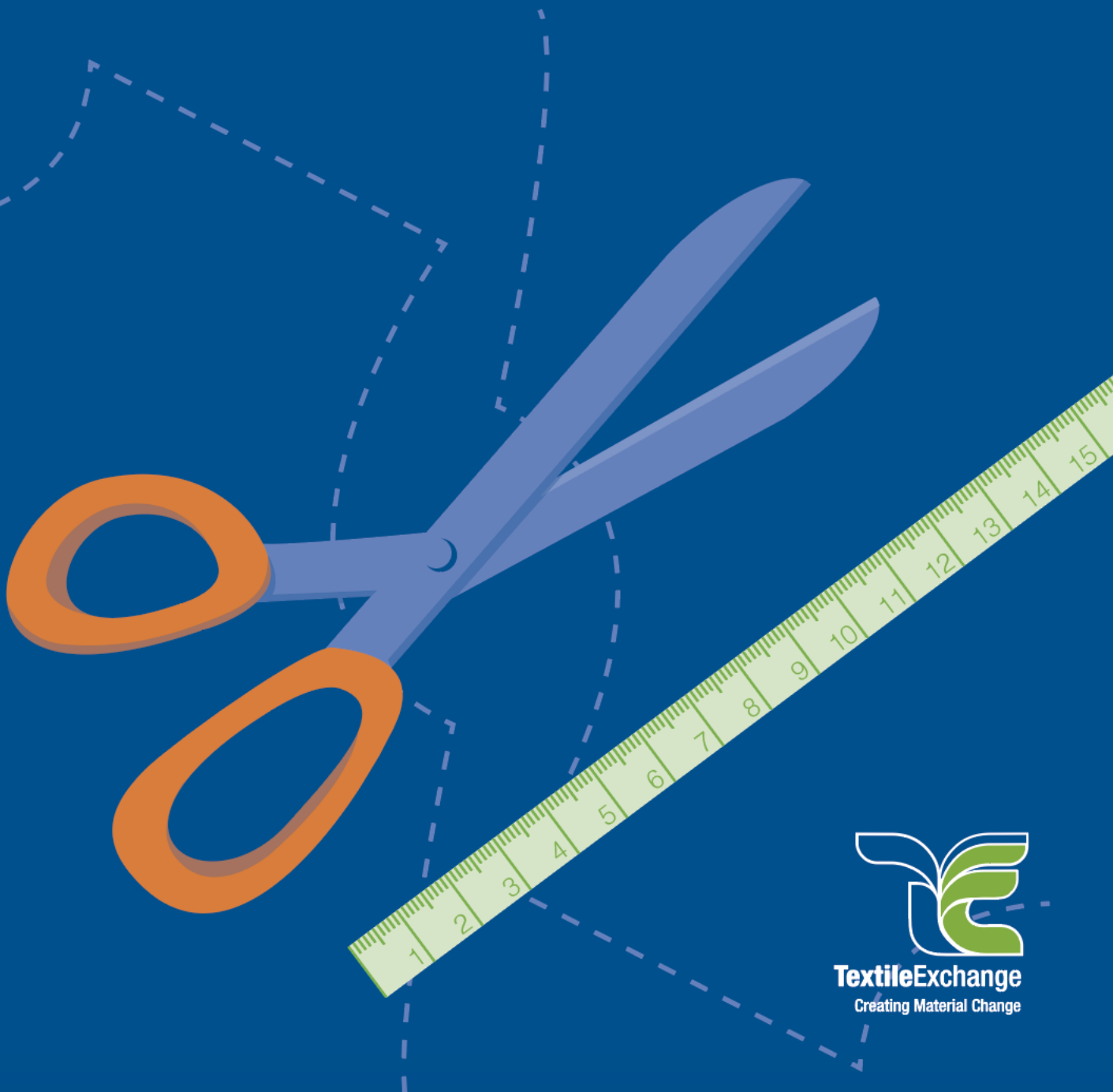




# Corporate Fiber & Materials Benchmark

Insights. Action. Impact.

## 2019 Fiber Conversion Methodology



**TextileExchange**  
Creating Material Change



# Corporate Fiber & Materials Benchmark

Insights. Action. Impact.

## Fiber Conversion Methodology 2019

**Version 1.1**

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## Introduction

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### Background

Textile Exchange has been helping companies to track and measure their fiber and materials (“fiber”) uptake since 2007 when it released its first organic cotton leaderboard. To facilitate this process, an organic cotton fiber conversion rate from product-to-fiber was developed.

In line with Textile Exchange’s expanded remit on preferred fiber and materials, the fiber conversion rates expanded to cover recycled polyester and manmade cellulosics in 2015 during the pilot of the Corporate Fiber and Materials Benchmark (“CFMB”), then known as the Preferred Fiber and Materials Benchmark (“PFMB”). To support the growing number of companies participating in the CFMB and reporting their fiber uptake, fabric-to-fiber and yarn-to-fiber conversion rates were added to the suite in 2017. The conversion rates for wool were the last to be added in 2018.

During the CFMB review at the close of its initial three years, a decision was made to carry out a review of the suite of fiber conversion rates in parallel.

### Purpose







Tracking fiber uptake is a core component of the CFMB. It enables a company to quantify how much preferred fiber it is using, set targets and work towards these targets. Best practice would see companies tracing their fiber use to source and tracking its actual usage accordingly. For companies that can do this, Textile Exchange encourages the reporting of actual fiber (feedstock) used. However, to date, many companies are still estimating their fiber uptake through product, fabric or yarn bought or sold. For these companies, Textile Exchange’s fiber conversion rates offers a standardized approach to convert product, fabric and yarn used back to fiber for a consistent baseline measurement within and across companies.

# Corporate Fiber and Materials Benchmark

The Corporate Fiber and Materials Benchmark (CFMB) program is the place to measure, track and compare a company's sustainability progress related to fibers and materials.

The CFMB provides a robust structure to help companies systematically measure, manage and integrate a preferred fiber and materials strategy into mainstream business operations, to compare progress, and to transparently communicate performance and progress to stakeholders. The CFMB offers a quantified index ranking including a company's position in relation to peers and the overall industry (universe of participants). It provides an indicator of progress, helps companies identify strengths and gaps, and encourages year-on-year improvement and a "race to the top." Company participants see substantial detail about their performance, and industry averages are reported for public consumption. Participants receive a comprehensive report card comparing their own progress year-on-year and how they rank alongside their peers. Customized report cards are confidential to the participant, and an annual insights report, including benchmark leaderboards, is shared in the public domain. Starting in 2019, the CFMB integrates an enhanced alignment with the Sustainable Development Goals (SDGs) as well.

The CFMB comprises of three sections: Section I: Strategy and Integration; Section II; Fiber and Materials Portfolio, and Section III: Circularity. The sections act as cornerstones to the framework. Progressive companies may be able to demonstrate good practice within one or two of the sections, while leading companies will be able to show good practice across the board.

I. Strategy and Integration 	II. Fiber and Materials Portfolio							III. Circularity 
	 Plant Fibers Cotton	 Animal Fibers & Materials Wool, Down, Leather			 Regenerated Fibers MMCF	 Synthetic Fibers Polyester, Nylon		
Corporate Strategy*	Risk Management							Circularity Strategy*
Leadership*	Investment							Resource Use*
Internal Stakeholders*	Transparency							Design for Circularity
Materiality*	Targets							Business Models
Customer Engagement*	Uptake*							Textile Collection*
Reporting*	Impact*							Recycled Content*

\*  Alignment with Sustainable Development Goals (SDGs)

For more information on the CFMB, please contact [CFMB@TextileExchange.org](mailto:CFMB@TextileExchange.org) or visit the CFMB website: <https://textileexchange.org/cfmb/>

## Boundaries and Scope

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### Definitions and Terminologies

#### **Fiber conversion rate:**

Refers to the rate of conversion between input into the supply chain (fibers ready for spinning) and the output in another tier of the supply chain (e.g. spinning, fabric production or finished products). For example, the yarn-to-fiber conversion rate 1.17 denotes the conversion of “1 yarn: 1.17 fiber”. Put simply, 1.17 units of fiber is required to produce 1 unit of yarn.

#### **Processing loss:**

Sometimes called “production loss” or “waste” or “waste loss”, refers to the rate of loss attributed to the processing of one or more activities. For example, processing loss for “spinning – OE” denotes the rate of loss that occurs for open end spinning when fiber is made into yarn.

Spinning/yarn types and acronyms used in this document:

- OE – Open-end/Rotor
- K – Ring (carded yarn)
- C – Ring (combed yarn)
- CK – Ring (combed compact yarn)
- DTY – Drawn textured yarn

### Fiber and Materials

Aligned to the fiber and materials categories of the CFMB, the suite of fiber conversion rates covers cotton and recycled cotton, polyester and recycled polyester, nylon and recycled nylon, manmade cellulosics and “recycled” cellulosics, and wool.

Unlike cotton, where one fiber conversion rate is developed for virgin and another is developed for recycled, a single fiber conversion rate covering both virgin and recycled has been developed for polyester, nylon and manmade cellulosics. This approach has been taken because the processing variation between virgin and recycled polyester, nylon and manmade cellulosics predominantly occurs pre-fiber. As no significant variation occurs post-fiber, the conversion rate for both virgin and recycled is treated as the same.

Down and recycled down has been excluded because down uptake volumes (in grams) are generally collected at the “material” level. Further, footwear, fully fashioned knitted non-wool products, hemp, leather (in pilot), recycled wool and silk are not currently covered but will be considered for research and inclusion in subsequent updates.

Companies reporting on recycled wool and recycled down requiring conversions are requested to use the virgin conversion rates as equivalent proxies for 2019 calculations.

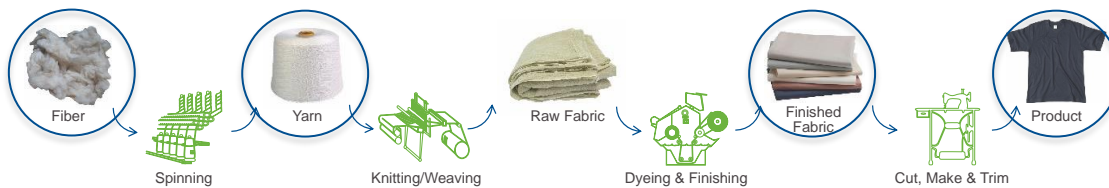
### Supply Chain Tiers

For each fiber category, three inputs (product, fabric and yarn) are considered for conversion back to fiber as they are the most common method of tracking the use of fiber. In 2018, CFMB participants reported fiber and materials uptake via these levels: 35% of all fiber consumption was reported at product level (either bulk or

using the Textile Exchange product to fiber calculator), 21% at fabric level, 7% at yarn level and 44% reported bulk fiber (i.e. the company calculated fiber uptake outside of the CFMB Survey and did not use the embedded calculator). There has been no request from companies for alternative methods of tracking fiber uptake.

The textile supply chain can be highly complex. For purpose of standardization, only selected processes that are common across all fibers and significant to the overall conversion rate have been considered in the methodology.

Across the cotton supply chain, these are identified as spinning, knitting/weaving, fabric processing (including dyeing and finishing) and cut, make, trim (CMT).



The same approach is applied across the other fiber and materials with the exception of wool which includes scouring and/or top making within the yarn-to-fiber conversion.

In summary, each of the inputs are defined as follows:

**Product:**

Product refers to the final manufactured good where all stages of processing have been completed and is ready for sale.

**Fabric:**

Fabric refers to the finished fabric where all stages of processing have been completed (e.g. dyeing and finishing) and is ready for cut, make and trim.

**Yarn:**

Yarn refers to the finished yarn which is ready to be knitted or woven into fabric. In the case of polyester and manmade cellulose, yarn includes both Drawn Textured Yarn (DTY) as well as staple yarn. For wool it refers to yarn that has been scoured, top made and/or spun.

**Fiber:**

Fiber is the baseline measure used in this methodology to track the uptake of conventional and preferred fiber. For cotton it refers to ginned cotton - sometimes referred to as lint cotton. For polyester and manmade cellulose it covers both filament and staple fiber. For wool, it refers to greasy wool.

For recommended and best practice approach to collect product, fabric and yarn inputs for conversions, please refer to the [“CFMB Fiber Uptake Calculation Guides”](#).

**Regular Review & Update**

The Fiber Conversion Methodology document will receive regular review and updates. This will ensure that conversion rates can as accurately as possible model the existing industry practices and technological efficiencies of production worldwide. Textile Exchange welcomes data from any industry stakeholder to continuously improve the modelling of conversion rates. Textile Exchange will consult with members during regular reviews to determine if expansion of the methodology to include additional product-types or materials would be beneficial to the textiles industry.

## Limitations and Constraints

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Textile Exchange's fiber conversion rates are intended as a tool to help companies estimate their product, fabric and yarn uptake back to a fiber baseline measure. Where possible, companies are encouraged to apply their own conversion rates. The Textile Exchange suite of fiber conversion rates are offered only as standardized approximations of conversions with the following limitations:

### **Data Sets**

Certification bodies, suppliers and brands/retailers are asked to volunteer either an average or a range of conversion values for product-to-fabric, fabric-to-yarn and yarn-to-fiber, taking into consideration the key processes involved. The values reported are assumed true and accurate. Furthermore, due to the time and resource limitations, data is sourced from companies who are open and able to volunteer this information.

### **Processes**

While specific and significant processes have been accounted for in the calculation of conversion rates, it is acknowledged that they are not a complete representation of all the processes that can occur in reality. Furthermore, conversion rates reported by data sources may be solely for a specific processing and/or inclusive of other processes that is common in their practice between input and output.

### **Region, Country, Product Variation**

Conversion rates may differ significantly from country to country, producer to producer and even product to product. Attempts were made to gather from sources across different regions and stakeholders, but it is acknowledged that these sources may not be complete, and averages have not been weighted against the share of these markets and/or products.



## Approach and Considerations

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### Data Sources

Over 50 data sets were collected from certification bodies, suppliers, manufacturers and brands for the development of the fiber conversion rates. Data sets collected may comprise a single data point (i.e. recycled polyester fiber to filament) or may be vertically complete (i.e. organic cotton fiber to apparel).

Additionally, discussions and email exchanges were had with certification bodies, suppliers, manufacturers and brands. Due to increasing appeal from companies for harmonization, numerous consultations were held with the Better Cotton Initiative to align on cotton conversion rates.

### Development Steps

**Step 1 - Develop approach:** Set out the scope and boundaries, outline the conversion options and identify the engagement required for data gaps.

**Step 2 - Collect data:** Reach out to certification bodies, suppliers, manufacturers and brands for data sets. Data points were also extracted from past CFMB surveys for triangulation and cross reference.

**Step 3 - Analyze data:** The data sets are analyzed on range, average, median and mode. As it was not possible to establish a sample size that is reflective of the market share, median (as opposed to average data points) were applied.

**Step 4 - Adjustments:** Following the initial analysis, discussions were held internally with textile engineers and externally with initiatives (e.g. Better Cotton Initiative). For a more consistent “sector wide” approach, some data points are aligned between organizations following these discussions.

**Step 5 - Advisory Committee:** The “final” conversion methodology is presented to the CFMB Advisory Committee and other stakeholders for comments and feedback.

The methodology will be subject to regular review and updates.

### Development Approach

#### Dependencies

There are inherent dependencies between the fiber characteristics, how it is processed and the final product. In developing conversion rates from product, fabric and yarn to fiber, these dependencies need to be accounted for. The table below, from the Textile Exchange/Kering publication: “[Organic Cotton: A Fiber Classification Guide](#)” provides a broad overview of these dependencies - fiber length determines the type of yarn that can be spun, yarn type determines whether it is suited for knit or woven fabric, which will in turn determine the type of products for which it is suited.

**Table 2: Cotton Profile and Product Suitability**

Cotton	Fiber Length	Yarn Count (Ne)	Yarn Type	Cultivation Country (Organic)	Product Suitability	Broad Classification
Gossypium Arboreum	Short	3-20	OE, K	Benin, Buklan Faso, India, Mali, Pakistan, Peru, Senegal, Tanzania, Uganda, USA	Denim/Jeans, Home, Canvas, Non-Wovens, Medical, Industrial textiles	Home Textile / Apparel Woven / Denim
Gossypium Herbaceum	Short	3-20	OE, K	Benin, Buklan Faso, India, Mali, Pakistan, Peru, Senegal, Tanzania, Uganda	Denim/Jeans, Home, Canvas, Non-Wovens, Medical, Industrial textiles	
Gossypium Hirsutum (Upland)	Medium, Long	18-45	K, C, CK	Benin, Brazil, Bukina Faso, China, Colombia, India, Madagascar, Mali, Pakistan, Peru, Senegal, Tajikistan, Tanzania, Turkey, Uganda, USA	Denim/Jeans, Home, T shirts, Yoga wear, Leisure wear, Causal wear, Under wear, Industrial, Smart, Geo textiles	Apparel Knitted / Woven (Less)
Gossypium Barbardense	Long, Extra Long	40-130	K, C, CK	China, Egypt, India, Israel, Kyrgyzstan, Madagascar, Peru, Turkey, USA	High-end (fine apparel, underwear/intimates), High-end Home	

OE - Open end/Rotor yarn | K - Ring spun carded yarn | C - Ring spun combed yarn | CK - Ring spun combed compact yarn

It is worth noting that the more information a brand has on their supply chain, the more accurate the estimated conversion calculation is able to be. For example, being able to differentiate between knit or woven fabric, or spinning type used in production would allow for a more nuanced calculation and would give companies the ability to more accurately estimate fiber uptake.

### Assumptions

Balancing the need for accuracy with the availability of data and taking into consideration that broadly speaking:

- At the very least, companies are be able to specify whether the fiber uptake is used for apparel or home textiles.
- For cotton, open end (OE) and carded (K) yarn is commonly used for home textiles, woven apparel and denim products, and carded (K) and combed (CK) yarn is commonly used for knitted apparel and, to a lesser extent, woven apparel.
- For polyester and manmade cellulosics, filament is commonly used for home textiles, woven apparel and denim products, and staple yarn is commonly used for knitted apparel and, to a lesser extent, woven apparel.
- For wool, woolen-spun yarn is commonly used for home textiles and apparel products (such as jersey and knitwear), and worsted yarn is commonly used for apparel (such as tailored garments and suits).
- Processing loss for cut, make and trim (CMT) is similar between cotton, polyester, nylon and manmade cellulosic products but not for wool products due to the manner in which the garment is manufactured.

### Fiber Conversion Options

Based on the above considerations, the following fiber conversion options are made available:

Products	Option 1 Where companies <u>are unable</u> to specify further details of the product.		Option 2 Where companies <u>are able</u> to specify further details of the product			
	Home Textiles	Apparel	Home Textiles	Denim	Apparel - Woven	Apparel - Knitted
Fabric processing	Mix	Mix	Mix		Mix	Mix
Knitting/weaving	Mix	Mix	Woven		Woven	Knitting
Yarn - Cotton	Mix	Mix	OE		OE, K	C, CK
Yarn - Polyester	Mix	Mix	Filament		Filament	Staple
Yarn - MMCF	Mix	Mix	Filament/Spun		Staple	Staple
Yarn - Wool	Mix	Mix	Woolen-Spun		Worsted	Worsted

### Cotton Fiber Conversion Options

Products	Option 1		Option 2			
	Home Textiles	Apparel	Home Textiles	Denim	Apparel - Woven	Apparel - Knit
Product-to-fiber	1.31	1.65	1.31		1.60	1.76
Fabric-to-fiber	1.25	1.32	1.25		1.28	1.41
Yarn-to-fiber	1.11	1.18	1.11		1.14	1.26

### Recycled Cotton Fiber Conversion Options

Products	Option 1		Option 2			
	Home Textiles	Apparel	Home Textiles	Denim	Apparel - Woven	Apparel - Knit
Product-to-fiber	1.39	1.70	1.39		1.65	1.74
Fabric-to-fiber	1.32	1.36	1.32		1.32	1.40
Yarn-to-fiber	1.14	1.18	1.14		1.14	1.20

### Polyester and Recycled Polyester Fiber Conversion Options

Products	Option 1		Option 2		
	Home Textiles	Apparel	Home Textiles	Apparel - Woven	Apparel - Knit
Product-to-fiber	1.20	1.53	1.20	1.43	1.59
Fabric-to-fiber	1.14	1.22	1.14	1.14	1.27
Yarn-to-fiber	1.03	1.06	1.03	1.03	1.10

### Nylon and Recycled Nylon Fiber Conversion Options

Products	Option 1		Option 2		
	Home Textiles	Apparel	Home Textiles	Apparel - Woven	Apparel - Knit
Product-to-fiber	1.20	1.53	1.20	1.43	1.59
Fabric-to-fiber	1.14	1.22	1.14	1.14	1.27
Yarn-to-fiber	1.03	1.06	1.03	1.03	1.10

### Manmade Ceullosics and “Recycled” Cellulosic Fiber Conversion Options

Products	Option 1		Option 2		
	Home Textiles	Apparel	Home Textiles	Apparel - Woven	Apparel - Knit
Product-to-fiber	1.23	1.49	1.23	1.46	1.53
Fabric-to-fiber	1.17	1.19	1.17	1.17	1.22
Yarn-to-fiber	1.02	1.03	1.02	1.02	1.05

### Wool Fiber Conversion Options

Products	Option 1		Option 2		
	Home Textiles	Apparel	Home Textiles	Apparel - Woolen	Apparel - Worsted
Product-to-fiber	2.37	2.13	2.37	2.49	1.84
Fabric-to-fiber	2.27	1.95	2.27	2.27	1.69
Yarn-to-fiber	2.16	1.85	2.16	2.16	1.60

## Overview of Conversion Analysis

The following tables outline the conversion analysis carried out across all fiber categories following the approach specified in “[Development Steps](#)” earlier. Further notes on the analysis include:

- **Range:** The range include the minimum and maximum values collected irrespective of whether they are collected as a single value or a range of values (i.e. the range for 25, and 5 to 30 is considered as 5 to 30).
- **Outliers:** Outliers are values that lie outside of the data range collected (i.e. where data range is 5, 7, 2-10, 8 and 25, 25 would be considered as an outlier).
- **Average:** Averages are calculated across all values collected. Where a range of values is collected, the average of that range is considered as an input (i.e. average of 5, 2-10 is calculated as average (5, average (2,10))).
- **Median:** Medians are calculated across all values collected. Where a range of values is collected, the average of that range is considered as an input (i.e. median of 5, 2-10 is calculated as median (5, average (2,10))).
- **Adjustments:** In selected cases, based on discussions with external initiatives or internal engineers, adjustments are made to the calculated processing loss. These adjustments are either made for the purpose of industry alignment or in consideration of market conditions (i.e. apparel mix figures are derived from approximately 85% of the apparel market being knit and 15% woven). Similarly, Wool Apparel Mix is derived from approximately 50% woolen spun and 50% worsted.s

### Cotton Fiber Conversion Analysis

	Range	Outlier	Average	Median	Cotton Apparel Woven	Cotton Apparel Knit	Cotton Home/Denim	Cotton Apparel Mix
<b>Product weight</b>								
Cut make trim (CMT) - Overall	3 – 30	40	19.8	20	20	20	5	20
<b>Finished fabric weight</b>								
Fabric processing	1 – 14	–	8.5	9	9	9	9	9
Knitting/weaving	1 – 3	–	1.9	2	2	2	2	2
<b>Yarn weight</b>								
Spinning - OE	6 – 16	–	10.8	10	12.5	20.4	10	15
Spinning - K	10 – 20	–	14.1	13.8				
Spinning - C, CK	15 – 30	37	26.7	27.5				
<b>Fiber weight</b>								
Product-to-fiber factor					1.60	1.76	1.31	1.65
Fabric-to-fiber factor					1.28	1.41	1.25	1.32
Yarn-to-fiber factor					1.14	1.26	1.11	1.18

## Recycled Cotton Fiber Conversion Analysis

	Range	Outlier	Average	Median	rCotton Apparel Woven	rCotton Apparel Knit	rCotton Home/Denim	rCotton Apparel Mix
<b>Product weight</b>								
Cut make trim (CMT) - Overall	3 – 30	40	19.8	20	20	20	5	20
<b>Finished fabric weight</b>								
Fabric processing	7 – 15	–	11.9	13	11.9	11.9	11.9	11.9
Knitting/weaving	1 – 3	–	1.9	2	2	2	2	2
<b>Yarn weight</b>								
Spinning - OE	7 – 15	–	12.3	11	12		12	15
Spinning - K	14 – 18	–	17	18		17		
<b>Fiber weight</b>								
Product-to-fiber factor					1.65	1.74	1.39	1.70
Fabric-to-fiber factor					1.32	1.40	1.32	1.36
Yarn-to-fiber factor					1.14	1.20	1.14	1.18

- Based upon an LCA provided by one European recycled cotton supplier, spinning losses for mechanically recycled cotton is fairly low compared with the loss rate for Indian suppliers which is generally much higher. The spinning loss is modelled by using a blended worldwide rate.
- Recycled cotton applies only to mechanically recycled cotton.

## Polyester and Recycled Polyester Fiber Conversion Analysis

	Range	Outlier	Average	Median	Polyester Apparel Woven	Polyester Apparel Knit	Polyester Home	Polyester Apparel Mix
<b>Product weight</b>								
Cut make trim (CMT) - Overall	3 – 30	40	19.8	20	20	20	5	20
<b>Finished fabric weight</b>								
Fabric processing	6 – 10	–	7.8	9.0	7.8	7.8	7.8	7.8
Knitting/weaving	1 – 8	–	4.1	5.5	2.5	6.5	2.5	6.5
<b>Yarn weight</b>								
Spinning - Filament	3 – 12	12	2.8	3.0	2.8		2.8	5.3
Spinning - Yarn	8 – 10	–	9.0	9.0		9		
<b>Fiber weight</b>								
Product-to-fiber factor					1.43	1.59	1.20	1.53
Fabric-to-fiber factor					1.14	1.27	1.14	1.22
Yarn-to-fiber factor					1.03	1.10	1.03	1.06

- Recycled polyester values include both chemically and mechanically recycled polyester, and also include pre-consumer and post-consumer waste data.

## Nylon and Recycled Nylon Fiber Conversion Analysis

	Range	Outlier	Average	Median	Nylon Apparel Woven	Nylon Apparel Knit	Nylon Home	Nylon Apparel Mix
<b>Product weight</b>								
Cut make trim (CMT) - Overall	3 – 30	40	19.8	20	20	20	5	20
<b>Finished fabric weight</b>								
Fabric processing	6 – 10	–	7.8	9.0	7.8	7.8	7.8	7.8
Knitting/weaving	1 – 8	–	4.1	5.5	2.5	6.5	2.5	6.5
<b>Yarn weight</b>								
Spinning - Filament	3 – 12	12	2.8	3.0	2.8		2.8	5.3
Spinning - Yarn	8 – 10	–	9.0	9.0		9		
<b>Fiber weight</b>								
Product-to-fiber factor					1.43	1.59	1.20	1.53
Fabric-to-fiber factor					1.14	1.27	1.14	1.22
Yarn-to-fiber factor					1.03	1.10	1.03	1.06

- Recycled nylon includes both chemically and mechanically recycled nylon. However, the current data is specifically focused on post-consumer waste and does not cover pre-consumer waste.

## Manmade Cellulosics Fiber Conversion Analysis

	Range	Outlier	Average	Median	MMC Apparel Woven	MMC Apparel Knit	MMC Home	MMC Apparel Mix
<b>Product weight</b>								
Cut make trim (CMT) - Overall	3 – 30	40	19.8	20	20	20	5	20
<b>Finished fabric weight</b>								
Fabric processing	8 – 13	–	10	9	9	10	9	10
Knitting/weaving	3 – 9	–	4.8	6	4.8	4.8	4.8	4.8
<b>Yarn weight</b>								
Spinning - Filament	1 – 2	–	1.5	1.5	1.5		1.5	2.75
Spinning - Yarn	1.5 – 8	25	4.4	4		4		
<b>Fiber weight</b>								
Product-to-fiber factor					1.46	1.53	1.23	1.49
Fabric-to-fiber factor					1.17	1.22	1.17	1.19
Yarn-to-fiber factor					1.02	1.05	1.02	1.03

- The above conversion rates are derived from virgin manmade cellulosic production.
- Chemically recycled cotton or chemically recycled manmade cellulosics typically has a lower fabric processing waste compared to mechanically recycled cotton, therefore Textile Exchange recommends using rates for manmade cellulosics as a proxy if no further information on conversion rates is available.

## Wool Fiber Conversion Analysis

	Range	Outlier	Average	Median	Wool Apparel Woolen	Wool Apparel Worsted	Wool Home	Wool Apparel Mix
<b>Product weight</b>								
Cut make trim (CMT) - Overall	4 – 12	–	8.5	7.5	8.5	8.5	4	8.5
<b>Finished fabric weight</b>								
Fabric processing	0	–	0	0	0	0	0	0
Knitting/weaving	5 – 8	–	6.5	6.5	6.5	6.5	6.5	6.5
<b>Yarn weight</b>								
Spinning - Woolen	5 – 30	–	19.5	19.5	19.5		19.5	13.5
Spinning - Worsted	5 – 10	–	7.5	7.5		7.5		
Scouring/Topmaking - Woolen	30 – 55	10	42.5	42.5	42.5		42.5	37.5
Scouring/Topmaking - Worsted	25 – 40	–	32.5	32.5		32.5		
<b>Fiber weight</b>								
Product-to-fiber factor					2.49	1.84	2.37	2.13
Fabric-to-fiber factor					2.27	1.69	2.27	1.95
Yarn-to-fiber factor					2.16	1.60	2.16	1.85

- Cut, make and trim (CMT) for wool is considered differently and separately from the other fibers because of the manufacturing process using knitting machines generally has lower processing losses than other fibers.
- Scouring and top making is the most significant contribution to the high conversion rate in wool. Scouring refers to the process of removing oil from the animal hair and in cooler climate, where animal hair contains more oil, the processing loss can be up to 50%.

## Acknowledgments

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The development of this guide would not have been possible without the input and feedback provided by many industry stakeholders, including all companies who respond to the CFMB Survey and the CFMB consultation on fiber uptake calculations. Textile Exchange would like to specifically thank all the brands, certification bodies, industry initiatives, manufacturers, suppliers and retailers for their transparency and openness in sharing information in order to create a valuable resource for broader industry use.

## Use & Copyright

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As a continual work in progress, this guide will be reviewed on a regular basis. We invite readers to provide feedback and suggestions for improvement, particularly with regards to data where new and improved sources are likely to emerge over time. Please contact [CFMB@textileexchange.org](mailto:CFMB@textileexchange.org) with your suggestions and comments.

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**TextileExchange**  
Creating Material Change

[www.textileexchange.org](http://www.textileexchange.org)

Founded in 2002, Textile Exchange is a global nonprofit that creates leaders in the sustainable fiber and materials industry by providing learning opportunities, tools, insight, standards, data, measurement and benchmarking – and by building a community that can collectively accomplish what no individual or company can do alone. Textile Exchange also manages and promotes a suite of leading industry standards, including organic, recycled, responsible down and responsible wool, as well as, collects and publishes critical industry data and insights that enable brands and retailers to measure, manage and track their use of preferred fiber and materials. With more than 350 members that represent leading brands, retailers and suppliers, Textile Exchange has meaningfully accelerated the use of preferred fibers and increased the adoption of standards and certifications in the global textile industry.

Textile Exchange members are connected to a powerful community of brands, retailers, and companies, large and small, from across the textile world— all seeking to create a more sustainable and responsible fiber and materials industry. Members gain access to a suite of valuable tools, relevant data, insight reports, industry networks and connections —and the opportunity to take action, individually or collectively. Our goal is to help you succeed. Join us in our collective journey!

Find out more about the Corporate Fiber & Materials Benchmark here:

[TextileExchange.org/CFMB/about](http://TextileExchange.org/CFMB/about)

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