KOMPTECH AMERICAS

PLEXUS RECYCLING TECHNOLOGIES

THE ELEMENTS OF

SMARTER MSW RECYCLING

By utilizing advanced technologies designed for Municipal Solid Waste (MSW) recycling, operations can optimize production and produce cleaner commodities to increase revenue and maximize diversion.

THE ELEMENTS OF

SMARTER MUNICIPAL SOLID WASTE RECYCLING

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STEP 1

SHRED TO THE RIGHT SIZE

KOMPTECH TERMINATOR

MSW recycling can be profitable when commodities are sized, screened, separated, and sorted efficiently. Pre-shredding MSW with a low-speed shredder creates a homogeneous material stream at the right particle size for efficient downstream processing. The Komptech Terminator single shaft shredder cuts and tears MSW while keeping the output product consistent.

KEY BENEFITS:

- Gain efficient downstream sorting and separating by pre-shredding MSW to size
- Maximize treatment productivity by providing a consistent waste stream flow
- Save time and money with consistent equipment uptime and reliable operation

STEP 2

SCREEN FINES AND ORGANICS

KOMPTECH DRUM SCREEN

MSW usually contains a large amount of wet, organic waste material which can contaminate recyclable commodities. The next step after pre-shredding is to separate and remove the smaller, organic material from the larger fractions. This is done by utilizing a Komptech drum screen. Once screened and separated, the organic fraction can be prepared for composting.

KEY BENEFITS:

- Efficiently separate fines and organic fractions from recyclable 3D and 2D materials
- Create secondary marketable products from organics waste stream
- Prepare waste stream for more efficient downstream separation

STEP 3

SEPARATE FRACTIONS

KOMPTECH BALLISTOR

Next, 3D recyclable materials must be separated from 2D fractions, and any remaining fines post screening. With the Komptech Ballistor, the 2D fraction is separated from fines as it passes across the screen elements and is carried upward. The 3D fraction rolls backwards by ballistic movement and is removed. This process reduces the burden depth of materials to be sorted downstream.

KEY BENEFITS:

- Efficiently separate 2D, 3D and fines in one process for efficient downstream sorting
- Further reduce fines and smaller impurities from entering downstream sorting processes
- Reduce burden depth on belts for increased sorting efficiency and recovery rates

STEP 4

SORT RECYCLABLES

ZENROBOTICS FAST PICKER

Sorting the remaining 2D materials can be optimized through automation. The ZenRobotics Fast Picker is an AI-powered robotic sorting system that enables autonomous, 24/7 picking of lightweight materials such as plastics, cardboard, and paper. The Fast Picker robot improves quality control, producing a high purity of recycled materials and higher market values.

KEY BENEFITS:

- Gain continuous, 24/7 "Lights Out" production with automated intelligent robotic sorting
- Efficiently achieves a high purity of recycled materials for higher market value
- Increase worker safety and improve production rates compared to manual sorting

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