

# Pressure Vessels Exploding Vessels



## Best Practice Series BP-33

Several fatalities have occurred in the mining industry due to pressure vessel accidents. Many of these victims died while welding or cutting on empty tanks or drums that had not been properly purged. Other fatalities occurred because of injuries sustained from exploding tires and failure to bleed pressure from pipes or hoses before working on them. Some of these fatalities occurred to supervisors.

### **Always be careful around:**

- High pressure lines and hoses
- Ride cylinders
- Accumulators
- Compressed gas cylinders
- Fire extinguishers
- Tanks, drums, and tank enclosures
- Tires and rims

Working with pressure vessels can be hazardous. The best practices listed on this card are generic and apply to all types of mining.

### **SYSTEM SAFETY**

- » **ALWAYS** maintain valves in good working order.
- » **ALWAYS** maintain joints in good working order.
- » **ALWAYS** maintain pressure gauges in good working condition.
- » **ALWAYS** protect valves on compressed gas cylinders.
- » **ALWAYS** use tire cages or other rim and ring safety devices when changing tires.

### **PRESSURE TESTING**

- » **ALWAYS** barricade the area around a vessel that's to be tested.
- » **NEVER** test pressure vessels above their safe working pressure.

- » **ALWAYS** stay away from vessels under full test pressure.

## **PURGING AND VENTILATION**

- » **NEVER** purge tanks with pure oxygen.
- » **ALWAYS** vent to the outside when purging a tank. Remember that inert gases (such as CO<sub>2</sub>) used to purge tanks won't support life.

## **GENERAL SAFETY**

- » **NEVER** inspect or work on pressure vessels unless you're trained and qualified to perform these tasks.
- » **NEVER** weld or cut on a pressure vessel until you're sure that it's safe.
- » **ALWAYS** use appropriate personal protective equipment.

## **ENTERING A VESSEL**

- » **ALWAYS** isolate the vessel from other systems.
- » **ALWAYS** lock out and tag all power sources.
- » **ALWAYS** use disconnects when possible.
- » **ALWAYS** block mechanical equipment.
- » **ALWAYS** blank and bleed pressurized lines.
- » **ALWAYS** test for toxic or flammable gases and oxygen deficiency before entering a vessel.
- » **ALWAYS** conduct frequent gas tests and air checks while workers are in a vessel.
- » **ALWAYS** use properly calibrated instruments to conduct gas tests and air checks.
- » **NEVER** enter a pressure vessel without adequate ventilation.
- » **ALWAYS** wear and use safety lines, and have a standby person (fully and identically equipped) on the outside.
- » **ALWAYS** feed fresh air into the vessel or confined space while workers are inside.

*Arrive Home Alive*

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