

## **Surface Support in Mining**

**Book review by Duncan Adams, Mine Health & Safety Council, South Africa**

The publication of this book on surface support is very important to underground and surface mining. The wealth of information contained in this publication comes mainly from South African, Australian and Canadian experience of surface support, but some input is included from Chile, USA and Portugal.

The book is organized in such a way so as to allow the reader rapid access to the information pertinent to his or her interest related to surface support. The division of the book into two parts is of great benefit. The first section is a quick reference guide to thin spray-on liners (TSLs). This part of the book is divided into 5 sections dealing with: a history of TSLs, TSL products and their properties, OHS issues related to TSLs, testing methods for assessing TSL quality, and field trials and applications using TSLs. Much of this information is confirmed in the second section of the book which is drawn from the proceedings of three international seminars on surface support. This quick reference is an excellent summary of much of the TSL technology that exists and will be extremely useful for researchers and practitioners in the field of developing, testing and using TSL support.

Part 2 of the book comprises 3 sections, on TSLs, Shotcrete and Mesh respectively. The TSL and shotcrete sections are sub-divided into sub-categories. The sub-sections under thin spray-on liners cover 1) design, 2) testing of thin spray-on liner properties and behaviour, 3) testing of thin spray-on liners for rockbursting conditions and 4) field trials and applications. The sub-sections under shotcrete are 1) shotcrete technology, 2) mine site applications and 3) orepass lining. Part 2 of the book has a total of 48 chapters which are technical papers chosen from the three international seminars mentioned above. These seminars on surface support were held in Perth, Australia, Johannesburg, South Africa and Quebec City, Canada in 2001, 2002 and 2003 respectively. The editors have been selective in their choice of papers from the seminars and the result is a comprehensive compendium of work related to surface support. It is an excellent compilation of the latest research and state-of-the-art knowledge and practice regarding surface support in mining.

A definite attraction of the book is that it captures the thinking of a wide range of international experts in the field of surface support, covering laboratory research to applied tests in the field. Within the covers of this book is arguably the best practice and state of the art knowledge regarding surface support. This is not to say that the book claims to be the final word on surface support which is demonstrated by the number of questions that are raised in the publication and still need to be answered.

The surface support issue is very topical and important as it impacts directly on mine safety. Many incidents that result in injuries, deaths and damage during mining operations may be attributed to rock related failures at excavation surfaces, and surface support is a way of effectively controlling the hazard and reducing the risk that may exist. This publication will be of great assistance to geotechnical personnel, operators and managers in the mining and even civil engineering fields.

The book makes a significant and unique contribution to the literature by compiling a comprehensive document on TSLs, shotcrete and mesh. It represents a wealth of research findings both at a fundamental level and at an applied level.

A special feature of the book is the inclusion of a photograph and a short CV of each of the authors at the conclusion of each paper.

This book is highly recommended and is a must for all bookshelves of key players in the mining industry.