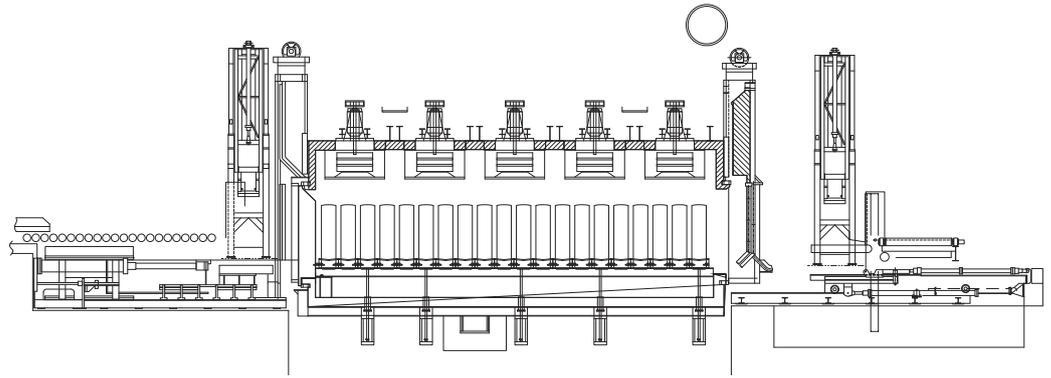


DCC's policy involves continuous investments in R&D, including coil curing technology. This technology is essential for drying the paint on continuous coating strip lines. The exteriors of color-coated strips offer an array of finishes and also have excellent anti-corrosive properties. The products require no further processing before they are ready for market. Coated strips are used in the building and construction industry and also for domestic appliances, furniture and automotive applications. Primer coating is applied to both sides of the strip, which is then cured at 245 °C through the primer oven. The strip is supported at only two points, i.e. entry and exit of the curing oven, hence the name "catenary type" ovens. After the primer oven, the finish or top coat is applied in the finish coater and the strip is cured at 245 °C in the finish oven. Flue gases containing solvents need to be passivated before being released into the environment, and so a thermal oxidizer is devoted to this activity. A burner system burns the solvents. Then, residual flue gas heat is recovered through the heat exchanger to preheat the fresh and laden air, and optimize fuel consumption. Catalytic detectors are used to control the concentration of paint solvents into the waste gas. With this feature the Lower Explosion Level (LEL) is kept under control and process data are automatically adjusted to guarantee safety and optimize fuel consumption under any operating condition. Implementing these BAT solutions alongside low OpEx capabilities allows DCC, through this product, to reinforce its market status by also including capabilities for aluminum and steel strips. Research and development into new products allows the company to extend its portfolio and promote products in new business initiatives ■

# Danieli Olivotto Ferrè heating facilities for aluminum at Egyptalum, Egypt



**E**gyptalum chose Danieli Olivotto Ferrè to modernize a continuous pusher furnace for slab reheating, plus two batch furnaces for coil annealing, at the Nag Hammadi plant. Egyptalum was founded in 1972, and is well known as one of the most strategic developments in the country. The company's commitment to investing in the future employment for locals and for choosing innovative solutions from resources worldwide helps to grow business both locally and globally. The new contract recognizes Danieli Olivotto Ferrè as one of the top-ranking suppliers of innovative solutions for industrial heating and heat treatment facilities in protective atmospheres, for both the ferrous and non-ferrous metallurgical industries.

## Pusher furnace

The furnace will be sized for 20 resident slabs (1.65 x 5.0 x 0.5 m each), with a heating capacity for the homogenizing cycle ranging from 20 °C to 610 °C. This is to be followed by a rapid cooling to rolling temperature (generally 520 °C to 560 °C), guaranteeing a temperature uniformity of  $\pm 10$  °C. The entire combustion system is presently running on fuel oil, which has a high pollutant factor, thus the decision to switch to natural gas; a decidedly much cleaner fuel. High-efficiency / low-emission burners coupled with new radiant tubes will be installed too, contributing as well to a reduction in maintenance costs. A new control system inclusive of relative field instruments (Level 0) and PLC/HMI (Level 1 - 2) will complete this modernization.



## Coil furnace

Each of the two coil furnaces will have the capacity to anneal five coils at a time, with outside diameters of 2 m and widths of 1.25 m, from 20 °C to 340 °C, with a temperature uniformity of  $\pm 5$  °C.

In this case too, the entire combustion system will be replaced by new high-efficiency / low-emission burners, coupled with new radiant tubes and an innovative control system, including Level 1 - 2 automation field instruments. New furnace linings and cladding will be installed in both furnaces.

Completion of site activities is expected by summer 2014 ■