Fundamental Aspects Of Electrometallurgy
Synopsis
Electrometallurgy is a broad field but it is not a new one. It was the great Faraday in the 1830s who discovered laws covering the electrodeposition of metals and its relation to the current passed and equivalent weight of the metal undergoing deposition. Since that time, applications and developments of his discoveries have spread to many areas of technology. Electrowinning is the most well known, partly because it embraces the process by which aluminum is extracted from its ores. In electrorefining, the impure metal is made into anode and the pure metal dissolved therefrom is deposited on a cathode. Electroplating is exemplified by its use in the manufacture of car bumpers. Finally, in electroreforming, objects may be metallized, often with a very thin layer of the coating desired. The numerous technologies vary greatly in the degree to which they are intellectualized. Until the work of Popov et al., electrometallurgy has been regarded as largely empirical, an activity in which there was much art and little science. This will all change with the publication of this book. Several aspects of the background of its senior author, Konstantin Popov, make him uniquely suited to the job of intellectualizing electrometallurgy. First, he had as his mentor the great surely the leading electrochemist in Eastern Europe since the death of Frumkin. Second, he has had ample experience with the leading electrochemical engineer in America, Ralph White.

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