

pulswerk



Reuse of products

Guide to determining the end-of-waste status
in the preparation for reuse



IMPRINT

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Background and objectives

Based on the findings of the project "Abfallende-Kriterien nach Warengruppen für die Vorbereitung zur Wiederverwendung" (End-of-Waste Criteria according to product groups for the preparation for reuse), DIE UMWELTBERATUNG and Dismantling and Recycling Centre DRZ Vienna developed testing checklists and templates for test documentation (= test protocol) associated with the preparation for reuse process for select product groups (Spitzbart and Schwarzlmüller, 2017). The results were discussed in the Vienna Reuse working group on 20 March 2017 and presented to an Austria-wide stakeholder group on the reuse platform of the Ministry for the Environment on 4 May 2017. The preparatory work of these projects showed that detailed testing checklists in the form of a quality- assuring process description, and structured documentation of the test results will be expedient and necessary. This applies in particular to product groups for which safe reuse can be ensured only by precise testing. Additionally, there are also product groups in the reuse sector (e.g. homewares such as bric-a-brac) for which simplified inspection and general documentation of the testing process (without test protocol for individual items) are sufficient. For other goods, in turn, a group-specific testing checklist based on specific expert knowledge may be required, but no product-related test protocols are necessary.

In order to make the results applicable in practice the following further steps had to be taken:

- aligning the results achieved with practitioners
- subdividing the product groups in a comprehensible way according to testing and documentation efforts
- describing how to practically apply the developed instructions (process description), and
- extending the existing testing checklists in order to cover the most relevant reuse product groups

In the workshop "Finalising end-of-waste criteria for reuse products" on 1 October 2018, in which representatives of several federal provinces (Vienna, Salzburg, Burgenland, Styria, Vorarlberg), the Federal Ministry for Sustainability and Tourism (BMNT), pulswerk GmbH, RepaNet and DIE UMWELTBERATUNG participated, a first clustering of product groups with regard to testing and documentation efforts was made. On the basis of these results the product groups for the present project were selected.

The given guide explains the legal background and makes documents available to prospective users which, when applied, enable them to follow a procedure to reliably identify the end-of-waste status. The main and supplementary assessment sheets attached cover some relevant, but not all product groups. These assessment sheets are not fully comprehensive in terms of product categories covered but remains open for further enhancement. This is a first step. For a whole series of product groups, supplementary assessment sheets are still to be devised. We invite all stakeholders to participate in their further development in the spirit of open-source thinking and to work out missing supplementary assessment sheets according to the clustering in chapter 3 and make them available to the sector.

The authors

1. Motivation

The EU Waste Framework Directive 2008 introduced a five-level waste hierarchy where the second highest level is "Preparation for Reuse" (see: Directive 2008/98/EC 2008). In 2010, this was incorporated into the Austrian Federal Waste Management Act 2002 (AWG, 2002). Preparing for reuse means "checking, cleaning or repairing recovery operations, by which products or components of products that have become waste are prepared so that they can be reused without any other pre-processing" (AWG 2002 §2(5)(6)). The completion of this recovery operation marks the end-of-waste status of the products or components of products (AWG 2002 §5(1)). Without the end-of-waste status having been ascertained by qualified experts, the waste, regardless of whether it is fit for use or not, must not be passed on to unauthorised collectors, operators or other persons, i.e. also not to customers of reuse shops.

What is the waste status and end-of-waste status for?

The waste status of items (the Austrian Waste Management Act 2002 refers to them as "movable objects ") occurs under legally defined terms and conditions and also includes items that can still be used. The purpose of this legislation is to protect people and the environment from harmful effects, that could result from an improper or unauthorized handling of these items. At the same time, abusive circumvention of waste law provisions and the impairment of fair competition conditions for reuse companies under the false guise of "reuse" shall be avoided. Within the waste regime, items are therefore subject to a special duty of care and regulatory control. The end-of-waste status releases these items from the particular legal waste regulations.

The purpose of this guide is to provide a procedure for classifying product groups as eligible to be prepared for re-use and the corresponding criteria leading to this decision. The following testing checklists are a proposal of which test steps and test criteria are to be observed for the respective product groups in order to reliably determine the end-of-waste status. For a more detailed description of the legal background, see (Spitzbart, 2015) "Abfallende-Kriterien nach Warengruppen für die Vorbereitung zur Wiederverwendung" (End-of-Waste criteria according to product groups for the preparation for reuse).

The amendment of the Waste Framework Directive in 2018 strengthened the link between waste and product legislation. In order to reach the end-of-waste status, an object must fulfil the technical requirements for specific purposes and to meet the existing legal regulations and standards applicable to products (Article 6).

In addition to meeting legal requirements associated with waste law, relevant product and usage regulations must also be applied for the transfer (sale, gratuitous transmission) of an item, in particular with regard to consumer protection (e.g. warranty), product liability (e.g. in case of substantial alterations to the product), road traffic regulations, and commercial law (usually not required for social integration enterprises in Austria). These regulations do apply also to in-kind donations of products, regardless if used or new. These regulations are not the subject of the given guide which focuses purely on the necessary prerequisites for determining the end-of-waste status in accordance with the Austrian Waste Management Act 2002 (AWG 2002).

As far as the reuse of products is concerned, this is no first placing of products on the market. Thus, only the regulations for used products must be met as applicable in the usual trade of used goods.

The necessary steps of the preparation for reuse process generally do not foresee any substantial alteration of the product. (see Sander et al., 2019, pg. 243).

2. Basic scheme of testing checklists and protocols

(Spitzbart and Schwarzlmüller, 2017) have elaborated following test steps at a national level making it possible to determine the end-of-waste status:

- Preselection (selection based on selection criteria)
- Visual inspection
- Visual and manual safety check to minimize e.g. risks of injury caused by mechanical disfunction
- Technical safety check to minimize e.g. risks of injury caused by electric disfunction
- Functionality testing of main functions
- Cleaning

This assessment is in line with the results of the German project "Gesamtkonzept zum Umgang mit Elektro(alt)geräten – Vorbereitung zur Wiederverwendung¹" (Overall concept for handling (waste of) electrical and electronic equipment – preparation for reuse), where this topic was dealt with in detail:

"Only after all steps necessary to meet the requirements of § 5(1) of the German Waste Management Act² have been carried out in the primary treatment facility for preparation for reuse the recovery process is regarded as completed. If only one of these required measures is missing, the waste status of the WEEE has not ceased. In any case, the primary treatment facility for preparation for reuse has to perform a visual, functional and safety testing, and, if necessary, to clean and repair the items."

(Sander et al., 2019, pg. 272)

On this basis, this guide describes the test criteria, necessary qualifications and required infrastructure for all test steps and, if possible, gives examples of minor (irrelevant regarding waste legislation and safety) deficiencies.

In many cases, further steps will be expedient for the marketing of the products (e.g. restoration of full functionality beyond the main functions, intensive cleaning etc.). However, these steps are already carried out in the product regime and are not subject of the present testing checklists for determining the end-of-waste status. As well, data deletion from data carriers or the removal of references to previous users is part of the product regime. The testing checklists only give a few examples of further recommended measures beyond the waste regime.

¹ German term for "preparing for reuse"

² Note: The German Waste Management Act implements the EU Waste Framework Directive and is comparable to the Austrian Federal Waste Management Act.

During "preselection" (selection on the basis of selection criteria) items which are potentially suitable for the preparation for reuse process are preselected. The selection criteria should, as far as possible, exclude items the reuse of which is not desirable from an ecological standpoint or runs counter to the objectives formulated in §1(1)(1) of the Austrian Waste Management Act 2002 (AWG 2002). Known examples of legal exclusion criteria are given in the testing checklists without any claim to completeness.

In addition, the testing checklists shall reflect whether the release of an item from the waste regime appears realistic and economically feasible and whether the product is agreed to be economically marketable after losing its waste status. The feasibility of testing and repair as well as the marketability of products will differ from one reuse enterprise to another depending e.g. on its human and infrastructural resources and distribution channels. The respective selection criteria must be specified in detail by the preparation for re-use operator itself.

Additional general selection criteria

Carrying out of the test steps "visual inspection", "visual and manual safety check", "technical safety check" and "functionality testing of main functions", and the fulfilment of the respective criteria as well as the removal of coarse soiling ("cleaning") are necessary and sufficient for determining the end-of-waste status. If the criteria are not met, the item has to be repaired before the end-of-waste status can be determined.

In addition to testing checklists, a test-protocol template for WEEE was developed which can be used to document the testing performed including measurement results and possibly noted defects of the individual product. In practice, this has proven to be particularly helpful to preserve evidence in the case of warranty and liability claims by customers. Documenting the testing of each individual item is not required for all product groups.

In principle, the testing checklists are structured into two main assessment sheets³ and supplementary assessment sheets for individual product groups. A supplementary assessment sheet is always to be considered as an extension to the main assessment sheet. For the corresponding product groups, the requirements of the main assessment sheet and, if applicable, the supplementary assessment sheet must be observed.

³ Authors' note: An additional, third main assessment sheet for construction components is given in Figure 1. This was not part of the project assignment. Nevertheless, several stakeholders are already active in the field of recycling-oriented dismantling and recovery in accordance with the Austrian Recycled Construction Materials Ordinance in order to generate reuse components and transfer them to reuse. The further development in the sense of safely determining the end-of-waste status of products and materials in this sector will provide a suitable instrument for quality assurance.

3. Classification of product groups

Based on the proposal to categorize the reuse product groups by Spitzbart 2015, the proposed product groups were classified according to testing and documentation requirements. For a number of product groups, the description of the necessary steps will be sufficient to ensure the determination of the end-of-waste status for each item in a quality-assured way. For selected product groups with increased risk potential, additional testing documentation for the individual items must be provided. For some product categories in the reuse field (e.g. house decoration) a simplified check and general documentation of the test process are sufficient (without a test protocol for each single item).

For some other product groups, a product group-specific testing checklist based on specific professional knowledge may be necessary, but not a product-related test protocol. In both cases, the description of the necessary steps will provide sufficient documentation, in order to be able to determine the end-of-waste status of every item in a quality-assured manner.

For selected product groups with increased risk potential, additional test documentation for each item must be provided.

With regard to the scope of testing, there are basic requirements that are applicable to all non-electrical product groups, and others that must be observed for all electrical product groups. For some product groups, aspects that go beyond these general requirements must be taken into account.

The given guide implements this systematology by currently introducing two main assessment sheets,⁴ which cover, all product groups fundamental, with additional supplementary assessment sheets for specific requirements associated with certain product groups.

All non-WEEE must be tested according to the main assessment sheet A "General". For some product groups within this large range of product types, the criteria of a supplementary assessment sheet must also be fulfilled. Similarly, the main assessment sheet E "WEEE" is available for waste of electrical and electronic equipment, i.e. appliances that need electrical power to operate properly⁵. Here too, all product groups must be tested according to these criteria; for some special product groups additional supplementary assessment sheets have to be observed. Key questions in Chapter 4 help to choose the appropriate assignment of tests and checks.

The topic of construction components and products, whilst highly relevant have not been addressed in this paper (see footnote 4).

The link between main and supplementary assessment sheets and product groups is shown in the following figures.

⁴ Authors' note: An additional, third main assessment sheet for construction components is given in Figure 1. This was not part of the project assignment. Nevertheless, several stakeholders are already active in the field of recycling-oriented dismantling and recovery in accordance with the Austrian Recycled Construction Materials Ordinance (BGBl. II Nr. 181/2015) in order to generate reuse components and transfer them to reuse. The further development in the sense of safely determining the end-of-waste status in this sector will provide a suitable quality-assuring instrument.

⁵ See: Ordinance Regulating the Handling of WEEE

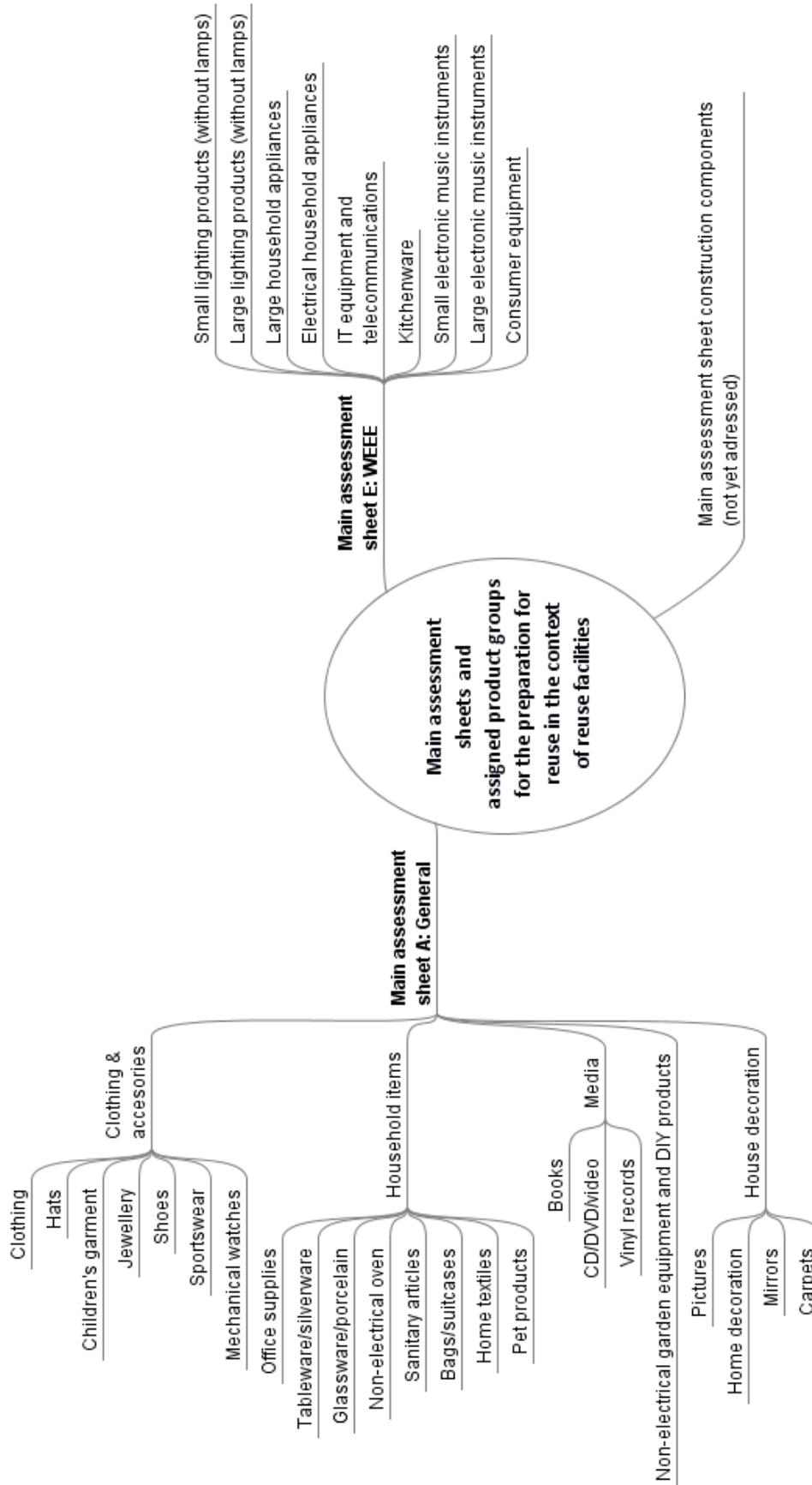


Figure 1: Main assessment sheets and assigned product groups for the preparation for reuse in the context of reuse facilities. For items for which additional test documentation for each single item has to be proved (i.e. at least for waste electrical and electronic equipment), a test protocol form is provided in Chapter 5.4.

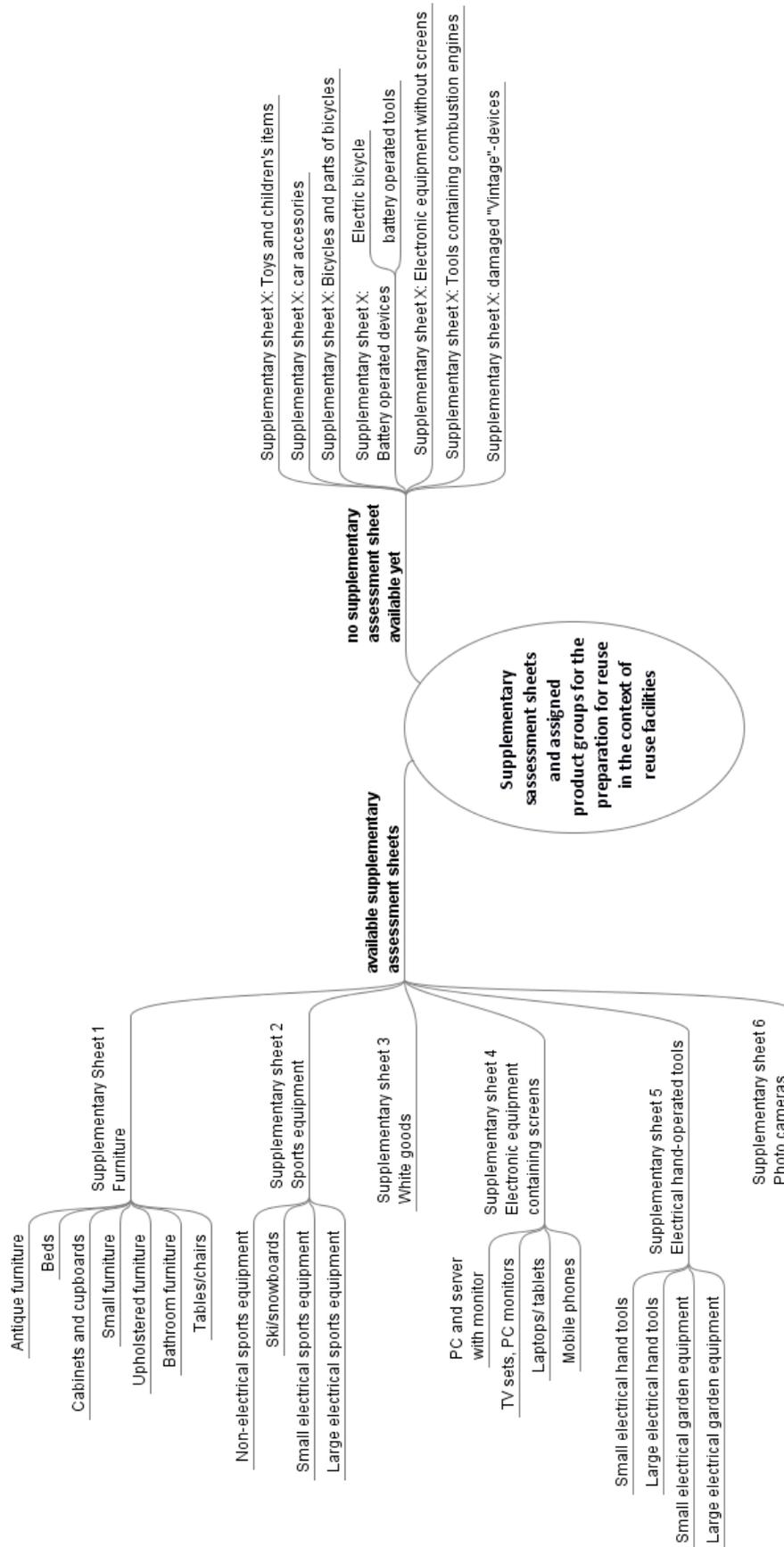


Figure 2: Supplementary assessment sheets and assigned product groups for the preparation for reuse in the context of reuse facilities (applicable only in combination with main assessment sheet A or E mentioned in Fig. 1).

4. Application of the testing checklists in reuse facilities

The testing checklists in the form of main and supplementary assessment sheets are to be understood as a product group specific test scheme suitable for quality assured process documentation. They specify what is to be tested. They are no instruction on how to implement the test steps in detail. If trained specialists are required, this is specified in the respective testing checklist. The following key questions and figure 3 help to choose the appropriate checklists:

Key question 1:

Is electrical power needed to make the item operate properly?

- Answer NO: Apply main assessment sheet A – General, see Section 5.1.
- Answer YES: Apply main assessment sheet E - see Section 5.2. The tests performed shall be documented in an appropriate manner (see ÖVE/ÖNORM E 8701-1). A possible test protocol template can be found in Section 5.4.

Key question 2:

Does the item belong to a cluster group for which a supplementary assessment sheet is foreseen?

- Answer YES, and the supplementary assessment sheet is available (see Section 5.3): Apply the contents of the supplementary assessment sheet and the respective main assessment sheet (see key question 1).
- Answer YES, but no supplementary assessment sheet is available yet: The operator itself has to identify suitable test steps on an individual basis, and, if necessary, to create a new supplementary assessment sheet and agree upon it with the responsible ministry.
- Answer NO: Either, applying the main assessment sheet is sufficient, or, if necessary, a new cluster group has to be created (including an individual definition of adequate test steps).

Recommendations for using the given guide in reuse companies (see also Figure 3)

- as **part of quality management**: filing of the respective testing checklists used for documenting the test procedure that is carried out by the preparation for re-use operator . The selection criteria specified by the operator should be additionally documented. In practice, the tests and measures required for determining the end-of-waste status, and the additional operator-specific quality-assurance measures will often be running in parallel. In this case, it makes sense to use a operator-specific testing checklist and documentation. The documentation should clearly indicate which of the test steps and test criteria are mandatory in the sense of determining the end-of-waste status and which are quality-assurance measures beyond this. In addition, it is recommended to describe for the respective test steps, how and by whom in the operator they are carried out.

- as **training materials**: As part of staff training by competent specialists, all test steps and test criteria should be worked through also on the basis of the testing checklists. The fulfilment of staff training shall be confirmed by the employees themselves by providing their signature and documented in the quality management system. Chapter 5.5 contains a template for documenting the training.
- as **test protocols**: At least for those items requiring a product-related test protocol according to Chapter 5, these protocols must be generated and filed for each individual item. A copy of the respective test protocol shall be handed out to the customer.

Additionally, special device-specific safety features laid down in the respective equipment standards, such as requirements for mechanical safety, fire protection, protection against dangerous radiation, hygiene and health protection etc. must be taken into account.

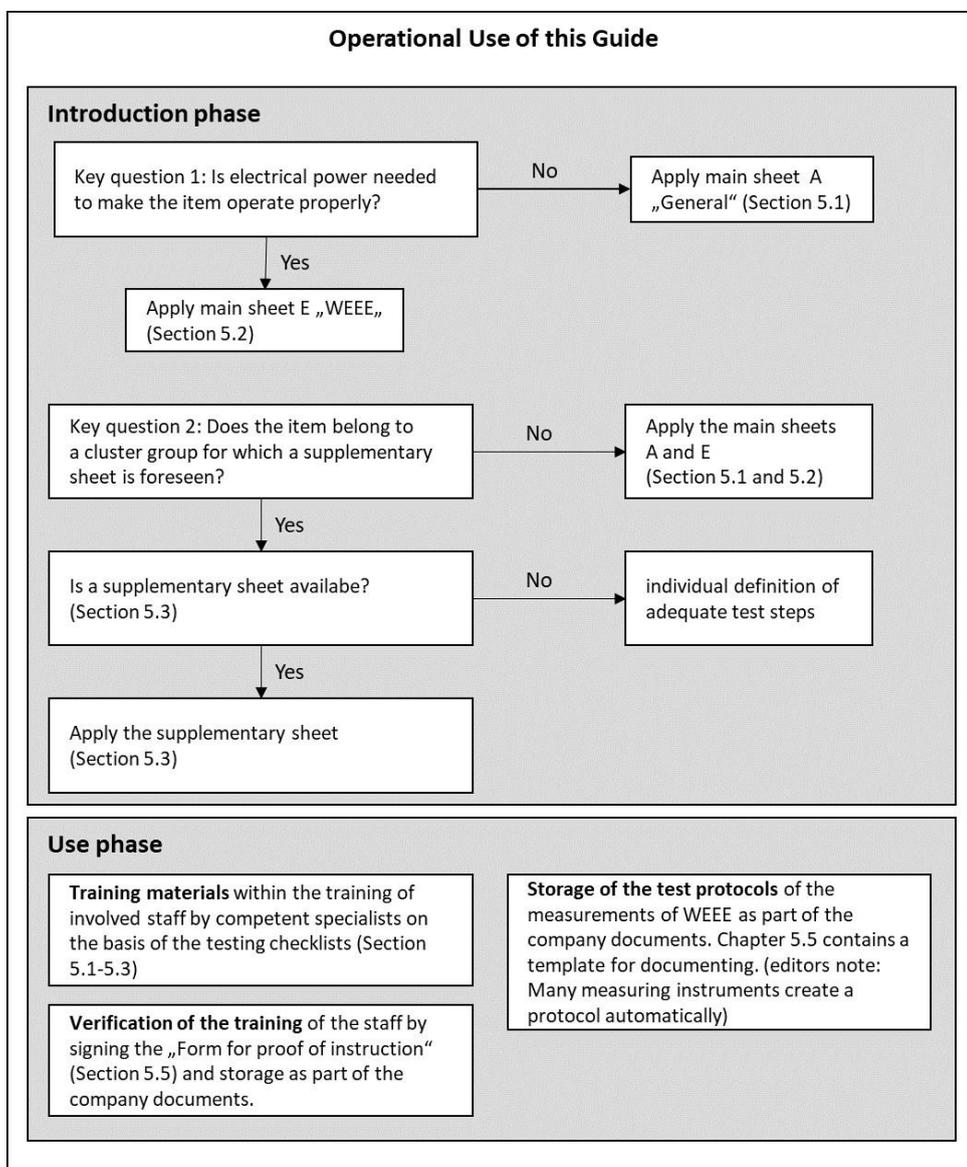


Figure 3: Recommendations for the operational use of the documents provided by this guide in the introduction and application processes.

Also items that met the technical requirements at the time of their initial purchase, but do no longer comply with current product and usage regulations may end up in the reuse cycle. Even if the item is technically "intact", it may no longer correspond to today's safety standards for new goods. However, the end-of-waste status can only be achieved, if the items comply with the relevant product regulations, e.g. safety requirements (see also Article 6 of the Waste Framework Directive). In any case, items remain waste, if they contain any materials that are subject to substance prohibition (e.g. by the Austrian Chemicals Prohibition Ordinance 2003 (Chemikalien-Verbotsverordnung 2003)).

Usage regulations for certain products, such as conformity of bicycles with the national road traffic regulations (in Austria, the Straßenverkehrsordnung) must be differentiated from this. Any inspection regarding other usage regulations does not affect the question of the end-of-waste status, as (Sander et al., 2019) explained for WEEE.

Risks can be reduced, e.g. by appropriate retrofitting or by defining restrictions on use. After testing and, if necessary, repairing or modifying, the items must be in a shape that no danger to the user's health or to the environment arises within their intended use.

Additional device-specific safety features laid down in the respective equipment standards, such as requirements for mechanical safety, fire protection, protection against dangerous rays, hygiene and health protection etc. must be taken into account.

Despite of all care taken in the testing of reuse items, a residual risk of potential damage can never be completely excluded. The same applies to the classical trade with used goods beyond the waste regime as well as to the sale of new merchandise. Reuse companies can ensure and prove that they fulfil the due diligence obligations by precise testing and documentation of the tests. The present testing checklists, test protocol template and explanations are a proposal on how these duties of care can be complied within reuse practice.

5. Testing and documentation

Every preparation for re-use operator has to clarify and document for each product group which checklists or combinations of them are applied.

5.1 Main assessment sheet A –General

Testing checklist for determining the end-of-waste status	
<p>Product groups: Garment/accessories: clothing, hats, children's garment, jewellery, shoes, sportswear, mechanical watches Household items: office supplies, tableware and silverware, glassware and porcelain, non-electrical oven, sanitary articles, bags and suitcases, home textiles, pet products etc. Media: books, CDs, DVDs and videos, vinyl records Non-electrical garden equipment and DIY products: garden furniture, tools House decoration: pictures, home decoration, mirrors, carpets For <u>other non-electrical product groups</u>, the main assessment sheet has to be used in combination with the respective supplementary assessment sheets. Description of the product group: articles whose testing is less extensive in scope and requires basic technical qualifications and simple tools</p>	
<p>Test step: Preselection</p>	
<p>Test criteria Selection criteria specified by the operator⁶: • ... Legally defined selection criteria: • ...</p>	<p>Notes The criteria are to be specified according to the requirements of the preparation for re-use operator with regard to marketability, testing possibilities, storage and transport capacities, ecological sense, e.g. - trademarks, types - quality classes - product age, generations of equipment - completeness - degree of soiling - reasons for exclusion (weapons, personal hygiene products) - legal provisions for placing onto the market (e.g. Chemicals Prohibition Ordinance)</p>
<p>Test step: Visual inspection</p>	<p>Required qualification: no specific Required infrastructure: no specific</p>
<p>Test criteria</p> <ul style="list-style-type: none"> All essential functional components are available and in useable or repairable condition. There are no visible damages that significantly impair the function, safety or marketability of the product. 	
<p>Test step: Visual inspection and manual safety check</p>	<p>Required qualification: no specific Required infrastructure: cleaning utensils</p>
<p>Test criteria</p> <ul style="list-style-type: none"> If protective devices are usual for the product, these must be in place and intact (e.g. blade cover of a paper cutting machine). 	

⁶ Authors' note: The selection criteria must be defined by the individual preparation for re-use operator and do not touch upon the issue of waste characteristics. The aim is the early sorting out of locally non-marketable or non-recoverable items. General selection criteria for a product group that refer to waste characteristics are listed in the respective supplementary assessment sheet.

<ul style="list-style-type: none"> • There are no unsecured pointed or sharp-edged areas (e.g. due to damage), unless these are necessary for the functionality of the product or are usual for the product in its original condition. • Necessary stability is given. • Mechanical strength under usual operating conditions is given. • All moving parts are properly mobile (and can be stabilised, if required). • There is no excessive or safety endangering wear. • There are no external and internal soiling, corrosion damages or aged plastic parts that could endanger safety. • All product markings necessary or legally required for the corresponding product type (e.g. child car seats) are available. • For children's items, there are no detachable, swallowable small parts. Absolutely necessary small parts (e.g. buttons) must be adequately fixed (according to standard EN 71-1). Children's textiles must not have drawstrings or cords in the neck area, and, in general, no cords from which a risk of strangulation emanates. 	
Test step: Technical safety check	Required qualification: no specific Required infrastructure: no specific
Test criteria	
<ul style="list-style-type: none"> • Not applicable (unless defined in supplementary sheets for specific product groups) 	
Test step: Functionality testing of main functions	Required qualification: no specific Required infrastructure: no specific
Test criteria	
<ul style="list-style-type: none"> • Checking the product-specific main functions for proper functionality (for some product groups, visual inspection will be sufficient, e.g. for unscratched CDs, DVDs, vinyl records, complete books etc.) 	
Cleaning	
<ul style="list-style-type: none"> • Removal of dirt and other soiling affecting main functions or safety of use 	
Determination of the end-of-waste status	

Recommendations for measures outside of the waste regime:

Potential minor deficiencies:

- minor defects that do not impair the main functions and safety of an item and do not prevent its reuse or that are easy to repair, e.g. scratches
- minor soiling and traces of usage which do not impair the safety and functionality of the product, e.g. light chipping of porcelain without sharp edges
- defects that do not impair the main functions and safety of the item, e.g. dysfunctional add-on features such as the lockability of a suitcase

Recommendations for measures beyond the waste regime:

- detail cleaning to increase the marketability
- exact documentation of all minor deficiencies as well as corresponding information to the buyer (e.g. on the invoice)

Operators' note:

- ...

5.2 Main assessment sheet E - WEEE

General note: The Austrian standard ÖVE/ÖNORM E 8701-1 must be observed in the testing of any electrical equipment. For electrical tools, additionally the standard ÖVE/ÖNORM E 8701-2 must be taken into account. This applies in particular to Technical safety checks, but also to the other test steps. For protection classes I to III, the standard specifies different test procedures for granting electrical safety⁷. The Electrical Engineering Ordinance⁸ declares this standard to have the force of law⁹.

Testing checklist for determining the end-of-waste status	
<p>Product group: small and large lighting products (without lamps), large household appliances, electrical household appliances, IT equipment and telecommunications, kitchenware, small and large electronic music instruments, consumer equipment ¹⁰</p> <p>For <u>other product groups including electrical and electronic equipment</u> the main assessment sheet has to be used in combination with the respective supplementary assessment sheets.</p> <p>Description of the product group: electrical and electronic equipment</p>	
<p>Test step: Preselection</p>	
<p>Test criteria Selection criteria specified by the operator:¹¹</p> <ul style="list-style-type: none"> • ... <p>Legally defined selection criteria:</p> <ul style="list-style-type: none"> • ... 	
<p>Test step: Visual inspection</p>	<p>Required qualification:</p> <ul style="list-style-type: none"> - basic technical understanding, instruction by a competent expert <p>Required infrastructure: no specific infrastructure required</p>
<p>Test criteria</p> <ul style="list-style-type: none"> • All essential functional components are available and in useable or repairable condition. • There are no visible damages that significantly impair the function, safety or marketability of the product. 	

⁷ The protection classes I to III indicate measures that are taken to guarantee fault protection of the equipment itself. (Class I: connection to the protective conductor system; Class II: reinforced or double insulation between conductor and housing; Class III: appliances as in Class II in the extra-low voltage range up to max. 42V (see KFE, 2012, p. 13 and Austrian standard ÖNORM 2012)

⁸ <https://www.ris.bka.gv.at/GeltendeFassung.wxe?Abfrage=Bundesnormen&Gesetzesnummer=20002002>

⁹ Available on the internet: <https://www.wko.at/branchen/gewerbe-handwerk/elektro-gebaeude-alarm-kommunikation/verbindliche-normen.html>

¹⁰ The technical safety check must be carried out in accordance with ÖVE/ÖNORM E 8701-1. The requirements specified in this standard apply e.g. to laboratory equipment, measuring and control devices, appliances for voltage transformation and generation (e.g. power supplies and small transformers, welding equipment, converters, machines), electrical tools, electrical heating appliances, electrical motor driven equipment, luminaires, consumer electronics, information and communication technology products, cable reels, extension cords and cord sets.

¹¹ Authors' note: The selection criteria must be defined by the individual preparation for re-use operator and do not touch upon the issue of waste characteristics, but aim at the early sorting out of locally non-marketable or non-recoverable items. General selection criteria for a product group that refer to waste characteristics are listed in the respective supplementary assessment sheet.

<p>Test step: Visual inspection and manual safety check</p>	<p>Required qualification: - performance by or under the responsibility of qualified staff Required infrastructure: - basic equipment of hand tools (wrenches etc.) - cleaning utensils</p>
<p>Test criteria</p> <ul style="list-style-type: none"> • Necessary stableness is given. • All protective devices must be in place and intact (e.g. cover of high-speed rotating parts). • All components must be original parts or original spare parts or equivalent spare parts. • No modified or converted devices! Alterations only after an assessment took place and only if carried out under the responsibility of a specialist as well as in accordance with the applicable regulations and standards¹² • The electricity connection must be intact (no material damage, e.g. cracks or age-related material changes (porous, hardened, sticky etc.) in cables and insulation, plugs, entry point to the housing, strain relief, kink protection. • The housing has to be intact (no damage that significantly impairs the function and safety or marketability such as cracks and rips, missing parts etc.) • Ventilation systems must be intact and working properly (ventilation slots must not be closed, air filters have to be available if intended for the device etc.) • Fuse holder and fuse links (if designed for the appliance) must be intact and functional. • All moving parts have to be properly movable (and can be stabilised, if required) and are without any excessive or safety endangering wear. • For battery/accumulator-operated appliances, the battery or accumulator must be intact, not inflated; it has to be free of visible mechanical damage; battery/accumulator contacts and battery compartment contacts have to be clean and corrosion-free. • There is no excessive or safety-endangering wear (e.g. collectors), no lead-in grooves, no soiling or pointed and sharp-edged areas caused by wear and tear etc. • There is no external and internal soiling or corrosion damage that could endanger safety. • Safety-relevant markings are present (e.g. warning symbols, device-specific data, safety-relevant nominal data, switch positions, information on the direction of rotation etc.). • For children's items, there are no detachable, swallowable small parts. Absolutely necessary small parts must be adequately fixed (according to standard EN 71-1). There must not be cords etc. from which a risk of strangulation emanates. 	
<p>Test step: Technical safety check</p>	<p>Required qualification: - performance by or under the responsibility of qualified staff Required infrastructure: - power connection, insulation tester, power meter, test finger, basic equipment of hand tools (wrenches etc.)</p>
<p>Test criteria</p> <p>Technical safety check according to ÖVE/ÖNORM E 8701-1, which is to be carried out regardless of whether any repair or modification has taken place or not.</p> <ul style="list-style-type: none"> • Supplementary information: <ul style="list-style-type: none"> ○ The technical safety check must be carried out as a final safety test in any case, (also) if maintenance or repair work has taken place. ○ In addition, any accessory (e.g. chargers) has to be tested. ○ All live parts, regardless in which operating condition, must be protected from contact by users (check by means of a test finger, if necessary). 	

¹² The provisions of the Product Liability Act may become relevant, if the preparation for re-use operator assembles a new type of appliance from several devices. In such case, the operator is regarded as manufacturer of a new product. A new CE certification may then be required for this product.

Test step: Functionality testing of the main functions	Required qualification: - basic technical understanding, instruction by a responsible expert Required infrastructure: - power connection - additional infrastructure according to equipment type, e.g. for water connections – water inlet and water outlet, or for tools - workable material (wood, stone or paper for printers etc.)
Test criteria <ul style="list-style-type: none"> • checking the device-specific main functions for proper functionality (e.g. correct direction of rotation) • For battery-operated appliances, sufficient charging capacity for typical use has to be ensured (recommendation for IT devices: >40% of nominal capacity)¹³. 	
Cleaning	
<ul style="list-style-type: none"> • removal of coarse and other soiling affecting the main functions or safety of use 	
<h2 style="text-align: center; margin: 0;">Determination of the end-of-waste status</h2>	

Recommendations for measures beyond the waste regime:

Potential minor deficiencies/defects:

- minor damage, e.g. scratches on the housing that do not impair the functionality or safety of the device
- minor defects according to ÖVE/ÖNORM E 8701-1
- deficient subfunctions or defective additional functions that do not affect the main functions and safety of the device, e.g. not working battery status display, hi-fi system with defective turntable or audio equipment with deficient equalizer

Recommendations for measures beyond the waste regime:

- data deletion¹⁴
- if possible, further repairs
- detail cleaning to increase marketability
- provision of operating instructions

Operator's note:

- ...

¹³ See also: Handbuch Export/Grenzüberschreitende Verbringung von Gebrauchsgütern (Handbook on Export and Transboundary Movement of Second-hand Goods), p.20 Section IT

¹⁴ Data memories can be cleared safely with special software designed to certify a trustworthy data erasure. Simply deleting does not ensure a 100% safe data removal. At least two overwrites are recommended. In some cases, this software can also be used for hardware diagnostics. Proper methods for safe data erasure for devices and parts containing data carriers are dealt with in detail in ÖNORM S 2109-4.

5.3 Supplementary assessment sheets

The supplementary assessment sheets do not stand alone but are a supplement to the respective main assessment sheet to be applied for the tested product group.

5.3.1 Supplementary assessment sheet 1: Furniture

To be used in combination with main assessment sheet A or E

Testing checklist for determining the end-of-waste status	
Product group: Furniture Description of the product group: antique furniture, beds, cabinets and cupboards, small furniture, upholstered furniture, bathroom furniture, tables and chairs	
Test step: Preselection	
Test criteria Selection criteria specified by the operator: <ul style="list-style-type: none"> • ... Legally defined selection criteria: <ul style="list-style-type: none"> • ... 	Notes Recommendation for selection criteria: Cost-covering preparation for reuse currently appears questionable for chipboard furniture due to its low resale value.
Test step: Visual inspection	Required qualification: <ul style="list-style-type: none"> - non-electrical: basic technical understanding, instruction by a responsible expert - electrical: according to main sheet E Required infrastructure: according to main sheet A or E
Test criteria In addition to the provisions of the main sheet A or E: <ul style="list-style-type: none"> • no excessive moisture damage • no rotten wood • no pest infestation 	
Test step: Visual inspection and manual safety check	Required qualification: <ul style="list-style-type: none"> - non-electrical: <ul style="list-style-type: none"> - basic technical understanding, instruction by a responsible expert - manual skills - electrical: according to main sheet E Required infrastructure: <ul style="list-style-type: none"> - basic equipment of hand tools (wrenches etc.) - cleaning utensils
Test criteria In addition to the provisions of the main sheet A or E: <ul style="list-style-type: none"> • wooden components without fracture zones, rotten spots or pest infestation • no serious damage to the suspension of upholstered furniture • mechanical connecting elements in acceptable condition 	

Test step: Technical safety check	Required qualification: according to main sheet A or E Required infrastructure: according to main sheet A or E
Test criteria According to main sheet A or E	
Test step: Functionality testing of the main functions	Required qualification: - non-electrical: basic technical understanding, instruction by a responsible expert - electrical: according to main sheet E Required infrastructure: according to main sheet A or E
Test criteria According to main sheet A or E	
Cleaning	
According to main sheet A or E	
Determination of the end-of-waste status	

Recommendations for measures beyond the waste regime according to main sheet A or E

Additional recommendations:

Potential minor deficiencies:

- small surface scratches or stains
- Replaceable components (e.g. fittings or dowels) are missing or defective.
- defects that marginally impair the stability and strength and can be fully eliminated
- stiff elements and/or squeaking or creaking moving parts

Recommendations for measures beyond the waste regime:

- extensive restoration work
- sales in combination with other products to increase the revenue
- elimination of the creaking and squeaking of moving parts by means of lubricants

Operator's note:

- ...

5.3.2 Supplementary assessment sheet 2: Sports equipment

To be used in combination with main assessment sheet A or E

Testing checklist for determining the end-of-waste status	
Product group: Sports equipment Description of the product group: non-electrical sports equipment such as scooters, skateboards, bicycles, dumbbells, tennis rackets, skis, trampolines, surfboards, skates, swings etc. electrical sports equipment such as ergometers, cross trainers, electric scooters, electric bicycles	
Test step: Preselection	
Test criteria Selection criteria specified by the operator: • ... Legally defined selection criteria: • ...	Notes according to main sheet A or E
Test step: Visual inspection	Required qualification: according to main sheet A or E Required infrastructure: according to main sheet A or E
Test criteria According to main sheet A or E	
Test step: Visual inspection and manual safety check	Required qualification: - For electrical sports equipment: according to main sheet E - For non-electrical sports equipment: performance by or under the responsibility of a qualified expert Required infrastructure: - basic equipment of hand tools (wrenches etc.) - cleaning utensils
Test criteria In addition to the provisions of the main sheets: Special attention must be paid to the stability, mechanical strength and wear condition of particularly stressed or particularly safety-relevant product components (e.g. pedals, wheels, wear parts, parts exposed to large forces, load-bearing components, fixing devices, bindings, counterweights and swing weights etc.). The condition of hidden parts such as telescopic handlebars must also be considered! The components must not show any visible cracks, holes, deformations, age-related material changes (porous), corrosion etc., or any pointed or sharp-edged areas caused by excessive wear. <ul style="list-style-type: none"> • All welding seams must be visually intact (check for damage after intensive cleaning required). • All components must be original parts, original spare parts or equivalent spare parts. • no individually modified appliances; alterations only after an assessment took place and only if carried out under the responsibility of a specialist as well as in accordance with the applicable regulations and standards • sports equipment with rollers or tyres: Rollers and tyres have to be intact and free from foreign matter; there must not be any safety-endangering material wear (porous, cracks); the bearings must be intact (smooth-running, no axial backlash); no or only negligible corrosion spots on the rims are permitted; the tubes must be intact. • sports equipment with brake mechanisms: Brake device is in place, intact and can be operated smoothly; there must not be any safety-endangering wear and tear (brake shoes, mudguard, brake cable, casings etc.); the brake levers return to their original position automatically. • sports equipment with crimp connections (e.g. telescopic rods): secure hold in closed position, easy movement in open position 	

<ul style="list-style-type: none"> • sports equipment with gearshift and/or drive: Gearshift and drive system must be basically functional; gears, chain, transmission have to be visually intact. • sports equipment with bindings: All binding components must be intact; bindings have to close and open properly. 	
Test step: Technical safety check	Additionally, for non-electrical sports equipment: Required qualification: performance by or under the responsibility of a qualified expert Required infrastructure: according to main sheet A or E
Test criteria According to main sheet A or E	
Test step: Functionality testing of the main functions	Required qualification: - basic technical understanding, basic training, e.g. by a repair specialist Required infrastructure: according to main sheet A or E
Test criteria According to main sheet A or E	
Cleaning	
According to main sheet A or E	
Determination of the end-of-waste status	

Recommendations for measures beyond the waste regime according to main sheet A or E

Additional recommendations:

Potential minor deficiencies/defects:

- missing grips, grip tape etc.
- minor, not safety-endangering wear, e.g. grip tape, coating, not adjusted gearshift, slightly worn out chain etc.
- defects in additional functions that do not impair the main functions and safety, e.g. drink holder, minor display errors, missing transport rollers, defective pulse measurement function

Recommendations for measures beyond the waste regime:

- ...

Operator's notes:

- ...

5.3.3 Supplementary assessment sheet 3: White goods

To be used in combination with main assessment sheet A or E

Testing checklist for determining the end-of-waste status	
Product group: White goods Description of the product group: large electrical household appliances such as washing machines, tumble dryers, refrigerators, freezers, dishwashers, electric cookers	
Test step: Preselection	
Test criteria	Notes
Selection criteria specified by the operator: <ul style="list-style-type: none"> • ... In addition to the provisions of the main sheet: <ul style="list-style-type: none"> • devices affected by odour, mould or other hygienic impairments • appliances combining gas and electricity (except the corresponding business licence and specialist personnel as well as appropriately extended scope of testing is given) • ... Legally defined selection criteria: <ul style="list-style-type: none"> • exclusion: refrigerators with refrigerants containing CFCs/HCFCs¹⁵ • ... 	Cost-covering preparation for reuse currently appears to be well feasible only with medium to higher-priced products in good condition, as the testing efforts necessary for this product group are relatively high. The devices may also be older, if they are of high quality.
Test step: Visual inspection	Required qualification: according to main sheet E Required infrastructure: according to main sheet E
Test criteria According to main sheet E	
Test step: Visual inspection and manual safety check	Required qualification: according to main sheet E Required infrastructure: according to main sheet E
Test criteria According to main sheet E	
Test step: Technical safety check	Required qualification: according to main sheet E Required infrastructure: according to main sheet E
Test criteria According to main sheet E	

¹⁵ The Regulation (EC) No 1005/2009 on substances that deplete the ozone layer lays down total bans on the placing on the market and use of CFCs or HCFCs.

<p>Test step: : Functionality testing of the main functions</p>	<p>Required qualification: according to main sheet E</p> <p>Required infrastructure:</p> <ul style="list-style-type: none"> - power connection - for washing machine, dish washer: water connections (water inlet and water outlet)
<p>Test criteria</p> <p>In addition to the provisions of the main sheet E:</p> <ul style="list-style-type: none"> • Washing machines: Cleaning function is provided (washing test-runs), the coarse particle collector (fluff filter) is free of foreign matter, there is no excessive noise and no unbalance, the water is pumped out completely, the hoses are not porous or breakable. • Refrigerators: The cooling function is provided and adjustable, the doors close tightly, the gaskets are not cracked, there is no excessive noise, the drain hole of the automatic defrost is free. • Tumble dryers: The drying function is provided (test-runs), there is no excessive noise and no imbalance, the lint filters are intact, the water is completely pumped into the tank (condense dryers) or completely discharged into exhaust air (ventilation dryers). • Electrical cookers: The cooking and baking functions are provided and the temperature is adjustable, the door of the oven closes tightly. • Dishwashers: The rinsing function is provided (washing test-runs), the sieve is intact, there is no excessive noise, the water is completely pumped out, the hoses are not porous or breakable, the crockery and cutlery baskets are intact and the dosing unit is functional. 	
<p>Cleaning</p>	
<p>According to main sheet E</p>	
<p style="background-color: #92d050; padding: 5px;">Determination of the end-of-waste status</p>	

Recommendations for measures beyond the waste regime according to main sheet E

Additional recommendations:

Potential minor deficiencies:

- Defects in additional functions (special washing programs) that do not impair the main functions and safety, e.g. pixel error on the display, individual LEDs defective, deficient lighting of the oven or cooling unit, one of several hot plates is impaired.

Recommendations for measures beyond the waste regime:

- ...

Operator's notes:

- ...

5.3.4 Supplementary assessment sheet 4: Electronic equipment containing screens

To be used in combination with main assessment sheet A or E

Testing checklist for determining the end-of-waste status	
Product group: Electronic equipment containing screens Description of the product group: PC and server with monitor, TV sets, PC monitors, laptops, tablets, game consoles, mobile phones	
Test step: Preselection	
Test criteria Selection criteria specified by the operator: <ul style="list-style-type: none"> • ... Legally defined selection criteria: <ul style="list-style-type: none"> • ... 	Notes Cost-covering preparation for reuse currently appears to be feasible only with medium to higher-priced appliances in good condition, as the testing efforts necessary for this product group are relatively high.
Test step: Visual inspection	Required qualification: according to main sheet E Required infrastructure: according to main sheet E
Test criteria In addition to the provisions of the main sheet E: <ul style="list-style-type: none"> • The displays must not have any mechanical damage such as fractures, serious scratches etc. • The manufacturer's name and the type designation are shown. 	
Test step: Visual inspection and manual safety check	Required qualification: according to main sheet E Required infrastructure: according to main sheet E
Test criteria In addition to the provisions of the main sheet: <ul style="list-style-type: none"> • The display hinges are movable and the display holds safely in the opened unfold position. There are no deep scratches. 	
Test step: Technical safety check	Required qualification: according to main sheet E Required infrastructure: according to main sheet E
Test criteria According to main sheet E	

Test step: Functionality testing of the main functions	Required qualification: according to main sheet E Required infrastructure: according to main sheet E
Test criteria In addition to the provisions of the main sheet E: <ul style="list-style-type: none"> • The appliance has no hardware encryption (e.g. BIOS password) or other non-removable encryptions that render access impossible (e.g. Apple iCloud). • For mobile devices, the testing is to be carried out at least partially without power connection, in order to check the function of the battery. There must not be recognized stronger halos, a larger number of pixel errors or stronger flickering on the display. 	
Cleaning	
According to main sheet E	
Determination of the end-of-waste status	

Recommendations for measures beyond the waste regime according to main sheet E

Additional recommendations:

Potential minor deficiencies:

- missing power supply or remote control, if available on the market
- minor damage such as scratches on the housing, lower display tolerance
- minimal screen flicker, slightly inhomogeneous illumination of the display
- conventional (removable) SIM lock for mobile phones
- missing operating system (Usually, test software can be flashed via a USB data medium. Thus, an internal data medium or an installed operating system is not required.)

Recommendations for measures beyond the waste regime:

- further testing of the display with special test patterns (The tolerance for the number of pixel errors, inhomogeneous illumination etc. has to be specified by the operator.)
- measures to increase the realizable proceeds and usability (e.g. hardware upgrade, installation of an operating system, peripheral devices such as mouse or keyboard)
- if the fan is continuously running at high speed: removal and cleaning of the air filter (if possible, otherwise cleaning by means of compressed air)

Operator's notes:

- ...

5.3.5 Supplementary assessment sheet 5: Power tools

To be used in combination with main assessment sheet A or E

Testing checklist for determining the end-of-waste status	
Product group: Electrical hand tools	
Description of the product group: hand-operated electrical tools (equipment which can only be operated when held by hand, e.g. drill, jigsaw, chainsaw etc.) Exceptions: Electrical heat-generating tools (e.g. soldering iron), floor-standing appliances (shredder, circular table saw etc.) are excluded from the scope of the relevant standard ÖVE/ÖNORM E 8701.	
Test step: Preselection	
Test criteria Selection criteria specified by the operator: • ... Legally defined selection criteria: • ...	Notes Cost-covering preparation for reuse currently appears to be well feasible only with medium to higher-priced tools in good and complete condition, as the testing effort is relatively high for this product group.
Test step: Visual inspection	Required qualification: according to main sheet E Required infrastructure: according to main sheet E
Test criteria According to main sheet E	
Test step: Visual inspection and manual safety check	Required qualification: according to main sheet E Required infrastructure: according to main sheet E
Test criteria According to main sheet E	
Test step: Technical safety check	Required qualification: according to main sheet E Required infrastructure: according to main sheet E
Test criteria In addition to the provisions of the main sheet E: • metrological safety testing according to the standards ÖVE/ÖNORM E 8701-1 and ÖVE/ÖNORM E 8701-2-2	
Test step: Functionality testing of the main functions	Required qualification: according to main sheet E Required infrastructure: according to main sheet E
Test criteria According to main sheet E	
Cleaning	
According to main sheet E	
Determination of the end-of-waste status	

Recommendations for measures beyond the waste regime according to main sheet E

Additional recommendations:

Potential minor deficiencies:

- according to the standards ÖVE/ÖNORM E 8701-1 and ÖVE/ÖNORM E 8701-2-2.

Recommendations for measures beyond the waste regime:

- ...

Operator's notes:

- ...

5.3.6 Supplementary assessment sheet 6: Photo cameras

To be used in combination with main assessment sheet A or E

Testing checklist for determining the end-of-waste status	
Product group: Photo cameras Description of the product group: All types of cameras, digital & analog	
Test step: Preselection	
Test criteria Selection criteria specified by the operator: <ul style="list-style-type: none"> • ... Legally defined selection criteria: <ul style="list-style-type: none"> • ... 	Notes Economically cost-covering preparation for reuse currently appears to be well feasible only with medium to high-quality camera models. These include analog and digital SLR cameras, bridge cameras, mirrorless system cameras, well-preserved collector's cameras etc. For analog compact cameras and older digital compact cameras, the purchase price usually is too low.
Test step: Visual inspection	Required qualification: - basic technical understanding, basic knowledge of camera technology, basic training, e.g. by a repair specialist Required infrastructure: according to main sheet A or E
Test criteria In addition to the provisions of the main sheet A or E: <ul style="list-style-type: none"> • damages to the housing (incl. slots, outputs, display) or to the lens (dents, scratches, missing parts) • Front lens must not show scratches and coarse soiling. 	
Test step: Visual inspection and manual safety check	Required qualification: according to main sheet A or E Required infrastructure: according to main sheet A or E
Test criteria According to main sheet A or E	
Test step: Technical safety check	Required qualification: according to main sheet A or E Required infrastructure: according to main sheet A or E
Test criteria According to main sheet A or E	

<p>Test step: Functionality testing of the main functions</p>	<p>Required qualification: - basic technical understanding, basic knowledge of camera technology, basic training, e.g. by a repair specialist; and for electrical appliances, instruction of the staff by the responsible expert</p> <p>Required infrastructure: - standard set of batteries - universal charger for camera batteries - test memory cards - computer and connection cable, card reader</p> <p>Useful: - battery tester - standard lenses of the most common brands</p>
<p>Test criteria</p> <p>In addition to the provisions of the main sheet A or E:</p> <p>Digital camera: testing with test pattern</p> <ul style="list-style-type: none"> • acceptable picture quality (exposure, sharpness, picture detail etc.) • flash works (even with multiple releases) • functional zoom • intact memory card slot • connection to computer is possible • smooth-running mechanics <p>Analog camera:</p> <ul style="list-style-type: none"> • shutter is functional, lightproof • intact light-seals • light meter is working • smooth-running mechanics 	
<p>Cleaning</p>	
<p>According to main sheet A or E</p>	
<p>Determination of the end-of-waste status</p>	

Recommendations for measures beyond the waste regime according to main sheet A or E

Additional recommendations:

Potential minor deficiencies/defects:

- minor external signs of wear
- missing parts that do not impair the main functions (accessories such as bag, lens cap, missing interchangeable lens for SLR cameras etc.)
- defects in additional functions that do not impair the main functions and safety such as minor display errors, defective individual connections (e.g. connection to TV)

Recommendations for measures beyond the waste regime:

- ...

Operator's notes:

- ...

5.4 Test protocol to the main assessment sheet E - WEEE

TEST CRITERIA	
Device identification:	
Trademark/ type/ number	
Test steps The following tests were carried out on the device and completed successfully:	Identified defects Following minor deficiencies were identified and are excluded from any warranty:
Visual inspection and manual safety check to minimize mechanical risks of injury etc.	
Technical safety check to minimize electrical injury risks etc. according to the test standards ÖVE/ÖNORM E 8701-1, for electrical tools also according to ÖVE/ÖNORM E 8701-2-2	
Cleaning: Removal of coarse and other soiling impairing the main functions or safety in use	
The test was carried out by <i>(operators name and name of the respective staff member having conducted the testing¹⁶)</i> :	
Date:	
General remarks and warranty	
Please follow the safety instructions of the manufacturer!	
<i>Information on warranty processing (contact, procedure, required documents, warranty period)</i>	

¹⁶In the sense of the WEEE Ordinance §11(3): Enterprises that prepare complete WEEE for reuse (reuse companies) have to provide qualified staff, like particularly a trained mechatronics engineer for the testing, repair and overhaul of electrical and electronic appliances to ensure the diligent performance of the preparation for reuse.

5.5 Form for proof of training

Subject: Training on the preparation of reuse as part of the work in the company: (Operators name)	
Conducted by (name): Signature:	Date:
Content: <input type="checkbox"/> Main sheet A General <input type="checkbox"/> Main sheet E - WEEE Supplementary sheet: <input type="checkbox"/> Supplementary sheet 1: Furniture <input type="checkbox"/> Supplementary sheet 2: Sports equipment <input type="checkbox"/> Supplementary sheet 3: White goods <input type="checkbox"/> Supplementary sheet 4: Electrical and electronic equipment including screens <input type="checkbox"/> Supplementary sheet 5: Electrical hand tools <input type="checkbox"/> Supplementary sheet 6: Photo cameras	Further supplementary sheets: <input type="checkbox"/> Supplementary sheet: <input type="checkbox"/> Supplementary sheet: <input type="checkbox"/> Supplementary sheet:
Documents and materials handed out:	
By my signature I confirm that I have participated in the training and that I have understood the contents.	
First name, surname	Signature

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