IN-ROOF™ CABLE TRUSS SYSTEM

DESCRIPTION
The IN-ROOF™ Cable Truss System is a flexible support system that can be installed in-cycle much faster and easier than existing truss supports. Applications include longwall gates, entries and crosscuts.

The roof bolt/bracket and bearing plate are to be spun as a unit during resin mixing.

The roof bolt and IN-ROOF™ bracket are combined and shipped as a single unit.

The system consists of:
- IN-ROOF™ bracket/bolt assembly
- Cable tie rods
- Cable coupler
- Integrated cable wedges in the coupler

USES
Minova’s research indicates that the design capacity of the IN-ROOF™ system should be limited to the ultimate strength of the cable being used (30 tons).

- Installed in-cycle within protective confines of bolter
- Roof tensile zones are placed in compression

ADVANTAGES
- Mine roof stability is increased
- Decreased roof falls
- Simplicity - Only Three Basic Components
- Maximizes Safety
- Maximum Clearance Final assembly extends a maximum of 2-1/2” from the roof line
- Angle of bracket enables proper anchor bolt angle of installation
APPLICATION METHOD

1. Drill hole at proper diameter and depth.
2. Insert appropriate Minova resin cartridge.
3. Insert bolt with bracket/bearing plate assembled.
4. Rotate the bolt/bracket/plate assembly for the specified time according to recommendations for the Minova resin being used. Align bracket across entry. When proper mixing and alignment are complete, thrust bolt/bracket/plate assembly tight against roof.
5. The horizontal cable tie rod may be easily installed in-cycle or at a later time, depending on support requirements and the roof control plan.
6. Cable tie rods are inserted through the roof bolt/bracket and center coupler.
7. Tensioning takes place in the opening center using a cast coupler unit and a hydraulic tensioner.

TECHNICAL DATA

<table>
<thead>
<tr>
<th>Roof Bolt</th>
<th>PC Strand</th>
<th>Strand</th>
<th>Borehole</th>
</tr>
</thead>
<tbody>
<tr>
<td>#7 Gr60</td>
<td>.600&quot;, Gr270k</td>
<td>.600&quot;, Gr270k</td>
<td>1-1/8&quot;, 1-3/8&quot;</td>
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<tr>
<td>.600&quot;, Gr270k</td>
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APPROVALS AND CERTIFICATES

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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 Rock Bolting
- Minova Chemicals, Polymers & Steel Application Guide

MANUFACTURER

Trading name of Minova USA, Inc.
150 Summer Court
Georgetown, KY 40324
USA

CUSTOMER SERVICE

Customer.salesupport@minovaglobal.com
Phone: +1 (800) 626-2948
Alt Phone: +1 (502) 863-6800
Fax: +1 (502) 863-6805