SOUTH QUALITY

PROFICIENCY TESTING PROVIDER

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ASTM D5034

BREAKING STRENGTH AND ELONGATION OF TEXTILE FABRICS (GRAB TEST)

Program: SQ-1174.V3

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1. FOREWORD

This report summarizes the results of the **SQ-1174.V3** proficiency testing program on the determination of the breaking strength of fabrics by the grab method. This program is conducted in a bilateral format, following the "split-sample" design described in clause A.4.2 of ISO/IEC 17043: 2023 (Alternative interlaboratory comparisons).

South Quality conducted the testing program in September 2026 with the aim of assessing the laboratory's ability to competently perform the designated tests.

2. ORGANIZATION

Program Coordinator:	Lic. Esther Casas
Assistant Technician:	Berenice Ferrel
Statistics:	Lic. Manuel Tozaki
Supervision:	Eng. Emiliano Medina

3. OBJECTIVE

The objective of this proficiency testing program is to determine the breaking strength of fabrics by the grab method, in accordance with the following standard:

Standard
ASTM D5034 - 21 (2025)

To verify this, batches of fabrics samples were selected.

Participants in this program have not been previously informed about the expected values or value ranges of the samples they receive.

4. PARTICIPANT

Company:	**Intertek Testing Services de México**
Laboratory:	**Intertek Testing Services de México**
Country:	Mexico
Client ID:	C100
Contact person:	Jacquelin Jiménez Quality Coordinator jacquelin.jimenez@intertek.com

5. HOMOGENEITY

Several batches were prepared identically by the staff at South Quality.

Subsequently, a homogeneity study was conducted with an ISO 17025 accredited laboratory.

The control process followed ISO 33405: 2024, clauses 7.4.1.1 / 7.4.1.2. Stratified random sampling was applied, and samples were selected using random number generation software.

The results of this test are presented below:

Size of each batch: **50 units** Tested samples from each batch: **10 units**

DETERMINATION	HOMOGENEITY OF RESULTS IN THE ANALYZED SAMPLES		
	BATCH: LT5028	BATCH: LT5029	BATCH: LT5030
Breaking strength	YES	NO	YES

Size of each batch: **50 units** Tested samples from each batch: **10 units**

DETERMINATION	HOMOGENEITY OF RESULTS IN THE ANALYZED SAMPLES		
	BATCH: LT5421	BATCH: LT5422	BATCH: LT5423
Breaking strength	NO	YES	YES

Samples for this program are taken from the selected batches identified as **LT5028** and **LT5422**.

For the indicated batches, the values determined in the homogeneity study are utilized as the assigned values.

The analysis of the test data indicated that the selected samples exhibited sufficient homogeneity for the program. Therefore, the results of participants identified as outliers cannot be attributed to sample variability.

6. SAMPLE INFORMATION

The following samples were sent for testing:

Batch:	LT5028
Sample ID:	08
Characteristics:	White fabric - 170 x 90 mm (MD) - 7 units

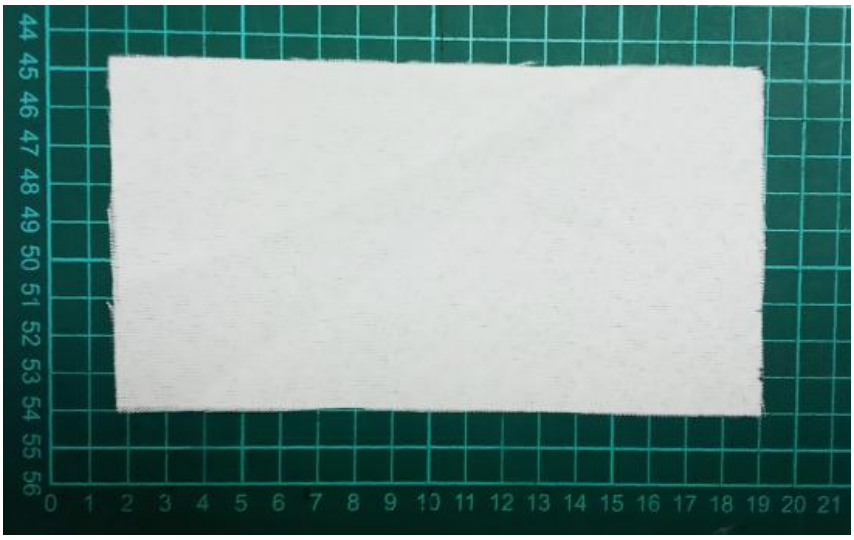
Batch:	LT5028
Sample ID:	08
Characteristics:	White fabric - 170 x 90 mm (CMD) - 8 units

Batch:	LT5422
Sample ID:	03
Characteristics:	Denim fabric - 170 x 90 mm (MD) - 7 units

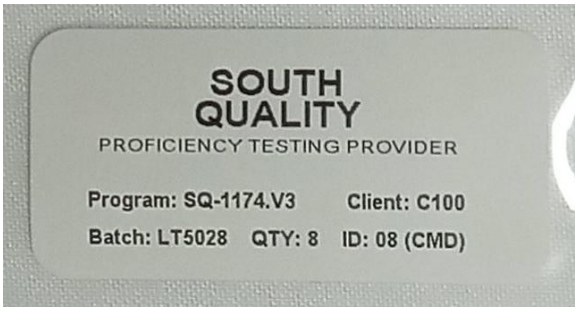
Batch:	LT5422
Sample ID:	03
Characteristics:	Denim fabric - 170 x 90 mm (CMD) - 8 units

7. IMAGES

SAMPLES



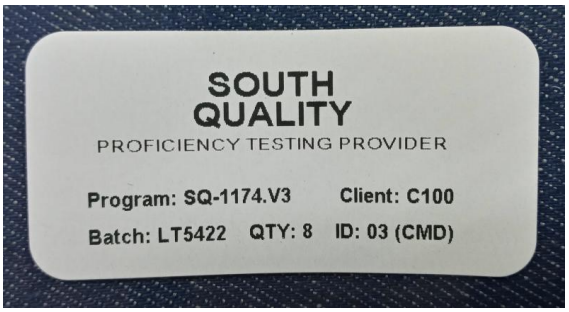




SAMPLES







8. ASSIGNED VALUES

BATCH	BREAKING STRENGTH FORCE (LBF)	
	AVG	SD
LT5028 (MD)	218.3	4.1
LT5028 (CMD)	181.7	3.7
LT5422 (MD)	162.1	3.5
LT5422 (CMD)	92.9	2.1

9. PARTICIPANT RESULTS (SEE APPENDIX B)

CODE	BREAKING STRENGTH FORCE (LBF)
LT5028-08 (MD)	223.1
LT5028-08 (CMD)	185.6
LT5422-03 (MD)	159.6
LT5422-03 (CMD)	88.2

10. STATISTICS

The results must be treated as quantitative.

According to B.4.1.3 of ISO 17043 the appropriate technique is to compare participant results with the assigned values. The results can be compared using z **score.**

$$z = \frac{x - X}{\hat{\sigma}}$$

x is the participant's result

X is the assigned value

$\hat{\sigma}$ is the standard deviation

The performance evaluation of each sample is carried out with the following criteria:

$\lvert z \rvert \leq 2.0$	**indicates "satisfactory" performance and generates no signal;**
$2.0 < \lvert z \rvert < 3.0$	**indicates "questionable" performance and generates a warning signal;**
$\lvert z \rvert \geq 3.0$	**indicates "unsatisfactory" performance and generates an action signal;**

11. EVALUATION OF PERFORMANCE

BATCH	BREAKING STRENGTH FORCE (lbf) AVG		| z score |	PERFORMANCE RESULT
	PARTICIPANT RESULT	ASSIGNED VALUE		
LT5028 (MD)	223.1	218.3	**1.17**	**SATISFACTORY**
LT5028 (CMD)	185.6	181.7	**1.05**	**SATISFACTORY**
LT5422 (MD)	159.6	162.1	**0.71**	**SATISFACTORY**
LT5422 (CMD)	88.2	92.9	**1.95**	**SATISFACTORY**

12. CONCLUSIONS

The overall performance on this **SQ-1174.V3** program from the participant laboratory **Intertek Testing Services de México** is **SUFFICIENT** based on expected results.

The criteria used for evaluating the overall performance are as follows:

- **SUFFICIENT** performance: No unsatisfactory/questionable results were obtained.
- **ALMOST SUFFICIENT** performance: No unsatisfactory results were obtained, but one questionable result was found.
- **INSUFFICIENT** performance: An unsatisfactory result or two questionable results were obtained.

APPENDIX A

INSTRUCTIONS

INSTRUCTIONS

PROGRAM:	Breaking strength and elongation of textile fabrics (Grab test)
CODE:	SQ-1174
VERSION:	3
STANDARD:	ASTM D5034
COORDINATOR:	Lic. Esther Casas (ecasas@ptsouthquality.com)

1 - General

This document serves as a guide for managing the results of the **SQ-1174.V3** program.

2 - Standard

ASTM D5034 - 21 (2025)

3 - Tests involved

TEST
Determination of the breaking strength and elongation of fabrics by the grab method

4 - Samples

CODE	SAMPLE	QUANTITY
LT5028-08	White fabric - 170 x 90 mm (MD)	7
LT5028-08	White fabric - 170 x 90 mm (CMD)	8
LT5422-03	Denim fabric - 170 x 90 mm (MD)	7
LT5422-03	Denim fabric - 170 x 90 mm (CMD)	8

5 - Notes

a) Being a bilateral program, there is no deadline for submitting results.
b) The participant must submit the results using the usual report employed by their laboratory.
c) The samples are to be handled as routine lab samples, with all testing, documentation, and reporting adhering to **ASTM D5034**.
d) Samples must be retained until the end of the program, which concludes with the submission of the final report.
e) To review the results, test images would be appreciated. Images can be attached at the end of this document or sent by email.

PHOTOGRAPHS

APPENDIX B

PARTICIPANT RESULTS (TR # MEXT26007870)

intertek
Total Quality. Assured.

Report Number : MEXT26007870

Sample as received A & B



Intertek Testing Services de México, S.A. de C.V.
Poniente 134 No. 660, Col. Industrial Vallejo, Del. Azcapotzalco, C.P. 2300, Ciudad de México
Tel. +52 (55) 5063 7190, Tel. +52 (55) 5998 0900

intertek
Total Quality. Assured.

Report Number : MEXT26007870

Sample as received C & D



intertek
Total Quality. Assured.

TEST REPORT

NUMBER : MEXT26007870
DATE : 09-Sep-2026

APPLICANT : **Intertek Testing Services de Mexico, S.A. de C.V.**
Poniente 134 No. 660, Col. Industrial Vallejo, Del.
Azcapotzalco, D.F., 02300, México

Sample Description	:	A) White fabric - 170 x 90 mm (MD) B) White fabric - 170 x 90 mm (CMD) C) Denim fabric - 170 x 90 mm (MD) D) Denim fabric - 170 x 90 mm (CMD)
Fiber Content	:	Not Submitted
Color	:	(A)White fabric (MD), (B)White fabric (CMD), (C)Denim fabric (MD). (D)Denim fabric (CMD)
Style No.	:	LT5028-08 LT5029-08 LT5422-03 LT5422-03
Order No./PO No.	:	-
Buyer Name	:	SELF REFERENCE
Other Information	:	SQ-1174 versión 3
Sample Received Date	:	03 Sep 2026
Final Confirmation Received Date	:	-

TEST CONDUCTED : AS PER THE REQUEST OF THE APPLICANT. FOR FURTHER DETAILS PLEASE REFER TO ENCLOSED PAGE(S)

AUTHORIZED BY
FOR Intertek Testing Services de México, S.A. de C.V. [MX CG DF SOFTLINES]

OSCAR PUEBLITA ORTEGA
SUBGERENTE LABORATORIO

intertek
Total Quality. Assured.

TEST REPORT

NUMBER : MEXT26007870
DATE : 09-Sep-2026

CONCLUSION :

	(A)	(B)	(C)	(D)
Standard Test Method for Breaking Strength and Elongation of Textile Fabrics (Grab Test)	*	*	*	*

Note: P = Pass F = Fail
* = Requirement Not Provided NA = Not Applicable # = See Test

NOTE :
The specimens were conditioned according as Standard practice for conditioning and testing textiles ASTM D1776 (21+/-2°C (70 +/-4°F) 65 +/-5% relative humidity) as applicable

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TEST REPORT

NUMBER : MEXT26007870
DATE : 09-Sep-2026

TEST CONDUCTED (AS REQUESTED BY THE APPLICANT)

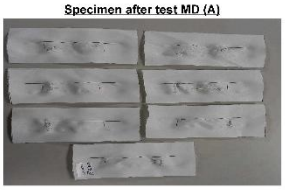
1. Standard Test Method for Breaking Strength and Elongation of Textile Fabrics (Grab Test)

ASTM D5034 - 2021 Test Laboratory accredited by ema, a.c. with accreditation No. TV-227-001/10; Instron CRE; Maximum force obtainable at 90% - 1 000 lbf; Type of specimen: G-Grab; Front jaw 1x1 in; Back jaw 1x3 in; Number of specimens tested: 5 in MD and 8 in CMD; Type of padding used in jaws: cork; Conditioned testing.
Performance test date: 2026/09/04

Breaking force

	(A)	(B)	(C)	(D)	Requerimient
(lbf) Breaking Force	223.1	185.6	159.6	88.2	-

Specimen after test MD (A)



Specimen after test CMD (B)



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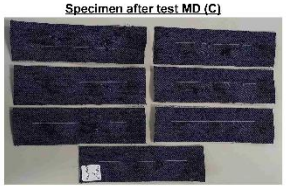
TEST REPORT

NUMBER : MEXT26007870
DATE : 09-Sep-2026

Specimen after test MD (C)



Specimen after test CMD (D)



END OF THE TEST REPORT

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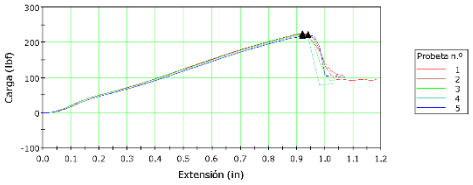
ASTM- 5034 STANDARD TEST METHOD FOR BREAKING STRENGTH AND ELONGATION

No de reporte	LT 5028-08 MD (A)
Analista	ARTA
Temperatura	20 C
Humedad Relativa	65 %
Presion del Equipo	55 PSI (5)

FUERZA/ EXTENSION

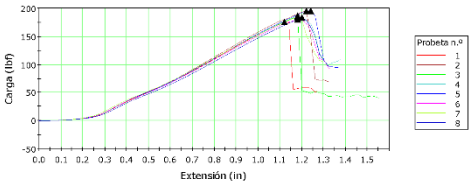


	Direccion del especimen	Máximo Carga (lbf)	ExtensiónalMáximo Carga (in)	Deformación por tracciónalMáximo Carga (%)
1	MD	> 224.9	0.92	30.67
2	MD	> 224.6	0.92	30.67
3	MD	> 223.9	0.92	30.67
4	MD	> 219.8	0.92	30.67
5	MD	> 222.2	0.94	31.33

ASTM- 5034 STANDARD TEST METHOD FOR BREAKING STRENGTH AND ELONGATION

No de reporte	LT 5028-08 CMD (B)
Analista	ARTA
Temperatura	20 C
Humedad Relativa	65 %
Presion del Equipo	55 PSI (5)

FUERZA/ EXTENSION

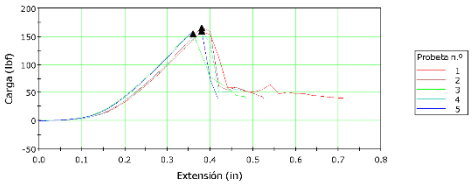


	Direccion del especimen	Máximo Carga (lbf)	ExtensiónalMáximo Carga (in)	Deformación por tracciónalMáximo Carga (%)
1	CMD	> 175.5	1.12	37.33
2	CMD	> 195.2	1.22	40.67
3	CMD	> 183.5	1.18	39.33
4	CMD	> 186.7	1.18	39.33
5	CMD	> 195.6	1.24	41.33
6	CMD	> 180.4	1.18	39.33
7	CMD	> 184.7	1.18	39.33
8	CMD	> 183.4	1.20	40.00

ASTM- 5034 STANDARD TEST METHOD FOR BREAKING STRENGTH AND ELONGATION

No de reporte	LT 5422-08 MD (C)
Analista	ARTA
Temperatura	20 C
Humedad Relativa	65 %
Presion del Equipo	55 PSI (5)

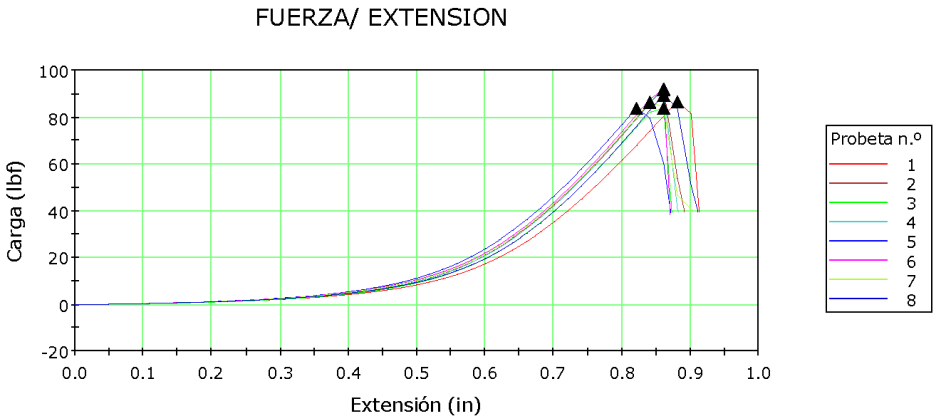
FUERZA/ EXTENSION



	Direccion del especimen	Máximo Carga (lbf)	ExtensiónalMáximo Carga (in)	Deformación por tracciónalMáximo Carga (%)
1	MACHINE DIRECCION	> 158.6	0.38	12.67
2	MACHINE DIRECCION	> 165.5	0.38	12.67
3	MACHINE DIRECCION	> 154.9	0.36	12.00
4	MACHINE DIRECCION	> 159.2	0.38	12.67
5	MACHINE DIRECCION	> 160.0	0.38	12.67

ASTM- 5034 STANDARD TEST METHOD FOR BREAKING STRENGTH AND ELONGATION

No de reporte	LT 5422-03 CMD (D)
Analista	ARTA
Temperatura	20 C
Humedad Relativa	65 %
Presion del Equipo	55 PSI (5)



	Direccion del especimen	Máximo Carga (lbf)	ExtensiónalMáximo Carga (in)	Deformación por tracciónalMáximo Carga (%)
1	CMD	> 86.5	0.88	29.33
2	CMD	> 92.0	0.86	28.67
3	CMD	> 83.8	0.86	28.67
4	CMD	> 91.7	0.86	28.67
5	CMD	> 83.7	0.82	27.33
6	CMD	> 91.7	0.86	28.67
7	CMD	> 86.4	0.84	28.00
8	CMD	> 89.4	0.86	28.67

----- END OF REPORT -----