

Titan Cement Company

Beni Suef (Cairo) | Egypt

MECHANICAL REFINING AND PRODUCTION OF SOLID RECOVERED FUEL



FOR CEMENT AND LIME PRODUCERS REPLACING **FOSSIL FUELS WITH MORE SUSTAINABLE ALTERNATIVE AND RENEWABLE FUELS** IS AN IMPELLENT NEED, BUT NOT ALL FUELS DERIVED BY WASTE INPUTS ARE THE SAME IN TERMS OF QUALITY AND ENERGY EFFICIENCY. ENTSORGA'S MECHANICAL REFINING LINE COMMISSIONED **AS AN UPGRADE** TO THE SOLID RECOVERED FUEL PRODUCTION LINE IN BENI SUEF, HAS ENABLED TO OBTAIN **HIGHER QUALITY ALTERNATIVE FUELS**, ENSURING A **HIGHLY ECONOMICALLY VIABLE AND LOW ENVIRONMENTAL IMPACT SOLUTION**.

PLANT DATA

Company	TITAN CEMENT COMPANY & MISR BENI-SUEF CEMENT COMPANY
Input capacity	92.000 tpa
Type of input	Pre processed MSW
Final Product	78.000 tpa of Solid Recovered Fuel
Residual waste	14.000 tpa to be landfilled
Start up	October 2017
Plant type	Mechanical refining for Cement producers

COMPANY

Titan is a **cement company**, which was founded in Greece in 1902, it is an independent and vertically integrated producer of cement. Headquartered in Greece, the Group **owns cement factories in 10 countries and employs more than 5,400 people** worldwide (including joint ventures). Misr Beni-Suef Cement Company is a corporation that produces all types of Portland cement and related materials for the regional market.

PROJECT

Titan Cement has awarded Entsorga the **upgrade of the alternative fuel production plant**, including the supply of an **aeraulic separator** to provide a higher quality Solid Recovered Fuel.

SOLUTION

Within its scope, Entsorga supplied the **Squirrel™ air classifier (1)**, an key equipment **part of the Prometheus™ refining line** patented by Entsorga to mechanically separate plastics and produce a high quality CSS.

PROCESS

The Entsorga system separates streams of pretreated Municipal Solid Waste using the **compressed air**, obtaining two fractions, **a low stream and high density stream**.

The low-density material mostly contains plastic, paper, cardboard and organic substances that have a **higher calorific value** and are the source for Solid Recovered Fuel

The high-density flow (glass, wood, grit, stones, and other inerts) can be disposed in landfills as landfill cover.

To prevent the air flow from reaching the material flowing in the feed system, the pneumatic line is insulated with a **special star valve (2)**. The separation line is completed by a **loading hopper (3)** with extraction belt, **conveyor belts (4)** and a **bag filter (5)**, with a capacity of 8,000 m³ / h.

Characteristics of the treated waste:

- density: 0.15 t / m³
- dimensions: 30-300 mm

PRODUCT

This upgrade provided by Entsorga is allowing Titan to produce a **higher quality Solid Recovered Fuel**, a high biogenic content feedstock, particularly suitable for cement coprocessing because of its **high calorific value averaging 14,000 - 18,000 kJ / kg**.

For cement producers this renewable feedstock is a viable alternative to fossil fuels, providing **financial and air emissions benefits**:

- **Reduces overall cost of raw material**
- **Reduces greenhouse gas emissions** in the environment in line with the general principles and international policies on energy efficiency, climate change and circular economy
- **limits the consumption of non-renewable resources.**



STRENGTHS

- **Flexibility:** the line configuration offers various possibilities for mechanical and electrical settings to optimize separation.
- **Ease of installation**
- **Easy to maintain**
- **Capacity > 15 t / h**

(1) SQUIRREL AIR SEPARATOR™



(2) STAR VALVE



(3) HOPPER



(4) CONVEYOR BELTS



(5) BAG FILTER

USED TECHNOLOGIES

The plant uses the Entsorga proprietary technology **Squirrel™**, part of the **Prometheus™** refining line.