

Strata Safe Room

Underground Mine Refuge Alternative

The Strata Safe Room is a pre-constructed refuge room, designed to provide protection and breathable air to miners trapped underground in emergency situations. Safe Rooms can be built to any size.

SAFE ROOM COMPONENTS

- Self-contained breathable air system including oxygen cylinders with alternative forms of CO₂ scrubbing.
- High quality air filtration system for use when compressed mine air or a borehole from the surface is available.
- Purge air system including compressed air cylinders.
- Air conditioning system with battery backup to provide cooling and reduce humidity.
- Auxiliary battery module to extend duration of backup power supply.
- Air-tight steel access door, (optional 15psi explosion proof), available as a single unit or in pairs when an airlock is needed.
- Lighting and alarm kit to provide interior lighting and exterior alarm and flashing beacon.
- Accessories including food, water, flashlights, first aid kit, communication devices, and gas detection equipment.
- Storage cabinet to contain any of the above accessories.

KEY BENEFITS

- Can accommodate a large number of miners
- Can be expanded to increase time of occupancy
- Inexpensive to build and equip
- Modular systems enable flexibility in room design and layout
- Ready for immediate use underground once installed
- Does not interfere with mining operations



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BREATHABLE AIR SYSTEMS

Carbon Dioxide (CO₂) Scrubber Module

- Maintains CO₂ levels below 1% (10,000 ppm)
- Battery-powered fans circulate air through scrubber
- Soda lime chemicals remove CO₂
- Soda lime curtains (alternative)

Oxygen Supply Module

- Individual unit stores up to nine 2,900 psi (200 bar) cylinders per skid
- Multiple modules can be used for additional cylinders
- Regulators, flow valves, and cylinders included
- Up to 3,300 cubic feet (93,000 L) of oxygen available per module

Air Conditioning Module

- Regulates temperatures and reduces humidity build-up
- Operates on mine power or battery backup, should power be lost
- Continuous charging for emergency readiness
- 220 – 480 volts input
- Minimum of 48 hours continuous cooling
- Installed in outer wall of safe room

ADDITIONAL OPTIONS

- Stackable, auxiliary battery power with 24 hours of additional power. Multiple battery modules can be used to increase duration.
- Explosion-resistant access door that can withstand 15 psi (103 kpa) overpressure
- Lighting and alarm kit includes:
 - LED interior lighting
 - LED exterior flashing beacon
 - Alarm
 - Batteries and charger

Auxiliary Batteries



Oxygen Cylinders with Regulators & Flow Valves

