

MINING / CONSTRUCTION

TENSIONABLE CABLE BOLT SYSTEM

SUPERIOR ANCHORAGE SUPPORT

DESCRIPTION

Minova’s patented* Tensionable Cable Bolt (TCB) System offers an advanced support system with all the installation versatility of traditional cable bolts while providing the ability to tension the cable during the normal roof bolting cycle. The TCB System provides compression into the roof and ensures “top-to-bottom” tensioning of the cable, which places the anchorage higher in the roof structure to eliminate “anchorage shock” during loading.

* Patent US7625155B1

USES

The TCB System can be used for primary support and as secondary support in applications where traditional cable bolts are used and enhanced beam building is needed. Common application areas include tail gates, bleeder, recovery room, set-up room, head gates, intersections and other mine areas where longevity and additional support is required.



ADVANTAGES

- Uses existing bolting equipment
- Enhanced beam building with tension up to 15,000 lbs
- Can be used as primary support and installed right after mining
- Reduces the need for secondary support
- Reduces or eliminates the need for expensive cribbing or standing supports
- Available in long one-piece bolts for any seam height
- Lowers costs by allowing the installation during normal bolting operation
- Strengthens and reinforces roof structures

Minova leads the way with cable bolt technology that can be installed within development stages.

TECHNICAL DATA

SPECIFICATIONS

Material	Strand	Borehole	Ultimate Load
0.6" Gr270K	Galvanized, Black indented, or Bulbed	1" or 1-3/8"	Nominal 30 tons

complete mixing of resin, counter-clockwise direction only.

Note: Do not overmix the resin.

5. Stop rotation.
6. Hold Cable Bolt for the specified resin set time.
7. Apply torque with bolting machine in accordance with approved roof control plan.

TCB SYSTEM COMPONENTS

Cable Components Plates	
Tensionable Cylinders	Dome plates
One hex nut	Flat plates
One hardened washer	Plates designed for site conditions
Cut to length 0.6" OC strand cable, indented	Resin
One 2-piece wedge set	1-3/8" hole - TCB cartridges, speed varies depending on site conditions
One stiffener	1" hole - TCB cartridges, speed varies depending on site conditions, also 1" hole will require reaming bottom 6" of the hole to an 1-3/8" hole

APPROVALS AND CERTIFICATES



an ISO 9001:2015
Quality Management System Certified Company.

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APPLICATION METHOD

1. Drill hole at proper diameter (1" or 1 3/8") and depth.
2. Insert appropriate Minova resin cartridge. It is critical that resin cartridges are inserted all the way to the top of the borehole before cartridges are broken. This is accomplished by pushing the cartridge with the Cable Bolt.
3. Push the Cable Bolt to the top of the borehole. It may be necessary to push Cable Bolt by hand (or with the bolting machine) before bolt head can be inserted into the wrench
4. Once the Bearing Plate reaches within 1/16" to 1/8" of the roof, reverse spin bolt to ensure

ADDITIONAL DOCUMENTATION

Started more than 135 years ago, Minova is a global manufacturer and supplier of chemical and mechanical earth control products and support equipment. With manufacturing plants on five continents and operations in more than 25 countries, Minova is an industry-leading provider of ground support solutions for the underground mining, construction and energy industries.

If further information is required consult Minova Americas website: www.minovaglobal.com.

- Steel Bolts, Plates, Other Steel Articles Safety Data Sheet (SDS)
- Minova Guide to Resin-Grouted Rock Bolts
- Minova Chemicals, Polymers & Steel Application Guide
- Minova Tensionable Cable Bolt (TCB) System Product Brochure

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