

# Separate & Recycle Waste



Collected waste paper for recycled pulp production.  
Source: UPM

Around 40% of paper is made from collected waste paper and board that is turned into recycled pulp. Waste paper is the “urban forest” and a key resource of the sustainable economy.

By collecting, separating and selling their waste, some printers cover the cost of their monthly ink bills.

To manage this resource effectively:

- Separate waste to measure its volume, maximise its recycled value, minimise both actual waste volume and the cost of any residual disposal by incineration or landfill.
- Dispose of contaminated packaging materials by following the rules for the product that polluted it.
- Discuss with recycling companies, government agencies or others to identify the best recycling options.
- Regularly share recycling results with staff.

## Wooden Pallets

Reuse or return to the supplier wherever possible unless sold for reuse.

Damaged wooden pallets can be sent to pallet recyclers who either repair them or use the components to assemble new pallets and shred any remaining waste for landscape mulch, boiler fuel, etc.

Remaining scrap should be disposed of by a wood recycler.

## Separate Waste Paper and Board

There are many different grades and prices for recycled papers. Separate them by grade and into printed and unprinted types. To achieve the best value for the recovered paper in the recycling chain, papers should be sorted into the highest grades possible. Sorting requires good internal co-operation, and success factors include the effective separation of incompatible materials and contamination control.

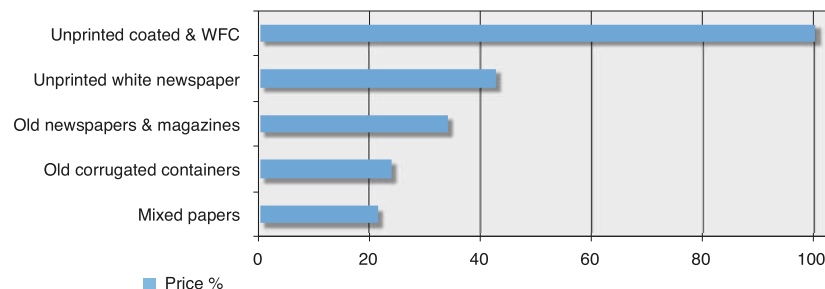
- White waste (no ink, coating or, glue), from roll stripping at splice preparation, at web-up, and core waste, has a significantly higher value than printed waste.
- Separate printed waste and bale it by grade to maximise its value. Keep separate coated and varnished waste and jobs with very high background tint ink coverage (e.g. directories).
- Brown roll and sheet wrapping can be reused to separate layers of printed product; end caps can be reused to cap pallets of outgoing deliveries; any excess can be shredded and sent to a paper mill for recycling.
- Cores can be shredded and either recycled or incinerated for energy.
- Office paper has a comparatively high value for recycling into other products — treat used office paper as a separate recycling grade.
- Paper cartons from suppliers can be reused for packaging printed material or recycled in a similar manner to paper recycling — keep a separate grade.
- Damaged rolls of paper (not returned to the paper mills) can be fixed into smaller usable rolls or converted into wrapping paper.

Paper and board for recycling are classified by EN 643:2013 into 95 grades in five groups: ordinary, medium, high, craft, and special grades. There are specific requirements for deinking grades, and the list includes grades in which non-deinkable papers count as unwanted material.

## Plastic Waste

Availability and conditions for plastic recycling are highly variable and should be assessed locally. Separate plastics into different classes for a higher value recycling.

- PETE strapping— bale used strapping (in the same way as recovered paper) or granulate it (cut into small pieces) for sale to either the manufacturer or a certified recycler.
- ABS and PS plastic spools (primarily from postpress stitching operations)— sort spools by grade and sell them to a scrap plastic recycler.
- LDPE plastic stretch film— stretch film can be collected and baled in-house and sent to a recycler or broker.
- Clean plastic containers that are not recyclable should be placed in the general industrial waste stream.



This table shows the relative value of different types of paper collected for recycling. Prices increase with whiteness and paper fibre quality. Source: OPHAL.

## Standard EN 643:2013 for Paper and Board for Recycling

The revision of European standard EN 643:2013 coincides with a fundamental change in waste legislation. The Waste Framework Directive introduces a procedure for defining End-of-Waste criteria that a given waste stream needs to fulfil in order to cease to be waste. (The End-of-Waste criteria require compliance with EN 643, the provision of information on material that has ceased to be waste, and the implementation of a quality management system.)

EN 643 defines what the 95 different grades of paper for recycling may or may not contain. It facilitates trading, and establishes comparable requirements for a material traded inside and outside of Europe. It defines this material as “natural fibre-based paper and board suitable for recycling; consisting of paper and board in any shape or product made predominantly from paper and board, which may include other constituents that cannot be removed by dry sorting, such as coatings, laminates, spiral bindings, etc.”

Recommendations of EN 643 are to use Guidelines for Recovered Paper Quality Control and Responsible Sourcing and the European Recovered Paper Identification System (RPID). This is to identify paper for recycling purchased, received, stored and consumed in paper mills to improve traceability, see [www.recoveredpaper-id.eu](http://www.recoveredpaper-id.eu)

## Quality Issues

Prohibited materials with zero tolerance: these represent a hazard to health, safety and environment, for example medical waste, contaminated products of personal hygiene, hazardous waste, organic waste including foodstuffs, bitumen, toxic powders and similar.

Unwanted material: not suitable for the production of paper and board (with a tolerance level of 1 - 3% depending on grade) that might include: non-paper components (with tolerance levels of 0,25 - 3%) of paper and board not according to grade definition, or detrimental to production, or not suitable for deinking (when intended for deinking). Non-paper components include: metal, plastic, glass, textiles, wood, sand, building and synthetic materials.

Moisture content: recovered paper and board should have the same moisture as the naturally occurring level. If it is over 10% (of air dried weight) the excess weight may be claimed back.

Deinking: paper products not suitable for deinking belong to unwanted material. This currently refers to most flexographic printing, inkjet, liquid toners and to some UV cured printing. (If paper and board for recycling is not suitable for deinking it is usable in other paper recycling processes.)

For more information see “Guidance on the revised EN 643” from CEPI.

## Waste Storage & Shipping

The shipping area is often the best place to position waste.

Paper waste can be collected automatically by suction or conveyors or manually. Conveyors require sufficiently heavy waste to function correctly. They are energy efficient because they do not aspire air from the factory, conserve the internal temperature, and are quieter than other systems. Compaction is the most efficient system to reduce paper volume but needs careful evaluation of space required, noise impact and cost. Horizontal compaction balers can be fed manually or combined with automated trim extraction systems. These systems generate dust and should be located away from manufacturing. In certain special cases (security printing) waste signatures and makeready sheets may need to be shredded.

Ask your waste collector to evaluate your operation, including the level of sorting (white paper, printed, laminated) to develop an adapted waste management concept for the printing company.

European List of Standard Grades of Paper and Board for Recycling. Guidance on EN 643 revised 2013. Source: CEPI

