

TSG-400 GLOVES SHRINKAGE ANALYSIS

NEW GLOVE VS. LAUNDERED GLOVES



In this analysis we will compare two laundered TSG-400C (Large, White Banded) gloves against a NEW TSG-400C glove in an attempt to dispel any assertions of major shrinkage.

It is important to note that Bates Enterprises has always stated that minimal shrinkage may occur during the laundering process, but this should NOT destroy the integrity of the glove fitting, its coatings or the performance value of your gloves and PPE.

In the next series of slides, we will examine a NEW TSG-400C glove and note the measurements before examining the two laundered gloves:



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TSG-400C, LARGE, WHITE BANDED GLOVE NEW GLOVE ANALYSIS

TSG-400C (Large, White Banded Cuff) NEW Glove Analysis



The cuff of this NEW TSG-400 measures 2.76" from the top of the cuff to the bottom of the cuff.

Contained herein is an analysis to dispel the assertion of major shrinkage between NEW gloves and Laundered gloves, model TSG-400C. Every attempt was made to be as accurate as possible. All the photos and information within are for internal use ONLY by Bates Enterprises, Inc.

In this photo, digital calipers were calibrated and measurements were taken for the cuff of the glove.

The glove was anchored to the wrist to prevent any movement while the calipers were placed and photographs were taken.

The cuff of the NEW glove measured 2.76" from the top to the bottom.



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TSG-400C, LARGE, WHITE BANDED GLOVE NEW GLOVE ANALYSIS

TSG-400C (Large, White Banded Cuff) NEW Glove Analysis

In this photo, the calipers were reset and measurements were taken for the body length of the glove.

The glove is still anchored to the wrist to prevent any movement while the calipers were placed and photographs were taken.

The body length of the NEW glove measured 4.38" from the top of the cuff to the crotch of the middle and index fingers.



The body of this NEW TSG-400 Glove measures 4.38" from the top of the cuff to the crotch of the middle and index fingers.



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TSG-400C, LARGE, WHITE BANDED GLOVE NEW GLOVE ANALYSIS

TSG-400C (Large, White Banded Cuff) NEW Glove Analysis

In this photo, the calipers were reset and measurements were taken for the middle finger length of the glove.

The glove is still anchored to the wrist to prevent any movement while the calipers were placed and photographs were taken.

The middle finger length of the NEW glove measured 3.41" from the top of the finger to the crotch of the middle and index fingers.

The middle finger of this NEW TSG-400 Glove measures 3.41" from the top of the finger to the crotch of the middle and index fingers.



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TSG-400C, LARGE, WHITE BANDED GLOVE NEW GLOVE ANALYSIS

**TSG-400C (Large, White Banded Cuff)
NEW Glove Analysis**



In this photo, the calipers were reset and measurements were taken for the body width of the glove.

The glove is still anchored to the wrist to prevent any movement while the calipers were placed and photographs were taken.

The body width of the NEW glove measured 3.86" from the crotch of the thumb to the outside.

The body width of this NEW TSG-400 Glove measures 3.86" from the thumb crotch to the outside.

TSG-400C, LARGE, WHITE BANDED GLOVE LAUNDERED (5X) GLOVE ANALYSIS

TSG-400C (Large, White Banded Cuff)
Laundered Glove Analysis

The first analysis is between a NEW TSG-400C TWARON Glove and a (5 times) LAUNDERED TSG-400C TWARON Glove that is bar-coded 1851 as shown.



BATES ENTERPRISES, INC.				
				DATE: 3/3/2011
BARCODE SERIAL #	DESCRIPTION	NUMBER OF TIMES ENTERED THIS AREA	DEPARTMENT	
CUSTOMER: KIA				
1390	TSG400B-ST	GLOVE	LAUNDERED 4	STAMPING 4
1851	TSG400C-W	GLOVE	LAUNDERED 5	WELD 5

TSG-400C, LARGE, WHITE BANDED GLOVE LAUNDERED (5X) GLOVE ANALYSIS

TSG-400C (Large, White Banded Cuff) Laundered Glove Analysis

The cuff of the LAUNDERED (5 times)
TSG-400 Glove, bar-coded 1851,
measures 2.13" from the top of the
cuff to the bottom.



BATES ENTERPRISES, INC.				DATE: 3/3/2011
BARCODE SERIAL #	DESCRIPTION	NUMBER OF TIMES ENTERED THIS AREA	DEPARTMENT	
CUSTOMER: KIA				
1390	TSG400B-ST	GLOVE		4
		LAUNDERED	4	STAMPING
1851	TSG400C-W	GLOVE		5
		LAUNDERED	5	WELD

In this photo, the calipers were reset and measurements were taken for the cuff of the glove.

Also, the glove was anchored to the wrist to prevent any movement while the calipers were placed and photographs were taken.

The cuff measured 2.13" from the top to the bottom. The cuff of the NEW glove measured 2.76". That is a difference of .63" and is clearly visible when examining the gloves side by side.

ASSERTION: There is shrinkage in the cuff of the LAUNDERED glove.

TSG-400C, LARGE, WHITE BANDED GLOVE LAUNDERED (5X) GLOVE ANALYSIS

TSG-400C (Large, White Banded Cuff) Laundered Glove Analysis

The body of the LAUNDERED (5 times)
TSG-400 Glove, bar-coded 1851, measures
4.36" from the top of the cuff to the crotch
of the middle and index fingers.

In this photo, the calipers were reset and measurements were taken against the reference point at the base of the crotch of middle and index fingers and the top of the cuff.

Also, the glove is still anchored to the wrist to prevent any movement while the calipers were placed and photographs were taken.

The body of the glove measured 4.36" from the crotch of the middle and index fingers to the top of the cuff. The body of the NEW glove measured 4.36". That is a difference of .02".

ASSERTION: There is very minimal shrinkage in the body length of the laundered glove.



BATES ENTERPRISES, INC.				DATE: 3/3/2011
BARCODE SERIAL #	DESCRIPTION	NUMBER OF TIMES ENTERED THIS AREA	DEPARTMENT	
CUSTOMER: KIA				
1390	TSG400B-ST	GLOVE		4
		LAUNDERED	4	STAMPING
1851	TSG400C-W	GLOVE		5
		LAUNDERED	5	WELD

TSG-400C, LARGE, WHITE BANDED GLOVE LAUNDERED (5X) GLOVE ANALYSIS

TSG-400C (Large, White Banded Cuff) Laundered Glove Analysis

The middle finger of the LAUNDERED (5 times) TSG-400 Glove, bar-coded 1851, measures 3.32" from the top of the finger to the crotch of the middle and index fingers.

In this photo, the calipers were reset and measurements were taken against the reference points at the base of the crotch of the middle and index fingers and the top of the middle finger.

The glove is still anchored to the wrist to prevent any movement while the calipers were placed and photographs were taken.

The middle finger of the glove measured 3.32" from the crotch of the middle and index fingers to the top of the middle finger. The finger of the NEW glove measured 3.32". That is a difference of .09".

ASSERTION: There is minimal shrinkage in the finger of the laundered glove.

BATES ENTERPRISES, INC.				DATE: 3/3/2011
BARCODE SERIAL #	DESCRIPTION	NUMBER OF TIMES ENTERED THIS AREA	DEPARTMENT	
CUSTOMER: KIA				
1390	TSG400B-ST	GLOVE	4	
		LAUNDERED	4	STAMPING
1851	TSG400C-W	GLOVE	5	
		LAUNDERED	5	WELD



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TSG-400C, LARGE, WHITE BANDED GLOVE LAUNDERED (5X) GLOVE ANALYSIS

TSG-400C (Large, White Banded Cuff) Laundered Glove Analysis

The body of the LAUNDERED (5 times) TSG-400 Glove, bar-coded 1851, measures 3.85" from crotch of the thumb to the outside.

Finally, in this photo, the calipers were reset and measurements were taken for the width of the body of the glove.

The glove is still anchored to the wrist to prevent any movement while the calipers were placed and photographs were taken.

The body width of the glove measured 3.85" from the crotch of the thumb to the outside. The body width of the NEW glove measured 3.85". That is a difference of .01".

ASSERTION: There is very minimal shrinkage in the body width of the laundered glove.

BATES ENTERPRISES, INC.			
BARCODE SERIAL #	DESCRIPTION	NUMBER OF TIMES ENTERED THIS AREA	DATE: 3/3/2011
CUSTOMER: KIA			
1390	TSG400B-ST	GLOVE	4
		LAUNDERED	4
		STAMPING	
1851	TSG400C-W	GLOVE	5
		LAUNDERED	5
		WELD	

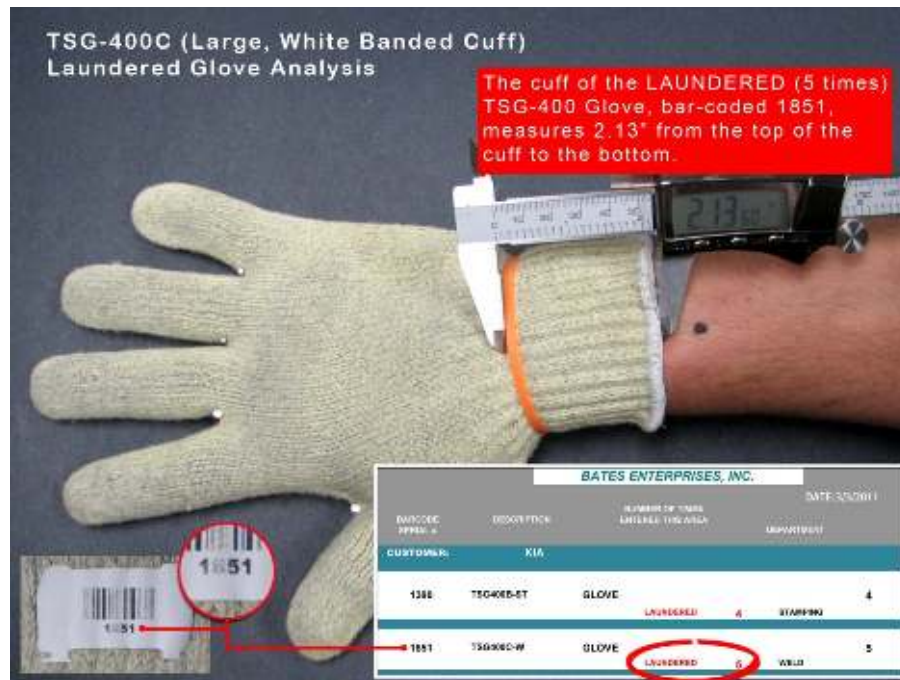
TSG-400C, LARGE, WHITE BANDED GLOVE CONCLUSION: NEW VS. LAUNDERED (5X)

As noted in the previous photographs, it is our conclusion that while there is noticeable shrinkage in the cuff of the laundered glove, there is very minimal shrinkage in the body length, body width and finger lengths.

TSG-400C (Large, White Banded Cuff)
NEW Glove Analysis



TSG-400C (Large, White Banded Cuff)
Laundered Glove Analysis



BATES ENTERPRISES, INC.					
BARCODE PREFIX: 4	DESCRIPTION	NUMBER OF TIMES ENTERED THIS AREA	DATE 3/20/11	DEPARTMENT	
CUSTOMER:	XIA				
1388	TSG400C-ST	GLOVE	LAUNDERED 4	STAMPING	4
1851	TSG400C-W	GLOVE	LAUNDERED 5	WELD	5

TSG-400C, LARGE, WHITE BANDED GLOVE LAUNDERED (1X) GLOVE ANALYSIS

TSG-400C (Large, White Banded Cuff) Laundered Glove Analysis



BATES ENTERPRISES, INC.			
		DATE: 3/3/2011	
BARCODE SERIAL #	DESCRIPTION	NUMBER OF TIMES ENTERED THIS AREA	DEPARTMENT
CUSTOMER: [REDACTED]			
11514	TSG400L	GLOVE	1
	LAUNDERED	1	BODY QC

The next analysis is between a NEW TSG-400C TWARON Glove and a (1 time) LAUNDERED TSG-400C TWARON Glove that is bar-coded 11514 as shown.

Again, the glove was worn by a Bates associate and the glove was anchored to prevent any movement or stretching with the calipers were reset and placed for photographs.

Every effort was taken to be as accurate as possible while the measurements were recorded .

TSG-400C, LARGE, WHITE BANDED GLOVE LAUNDERED (1X) GLOVE ANALYSIS

TSG-400C (Large, White Banded Cuff) Laundered Glove Analysis

In this photo, the calipers were reset and measurements were taken for the cuff of the glove.

The cuff measured 2.23" from the top to the bottom. The cuff of the NEW glove measured 2.76". That is a difference of .53" and is clearly visible when examining the gloves side by side.

ASSERTION: There is shrinkage in the cuff of the LAUNDERED glove.

The cuff of the LAUNDERED (1 time) TSG-400 Glove, bar-coded 11514, measures 2.23" from the top of the cuff to the bottom.



BATES ENTERPRISES, INC.				DATE: 3/3/2011
BARCODE SERIAL #	DESCRIPTION	NUMBER OF TIMES ENTERED THIS AREA	DEPARTMENT	
CUSTOMER: [REDACTED]				
11514	TSG400L	GLOVE	LAUNDERED 1	BODY QC 1



BATES
ENTERPRISES, INC.

TSG-400C, LARGE, WHITE BANDED GLOVE LAUNDERED (1X) GLOVE ANALYSIS

TSG-400C (Large, White Banded Cuff) Laundered Glove Analysis



The body of the LAUNDERED (1 time) TSG-400 Glove, bar-coded 11514, measures 4.37" from the top of the cuff to the crotch of the middle and index fingers.

In this photo, the calipers were reset and measurements were taken against the reference point at the base of the crotch of middle and index fingers and the top of the cuff.

The body of the glove measured 4.37" from the crotch of the middle and index fingers to the top of the cuff. The body of the NEW glove measured 4.36". That is a difference of .01".

ASSERTION: There is very minimal shrinkage in the body length of the laundered glove.



BATES ENTERPRISES, INC.			
		DATE: 3/3/2011	
BARCODE SERIAL #	DESCRIPTION	NUMBER OF TIMES ENTERED THIS AREA	DEPARTMENT
CUSTOMER: [REDACTED]			
11514	TSG400L	GLOVE	1
	LAUNDERED	1	BODY QC

TSG-400C, LARGE, WHITE BANDED GLOVE LAUNDERED (1X) GLOVE ANALYSIS

TSG-400C (Large, White Banded Cuff) Laundered Glove Analysis

In this photo, the calipers were reset and measurements were taken against the reference points at the base of the crotch of the middle and index fingers and the top of the middle finger.

The glove is still anchored to the wrist to prevent any movement while the calipers were placed and photographs were taken.

The middle finger of the glove measured 3.36" from the crotch of the middle and index fingers to the top of the middle finger. The finger of the NEW glove measured 3.32". That is a difference of .04".

ASSERTION: There is minimal shrinkage in the finger of the laundered glove.

The middle finger of the LAUNDERED (1 time) TSG-400 Glove, bar-coded 11514, measures 3.36" from the top of the finger to the crotch of the middle and index fingers.

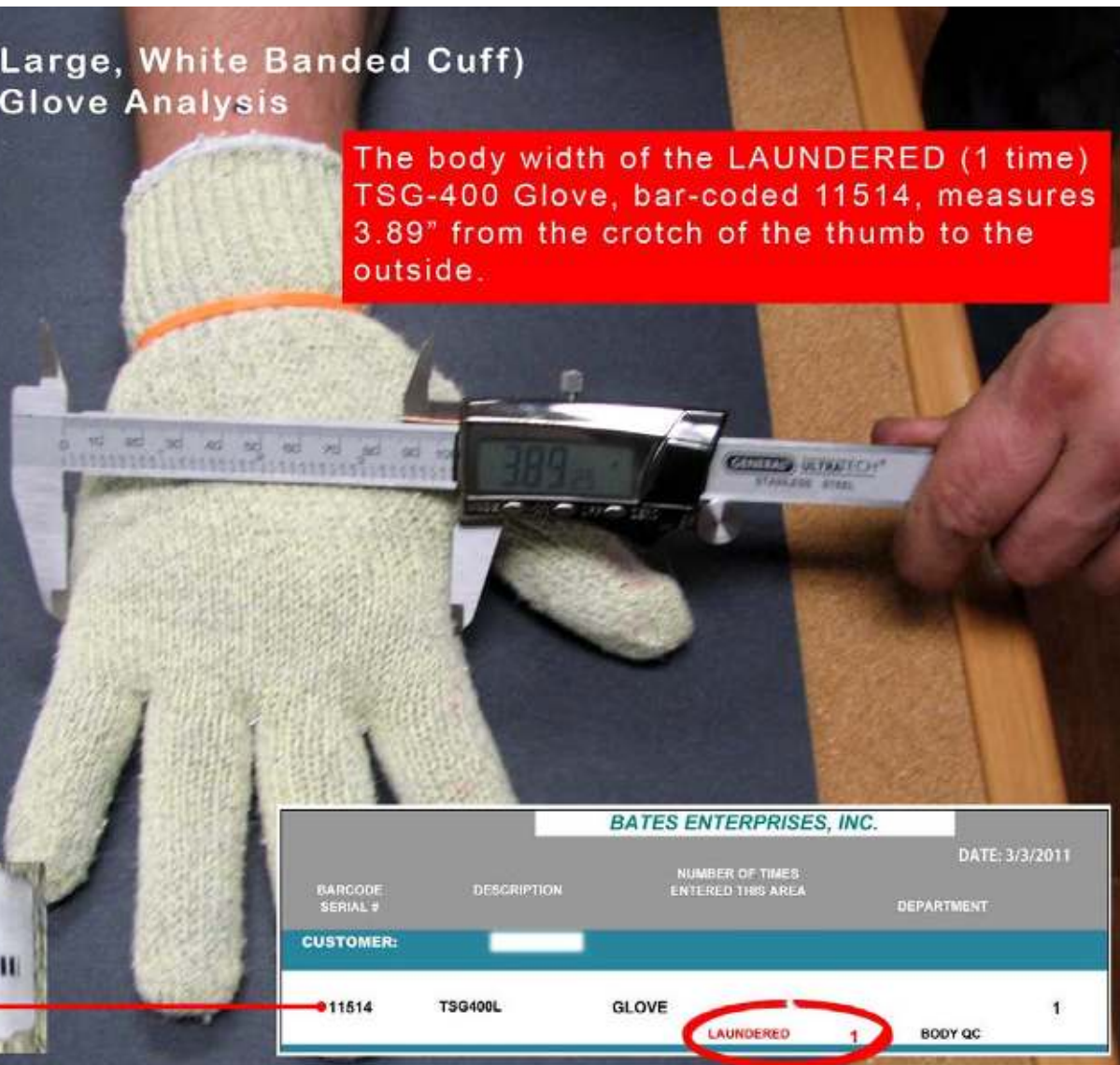
BATES ENTERPRISES, INC.				DATE: 3/3/2011
BARCODE SERIAL #	DESCRIPTION	NUMBER OF TIMES ENTERED THIS AREA	DEPARTMENT	
CUSTOMER: [REDACTED]				
11514	TSG400L	GLOVE	LAUNDERED 1	BODY QC 1



TSG-400C, LARGE, WHITE BANDED GLOVE LAUNDERED (1X) GLOVE ANALYSIS

TSG-400C (Large, White Banded Cuff) Laundered Glove Analysis

The body width of the LAUNDERED (1 time) TSG-400 Glove, bar-coded 11514, measures 3.89" from the crotch of the thumb to the outside.



Finally, in this photo, the calipers were reset and measurements were taken for the width of the body of the glove.

The glove is still anchored to the wrist to prevent any movement while the calipers were placed and photographs were taken.

The body width of the glove measured 3.89" from the crotch of the thumb to the outside. The body width of the NEW glove measured 3.85". That is actually a gain of .04".

ASSERTION: There is very minimal or no shrinkage in the body width of the laundered glove.

BATES ENTERPRISES, INC.			
BARCODE SERIAL #	DESCRIPTION	NUMBER OF TIMES ENTERED THIS AREA	DATE: 3/3/2011
CUSTOMER:		DEPARTMENT	
11514	TSG400L	GLOVE	1
		LAUNDERED 1	BODY QC

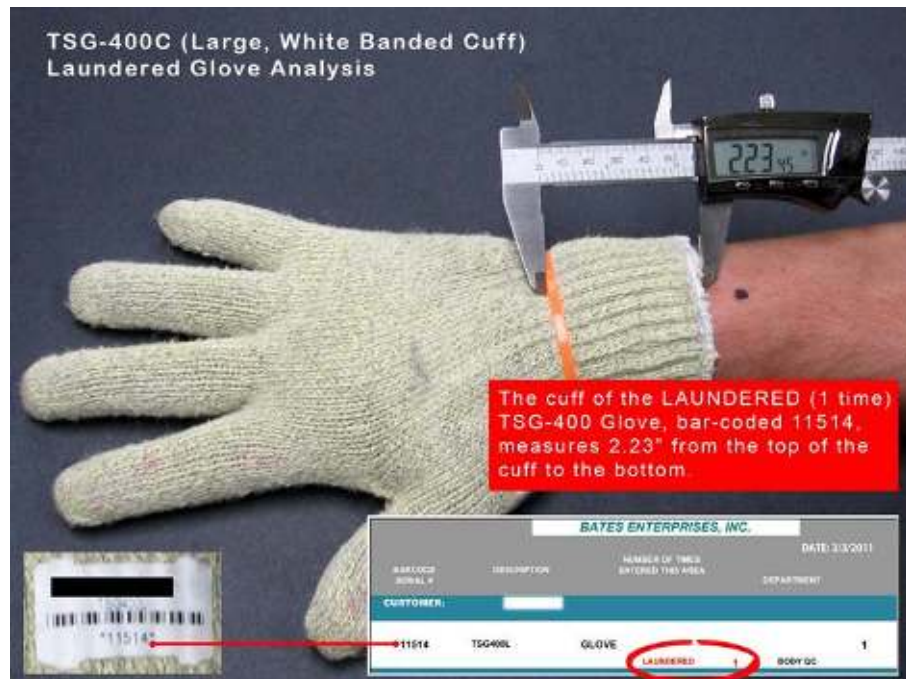
TSG-400C, LARGE, WHITE BANDED GLOVE CONCLUSION: NEW vs. LAUNDERED (1X)

Again, as noted in the previous photographs, it is our conclusion that while there is noticeable shrinkage in the cuff of the laundered glove, there is very minimal shrinkage in the body length, body width and finger lengths.

TSG-400C (Large, White Banded Cuff)
NEW Glove Analysis



TSG-400C (Large, White Banded Cuff)
Laundered Glove Analysis



MEASUREMENTS SUMMARY TABLE

	NEW TSG-400C	LAUNDERED 1X TSG-400C	SHINKAGE: NEW vs. LAUNDERED 1X	LAUNDERED 5X TSG-400C	SHINKAGE: NEW vs. LAUNDERED 5X	SHINKAGE: LAUNDERED 1X vs. LAUNDERED 5X
Cuff (ins.)	2.76	2.23	0.53	2.13	0.63	0.10
Body Length (ins.)	4.38	4.37	0.01	4.36	0.02	0.01
Finger Length (ins.)	3.41	3.36	0.05	3.32	0.09	0.04
Body Width (ins.)	3.86	3.89	-0.03	3.85	0.01	0.04

This table contains all the data recorded while comparing the NEW glove measurements against the measurements of the two LAUNDERED gloves. It is our conclusion that except where noted in the cuff measurements, there is minimal to very minimal shrinkage in the body length, body width, and finger length of the examined gloves. This minimal shrinkage is normal and it is our recommendation that no changes to the laundering process be made at this time.