

M.S.W. MECHANICAL TREATMENT PLANT IN CATANIA

The pre-selection plant of mixed waste is divided into four parallel lines, each of which comprises a pre-selection stage consisting of a coarse shredding, a primary screening, a separation of ferrous and non-ferrous metals and a pressing of the coarse material, and a refining step of the organic waste consisting of a secondary screening, with the production of an underscreen to be biologically stabilized and an overscreen to be processed with ballistic and infrared separation of recyclable materials. The system doesn't require the use of personnel for the sorting operations, which are conducted exclusively automatical and managed by an operator from the control room. From the undifferentiated M.S.W. the process allows the separation of the following: plastics to be recycled; iron and aluminum to be later in foundries; organic material to be stabilized for covering landfills or environmental remediation; material with high calorific value and pressed into bales for disposal in landfill or for recovery as fuel in incinerators.

The factory shed is constantly kept under negative pressure in order to ensure the health of the workplace. The air treatment system is constituted by a scrubber (washing tower type) and a biofilter capable of returning the air in the atmosphere in accordance with the most stringent levels set forth by law.

An implementation phase is also in place, which is aimed at the refining of the screening material coming from the primary and secondary screening and waste of the ballistic and optical separation; this material is the so-called RDF (Refuse Derived Fuel), a "product" that will be inserted in the chain of the fuels used in cement plants, power electrical stations, etc.



DESIGN DATA

Private client

SICULA TRASPORTI s.r.l.

Tasks assigned and carried out

Executive design and construction management

Cost € 27.437.210,46

Location Catania

UTM Coord. (Zone 33S) 505,315

E - 4,137,580 N

Site area 90.000 m²

Shed surface 11.000 m²

Construction period January

2009 - December 2010

Shed in prestressed concrete with shingle roofing in prestressed concrete

TECHNICAL DATA

Operations according to Encl. B and C referring to Part IV of Law Decree No. 152/06 (D.Lgs. 152/06) and further amendments

D9, D14, D15, R3, R4, R5, R13

Maximum capacity 220 t/h

Treatment lines 4

Sections Primary shredding - Primary screening to 200 mm - Separation of ferrous and non-ferrous metals - Secondary screening at 80 mm - ballistic and optical separation of plastics - Baling of plastics - Baling of the screened material to be sent to landfill

Rain water storage 100 m³

Leachate storage 270 m³

ACCESSORY EQUIPMENT

Air treatment 270.000 Nm³/h

Air treatment system wet scrubbers and biofilters

Biofilters surface 1.900 m²

Photovoltaic system on the roof 414 kWp consisting of 1.800 PV panels of 230 Wp each

Average annual electricity production 650 MWh