



# Handling & Sorting Specifications

For re-use and recycling of used textiles

July 2021 (v1)





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## Introduction

This document, the EuRIC Handling & Sorting Specifications, is intended to be used by industry professionals throughout the textile value chain such as textile producers, importers and retailers, organizations active in the sorting and recycling of collected post-consumer textile waste as well as other interested parties like municipalities, legislators and the general public. It is intended as a guideline throughout the collection and sorting process to prepare items for either re-use or recycling in accordance with the waste hierarchy.

It is recommended that this document is used in the day-to-day operation of companies as it secures the high quality of second-hand textiles for re-use and/or as the appropriate infeed for the subsequent recycling process.

## 1. Scope

The EuRIC Sorting & Handling Specifications define the state-of-the-art processes of collecting and sorting of used post-consumer textiles based on best practices and in accordance with applicable legal requirements.

## 2. Terms and Definitions

**Collection bin:** Separate collection point, above- or underground, for used clothing, accessories and footwear organized by commercial collectors, charities and municipalities.

**Operator:** Party who is authorized and responsible for handling the collection of textile waste.

**Collected post-consumer textile waste:** Worn clothing, other used textile articles, used footwear and accessories as well as mixtures of these items as discarded by households, consumer etc.

**Reusable:** The collected post-consumer textile waste is reusable when it is prepared for reuse in accordance with the Waste Framework Directive and is wearable as well as marketable.

**Mechanical Recycling:** Process through which collected post-consumer textile waste not suitable for second hand use is either being cut for use in the wiper production or fiberized to be used in different applications mainly for filling and insulation material and to some extent in the production of new textiles.

**Chemical Recycling:** Chemical process which extracts raw materials from collected post-consumer textile waste not suitable for second hand use.

## 3. Collection Requirements

### a. Collection bin condition & operator requirements

The collection bin and the operator shall comply with all applicable legal and safety requirements. The collection bin shall clearly identify the responsible operator (incl. phone number, address and/or website) and shall be secured against unauthorized access and other outside factors such as weather influences. Legal and safety requirements include valid permits and proper equipment.

### b. Handling of the collected textile waste

The collection bin shall be frequently emptied by trained personnel at the place of collection and during a first screening additives and impurities shall be removed and separated. The collected post-consumer textile waste shall be carefully and separately packed and transferred to the collection vehicle. The handling of the collected post-consumer textile waste can be done manually or automatically whereas the main objective shall always be to prevent damage and cross-contamination of the collected post-consumer textile waste.

### c. Transport of the collected textile waste

The vehicle shall protect the collected post-consumer textile waste against weather and other outside influences. The collection vehicle / transport system shall be cleaned properly after each prior load.

## 4. Storing Requirements

### a. Documentation requirements

Incoming and outgoing materials need to be weighed on a calibrated scale. The weighing receipt must be clear, readable and permanent and in accordance with the legal requirements of the site location.

### b. Unloading requirements

The collected post-consumer textile waste shall be carefully unloaded to prevent damage and cross-contamination. The materials shall be unloaded into a covered area for processing or subsequent storage. Legal and safety requirements of the site location apply.

### c. Storage

The incoming collected post-consumer textile waste shall be stored in a covered area and under dry conditions. Storage time should be minimized as much as possible.

## 5. Sorting Requirements

The high-quality sorting process shall be aimed at preparing the collected post-consumer textile waste for reuse or, if reuse is not possible, for subsequent recycling. It is a complex process and typically consists of several steps. While the sorting process may differ from operator to operator, following requirement shall be the mandatory basis to ensure high-quality sorting:

### a. Adding to sorting process

Incoming collected post-consumer textile wastes shall be carefully fed into the sorting process.

### b. Sorting process

The sorting area shall be a dry and clean workplace and be equipped with all necessities such as labelled containers, slate shafts etc.

During the sorting process, higher-quality fractions (reusable textiles sorted at individual item level) shall be completely separated from lower-quality recycling fractions as well as any foreign materials such as plastics, metals etc.

The suitability for reuse or recycling shall be checked manually by a trained professional who has undergone task-specific training at the beginning of the employment and whenever changes to the sorting process occur. The trained professional shall manually check the suitability for reuse or recycling for each individual piece

that is fed into the sorting process in accordance with the waste hierarchy of the Waste Framework Directive<sup>1</sup>. The aim of the sorting process is:

- To remove all foreign materials and impurities from the collected post-consumer textile waste,
- To produce defined qualities for subsequent reuse that have ceased to be waste,
- To produce defined qualities for subsequent recycling.

There are no automated procedures available to identify the reusability of the collected post-consumer textile waste. Automated sorting can only be used in the sorting process for streams that have already been pre-sorted manually but are regarded as not suitable for reuse (e.g., on material composition).

To verify the suitability of a sorting performance of collected post-consumer textile waste, incoming goods must meet the production capacity. The following standard figures may be used and are based on two steps in the sorting process:

- Sorting performance of a sorting employee during pre-sorting: approx. 310 to 360 kg/h
- Sorting performance of a sorting employee during fine-screening: approx. 60 to 190 kg/h

The sorting company shall ensure that fractions not suitable for reuse will be properly and professionally treated in accordance with the waste hierarchy prioritizing material recycling over lower options such as energy recovery.

The non-reusable fractions shall primarily be sorted by requirement of the subsequent recycling process, for instance according to garment types such as woven or knits, colour restrictions of fibre composition.

### c. Sorting staff

As currently only manual sorting is possible, the decision of whether a used textile is still reusable and how to categorize each item needs the expertise of a well-trained sorting staff. Task-specific training shall be guaranteed and be duly documented. It shall be ensured that all employees wear personal protective equipment and are trained in work safety.

### d. Packaging and labelling

Packaging provides transport safety and ensures the quality of the sorted textiles. It shall be ensured that the sorted textiles are packed in accordance with their quality and value.

Since sorted textiles are packaged according to a certain need, materials from loose bulk shall not be considered as outcome of a high-quality sorting. It shall be ensured that the sorted and packaged textiles are properly labelled (due to missing uniform specifications, plant specific codes may be used) and only moved gently.

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<sup>1</sup> DIRECTIVE 2008/98/EC OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 19 November 2008 on waste and repealing certain Directives