvL_UBYcVh886_iuwjz5P992QaAgYwEALw_wcB

https://copilot.microsoft.com..

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