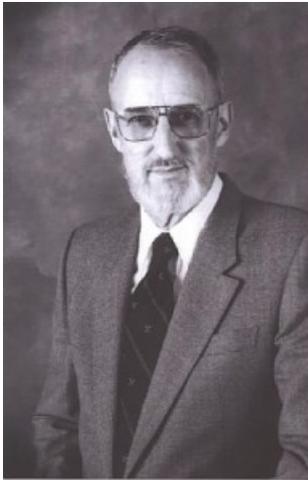


UNDERGROUND SUPPORT Dr James J. Scott



Split Set stabilisers were originally developed by Dr James J. (JJ) Scott and were manufactured and distributed by Ingersoll-Rand for many years. They are now marketed by International Rollforms in New Jersey, USA. The system consists of a slotted high strength steel tube and a face plate. It is installed by pushing it into a slightly undersized hole and the radial spring force generated, by the compression of the C shaped tube, provides the frictional anchorage along the entire length of the hole.

Because the system is quick and simple to install, it gained massive acceptance by miners throughout the world. The device is particularly useful in mild rockburst environments, because it will slip rather than rupture and, when used with mesh, will retain the broken rock generated by a mild burst. Provided that the demand imposed on Split Sets stabilisers does not exceed their capacity, the system works well and can be considered for many mining

applications.



Jumbo installation
Scott was dedicated to the science of rock mechanics and innovations in mining and mine safety. Widely known for inventing new methods of ground support for underground mines, he was also an outstanding mining engineer and a consummate teacher, always ready to share freely his knowledge and experience, whether in formal presentations or one-on-one on the ground and in the mine.

He earned B.S. and Ph.D. degrees in mining engineering from the University of Wisconsin. Early in his career, he worked at Bethlehem Steel's Cornwall mine and quickly rose from Shift Foreman to Head Engineer. In 1963, he joined the faculty of the Missouri School of Mines at Rolla, where he ultimately became Chairman of the Department of Mining and Petroleum Engineering.

While at Rolla, Scott took several sanctioned leaves to lend assistance to industry and government. He spent time with Copper Range Co, White Pine, Michigan, where he initiated an applied rock mechanics program that served as a model for underground mines everywhere – a significant breakthrough in applying rock mechanics theory to practical mine operations. At Marble Cliff in Kentucky, Scott turned a struggling underground limestone mine to profitability, securing both the safety and the future of this deep mine.

In 1970, Scott was called by the U.S. Bureau of Mines to be Assistant Director, responsible for all research efforts and initiatives. Specific emphasis was given to programs focused on reducing health and safety hazards for miners. Particular emphasis was given to assisting industry in complying with the respirable dust standards of the 1969 Coal Mine Health and Safety Act.

In 1977, he assumed the role of Adjunct Professor of Mining at Rolla and started Scott Mine Technical Services, Inc. (SMTS). With the founding of SMTS, Jim's penchant for developing new concepts in mining and mine safety truly flourished. His emphasis on rock mechanics instrumentation, mine roof analysis, and mine management led to 14 patents. The most notable development was the Split-Set friction rock stabiliser. Other innovations included cable slings for roof and pillar control, in-situ beam supports, and a shortwall headbeam support.



Jack leg installation

Scott had over 60 publications to his credit. He was an active member of industry and academic professional societies. He was recognised as the 1969 Outstanding Alumnus - Research, University of Missouri. He was named a Ford Fellow, University of Wisconsin, and received the 1981 Distinguished Service Award, College of Engineering, University of Wisconsin. He received AIME's 1982 Rock Mechanics Award and SME's 1991 Daniel C. Jackling Award.

Scott was internationally recognised as an expert in rock mechanics theory and its practical application to problems of ground control. He distinguished himself in the mining industry through his leadership in making the underground mining environment a safer place to work.

International Rollforms explains that "Split Set® rock bolts give you a choice of tube and plate sizes.

"In the hole, the tube exerts radial pressure against the rock over its full contact length, and also provides immediate plate load support.

"Detailed drawings specify materials, dimensions, and tolerances. Every Split Set is identified with model number, length, factory, rolling date, and heat lot of the steel.

"Fast, easy installation of our friction rock bolts reduces bolting costs. Rock bolts can be installed quickly, usually in less than a minute, using a jack drill, a stoper, a roof-bolting jumbo, or any other type of drill. Installation can be done in a few easy steps:

- Drill the hole
- Replace the drill steel with a driver tool
- Slide the plate on the tube
- Drive the tube in with the drill/drifter

"Pull tests help verify the effectiveness of the stabilisers upon installation and over periods of time. Pull collars may be used on selected tubes for later testing."