

Steel frame support for mine tunnels

The proposed invention is aimed at frame support adaptation to the actual burden conditions. For this purpose the construction loading control through the frame prestressing and the most loaded parts of its perimeter reinforcement is proposed. Besides it is recommended to use an interframe shielding made of steel lace and keyed string pieces, which due to their flexibility can easily adapt to significant irregular loads without disintegration. It guarantees a full correspondence of the support to the optimal design requirements, i. e. balanced life along the frame and the working.

Separate parts design documentation, test application and design invention have been performed. It results in both significant metal-roll (up to 40 %) and quality savings at spilling followed by the annual steel savings (about 30-40%).

The proposed steel frame support can be applied for mining in the countries with a highly developed extraction industry.

The operation Principle of Frame Support

