THE RESOURCE
SEARCH ENGINE

RECYCLABLES FROM
POST-CONSUMER PACKAGES

Metal recovery and sorting of recyclable material

STEINERT

MAGNETIC **+** SENSOR **SORTING SOLUTIONS**

RECOVERY OF RECYCLABLE MATERIAL AND CLEAN SORTING PRODUCTS

Post-consumer packaging waste, including plastics, aluminium and other valuable materials, are an essential part of our modern everyday life. Their versatility and ease of handling have led to them being widely used. However, if not correctly disposed of, they represent a major source of environmental pollution. Sorting post-consumer packages has a decisive role to play in the recycling process to ensure that these valuable resources can be used efficiently.

STEINERT provides tailored sorting concepts and solutions, which focus specifically on the challenges encountered when sorting post-consumer packaging waste. From separating different materials to recovering high-grade secondary raw materials, our sorting systems cover the entire range of separation solutions. The right sorting can deliver valuable products for the recycling industry. These then serve as the basis for manufacturing new products from secondary raw materials.

Our sorting technologies not only help to improve the efficiency of recycling processes, they also cut costs and reduce environmental pollution. By optimising the sorting of post-consumer packaging waste, we are helping to promote a sustainable circular economy and protect valuable resources.

// Alongside mechanical magnetic separation, STEINERT provides unique sensor sorting systems for recovering pure-grade plastic products for the secondary raw materials industry

+ Magnets for removing ferrous parts from the material flow
+ Non-ferrous metal separator
+ Specialised near-infrared sorting systems for correctly sorting recyclable materials

// Special sorted products

+ Ferrous and non-ferrous metals
+ Drink cartons
+ PET bottles and trays
+ Dark and black plastics
+ 2D plastics, such as films
+ 3D recyclable material

Recovery of non-ferrous metals
using STEINERT EddyC

Removal of
ferrous metals
using STEINERT UME

Separation of black plastics
using UniSort Black

Sorting 2D plastics
using UniSort Film EVO 5.0

Sorting 3D recyclables using UniSort PR EVO 5.0
and AI-based sorting programs

SORTING OF POST-CONSUMER PACKAGING WASTE

Simplified flow chart showing the separation of metals and sorting recyclable materials from post-consumer packages

Ferrous fraction from
STEINERT UME

Non-ferrous fraction from
STEINERT EddyC

TETRA fraction from
UniSort PR EVO 5.0

PET fraction from UniSort PR EVO 5.0

PE film fraction from
UniSort film EVO 5.0

Black plastics from
UniSort Black

INPUT MATERIAL

Preparation using e.g. bag opener, crusher, screen

Fine

STEINERT UME

STEINERT EddyC

Screen

UniSort PR EVO 5.0

Medium

Windsifter

STEINERT UME

UniSort PR EVO 5.0

STEINERT EddyC

Ballistic separator

UniSort PR EVO 5.0

UniSort PR EVO 5.0

UniSort PR EVO 5.0

UniSort PR EVO 5.0
Scavenger

UniSort Black

UniSort PR EVO 5.0
Rougher   Cleaner

UniSort PR EVO 5.0
Rougher   Cleaner

Coarse

Windsifter

UniSort Film EVO 5.0
Rougher

UniSort Film EVO 5.0
Cleaner

UniSort Film EVO 5.0
Rougher

UniSort Film EVO 5.0
Cleaner

UniSort Film EVO 5.0
Rougher

UniSort Film EVO 5.0
Cleaner

Optional quality control

Fe

Nfe

Other

Fe

Drink cartons

Nfe

Other

Black

MPO etc.

PE, PP, PS

Clear PET
- PET bottles
- PET trays

Colour PET
- blue, green, opaque

Mixed flexible plastics

Paper and board

PP films

PE films

PE films

STEINERT.DIGITAL
Intelligent Digital Solutions

The requirements of systems, machines and people are growing all the time. There is a call for more complex sorting facilities as a result of greater financial pressure, stricter requirements based on the legally required recycling rates and the materials in material flows comprising multiple layers. STEINERT provides networked solutions for simplified commissioning, monitoring and control of sorting facilities.

Intelligent Remote.System
Intelligent Remote.System (IRS) makes innovative digitalisation solutions possible. The UniSort spectral database automatically synchronises calibration parameters. What's more, updates can be remotely installed not only on individual machines, but entire systems, which maximises availability and minimises downtimes. And the IRS enables sorting facilities to be centrally monitored and controlled. All in all, the system provides an efficient and reliable solution for optimising the sorting output and cutting operating costs through the use of digital technologies.

Intelligent Object.identifier
Materials, which used to be hard to identify, can now be reliably sorted with the Intelligent Object.Identifier. The innovative use of artificial intelligence enables even the most challenging of sorting tasks to be completed with a sensor combination of colour and NIR cameras.

STEINERT.view
STEINERT.view is a flexible and reliable mobile monitoring solution for STEINERT sensor-based sorting machines. It provides insight into the availability and output of individual machines, enabling users to learn more about the condition of their applications or sorting facility.
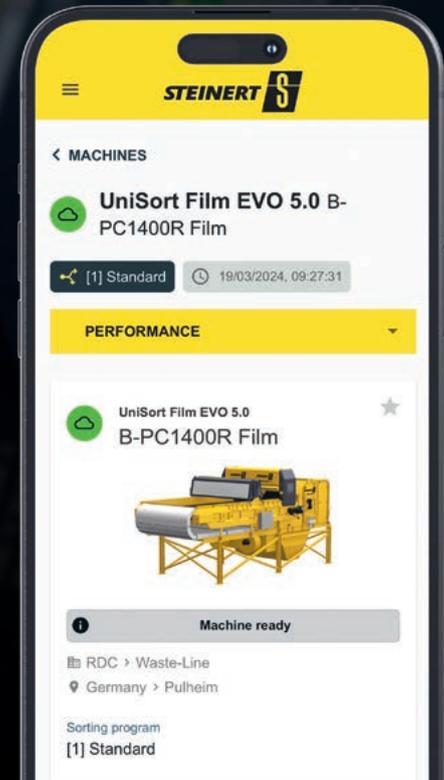
OUR PRODUCTS
for recovering metals and accurately sorting plastics

STEINERT UME

Self-cleaning overhead suspension magnets reliably extract coarse iron. The overhead suspension magnet is arranged above a feeding conveyor belt and extracts the ferromagnetic materials from the supply flow against the force of gravity.

STEINERT EddyC®

The eddy current separator can be used wherever non-ferrous metals can be recovered or separated. Using eddy current technology, it produces marketable non-ferrous metal mixes containing aluminium, copper, zinc or brass.

UniSort PR EVO 5.0®

The UniSort PR EVO 5.0 is used wherever NIR technology is needed to sort recyclable material. The UniSort PR EVO 5.0 is a sorting machine that uses hyperspectral imaging camera technology to sort various types of plastic, paper & cardboard as well as wood products.

UniSort Black

The UniSort Black is used wherever NIR technology is needed to sort recyclable material and where black and dark-coloured plastics are also to be detected alongside the plastics which can traditionally be detected with NIR. It is designed, in particular, for producing a black plastic product or generating plastic-free mineral fractions.

UniSort Film EVO 5.0®

Particularly light materials, which are prone to flying away, such as paper and film, require a specially tailored sorting technology, such as the UniSort Film EVO 5.0. It is used mainly to sort recyclable materials such as paper and films to high levels of precision and quality.

TEST BEFORE YOU BUY:

Test your sortable material in the Test and Development Centre

Benefit from skilled engineers and a combination of cutting-edge magnets, non-ferrous metal separators and sensor sorting machines in a recycling experience space.

Realistic testing can be undertaken in the Test and Development Centre on an industrial scale to reproduce the demands, feasibility and ROI of the planned invest-ment and create investment security on the basis of data and facts.

+ Check the feasibility, planning and layout of the system

+ Carry out sorting trials

+ Verify sorting performance in terms of quality, yield and throughput

Our application specialists from the Test Center and our sales team will help you solve your sorting tasks. If desired, we can directly demonstrate the potential for recovering material with STEINERT sorting technology using your own test material.

Want to try out the STEINERT Test Center for yourself? Simply get in touch with your personal STEINERT contact.

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