



New 250T Refining Furnace  
Complete with New Loading System  
Invented by Giulio Properzi

*editorial*

## “And now ..... XXL refining furnaces”

by **Giulio Properzi** President & CEO Continuus-Properzi

*The last time I wrote the editorial for our Tech News publication I was working on XXL rod lines, but – as is common experience – you reach your office early in the morning ready to work on certain urgent business and you address completely different matters all day long. This has not happened to me just once but many times over the past months!*

*The market is our king and sometimes our dictator and when a demand exists it is our duty and pleasure to fulfill it. The request came for a copper scrap refining furnace, 250–300 tons capacity, with a Properzi CCR line to produce FRHC copper rod. Our maximum furnace size prior to this was 150 tons.*

*According to the technology and the refining know-how of La Farga, which we have been successfully promoting for more than 20 years, such furnaces follow a daily cycle of 8 hours for charging and melting, 8 hours for refining and 8 hours for casting and rod rolling. The problem was how to charge and melt loose scrap at a rate of  $\geq 35$  tons per hour. These giant furnaces have been in operation for many decades and are charged with compacted scrap by special*

*machines through one or two doors positioned on a lateral side of the furnace. They produce anode quality copper. However, for FRHC rod the copper must be really refined and the cycle is much more stringent.*

*We evaluated all possible positions, dimensions and number of doors and all types of charging machines, to no avail. None of the proposed ideas were attractive or satisfactory. Then, a new idea came to light; change the geometrical configuration of the furnace – picture/figure aside – by placing a very large door in an elevated position served by an inexpensive skip charging machine. Not only is loading of the loose scrap easier and faster, we are able to achieve significantly improved thermal efficiency due to the enormous quantity of scrap inside the fire room.*

*However, all's well that ends well. A project comprised of one 250 ton furnace of this design and a 30 tons per hour rod line is in the early stage of realization. We are really excited and looking forward to seeing this extraordinary plant in operation in the near future.*