

CEMENTITIOUS GROUTS



Cuttable Crib

Longwall Cross-Panel Support System

Uses

Minova's patented Cuttable Crib system supports open entries that are to be mined by standard longwall coal mine equipment.

Advantages

- Proven successful in thick coal beds with soft immediate roof and bottom
- 1,800* tons of support per each 48" diameter unit
- Designed deformation characteristics to match surrounding coal pillar behavior under abutment loading
- Minimal impact on mine haulage
- Minimal risk of material handling injuries
- Borehole transport of 2,000 psi cement mixture
- Reusable and portable forms
- Concentrated support in cross-cuts
- Minimal roof bolting required, primary bolting only

Description

Cuttable Crib is a two-component system consisting of a 48" diameter cement pillar topped by a yielding bag. The cement pillar is a super strong breaker post designed to stop any falls caused by geologic anomalies in advance of the longwall face. The topper bag is designed to yield at 900 psi to the expected yield of the adjacent pillars, under abutment load. This designed yield preserves the structural integrity of the immediate roof by minimizing roof shear.

*calculated

Installation

The cement required for the lower is pumped down a borehole thousands of feet. The topper bag is filled with Tekset, a specially designed cement that facilitates yield under abutment load. The Tekset is mixed and pumped from an underground location, within 1,500 feet of the crib. Minova supplies all the necessary forms for the pillar, topper bags, underground pipe, borehole pipe and surface mixing and pumping equipment. The underground equipment can generally be shipped to the job site on only a few flat cars.

Cuttable Crib has been extremely successful in both the Pittsburgh and Eagle coalbeds, in entries as wide as 20 feet and as high as 11 feet. Cuttable Cribs are generally placed in a single row on an average of 10 foot centers. For example, 4,000 feet of open entry would require 400 Cuttable Cribs. This includes closer spacing in and around cross-cuts. Cuttable Cribs are located on wider 12 to 14 foot centers in entries parallel to the direction of panel extraction.

The customer generally takes responsibility for the drilling of a 6" diameter borehole from the surface to an entry in or near the cut-through entries. A surface site designed for easy access by heavy trucks, with a water tank for washout, is also generally supplied by the customer.

Minova's cement chemists design a cement mixture to be pumped long distances by standard electric or diesel concrete pumping equipment. The cement mixture is generally delivered to the site by a local redi-mix concrete supplier.

Consult your local Minova representative for additional application information.



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