

“Telecommunications work”

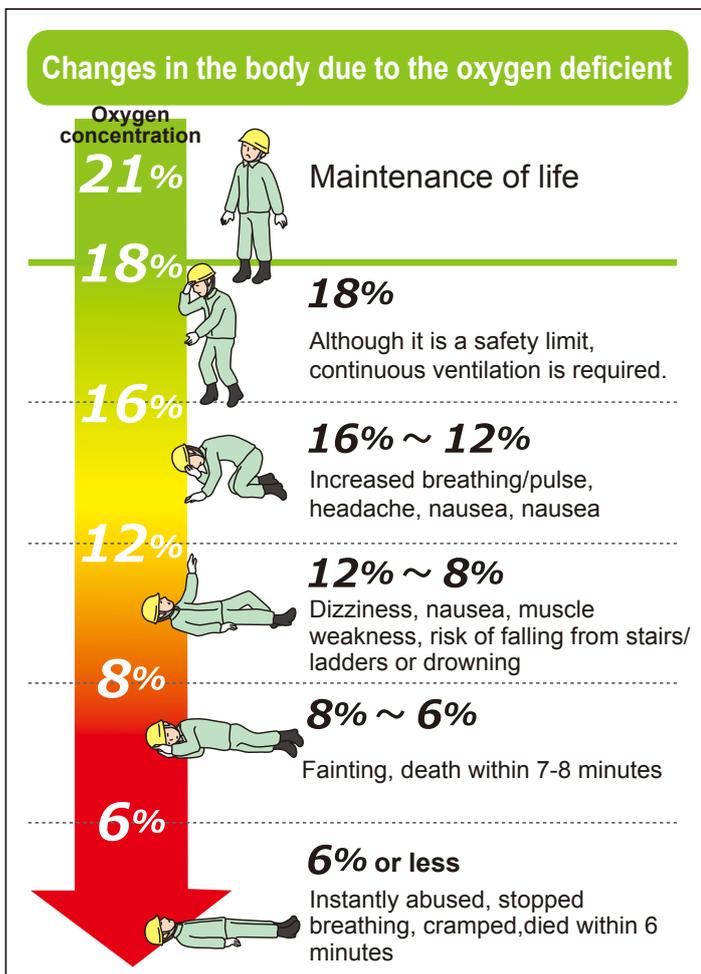
The important points for Safety and health

Prevention of the oxygen deficient/carbon monoxide poisoning

(1) Oxygen deficient

About 78% of the components of the air are nitrogen and about 21% are oxygen, which supports the lives of humans and other living organisms. A state where the oxygen concentration in the air is less than 18% is called the oxygen-deficient state.

It is very dangerous because inhaling air with low oxygen concentration once can cause death.



- In order to prevent oxygen deficiency, it is important to provide adequate ventilation, measure oxygen concentration, and use protective equipment such as an air respirator. Let's take measures according to the instructions of the administrator.
- If your colleague collapses due to anoxia, going to help without taking any measures may also cause you to become anoxia. Always wear protective equipment when you go for help.

(2) Appointment of an operation chief oxygen deficient and carrying out of the special education

When working in a place where there is a risk of the oxygen deficient or the hydrogen sulfide poisoning, the employer must appoint an oxygen deficient hazardous operation chief to prevent the occurrence of the oxygen deficient.

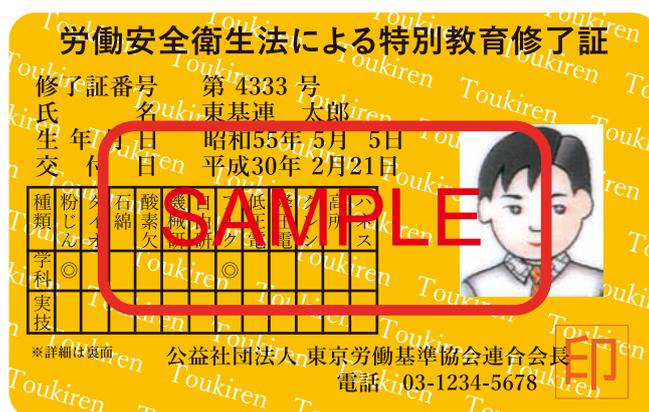
Appointment of an operation chief oxygen deficient

You will be appointed from those who have completed the oxygen deficient dangerous task leader skills course or the oxygen deficient/hydrogen sulfide dangerous tasks skills course.



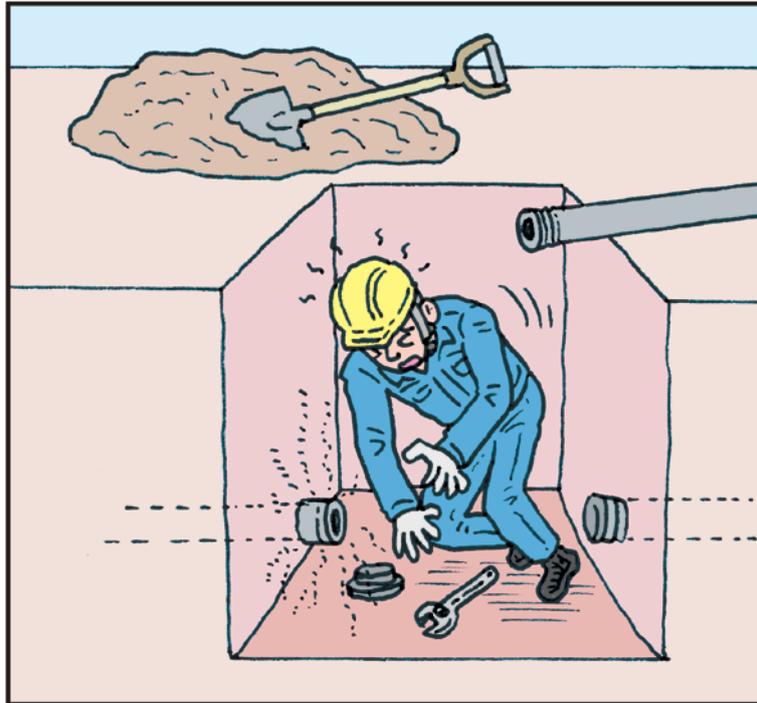
Implementation of special education

Tasks related to the oxygen deficient hazardous work are performed by specially trained persons.

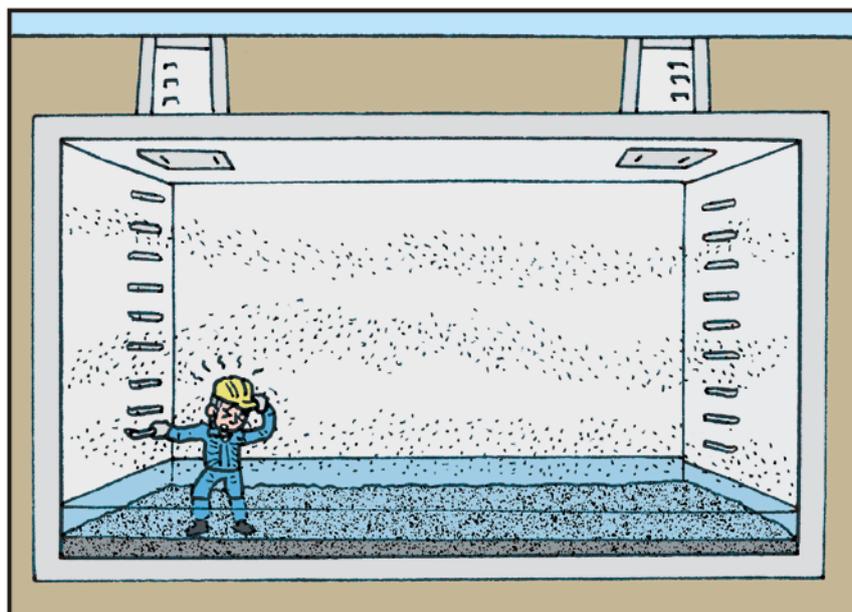


(3) Location of oxygen deficient (example)

■ Oxygen deficient due to leakage of propane gas

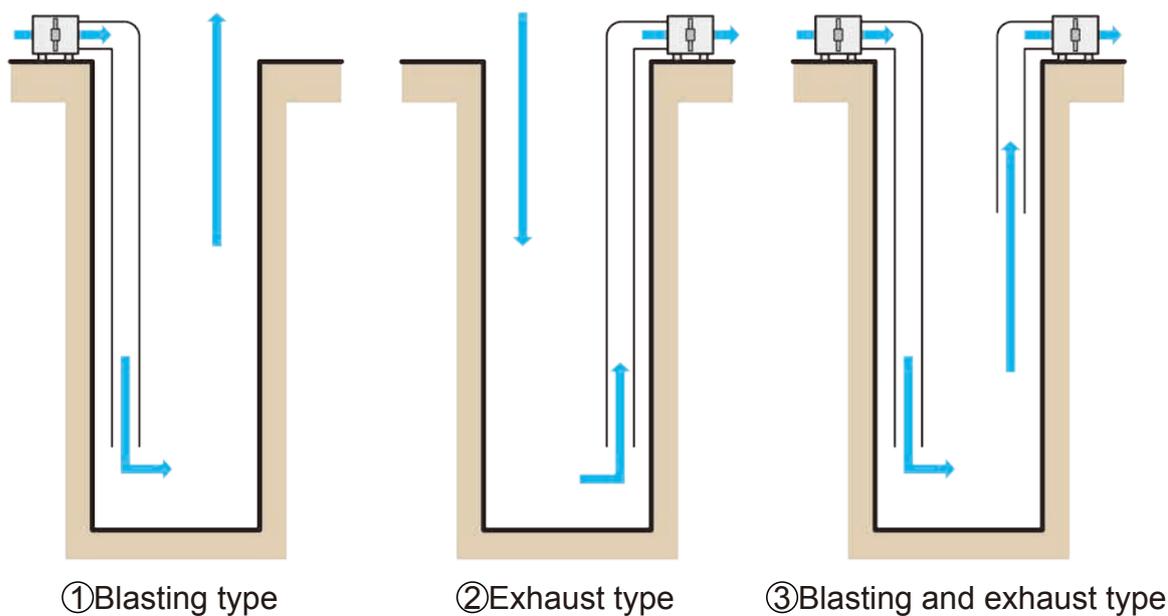


■ Places where water retens for a long time, such as manholes (Oxygen consumption by aerobic bacteria in sewage)



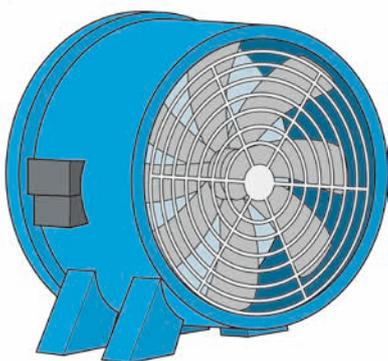
(4) Ventilation to prevent oxygen deficient

Ventilate the oxygen concentration of the work place when carrying out oxygen deficient hazardous work unless it is not possible to ventilate to prevent explosion, oxidation, etc. or it is extremely difficult to ventilate due to the nature of the work, oxygen concentration must be kept above 18% and hydrogen sulfide concentration below 10ppm.

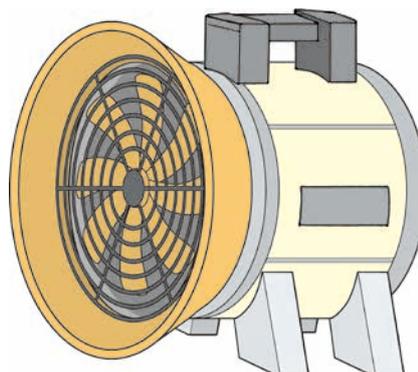


Type of blower

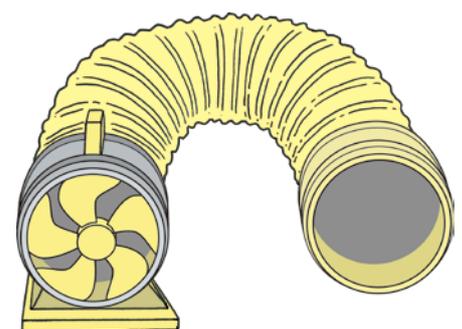
Turbo fan



Portable air blower

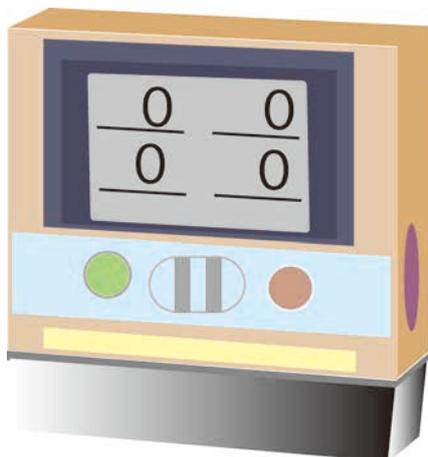


Portable air blower and spiral air duct



(5) Precautions for ventilation to prevent oxygen deficient

- Ventilation is conducted under the direction of an operation chief, but a worker must also understand the basics.
1. Ventilation should be carried out before measuring oxygen concentration.
 2. When conducting ventilation and concentration measurements, use protective equipment such as an aerial respiration device.
 3. When using the air supply type ventilation, do not place anything that generates exhaust gas, such as a generator, near the air supply inlet.
 4. The exhaust inlet should be as close as possible to the air to be exhausted.
 5. When applying the exhaust ventilation, do not allow workers to enter the area around the exhaust pipe outlet.
 6. When applying the blasting and exhaust type ventilation, keep the air inlet and the outlet separated so that the work area can be uniformly ventilated.
 7. During work, do not stop the ventilation system.
 8. Never use compressed oxygen from a cylinder.



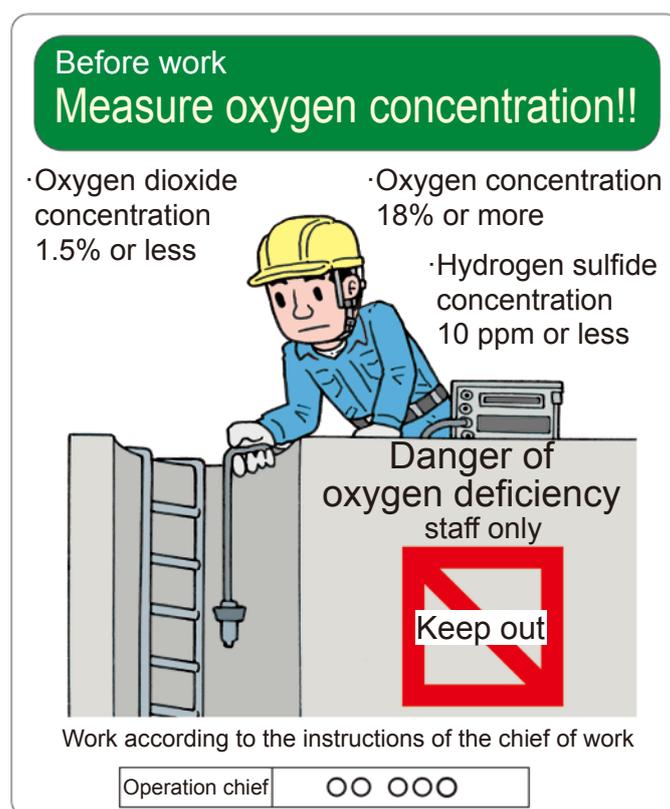
Oxygen content
measuring instrument

(6) Measuring of oxygen concentration, etc.

An operation chief measures the oxygen and hydrogen sulfide concentrations in the workplace before starting the work for the day. It is also necessary to measure when all workers leave the workplace after a break, etc., or when they start working again, or when there is an abnormality in the worker's body or a ventilation system, etc.

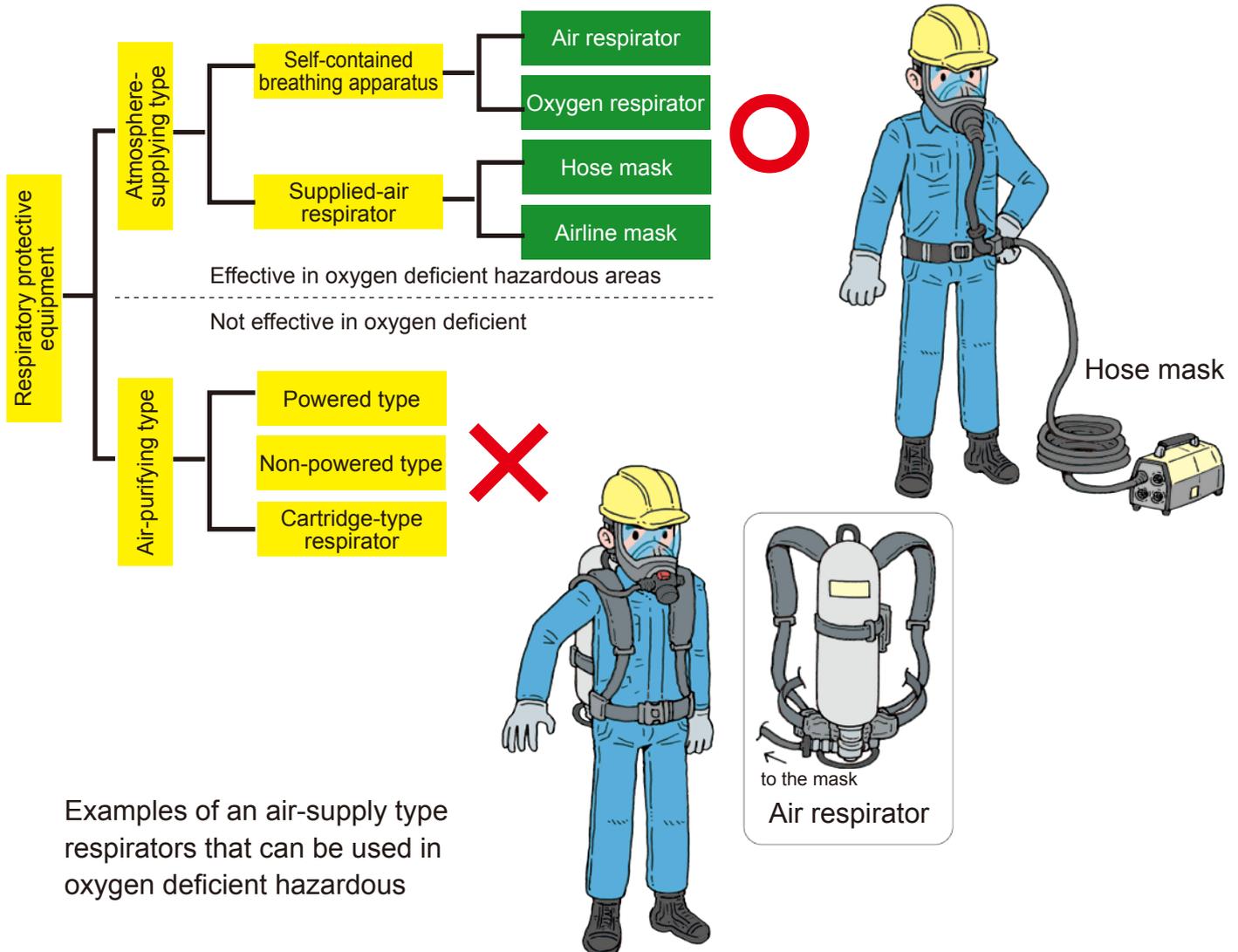
In measuring, attention shall be paid to the followings.

1. In principle, measurement should be conducted from outside, not get inside.
2. When entering inside for measurement, use an air respirator, etc., and use a personal fall arrest system (fall prevention harness) when necessary.
3. Assign a watch-man for the measurer.



(7) Use of the respiratory protective equipment to prevent oxygen deficient

When working in an oxygen deficient hazardous area, it is necessary to repeat oxygen concentration and hydrogen sulfide concentration measurement and ventilation to keep the oxygen concentration above 18% and the hydrogen sulfide concentration below 10ppm. However, when working in a place where it is technically difficult to measure concentration or ventilate before starting work, or when rescued in the event of an accident, it is necessary to use protective equipment for breathing to prevent hypoxia and secondary disasters. Use an air supply type respirator or a hose mask.



(8) Prevention of carbon monoxide poisoning

- Since carbon monoxide is colorless and odorless gas, it is often inhaled without being noticed. Carbon monoxide poisoning has occurred due to the operation of internal combustion engines such as generators in places where is insufficient ventilation and the use of briquetting stoves used for concrete curing.
- Do not use internal combustion engines or briquetting stoves in a place with insufficient ventilation.

