

## PROJECT > Mullan Tunnel

Shotcrete MS - Fiber Reinforced & Grout  
Blossburg, MT



### PROJECT START DATE:

May 2009

### PROJECT COMPLETION DATE:

September 2010

### QUIKRETE® Shotcrete MS - Steel Reinforced

>> Product No. 1228-87

### QUIKRETE® Core-Fill Grout- Fine

>> Product No. 1585-08



### PROJECT DESCRIPTION:

Mullan Tunnel is the longest railroad tunnel in Montana, at 3896 feet long. To accommodate larger freight loads the tunnel height was increased 5 feet and by 3 feet in width. In total, more than 100,000 cubic yards of dirt and rock were excavated and removed from the tunnel.

QUIKRETE® Shotcrete MS - Steel Fiber Reinforced was used for the tunnel wall and roof structural shoring and expansion. QUIKRETE® Bulk Core-Fill Grout was used to fill voids between the tunnel walls and rock substrate. The micro-silica enhanced shotcrete was applied using a dry process with a pre-dampener. QUIKRETE® Shotcrete MS - Steel Fiber Reinforced achieves compressive strengths of more than 9000 psi (62 MPa) in 28 days with virtually no rebound.

**CONTRACTOR:** LRL Construction

### QUIKRETE® PRODUCTS USED:

- 3,000 lb Shotcrete MS
  - Steel Reinforced : 3155 bags
- 3,000 lb Core-Fill Grout - Fine :
  - 2856 bags



CEMENT & CONCRETE PRODUCTS™