Using Enclosed Cabs for Reducing DPM Exposures

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Equipment can have pressurized cab
Cabs can be very efficient in reducing DPM exposures
Two Key Components

- Effective Filtration
- Cab Integrity
Effective Filtration

1. Pressurized Intake
2. Recirculated Cab Air
Pressurized Intake (Outside) Air

- 40 – 140 cfm
- At least 25 cfm per worker to dilute CO₂
- MERV-16 mechanical filter
- Powered Unit: Self-cleaning or centrifugal design
Recirculated Cab Air
Recirculated Cab Air

- Effectiveness is by multiple passes through filter media
- Substantial reduction in cleaning time from in-cab dust sources
- MERV 14 -16 rated filter media
- 3-4 times the intake airflow quantity (200-300 cfm typical)
Cab Integrity

Installing new doors gaskets and seals/plugging and sealing cracks and holes
Pressure Monitoring Testing

Outside tubing location for pressure monitor

Data logger and Pressure Monitoring System
Effect of work practices
Evaluation of Enclosed Cabs

Bolter

Drill
Enclosed cab design

- Fan-powered intake with two centrifugal pre-cleaners and intake filter
- Operators cab
- Final filter
- HVAC Unit
- Recirculation filter
- Inside View A-A
Cab Door Opening
Limitations

- Maintenance
  - Change filters
  - Cab integrity
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- Not all vehicles have an effective enclosed cab
  - Size
  - Visibility
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  – Change filters
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• Not all miners can work in enclosed cabs