



**Textile
Exchange**

Corporate Fiber & Materials
Benchmark Program

Fiber Uptake Calculation Guide





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Benchmark Program

Fiber Uptake Calculations & Reporting Best Practices Guide **2019**

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Acronyms

BCI – Better Cotton Initiative (bettercotton.org/)

CFMB – Corporate Fibers & Materials Benchmark (textileexchange.org/pfm-benchmark/)

CmiA – Cotton Made in Africa (cottonmadeinafrica.org/en/)

Down – Down and Feathers

ECAP – European Clothing Action Plan (ecap.eu.com/)

ERP System – Enterprise Resource Planning System

Fiber Uptake – The amount of fiber associated with a brand or retailer creating product

GOTS – Global Organic Textile Standard (global-standard.org/)

GSM – Grams per Square Meter, a measurement system used to compare the weight of fabrics

IT System – Information Technology system, or computer system

MT – Metric Ton, 1,000 kilograms

PFM – Preferred Fibers & Materials

PLM – Product Lifecycle Management system

PO – Purchase Order

SCAP – Sustainable Clothing Action Plan (wrap.org.uk/sustainable-textiles/scap)

SKU – Stock Keeping Unit

WRAP – Waste and Resources Action Programme (wrap.org.uk/)

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Executive Summary

Textile Exchange is seeking to increase the accuracy and comparability of fiber uptake calculations completed by brands and retailers and reported through its Corporate Fiber & Materials Benchmark (CFMB)¹. To facilitate improvements, Textile Exchange has developed this guide to support the textile industry in cooperation with the Partnership for Sustainable Textiles (textilbuendnis.com), the Waste & Resources Action Programme’s (WRAP) Sustainable Clothing Action Plan (wrap.org.uk/sustainable-textiles/scap) and the Global Organic Textile Standard (global-standard.org/). This guide is rooted in a consultation completed with brands and retailers who are participants in the Textile Exchange Corporate Fiber & Materials Benchmark (CFMB) program, as well as companies involved in the Partnership for Sustainable Textiles and WRAP’s Sustainable Clothing Action Plan (SCAP). Often, companies are reporting uptake data to at least two of these initiatives. Textile Exchange recognizes that textile companies have very different IT systems (information technology systems, or computer systems), and, therefore, there are no mandatory requirements being imposed on brands and retailers’ fiber reporting. This guide presents an explanation of what can be considered best practice to support consistent and comparable data from all companies, while also noting the other approaches used by brands and retailers. The below table provides a summary of our findings:

| | Recommended Approach & Best Practice for Robust Industry Reporting |
|---|---|
| Supply Chain Stage for Data Extraction | Product-Level (Actual quantity delivered to final destination country for sale “Placed on the Market”). More advanced options also available. |
| Supply Chain Stage for Final Calculation | Fiber uptake calculations should include fiber loss estimations in production and, ultimately, estimate the fiber input at raw fiber level. |
| Date range | Preferably Calendar Year (January 1 – December 31). |
| Products In-Scope | Brands – All major textile components of products produced. Retailers – All major textile components of own-line products produced. |
| Materials In-Scope | <ul style="list-style-type: none"> All textile fibers used as basis of fiber uptake calculations (conventional and preferred/more sustainable, from both virgin and reclaimed feedstocks). Additional materials include down and feathers (“down”). |
| Product Weights | Actual product weight for each unique Style:Color combination (e.g. average of minimum and maximum weight). |
| Estimating Fiber Losses in Production | Use loss factors when converting product or fabric volumes back to fiber input. |
| Product Integrity System | Establish a product integrity system to collect necessary information to validate sourcing of more sustainable fibers and materials. |
| Documentation of Calculation Process | <ul style="list-style-type: none"> Develop in-house methodology document for calculating fiber uptake. Submit Fiber Uptake Calculation Metadata Form with CFMB Survey. Verification of calculations. |

As this is the inaugural year of the guide, Textile Exchange anticipates receiving feedback from many stakeholders. We welcome this feedback and are committed to developing valuable resources for the textile industry that improve consistency and comparability of fiber uptake data calculated by brands, retailers, supply chain companies and other industry stakeholders. Please contact CFMB@TextileExchange.org with your suggestions and comments.

¹ Previously known as the Preferred Fiber & Materials Benchmark

Textile Exchange CFMB Survey – Methodology Quick Reference

For the 2019 Corporate Fiber & Materials Benchmark (CFMB) Survey (based on 2018 data), Textile Exchange will encourage companies to adopt best practice reporting principles and will ask for metadata alongside the actual calculations. Below you will find a quick reference of preferred methodological decisions as well as an example fiber uptake calculation.

Corporate Fiber & Materials Benchmark Data Reporting

- **Scope** – The major textile components of all products. Extract data at product-level by Style:Color. Recommend using “Ship To” final destination country/region for sale extracts from ERP systems or Logistics teams.
- **Advanced Reporting Option** – Fabric-level uptake data to identify volumes of fibers sourced. Ensure that the volumes from mills are verified and that cross-checking occurs with product integrity systems to ensure evidence is collected to support PFM volume claims (e.g. certificates for organic cotton).
- **Date Range** – Preferably January 1 to December 31. If some systems are structured around seasons, explore if logistics/shipment data could be used to identify a calendar year data range.
- **Material Types** – Textile Exchange will now ask for fiber uptake volumes for each unique material type including conventional fibers, which can be derived from product composition data. This will ensure increased visibility of fiber sourcing portfolios and minimize potential misunderstandings in the reporting of data, decreasing corrections requested to reported data.
- **Product Weights** – Actual weights for unique styles is ideal (data from product lifecycle management system (PLM) or from logistics teams). Next best is average weights derived from actual products from your company. If neither of those methods are available, the use of industry-wide average weight tables is accepted.
- **Product Integrity System** – This system will collect information about PFM sourcing and evidence to support claims. Best practice reporting on more sustainable materials would only occur if evidence existed to support the claim, not just what is stated on a purchase order.
- **Estimating Fiber Loss in Production** – Textile Exchange has developed a Fiber Loss Calculator for brands and retailers to use to calculate back to fiber level from either product or fabric. A publicly available Textile Exchange Fiber Loss Calculator will also be launched, enabling companies who are not participating in the CFMB survey to estimate the weight of their raw fiber inputs.

Quick Reference:

If using Product-Level Data, you will need data extracts to identify the information below for each Style:Color:

- Quantities over 1 year (ideally quantities shipped)
- Product compositions (e.g. 95% Cotton, 5% Elastane)
- Product weights
- PFM attributes which may not be in product compositions (e.g. organic cotton or recycled polyester)

Example Fiber Uptake Calculation – Basic Calculation

Below is an example fiber uptake calculation, based on product-level data. This is a “basic” calculation as the method for estimating fiber weights uses a basic ratio for every material type. Different types of fabric and product have different efficiencies, and therefore, a more advanced and more accurate calculation methodology is also available, please see [Appendix 1](#).

Step 1: Identify volume data for desired date range:

- Data source likely to be ERP system, or logistics databases

| Date | Ship-To | Customer Number | Style & Color | Quantity |
|----------|---------|-----------------|---------------|----------|
| 1/1/18 | DE | 123 | 111111-001 | 100,000 |
| 8/24/18 | FR | 456 | 222222-500 | 300,000 |
| 12/31/18 | NL | 789 | 333333-901 | 500,000 |

Step 2: Identify composition of unique products (likely that this is a Style & Color code)

- Data source likely to be PLM system or product labeling teams.

| Style & Color | Gender Age | Category | Silhouette | Composition |
|---------------|------------|------------|------------|-----------------------------|
| 111111-001 | Menswear | Tops | Polo Shirt | 88% Polyester, 12% Elastane |
| 222222-500 | Womenswear | Bottoms | Jeans | 100% Cotton |
| 333333-901 | Babywear | All-In-One | Sleepsuit | 95% Cotton, 5% Elastane |

Step 3: Identify product weights

- Data source likely to be PLM system or logistics.

| Style & Color | Min Weight (g) | Max Weight (g) | Average Weight (kg) |
|---------------|----------------|----------------|---------------------|
| 111111-001 | 350 | 450 | 0.4 |
| 222222-500 | 350 | 650 | 0.5 |
| 333333-901 | 75 | 275 | 0.175 |

Step 4: Merge datasets, calculate weight of fiber uptake at product-level

| Date | Style - Color | Quantity | Average Weight (kg) | Fiber 1 | % | Weight Fiber 1 (kg) | Fiber 2 | % | Weight Fiber 2 (kg) |
|----------|---------------|----------|---------------------|---------|-----------|---------------------|---------|----------|---------------------|
| 1/1/18 | 111111-001 | 100,000 | 0.4 | 88% | Polyester | 35,200 | 12% | Elastane | 4,800 |
| 8/24/18 | 222222-500 | 300,000 | 0.5 | 100% | Cotton | 150,000 | 0% | | |
| 12/31/18 | 333333-901 | 500,000 | 0.175 | 95% | Cotton | 83,125 | 5% | Elastane | 4,375 |

| Fiber Sub-Totals at Product-Level (in kg) | |
|---|---------|
| Cotton | 233,125 |
| Elastane | 9,175 |
| Polyester | 35,200 |

Step 5: Integrate PFM criteria if not embedded in composition information:

Style 222222-50 is confirmed to be completely made of certified Organic Cotton (100% cotton composition) by validating the scope and transaction certificates. Therefore, the 150,000kg of cotton are classified as Organic Cotton.

| Fiber | Weight at Product Level (in Kilograms) |
|---------------------|--|
| Conventional Cotton | 83,125 |
| Organic Cotton | 150,000 |
| Elastane | 9,175 |
| Polyester | 35,200 |

Step 6: Apply fiber loss values (or conversion rates) to estimate the raw fiber input (for non-SCAP calculations)

In the below example, the brand has identified specific conversion rates for their products. Please skip this step if only submitting to SCAP as these conversion rates are embedded within the SCAP tool. Please see [Estimating Fiber Loss in Production](#) if you need support identifying fiber loss values for your calculation.

| Fiber | Weight at Product Level (in KG) | Conversion Rate – Product to Fiber | Weight at Fiber Level (in KG) |
|---------------------|---------------------------------|------------------------------------|-------------------------------|
| Conventional Cotton | 83,125 | 1.63 | 135,493.75 |
| Organic Cotton | 150,000 | 1.63 | 244,500 |
| Elastane | 9,175 | 1.5 | 13,762.5 |
| Polyester | 35,200 | 1.4 | 49,280 |

Introduction

Textile Exchange received questions about the consistency in uptake volumes reported in its annual CFMB Survey, about the methodology of calculating totals, and about the frequency of corrections submitted by brands and retailers following initial reporting of uptake totals. Some stakeholders have called for a closer reconciliation of the amount of “preferred” (more sustainable) fibers and materials (called PFMs in this document) that are reported by brands and retailers compared with the amount of raw fiber grown and sold on the market.

To address these questions, Textile Exchange launched a consultation with brands and retailers to identify:

- Each company’s process for calculating uptake totals (including sources of data),
- How these calculations could be improved,
- The structure of product integrity systems used to validate PFM sourcing information.

These consultations, completed by online questionnaire and via phone calls, provided input into this guide. The majority of participants believed that a guide would be a valuable resource for the broader textiles industry (82%), to their role (74%) and to their company (72%). Also, the majority of organizations responding to the survey (60%) stated that accuracy of data collection methodology applied could be improved. Most of the participants highlighted the need for a unified methodology that provides the user with clear guidance on the scope of materials to be included in the analysis and calculations of PFMs (including further information on how to calculate fiber loss). Participants also highlighted the need for a clear guide that included easy to understand examples.

Aims of this Guide

This document is intended to:

- Support the identification of the most suitable data from the company’s internal systems, and Support the processing of data, sharing best practice examples.

Textile Exchange acknowledges that each company has a unique IT infrastructure with limitations in how data can be accessed. This guide is, therefore, presented as a means to highlight industry best practice for improving consistency and comparability between data, as well as to identify practices used by other companies.

During the consultation process for this guide, some stakeholders called for mandatory requirements to be put in place, dictating specifically how companies should complete fiber uptake calculations (i.e. requiring a specific date range, requiring the use of actual product weights, etc.). Textile Exchange believes this would make it very difficult for some brands and retailers to provide data and for this year’s reporting cycle, will encourage the use of best practice approaches which, if used, should increase accuracy and comparability of data.

For the 2019 CFMB Survey (based on 2018 data), Textile Exchange will ask that companies document metadata on their calculations. This metadata will allow Textile Exchange to analyze the differences for all data submissions, and further explore with brands and retailers how to achieve greater alignment and comparability. Textile Exchange will also begin exploring additional data verification in 2019.

Initiative Introduction & Comparison

Textile Exchange is spearheading the development of this Fiber Uptake Calculations & Reporting Best Practices Guide. We are delighted that two other major industry initiatives are also partnering and co-funding this work; the Partnership for Sustainable Textiles (textilbuendnis.com) and the Waste & Resources Action Programme's (WRAP) Sustainable Clothing Action Plan (wrap.org.uk/sustainable-textiles/scap). In the consultation that informed the creation of this guide, over 56% of companies indicated they were reporting fiber uptake to multiple initiatives, with about half reporting the same data and the other half needing to make adjustments depending on the different requirements of the initiatives.

The remainder of this section covers an introduction to each initiative, including their reporting requirements, followed by a direct comparison of these reporting requirements with recommendations.

Textile Exchange Corporate Fiber & Materials Benchmark (CFMB)

The Textile Exchange Corporate Fiber & Materials Benchmark helps companies systematically measure, manage and integrate a preferred fiber and materials (PFM) strategy into mainstream business operations. It also allows companies to better understand how their PFM engagement compares to their peers - providing a further catalyst to change.

Companies using the benchmark follow a self-assessment process intended to help them identify strengths in their management and performance and recognize gaps where future progress can be made. By comparing their scores with those achieved by the entire group of participants, companies can plan their improvement efforts and prioritize action areas. During the second quarter (April-June) every year, brands and retailers are invited to complete a survey related to the previous calendar year, with overarching strategy questions as well as modules related to the sourcing of a particular material type (e.g. Cotton, Polyester, Wool). Brands and retailers are also asked to provide their fiber uptake data, which is aggregated and used to baseline the industry's uptake of more sustainable materials.

Partnership for Sustainable Textiles

The Partnership for Sustainable Textiles is a multi-stakeholder initiative with about 130 members from the fields of economy, politics and the civil society. Together they are striving to improve conditions in global textile production – from the production of raw goods to the disposal of textiles. The Textiles Partnership was founded in October 2014 in response to the deadly accidents in textile factories in Bangladesh and Pakistan. It was initiated by the German Federal Minister for Economic Cooperation and Development, Dr. Gerd Müller. Today, members of the Textiles Partnership cover about half of the German textile market.

The Partnership and its members seek to operate in line with three principles: “individual responsibility, collective engagement and mutual support.” These principles form the framework for activities in the areas of social standards and living wages, chemicals and environmental management, and natural fibers.

In rotating working groups, members jointly devise specific measures on issues such as living wages, wastewater standards in the management of chemicals, sustainable fibers, and supply chain transparency. Each member contributes skills against the backdrop of its own technical priorities and organizational goals. The individual concerns of members are considered in the formulation of targets, enabling a range of business models and types of company within the textile sector to be included.

Individual responsibility involves the principle of binding procedural obligations. As part of the Review Process, members establish specific goals, pursue them in a demonstrable way and make them gradually more ambitious. Each

member audits its own status annually, sets targets in line with the requirements of the Partnership, and reports on its individual progress.

As part of this process, specific issues and requirements for sustainability relevant to the textile sector are formulated within the Partnership, framed manageably and translated into binding deadline and volume targets. Currently, the Partnership has a volume target in relation to sourcing of more sustainable Cotton (e.g. Better Cotton Initiative, myBMP, Fairtrade Cotton Program, Fairtrade Cotton, Cotton made in Africa, GOTS, IVN Naturtextil, OCS, bioRe, CottonConnect, organic IFOAM, and other organic standards relevant to cotton of the IFOAM Family of Standards). The goal of the Partnership is that Germany will use at least 35% sustainable cotton by 2020, of which at least 10% should be organic (including organic in conversion). By 2025, the Partnership plans to double the usage to at least 70% sustainable cotton with at least 20% organic cotton.

There are ongoing discussions in relation to other volume targets, such as manufactured cellulosic fibers; however, these are not yet formally adopted.

WRAP Sustainable Clothing Action Plan (SCAP)

SCAP is a collaborative framework and voluntary commitment to deliver industry-led targets for reducing the use of resources in the clothing industry. So far, over 80 organizations across the United Kingdom have made a pledge to hit industry-led targets through the SCAP 2020 Commitment. Targets are in relation to reduction of carbon impacts, water impacts and waste generation. Signatories to the commitment report annually in the WRAP Clothing Footprint Calculator. The Footprint Calculator is designed to enable:

- Participants in SCAP 2020 to estimate product footprints for clothing as carbon, water and waste impacts in a consistent way; to plan and quantify the potential savings from improvement actions; and to quantify the savings directly attributable to actions they have taken (relative to a baseline year).
- WRAP to report the overall carbon, water and waste impacts and savings associated with SCAP 2020 delivery (collated across all signatories).

Up to 20 different “improvement actions” can be applied to calculated baseline footprints. These include actions designed to reduce the footprint of clothing at each stage of the life cycle, from design (e.g. use of recycled polyester) through to end of life (e.g. increased reuse of garments).

Reporting is requested for ten fiber categories (Cotton, Wool, Silk, Flax/Linen, Regenerated Cellulosics, Polyester, Acrylic, Polyamide/Nylon, Polyurethane/Polypropylene/Elastane and Other). Refinement of volumes to specify a more sustainable fiber is carried out via the improvement actions in the tool.

WRAP keep all signatory submissions confidential. Individual reports are subject to internal quality assurance procedures for voluntary agreements, discussed in aggregate with the quarterly Metrics Working Group. Progress at achieving 2020 reduction targets for carbon, water and waste are published every other year on the WRAP website (wrap.org.uk/sustainable-textiles/scap).

Initiative Comparison

Textile Exchange acknowledges that industry initiatives are continually evolving, and that the scope of initiatives is unlikely to be completely aligned. To support brands and retailers with fiber uptake disclosures, we have prepared the below overview of differences between the Textile Exchange CFMB Survey, the Partnership for Sustainable Textiles progress reporting, and the WRAP Sustainable Clothing Action Plan progress reporting.

| | Textile Exchange CFMB | Partnership for Sustainable Textiles | WRAP Sustainable Clothing Action Plan |
|--|---|---|---|
| Scope | All products containing textiles | No requirement, preference for all products containing textiles | Only apparel products |
| Geographic Scope | Global Data | Global Data | United Kingdom Data only |
| Date Range | No requirement, preferably calendar year | No requirement, preferably calendar year | Calendar year |
| Material Types in Scope | Major fiber categories | Cotton currently but Manufactured Cellulosics likely to be added soon | Major fiber categories |
| Reporting Cycle | Report second and third quarter for previous year | Report by end of March for previous year | Report by end of March for previous year |
| Supply Chain Stage for Fiber Calculations | Fiber-level | Fiber-level | Weight at Product-Level (as conversion rates are embedded within the SCAP Tool) |

Industry Consultation

Textile Exchange launched a consultation with all brands and retailers involved in the CFMB (previously called the Preferred Fiber & Materials Benchmark) from 2015 to 2018. Additional companies involved in the Partnership for Sustainable Textiles or WRAP's Sustainable Clothing Action Plan were also invited to participate. Feedback was received from 62 companies. See below the list of companies that took part, followed by a summary of the consultation outcomes:

| | | |
|--|-------------------------------|-----------------------|
| ALDI Süd | Gucci | NEXT |
| ARMED ANGELS | H&M | Nike, Inc. |
| ASOS | Hanky Panky | The North Face |
| Boll & Branch | Helly Hansen | ORSAY |
| Brooks Running | HempAge | Otto Group |
| Burton Snowboards | Hemtex | prana living |
| C&A | JBC | PUMA |
| Columbia Sportswear Company | KALANI | REI |
| Cotonea/Gebr. Elmer & Zweifel | KappAhl | Sportif USA |
| Coyuchi | Kathmandu | Stanley/Stella |
| Decathlon | Kowa | Takko |
| Deckers | Kuyichi | Tchibo |
| DEDICATED/Tshirt Store | Levi Strauss & Co. | Tierra |
| Dibella | Lindex | Trendsetter |
| EILEEN FISHER | Loomstate | Varner |
| Esprit | Mantis World | Volcom |
| Fjällräven International | Mara Hoffman | VF |
| Gap Inc. | Marks & Spencer | Westpoint Home |
| greenfibres | MEC | Woolworths |
| G-Star RAW | MQ Retail AB | Zalando |
| | MUD Jeans | |

Outcomes of the consultation will be presented below by topic, along with a discussion of practices completed by brands and retailers, best practice recommendations, and any peer learning tips identified in our research.

Identification of Most Suitable Company Data

To follow, each of the below topics will be explored, identifying findings from the consultations and highlighting best practice for the broader textiles industry:

- Date Range for Annual Reporting
- Data Sources
- Supply Chain Stage for Data Extraction
- Products In-Scope
- Material Types In-Scope
- Estimating Fiber Loss in Production
- Product Weights
- Product Integrity System
- Documentation of Calculation Process & Verification

Date Range for Annual Reporting

There remains variability in terms of the date range selected by companies to use for their annual fiber uptake calculations. Of those responding to the consultation, 56% use calendar year, 32% use various combinations of seasons, and 12% use fiscal year (e.g. April – March, August – July, February – January).

To maximize the potential for comparability and aggregation of company reporting volumes in developing industry totals, calendar year-based reporting is identified as best practice (i.e. January 1 to December 31). Further, it is essential that each company uses consistent date ranges in order to ensure comparability between years and demonstrate growth. Selection of this date range could increase consistency and comparability of brand and retailer reporting, as well as allow Textile Exchange to explore how to better match “demand” data reflecting sourced fiber volumes against actual raw material production worldwide.

Peer Learning Tip

Logistics teams can identify extracts based upon Ship To date to final destination country, Style:Color and quantities.

Best Practice

Gregorian Calendar Year (January 1 – December 31)

Other Practices

Equivalent of 1 year of seasons (e.g. Fall/Winter18 & Spring/Summer19)

Company fiscal year

Data Sources

Consultation responses clearly showed significant variability in terms of where and how data sources for fiber uptake calculations are identified – demonstrating that there does not appear to be a straight-forward, publicly available solution for brands to use. The top teams to source data from included: Production, Buying, Sustainability, IT, Materials and Logistics. Nearly all responses combine multiple extracts together to complete these calculations, and many expressed frustrations at the time-consuming and sometimes tedious calculation process. Many also emphasized that the data cleaning process can take a long time as some of the data entered (for example, composition data) can be quite fragmented and contain errors.

Companies who do not have a robust product integrity system in place to collect data and evidence regarding more sustainable styles might also need to request evidence from their suppliers and have this as an additional input into their calculations. For more information, see: [Product Integrity Systems](#).

Tips for identifying data sources will follow in subsequent sections below.

Peer Learning Example

Product Labeling team provides product composition data for all Style:Colors (or use PLM).

Logistics provides two extracts,
1 - Ship to final Destination Country (same extract for Eco-TLC compliance in France) and
2- minimum/maximum weight of Style:Colors.
Sustainability then adds PFM attributes and validates PFM Styles.

Best Practice

Identify best quality data from your internal systems (e.g. if PLM has lots of errors in compositions, explore if product labeling managers can extract clean data used on care labels).

Other Practices

Significant data cleaning and reworking of data extracts

Supply Chain Stage for Data Extraction

Over 91% of the brands and retailers responding to the consultation use product-level extracts to derive fiber uptake calculations. Remaining participants derive data from material suppliers, fabric mills and yarn spinners. Furthermore, 82% of responders identified sourced/produced data compared with 16% using sales data and 2% “other.”

When looking at developing guidance applicable to all brands and retailers, and given limited supply chain visibility and upstream supply chain engagement by many companies, Textile Exchange will primarily recommend brands identify data at produced product level (i.e. delivered quantities from finished product manufacturers or shipment of product to destination country for sale). The latter approach is slightly preferable as it aligns with European Extended Producer Responsibility reporting at product-level of products “placed onto the market.” Many companies already complete this, for example, in the French market to Eco-TLC². Furthermore, this allows companies additional time to collect integrity information to support their PFM claims (e.g. transaction certificates for certified materials) and, in the event that this evidence is not available, convert the PFM fiber claim to conventional fiber. This data point is preferred over sales data, as sales figures do not include unsold product, damaged product, theft, and other potential losses.

For this specific methodology category, there is a tension between 1) brands and retailers being able to readily access information on product and correct styles where insufficient evidence was available to make a preferred/more sustainable material claim, and 2) proximity to raw material source with reputable and trusted data (i.e. the closer to the raw material source, the potential for most accurate information). In the consultation, we asked companies about completing open book exercises with fabric mills, comparing actual and invoiced fabric buys. For those who had completed such exercises, many noted discrepancies with volumes. Some cases were due to suppliers being more efficient than planned or using leftover material from previous orders; other discrepancies were more difficult for companies to resolve. While no malicious intent could be driving these mismatches, there remains a potential for distortion and over-reporting of the PFM uptake by brands and retailers. Given this, Textile Exchange will encourage brands and retailers to use product-level delivered volumes as a basis for their calculations. The benefits of this, including the ability for brands to convert styles from more sustainable to conventional in the event of insufficient evidence, outweigh the potential benefit/risk of identification of data from mill-level. For more engaged companies with robust checks and balances to validate data from mills, Textile Exchange is happy to continue receiving this data, and may explore a potential case study with one of these organizations for future iterations of this guide.

Peer Learning Tip

Logistics teams are able to identify extracts of “Ship To” final destination country, as well as, minimum and maximum weight by Style:Color as this is used for planning purposes.

² <https://www.ecotlc.fr/page-297-information-in-english.html#PR%20for%20TLC>

For identifying SKUs, it is recommended to identify Style:Color instead of only Style as different colorways of the same style tend to have different fabrics (and respectively different compositions) and therefore different weights.

| Best Practice | Other Practices |
|--|--|
| <p>Product-Level (actual quantity delivered to final destination country for sale “Placed on the Market”)</p> <p><i>Advanced Reporting Option</i> – Fabric-level uptake data, ensuring that the volumes from mills are verified, and that cross-checking occurs with product integrity systems to ensure evidence is collected to support PFM volume claims.</p> | <p>Product-Level (PO quantity)</p> <p>Product-Level (Sales quantity)</p> |

It is worth noting that, while the above is recommended as the source of data for company calculations, it is recommended that the resulting supply chain stage for final calculation is fiber input at raw fiber level. For more information on this, please see [Estimating Fiber Loss in Production](#).

Products In-Scope

Products that are in-scope will differ between the initiatives requesting fiber uptake calculation reporting. Textile Exchange and the Partnership for Sustainable Textiles encourages all products with textile components to be used in the calculations, while WRAP focuses specifically on apparel products.

In the consultation with brands and retailers, there was significant variability in terms of which products were deemed in-scope to the fiber uptake calculations, and which products were out-of-scope. Textile Exchange acknowledges that there may be differences in data availability between different organizational structures and even departments and, subsequently, there may be challenges in identifying data for all textile products placed on the market by the company. Where possible, Textile Exchange would encourage companies to seek out robust data in order to most accurately model the complete fiber uptake of the company. We will ask for the company to state which products are out-of-scope when submitting data (e.g. licensed footwear is excluded from the fiber calculation).

It is worth noting that, in order to mitigate potential double-counting, retailers who are wholesalers of third-party brands should not include these products in their fiber uptake calculations. This aligns with current best practice of retailers responding to the consultation process.

| Best Practice | Other Practices |
|---|--|
| <p>Brands – All major textile components of products produced</p> <p>Retailers – All major textile components of own-line products produced</p> | <p>Excluding certain product categories that have major textile components</p> |

Material Types In-Scope

In line with the above position on product types, Textile Exchange encourages brands and retailers to collect information on all textile fibers and materials in a brand’s portfolio – even if some are not currently part of reporting requirements for initiatives. For example, some brands shared that coir, elastane, hemp and silk are out-of-scope of their calculations. In order for companies to be fully aware of the fiber uptake portfolio, these should be included, as even materials with smaller volumes may still present significant risks. This year, the CFMB Survey allows for more specific reporting of fiber categories.

Textile Exchange will now ask for fiber uptake volumes for each unique material type, including conventional materials. This will ensure increased visibility of fiber sourcing portfolios and provide data to support the future integration of additional PFMs. Furthermore, it should minimize potential misunderstandings in reporting data, decreasing the frequency of corrections requested to data already reported.

It is worth note that trims, embellishment, and labelling are not traditionally included in fiber calculations, however companies are invited to include this if they wish.

| Best Practice | Other Practices |
|---|---|
| All textile fibers and materials used as basis of fiber uptake calculations | Excluding certain textile fiber or material types |

Estimating Fiber Loss in Production

It is critical to estimate the fiber losses in production of products, as nearly every supply chain stage has some fiber or material remaining that is not embedded in the final product (e.g. cutting waste from cutting fabric for finished products). There is significant variability in terms of how brands and retailers are estimating fiber losses throughout the supply chain to calculate back to the uptake of raw material/fiber (e.g. for cotton, back to equivalent weight of cotton lint). Several of the companies consulted do not take into account losses when completing their fiber calculations. Textile Exchange hopes to support companies with estimating these in the future. Based on the consultation responses of those who do take fiber losses throughout the supply chain into account, many refer to BCI loss factors for cotton. However, there is little mention of any additional loss factors for cotton products.

The consultation provided clear evidence that BCI’s Fiber Volume Calculation Tool was widely used by brands and retailers to estimate the volume of cotton lint necessary to produce their products. Textile Exchange is in consultation with BCI regarding supply chain loss factors in calculating back to MT of cotton lint, as these are currently under review.

Recommended fiber loss values, or “conversion rates,” will be found in the Textile Exchange Fiber Loss Calculator. This calculator is a web-based tool for companies to use to easily apply these conversion factors. There is a calculator embedded within the CFMB Survey, and the publicly available calculator will be available on the Textile Exchange website in the summer of 2019. Please see this tool for more detailed information on the loss factors and their sources.

It is worth noting that, if companies have access to fiber loss data, (for example, pattern efficiency data for their products) and are confident that these reflect reality, Textile Exchange would encourage companies to use this data for their calculations. If this is not available, another advanced reporting option is to differentiate sub-total weights for

different fabric types as these tend to have distinctly different efficiencies (e.g. knits, wovens, denims, etc.), see [Appendix 1](#) for an example calculation. BCI has developed rates to use for these different fabric categories; these rates will also be embedded within the Textile Exchange Fiber Loss Calculator.

| Best Practice |
|--|
| Use loss factors when converting product or fabric weights back to fiber |

| Other Practices |
|------------------------|
| No use of loss factors |

Product Weights

As over 91% of companies who responded to the consultation use data at product-level to complete fiber uptake calculations, Textile Exchange explored the ways in which this product data is processed as a basis of these calculations. It was identified in the consultation that, of those companies using product-level extracts, over half use actual weight data for individual stock keeping unit (SKU), while others used average weight tables (both those derived from actual products sold by the company as well as weight tables from external organizations like BCI or WRAP).

For identifying SKUs, it is recommended to identify Style:Color instead of only Style as different colorways of the same style tend to have different fabrics (and respectively different compositions) and, therefore, different weights.

Peer Learning Tips

- Logistics teams can be a great support for identifying product weight data. They tend to use the minimum and maximum weight of each SKU for logistics planning. Some brands simply average the minimum and maximum weights for an average weight for each SKU combination.
- Logistics Style:Color weights might include packaging. You can use your European Packaging Reporting data to subtract this weight from product weight.

| Best Practice |
|------------------------|
| Actual Product Weights |

| Other Practices |
|--|
| Average Product Weights derived from weighed sample products |
| BCI Product Weight Table |
| WRAP Product Weight Table |

BCI and WRAP Product Weight Tables

While Textile Exchange would encourage companies to identify their own actual product weights, or derive average weights by silhouette based upon actual product, some brands and retailers may choose to use a generic product weight table. The product weight tables for BCI and WRAP are provided in [Appendix 2](#). It is worth reemphasizing that BCI weights include cutting waste losses (therefore no additional loss calculation should be applied from fabric to product), while WRAP/ECAP weights do not include this (therefore loss calculations should include cutting waste from fabric to product).

Also, BCI provides members with an average product weight table for homeware products, which can be found in [Appendix 3](#).

Product Integrity System

In the consultation, 84% of participants shared that they have systems in place to trace and store relevant documents related to the sourcing of more sustainable fibers. Sustainability teams hold the primary responsibility across most organizations for ensuring the validity of these documents. Textile Exchange is encouraged by this; however, it is hoped that all brands and retailers establish this in due course in order to formalize the collection of evidence to validate and support the investments made in sourcing more sustainable materials. Furthermore, Textile Exchange encourages companies to collect information as products are produced so that evidence is available to support more sustainable sourcing claims when products are placed on the market. This proactive approach is preferable to collecting evidence when putting together annual fiber uptake calculations.

Furthermore, 79% of the brands and retailers who responded to the consultation stated that other teams (besides sustainability teams) are trained on more sustainable standards and the evidence needed related to the sourcing of PFMs. Most of the brands and retailers who responded to the consultation train their Buying, Materials, Sourcing, Design and Product Teams. Again, this is very encouraging feedback as the majority of companies source a variety of PFMs with varying requirements from a documentation standpoint. Not all data collection can be completed by sustainability teams, therefore, establishing a common ground and understanding should facilitate the necessary engagement and collection of information.

| Best Practice | Other Practices |
|--|--|
| Establish a product integrity system to collect necessary information to validate PFM sourcing | Ad-hoc data collection upon request or when completing fiber uptake calculations |

Documentation of Calculation Methodology & Verification

53% of companies who provided feedback have no in-house methodology for calculating fiber uptake. This highlights the need for documentation of calculation approaches in order to increase the likelihood of consistent calculations year-on-year. The Textile Exchange CFMB team receives many correction requests to reported uptake, therefore, the aim is that, by documenting the calculation methodology, the frequency by which these corrections occur is reduced. This should minimize additional work for teams completing calculations, and should streamline the process in future, even in the event of employee turnover.

Textile Exchange will introduce a “Fiber Uptake Calculation Metadata Form” (below) to the fiber uptake reporting for the 2019 CFMB Survey. This metadata document will support brands in pulling comparable data year-on-year, but will also give Textile Exchange visibility into the scope of each company’s data submission, aiding the aggregation of fiber data to best represent industry totals.

Furthermore, 72% of respondents stated that they did not have an assurance system or external auditor in place who validates uptake of more sustainable fibers. Of the 21% of brands and retailers that have a system in place, some of the assurance systems/external auditors are not auditing data submitted (e.g. submissions of annual fiber data by companies to initiatives). Some of the participants named accountancies such as Ernst & Young, PwC and Deloitte as auditors reviewing calculations on the use of more sustainable fibers. Some companies requested that Textile Exchange

setup a verification service to review fiber uptake calculations and product integrity systems. This will be explored by the Textile Exchange team in 2019.

| Best Practice | Other Practices |
|---|---|
| <p>Develop in-house methodology document for calculating fiber uptake</p> <p>Complete Fiber Uptake Calculation Metadata Form with submission of CFMB Survey</p> <p>Verification of calculations</p> | <p>No documentation of process</p> <p>No verification</p> |

Fiber Uptake Calculation Metadata Form

This form is intended give Textile Exchange increased visibility into calculations completed, validate that reporting methodology is consistent year-on-year, give an indication on data quality and, ultimately, ensure figures are aggregated to industry totals as accurately as possible. This metadata will allow Textile Exchange to further explore with brands and retailers how to obtain increased alignment and comparability. This form may also assist brands in keeping a record of how calculations have been completed and, in the event of staff turnover, can be used as a guide to identify comparable data.

| | |
|---|---|
| Company Name. | ABC Fashion Inc. |
| Name of practitioner coordinating data calculation. | Jane Smith, Sustainability Manager, Global Sustainability Team, Jane.Smith@ABCFashion.com |
| Internal practitioners supporting data collection. | Sue Jones from Logistics Arjun Patel from Product Labeling |
| Systems from which data was extracted. | <ul style="list-style-type: none"> • ERP System – Products Shipped to a country for sale by Style:Color with volumes. • Logistics – Style:Color minimum and maximum weights. • Product Labeling databases – Style:Color compositions. • Sustainability Teams – PFM Volumes as this is not collected within the other ABC Fashion Inc. IT systems. |
| Time period of data. | January 1 – December 31 2018 product shipped to final destination country |
| Product categories not covered by calculation & approximate magnitude. | Footwear is excluded, as is licensed product, approximately 1,000,000 units. |
| Fiber categories not covered by calculation. | Coir and silk are excluded. |
| Major textile components not covered in calculation. | Apparel linings. |

| | |
|--|---|
| Data source for product/material weights applied. | Logistics planning databases. |
| Fiber loss factors applied in calculation. | 1.7 Cotton product to fiber, 1.5 Synthetic materials product to fiber |
| Please describe the data cleaning and processing methodology applied. | Data sources are combined in one analysis. Approximately 0.5% of volume has composition that does not total 100%, proxies added in line with highest volume product with same Gender/Age:Silhouette (e.g. Womenswear Short-Sleeve T-Shirts). Weights from logistics sense-checked to ensure no errors in outliers (i.e. very high or very low weights). |
| Have you made changes or adjustments made to the calculation methodology this year? If so, what has changed and what were the reasons for change? | No changes. |
| Please describe how the fiber calculation is validated and who is involved in the validation process (e.g. only data collector, manager, internal audit team, external audit team). | Internal validation of calculations by Bridget Williams, internal audit team. |
| Please assess the data quality and accuracy of your calculations (1 to 5, 5 being most accurate) and list any opportunities for improvement. | 3, fiber loss factors are generic by fiber type. Will explore if possible, to identify data sub-totals for wovens, knits, denim, etc. |

Continuous Improvement of Reported Uptake Data

Textile Exchange is committed to continuously evaluating how reported fiber uptake data can be more accurate and comparable to fiber production data. Upon collection of metadata forms for all CFMB Survey submissions in 2019 (for 2018 data), we will conduct additional analysis to evaluate how to further evolve this guide. Furthermore, Textile Exchange will consult with standards owners to validate the volumes reported, and explore potential ways to identify more accurate and comparable data in the future.

Appendix 1 – Example Fiber Uptake Calculation – Advanced Calculation

Below is an example fiber uptake calculation, based on product-level data. This is an “advanced” calculation example as the method for estimating fiber weights specifies sub-totals for types of fabric and some types of product. If level of detail is not available for this year’s calculation, please see the [basic example fiber uptake calculation](#).

Step 1: Identify volume data for desired date range:

- Data source likely to be ERP system, or logistics databases

| Date | Ship-To | Customer Number | Style & Color | Quantity |
|----------|---------|-----------------|---------------|----------|
| 1/1/18 | DE | 123 | 111111-001 | 100,000 |
| 8/24/18 | FR | 456 | 222222-500 | 300,000 |
| 12/31/18 | NL | 789 | 333333-901 | 500,000 |

Step 2: Identify composition of unique products (likely that this is a Style & Color code). Also, identify the Fabric Type (this will be used for the fiber loss calculation)

- Data source likely to be PLM system or product labeling teams.

| Style & Color | Gender Age | Category | Silhouette | Composition | Fabric Type |
|---------------|------------|------------|------------|-----------------------------|-------------|
| 111111-001 | Menswear | Tops | Polo Shirt | 88% Polyester, 12% Elastane | Woven |
| 222222-500 | Womenswear | Bottoms | Jeans | 100% Cotton | Denim |
| 333333-901 | Babywear | All-In-One | Sleepsuit | 95% Cotton, 5% Elastane | Knit |

Step 3: Identify product weights

- Data source likely to be PLM system or logistics.

| Style & Color | Min Weight (g) | Max Weight (g) | Average Weight (kg) |
|---------------|----------------|----------------|---------------------|
| 111111-001 | 350 | 450 | 0.4 |
| 222222-500 | 350 | 650 | 0.5 |
| 333333-901 | 75 | 275 | 0.175 |

Step 4: Merge datasets, calculate weight of fiber uptake by fabric type at product-level

| Date | Style & Color | Quantity | Average Weight (kg) | Fiber 1 | % | Weight Fiber 1 (kg) | Fiber 2 | % | Weight Fiber 2 (kg) |
|----------|---------------|----------|---------------------|-----------|------|---------------------|----------|-----|---------------------|
| 1/1/18 | 111111-001 | 100,000 | 0.4 | Polyester | 88% | 35,200 | Elastane | 12% | 4,800 |
| 8/24/18 | 222222-500 | 300,000 | 0.5 | Cotton | 100% | 150,000 | | 0% | |
| 12/31/18 | 333333-901 | 500,000 | 0.175 | Cotton | 95% | 83,125 | Elastane | 5% | 4,375 |

| Fiber Sub-Totals by Fabric Type at Product-Level (in kg) | | |
|--|-----------|---------|
| Knit | Cotton | 83,125 |
| | Elastane | 4,375 |
| Denim | Cotton | 150,000 |
| Woven | Elastane | 4,800 |
| | Polyester | 35,200 |

Step 5: Integrate PFM criteria if not embedded in composition information:

Style 22222-50 is confirmed to be completely made of certified Organic Cotton (100% cotton composition) by validating the scope and transaction certificates. Therefore, the 150,000kg of cotton are classified as Organic Cotton.

| Fiber Sub-Totals by Fabric Type at Product-Level (in kg) | | |
|--|----------------|---------|
| Knit | Cotton | 83,125 |
| | Elastane | 4,375 |
| Denim | Organic Cotton | 150,000 |
| Woven | Elastane | 4,800 |
| | Polyester | 35,200 |

Step 6: Apply fiber loss values (or conversion rates) to estimate the raw fiber input

In the below example, the brand has identified specific conversion rates for the fabric types of their products. Please skip this step if only submitting to SCAP as these conversion rates are embedded within the SCAP tool. Please see [Estimating Fiber Loss in Production](#) if you need support identifying fiber loss values for your calculation.

| Fiber Sub-Totals by Fabric Type at Product-Level (in kg) | | | Fiber Loss Rates | Fiber Sub-Totals at Fiber Level (in kg) |
|--|----------------|---------|------------------|---|
| Knit | Cotton | 83,125 | 1.65 | 137,156.25 |
| | Elastane | 4,375 | 1.50 | 6,562.50 |
| Denim | Organic Cotton | 150,000 | 1.35 | 202,500.00 |
| Woven | Elastane | 4,800 | 1.60 | 7,680.00 |
| | Polyester | 35,200 | 1.70 | 59,840.00 |

| Fiber | Total at Fiber Level (in kg) |
|----------------|------------------------------|
| Cotton | 137,156.25 |
| Elastane | 14,242.50 |
| Organic Cotton | 202,500.00 |
| Polyester | 59,840.00 |

Appendix 2 – Product Weight Table, Apparel

If using the WRAP product weights, it is mandatory to cite them as the source. Please use the below attribution:

“This Data is provided by The Waste and Resources Action Programme (WRAP), whose mission is to accelerate the move to a sustainable and resource-efficient economy.”

| WRAP Item | Weight (grams) excl. cutting waste | BCI Silhouette | Weight (grams) incl. cutting waste |
|-----------------------------|------------------------------------|---------------------------|------------------------------------|
| Womenswear | | | |
| Dressing Gowns Heavy Weight | 1080 | Dressing Gowns (Toweling) | 1500 |
| Dressing Gowns Light Weight | 306 | | |
| Pajamas Light Weight | 371 | | |
| Pajamas Heavy Weight | 452 | | |
| Jersey Nightwear | 344 | Nightwear | 150 |
| Knickers/Pants | 29 | Knickers/Pants | 45 |
| Bras - Padded Underwired | 112 | | |
| Bras - Lace Underwired | 80 | | |
| Bras - Non-wired | 39 | | |
| Slips | 112 | | |
| Swimsuit | 146 | | |
| Bikini Top | 64 | | |
| Bikini Briefs | 59 | | |
| Tankini Top | 71 | | |
| Tankini Briefs | 53 | | |
| Socks | 31 | Socks | 31 |
| Tights 15 Denier | 24 | | |
| Tights 40 Denier | 36 | | |
| Tights 60 Denier | 43 | | |
| Heavy Tights | 73 | | |
| Winter Vest (Thermal) | 109 | | |
| Vests Jersey Cami | 95 | Underwear Vests | 90 |
| Thick Strap Vests | 120 | | |
| Knitwear Heavy Weight | 402 | Knitwear | 375 |
| Knitwear Summer Weight | 159 | | |
| Knitwear Light Knit | 226 | | |
| Knit Formal Top | 296 | | |

| WRAP Item | Weight (grams) excl. cutting waste | BCI Silhouette | Weight (grams) incl. cutting waste | | |
|--|------------------------------------|-----------------------------|------------------------------------|--|--|
| Hoody | 489 | | | | |
| Sweat Tops / Rugby Tops | 432 | Sweat Tops / Rugby Tops | 420 | | |
| Sweat Jacket | 495 | | | | |
| Tee Shirt Long Sleeve | 176 | Tee Shirt | 190 | | |
| Tee Shirt Short Sleeve | 140 | | | | |
| Woven Formal / Casual Shirt Long Sleeve | 130 | Woven Formal / Casual Shirt | 135 | | |
| Woven Formal / Casual Shirt Short Sleeve | 130 | | | | |
| Winter Heavyweight Coat (Main Fabric Only) | 1056 | Jacket | 420 | | |
| Winter Heavyweight Coat (Lining) | 200 | | | | |
| Winter Raincoat / Mac (Main Fabric Only) | 1052 | | | | |
| Winter Raincoat / Mac (Lining) | 200 | | | | |
| Spring Mid Weight Coat (Main Fabric Only) | 633 | | | | |
| Spring Mid Weight Coat (Lining) | 200 | | | | |
| Lightweight Mac (Main Fabric Only) | 362 | | | | |
| Lightweight Mac (Lining) | 200 | | | | |
| Tailored Jacket (Main Fabric Only) | 300 | | | | |
| Tailored Jacket (Lining Only) | 100 | | | | |
| Waistcoat (Main Fabric Only) | 150 | | | | |
| Waistcoat (Lining) | 50 | | | | |
| Formal Suit Dress (Main Fabric Only) | 350 | | | | |
| Formal Suit Dress (Main Fabric Only) | 100 | | | | |
| Tailored Trousers | 317 | | | | |
| Tailored Skirt | 270 | | | | |
| Maxi Dress | 433 | | | | |
| Standard Dress | 263 | | | | |
| Knitted Dress | 255 | | | | |
| Fleece Jacket | 327 | | | | |
| Casual Jacket | 653 | | | | |
| Casual Skirt | 197 | Skirt | 115 | | |

| WRAP Item | Weight (grams) excl. cutting waste | BCI Silhouette | Weight (grams) incl. cutting waste |
|---|------------------------------------|---------------------------|------------------------------------|
| Casual Trouser | 364 | | |
| Cargo Trouser | 243 | Cargo Trouser | 275 |
| Jogger Pant | 353 | Jogger | 420 |
| Jean | 478 | Jean | 560 |
| Playsuit (Long) | 228 | | |
| Playsuit (Short) | 214 | | |
| Leggings | 130 | | |
| Menswear | | | |
| Dressing Gowns (Toweling, Velour, Fleece) | 1127 | Dressing Gowns (Toweling) | 1600 |
| Dressing Gowns (Lightweight) | 536 | | |
| Knickers / Pants | 77 | Knickers / Pants | 90 |
| Fitted Boxer | 75 | | |
| Loose Fit Boxer | 63 | | |
| Brief | 51 | | |
| Pajamas Heavyweight | 493 | Pajamas | 300 |
| Pajamas Lightweight | 358 | | |
| Socks | 36 | Socks | 35 |
| Underwear Vests | 103 | Underwear Vests | 110 |
| Ties | 36 | | |
| Suit Jacket (Main Fabric Only) | 500 | | |
| Suit Jacket (Lining) | 125 | | |
| Suit Trouser | 402 | | |
| Jackets (Main Fabric Only) | 500 | | |
| Jackets (Lining) | 125 | | |
| Formal Trousers | 350 | | |
| Heavy Weight Knitwear | 650 | Knitwear | 500 |
| Lightweight Knitwear | 283 | | |
| Hoody | 646 | | |
| Polo Shirt | 229 | Polo Shirt | 370 |
| Rugby Tops | 442 | Sweat Tops / Rugby Tops | 470 |
| Sweat Top | 500 | | |
| Jogger | 532 | Jogger | 500 |

| WRAP Item | Weight (grams) excl. cutting waste | BCI Silhouette | Weight (grams) incl. cutting waste |
|--|------------------------------------|---|------------------------------------|
| Tee Shirt Long Sleeve | 258 | Tee Shirt | 190 |
| Tee Shirt Short Sleeve | 266 | | |
| Swimwear Shorts | 196 | | |
| Fleece Jacket | 323 | | |
| Outerwear Jackets - Lightweight | 701 | | |
| Outerwear Jackets – Lightweight Lining | 150 | | |
| Outerwear Jackets - Midweight | 927 | | |
| Outerwear Jackets - Midweight Lining | 150 | | |
| Outerwear Coats/Jackets - Heavyweight | 1369 | | |
| Outerwear Coats/Jackets - Heavyweight Lining | 150 | | |
| Woven Formal / Casual Shirt Short Sleeve | 225 | Woven Formal Shirt Poly Cotton (65%, 35%) | 240 |
| Woven Formal / Casual Shirt Long Sleeve | 243 | Woven Formal Shirt 100% Cotton | 285 |
| Casual Trouser | 514 | Casual Corduroy Trouser | 630 |
| | | Casual Chino Trouser | 485 |
| Lightweight Shorts | 164 | | |
| Casual Shorts | 276 | Casual Shorts | 320 |
| Jean | 718 | Jean | 650 |
| Babywear | | | |
| Bodysuits | 85 | Bodysuits | 114 |
| Sleepsuits | 125 | | |
| Bib | 24 | | |
| Blanket | 194 | | |
| Sleeping Bag | 228 | | |
| Dress | 72 | | |
| Jogger | 78 | | |
| Snowsuit | 471 | | |
| Fleece Bodysuit | 189 | | |
| Socks | 13 | | |
| Younger Girls (1 to 7 years) | | | |
| Lightweight Jacket | 182 | | |

| WRAP Item | Weight (grams) excl. cutting waste | BCI Silhouette | Weight (grams) incl. cutting waste |
|-----------------------------------|------------------------------------|------------------------------|------------------------------------|
| Coat Heavyweight Jacket | 275 | | |
| Tee Shirt Short Sleeve | 87 | Tee Shirt | 70 |
| Tee Shirt Long Sleeve | 96 | | |
| Vest | 36 | | |
| Swimwear | 50 | | |
| Jumper | 120 | | |
| Jeans | 207 | Jean, Trouser, Jogger, Hoody | 200 |
| Trousers | 213 | | |
| Joggers | 177 | | |
| Hoody | 218 | | |
| Sweatshirt / Hoody | 242 | | |
| Dungarees | 292 | | |
| Shorts | 145 | | |
| Dress | 106 | Dress | 84 |
| Socks | 15 | Socks | 13 |
| Leggings | 84 | Leggings | 97 |
| Skirts | 90 | Skirts | 63 |
| Older Girls (6 - 14 years) | | | |
| Socks | 25 | Socks | 26 |
| Skirts | 133 | Skirts | 127 |
| Shorts | 139 | | |
| Jeans | 321 | Jean, Trouser, Jogger, Hoody | 400 |
| Trousers | 311 | | |
| Joggers | 209 | | |
| Hoody | 345 | | |
| Tee Shirt Long Sleeve | 123 | Tee Shirt | 140 |
| Tee Shirt Short Sleeve | 94 | | |
| Vest | 67 | | |
| Sports Bra | 20 | | |
| Pants | 20 | | |
| Swimming Costume | 65 | | |
| Bikini | 53 | | |

| WRAP Item | Weight (grams) excl. cutting waste | BCI Silhouette | Weight (grams) incl. cutting waste |
|------------------------------------|------------------------------------|------------------------------|------------------------------------|
| Tops | 96 | | |
| Dress | 161 | Dress | 169 |
| Leggings | 134 | Leggings | 194 |
| Knitwear Heavy Weight | 244 | | |
| Knitwear Light Weight | 182 | | |
| Jacket Light Weight | 172 | | |
| Heavy Weight Coats | 723 | | |
| Younger Boys (1 to 7 years) | | | |
| Socks | 15 | Socks | 15 |
| Tee Shirt Long Sleeve | 98 | Tee Shirt | 90 |
| Tee Shirt Short Sleeve | 109 | | |
| Polo | 117 | | |
| Vest | 36 | | |
| Swim Trunks | 14 | | |
| Coat / Jacket | 323 | | |
| Shorts | 114 | | |
| Knitwear | 220 | | |
| Jeans | 219 | Jean, Trouser, Jogger, Hoody | 200 |
| Trousers | 193 | | |
| Joggers | 202 | | |
| Hoody | 245 | | |
| Woven Shirt | 79 | Woven Shirt | 90 |
| Sweat Tops / Rugby Tops | 172 | Sweat Tops / Rugby Tops | 190 |
| Older Boys (6 - 14 years) | | | |
| Socks | 25 | Socks | 30 |
| Tee Shirt Long Sleeve | 146 | Tee Shirt | 180 |
| Tee Shirt Short Sleeve | 135 | | |
| Polo Shirt | 160 | | |
| Vests | 47 | | |
| Pants | 25 | | |
| Swim Trunks | 121 | | |
| Jeans | 341 | | 400 |

| WRAP Item | Weight (grams) excl. cutting waste | BCI Silhouette | Weight (grams) incl. cutting waste |
|-------------------------|------------------------------------|------------------------------|------------------------------------|
| Trousers | 361 | Jean, Trouser, Jogger, Hoody | |
| Joggers | 322 | | |
| Hoody | 364 | | |
| Coat / Jacket | 588 | | |
| Shorts | 177 | | |
| Knitwear | 323 | | |
| Woven Shirt | 139 | Woven Shirt | 180 |
| Sweat Tops / Rugby Tops | 338 | Sweat Tops / Rugby Tops | 380 |
| Schoolwear | | | |
| Socks | 22 | Socks | 10 |
| Skirts | 187 | Skirts | 38 |
| Shorts | 150 | | |
| Joggers | 355 | | |
| Coats | 736 | | |
| Tee Shirt Long Sleeve | 99 | Tee Shirt, Blouses | 63 |
| Tee Shirt Short Sleeve | 97 | | |
| Shirt Long Sleeve | 128 | | |
| Shirt Short Sleeve | 104 | | |
| Blouse | 64 | | |
| Polo Shirt | 114 | | |
| Dress | 117 | Dress | 100 |
| Trouser | 218 | Trouser | 92 |
| Knitwear Jumper | 137 | Knitwear | 125 |
| Knitwear Cardigan | 145 | | |

Appendix 3 – BCI Product Weight Table, Home Textiles

For these homeware products specifically, it is assumed that there is no cutting waste. Different weights are provided based upon approximate GSM or grams of fabric per square meter. To best match products to the average weight for each category of towels, the following average dimensions are used:

| | |
|---------------------|-------------------|
| Face Cloth | 31.5 cm x 31.5 cm |
| Guest Towels | 65 cm x 40 cm |
| Hand Towels | 95 cm x 50 cm |
| Bath Towel | 130 cm x 70 cm |
| Bath Sheet | 167 cm x 100 cm |

| Product Category | Products | Grams |
|-------------------------|---------------------|--------------|
| Towels | Face Cloth 420 GSM | 42 |
| Towels | Face Cloth 500 GSM | 50 |
| Towels | Face Cloth 570 GSM | 57 |
| Towels | Face Cloth 640 GSM | 64 |
| Towels | Face Cloth 670 GSM | 66 |
| Towels | Face Cloth 800 GSM | 79 |
| Towels | Kitchen Tea Towel | 100 |
| Towels | Guest Towel 420 GSM | 109 |
| Towels | Guest Towel 500 GSM | 130 |
| Towels | Guest Towel 570 GSM | 148 |
| Towels | Guest Towel 640 GSM | 166 |
| Towels | Guest Towel 670 GSM | 174 |
| Towels | Guest Towel 800 GSM | 380 |
| Towels | Hand Towel 420 GSM | 200 |
| Towels | Hand Towel 500 GSM | 238 |
| Towels | Hand Towel 570 GSM | 271 |
| Towels | Hand Towel 640 GSM | 304 |
| Towels | Hand Towel 670 GSM | 318 |
| Towels | Hand Towel 800 GSM | 380 |
| Towels | Bath Towel 420 GSM | 382 |
| Towels | Bath Towel 500 GSM | 455 |
| Towels | Bath Towel 570 GSM | 519 |

| Product Category | Products | Grams |
|--------------------|---|-------|
| Towels | Bath Towel 640 GSM | 582 |
| Towels | Bath Towel 670 GSM | 610 |
| Towels | Bath Towel 800 GSM | 728 |
| Towels | Bath Sheet 420 GSM | 701 |
| Towels | Bath Sheet 500 GSM | 835 |
| Towels | Bath Sheet 570 GSM | 952 |
| Towels | Bath Sheet 640 GSM | 1069 |
| Towels | Bath Sheet 670 GSM | 1119 |
| Towels | Bath Sheet 800 GSM | 1336 |
| Bedding | Duvet / Quilt Cover (150 X 200 cm) | 750 |
| Bedding | Duvet / Quilt Cover (200 X 200 cm) | 1000 |
| Bedding | Duvet / Quilt Cover (240 X 220 cm) | 1320 |
| Bedding | Duvet / Quilt Cover (260 X 220 cm) | 1430 |
| Bedding | Fitted Sheet (135 x 190 x 20 cm) | 500 |
| Bedding | Fitted Sheet (140 x 200 x 20 cm) | 540 |
| Bedding | Fitted Sheet (160 x 200 x 20 cm) | 600 |
| Bedding | Fitted Sheet (180 x 200 x 20 cm) | 660 |
| Bedding | Fitted Sheet (200 x 200 x 20 cm) | 720 |
| Bedding | Fitted Sheet (90 x 200 x 20 cm) | 420 |
| Bedding | Flat Sheet (150 X 260 cm) | 350 |
| Bedding | Flat Sheet (180 X 260 cm) | 420 |
| Bedding | Flat Sheet (220 X 260 cm) | 500 |
| Bedding | Flat Sheet ET (240 X 260 cm) | 560 |
| Bedding | Flat Sheet (265 x 275 cm) | 650 |
| Bedding | Flat Sheet (280 x 290 cm) | 730 |
| Bedding | Duvet / Quilt (outer fabric) - 150 X 200 cm | 630 |
| Bedding | Duvet / Quilt (outer fabric) - 200 X 200 cm | 840 |
| Bedding | Duvet / Quilt (outer fabric) - 240 X 200 cm | 1000 |
| Bedding | Pillow (outer fabric) | 150 |
| Bedding | Pillowcase | 150 |
| | Valance Sheet (140 x 200 cm) | 500 |
| Curtains & Carpets | Bath Mat | 483 |
| Curtains & Carpets | Curtains 300 cm X 145 cm 600 GSM | 2610 |



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