Lehigh Cement Company LLC

Nazareth (Pennsylvania)| USA

ALTERNATIVE FUEL FEED SYSTEM FOR CEMENT KILNS

THIS PROJECT IS ENABLING **HEIDELBERG CEMENT,** THE FIRST PRODUCER OF CONSTRUCTION AGGREGATES, AND THE SECOND PRODUCER OF CEMENT WORLDWIDE, TO **INCRESE THE SUSTAINABILITY OF ITS CEMENT PRODUCTION OPERATIONS** IN NAZARETH (PA). BY REPLACING THE FOSSIL FUELS WITH **ALTERNATIVE SOURCES**, CAN IMPROVE EMISSION PROFILES AND INCREASE PLANT CAPACITY FOR THIS PROJECT ENTSORGA SUPPLIED HEIDELBERG CEMENT WITH THE **PELICAN™ SYSTEM**, **A FEEDING STATION FOR SOLID ALTERNATIVE FUELS** SPECIFICALLY DESIGNED FOR THE NEEDS OF CEMENT PRODUCERS.

PLANT GENERAL DATA	
Company	Essroc Nazareth, Heidelberg Group
Nameplate Capacity	7 t/h of solud alternative fuel
Start up	2016
Plant	Alternative Fuel feed station for the cement industry

ENTSORGA
GREEN TECHNOLOGY REVOLUTION

COMPANY

Heidelberg Cement is a German publicly traded company headquartered in Heidelberg (D) and is **one of the largest building materials companies in the world.** With the acquisition of a 45% of Italcementi in 2016, Heidelberg Cement is now the **first producer of construction aggregates in the world,** and the second producer of cement worldwide.

ENTSORGA'S SOLUTION

Entsorga's Pelican™ system is a **complete solution for the feed of alternative fuels to cement producers**, built with proven world class equipment and compliant with **ATEX and NFPA standards**. The system consists of: **receiving station with auger, Chain conveyor, Weighing and feeding dosage system, Pneumatic injection system.**

HOW IT WORKS

The Pelican™ system is designed to receive the alternative fuel and **directly feed it to the pre heater through a pneumatic line,** with **variable flow** controlled according to process needs.
The material arrives at the plant and is unloaded from the moving bed trailers on augers within the **docking station(1);** an hydraulic unit allows to unloading without the need of the tractor.
Once operations are started, the whole system can be managed in **automatic mode.**
Through the auger bed, alternative fuel is conveyed to a **chain conveyor,** which transfers it to a **dosing system (2).** The dosing system, is managed through a software developed by Entsorga, that allows **seamlessly and automatically controlling feed volumes** throughout the feeding line.
To prevent the airflow within the pneumatic line to affect the precision of the feeding in the rest of the system, the pneumatic section is insulated with a special **star valve.**

(1) **DOCKING STATION**

(2) **DOSING SYSTEM**

ADVANTAGES OF SUSTAINABLE ALTERNATIVE FUELS FOR CEMENT PRODUCERS

Use of **renewable alternative fuel** in cement plants is a viable alternative to fossil fuels (mainly coke and petroleum derivatives), and allows:

- **decreasing the costs** of cement production
- **reducing greenhouse gas emissions** addressing the goals set by international policies on climate change and in line with **general principles of energy efficiency and circular economy** by limiting the consumption of non-renewable resources

STRENGTH

- **continuity of fuel supply,** thanks to the **two docking stations** that avoid interruptions due to the replacement of the unloading truck.
- **complete automation**
- possibility to manage and maintain **constant the flow of the power supply** according to the requirements of the plant

USED TECHNOLOGIES

The plant uses the Entsorga proprietary technology **Pelican™.**

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