



White Paper

Chilean Mining Operations: Bulk Solids Handling Activities

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In Chile over a million tons of ore are mined, crushed, screened, stored and conveyed every single hour of every day of the year in the production of one third of the world's supply of fine copper. The scale of these giant mining operations is enormous and so are the associated costs. To economically produce copper with grading from 0.6 to 1.5%, the correct design of material handling systems is clearly of paramount importance. Although the technology for bin design has been available for over 30 years, flow problems still occur frequently, not just in Chile but worldwide. By understanding the different mechanisms involved in the flow of bulk solids, and through the measurement of the flow properties of the materials handled, these flow problems can be eliminated, or at least greatly reduced, in both existing and new facilities.

The Republic of Chile occupies the western foothills of the Andes Mountains in South America. It shares its northern border with Peru while its eastern neighbors are Bolivia and Argentina. Chile has 756,000 km², excluding the Antarctica, it is 4,300 km long and just 177 km wide on average. The estimated population of the country is about 14.5 million people and about 4.5 million live in Santiago, the nation's capital. Other important cities are Concepcion, Valparaiso, Antofagasta and Temuco.

Chile has a free market economy, with an important foreign investment participation. During 1996 Chile's gross domestic product (GDP) was US\$ 72 billion, which represents a per capita income of USD 5,000. Perhaps most important is the fact that the Chilean economy has been growing steadily since the mid 1980s, with an average annual growth rate of the GDP of about 7%, a low inflation rate (6.6% in 1996), a low unemployment rate, a continuous flow of capital into the country (investments and loans), positive trade balance in the past years, and high revenues.