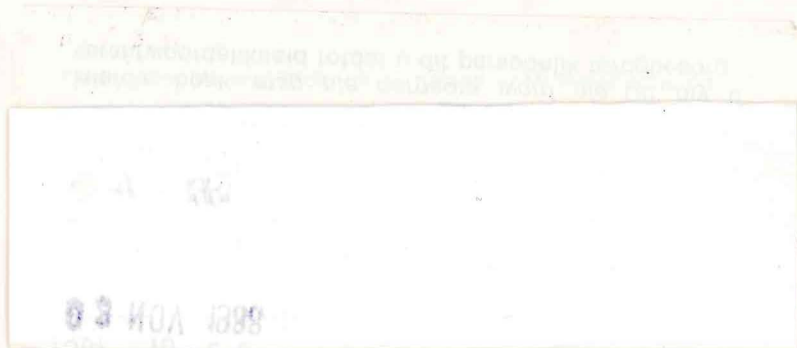


**PROCEEDINGS
OF THE
4th. INTERNATIONAL FERRO-ALLOYS CONGRESS**

INFACON 86



RIO DE JANEIRO - BRAZIL
Aug. 31st to Sept. 3rd, 1986

**Editors: Jorge Finardi
Jarbas O. Nascimento
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FOREWORD

The Fourth International Ferro-Alloys Congress - INFACON 86 has been organized by the Associação Brasileira dos Produtores de Ferro-Ligas - ABRAFE (Brazilian Association of Ferro-Alloys Producers) with the sponsorship of the Associação Brasileira de Metais (Brazilian Society for Metals).

The papers selected constitute the Proceedings of this INFACON, held in Rio de Janeiro, Brazil, at the Hotel Inter-Continental, from August 31st to September 3rd, 1986. This event follows prior international congresses on ferroalloys. The first was held in 1974, in Johannesburg, South Africa; the second, in 1980, in Lausanne, Switzerland; and the third was held in Tokyo, Japan, in 1983. The central theme of these congresses has been the overall review of the technological advances occurring in the production of ferroalloys in a form where pertinent aspects involving supply and demand, as well as market forecasts were analyzed and discussed.

For the INFACON 86 the Organizing Committee has selected thirty seven papers prepared by specialists from fifteen countries. The merits of the subjects and their timely characteristics have been considered as factors to cover the state of the art in the ferro-alloy industry. Raw materials, technologies and new production processes, environmental control, automation, energy supply, productivity and market statistics and forecasts, are among the important topics that the participants will have the opportunity to examine.

The ongoing development of the Brazilian economy, as well as the recently opened areas to exploitation of immense mineral resources constitute incentives for the interaction of experiences and technologies, particularly when the industry in general is also undergoing intense expansion. Steelmaking and ferro-alloy production and their modern industrial capacity utilization, ample hydroelectric energy supply combined with the use of charcoal from renewable sources, will also be points of interest to the participants. The new trends in the steelmaking technology are subjects relating to the ferro-alloy industry.

The organizers of INFACON 86 consider that the primary objective of the Congress, to approach and examine some of the diversified aspects of the complex international ferro-alloy industry, is appropriate. Therefore, the Organizing Committee anticipates that these Proceedings will constitute a worthwhile repository of data for future references, as well as effective means for the interchange among the specialists of the ferro-alloy industry.

To the authors, to the participants, and to all those who have contributed to this event our special appreciation.

J. O. Nascimento
Chairman
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