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Designing a feasible methodology for selecting permanent areal support for varying environments in underground mines

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Abstract

Detailed evaluations of ten permanent areal support systems in different mining environments were carried out including comprehensive photographic records, of the support performance and installation. The data obtained at these sites was used to develop a methodology for selecting areal support systems in different mining environments. This methodology includes the evaluation of support performance, practicality and installed cost. Support performance combines with the support capacity, in terms of initial stiffness, peak load and yield, and performance factors (installation quality, equipment damage, blast damage and corrosion). Practical aspects of transport and installation can be assessed using the methodology and the installed support cost can be determined. The methodology provides a comprehensive, practical approach to assessing permanent areal support systems. The mining environment plays a major role in the support performance and practicality of support transportation and installation.