

## Billet Welding Machine — Latest Development Description and Real Application Results

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### ABSTRACT

The billet welding machine is an efficient and effective solution to improve the productivity and reduce consumptions, applicable both on new as well as existing long products mills. The Third Generation of the ERT-EBROS (a registered trademark of Steel Plantech Co.) billet welder by POMINI Long Rolling Mills is equipped with several advanced functions. The first part of the paper focuses on the layout and technical features. In the second part the application case at Ferriera Valsabbia S.p.A. mill is presented, with the data collected during over a year of endless operation and the remarkable achieved results.

Keywords: ERT-EBROS, Billet Welding, Long Products, Productivity, Endless Rolling Technology

### INTRODUCTION

In the last years the hot rolling mills for long products have faced a transformation in two main directions: they have increased the flexibility of the plants to be able to follow the changes of market trends and reduced the time of investment return, both increasing productivity and decreasing production costs. Applicable on both new and existing mills, the ERT-EBROS billet welding machine can efficiently and effectively assist in this transformation.

Billets are consecutively welded so that they can be rolled in an endless rolling process. This increases output, enhances the utilization of cooling bed and makes the production of customized coil weights possible, even when only small-weight billets are available. A flash welding process is employed, where all the process parameters are dynamically controlled in real time, ensuring a high quality of the joint as well as a reduction of consumed energy and material loss. The quality and reliability of the installed components limit the maintenance requirements, so that a high availability of the system is granted. Among the advantages offered by ERT-EBROS there are: productivity enhancement, metallic yield improvement, increased mill utilization, coil weight flexibility.



Figure 1. ERT-EBROS area.