

47 MARSASCALA - MALTA

Year	2006-2007
Client	WASTESERV MALTA LTD
Operator	WASTESERV MALTA LTD
System description	Sorting and baling
Waste processed	Dry source separated waste
Plant capacity	23,500 t/year



The source separation of recyclable waste is one of the methods used in Malta for reducing the dependency from landfill. This plant, co-financed by the European Union, is part of the integrated system for the treatment of municipal waste developed by the governmental authority WasteServ Malta Ltd.



The recyclable waste sorting plant includes various lines which, depending on the type of waste processed, can be combined with great flexibility. Paper and cardboard, mixed with plastic containers and plastic bags, are automatically sieved before being subject to manual sorting (positive or negative), while steel and aluminium cans are automatically sorted from non-metallic waste.

All sorted materials can be pressed to produce bales, which are exported to foreign countries where the recycling industries, such as paper mills and steel works, are located.

The continuously fed hydraulic baler used in the plant is completely automatic and produces high density bales tied with steel wire. The length of each bale can be adjusted according to the type of material processed. This equipment can process over 30 tonnes of paper per hour.

The plant is fed by a wheel loader that, depending on the sorting process required, loads one of the three available feeder conveyors. For instance, paper and cardboard, if sorting is not required, can be sent directly to the baler, without the need to pass through the sorting lines.

Metal containers, once loaded in the specific feeder that conveys them to the sorting equipment, are processed first by a magnetic separator, which sorts out the magnetic ferrous metals. After separation of the steel cans, an induction separator sorts non-ferrous metals (aluminium beverage containers) from the waste, that is conveyed to a container by means of a belt conveyor.

The more sophisticated process is that used for treating mixed paper-plastic material. First of all, a ballistic separator sorts cardboard that proceeds directly to the baler. The smaller sized material generated by the ballistic screen is taken to the primary sorting room, where up to six different materials are manually sorted. Under the sorting room there are six storage bunkers with a special hydraulically driven bottom, which is known as a "walking floor". The stored materials are baled by activating in turn the bunker emptying system.

If required, it is possible to direct the residual material to a secondary manual sorting room, where up to three additional materials can be sorted. A mobile conveyor is used to convey the material from the primary to the secondary sorting room. This conveyor can move between two different working positions depending on the required sorting process. The above mentioned metals sorting line is installed downstream the secondary sorting room.

A computerized system controls the whole plant to allow proper start-up and shut-down sequences in a safe manner.

During the design of the plant, particular care has been given to safeguarding the operators' health. In addition to pressurization of the sorting rooms with conditioned air taken outdoors, the plant includes a centralized system for the suction and filtration of dusty air.

